ASBMR 2013 Annual Meeting
Baltimore Convention Center
October 4-7, 2013

TABLE OF CONTENTS

ASBMR Council/Staff iv
Program Committee iv
Abstract Reviewers v
ASBMR Committee Members/Representatives vii
Award Winners x
Supporters xii
General Information xiii
ASBMR Policies xiv
Continuing Medical Education Credit xvi
Meeting Resource Materials xvii
Travel Resources xviii
ASBMR Networking Center xix
Information for Speaker and Poster Presenters xx

FRIDAY, OCTOBER 4, 2013

Day-at-a-Glance 1
ASBMR Registration Open 3
Morning Networking 3
Gerald D. Aurbach Lecture - Wnt Signaling and Stem Cell Control 3
Networking Break 3
Meet-the-Professor Sessions 3
Meeting Overview for Health Professionals 4
Grant Writing Workshop - Mock Study Section: Insights into Grant Reviewing Processes ... 5
Distinguished Orals - Lifestyle 5
Distinguished Orals - Basic Science Approaching Clinical Application 6
Networking Break 7
Symposium - Greg Mundy Memorial Session: Malignancy and Bone 8
Symposium - Sarcopenia/Osteopenia: One Affliction? 8
Networking Break 9
Symposium - $FGF2_{01}3$ 9
Symposium - Personalized Medicine: Application to Bone Diseases 9
Networking Break 10
Symposium - What's Hot in Inflammatory Bone Disease 10
ASBMR/ECTS Clinical Debate - Treatments Developed for Fracture Prevention in Osteoporosis Can Be Used in Patients with Chronic Kidney Disease 10
Oral Poster Presentations: Clinical 11
Oral Poster Presentations: Basic 12
Discovery Hall Opening 14
Young Investigator/First-Time Attendee/Minority Investigator Reception 14
Welcome Reception & Plenary Poster Session 14
The ASBMR 2013 Brightest Boneheads Quiz Show 31
Young Investigator and Minority Investigator Networking Hour 31
Nutrition Working Group 31
Rare Bone Disease Working Group 31
Bone Turnover Markers Working Group 32
Working Group on Skeletal Aging 33
Muscle and Bone Working Group 33
ASBMR Speed Networking Event 34

SATURDAY, OCTOBER 5, 2013

Day-at-a-Glance 35
ASBMR Networking Breakfast 37
ASBMR Registration Open 37
Morning Networking 37
Posters Open 37
Distinguished Orals - Dynamics of the Musculoskeletal System 37
John H. Carstens Memorial Distinguished Orals - Osteoporosis Treatment 39
Discovery Hall Open 40
Discovery Hall Networking Break 40
Success in Research: Leadership Lessons from 2013 ASBMR Esteemed Awardees 41
Oral Poster Presentations: Basic 41
Oral Poster Presentations: Clinical 43
Meet-the-Professor Sessions 45
Poster Session I & Poster Tours 46
Late-Breaking Posters I 108
Clinical Roundtable/Case Conference - Interpretation of Clinical Laboratory Testing 112
Louis V. Avioli Lecture - Epigenetic Regulation of Skeletal Biology and Pathology 112
Concurrent Orals - Bone Active Drugs: Clinical 113
Concurrent Orals - Bone Active Drugs: Translational 113
Concurrent Orals - Bone Disorders 114
Concurrent Orals - Mechanical Loading Mechanisms 115
Discovery Hall Networking Break 115
State-of-the-Art Lectures - Osteocytes Take Center Stage 115
Symposium - Hidden Regulators of Skeletal Metabolism: Energy, Fat, Fluid 116
Clinical Evening at ASBMR - Do Our Treatments for Osteoporosis Harm Our Patients? . 117
Basic Distinguished Orals & Networking Reception - Multi-Organ Interactions with the Musculoskeletal System 117
ASBMR Bone Bash Networking Event 119

SUNDAY, OCTOBER 6, 2013

Day-at-a-Glance 120
Morning Networking 122
ASBMR Registration Open 122
Distinguished Orals - New Perspectives in Metabolic Bone Disease 122
Distinguished Orals - Powerful Signaling Pathways 124
Posters Open 125
Discovery Hall Open 125
Discovery Hall Networking Break 125
Funding Opportunities in a Changing NIH Landscape 125
Oral Poster Presentations: Clinical 125
Oral Poster Presentations: Basic 127
Meet-the-Professor Sessions 129
Poster Session II & Poster Tours 130
Late-Breaking Posters II 190
Clinical Roundtable/Case Conference - Treating Osteoporosis Associated with Chronic Kidney Disease 194
JBMR Publications Workshop 194
ASBMR/ECTS Plenary Symposium - Sclerostin: The Journey from Discovery to Application 195
Concurrent Orals - Cortical Porosity 195
Concurrent Orals - Improving Skeletal Tissues 196
Concurrent Orals - Inflammatory Modulators 197
Concurrent Orals - Targeting Bone Formation 198
Discovery Hall Networking Break 198
State-of-the-Art Lectures - Bringing Back Muscle and Bone 199
Symposium - Ensuring the Implementation of Clinical Guidelines 199

ASBMR Town Hall Meeting 200
Working Group on Musculoskeletal Rehabilitation in Patients with Osteoporosis 200
Pediatric Bone and Mineral Working Group 201
Adult Bone and Mineral Working Group 201
Bone Strength Working Group 202
Imaging and Skeletal Macro-Architechture Working Group 203

MONDAY, OCTOBER 7, 2013

Day-at-a-Glance 204
Morning Networking 206
ASBMR Registration Open 206
Posters Open 206
Distinguished Orals - Altered Bone Quality 206
Distinguished Orals - Diverse Signaling Pathways 207
Discovery Hall Open 208
Discovery Hall Networking Break 209
Career Development: Collaboration 101 209
Oral Poster Presentations: Basic 209
Oral Poster Presentations: Clinical 211
Oral Poster Presentations: Late-Breaking Abstracts 213
Meet-the-Professor Sessions 215
Poster Session III & Poster Tours 216
Late-Breaking Posters III 277
Clinical Roundtable/Case Conference - Monitoring Treatment Response in Osteoporosis . 282
Plenary Symposium - Up and Coming Treatments for Bone Disease 282
Concurrent Orals - Atypical Fractures and More 283
Concurrent Orals - Bone Development 284
Concurrent Orals - Fragility Fractures 285
Concurrent Orals - Therapeutic Impact: Early Stages 286
Closing Reception: A Taste of Houston 287

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Lynda Bonewald has no disclosures
Laurie McCauley has served as a consultant without remuneration to Eli Lilly; has stock options or bond holdings with Amgen; has provided an educational symposium to employees at Amgen
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All ASBMR sessions will take place in the Baltimore Convention Center in Baltimore, Maryland, USA, unless otherwise stated. The Baltimore Convention Center is located at 1 W. Pratt St., Baltimore, Maryland 21201.

Annual Meeting Evaluation

The ASBMR 2013 Annual Meeting Evaluation will be accessible online starting Thursday, October 10. An email will be sent to all meeting attendees who provided their email addresses at the time of registration. The email will provide a hyperlink to the online evaluation site. It will also to be accessible via the ASBMR website at www.asbmr.org. We strongly encourage and welcome all attendees to provide us with feedback on the meeting. Your input is very important to us.

Registration Hours

Registration desks will be open for new registrants and material pick-up in the Baltimore Convention Center in Hall C during the following hours:

Thursday, October 3	7:00 am – 6:00 pm
Friday, October 4	7:00 am – 7:00 pm
Saturday, October 5	7:00 am – 5:00 pm
Sunday, October 6	7:30 am – 5:00 pm
Monday, October 7	7:30 am – 4:00 pm

Discovery Hall Hours

Exhibits are located in the ASBMR Discovery Hall inside Hall C of the Baltimore Convention Center. Please note that children aged 12 and under are not permitted in Discovery Hall at any time. Lunch will be available for purchase in the hall during Exhibit hours.

Friday, October 4	5:45 pm – 7:00 pm
Saturday, October 5	10:00 am – 5:00 pm
Sunday, October 6	10:00 am – 5:00 pm
Monday, October 7	10:00 am – 2:30 pm

ASBMR Media Office

The ASBMR Media Office will be in operation to facilitate press-related activities during the meeting. The Media Office will be located in Room 301 in the Baltimore Convention Center.

Media Office - Hours of Operation

Thursday, October 3	2:00 pm – 5:00 pm
Friday, October 4	8:00 am – 6:00 pm
Saturday, October 5	8:00 am – 6:15 pm
Sunday, October 6	8:00 am – 6:15 pm
Monday, October 7	8:00 am – 4:30 pm

ASBMR On-site Telephone Numbers

Registration Desk (see hours above)	Tel: (410) 649-6054
Press Office	Tel: (410) 649-6058
Management Office	Tel: (410) 649-6062

Future ASBMR Annual Meeting Dates

ASBMR 2014 Annual Meeting
George R. Brown Convention Center, Houston, Texas, USA
September 12 – 15, 2014

ASBMR 2015 Annual Meeting
Washington State Convention Center, Seattle, Washington, USA
October 9 – 12, 2015

ASBMR POLICIES

Re-Use of ASBMR Annual Meeting Material

The ASBMR Annual Meeting is held to facilitate the open, non-commercial dissemination of scientific knowledge in the bone and related fields. Material presented at the ASBMR Annual Meeting is subject to copyright or other re-use restrictions. Information about these restrictions, ASBMR policies regarding re-use of such material, and procedures for obtaining permission are detailed below.

Abstracts

Abstracts submitted to the ASBMR 2013 Annual Meeting are copyrighted by the American Society for Bone and Mineral Research and published in the *JBMR*®. Reproduction, distribution, or transmission of the abstracts in whole or in part, by electronic, mechanical or other means, or other intended use, is prohibited without the express written permission of the American Society for Bone and Mineral Research. Information about how to obtain permission to re-use ASBMR Annual Meeting abstracts is provided below in the section entitled "Re-Use of ASBMR Annual Meeting Abstracts."

Other Material

Information presented at the ASBMR 2013 Annual Meeting other than abstracts, including but not limited to posters, on-screen presentations (e.g. PowerPoint), and hand-outs, are the intellectual property of individual presenters or organizations other than the ASBMR. Such material may not be re-used without the written consent of the relevant individual or organization and, in some cases, the ASBMR. Details are provided below in the section entitled "Re-Use of Other ASBMR Meeting Materials."

Re-Use of ASBMR Annual Meeting Abstracts

Embargo

The Abstracts On-Line, Itinerary Builder, and a printable PDF of the *Abstracts* book are made available to Annual Meeting attendees and to members of the ASBMR in advance but are embargoed until one hour after the time of their presentation at the Annual Meeting. ASBMR does not grant permission for reproduction or reuse of any ASBMR Annual Meeting abstract until after that abstract has been presented at the meeting.

The ASBMR is sensitive to issues of commercial confidentiality and relevant aspects of the U.S. Securities and Exchange Commission (SEC) regulations. Therefore, the ASBMR reminds all readers that all must adhere to the U.S. Securities and Exchange Commission regulations and treat all scientific information as confidential until the embargo has been lifted – one hour after the abstract has been presented. Any reader of, or listener to, ASBMR Annual Meeting content may be viewed as an "insider" by the SEC due to knowledge of information included in abstracts, particularly clinical trial abstracts. SEC regulations may call for criminal penalties for using such information.

Permission for Re-Use of Abstracts: Individuals and News Media

Permission requests for individual or news media reproduction or reuse of *JBMR*® material or for reproduction or reuse of *JBMR*® material in a professional work (e.g., a journal or professional reference book) must be made in writing to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030 USA; fax: +1 (201) 748-6008; e-mail: permissionsus@wiley.com, and should include a statement of intended use, as well as explicit specifications of the materials to be reproduced. When submitting your permission request, please include the following information:

- A complete citation of the requested material (title of journal, volume number, issue number, year, author name, article or abstract title, specific page numbers, and, if applicable, abstract number)
- The intended use of the material (for publication, slides, handouts, etc.)
- If for handouts: the number of copies being made
- If for republication: the publisher and the name of the new publication
- How the material will be reproduced and distributed
- Complete contact details (name, institution/company name, address, telephone, fax, email)

Permission for Re-Use of Abstracts: Corporate Purposes

Permission for reproduction or reuse of *JBMR*® material, including abstracts, for corporate purposes (e.g., storage on a corporate intranet, corporately-sponsored distribution to physicians) is subject to approval by the ASBMR. Requests for commercial reprints or similar reuse of *JBMR*® material, including abstracts, must be directed to Beth Ann Rocheleau, Reprints and Eprints Manager, Rockwater, Inc., PO Box 2211, Lexington SC 29072, USA, phone: +1 (803) 359-4578; fax: +1 (803) 753-9430, email: info@rockwaterinc.com.

Should ASBMR grant permission for abstract reproduction, the following must occur: A disclaimer must be prominently displayed/printed (often this appears on the inside front cover), indicating that the choice of abstracts to reproduce full-text was not made by the ASBMR. *Example: Selection of abstracts was made by*

{company name} and does not necessarily include all abstracts presented on this subject at the 2013 Annual Meeting of the American Society for Bone and Mineral Research {Baltimore, Maryland, USA 10/4/2013 – 10/7/2013}. The compilation does not constitute an endorsement by ASBMR of the product, assay or information contained herein. No responsibility is assumed and responsibility is hereby disclaimed by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of product liability, negligence or otherwise, or from any use or operation of methods, products, instructions or ideas presented in the abstracts. Independent verification of diagnosis and drug dosages should be made. Discussions, views and recommendations as to medical procedures, choice of drugs and drug dosages are the responsibilities of the authors.

Translation of Abstracts

Translation of *JBMR*® material, including abstracts, into languages other than English is subject to the approval of the ASBMR. Translations must carry the following disclaimer in English and in the language of the translation: *The American Society for Bone and Mineral Research takes no responsibility for the accuracy of the translation from the published English original and is not liable for any errors which may occur. No responsibility is assumed, and responsibility is hereby disclaimed, by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of product liability, negligence or otherwise, or from any use or operation of methods, products, instructions or ideas presented in the Journal. Independent verification of diagnosis and drug dosages should be made. Discussions, views, and recommendations as to medical procedures, choice of drugs and drug dosages are the responsibility of the authors.*

Re-Use of Other ASBMR Annual Meeting Material

Re-Use for Commercial purposes

Organizations may not re-use material presented at the Annual Meeting for commercial purposes without the written consent of the presenter or other appropriate party (e.g., the copyright holder) and the ASBMR. Commercial purposes include but are not limited to symposia, educational programs, and other forms of presentation, whether developed or offered by for-profit or not-for-profit entities, and that involve funding from for-profit firms or a registration fee that is other than nominal. Questions regarding this policy or requests for re-use of Annual Meeting materials may be directed to the ASBMR Business Office at +1 (202) 367-1161 or asbmr@asbmr.org.

Disclaimer

All authored abstracts, findings, conclusions, recommendations, or oral presentations are those of the author(s) and do not reflect the views of the ASBMR or imply any endorsement. No responsibility is assumed, and responsibility is hereby disclaimed, by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of methods, products, instructions, or ideas presented in the materials herein (2013 Abstracts). Independent verification of diagnosis and drug dosages should be made. Discussions, views, and recommendations as to medical procedures, choice of drugs, and drug dosages are the responsibility of the authors.

Audio and Video Recording

ASBMR expects that attendees respect each presenter's willingness to provide free exchange of scientific information without the abridgement of his or her rights or privacy and without the unauthorized copying and use of the scientific data shared during his or her presentation. In addition, ASBMR expects that attendees will respect exhibitors' desires not to have their products or booths photographed or video-recorded.

The use of cameras, audio-recording devices, and video-recording equipment is strictly prohibited within all Scientific Sessions, the Exhibit Halls, and Poster Sessions without the express written permission of both the ASBMR and the presenter/exhibitor. Unauthorized use of the recording equipment may result in the confiscation of the equipment or the individual may be asked to leave the session or Exhibit Hall. These rules are strictly enforced.

Use of ASBMR Name and Logo

ASBMR reserves the right to approve the use of its name in all materials disseminated to the press, public and professionals. The ASBMR name, meeting name, and meeting logo may not be used without permission. Use of the ASBMR logo is prohibited without the express written permission of the ASBMR Executive Director. All ASBMR corporate supporters and exhibitors should share their media outreach plans with the ASBMR before release.

No abstract presented at the ASBMR 2013 Annual Meeting may be released to the press before its official presentation date and time. Press releases must be embargoed until one hour after the presentation.

CONTINUING MEDICAL EDUCATION CREDITS

This educational activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the Institute for the Advancement of Human Behavior (IAHB) and the American Society for Bone and Mineral Research (ASBMR). The IAHB is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Statement

The *IAHB designates this educational activity for a maximum of 32.25 AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Online Evaluation to Receive CME

The online evaluation to receive CME will be available beginning Thursday, October 10. *Please Note*: There is a $50 fee per application. This fee can be paid when you register for the Annual Meeting or added during the Meeting at the Registration Desk. See page X for hours. Should you have questions regarding the online CME evaluation, contact Jillian Davis at +1 (651) 789-3722 or jillian@cmehelp.com.

Meeting Objectives

Upon returning home from the meeting, participants should be able to:

- Discuss the most current and significant advances in biomedical and clinical research in bone and mineral metabolism, specifically in the areas of cancer and bone, personalized medicine, chronic kidney disease, osteoporosis, metabolic bone diseases and therapeutics.
- Better understand the interrelationship among basic research, clinical research and patient care.
- Improve their ability to treat and care for patients through an enhanced knowledge of osteoporosis, other diseases of bone, basic bone biology and its correlation to mineral metabolism.
- Develop new and enhanced strategies for the diagnosis and treatment of patients with disorders of bone and mineral metabolism.

Target Audience

The program is designed for researchers, physicians and other health and allied health professionals with interests in biomechanics, cell biology, dentistry, endocrinology, epidemiology, genetics, internal medicine, metabolism and musculoskeletal research, molecular biology, molecular genetics, nephrology, orthopaedics, pathology, pharmacology, physiology and rheumatology.

ASBMR Expectations of Authors and Presenters

Through ASBMR meetings, the Society promotes excellence in bone and mineral research. To that end, ASBMR expects that all authors and presenters affiliated with the ASBMR 2013 Annual Meeting and the 2013 Ancillary Program will provide informative and fully accurate content that reflects the highest level of scientific rigor and integrity.

ASBMR depends upon the honesty of the authors and presenters and relies on their assertions that they have had sufficient full access to the data and are convinced of its reliability.

Furthermore, ASBMR expects that:

- Authors and presenters will disclose any conflicts of interest, real or perceived.
- Authors of an abstract describing a study funded by an organization with a proprietary or financial interest must affirm that they had full access to all the data in the study. By so doing, they accept complete responsibility for the integrity of the data and the accuracy of the data analysis.
- The content of abstracts, presentations, slides and reference materials must remain the ultimate responsibility of the author(s) or faculty.
- The planning, content and execution of abstracts, speaker presentations, slides, abstracts and reference materials should be free from corporate influence, bias or control.
- All authors and presenters (invited and abstracts-based oral and poster presenters) should give a balanced view of therapeutic options by providing several treatment options, whenever possible, and by always citing the best available evidence.

In addition, ASBMR's meeting evaluations will seek feedback regarding commercial bias at ASBMR 2013 Annual Meeting sessions, including the 2013 Ancillary Program.

Disclosure Policy

The American Society for Bone and Mineral Research is committed to ensuring the balance, independence, objectivity and scientific rigor of all its individually sponsored or industry-supported educational activities. Accordingly, the ASBMR adheres to the requirement set by ACCME that audiences at jointly sponsored educational programs be informed of a presenter's (speaker, faculty, author or planner) academic and professional affiliations, and the disclosure of the existence of any significant financial interest or other relationship a presenter or their spouse has with any proprietary entity over the past twelve months

producing, marketing, re-selling or distributing health care goods or services, consumed by, or used on patients, with the exemption of non-profit or government organizations and non-health care related companies. When an unlabeled use of a commercial product, or an investigational use not yet approved for any purpose, is discussed during the presentation, it is required that presenters disclose that the product is not labeled for the use under discussion or that the product is still investigational. This policy allows the listener/attendee to be fully knowledgeable in evaluating the information being presented. The *On-Site Program* book will note those speakers who have disclosed relationships, including the nature of the relationship and the associated commercial entity.

Disclosure should include any relationship that may bias one's presentation or which, if known, could give the perception of bias. This includes relevant financial relationships of a spouse or partner. Disclosures are printed in the onsite program book. These situations may include, but are not limited to: 1) Stock options or bond holdings in a for-profit corporation or self-directed pension plan; 2) Research grants; 3) Employment (full or part-time); 4) Ownership or partnership; 5) Consulting fees or other remuneration (payment); 6) Non-remunerative positions of influence such as officer, board member, trustee or public spokesperson; 7) Receipt of royalties; 8) Speaker's bureau; 9) Other.

ANNUAL MEETING RESOURCE MATERIALS

Abstracts Book

The 2013 Abstracts Book is published as a supplement of the *Journal of Bone and Mineral Research* (*JBMR*®). Electronic copies are available on the ASBMR website, free of charge. Printed copies are only available to those who ordered in advance.

Abstracts On-line and Itinerary Builder

Only members and registered Annual Meeting attendees are able to access the 2013 Abstracts On-line Program. This tool can be used to help you search for and review abstract presentations, as well as plan your meeting itinerary. You may access this convenient program via the ASBMR website.

ASBMR Annual Meeting Mobile App

This free smartphone application is a mobile version of the on-site program book and includes the meeting abstracts. The app also features general meeting information, exhibitor listings and detailed maps of the convention center. To download the app, go to the app store on your smartphone or mobile device and search ASBMR 2013. Technical support is available Friday through Sunday in the Charles Street Lobby in the Baltimore Convention Center.

Meet-the-Professor Handout Booklet

The Meet-the-Professor Handout Booklet contains all the handouts supplied by the professors in one convenient booklet. Pick up your pre-paid copy at the Materials Pick-up counter where you receive your delegate bag or to purchase onsite, inquire at the Onsite Registration desk in Hall C if any additional books are available. The Handout Booklet is available in PDF format, free of charge, on the ASBMR website.

Webcasting

The following sessions will be recorded by ASBMR and made available at www.asbmr.org within 60 days of the Annual Meeting:

- **Louis V. Avioli Lecture** – Epigenetic Regulation of Skeletal Biology and Pathology, Jane Lian, Ph.D., University of Vermont
- **ASBMR/ECTS Clinical Debate** – Treatments Developed for Fracture Prevention in Osteoporosis Can be Used in Patients with Chronic Kidney Disease
- **ASBMR/ECTS Plenary Symposium** – Sclerostin: The Journey from Discovery to Application
- **Plenary Symposium** – Up and Coming Treatments for Bone Disease
- **Clinical Roundtable/Case Conference** – Interpretation of Clinical Laboratory Testing
- **Clinical Roundtable/Case Conference** – Treating Osteoporosis Associated with Chronic Kidney Disease
- **Clinical Roundtable/Case Conference** – Monitoring Treatment Response in Osteoporosis
- **Meeting Overview for Health Professionals**
- **Select Sessions from the 2013 Endocrine Fellows Forum**

THE ASBMR DISCOVERY HALL

Travel beyond the traditional exhibit hall and enter the ASBMR Discovery Hall. ASBMR has created a truly immersive experience, providing you one central location to access:

- New Science
- New Knowledge
- New Products and Services
- New Colleagues and Contacts

New Science

With approximately 1,400 poster presentations, ASBMR presents the newest insights in bone science right before your eyes. Sixty-minute "Poster Tours," guided by prominent scientists in the bone field, assist you in navigating the poster presentations. See page X for the Poster Tour schedule.

New Knowledge

The popular ASBMR Knowledge X-Change is an interactive forum for participating in small-group discussions on hot topics with leading experts in the bone field. Similar to the Genius Bar at your local Apple Store, the ASBMR Knowledge X-Change provides you with the help desk and give-and-take dialogue on research issues and techniques necessary for advancement.

ASBMR "Brightest Bonehead" Quiz Show

NEW in 2013, the ASBMR is pleased to present the first ever ASBMR "Brightest Bonehead" Quiz Show. Watch Young Investigators face-off to answer brain-busting questions about bone and mineral science.

New Products and Services



So much to see, so little time? We hear that. ASBMR makes it easier to see what's new, marking booths featuring new content with an NP logo in the program book, onsite signage and at the actual booth.

Additionally, as you learn about the latest products and services offered by our exhibitors, get your raffle card signed for a daily chance to win an iPad!

New Colleagues and Contacts

While installations and presentations can be stimulating, conversations with colleagues are what brings it all to life. The ASBMR Networking Center is your hot spot for meeting like-minded contacts and new resources in the field, who can assist in your professional and scientific endeavors.

ADDITIONAL RESOURCES

Internet Access

The ASBMR Internet Lounges located in the ASBMR Networking Center in the ASBMR Discovery Hall will be open as follows:

Friday, October 4 . . . . . 5:45 pm – 7:00 pm
Saturday, October 5 . . . . . 8:00 am – 6:00 pm
Sunday, October 6 . . . . . 8:00 am – 6:00 pm
Monday, October 7 . . . . . 8:00 am – 2:30 pm

Additionally, free public internet access is available in the Baltimore Convention Center lobbies.

Wheelchairs

Scootaround is the preferred scooter and wheelchair rental service for the ASBMR 2013 Annual Meeting. Enjoy all aspects of the conference without concerns of mobility or stress on bones or joints. To reserve an assistive device for the ASBMR Annual Meeting, please call toll-free at +1 (888) 441-7575. For more information, please visit www.scootaround.com.

Special Notices and Safety Tips

- Remove your convention badge outside the meeting sites. Do not wear your badge outside or advertise that you're a visitor and not familiar with your surroundings.
- Walk with another person rather than alone. Avoid alleys, walkways between buildings, and deserted parking lots.
- Remain alert, be aware of your surroundings, and carry your handbag in front of you.
- While in your hotel room, always lock your door. Know where emergency exits are in your hotel.
- Place any valuables in a hotel safety deposit box rather than leaving them in your room or carrying them with you.
- Keep a copy of your passport and travel papers in a safe place.

ASBMR NETWORKING CENTER

The ASBMR Networking Center provides a central gathering place for people and resources to converge in conversations and other communications. The ASBMR Networking Center is located in the center of the Exhibit Hall and provides a place to:

- Check your email through the desktop computers in the **Cyber Café** or on your own laptop in the **WiFi Cafe**
- Receive guidance on navigating the conference or information on the Society in the **ASBMR Membership** Area
- Find other Residents, Students, Fellows, or Young Investigators in the **Young Investigator Lounge**
- Meet with National Institutes of Health **(NIH)** and the Center for Scientific Review **(CSR)** representatives
- Peruse **available jobs** and meet with **prospective employers** in the career center

ASBMR Membership

The ASBMR Booth will be in the Networking Center in the Discovery Hall. Come by and meet the ASBMR staff, pick up information about the Society, check out the online version of the *Journal of Bone and Mineral Research,* and order copies of the 8th edition of the *Primer on Metabolic Bone Diseases and Disorders of Mineral Metabolism*. The ASBMR Membership Counter will be located in the ASBMR meeting registration area in Hall C of the Baltimore Convention Center and will be prepared to accept 2014 ASBMR membership renewal payments.

ASBMR Career Center

The ASBMR Career Center Service is easily accessible year-round online. You can access the most up-to-date job and candidate listings using the ASBMR Career Center Website. Simply submit your resume or job announcement using the online forms at **www.asbmr.org**. After your forms are submitted and payment is received, you will be able to use your self-assigned login name and password to access the Online Placement Service database anytime you wish.

Employers enrolled in the service will be entitled to display unlimited job announcements online and onsite at the meeting in the ASBMR Networking Center located in Discovery Hall. In addition, employers will have access to candidates' Curricula Vitae and to interview rooms.

Employers and candidates may request further information by accessing the ASBMR Career Center at www.asbmr.org.

Poster Tours

Annual Meeting Poster Session Tours will take place during each of the three poster sessions. These poster tours will be guided by a prominent scientist in the bone field to assist attendees in navigating the science within the poster hall. Participants will be able to choose between tours focused on either basic or clinical science. Tours will begin at the ASBMR Networking Center located in the Discovery Hall in the Baltimore Convention Center and will last approximately 60 minutes.

Poster Session	Tour Start Time	Start Location
Poster Session I: Saturday, October 5	12:30 p.m.	ASBMR Networking Center
Poster Session II: Sunday, October 6	12:30 p.m.	ASBMR Networking Center
Poster Session III: Monday, October 7	12:30 p.m.	ASBMR Networking Center

Knowledge Exchange

The ASBMR Knowledge X-Change, is a new, interactive forum for participating in small-group discussion on hot topics with leading experts in the bone field. Discussions will take place during each of the three poster sessions and last approximately 30 minutes.

Poster Session	Discussion Start Time	Location
Poster Session I: Saturday, October 5	12:15 p.m. and 1:15 p.m.	ASBMR Networking Center
Poster Session II: Sunday, October 6	12:15 p.m. and 1:15 p.m.	ASBMR Networking Center
Poster Session III: Monday, October 7	12:15 p.m.	ASBMR Networking Center

NIH – CIHR Lounge

Representatives from the U.S. National Institutes of Health (NIH), the Center for Scientific Review (CSR) and the Canadian Institutes of Health Research (CIHR) will be available in the NIH-CIHR Lounge in the ASBMR Networking Center to discuss grant proposals and ideas. Program staff from the following institutes and centers will be available to talk with you:

- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- National Cancer Institute (NCI)
- National Institute of Dental and Craniofacial Research (NIDCR)
- National Institute on Aging (NIA)
- National Institute of Child Health and Human Development (NICHD)
- Center for Scientific Review (CSR)
- Canadian Institutes of Health Research- Institute of Musculoskeletal Health and Arthritis

Young Investigator Lounge

Supported by Novartis, Inc.

All young investigator attendees are invited to drop by the Young Investigator Lounge located in the ASBMR Networking Center in the Discovery Hall. Don't miss this opportunity to make new friends and expand your network of colleagues.

INFORMATION FOR SPEAKERS AND POSTER PRESENTERS

Speaker Ready Room

Speakers must check into the Speaker Ready Room 24 hours in advance of their presentation. At that time, speakers may review their slides. The Speaker Ready Room is located in Room 330 in the Baltimore Convention Center. Review of slides must occur at least 24 hours prior to your presentation. The Speaker Ready Room will be open during the following times:

Speaker Ready Room Hours

Thursday, October 3	8:00 am – 5:00 pm
Friday, October 4	7:00 am – 5:30 pm
Saturday, October 5	7:00 am – 6:00 pm
Sunday, October 6	7:00 am – 5:30 pm
Monday, October 7	7:00 am – 5:00 pm

Speaker Lounge

The Speaker Lounge will be located in Room 331 in the Baltimore Convention Center. The lounge provides a relaxing atmosphere for the oral presenters and invited speakers to rest, mingle with one another, and to catch up on office work.

Poster Sessions

All poster sessions will be held in Hall C in the Baltimore Convention Center. Authors must be at their posters for the designated poster sessions on Saturday through Monday and must be available to answer questions during this period. Please adhere to the presentation times to maximize interaction with other attendees.

Presenters should mount their posters on the board bearing their assigned numbers, disregarding the letter prefix. ASBMR accepts no liability for posters or poster materials and will not adjudicate disputes between abstract presenters.

Please note that children 12 years of age and under will not be permitted in the poster area or the Discovery Hall at any time.

Presenter Check-in:

Since only poster presenters are allowed in the ASBMR Discovery Hall during the below poster set-up and dismantle hours, please go to the Poster Presenter Check-in Table at the entrance door to Hall C of the Baltimore Convention Center to receive a security pass. To speed the check-in process, please have your poster board number ready.

- **NOTE: Posters remaining after Poster Dismantling times will be discarded.**
- **Young Investigator Award Posters remain up through Monday, October 7 at 2:00 pm.**

Please adhere to these scheduled times to maximize interaction for other attendees:

POSTER SESSION PRESENTATION SCHEDULE

Poster Set-Up	Posters Open	Authors Present	Dismantle Posters
Friday, October 4 Welcome Reception/Plenary Poster Session			
3:00 pm–4:45 pm	5:45 pm–7:00 pm	5:45 pm–7:00 pm Friday Oral Posters, Plenary Posters & Young Investigator Award Posters ONLY	Friday Oral Posters dismantle at 7:00 pm. Plenary Posters and Young Investigator Award Posters **Do not dismantle**
Saturday, October 5 Poster Session I			
7:30 am–8:00 am	8:00 am–6:00 pm	12:00 p.m. – 2:00 p.m. (Includes Saturday Oral Posters, Plenary Posters, Young Investigator Award Posters and Saturday Poster Presenters)	6:00 pm–6:30 pm Saturday Oral Posters Saturday Posters Plenary Posters
Sunday, October 6 Poster Session II			
7:30 am–8:00 am	8:00 am–6:00 pm	12:00 p.m. – 2:00 p.m. (Sunday Oral Posters and Sunday Poster Presenters)	6:00 pm–6:30 pm Sunday Oral Posters Sunday Posters
Monday, October 7 Poster Session III			
7:30 am–8:00 am	8:00 am–4:00 pm	12:00 p.m. – 2:00 p.m. (Monday Oral Posters and Monday Poster Presenters)	2:00 pm–2:30 pm Monday Oral Posters Monday Posters Young Investigator Award Posters

HOW THE PROGRAM WAS SELECTED

The quality of any program is dependent on the expertise and breadth of knowledge of the individuals chosen to create the program. I was very fortunate to have outstanding individuals, Richard Eastell (Clinical Co-Chair) and Laurie McCauley (Basic Co-Chair) agree to develop the program for the annual meeting. The process for creation of the 2013 annual meeting program began when Drs. McCauley and Eastell agreed to be co-chairs on January 24, 2012. They immediately began asking questions about what was expected and rapidly started suggesting ideas for special lecturers and the composition of the program. We developed the program by challenging one another and then reaching consensus, all done in good humor. Our most controversial discussions were titles for the sessions resulting in hybrids of 'catchy' versus 'accurate'. We first met face to face with the 2012 program committee on June 6–7, 2012. After a series of conference calls over the summer, it was decided that Roel Nusse, the 'father' of the Wnt/β-catenin signaling pathway would be the ideal Aurbach Lecturer based on his experience and knowledge of the field and the importance this signaling pathway in bone growth and development, mechanotransduction, and development of therapeutics. Dr. Jane Lian was chosen as the Avioli Lecturer for her seminal work in epigenetics in bone and her dedication to the ASBMR.

A major goal the three of us agreed on was to identify the latest, cutting edge scientific discoveries and to highlight basic discoveries that translate to clinical application. This resulted in sessions such as "Sclerostin: The Journey from Discovery to Clinical Applications", "FGF2$_{01}$3", "What's Hot in Inflammatory Bone Disease", and the Greg Mundy Memorial Session on Malignancy and Bone. Another goal was to introduce our members to exciting science being done outside our field to ignite novel ideas and foster new concepts into bone research. This resulted in a session on "Personalized Medicine and Application to Bone" with guest speakers Steven Kingsmore and Shiro Ikegawa. Sessions were also chosen to complement the 'Muscle Day' meeting, "Cutting Edge Discoveries in Muscle Biology, Disease, and Therapeutics" include "Sarcopenia/ Osteoporosis: One Affliction?" and "Bringing back Muscle and Bone". Another theme was to coalesce the various metabolic systems regulated by bone, systems that regulate bone mass, and to highlight the latest developments in new therapeutics. This led to our session, "Up and Coming Treatments for Bone Disease".

The topic of the 2013 ASBMR/ECTS clinical debate is "Treatments developed for fracture prevention in osteoporosis can be used in patients with chronic kidney disease'. The rationale for this topic was the link that bone health has with other organs such as kidney and the challenges this presents for patient care. The ASBMR Professional Practice committee was consulted and helped with the selection of this topic for debate. This year for the first time, and as a counterpart and at the same time as the Clinical Evening at ASBMR, a session on basic bone research highlighting high scoring basic abstracts has been scheduled to include time for networking and hopefully lively discussion. We are grateful to all ASBMR members and the Professional Practice committee who helped to develop our ideas for the meeting.

This program was completed early by December/January 2013 due to the outstanding work of the co-chairs. Angela Cangemi (ASBMR Program Manager) was amazed at the self-sufficiency of the co-chairs, both who are individuals that are self-starters and have great organizational skills. Notably, it was the support of Angela and Lindsay, with their vast experience in organizing programs for past ASBMR meetings that kept all of us on task and on schedule.

The next major task was the review of the abstracts and placement on the program based on their scores and subject. The 2014 program planners, President Elect Roberto Civitelli and co-chair Eileen Shore provided valuable assistance in this process. As program organizers, we committed to address the frequent complaint of many attendees over the years that the ASBMR has too many concurrent sessions, as many as six or more at one time. As there is no poster backup for these concurrent orals, once an oral is missed, there is little recourse for questions or discussion unless the speaker can be located. Therefore, the 'Distinguished Oral' category, one basic and one clinical, was created to highlight the top scoring—'*not to be missed*'–abstracts. The hope is that these abstracts will be viewed by the majority of attendees. The concurrent oral sessions were reduced to two basic and two clinical orals instead of three or four. Having received positive feedback on the short poster orals, this format was expanded as this form of presentation provides the best of both worlds, the oral can be previewed and the listener can then decide whether or not to visit the poster. Plenary posters are still part of the agenda as the next high scoring abstracts.

We also called for late, breaking abstracts so that data not ready at the time of abstract submission would also be made available at the meeting. As with other abstracts, these were assigned for peer review before the program co-chairs placed them on the program. It is my hope that attendees will leave the meeting feeling it was time and money well spent. Colleagues will return home with discussions still lingering, will be impressed with the content and highlights of the meeting, and will be invigorated, ready to return to their research with new ideas and insight.

Sincerely,

Lynda F. Bonewald, Ph.D.
ASBMR President

FRIDAY, OCTOBER 4, 2013

DAY-AT-A-GLANCE

Time/Event/Location **All locations in the Baltimore Convention Center unless otherwise noted**

7:00 am - 7:00 pm 3
ASBMR Registration Open
Hall C

7:30 am - 8:00 am 3
Morning Networking
Charles Street Lobby

8:00 am - 9:30 am 3
Gerald D. Aurbach Lecture - Wnt Signaling and Stem Cell Control
Hall A

9:30 am - 10:00 am 3
Networking Break
Charles Street Lobby

10:00 am - 11:00 am 3
Meet-the-Professor Sessions
Rooms 324-338

10:00 am - 11:30 am 4
Meeting Overview for Health Professionals
Room 318-323

10:00 am - 11:30 am 5
Grant Writing Workshop - Mock Study Section: Insights into Grant Reviewing Processes
Room 314-317

10:00 am - 11:00 am 5
Distinguished Orals - Lifestyle
Hall A

10:00 am - 11:00 am 6
Distinguished Orals - Basic Science Approaching Clinical Application
Room 307-310

11:00 am - 11:30 am 7
Networking Break
Charles Street Lobby

11:30 am - 12:45 pm 8
Symposium - Greg Mundy Memorial Session: Malignancy and Bone
Hall A

11:30 am - 12:45 pm 8
Symposium - Sarcopenia/Osteopenia: One Affliction?
Room 307-310

12:45 pm - 1:15 pm 9
Networking Break
Charles Street Lobby

1:15 pm - 2:30 pm 9
Symposium - $FGF2_{01}3$
Room 307-310

1:15 pm - 2:30 pm 9
Symposium - Personalized Medicine: Application to Bone Diseases
Hall A

2:30 pm - 3:00 pm 10
Networking Break
Charles Street Lobby

2:45 pm - 4:00 pm 10
Symposium - What's Hot in Inflammatory Bone Disease
Room 307-310

3:00 pm - 4:00 pm 10
ASBMR/ECTS Clinical Debate - Treatments Developed for Fracture Prevention in Osteoporosis Can Be Used in Patients with Chronic Kidney Disease
Hall A

4:15 pm - 5:45 pm 11
Oral Poster Presentations: Clinical
Hall A

4:15 pm - 5:45 pm 12
Oral Poster Presentations: Basic
Room 307-310

5:45 pm 14
Discovery Hall Opening
Hall C

5:45 pm - 7:00 pm 14
Young Investigator/First-Time Attendee/Minority Investigator Reception
Discovery Hall-Hall C, Young Investigator Lounge

5:45 pm - 7:00 pm 14
Welcome Reception & Plenary Poster Session
Discovery Hall-Hall C

6:30 pm - 7:00 pm 31
The ASBMR 2013 Brightest Boneheads Quiz Show
Discovery Hall-Hall C, Young Investigator Lounge

7:15 pm - 8:00 pm 31
Young Investigator and Minority Investigator Networking Hour
Hilton Baltimore, Holiday Ballroom, Salon 3

7:15 pm - 9:15 pm 31
Nutrition Working Group
Room 339-340
Ticket Required

7:15 pm - 9:45 pm 32
Rare Bone Disease Working Group
Room 341-342
Ticket Required

7:30 pm - 9:30 pm 32
Bone Turnover Markers Working Group
Room 336
Ticket Required

7:30 pm - 9:30 pm 33
Working Group on Skeletal Aging
Room 337-338
Ticket Required

7:30 pm - 9:30 pm 33
Muscle and Bone Working Group
Room 343-344
Ticket Required

8:00 pm - 10:00 pm 34
ASBMR Speed Networking Event
Hilton Baltimore, Holiday Ballroom, Salons 4-6
Ticket Required

ASBMR REGISTRATION OPEN

7:00 am - 7:00 pm — **Baltimore Convention Center, Hall C**

MORNING NETWORKING

7:30 am - 8:00 am — **Baltimore Convention Center, Charles Street Lobby**

GERALD D. AURBACH LECTURE - WNT SIGNALING AND STEM CELL CONTROL

8:00 am - 9:30 am — **Baltimore Convention Center, Hall A**

Wnt Signaling and Stem Cell Control
Roel Nusse, Ph.D.
Howard Hughes Medical Institute, Stanford University, USA
Disclosures: Roel Nusse, None

NETWORKING BREAK

9:30 am - 10:00 am — **Baltimore Convention Center, Charles Street Lobby**

MEET-THE-PROFESSOR SESSIONS

10:00 am - 11:00 am — **Rooms 324-338**

Meet-the-Professor Session: Alternatives to Bisphosphonates for Osteoporosis Treatment
Room 329
Rene Rizzoli, M.D.
Geneva University Hospitals and Faculty of Medicine, Switzerland
Disclosures: Rene Rizzoli, MSD 6; Eli Lilly 6; Servier 6; Takeda 6; Danone 9; Amgen 6

Meet-the-Professor Session: Breast and Prostate Cancer: Cellular Mechanisms of Skeletal Metastasis
Room 336
Theresa Guise, M.D.
Indiana University, USA
Disclosures: Theresa Guise, None

Meet-the-Professor Session: Effects of Osteoporosis Therapeutics on Osteocytes
Room 325
Teresita Bellido, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Teresita Bellido, None

Meet-the-Professor Session: Functional Analysis of Bone During Growth and Aging
Room 326
Karl Jepsen, Ph.D.
University of Michigan, USA
Disclosures: Karl Jepsen, None

Meet-the-Professor Session: Growth and Nutritional Disorders and Bone
Room 334
Madhusmita Misra, M.D., MPH
Massachusetts General Hospital, USA
Disclosures: Madhusmita Misra, None

Meet-the-Professor Session: Interaction of PTH and b-adrenergic Receptor
Room 335

Jean-Pierre Vilardaga, Ph.D., M.S.
University of Pittsburgh, School of Medicine, USA
Disclosures: Jean-Pierre Vilardaga, None

Masaki Noda, M.D., Ph.D.
Tokyo Medical and Dental University, Japan
Disclosures: Masaki Noda, None

Meet-the-Professor Session: Paget's Disease
Room 333

Tim Cundy, M.D.
Faculty of Medical and Health Sciences University of Auckland, New Zealand
Disclosures: Tim Cundy, None

Meet-the-Professor Session: Prediction of Fracture Risk
Room 337-338

John Kanis, M.D.
University of Sheffield, Belgium
Disclosures: John Kanis, None

Meet-the-Professor Session: TGF-beta Influences on Bone Metabolism and Coupling of Resorption to Formation
Room 324

Merry Jo Oursler, Ph.D.
Mayo Clinic, USA
Disclosures: Merry Jo Oursler, None

MEETING OVERVIEW FOR HEALTH PROFESSIONALS

10:00 am - 11:30 am **Baltimore Convention Center**
Room 318-323

This special session is designed for all health professionals, first-time meeting attendees, young investigators, individuals new to the field, nurses, clinical research study coordinators, physical therapists and/or those seeking guidance in navigating through the extensive ASBMR program.

Co-Chairs
Betsy McClung, R.N., M.N.
Oregon Osteoporosis Center, USA
Disclosures: Betsy McClung, None

Joan Lappe, R.N., Ph.D.
Creighton University Osteoporosis Research Center, USA
Disclosures: Joan Lappe, None

10:00 am Basic Science Meeting Overview
Roland Baron, D.D.S., Ph.D.
Harvard School of Medicine and of Dental Medicine, USA
Disclosures: Roland Baron, None

10:45 am Clinical Science Meeting Overview
John Bilezikian, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: John Bilezikian, None

GRANT WRITING WORKSHOP - MOCK STUDY SECTION: INSIGHTS INTO GRANT REVIEWING PROCESSES

Sponsored by the ASBMR Membership Engagement and Education Committees

10:00 am - 11:30 am **Baltimore Convention Center**

Room 314-317

A panel of experts made up of U.S. and international researchers will offer insights into the reviewer's perspective of the grant application process. This session will give you a behind-the-scenes look into the review and scoring process for clinical and basic research grants, as well as training grants. This session is a can't-miss opportunity for researchers wanting to gain valuable insight into the grant reviewing process.

Co-Chairs
Marian Hannan, DSc, MPH
HSL Institute for Aging Research and Harvard Medical School, USA
Disclosures: Marian Hannan, None

Wenhan Chang, Ph.D.
Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

Reviewers:
Shreyasee Amin, M.D., MPH
Mayo Clinic, USA

Marie Demay, M.D.
Massachusetts General Hospital and Harvard Medical School, USA

Nancy Lane, M.D.
University of California, Davis Medical Center, USA

Fanxin Long, Ph.D.
Washington University School of Medicine, USA

Robert Nissenson, Ph.D.
VA Medical Center and University of California, San Francisco, USA

Dolores Shoback, M.D.
VA Medical Center, USA

DISTINGUISHED ORALS - LIFESTYLE

10:00 am - 11:00 am **Baltimore Convention Center**

Hall A

Moderators:
Meryl Leboff, M.D.
Brigham and Women's Hospital, Professor of Medicine, Harvard Medical School, USA
Disclosures: Meryl Leboff, None

Pawal Szulc, M.D., Ph.D.
University of Lyon, France
Disclosures: Pawal Szulc, None

10:00 am **Dietary and Supplemental Calcium Intake and the Risk of Mortality in Older Men: the MrOS**
1001 **Study**
Douglas Bauer*[1], Stephanie Harrison[2], Peggy Cawthon[3], Elizabeth Barrett-Connor[4], James Shikany[5], Kristine Ensrud[6], Eric Orwoll[7], Steven Cummings[2]. [1]University of California, San Francisco, USA, [2]San Francisco Coordinating Center, USA, [3]California Pacific Medical Center Research Institute, USA, [4]University of California, San Diego, USA, [5]University of Alabama at Birmingham, Birmingham, AL, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA, [7]Oregon Health & Science University, USA
Disclosures: Douglas Bauer, None

10:15 am **2013 ASBMR Young Investigator Award**
1002 **The Cardiovascular Safety of Calcium Supplementation With or Without Vitamin D in Elderly Women: A Collaborative Meta-analysis of Published and Unpublished Trial Level Evidence from Randomised Controlled Trials.**
Joshua Lewis*[1], Lars Rejnmark[2], Kerry Ivey[3], Ross Prentice[4], Richard Prince[5]. [1]The University of Western Australia, Australia, [2]Aarhus University Hospital, Denmark, [3]University of Western Australia, School of Medicine & Pharmacology, Australia, [4]Public Health Sciences Division, Fred Hutchinson Cancer Research Center, USA, [5]Sir Charles Gairdner Hospital, Australia
Disclosures: Joshua Lewis, None

10:30 am **2013 ASBMR Young Investigator Award**
1003 **Risk of Non-spine Fractures Among Men and Women with Sarcopenia, Low Bone Mass or Both**
Didier Chalhoub*[1], Peggy Cawthon[2], Kristine Ensrud[3], Marcia Stefanick[4], Deborah Kado[5], Eric Orwoll[6], Jane Cauley[7]. [1]University of Pittsburgh, USA, [2]California Pacific Medical Center Research Institute, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]Stanford University School of Medicine, USA, [5]University of California, San Diego, USA, [6]Oregon Health & Science University, USA, [7]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Didier Chalhoub, None

10:45 am **2013 ASBMR Young Investigator Award**
1004 **PTH Release during Exercise Regulates Trabecular Bone Adaptation**
Joseph Gardinier*, David Kohn, Fatma Mohamed. University of Michigan, USA
Disclosures: Joseph Gardinier, None

DISTINGUISHED ORALS - BASIC SCIENCE APPROACHING CLINICAL APPLICATION

10:00 am - 11:00 am **Baltimore Convention Center**
Room 307-310

Moderators:
Anna Teti, Ph.D.
University of L'Aquila, Italy
Disclosures: Anna Teti, None

Karl Insogna, M.D.
Yale University School of Medicine, USA
Disclosures: Karl Insogna, None

10:00 am **2013 ASBMR Most Outstanding Basic Abstract Award**
1005 **Leukemogenic Transformation of Hematopoietic Stem Cells by Constitutive Activation of Canonical Wnt signaling in Osteoblasts**
Aruna Kode*[1], Sanil J Manavalan[1], Ioanna Mosialou[1], Chozha V Rathinam[1], Govind Bhagat[1], Murty Vundavalli[1], Naomi Galili[1], Siddhartha Mukherjee[1], Azra Raza[1], Julie Teruya Feldstein[2], Ellin Berman[2], Stavroula Kousteni[1]. [1]Columbia University Medical Center, USA, [2]Memorial Sloan-Kettering Cancer Center, USA
Disclosures: Aruna Kode, None

10:15 am ***WNT1*** **Mutations in Early-Onset Osteoporosis and Osteogenesis Imperfecta Identify a Key**
1006 **WNT Ligand Regulating Bone Mass**

Brendan Lee[1], Christine Laine[2], Kyu-Sang Joeng[3], Philippe Campeau[3], Kati Tarkkonen[4], Monica Grover[5], James Lu[6], Minna Pekkinen[2], Maija Wessman[7], Terhi Heino[8], Vappu Nieminen-Pihala[9], Tero Laine[10], Heikki Kroger[11], William Cole[12], Anna-Elina Lehesjoki[13], Deborah Krakow[14], Cynthia Curry[15], Daniel Cohn[16], Richard Gibbs[3], Riku Kiviranta[17], Outi Makitie*[18]. [1]Baylor College of Medicine & Howard Hughes Medical Institute, USA, [2]Folkhälsan Institute of Genetics, Finland, [3]Molecular & Human Genetics, Baylor College of Medicine, USA, [4]Department of Medical Biochemistry & Genetics & Department of Medicine, University of Turku, Finland, [5]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [6]Human Genome Sequencing Center, Baylor College of Medicine, USA, [7]Folkhälsan Institute of Genetics & Institute for Molecular Medicine Finland, University of Helsinki, Finland, [8]Department of Cell Biology & Anatomy, University of Turku, Finland, [9]Department of Medical Biochemistry & Genetics, University of Turku, Finland, [10]Department of Orthopaedics, Sahlgrenska University Hospital, Sweden, [11]Department of Orthopaedics & Traumatology, Kuopio University Hospital, Finland, [12]Division of Pediatric Surgery, University of Alberta, Canada, [13]Folkhälsan Institute of Genetics & Neuroscience Center, University of Helsinki, Finland, [14]Departments of Orthopaedic Surgery & Human Genetics, University of California-Los Angeles, USA, [15]Genetic Medicine Central California, University of California San Francisco, USA, [16]UCLA, USA, [17]Department of Medical Biochemistry & Genetics & Department of Medicine, Finland, [18]Folkhälsan Institute of Genetics & Children's Hospital, Helsinki University Central Hospital & University of Helsinki, Finland

Disclosures: Outi Makitie, None

10:30 am **Whole Exome Sequencing Reveals a Pathogenic Mutation in a Kindred with Congenital**
1007 **Kyphosis and Anterior Fontanelle Patency**

Philip Giampietro[1], David Sweetser[2], Alex Stoddard[3], Robert Blank*[4], Mark Stephan[5], Cathleen Raggio[6], Kristen Rasmussen[7], Michael Pickart[8], Sarah Sund[4], Ulrich Broeckel[3]. [1]University of Wisconsin Madison/Department of Pediatrics, USA, [2]Massachusetts General Hospital, USA, [3]Medical College of Wisconsin, USA, [4]University of Wisconsin, USA, [5]Madigan Army Medical Center, USA, [6]Hospital for Special Surgery, USA, [7]Marshfield Clinic, USA, [8]Concordia University, USA

Disclosures: Robert Blank, None

10:45 am **2013 ASBMR Young Investigator Award**
1008 **Role Of Muscle Stem Cells During Bone Regeneration**

Rana Abou-Khalil*[1], Frank Yang[2], Catia Pereira[1], Shirley Lieu[2], Frederic Relaix[3], Theodore Miclau[2], Ralph Marcucio[4], Celine Colnot[1]. [1]INSERM U781, Université Paris Descartes-Sorbonne Paris Cité, Institut Imagine, Hôpital Necker Enfants Malades, France, [2]Department of Orthopaedic Surgery, University of California at San Francisco, USA, [3]INSERM, UMR-S 787, UPMC Paris VI, Institut de Myologie, Faculté de Médecine Pitié-Salpétrière, France, [4]University of California, San Francisco, USA

Disclosures: Rana Abou-Khalil, None

NETWORKING BREAK

11:00 am - 11:30 am **Baltimore Convention Center**
Charles Street Lobby

SYMPOSIUM - GREG MUNDY MEMORIAL SESSION: MALIGNANCY AND BONE

11:30 am - 12:45 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Philippe A.R. Clezardin, Ph.D., DSc
INSERM and University of Lyon, France
Disclosures: Philippe A.R. Clezardin, None

T. John Martin, M.D., DSc
St. Vincent's Institute of Medical Research, Australia
Disclosures: T. John Martin, None

11:30 am **Cancer Cells and their Bone Marrow Niche**
Russell Taichman, D.M.D.
University of Michigan, School of Dentistry, USA
Disclosures: Russell Taichman, None

11:55 am **Immune Regulation of the Tumor/Bone Vicious Cycle**
Roberta Faccio, Ph.D.
Washington University in St Louis School of Medicine, USA
Disclosures: Roberta Faccio, None

12:20 pm **Stress, Depression and Skeletal Metastasis**
Florent Elefteriou, Ph.D.
Vanderbilt University, USA
Disclosures: Florent Elefteriou, None

SYMPOSIUM - SARCOPENIA/OSTEOPENIA: ONE AFFLICTION?

11:30 am - 12:45 pm **Baltimore Convention Center**
Room 307-310

Co-Chairs
Thomas Clemens, Ph.D.
Johns Hopkins University, USA
Disclosures: Thomas Clemens, None

Douglas Kiel, M.D., MPH
Hebrew SeniorLife, USA
Disclosures: Douglas Kiel, None

11:30 am **Shared and Individual Risk Factors for Bone and Muscle Loss with Age**
Tamara Harris, M.D., M.S.
Intramural Research Program, National Institute on Aging, USA
Disclosures: Tamara Harris, None

11:55 am **Muscle and Bone Interactions: Is Fat the Common Denominator?**
Clifford Rosen, M.D.
Maine Medical Center, USA
Disclosures: Clifford Rosen, None

12:20 pm **Exercise and Mechanical Signals: Surprises Regarding the Effect of Vibration on Bone and Muscle**
Clinton Rubin, Ph.D.
State University of New York at Stony Brook, USA
Disclosures: Clinton Rubin, Marodyne Medical, Inc. 6

NETWORKING BREAK

12:45 pm - 1:15 pm **Baltimore Convention Center**
Charles Street Lobby

SYMPOSIUM - $FGF2_{01}3$

1:15 pm - 2:30 pm **Baltimore Convention Center**
Room 307-310

Co-Chairs
Reinhold Erben, M.D., D.V.M.
University of Veterinary Medicine, Austria
Disclosures: Reinhold Erben, None

Harald Jueppner, M.D.
Massachusetts General Hospital, USA
Disclosures: Harald Jueppner, None

1:15 pm **PTH-FGF23-Klotho: Who Is In Charge?**
Beate Lanske, Ph.D.
Harvard School of Dental Medicine, USA
Disclosures: Beate Lanske, None

1:40 pm **FGF23: Emerging Concepts and Controversies**
L. Darryl Quarles, M.D.
University of Tennessee Health Sciences Center, USA
Disclosures: L. Darryl Quarles, None

2:05 pm **Role of FGF23 in Cardiovascular Disease**
Myles Wolf, M.D., MMSc
University of Miami, Miller School of Medicine, USA
Disclosures: Myles Wolf, None

SYMPOSIUM - PERSONALIZED MEDICINE: APPLICATION TO BONE DISEASES

1:15 pm - 2:30 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Steven Cummings, M.D.
San Francisco Coordinating Center, USA
Disclosures: Steven Cummings, None

Charles Farber, Ph.D.
University of Virginia, USA
Disclosures: Charles Farber, None

1:15 pm **Introduction**
Charles Farber, Ph.D.
University of Virginia, USA
Disclosures: Charles Farber, None

1:20 pm **Genetics of Bone and Joint Disease: From Genome to Personalized Medicine**
Shiro Ikegawa, M.D., Ph.D.
RIKEN, Center for Integrative Medical Science, Japan
Disclosures: Shiro Ikegawa, None

1:50 pm **Genomic Medicine for Bone and Mineral Diseases in Children**
Stephen Kingsmore, MB, ChB, BAO, DSc, FRCP
Children's Mercy Hospitals and Clinics, USA
Disclosures: Stephen Kingsmore, Illumina Inc. 7; Illumina Inc. 2

2:20 pm **Personalized Medicine and Bone**
Steven Cummings, M.D.
San Francisco Coordinating Center, USA
Disclosures: Steven Cummings, None

NETWORKING BREAK

2:30 pm - 3:00 pm **Baltimore Convention Center**
Charles Street Lobby

SYMPOSIUM - WHAT'S HOT IN INFLAMMATORY BONE DISEASE

2:45 pm - 4:00 pm **Baltimore Convention Center**
Room 307-310

Co-Chairs
Joseph Lorenzo, M.D.
University of Connecticut Health Center, USA
Disclosures: Joseph Lorenzo, None

Natalie Sims, Ph.D.
St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie Sims, None

2:45 pm **Effects of Inflammation in Bone**
Nancy Lane, M.D.
University of California, Davis Medical Center, USA
Disclosures: Nancy Lane, None

3:10 pm **The Contribution of Osteoblasts/Osteocytes to Inflammatory Mediated Periodontal Disease**
Dana Graves, D.D.S., DMSc
University of Pennsylvania, School of Dental Medicine, USA
Disclosures: Dana Graves, None

3:35 pm **The Role of Inflammation in the Pathogenesis and Progression of Osteoarthritis**
Steven Abramson, M.D.
NYU Langone Medical Center, USA
Disclosures: Steven Abramson, None

ASBMR/ECTS CLINICAL DEBATE - TREATMENTS DEVELOPED FOR FRACTURE PREVENTION IN OSTEOPOROSIS CAN BE USED IN PATIENTS WITH CHRONIC KIDNEY DISEASE

3:00 pm - 4:00 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Sundeep Khosla, M.D.
College of Medicine, Mayo Clinic, USA
Disclosures: Sundeep Khosla, Bone Therapeutics 6; Amgen 6

Neveen Hamdy, M.D., MRCP
Leiden University Medical Center, Nld
Disclosures: Neveen Hamdy, None

3:00 pm **For the motion**
Sophie Jamal, M.D., Ph.D.
The University of Toronto, Canada
Disclosures: Sophie Jamal, None

3:30 pm **Against the motion**
Alastair McLellan, M.D., MBChB
Western Infirmary, United Kingdom
Disclosures: Alastair McLellan, None

ORAL POSTER PRESENTATIONS: CLINICAL

4:15 pm - 5:45 pm **Hall A**

Moderators:
Martine Cohen-Solal, M.D.
Centre Viggo Petersen, France
Disclosures: Martine Cohen-Solal, None

Robert Adler, M.D.
McGuire VA Medical Center, USA
Disclosures: Robert Adler, None

4:20 pm **2013 ASBMR Young Investigator Award**
FR0012 **Protein Intake is Protective Against Grip Strength Loss in Adults: The Framingham Osteoporosis Study**
Kelsey Mangano*[1], Robert McLean[2], Marian Hannan[3], Douglas Kiel[4], Virginia Casey[4], Shivani Sahni[5]. [1]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, USA, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]HSL Institute for Aging Research & Harvard Medical School, USA, [4]Hebrew SeniorLife, USA, [5]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA
Disclosures: Kelsey Mangano, None

4:25 pm **2013 ASBMR Young Investigator Award**
FR0366 **Muscle Power and Force may Contribute to Cortical Bone Strength Through Distinct Mechanisms: Findings from a Cross-sectional Study of High Bone Mass Cases and Controls**
Sarah Hardcastle*[1], Celia Gregson[1], Joern Rittweger[2], Kate Ward[3], Jon H Tobias[4]. [1]University of Bristol, United Kingdom, [2]Institute of Aerospace Medicine, German Aerospace Center, Cologne, Germany, [3]MRC Human Nutrition Research, United Kingdom, [4]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, United Kingdom
Disclosures: Sarah Hardcastle, None

4:30 pm **Calcium plus Vitamin D supplementation: a Meta-analysis of Risk and Benefit**
FR0379 Steven Frost*[1], Nguyen Nguyen[2], Jacqueline Center[2], John Eisman[2], Tuan Nguyen[2]. [1]University of Western Sydney, Australia, [2]Garvan Institute of Medical Research, Australia
Disclosures: Steven Frost, None

4:40 pm **Effects of Vitamin D Supplementation on Neural Plasticity, Serum Brain-derived**
FR0195 **Neurotrophic Factor (BDNF) and Functional Performance in Older Adults: A 10-week Double-Blinded, Placebo Controlled Randomised Trial**
Robin Daly*, Stephanie Pirotta, Dawson Kidgell. Centre for Physical Activity & Nutrition Research, Deakin University, Australia
Disclosures: Robin Daly, None

4:45 pm **2013 ASBMR Young Investigator Award**
FR0196 **Effect of 1 year of whole-body vibration therapy on muscle density and volume in postmenopausal women: the Vibration Study**
Miranda Boggild*[1], Marta Erlandson[2], George Tomlinson[1], Eva Szabo[1], Lubomira Slatkovska[2], Lora Giangregorio[3], Cathy Craven[1], Shabbir Alibhai[1], Angela M. Cheung[4]. [1]University of Toronto, Canada, [2]University Health Network, Canada, [3]University of Waterloo, Canada, [4]University Health Network-University of Toronto, Canada
Disclosures: Miranda Boggild, None

4:50 pm **Phosphate Restriction Extends the Life of Uremic Rats with Established Vascular**
FR0121 **Calcification**
Eduardo Slatopolsky[1], Jane Finch*[2], Sarah Zhang[2], Helen Liapis[2], Cynthia Ritter[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Jane Finch, Genzyme/Sanofi, 2

5:00 pm **Assessment of Osteovascular Interactions by HR-pQCT: Links Between Lower Leg Arterial**
FR0180 **Calcifications and Renal Osteodystrophy**
Janina Patsch*[1], Mafo Kamanda-Kosseh[2], Serge Cremers[2], Elzbieta Dworakowski[2], Chiyuan Zhang[2], Donald McMahon[3], Elizabeth Shane[3], Thomas Nickolas[3]. [1]Medical University of Vienna, Austria, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Janina Patsch, None

5:05 pm **RANKL Inhibition Improves Long Bone and Vertebral Bone Properties in Moderately Severe**
FR0025 **Type IV Osteogenesis Imperfecta Brtl Mice**
Patricia Collin-Osdoby*[1], Tarpit Patel[2], Michael Brodt[2], Linda Rothe[2], Chun Ya Han[3], Marina Stolina[4], Matthew Silva[5], Paul Kostenuik[4], Joan Marini[6], Philip Osdoby[1]. [1]Washington University in St. Louis, USA, [2]Washington University, USA, [3]Amgen, USA, [4]Amgen Inc., USA, [5]Washington University in St. Louis School of Medicine, USA, [6]National Institute of Child Health & Human Development, USA
Disclosures: Patricia Collin-Osdoby, Amgen, 2

5:10 pm **Novel Models Of Osteoporosis In Transgenic Mice Overexpressing Human RANKL**
FR0264 Vagelis Rinotas[1], Alexandra Niti[1], Romain Dacquin[2], Nicolas Bonnet[3], Serge Ferrari[4], Pierre Jurdic[5], Eleni Douni*[6]. [1]BSRC Alexander Fleming, Greece, [2]ENS de Lyon, France, [3]University Geneva Hospital-Department of Internal Medecine Specialities, Switzerland, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]Ecole Normale Superieure de Lyon, France, [6]Agricultural University of Athens/ BSRC Al. Fleming, Greece
Disclosures: Eleni Douni, None

5:20 pm **Treatment with a soluble bone morphogenetic protein Type 1A receptor (BMPR1A) fusion**
FR0066 **protein increases bone formation and bone mass in a mice subjected to hindlimb unloading**
Miranda Van Vliet*[1], Rachel Ellman[1], Daniel Grasso[1], Daniel Brooks[1], Christine Conlon[1], Jordan Spatz[2], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT Division of Health Sciences & Technology (HST), USA
Disclosures: Miranda Van Vliet, None

5:25 pm **Effects of Age on Molecular Pathways Regulating Bone Formation in Humans: A Key Role**
FR0010 **for Notch and Rorβ Signaling**
Matthew Roforth*[1], Koji Fujita[1], Ulrike McGregor[2], Salman Kirmani[1], Louise McCready[1], James Peterson[1], Matthew Drake[3], David Monroe[4], Sundeep Khosla[5]. [1]Mayo Clinic, USA, [2]King's College, London UK, United Kingdom, [3]College of Medicine, Mayo Clinic, USA, [4]Mayo Foundation, USA, [5]Mayo Clinic College of Medicine, USA
Disclosures: Matthew Roforth, None

5:30 pm **Does a Progressively Hostile Marrow Microenvironment Ossify Bone Marrow Blood Vessels**
FR0181 **and Contribute to Bone Microvascular Dysfunction?**
Rhonda Prisby*[1], Ashley Bice[2], Arun Kumar[3]. [1]University of Delaware, USA, [2]University of Delaware, Department of Kinesiology & Applied Physiology, USA, [3]University of Delaware, Department of Medical Laboratory Sciences, USA
Disclosures: Rhonda Prisby, None

ORAL POSTER PRESENTATIONS: BASIC

4:15 pm - 5:45 pm **Room 307-310**

Moderators:
Clinton Rubin, Ph.D.
State University of New York at Stony Brook, USA
Disclosures: Clinton Rubin, None

Ernestina Schipani, M.D., Ph.D.
Indiana University School of Medicine, USA
Disclosures: Ernestina Schipani, None

4:20 pm FR0126 **EphrinB2 reverse signaling in osteoblasts is required for normal bone material strength and increased bone formation in response to parathyroid hormone (PTH)**
Farzin Takyar[1], Christina Vrahnas[1], Stephen Tonna[2], Blessing Crimeen-Irwin[1], Patricia Ho[1], T J Martin[1], Natalie Sims*[3]. [1]St. Vincent's Institute, Australia, [2]St Vincent's Institute, Australia, [3]St. Vincent's Institute for Medical Research, Australia
Disclosures: Natalie Sims, None

4:25 pm FR0245 **Combined Deficiency of Prolyl Hydroxylase (PHD) 1 and PHD3 Increases Mesenchymal Stem Cell Number and Regulates the Hematopoietic Stem Cell Niche**
Steve Stegen*[1], Satish Khurana[2], Nick van Gastel[3], Sophie Torrekens[3], Karen Moermans[3], Peter Carmeliet[4], Catherine Verfaillie[2], Geert Carmeliet[5]. [1]Universiteit Leuven, Belgium, [2]Interdepartmental Stem Cell Institute, KU Leuven, Belgium, [3]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [4]Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, VIB, & Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, KU Leuven, Belgium, [5]Katholieke Universiteit Leuven, Belgium
Disclosures: Steve Stegen, None

4:30 pm FR0119 **Characterization of FGF23-dependent Egr-1 Cistrome in the Mouse Renal Proximal Tubule**
Martin Zhang[1], Anthony Portale[1], Farzana Perwad*[2]. [1]University of California San Francisco, USA, [2]University of California, San Francisco, USA
Disclosures: Farzana Perwad, None

4:40 pm FR0120 **Genetic Rescue of Glycosylation-deficient Fgf23 in the Galnt3-null Mouse**
Shoji Ichikawa*[1], Amie Gray[1], Erica Clinkenbeard[2], Kenneth White[1], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University-Purdue University Indianapolis, USA
Disclosures: Shoji Ichikawa, None

4:45 pm FR0155 **In Vivo Pharmacologic Modulation of Bone Marrow Microenvironmental Signals Promotes Long-Term Hematopoietic Stem Cell Function**
Julianne Smith*[1], Alexandra Goodman[2], Laura Calvi[1]. [1]University of Rochester School of Medicine, USA, [2]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Julianne Smith, None

4:50 pm FR0211 **TSC1 Deletion in Neural Crest-derived Cells Leads to Excess Craniofacial Bone Formation through the Expansion of Osteoblast Lineage Cells**
Fang Fang*[1], Dongye Yang[1], Yuan Zhu[1], Fei Liu[2]. [1]University of Michigan, USA, [2]University of Michigan School of Dentistry, USA
Disclosures: Fang Fang, None

5:00 pm FR0461 **Integrin-beta 3 is required for breast tumor cell response to bone rigidity**
Jonathan Page*[1], Nazanin Ruppender[1], Shellese Cannonier[1], Ushashi Dadwal[1], Alyssa Merkel[1], Scott Guelcher[1], Julie Sterling[2]. [1]Vanderbilt University, USA, [2]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Jonathan Page, None

5:05 pm FR0153 **Pdlim7 (LMP) Knock-Out Mice Display a Significant Decrease in Trabecular Bone Volume**
Manjula Viggeswarapu*[1], Matthew Gary[2], Colleen Oliver[3], Mesfin Teklemariam[4], Sreedhara Sangadala[1], F. Louisa Titus[5], Scott. D. Boden[6]. [1]Emory University School of Medicine, USA, [2]Department of Neurosurgery, Emory University, USA, [3]VA Medical Center, USA, [4]Department of Orthopaedics, Emory University, USA, [5]VA Medical Center, Decatur, USA, [6]Department of Orthopaedics, Emory University School of Medicine, USA
Disclosures: Manjula Viggeswarapu, None

5:10 pm FR0187 **Neuroskeletal Signaling In The Regenerating Zebrafish Fin: Remote Inhibition of Osteoblast Function via Disruption of Cholinergic Signaling**
Anthony Recidoro, Amanda Roof, Brandon Ausk, Sundar Srinivasan, Edith Gardiner, Ted Gross, Steven Bain, Christopher Allan, Ronald Kwon*. University of Washington, USA
Disclosures: Ronald Kwon, None

5:20 pm **The Presence of Either Cdc42 or Rac1 is Required for the Crosstalk between Osteoblasts and**
FR0212 **Adipocytes**
Carina Wuerfel, Carla Sens, Christine Hoffmann, Inaam Nakchbandi*. Max-Planck Institute of Biochemistry & University of Heidelberg, Germany
Disclosures: Inaam Nakchbandi, None

5:25 pm **Effects of Blockade of Endogenous Gi Signaling in Endothelial Lineage Cells on Bone**
FR0246 **Formation in a Heterotopic Ossification Model**
Liping Wang*[1], Dylan O'Carroll[2], Xuhui Liu[3], Theresa Roth[2], Abbott Marcia[2], Hubert Kim[3], Bernard Halloran[4], Robert Nissenson[5]. [1]VA Medical Center, San Francisco, USA, [2]Endocrine Unit, VA Medical Center & Departments of Medicine & Physiology, University of California, USA, [3]Orthopedic Surgery, UCSF, USA, [4]VA Medical Center (111N), USA, [5]VA Medical Center & University of California, San Francisco, USA
Disclosures: Liping Wang, None

5:30 pm **Analysis of αSMA-labeled Progenitor Cell Commitment Identifies Notch Signaling as an**
FR0244 **Important Pathway in Fracture Healing**
Brya Matthews*[1], Danka Grcevic[2], Liping Wang[3], Yusuke Hagiwara[3], Douglas Adams[3], Ivo Kalajzic[3]. [1]University of Connecticut Health Center, Department of Reconstructive Sciences, USA, [2]University of Zagreb, Croatia, [3]University of Connecticut Health Center, USA
Disclosures: Brya Matthews, None

DISCOVERY HALL OPENING

5:45 pm **Baltimore Convention Center**
Hall C

YOUNG INVESTIGATOR/FIRST-TIME ATTENDEE/MINORITY INVESTIGATOR RECEPTION

Sponsored by the ASBMR Membership Engagement Committee, Young Investigator Subcommittee and Minority Subcommittee

5:45 pm - 7:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C, Young Investigator Lounge

The ASBMR Membership Development Committee, Young Investigator Subcommittee and Minority Subcommittee members will be in attendance for this meet-and-greet networking event. This reception has been organized to promote interactions among young investigators, minority investigators and ASBMR leadership so that they may begin building a network of career-long contacts. The reception will be held concurrently with the Welcome Reception and the Plenary Poster Session in the Young Investigator Lounge in the ASBMR Networking Center in Discovery Hall.

WELCOME RECEPTION & PLENARY POSTER SESSION

5:45 pm - 7:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

FR0010 **Effects of Age on Molecular Pathways Regulating Bone Formation in Humans: A Key Role for Notch and Rorβ Signaling**
Matthew Roforth*[1], Koji Fujita[1], Ulrike McGregor[2], Salman Kirmani[1], Louise McCready[1], James Peterson[1], Matthew Drake[3], David Monroe[4], Sundeep Khosla[5]. [1]Mayo Clinic, USA, [2]King's College, London UK, United Kingdom, [3]College of Medicine, Mayo Clinic, USA, [4]Mayo Foundation, USA, [5]Mayo Clinic College of Medicine, USA
Disclosures: Matthew Roforth, None

FR0011 **Low trunk muscle density is associated with prevalent vertebral fractures in older adults**
Dennis Anderson*[1], Brett Allaire[1], Alexander Bruno[2], Serkalem Demissie[3], Douglas Kiel[4], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT, USA, [3]Boston University School of Public Health, USA, [4]Hebrew SeniorLife, USA
Disclosures: Dennis Anderson, None

FR0012 **2013 ASBMR Young Investigator Award**
Protein Intake is Protective Against Grip Strength Loss in Adults: The Framingham Osteoporosis Study
Kelsey Mangano*[1], Robert McLean[2], Marian Hannan[3], Douglas Kiel[4], Virginia Casey[4], Shivani Sahni[5]. [1]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, USA, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]HSL Institute for Aging Research & Harvard Medical School, USA, [4]Hebrew SeniorLife, USA, [5]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA
Disclosures: Kelsey Mangano, None

FR0022 **Exercise During Growth as an Independent Predictor of Cortical Bone Size and Strength in Older Swedish Men**
Martin Nilsson*[1], Claes Ohlsson[2], Magnus Karlsson[3], Dan Mellstrom[4], Mattias Lorentzon[5]. [1]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Sahlgrenska University Hospital, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Martin Nilsson, None

FR0023 **Long-term Exercise Intervention in Older Adults: 4-Year Follow-up of a Randomized Controlled Trial of Music-Based Multitask Training (Jaques-Dalcroze Eurhythmics)**
Andrea Trombetti*, Mélany Hars, François Herrmann, René Rizzoli. Division of Bone Diseases, Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Andrea Trombetti, None

FR0024 **Height Age Correction of Pediatric DXA: Illustration of its Importance**
Katherine Madson*[1], Gary S Gottesman[1], Fan Zhang[2], Michael Whyte[1]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Shriners Hospital for Children, USA
Disclosures: Katherine Madson, None

FR0025 **RANKL Inhibition Improves Long Bone and Vertebral Bone Properties in Moderately Severe Type IV Osteogenesis Imperfecta Brtl Mice**
Patricia Collin-Osdoby*[1], Tarpit Patel[2], Michael Brodt[2], Linda Rothe[2], Chun Ya Han[3], Marina Stolina[4], Matthew Silva[5], Paul Kostenuik[4], Joan Marini[6], Philip Osdoby[1]. [1]Washington University in St. Louis, USA, [2]Washington University, USA, [3]Amgen, USA, [4]Amgen Inc., USA, [5]Washington University in St. Louis School of Medicine, USA, [6]National Institute of Child Health & Human Development, USA
Disclosures: Patricia Collin-Osdoby, Amgen, 2

FR0066 **Treatment with a soluble bone morphogenetic protein Type 1A receptor (BMPR1A) fusion protein increases bone formation and bone mass in a mice subjected to hindlimb unloading**
Miranda Van Vliet*[1], Rachel Ellman[1], Daniel Grasso[1], Daniel Brooks[1], Christine Conlon[1], Jordan Spatz[2], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT Division of Health Sciences & Technology (HST), USA
Disclosures: Miranda Van Vliet, None

FR0081 **Cartilage-specific RUNX2 Activity Regulates Endochondral Bone Formation and Articular Cartilage Homeostasis**
Jennifer Jonason[1], Donna Hoak*[1], Tzong-Jen Sheu[1], Fanxin Long[2], Regis O'Keefe[1], Matthew Hilton[3]. [1]UNIVERSITY OF ROCHESTER, USA, [2]Washington University School of Medicine, USA, [3]University of Rochester Medical Center, USA
Disclosures: Donna Hoak, None

FR0083 **Forkhead protein FoxC1 regulates chondrogenic genes expression by modulating Ihh/Gli2 signaling**
Michiko Yoshida*[1], Kenji Hata[2], Sachiko Iseki[3], Teruko Takano-Yamamoto[4], Toshiyuki Yoneda[5], Riko Nishimura[2]. [1]Division of Orthodontics & Dentofacial Orthopedics, Graduate School of Dentistry, Tohoku University, Japan, [2]Osaka University Graduate School of Dentistry, Japan, [3]Section of Molecular Craniofacial Embryology, Graduate School, Tokyo Medical & Dental University, Japan, [4]Tohoku University, Japan, [5]Indiana University School of Medicine, USA
Disclosures: Michiko Yoshida, None

FR0094 **Sirt6 regulate proliferation and differentiation of the postnatal growth plate chondrocyte via Ihh signaling.**
Jinying Piao*[1], Kunikazu Tsuji[2], Hiroki Ochi[3], Morita Sadao[4], Daisuke Koga[5], Atsushi Okawa[5], Shu Takeda[6], Yoshinori Asou[2]. [1]Graduate School, Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Laboratory of Veterinary Microbiology, Nippon Veterinary & Life Science University, Japan, [4]Department of Rehabititation Medecine, Tokyo Medical & Dental Univrsity, Japan, [5]Department of Orthopedics Surgery, Tokyo, Medical & Detal University, Japan, [6]Tokyo Medical & Dental University, Dept. of Cellular Physiology, Jpn
Disclosures: Jinying Piao, None

FR0096 **β-catenin Signaling Regulates Endochondral Ossification through Bmp2 Signaling**
Jennifer Jonason[1], Yongchun Zhang*[1], Debbie Dao[2], Donna Hoak[1], Tzong-Jen Sheu[1], Matthew Hilton[3], Regis O'Keefe[1]. [1]UNIVERSITY OF ROCHESTER, USA, [2]University of San Francisco, USA, [3]University of Rochester Medical Center, USA
Disclosures: Yongchun Zhang, None

FR0104 **2013 ASBMR Young Investigator Award**
CCN3 Participates in Bone Regeneration as an Inhibitory Factor
Yuki Matsushita*[1], Kei Sakamoto[1], Kiyoshi Harada[1], Tokutarou Minamizato[2], Akira Yamaguchi[3]. [1]Tokyo Medical & Dental University, Japan, [2]Graduate School of Biomedical Science, Nagasaki University, Japan, [3]Tokyo Medical & Dental University, Jpn
Disclosures: Yuki Matsushita, None

FR0109 **Loss of the E3 Ubiquitin Ligase Von Hippel Lindau (VHL) in Limb Bud Mesenchyme causes dwarfism and tumors of the soft tissue**
Laura Mangiavini*[1], Christophe Merceron[2], Tremika Leshan Wilson[1], Rita Gerard-O'Riley[1], Amato J Giaccia[3], Ernestina Schipani[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University School of Medicine; Inserm, UMRS 791-LIOAD, Centre for Osteoarticular & Dental Tissue Engineering, Group STEP "Skeletal Tissue Engineering & Physiopathology", Nantes, France, USA, [3]Stanford University, USA
Disclosures: Laura Mangiavini, None

FR0113 **Osteonectin/SPARC Single Nucleotide Polymorphism (SNP) Alters Trabecular Bone and is Targeted by miRNA-433**
Neha Dole*[1], Kristina Kapinas[2], Catherine B Kessler[1], Anne Delany[1]. [1]University of Connecticut Health Center, USA, [2]University of Massachusetts, Worcester, USA
Disclosures: Neha Dole, None

FR0118 **The Novel Interplay of Anemia and Hypoxia in the Control of FGF23 Expression**
Erica Clinkenbeard*[1], Taryn Cass[2], Tim Lahm[3], Mircea Ivan[3], Kenneth White[4]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Department of Medical & Molecular Genetics, Indiana University, USA, [3]Department of Medicine, Indiana University, USA, [4]Indiana University School of Medicine, USA
Disclosures: Erica Clinkenbeard, None

FR0119 **Characterization of FGF23-dependent Egr-1 Cistrome in the Mouse Renal Proximal Tubule**
Martin Zhang[1], Anthony Portale[1], Farzana Perwad*[2]. [1]University of California San Francisco, USA, [2]University of California, San Francisco, USA
Disclosures: Farzana Perwad, None

FR0120 **Genetic Rescue of Glycosylation-deficient Fgf23 in the Galnt3-null Mouse**
Shoji Ichikawa*[1], Amie Gray[1], Erica Clinkenbeard[2], Kenneth White[1], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University-Purdue University Indianapolis, USA
Disclosures: Shoji Ichikawa, None

FR0121 **Phosphate Restriction Extends the Life of Uremic Rats with Established Vascular Calcification**
Eduardo Slatopolsky[1], Jane Finch*[2], Sarah Zhang[2], Helen Liapis[2], Cynthia Ritter[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Jane Finch, Genzyme/Sanofi, 2

FR0125 **Role of PTH/PTHrP Receptor Signaling in Osteocytes in Ovariectomy-Induced Osteopenia**
Jenna Garr*[1], Dean Marengi[1], Vaibhav Saini[2], Xiaolong Liu[1], Paola Divieti Pajevic[3]. [1]Massachusetts General Hospital, USA, [2]MGH, Harvard Medical School, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Jenna Garr, None

FR0126 **EphrinB2 reverse signaling in osteoblasts is required for normal bone material strength and increased bone formation in response to parathyroid hormone (PTH)**
Farzin Takyar[1], Christina Vrahnas[1], Stephen Tonna[2], Blessing Crimeen-Irwin[1], Patricia Ho[1], T J Martin[1], Natalie Sims*[3]. [1]St. Vincent's Institute, Australia, [2]St Vincent's Institute, Australia, [3]St. Vincent's Institute for Medical Research, Australia
Disclosures: Natalie Sims, None

FR0153 **Pdlim7 (LMP) Knock-Out Mice Display a Significant Decrease in Trabecular Bone Volume**
Manjula Viggeswarapu*[1], Matthew Gary[2], Colleen Oliver[3], Mesfin Teklemariam[4], Sreedhara Sangadala[1], F. Louisa Titus[5], Scott. D. Boden[6]. [1]Emory University School of Medicine, USA, [2]Department of Neurosurgery, Emory University, USA, [3]VA Medical Center, USA, [4]Department of Orthopaedics, Emory University, USA, [5]VA Medical Center, Decatur, USA, [6]Department of Orthopaedics, Emory University School of Medicine, USA
Disclosures: Manjula Viggeswarapu, None

FR0154 **SH3BP2 "Cherubism" Gain-of-Function Mutation Exacerbates Inflammation and Bone Erosion in Murine Collagen-Induced Arthritis Model**
Tomoyuki Mukai*[1], Shu Ishida[1], Teruhito Yoshitaka[2], Yoshitaka Morita[3], Keiichiro Nishida[4], Yasuyoshi Ueki[5]. [1]University of Missouri - Kansas City, USA, [2]University Missouri-Kansas City, School of Dentistry, USA, [3]Kawasaki Medical University, Japan, [4]Okayama University, Japan, [5]University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Tomoyuki Mukai, None

FR0155 **In Vivo Pharmacologic Modulation of Bone Marrow Microenvironmental Signals Promotes Long-Term Hematopoietic Stem Cell Function**
Julianne Smith*[1], Alexandra Goodman[2], Laura Calvi[1]. [1]University of Rochester School of Medicine, USA, [2]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Julianne Smith, None

FR0156 **EphrinB2/EphB4 Mediates the Actions of IGF-I Signaling in Regulating Vascularization during Endochondral Bone Formation**
Yongmei Wang*[1], Alicia Menendez[2], Chak Fong[3], Daniel Bikle[4]. [1]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [2]Endocrine Unit, University of California, San Francisco/San Francisco VA Medical Center, USA, [3]Endocine Unit, University of California, San Francisco/San Francisco VA Medical Center, USA, [4]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Yongmei Wang, None

FR0157 **IGF-I – Estrogen Cross Talk is Essential for Cortical Bone Response to Mechanical Loading in Mice**
Bhat Chetan*[1], Subburaman Mohan[2], Jon Wergedal[2], Chandrasekhar Kesavan[2]. [1]JLP VA Medical Center, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Bhat Chetan, None

FR0160 **Ovariectomy Induces Short-Term Hemopoietic Stem Cell Expansion through T Cells**
Jau-Yi Li*[1], Jonathan Adams[2], Laura Calvi[3], M. Neale Weitzmann[2], Roberto Pacifici[2]. [1]Emory University, USA, [2]Emory University School of Medicine, USA, [3]University of Rochester School of Medicine, USA
Disclosures: Jau-Yi Li, None

FR0162 **Inhibition of TGF-β Signaling in Osteoblasts Leads to Activation of SOST and AXIN, Scoliosis-like Pathological Defects in Mice.**
Hsin-chiu Ho*[1], Shen-chin Hsu[2], Shanshan Shi[3], Eric Beier[3], Yongchun Zhang[3], Tzong-Jen Sheu[3], Mo Chen[4], Min-jon Lin[5], Wei Hsu[3], J. Edward Puzas[6]. [1]Wan-Chuan Clinics, Fangliao General Hospital, Taiwan, [2]Chung Shan Medical University Hospital Dept of Pharmacy, Taiwan, [3]University of Rochester, USA, [4]Columbia University, USA, [5]Chung Shan Medical University Dept of Biomedical Sciences, Taiwan, [6]University of Rochester School of Medicine, USA
Disclosures: Hsin-chiu Ho, None

FR0163 **Atypical Femoral Fractures: Radiographic and Histomorphometric Features in 19 Patients**
Aliya Khan*[1], Angela M. Cheung[2], O. Ahmed Khan[3], Zohair Rahman[4], Ken Pritzker[5], Brian Lentle[6]. [1]McMaster University, Canada, [2]University Health Network-University of Toronto, Canada, [3]Oakville Bone Centre, Canada, [4]McMaster, Canada, [5]University of Toronto, Canada, [6]University of British Columbia, Canada
Disclosures: Aliya Khan, AMGEN, Merck, NPS, 2

FR0165 **FGF23 neutralization improves bone quality and osseointegration of titanium implants in chronic kidney disease mice**
Ningyuan Sun*[1], shiwen zhang[2], Huawei Zou[2], Victoria Shalhoub[3], Reinhold Erben[4], Quan Yuan[5], Beate Lanske[5]. [1]State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, , [2]State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, China, [3]Amgen Inc., USA, [4]University of Veterinary Medicine, Austria, [5]Harvard School of Dental medicine, USA
Disclosures: Ningyuan Sun, None

FR0172 **2013 ASBMR Young Investigator Award**
Beneficial Effects of PTH(1-84) in Hypoparathyroidism as Determined by Microarchitectural Texture Assessment (TBS): a 4-year Experience
Barbara Silva*[1], Natalie Cusano[2], Chiyuan Zhang[3], Dinaz Irani[1], Jim Sliney Jr[1], Zachary Lenane[3], Laura Beth Anderson[3], Stephanie Boutroy[4], Didier Hans[5], Mishaela Rubin[3], John Bilezikian[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]INSERM U1033 & Université de Lyon, France, [5]Lausanne University Hospital, Switzerland
Disclosures: Barbara Silva, None

FR0174 **CDC73/HRPT2 mutations and parafibromin immunohistochemistry in a large series of sporadic parathyroid carcinomas and atypical adenomas**
Filomena Cetani*[1], Chiara Banti[2], Elena Pardi[2], Liborio Torregrossa[3], Simona Borsari[2], Federica Saponaro[2], Massimo Rugge[4], Gianmaria Pennelli[4], Mariarosa Pelizzo[5], Mauro Papotti[6], Marco Volante[7], Guido Gasparri[8], Paolo Miccoli[3], Claudio Marcocci[1]. [1]University of Pisa, Italy, [2]Department of Clinical & Experimental Medicine, University of Pisa, Italy, [3]Department of Surgical, Medical & Molecular Pathology, University of Pisa, Italy, [4]Department of Medicine, University of Padova, Italy, [5]Department of Medical & Surgical Sciences, Italy, [6]Department of Clinical & Biological Sciences, University of Torino, Italy, [7]Department of Clinical & Biological Sciences, University of Torino, Italy, [8]Department of Surgical Sciences, University of Torino, Italy
Disclosures: Filomena Cetani, None

FR0175 **Changes in Bone Turnover Markers and Bone Mineral Density with Recombinant Human Parathyroid Hormone, rhPTH(1-84), in Hypoparathyroidism: Potential Utility as Surrogate Endpoints for Monitoring - the REPLACE Study**
John Bilezikian*[1], Tamara Vokes[2], Jeffrey Rothman[3], Bart Clarke[4], Michael Mannstadt[5], Hjalmar Lagast[6], Dolores Shoback[7]. [1]College of Physicians & Surgeons, Columbia University, USA, [2]University of Chicago, USA, [3]Staten Island University Hospital, USA, [4]Mayo Clinic College of Medicine, USA, [5]Massachusetts General Hospital & Harvard Medical School, USA, [6]NPS Pharmaceuticals, Inc., USA, [7]University of California-San Francisco Veterans Affairs Medical Center, USA
Disclosures: John Bilezikian, NPS Pharmaceuticals, Inc., 2; NPS Pharmaceuticals, Inc., 5

FR0179 **Parathyroid Hormone Regulates Bone Microstructure: Reciprocal Changes After Treatment of Hyper- and Hypoparathyroid Subjects**
Natalie Cusano*[1], Mishaela Rubin[2], Barbara Silva[3], Chiyuan Zhang[2], Wen-Wei Fan[1], Megan Romano[1], Laura Beth Anderson[2], Jim Sliney Jr[3], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Natalie Cusano, None

FR0180 **Assessment of Osteovascular Interactions by HR-pQCT: Links Between Lower Leg Arterial Calcifications and Renal Osteodystrophy**
Janina Patsch*[1], Mafo Kamanda-Kosseh[2], Serge Cremers[2], Elzbieta Dworakowski[2], Chiyuan Zhang[2], Donald McMahon[3], Elizabeth Shane[3], Thomas Nickolas[3]. [1]Medical University of Vienna, Austria, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Janina Patsch, None

FR0181 **Does a Progressively Hostile Marrow Microenvironment Ossify Bone Marrow Blood Vessels and Contribute to Bone Microvascular Dysfunction?**
Rhonda Prisby*[1], Ashley Bice[2], Arun Kumar[3]. [1]University of Delaware, USA, [2]University of Delaware, Department of Kinesiology & Applied Physiology, USA, [3]University of Delaware, Department of Medical Laboratory Sciences, USA
Disclosures: Rhonda Prisby, None

FR0186 **Potential Role of Leptin and BMP2 in Osteocyte Regulation of Muscle Mass and Function in the Adult Skeleton and With Age**
Jeffrey Gorski*[1], Nichole T. Huffman[2], Leticia Brotto[2], Mark Dallas[2], Anne Breggia[3], Sridar V. Chittur[4], Jian Huang[2], Chenglin Mo[2], Ying Liu[2], Nabil G. Seidah[5], Clifford Rosen[3], Marco Brotto[1], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA, [3]Maine Medical Center, USA, [4]Center for Functional Genomics, University of Albany, SUNY, USA, [5]Clinical Research Institute of Montreal, Canada
Disclosures: Jeffrey Gorski, None

FR0187 **Neuroskeletal Signaling In The Regenerating Zebrafish Fin: Remote Inhibition of Osteoblast Function via Disruption of Cholinergic Signaling**
Anthony Recidoro, Amanda Roof, Brandon Ausk, Sundar Srinivasan, Edith Gardiner, Ted Gross, Steven Bain, Christopher Allan, Ronald Kwon*. University of Washington, USA
Disclosures: Ronald Kwon, None

FR0189 **Muscle-Bone Interactions during Multiple Hindlimb Unloading and Reambulation Cycles**
Sarah Manske*[1], Surabhi Vijayaraghavan[1], Alyssa Tuthill[1], Jean Olivier Brutus[1], Shikha Gupta[2], Stefan Judex[1]. [1]Stony Brook University, USA, [2]State University of NY, Stonybrook, USA
Disclosures: Sarah Manske, None

FR0190 **Visualizing the Skeletal Response to Resistance Exercise**
Thomas Lang*[1], Isra Saeed[2], Julio Carballido-Gamio[2], Roy Harnish[2], Lynda Frassetto[2], Tim Streeper[2], Jean Sibonga[3], Stuart Lee[3], Joyce Keyak[4], Peter Cavanagh[5]. [1]University of California, San Francisco, USA, [2]UC San Francisco, USA, [3]NASA, USA, [4]Department of Radiological Sciences, University of California, Irvine, USA, [5]University of Washington, USA
Disclosures: Thomas Lang, Amgen, 5

FR0192 **2013 ASBMR Young Investigator Award**
Selective RARγ agonist blocks heterotopic ossification and promotes skeletal muscle repair
Agnese Di Rocco*[1], Kenta Uchibe[2], Maurizio Pacifici[2], Masahiro Iwamoto[2]. [1]Children's Hospital of Philadelphia, ARC, USA, [2]Children's Hospital of Philadelphia, USA
Disclosures: Agnese Di Rocco, None

FR0194 **2013 ASBMR Young Investigator Award**
CKMM Polymorphism Is Associated with Physical Fitness Test Scores In Military Recruits
Courtney Sprouse*[1], Laura Tosi[1], Jason Lipof[2], Mai Abdel-Ghani[3], Hugo Clifford[2], Kirsten Norrell[2], Nathanael Leo[2], Victoria Rentas[4], Heather Gordish-Dressman[1], Joseph Devaney[1], Karen Kelly[5]. [1]Children's National Medical Center, USA, [2]George Washington University, USA, [3]George Mason University, USA, [4]Howard University, USA, [5]Naval Health Research Center, USA
Disclosures: Courtney Sprouse, None

FR0195 **Effects of Vitamin D Supplementation on Neural Plasticity, Serum Brain-derived Neurotrophic Factor (BDNF) and Functional Performance in Older Adults: A 10-week Double-Blinded, Placebo Controlled Randomised Trial**
Robin Daly*, Stephanie Pirotta, Dawson Kidgell. Centre for Physical Activity & Nutrition Research, Deakin University, Australia
Disclosures: Robin Daly, None

FR0196 **2013 ASBMR Young Investigator Award**
Effect of 1 year of whole-body vibration therapy on muscle density and volume in postmenopausal women: the Vibration Study
Miranda Boggild*[1], Marta Erlandson[2], George Tomlinson[1], Eva Szabo[1], Lubomira Slatkovska[2], Lora Giangregorio[3], Cathy Craven[1], Shabbir Alibhai[1], Angela M. Cheung[4]. [1]University of Toronto, Canada, [2]University Health Network, Canada, [3]University of Waterloo, Canada, [4]University Health Network-University of Toronto, Canada
Disclosures: Miranda Boggild, None

FR0202 **Intermittent PTH Increases Bone Formation but Not Bone Mass in Osteopenic Mice Lacking Gsa in Osteoblasts**
Rhiannon Chubb[1], Partha Sinha[1], Piia Aarnisalo[2], Rachelle Johnson[3], Ingrid Poulton[4], Min Chen[5], Lee Weinstein[5], Natalie Sims[6], Henry Kronenberg[1], Joy Wu*[7]. [1]Massachusetts General Hospital, USA, [2]University of Helsinki & Helsinki University Central Hospital, Finland, [3]St. Vincent's Institute of Medical Research, Australia, [4]St. Vincent's Institute for Medical Research, Australia, [5]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [6]St. Vincent's Institute for Medical Research, Australia, [7]Stanford University School of Medicine, USA
Disclosures: Joy Wu, None

FR0210 **Semaphorin 3A regulates bone homeostasis through sensory nerve system**
Toru Fukuda*[1], Ren Xu[2], Hiroki Ochi[3], Satoko Sunamura[3], Tsuyoshi Sato[4], Shinsuke Shibata[3], Chenshan Ma[2], Cheng Xu[2], Ayako Kimura[2], Yoshinori Asou[2], Mitsuhiro Enomoto[2], Hideyuki Okano[3], Atsushi Okawa[2], Hiroshi Ito[3], Shu Takeda[3]. [1]Keio University School of Medicine, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Keio University, School of Medicine, Japan, [4]Saitama Medical University, Japan
Disclosures: Toru Fukuda, None

FR0211 **TSC1 Deletion in Neural Crest-derived Cells Leads to Excess Craniofacial Bone Formation through the Expansion of Osteoblast Lineage Cells**
Fang Fang*[1], Dongye Yang[1], Yuan Zhu[1], Fei Liu[2]. [1]University of Michigan, USA, [2]University of Michigan School of Dentistry, USA
Disclosures: Fang Fang, None

FR0212 **The Presence of Either Cdc42 or Rac1 is Required for the Crosstalk between Osteoblasts and Adipocytes**
Carina Wuerfel, Carla Sens, Christine Hoffmann, Inaam Nakchbandi*. Max-Planck Institute of Biochemistry & University of Heidelberg, Germany
Disclosures: Inaam Nakchbandi, None

FR0226 **N-cadherin Restrains the Anabolic Action of Parathyroid Hormone via Interference with Lrp6/β-catenin Signaling**
Leila Revollo*[1], Jin Norris[2], Gabriel Mbalaviele[3], Roberto Civitelli[3]. [1]Washington University, Division of Bone & Mineral Diseases, USA, [2]Washington University in St Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Leila Revollo, None

FR0230 **Trabecular bone loss in Gα11 transgenic mice is characterized by decreased bone formation and increased osteoclastogenesis**
Ariana Dela Cruz*[1], Michael Mattocks[1], Kim S. Sugamori[1], Marc Grynpas[2], Jane Mitchell[1]. [1]University of Toronto, Canada, [2]Samuel Lunenfeld Research Institute, of Mount Sinai Hospital, Canada
Disclosures: Ariana Dela Cruz, None

FR0241 **Prostaglandin E2 Regulates Osteoblastic Niche Selectively for Hematopoietic Progenitors through Induction of Osteopontin via EP4 Receptor**
Yuko Kawano*[1], Mari Sato[2], Noboru Asada[2], Chie Fukui[2], Kanako Wakahashi[2], Hiroki Kawano[2], Kentaro Minagawa[2], Akiko Sada[2], Satoshi Uematsu[3], Shizuo Akira[3], Toshimitsu Uede[4], Shuh Narumiya[5], Toshimitsu Matsui[2], Yoshio Katayama[6]. [1]Hematology, Kobe University Graduate School of Medicine, Japan, [2]Hematology, Department of Medicine, Kobe University Graduate School of Medicine, Japan, [3]Laboratory of Host Defense, WPI Immunology Frontier Research Center, Osaka University, Japan, [4]Division of Molecular Immunology, Institute for Genetic Medicine, Hokkaido University, Japan, [5]Department of Pharmacology, Kyoto University Graduate School of Medicine, Japan, [6]Hematology, Dept. Med., Kobe Univ., Japan
Disclosures: Yuko Kawano, None

FR0242 **Rejuvenating Bone Fracture Repair**
Gurpreet Baht*[1], Benjamin Alman[2]. [1]University of Toronto, Hospital for Sick Children, Canada, [2]Hospital for Sick Children, Canada
Disclosures: Gurpreet Baht, None

FR0243 **Sirt1 in osteoblast progenitors expressing Osterix1 promotes cortical bone mass accrual**
Srividhya Iyer*[1], Li Han[1], Shoshana Bartell[1], Aaron Warren[2], Julie Crawford[3], Rafael de Cabo[4], Stavros Manolagas[1], Maria Jose Almeida[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, [3]University of Arkansas for Medical Sciences, USA, [4]Experimental Gerontology, NIA, NIH, Baltimore, MD, USA
Disclosures: Srividhya Iyer, None

FR0244 **Analysis of αSMA-labeled Progenitor Cell Commitment Identifies Notch Signaling as an Important Pathway in Fracture Healing**
Brya Matthews*[1], Danka Grcevic[2], Liping Wang[3], Yusuke Hagiwara[3], Douglas Adams[3], Ivo Kalajzic[3]. [1]University of Connecticut Health Center, Department of Reconstructive Sciences, USA, [2]University of Zagreb, Croatia, [3]University of Connecticut Health Center, USA
Disclosures: Brya Matthews, None

FR0245 **Combined Deficiency of Prolyl Hydroxylase (PHD) 1 and PHD3 Increases Mesenchymal Stem Cell Number and Regulates the Hematopoietic Stem Cell Niche**
Steve Stegen*[1], Satish Khurana[2], Nick van Gastel[3], Sophie Torrekens[3], Karen Moermans[3], Peter Carmeliet[4], Catherine Verfaillie[2], Geert Carmeliet[5]. [1]Universiteit Leuven, Belgium, [2]Interdepartmental Stem Cell Institute, KU Leuven, Belgium, [3]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [4]Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, VIB, & Laboratory of Angiogenesis & Neurovascular Link, Vesalius Research Center, KU Leuven, Belgium, [5]Katholieke Universiteit Leuven, Belgium
Disclosures: Steve Stegen, None

FR0246 **Effects of Blockade of Endogenous Gi Signaling in Endothelial Lineage Cells on Bone Formation in a Heterotopic Ossification Model**
Liping Wang*[1], Dylan O'Carroll[2], Xuhui Liu[3], Theresa Roth[2], Abbott Marcia[2], Hubert Kim[3], Bernard Halloran[4], Robert Nissenson[5]. [1]VA Medical Center, San Francisco, USA, [2]Endocrine Unit, VA Medical Center & Departments of Medicine & Physiology, University of California, USA, [3]Orthopedic Surgery, UCSF, USA, [4]VA Medical Center (111N), USA, [5]VA Medical Center & University of California, San Francisco, USA
Disclosures: Liping Wang, None

FR0248 **Vinculin Regulates Osteoclast Function**
Tomohiro Fukunaga*, Wei Zou, Steven Teitelbaum. Washington University in St. Louis School of Medicine, USA
Disclosures: Tomohiro Fukunaga, None

FR0249 **Deletion of the Glycoprotein130 Co-Receptor in Osteoclasts Reduces Cortical Bone Formation**
Rachelle Johnson*[1], Narelle McGregor[1], Holly Brennan[1], Ingrid Poulton[1], T John Martin[1], Natalie Sims[2]. [1]St. Vincent's Institute of Medical Research, Australia, [2]St. Vincent's Institute for Medical Research, Australia
Disclosures: Rachelle Johnson, None

FR0253 **The Rho GEF Def6 is a Novel, RANKL-independent in vivo Suppressor of Osteoclastogenesis and Bone Resorption under Inflammatory Conditions**
F. Patrick Ross, Nikolaus Binder*, Benjamin Schatz, Alessandra Pernis, Steven Goldring. Hospital for Special Surgery, USA
Disclosures: Nikolaus Binder, None

FR0258 **High Bone Mass in Mice Lacking Cx37 Due to a Cell-autonomous Defect in Osteoclast Differentiation and Fusion**
Rafael Pacheco Da Costa*[1], Drew M Brown[2], Iraj Hassan[2], Surajudeen Bolarinwa[2], Meloney Cregor[2], Rejane Reginato[3], Angela Bruzzaniti[4], Teresita Bellido[5], Matthew Allen[5], Lilian Plotkin[5]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Dept. Anatomy & Cell Biology, USA, [3]Department of Morphology & Genetics, Federal University of São Paulo, Brazil, [4]Indiana University School of Dentistry, USA, [5]Indiana University School of Medicine, USA
Disclosures: Rafael Pacheco Da Costa, None

FR0259 **Cx43 Scaffolding Cytoplasmic Domain Restrains Bone Resorption but is Dispensable for the Anabolic Action of Intermittent PTH Administration**
Rafael Pacheco Da Costa*[1], Iraj Hassan[2], Xiaolin Tu[3], Rejane D Reginato[4], Eduardo Katchburian[4], Teresita Bellido[3], Lilian Plotkin[3]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Dept. Anatomy & Cell Biology, USA, [3]Indiana University School of Medicine, USA, [4]Department of Morphology & Genetics, Federal University of São Paulo, Brazil
Disclosures: Rafael Pacheco Da Costa, None

FR0263 **Induction of osteoclast-rich osteopetrosis leads to uncoupled formation and resorption, while induction of osteoclast-poor osteopetrosis does not**
Christian Thudium*[1], Carmen Flores[2], Ilana Moscatelli[2], Annemarie Brüel[3], Jesper Thomsen[4], Karoline Natasja Stæhr Gudmann[1], Ellen Hauge[5], Morten Karsdal[1], Johan Richter[2], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Lund University, Sweden, [3]University of Aarhus, Denmark, [4]Aarhus University, Denmark, [5]Aarhus University Hospital, Denmark
Disclosures: Christian Thudium, None

FR0264 **Novel Models Of Osteoporosis In Transgenic Mice Overexpressing Human RANKL**
Vagelis Rinotas[1], Alexandra Niti[1], Romain Dacquin[2], Nicolas Bonnet[3], Serge Ferrari[4], Pierre Jurdic[5], Eleni Douni*[6]. [1]BSRC Alexander Fleming, Greece, [2]ENS de Lyon, France, [3]University Geneva Hospital-Department of Internal Medecine Specialities, Switzerland, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]Ecole Normale Superieure de Lyon, France, [6]Agricultural University of Athens/ BSRC Al. Fleming, Greece
Disclosures: Eleni Douni, None

FR0270 **Comparative Analysis of the Specificity of Available Osteoclast Lineage Cre-Drivers and Identification of Novel Osteoclast Lineage Selective Genes**
Megan Weivoda*[1], Katharina Jähn[2], Matt Prideaux[3], Ming Ruan[1], Sundeep Khosla[4], Lynda Bonewald[5], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]University Medical Center Hamburg-Eppendorf, Germany, [3]University of Missouri-Kansas City, USA, [4]Mayo Clinic College of Medicine, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Megan Weivoda, None

FR0271 **Deletion of the cell-adhesion mediator PODXL in early osteoclast precursors leads to a high bone mass phenotype in female, but not male mice: A role for PODXL in the localization of active Rac1 in osteoclasts**
Megan Weivoda*[1], Muzaffer Cicek[1], Ashok Kumar[2], Ming Ruan[1], Larry Pederson[1], Christine Hachfeld[1], Michael Hughes[3], Kelly McNagny[3], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]University of British Columbia, Canada
Disclosures: Megan Weivoda, None

FR0272 **Diacylglycerol kinase ζ (DGKζ) is a critical regulator of bone homeostasis via modulation of DAG levels in osteoclasts**
Ali Zamani*[1], Pamela Hesker[2], Roberta Faccio[3]. [1]Department of Orthopedics, Washington University, St. Louis, Missouri, USA, [2]Washington University in St Louis School, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Ali Zamani, None

FR0273 **Novel Role of the Alternative NF-κB Pathway in Regulating Osteoclast Mitochondrial Biogenesis Distinct from Osteoclast Differentiation**
Rong Zeng*[1], Chang Yang[2], Deborah Novack[3]. [1]Washington University in St. Louis, USA, [2]Washington University in St Louis School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Rong Zeng, None

FR0274 **RANKL/M-CSF-PI3K-Akt signaling in osteoclast differentiation and function is regulated via the direct interaction between G protein α subunit and Class IA PI3K**
Mengrui Wu*[1], Wei Chen[2], Yi-Ping Li[2]. [1]The University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Mengrui Wu, None

FR0275 **Activation of intracortical resorption in mouse long bone by acute placement of focal microdamage by in vivo indentation is controlled by osteocyte apoptosis**
Oran Kennedy*[1], Anaya Philip[2], Jelena Basta Pljakic[2], Mitchell Schaffler[3]. [1]New York University, Hospital for Joint Diseases, USA, [2]City College New York, USA, [3]City College of New York, USA
Disclosures: Oran Kennedy, None

FR0277 **Disruption of Connexin 43 Channel Function in Osteocytes Differentially Reduces Bone Mass and Impairs the Tibial Anabolic Response to Load**
Jean Jiang*. University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

FR0280 **Osteocytes release microvesicles that regulate osteoblast function**
Patricia Veno*[1], Matt Prideaux[2], Vladimir Dusevich[1], Lynda Bonewald[1], Sarah Dallas[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA
Disclosures: Patricia Veno, None

FR0283 **2013 ASBMR Young Investigator Award**
Inhibition of Osteocyte Apoptosis Prevents Extensive Trabecular Bone Loss Caused by Unloading in the Long Bone of Mice
Pamela Cabahug*[1], Robert Majeska[2], Damien Ladier[3], Alyssa Tuthill[4], Stefan Judex[4], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]City College of New York, USA, [3]The City College of NY, USA, [4]Stony Brook University, USA
Disclosures: Pamela Cabahug, None

FR0285 **PTH upregulates RANKL and MMP13 expression through direct actions on osteocytes, but MMP13 is derived from non-osteocytic cells**
Jesus Delgado-Calle*, Xiaolin Tu, Amy Sato, Meloney Cregor, Kevin McAndrews, Lilian Plotkin, Teresita Bellido. Indiana University School of Medicine, USA
Disclosures: Jesus Delgado-Calle, None

FR0288 **Osteocytes are Key to the Formation and Maintenance of Mineralized Bone**
Yinshi Ren*[1], Shuxian Lin[2], Xianglong Han[3], Baozhi Yuan[4], Yan Jing[1], Ying Liu[1], Marc Drezner[4], Paul Dechow[2], Min Liu[5], Jian Feng[6]. [1]Baylor college of dentistry, Texas A&M Health Science Center, USA, [2]Baylor College of Dentistry, USA, [3]Baylor College of Dentistry, Texas A&M University, Biomedical Sciences, USA, [4]University of Wisconsin, USA, [5]Amgen Inc., USA, [6]Texas A&M Health Science Center, USA
Disclosures: Yinshi Ren, None

FR0299 **Quantification of Lower Leg Arterial Calcifications by High-Resolution Peripheral Quantitative Computed Tomography**
Janina M Patsch*[1], Martin A. Zulliger[2], Nicolas Vilayphiou[3], Elizabeth Samelson[4], Daniel Cejka[1], Danielle Diarra[1], Gundula Berzaczy[1], Thomas Link[5], Michael Weber[1], Christian Loewe[1]. [1]Medical University of Vienna, Austria, [2]Former employee of SCANCO MEDICAL AG, Switzerland, [3]SCANCO MEDICAL AG, Switzerland, [4]Hebrew SeniorLife, Harvard Medical School, USA, [5]University of California, San Francisco, USA
Disclosures: Janina M Patsch, None

FR0305 **Trait variances capture the micro-structural basis of bone fragility better than trait means**
Yohann Bala*[1], Sandra Iuliano-Burns[2], Ali Ghasem-Zadeh[2], Xiao-Fang Wang[3], Qingju Wang[2], Roger Zebaze[2], Ego Seeman[2]. [1]University of Melbourne, Dept. of Medicine, Australia, [2]Austin Health, University of Melbourne, Australia, [3]University of Melbourne, Austin Health, Australia
Disclosures: Yohann Bala, None

FR0313 **Associations Between Biomarker-Calibrated Protein Intake and Bone Health in the Women's Health Initiative**
Jeannette Beasley*[1], Andrea Lacroix[2], Joseph Larson[2], Charles Eaton[3], Marian Neuhouser[2], Lesley Tinker[2], Ying Huang[2], Rebecca Jackson[4], Karen Johnson[5], Linda Snetselaar[6], Ross Prentice[2]. [1]Einstein College of Medicine, Yeshiva University, USA, [2]Fred Hutchinson Cancer Research Center, USA, [3]MHRI, USA, [4]The Ohio State University, USA, [5]University of Tennessee Health Science Center, USA, [6]University of Iowa, USA
Disclosures: Jeannette Beasley, None

FR0315 **Low Serum Concentration of Vitamin E Is Associated With Increased Risk of Hip Fracture in the Elderly. A NOREPOS Case-Cohort Study**
Kristin Holvik*[1], Clara Gjesdal[2], Grethe Tell[3], Guri Grimnes[4], Ellen Apalset[3], Berit Schei[5], Rune Blomhoff[6], Karl Michaelsson[7], Haakon E. Meyer[8]. [1]Norwegian Institute of Public Health, Norway, [2]Department of Rheumatology, Haukeland University Hospital, Norway, [3]Department of Global Public Health & Primary Care, University of Bergen, Norway, [4]University Hospital of Northern Norway, Norway, [5]Department of Public Health & General Practice, Norwegian University of Science & Technology, Norway, [6]Department of Nutrition, Institute of Basic Medical Sciences, University of Oslo, Norway, [7]Uppsala Clinical Research Center, Sweden, [8]Norwegian Institute of Public Health/University of Oslo, Norway
Disclosures: Kristin Holvik, None

FR0327 **Markers of Bone Turnover for Prediction of Fracture: a Meta-analysis.**
Eugene McCloskey*[1], Anders Odén[2], John Kanis[3], Helena Johansson[4]. [1]University of Sheffield, United Kingdom, [2]WHO Collaborating Centre, University of Sheffield, United Kingdom, [3]University of Sheffield, Belgium, [4]WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden
Disclosures: Eugene McCloskey, None

FR0342 **Atypical Femoral Fracture Risk Factors: A Population-based Case-control Study**
Annette Adams*[1], Fei Xue[2], Jean Wang[1], Richard Dell[3], Cathy Critchlow[4]. [1]Kaiser Permanente Southern California, USA, [2]Amgen, Inc., USA, [3]Kaiser, USA, [4]Amgen Inc., USA
Disclosures: Annette Adams, Amgen, Inc., 2

FR0350 **Long-Term Height Loss and Low BMI Strongly Predict Hip Fracture among 16,009 Women and Men Aged 70-79 Years. A NOREPOS Study.**
Haakon E. Meyer*[1], Siri Forsmo[2], Grethe S. Tell[3], Kristin Holvik[4], John Eisman[5], Anne Johanne Søgaard[1]. [1]Norwegian Institute of Public Health, Norway, [2]Norwegian University of Science & Technology, Norway, [3]University of Bergen, Norway, [4]University of Oslo, Norway, [5]Garvan Institute of Medical Research, Australia
Disclosures: Haakon E. Meyer, None

FR0356 **Vitamin D Insufficiency Sustained Over 5 Years Contributes to Increased 10-year Fracture Risk in Elderly Women**
David Buchebner*[1], Fiona McGuigan[2], Paul Gerdhem[3], Kaisa Ivaska[4], Martin Ridderstråle[5], Kristina Akesson[6]. [1]Halmstad Hospital, Sweden, [2]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [3]Karolinska Institutet, Sweden, [4]University of Turku, Finland, [5]University of Lund, Sweden, [6]Skåne University Hospital, Malmö, Sweden
Disclosures: David Buchebner, None

FR0363 **Decrease in Bone Strength Due to Reduced Total Density and Content is Not Completely Compensated by Increase in Bone Area: Prospective pQCT Evidence from Distal Radius and Tibia in Postmenopausal Women**
Saija Kontulainen*, Chantal Kawalilak, Andrew Frank, Wojciech Olszynski, James Johnston. University of Saskatchewan, Canada
Disclosures: Saija Kontulainen, None

FR0364 **Differences in Cortical and Trabecular Microstructure in Chinese and Caucasian Females originate during Peripubertal Growth**
Xiao-Fang Wang*[1], Ali Ghasem-Zadeh[2], Qingju Wang[2], Jia Wei Teo[2], Sandra Iuliano-Burns[2], Yohann Bala[3], Roger Zebaze[2], Ego Seeman[2]. [1]University of Melbourne, Austin Health, Australia, [2]Austin Health, University of Melbourne, Australia, [3]University of Melbourne, Dept. of Medicine, Australia
Disclosures: Xiao-Fang Wang, None

FR0365 **Hip Cortical Porosity Predicts Fragility Fractures in Postmenopausal Women with Normal Hip Bone Mineral Density and Osteopenia**
Luai A Ahmed*[1], Rajesh Shigdel[1], Ragnar Joakimsen[1], Petter Eldevik[2], Erik Fink Eriksen[3], Roger Zebaze[4], Ashild Bjornerem[1]. [1]University of Tromsø, Norway, [2]University Hospital North Norway, Norway, [3]Oslo University Hospital, Norway, [4]Austin Health, University of Melbourne, Australia
Disclosures: Luai A Ahmed, None

FR0366 **2013 ASBMR Young Investigator Award**
Muscle Power and Force may Contribute to Cortical Bone Strength Through Distinct Mechanisms: Findings from a Cross-sectional Study of High Bone Mass Cases and Controls
Sarah Hardcastle*[1], Celia Gregson[1], Joern Rittweger[2], Kate Ward[3], Jon H Tobias[4]. [1]University of Bristol, United Kingdom, [2]Institute of Aerospace Medicine, German Aerospace Center, Cologne, Germany, [3]MRC Human Nutrition Research, United Kingdom, [4]Musculoskeletal Research Unit, School of Clinical Sciences, University of Bristol, United Kingdom
Disclosures: Sarah Hardcastle, None

FR0371 **Bone Remodeling and Structure in the Proximal Femur**
Felicia Cosman*[1], David Dempster[2], Jeri Nieves[3], Hua Zhou[1], Catherine Roimisher[1], Yvonne Houle[4], Robert Lindsay[1], Mathias Bostrom[5]. [1]Helen Hayes Hospital, USA, [2]Columbia University, USA, [3]Columbia University & Helen Hayes Hospital, USA, [4]Hospital for Special Surger, USA, [5]Hospital for Special Surgery, USA
Disclosures: Felicia Cosman, Eli Lilly, Amgen, 8; Eli Lilly, Novartis, Amgen, 2; Eli Lilly, Amgen, Merck, Zosano, GSK, Unigene, Tarsa, 5

FR0372 **Comparative Effects of Teriparatide, Denosumab, and Combination Therapy on Peripheral Compartmental Bone Density and Microarchitecture: the DATA-HRpQCT Study**
Joy Tsai*[1], Alexander Uihlein[1], Yuli Zhu[1], Katelyn Foley[1], Nicholas Derrico[1], Hang Lee[1], Sherri-Ann Burnett-Bowie[1], Robert Neer[1], Mary Bouxsein[2], Benjamin Leder[3]. [1]Massachusetts General Hospital, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Joy Tsai, None

FR0374 **Cortical Thickness and Density Changes Over the Proximal Femur Resulting From Switching To or Combining With Teriparatide After Prior Treatment With Raloxifene or Alendronate**
Tristan Whitmarsh*, Graham Treece, Andrew Gee, Kenneth Poole. University of Cambridge, United Kingdom
Disclosures: Tristan Whitmarsh, None

FR0376 **Once-weekly Teriparatide Reduces Vertebral Fracture Risk – Subgroup Analysis from the Teriparatide Once Weekly Efficacy Research (TOWER) Trial**
Toshitsugu Sugimoto*[1], Masataka Shiraki[2], Tetsuo Nakano[3], Hideaki Kishimoto[4], Masako Ito[5], Masao Fukunaga[6], Hiroshi Hagino[7], Teruki Sone[6], Toshitaka Nakamura[8]. [1]Shimane University School of Medicine, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Tamana Central Hospital, Japan, [4]Nojima Hospital, Japan, [5]Nagasaki University Hospital, Japan, [6]Kawasaki Medical School, Japan, [7]Tottori University, Japan, [8]University of Occupational & Environmental Health, Japan
Disclosures: Toshitsugu Sugimoto, None

FR0378 **Teriparatide Delivered Orally with Novel Drug Delivery Technology - First in Humans Results**
Hillel Galitzer*[1], Naifang Wang[2], Gregory Burshtien[3], Phillip Schwartz[1], Yoseph Caraco[4], Ehud Arbit[5]. [1]Entera Bio, Israel, [2]Entera Bio & Align Bioscience, USA, [3]Entera Bio Ltd., Israel, [4]Hadassah Hospital Jerusalem, Israel, [5]Entera Bio & NYU-Poly, USA
Disclosures: Hillel Galitzer, Entera Bio Ltd., 3

FR0379 **Calcium plus Vitamin D supplementation: a Meta-analysis of Risk and Benefit**
Steven Frost*[1], Nguyen Nguyen[2], Jacqueline Center[2], John Eisman[2], Tuan Nguyen[2]. [1]University of Western Sydney, Australia, [2]Garvan Institute of Medical Research, Australia
Disclosures: Steven Frost, None

FR0380 **Bisphosphonates, Glucocorticoids, and Suffering from Collagen Diseases were Risk Factors for Developing Atypical Femoral Fractures in Japan**
Yoshitomo Saita*, Muneaki Ishijima, Masashi Nagao, Kazuo Kaneko. Department of Orthopaedics, Juntendo University School of Medicine, Japan
Disclosures: Yoshitomo Saita, None

FR0388 **Microdamage analysis of the cortical bone of fracture site in the patient with atypical femoral fracture**
Ken Iwata*[1], Tasuku Mashiba[2], Takeshi Manabe[3], Toshiaki Hitora[1], Yoshiki Yamagami[1], Tetsuji Yamamoto[1]. [1]Kagawa University School of medicine, Japan, [2]Kagawa University Faculty of Medicine, Japan, [3]Kinashi Ohbayashi Hospital, Japan
Disclosures: Ken Iwata, None

FR0391 **Adherence to Oral Bisphosphonate Therapy in a Fracture Liaison Service: A Randomised Controlled Trial**
Kirtan Ganda*[1], Markus Seibel[2], Andrea Schaffer[3], Sallie Pearson[3]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]Pharmcoepidemiology & Pharmaceutical Policy Ressearch Group, Faculty of Pharmacy, School of Public Healht, Sydney Medical School, The University of Sydney, Australia
Disclosures: Kirtan Ganda, None

FR0401 **Does Calcitonin-Salmon Cause Cancer?**
George Wells[1], David Krause*[2], Jonathan Chernoff[3], James Gilligan[4]. [1]Universtiy of Ottawa, Canada, [2]Tarsa Therapeutics Inc., USA, [3]Fox Chase Cancer Center, USA, [4]Tarsa Therapeutics, USA
Disclosures: David Krause, Tarsa, 5

FR0404 **Characteristics, Treatments, and Quality Of Life of Patients In a Swedish Osteoporosis Patient Registry**
Dan Mellstrom[1], Arun Krishna*[2], Zhiyi Li[3], Chun-Po Steve Fan[4], Stina Salomonsson[5]. [1]Sahlgrenska University Hospital, Sweden, [2]Merck, USA, [3]AsclepiusJT LLC, USA, [4]AsclpeiusJT LLC, Canada, [5]MSD, Sweden
Disclosures: Arun Krishna, None

FR0407 **CaMKK2 Inhibition as a Novel Bone Anabolic Strategy in the Prevention of Post-Menopausal and Therapy-Induced Osteoporosis**
Zachary Pritchard*[1], Rachel Cary[2], Deborah Novack[3], Michael Voor[4], Uma Sankar[2]. [1]Department of Pharmacology & Toxicology, University of Louisville, USA, [2]University of Louisville, USA, [3]Washington University in St. Louis School of Medicine, USA, [4]Department of Orthopedic Surgery, University of Louisville, USA
Disclosures: Zachary Pritchard, None

FR0409 **Long Term effect of BA058, a Novel Human PTHrP Analog, Restores Bone Mass in the Aged Osteopenic Ovariectomized Cynomolgus Monkey**
Nancy Doyle*[1], Aurore Varela[1], Susan Y. Smith[1], Gary Hattersley[2]. [1]Charles River Laboratories, Canada, [2]Radius, USA
Disclosures: Nancy Doyle, None

FR0410 **Role of paraoxonase-1 in bone anabolic effects of parathyroid hormone in hyperlipidemic mice**
Jinxiu Lu[1], Henry Cheng[2], Elisa Atti[1], Diana Shih[1], Linda Demer[3], Yin Tintut*[4]. [1]UCLA, USA, [2]Johns Hopkins, USA, [3]David Geffen School of Medicine At University of California Los Angeles, USA, [4]University of California, Los Angeles, USA
Disclosures: Yin Tintut, None

FR0414 **Effects of the Novel Cathepsin K Inhibitor, SCI-629, on Bone Resorption in in vitro and in vivo Assays**
Yoshitaka TANAKA*[1], Toshiaki Fujii[2]. [1]SEIKAGAKU CORPORATION, Japan, [2]SEIKAGAKU CORPRATION, Japan
Disclosures: Yoshitaka TANAKA, None

FR0425 **Transplantation of Hemopoietic Cells Engineered to Constitutively Produce Wnt10b Leads to Massive Bone Anabolism – A New Potential Strategy for Bone Regeneration and Fracture Repair**
Jau-Yi Li*[1], Jonathan Adams[2], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory Univeraity School of Medicine, USA
Disclosures: Jau-Yi Li, None

FR0428 **A Randomized Controlled Trial of Exercise to Prevent Bone Loss and Adverse Cardiovascular changes in Premenopausal Women with Breast Cancer**
Deborah Sellmeyer*[1], Susan Stewart[2], Joan Bloom[3]. [1]The Johns Hopkins Bayview Medical Center, USA, [2]University of California, Davis, USA, [3]University of California, Berkeley, USA
Disclosures: Deborah Sellmeyer, None

FR0430 **Bone loss and microarchitectural deterioration continue despite cessation of weight loss after bariatric surgery**
Emily Stein*[1], Polly Young[2], Mariana Bucovsky[2], Chiyuan Zhang[2], Angela Carrelli[3], Marcella Walker[2], Elizabeth Shane[1], Shonni Silverberg[2]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Emily Stein, None

FR0431 **Denosumab for Elderly Men with Osteoporosis: A Cost-effectiveness Analysis from the US Payer Perspective**
Anju Parthan[1], Morgan Kruse[1], Irene Agodoa*[2], Stuart Silverman[3], Eric Orwoll[4]. [1]OptumInsight, USA, [2]Amgen, USA, [3]Cedars-Sinai/UCLA, USA, [4]Oregon Health & Science University, USA
Disclosures: Irene Agodoa, Amgen, 5

FR0432 **Discrepant Areal and Volumetric BMD of the Spine and Hip in HIV-infected Postmenopausal Women**
Polly Young*[1], Michael Yin[1], Ivelisse Colon[2], Mariana Bucovsky[1], Chiyuan Zhang[1], Susan Olender[1], Thomas Lang[3], Isra Saeed[4], David Ferris[5], Cosmina Zeana[6], Donald McMahon[7], Elizabeth Shane[7]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]University of California, San Francisco, USA, [4]Univ of California, San Francisco, USA, [5]St Lukes Hospital Center, USA, [6]Bronx Lebanon Hospital Center, USA, [7]Columbia University College of Physicians & Surgeons, USA
Disclosures: Polly Young, None

FR0437 **2013 ASBMR Young Investigator Award**
FRAX Predicts Fracture Risk in Kidney Transplant Recipients
Kyla Naylor*[1], William Leslie[2], Anthony Hodsman[1], David Rush[3], Amit Garg[4]. [1]Western University, Canada, [2]University of Manitoba, Canada, [3]Department of Medicine, University of Manitoba, Canada, [4]Division of Nephrology, Western University, Canada
Disclosures: Kyla Naylor, None

FR0439 **Clinical outcome with long-term bisphosphonate therapy in Paget's disease of Bone: The PRISM-EZ study**
Kirsteen Goodman[1], Graeme MacLennan[2], Peter Selby[3], William Fraser[4], Stuart Ralston*[1]. [1]University of Edinburgh, United Kingdom, [2]University of Aberdeen, United Kingdom, [3]Manchester University, United Kingdom, [4]University of East Anglia, United Kingdom
Disclosures: Stuart Ralston, None

FR0440 **IGF1 Contributes to the Increased Bone Formation Induced by Measles Virus Nucleocapsid Protein Expressed by Osteoclasts in Paget's Bone Disease**
Noriyoshi Kurihara*[1], Jumpei Teramachi[2], Yukiko Kitagawa[1], Jolene Windle[3], G. David Roodman[1]. [1]Indiana University, USA, [2]The University of Tokushima, USA, [3]Virginia Commonwealth University, USA
Disclosures: Noriyoshi Kurihara, None

FR0443 **ERα Expression in Non-Hematopoietic Cells is Required for the Protective Effects of Estrogen on Bone**
Petra Henning[1], Cecilia Engdahl[2], Helen Farman[1], Andree Krust[3], Pierre Chambon[3], Hans Carlsten[4], Sara Windahl[2], Claes Ohlsson[5], Marie Lagerquist*[6]. [1]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Institut de Génétique et de Biologie Moléculaire et Cellulaire (CNRS, INSERM, UdS, Collège de France), Illkirch, Strasbourg, France, [4]Centre for Bone & Arthritis Research, Department of Rheumatology & Inflammation Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [5]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [6]Centre for Bone & Arthritis Research, USA
Disclosures: Marie Lagerquist, None

FR0444 **Estrogen Receptor α36 Mediates the Anti-apoptotic Effect of Estradiol *in vitro* and Associates with Clinical Outcome *in vivo***
Reyhaan Chaudhri*[1], Agreen Hadadi[2], Barbara Boyan[3], Zvi Schwartz[1]. [1]Georgia Institute of Technology, USA, [2]School of Biology, Georgia Institute of Technology, USA, [3]Virginia Commonwealth University, USA
Disclosures: Reyhaan Chaudhri, None

FR0445 **Mice Lacking Estrogen Receptor α in Hypothalamic Pro-opiomelanocortin (POMC) Neurons Display Enhanced Estrogenic Response on Bone Mass**
Helen Farman*[1], Sara Windahl[2], Deborah Clegg[3], Shang Kui Xie[3], John-Olov Jansson[4], Lisa Hahner[3], Jordan Zehr[3], Marie Lagerquist[5], Claes Ohlsson[6]. [1]University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Department of Internal Medicine, UT Southwestern, Dallas, USA, [4]Department of Internal Medicine, UT Southwestern, Dallas, USA, Sweden, [5]Centre for Bone & Arthritis Research, USA, [6]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Helen Farman, None

FR0446 **Unlike the estrogen receptor α, the androgen receptor in osteoblast progenitors is dispensable for optimal cortical bone accrual**
Semahat Serra Ucer*[1], Aaron Warren[2], Shoshana Bartell[3], Srividhya Iyer[3], Li Han[3], Julie Crawford[4], Charles O'Brien[3], Maria Jose Almeida[3], Stavros Manolagas[3]. [1]University of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [4]University of Arkansas for Medical Sciences, USA
Disclosures: Semahat Serra Ucer, None

FR0447 **1, 25 dihydroxyvitamin D Regulates Tumor Growth through NF Kappa B in a Mouse Model of Breast Cancer Progression**
Jiarong Li*[1], Aimee-Lee Luco[1], Ben Ochietietti[1], Rene St-Arnaud[2], Timothy Reinhardt[3], Anne Camirand[1], William Muller[1], Richard Kremer[4]. [1]McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada, [3]National Animal Disease Center, USDA, ARS, USA, [4]McGill University, Royal Victoria Hospital, Canada
Disclosures: Jiarong Li, None

FR0448 **Appropriately Directed Expression of a Human Ligand Binding-Defective Vitamin D Receptor Rescues Hair Cycling Defects But Not Mineral Homeostasis in Humanized VDR-Null Mice**
Seong Min Lee*[1], Erin Riley[1], Charles O'Brien[2], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Seong Min Lee, None

FR0450 **Deletion of vitamin D receptor in mature osteoblasts and osteocytes, but not osteoclasts, impairs bone turnover in growing mice.**
Howard Morris*[1], Paul Anderson[2], Yolandi Starczak[3], Jackson Ryan[3], Helen Tsangari[3], Rebecca Sawyer[4], Kate Barratt[3], Andrew Turner[3], Gerald Atkins[5], Rachel Davey[6]. [1]SA Pathology, Australia, [2]Musculoskeletal Biology Research, University of South Australia, Australia, [3]School of Pharmacy & Medical Sciences, University of South Australia, Australia, [4]Chemical Pathology Directorate, SA Pathology, Australia, [5]University of Adelaide, Australia, [6]University of Melbourne, Australia
Disclosures: Howard Morris, None

FR0453 **The Vitamin D Receptor Promotes Human Breast Cancer Cell Growth via a Ligand Independent Cytoplasmic Function**
Trupti Trivedi*[1], Yu Zheng[1], Pierrick Fournier[2], Colin Dunstan[3], Khalid Mohammad[2], Hong Zhou[4], Markus Seibel[4], Theresa Guise[2]. [1]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [2]Indiana University, USA, [3]University of Sydney, Australia, [4]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Trupti Trivedi, None

FR0455 **Vitamin D Is a Regulator of Endothelial Nitric Oxide Synthase and Arterial Stiffness in Mice**
OLENA ANDRUKHOVA*[1], Svetlana Slavic[2], Ute Zeitz[2], Sabine Riesen[3], Tamas Ambrisko[4], Mato Markovic[4], Wolfgang Kuebler[5], Reinhold Erben[6]. [1]INST. OF PHYSIOLOGY, PATHOPHYSIOLOGY & BIOPHYSICS, Austria, [2]Department of Biomedical Research, University of Veterinary Medicine, Austria, [3]Department for Companion Animals & Horses, University of Veterinary Medicine, Austria, [4]Department for Companion Animals & Horses, University of Veterinary Medicine, Austria, [5]nstitute of Physiology, Charité, Germany, [6]University of Veterinary Medicine, Austria
Disclosures: OLENA ANDRUKHOVA, None

FR0456 **Anti-PTHrP monoclonal antibodies are potent proliferation inhibitors in triple negative human breast cancer cells and potentiate the effects of taxol and doxorubicin**
Richard Kremer*[1], Benoit Ochietti[2], Ibtihal Fadhil[2], Anne Camirand[2]. [1]McGill University, Royal Victoria Hospital, Canada, [2]McGill University, Canada
Disclosures: Richard Kremer, None

FR0457 **Biological characterization of PTHrP(12-48): Novel biomarker of breast cancer bone metastasis or new active peptide?**
Larry Suva[1], Archana Kamalakar*[1], Dana Gaddy[1], Charity Washam[2], Frances Swain[2], Bethany Allen[2], Nisreen Akel[1], Kim Leitzel[3], Alan Lipton[3]. [1]University of Arkansas for Medical Sciences, USA, [2]UAMS Orth Surgery, USA, [3]Penn State Hershey Cancer Institute, USA
Disclosures: Archana Kamalakar, None

FR0458 **Function of ERRa in Mediating Mixed Metastatic Bone Lesion from Prostate Cancer Cells: Implication of Endothelin 1 and Wnt/periostin pathway**
Anais Fradet[1], Akeila Bellahcene[2], Vincent Castronovo[2], Philippe A.R. Clezardin[1], Edith Bonnelye*[3]. [1]INSERM & University of Lyon, France, [2]University of Liège, GIGA-CANCER, Belgium, [3]Faculte de Medecine RTH Laennec, France
Disclosures: Edith Bonnelye, None

FR0459 **PGE2 receptor EP4 regulates breast cancer metastasis and bone resorption through osteoblastic RANKL production.**
Satoshi Yokoyama[1], Kenta Watanabe[1], Michiko Hirata[1], Chiho Matsumoto[1], Takayuki Maruyama[2], Chisato Miyaura[1], Masaki Inada*[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Ono Pharmaceutical Co., Ltd., Japan
Disclosures: Masaki Inada, None

FR0460 **Presence of Giant Osteoclasts in Zoledronic Acid Treated Prostate Cancer Bone Metastasis**
Martine P Roudier*[1], Colm Morrissey[1], Alexander Dowell[2], Eva Corey[1], Celestia HIGANO[3], Lawrence TRUE[3], Robert Vessella[3]. [1]University of Washington, USA, [2]University of Alabama at Birmingham, USA, [3]UW, USA
Disclosures: Martine P Roudier, None

FR0461 **Integrin-beta 3 is required for breast tumor cell response to bone rigidity**
Jonathan Page*[1], Nazanin Ruppender[1], Shellese Cannonier[1], Ushashi Dadwal[1], Alyssa Merkel[1], Scott Guelcher[1], Julie Sterling[2]. [1]Vanderbilt University, USA, [2]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Jonathan Page, None

FR0462 **Combined TGF-β and Proteasome Inhibition Improves Bone Architecture and Reduces Tumor Burden in Myeloma Bone Disease**
Jeffry Nyman*[1], Alyssa Merkel[1], Barbara Rowland[2], Alexander Makowski[3], Julie Sterling[4]. [1]Vanderbilt University Medical Center, USA, [2]Department of Veterans Affairs (TVHS), USA, [3]Department of Veterans Affairs, Vanderbilt University, USA, [4]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Jeffry Nyman, None

FR0463 **Hypoxia upregulates calpain-6 expression in osteosarcoma cells: implication in cancer stem cells.**
Imene Kaci[1], Rafik MANSOURI[2], Pierre Marie[3], Dominique Modrowski*[4]. [1]Unité 606 INSERM, France, [2]INSERM, France, [3]Inserm Unit 606 & University Paris Diderot, France, [4]INSERM U606, France
Disclosures: Dominique Modrowski, None

FR0465 **Potent induction of bone formation in myeloma bone lesions by the cathepsin K inhibitor KK1-300-01 in combination with the proteasome inhibitor bortezomib**
Keiichiro Watanabe*[1], Masahiro Abe[2], Hiroshi Mori[3], Ryota Amachi[4], Masahiro Hiasa[5], Takeshi Harada[6], Shiro Fujii[6], Shingen Nakamura[6], Hirokazu Miki[6], Kumiko Kagawa[6], Itsuro Endo[7], Eiji Tanaka[4], Toshio Matsumoto[7]. [1]Tokushima University Hospital, Japan, [2]University of Tokushima, Japan, [3]Ono Pharmaceutical Co., Ltd., Japan, [4]Department of Orthodontics & Dentofacial Orthopedics, The University of Tokushima Graduate School, Japan, [5]University of Tokushima Graduate School, Japan, [6]Department of Medicine & Bioregulatory Sciences, The University of Tokushima Graduate School, Japan, [7]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Keiichiro Watanabe, None

THE ASBMR 2013 BRIGHTEST BONEHEADS QUIZ SHOW

Sponsored by the ASBMR Young Investigator Subcommittee and the Membership Engagement Committee

6:30 pm - 7:00 pm **Baltimore Convention Center**

Discovery Hall-Hall C, Young Investigator Lounge

The Young Investigator Subcommittee and the Membership Engagement Committee are pleased to sponsor the ASBMR 2013 Brightest Bonehead Quiz Show. Join host Larry Suva, Ph.D. as up to four teams of young investigators compete against one another answering clinical, basic, entertainment and ASBMR trivia questions for cash prizes. Find out which team will be dubbed the "Brightest Boneheads"!

YOUNG INVESTIGATOR AND MINORITY INVESTIGATOR NETWORKING HOUR

Sponsored by the ASBMR Membership Engagement Committee, Young Investigator Subcommittee and Minority Subcommittee

7:15 pm - 8:00 pm **Hilton Baltimore**

Holiday Ballroom, Salon 3

Young investigators and under-represented minority investigators who wish to continue building connections with peers in a fun and informal setting are invited to attend this cash bar event, which will precede the speed networking event.

NUTRITION WORKING GROUP

Supported by an educational grant from Dairy Research Institute
Ticket Required

7:15 pm - 9:15 pm **Baltimore Convention Center**

Room 339-340

7:15 pm **Introduction**
Connie Weaver, Ph.D.
Purdue University, USA

7:30 pm **Acid-Base Hypothesis**
Deborah E. Sellmeyer, M.D.
Johns Hopkins Bayview Medical Center, USA

7:50 pm **Dietary Protein, IGF-I and Skeletal Health**
Jean-Phillipe Bonjour, M.D.
Service of Bone Disease, University Hospital, Switzerland

8:20 pm **Dietary Protein and Calcium Economy**
Karl Insogna, M.D.
Yale Bone Center, USA

8:45 pm **Conclusions**
Sue Shapses, Ph.D.
Rutgers University, USA

Disclosures: Sue Shapses-None; Connie Weaver-Tate & Lyle, Dairy Research Institute, Pharmavite, Nestle; Deborah Sellmeyer-None; Jean-Phillipe Bonjour-None; Karl Insogna-None

RARE BONE DISEASE WORKING GROUP

Ticket Required

7:15 pm - 9:45 pm **Baltimore Convention Center**
Room 341-342

Chair: Michael P. Whyte, M.D., Washington University School of Medicine and Shriners Hospital for Children, USA

7:15 pm **Dinner**

7:45 pm **Hypercalcemic and Hypocalcemic Disorders: Recent Developments and New Insights from Rare Hereditary Diseases**
Rajesh V. Thakker, M.D., FRCP
Oxford University, United Kingdom

8:15 pm **Genetic Basis for Lymphangiomatosis, Gorham-Stout Disease, and Related Disorders**
Matthew L. Warman, M.D.
Children's Hospital and Harvard Medical School, USA

8:45 pm **New Mendelian Forms of Osteoporosis and Osteogenesis Imperfecta**
Brendan H.L. Lee, M.D., Ph.D.
Baylor College of Medicine, USA

9:15 pm **The Osteopetroses: Where Are We After 110 Years?**
Michael P. Whyte, M.D.
Washington University School of Medicine and Shriners Hospital for Children, USA

9:45 pm **Conclusion**

Disclosures: Michael Whyte – none; Brendan Lee – Biomarin 5, Hyperion Therapeutics 2

BONE TURNOVER MARKERS WORKING GROUP

Update on Efforts to Improve the Clinical Utility of Bone Turnover Markers
Ticket Required

7:30 pm - 9:30 pm **Baltimore Convention Center**
Room 336

7:30 pm **Welcome and Introductions**
Doug Bauer, M.D.
University of California, San Francisco, USA

7:35 pm **Update on IOF-IFCC Initiative to Identify Reference Markers for Clinical Use and Improve Laboratory Reproducibility**
Samuel Vasikaran, M.D.
University of Western Australia, Australia

8:05 pm **Update on NBHA Initiatives to Improve the Clinical Use of Bone Markers**
Paul Miller, M.D.
University of Colorado Health Sciences Center and Colorado Center for Bone Research, USA

8:35 pm **Clinical Debate: This House Believes that Bone Turnover Markers Should Be Used for Monitoring Offset of Effect of Bisphosphonate Therapy for Osteoporosis**
William Fraser, M.D., FRCP, University of East Anglia, United Kingdom
Stuart Ralston, MBChB, M.D., University of Edinburgh, United Kingdom

9:25 pm **Concluding Remarks**

Disclosures: Dr. Samuel Vasikaran – none; Dr. Paul Miller – Amgen 2, 5; Lilly 2, 5; Merck 2, 5; Professor William Fraser - ; Professor Stuart Ralston – IDS, 7; Merck, 5; Novartis, 5

WORKING GROUP ON SKELETAL AGING

Cellular Senescence and the Aging Skeleton
Ticket Required

7:30 pm - 9:30 pm **Baltimore Convention Center**
Room 337-338

7:30 pm **Dinner/Opening Remarks by Organizers**

7:40 pm **The Mechanistic Basis of Cell Senescence and Physiological Implications**
James Kirkland, M.D., Ph.D.
Mayo Clinic, USA

8:00 pm **Roles of Cell Senescence in Aging Bone**
Pierre J. Marie, Ph.D.
INSERM and University Paris Diderot, France

8:20 pm **Cell Senescence-based Animal Models for the Study of Age-related Bone Loss**
Johannes P. Van Leeuwen, Ph.D.
Erasmus University Medical Center, The Netherlands

8:40 pm **Panel Discussion**
Moderator: Cliff Rosen, M.D.
Maine Medical Center, USA

9:20 pm **Concluding Remarks**

Disclosures: James Kirkland, None; Pierre Marie, None; Johannes P. Van Leeuwen, None; Cliff Rosen, None

MUSCLE AND BONE WORKING GROUP

Supported by an educational grant from Orthometrix Inc.
Ticket Required

7:30 pm - 9:30 pm **Baltimore Convention Center**
Room 343-344

Chairs: **Lesley Scibora, D.C., Ph.D., University of St. Thomas, USA**
Adrian Sayers, MSc, PGDip (LSHTM), University of Bristol, United Kingdom

7:30 pm **Box Dinner**

7:35 pm **Opening Remarks**

7:40 pm **Sarcopenia – A Clinical Concept to Quantify Muscle Function, Changes in Muscle Cross-section and Muscle Density**
Martin Runge, M.D.
Geriatirc Clinic Esslingen-Kennenburg, Germany

8:10 pm **Morbid Obesity and Weight Loss: Exploring Bone Functional Adaptation Following Bariatric Surgery**
Lesley Scibora, D.C., Ph.D.
University of St. Thomas, USA

8:30 pm **Associations between Lower Leg Muscle, Bone, and Fat in Postmenopausal Women**
Amanda Lorbergs, Ph.D. Candidate
McMaster University, Canada

8:40 pm **Assessment of Longitudinal Growth in Children:- Optimizing Measurements to Estimate Peak Height Velocity**
Adrian Sayers, MSc, PGDip (LSHTM)
University of Bristol, United Kingdom

9:00 pm **Feedback System and Muscle Function – Theoretical Basics and Clinical Testing**
Rainer Rawer, Ph.D., Hans Schiessl
Novotec Medical, Germany

9:30 pm **Closing Remarks**

Disclosures: Lesley Scibora – Nothing to disclose; Adrian Sayers – Nothing to disclose; Martin Runge – Nothing to disclose; Amanda Lorbergs– Nothing to disclose; Rainer Rawer – Novotec Medical; Hans Schiessl – Novotec Medical; Christopher Gordon – Orthometrix lnc., 5

ASBMR SPEED NETWORKING EVENT

Sponsored by the Women in Bone and Mineral Research and Membership Engagement Committees

Supported by an educational grant from Lilly USA, LLC.
Registration fee: $35 ($15 students/trainees)
Ticket Required

8:00 pm - 10:00 pm **Hilton Baltimore**

Holiday Ballroom, Salons 4-6

This Speed Networking Event provides you with a networking opportunity like no other. In 60 minutes you will have an opportunity to meet more than a dozen researchers and in four minutes learn about them and introduce yourself. Come prepared with a two-minute introduction that ''sells'' who you are and what you do. This is an opportunity to learn networking skills and meet members in all career stages. You will develop connections that can be otherwise difficult to make in meetings as large as ASBMR. A reception will follow the event.

Saturday, October 5, 2013

Day-At-A-Glance

Time/Event/Location **All locations in the Baltimore Convention Center unless otherwise noted**

6:45 am - 8:00 am 37
ASBMR Networking Breakfast
Room 314-317

7:00 am - 5:00 pm 37
ASBMR Registration Open
Hall C

7:30 am - 8:00 am 37
Morning Networking
Charles Street Lobby

8:00 am - 6:00 pm 37
Posters Open
Discovery Hall-Hall C

8:00 am - 10:00 am 37
Distinguished Orals - Dynamics of the Musculoskeletal System
Room 307-310

8:00 am - 10:00 am 39
John H. Carstens Memorial Distinguished Orals - Osteoporosis Treatment
Hall A

10:00 am - 5:00 pm 40
Discovery Hall Open
Discovery Hall-Hall C

10:00 am - 10:30 am 40
Discovery Hall Networking Break
Discovery Hall-Hall C

10:30 am - 11:30 am 41
Success in Research: Leadership Lessons from 2013 ASBMR Esteemed Awardees
Room 327-328

10:30 am - 12:00 pm 41
Oral Poster Presentations: Basic
Room 307-310

10:30 am - 12:00 pm 43
Oral Poster Presentations: Clinical
Hall A

11:00 am - 12:00 pm 45
Meet-the-Professor Sessions
Rooms 324-338

12:00 pm - 2:00 pm 46
Poster Session I & Poster Tours
Discovery Hall-Hall C

12:00 pm - 2:00 pm 108
Late-Breaking Posters I
Discovery Hall-Hall C

1:00 pm - 2:00 pm 112
Clinical Roundtable/Case Conference - Interpretation of Clinical Laboratory Testing
Room 314-317

2:00 pm - 3:00 pm 112
Louis V. Avioli Lecture - Epigenetic Regulation of Skeletal Biology and Pathology
Hall A

3:15 pm - 4:15 pm 113
Concurrent Orals - Bone Active Drugs: Clinical
Room 307-310

3:15 pm - 4:15 pm 113
Concurrent Orals - Bone Active Drugs: Translational
Hall A

3:15 pm - 4:15 pm 114
Concurrent Orals - Bone Disorders
Room 314-317

3:15 pm - 4:15 pm 115
Concurrent Orals - Mechanical Loading Mechanisms
Room 318-323

4:15 pm - 4:45 pm 115
Discovery Hall Networking Break
Discovery Hall-Hall C

4:45 pm - 6:00 pm 116
State-of-the-Art Lectures - Osteocytes Take Center Stage
Room 307-310

4:45 pm - 6:00 pm 116
Symposium - Hidden Regulators of Skeletal Metabolism: Energy, Fat, Fluid
Hall A

6:30 pm - 8:30 pm 117
Clinical Evening at ASBMR - Do Our Treatments for Osteoporosis Harm Our Patients?
Hilton Baltimore, Holiday Ballroom, Salon 2

6:30 pm - 8:30 pm 117
Basic Distinguished Orals & Networking Reception - Multi-Organ Interactions with the Musculoskeletal System
Room 314-317

8:30 pm - 11:30 pm 119
ASBMR Bone Bash Networking Event
The Maryland Science Center, 601 Light Street, Baltimore
Ticket Required

ASBMR NETWORKING BREAKFAST

Sponsored by the ASBMR Membership Engagement Committee

6:45 am - 8:00 am **Baltimore Convention Center**
Room 314-317

New Investigators (early-career stage), new ASBMR members and young and underrepresented minority investigators are invited to join ASBMR leadership, senior investigators and NIH representatives for an informal networking breakfast. New Investigators and first-time attendees will have the opportunity to network with senior investigators at tables assigned by research topic. Breakfast will be provided.

ASBMR REGISTRATION OPEN

7:00 am - 5:00 pm **Baltimore Convention Center**
Hall C

MORNING NETWORKING

7:30 am - 8:00 am **Baltimore Convention Center**
Charles Street Lobby

POSTERS OPEN

8:00 am - 6:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

DISTINGUISHED ORALS - DYNAMICS OF THE MUSCULOSKELETAL SYSTEM

8:00 am - 10:00 am **Baltimore Convention Center**
Room 307-310

Moderators:
Kenneth Kozloff, Ph.D.
University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: Kenneth Kozloff, None

Susan Bloomfield, Ph.D.
Texas A&M University, USA
Disclosures: Susan Bloomfield, None

8:00 am
1009 **Osteocytes, but not osteoblasts, provide the RANKL required for bone remodeling in adult mice: novel insights from Sost-Cre; RANKLf/f mice**
Jinhu Xiong*[1], Rajamani Selvam[2], Yiying Wang[2], Marilina Piemontese[2], Melda Onal[3], Priscilla Baltz[2], Stavros Manolagas[1], Charles O'Brien[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA, [3]university of wisconsin, USA
Disclosures: Jinhu Xiong, None

8:15 am **2013 ASBMR Young Investigator Award**
1010 **Loss of Material Properties Due to Diffuse Microdamage in Rat Living Bone Recovers without Osteoclastic Bone Remodeling**
Zeynep Seref-Ferlengez*[1], Claudy Philemon[1], Oran Kennedy[2], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]New York University, Hospital for Joint Diseases, USA
Disclosures: Zeynep Seref-Ferlengez, None

8:30 am **A Myostatin Inhibitor (propeptide-Fc) Increases Muscle Mass but Does Not Alter Bone**
1011 **Density or Strength in Aged Mice**
Phonepasong Arounleut[1], Peter Bialek[2], Mohammed Elsalanty[3], Sunil Upadhyay[4], Carlos Isales[4], William Hill[5], Xing-Ming Shi[6], Mark Hamrick*[6]. [1]Georgia Regents University (formally Georgia Health Sciences University), USA, [2]Pfizer Inc., USA, [3]Georgia Health Science University, USA, [4]Georgia Regents University, USA, [5]Georgia Regents University & Charlie Norwood VAMC, USA, [6]Georgia Health Sciences University, USA
Disclosures: Mark Hamrick, None

8:45 am **2013 ASBMR Young Investigator Award**
1012 **Satellite Cell Populations in Skeletal Muscle, Compromised by Ovariectomy, are Rescued by Daily Bouts of Low Intensity Vibration**
Danielle Frechette*[1], Divya Krishnamoorthy[2], M. Ete Chan[1], Benjamin Adler[1], Clinton Rubin[3]. [1]Stony Brook University, USA, [2]SUNY Stony Brook University, USA, [3]State University of New York at Stony Brook, USA
Disclosures: Danielle Frechette, None

9:00 am **ERα Signaling in Osterix1 and Prx1 Expressing Cells, Respectively, Mediates the Anabolic**
1013 **Effect of Mechanical Loading in the Murine Periosteum and the Protective Effects of Estrogens on Endocortical Resorption**
Srividhya Iyer*[1], Li Han[1], Ha-Neui Kim[2], Semahat Serra Ucer[3], Shoshana Bartell[1], Aaron Warren[4], Julie Crawford[3], Robert Skinner[5], Mark Dallas[6], Mark Johnson[7], Robert Weinstein[1], Robert Jilka[1], Charles O'Brien[1], Maria Jose Almeida[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Univ. Arkansas for Medical Sciences, USA, [3]University of Arkansas for Medical Sciences, USA, [4]Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, Little Rock, AR, USA, [5]Department of Orthopaedic Surgery, Center for Orthopaedic Research, Univ. Arkansas for Medical Sciences, Little Rock, AR, USA, [6]Department of Oral & Craniofacial Sciences, University of Missouri, Kansas City, MO, USA, [7]University of Missouri, Kansas City Dental School, USA
Disclosures: Srividhya Iyer, None

9:15 am **Conditional Disruption of the miR17-92 Cluster in Osteoblasts Impairs Skeletal Growth and**
1014 **Periosteal Response to Mechanical Loading**
Chandrasekhar Kesavan*, Jon Wergedal, Subburaman Mohan. Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Chandrasekhar Kesavan, None

9:30 am **2013 ASBMR Young Investigator Award**
1015 **Primary Cilia of Bone Marrow Stromal Cells Mediate Mechanically Induced Osteogenesis**
Julia Chen*[1], David Hoey[2], Christopher Jacobs[1]. [1]Columbia University, USA, [2]University of Limerick, Ireland
Disclosures: Julia Chen, None

9:45 am **Live Imaging of Collagen Assembly and Cell Membrane Dynamics in Osteoblasts and**
1016 **Acceleration of Collagen Assembly by Wnt3a**
Erica Perryn*, Patricia Veno, Yongbo Lu, Sarah Dallas. University of Missouri - Kansas City, USA
Disclosures: Erica Perryn, None

JOHN H. CARSTENS MEMORIAL DISTINGUISHED ORALS - OSTEOPOROSIS TREATMENT

8:00 am - 10:00 am **Baltimore Convention Center**
Hall A

Moderators:
Bart Clarke, M.D.
Mayo Clinic College of Medicine, USA
Disclosures: Bart Clarke, None

Angela M. Cheung, M.D., Ph.D.
University Health Network-University of Toronto, Canada
Disclosures: Angela M. Cheung, None

8:00 am 1017 **Further Reduction in the Nonvertebral Fracture Rate Is Observed Following 3 Years of Denosumab Treatment: Results With Up to 7 Years in the FREEDOM Extension**
Serge Ferrari*[1], Jonathan D. Adachi[2], Carol Zapalowski[3], Paul D. Miller[4], Jean-Yves Reginster[5], Ove Törring[6], Nadia Daizadeh[3], Andrea Wang[3], Cynthia O'Malley[3], Rachel B. Wagman[3], E. Michael Lewiecki[7]. [1]Geneva University Hospital, Switzerland, [2]McMaster University, Canada, [3]Amgen Inc., USA, [4]Colorado Center for Bone Research, USA, [5]University of Liège, Belgium, [6]Karolinska Institutet, Södersjukhuset, Sweden, [7]New Mexico Clinical Research & Osteoporosis Center, USA
Disclosures: Serge Ferrari, Amgen, GSK, Lilly, MSD, 6; Novartis, 9; Bioiberica, 5; Amgen, MSD, 2

8:15 am 1018 **Denosumab Significantly Increases Bone Mineral Density Compared With Ibandronate and Risedronate in Postmenopausal Women Previously Treated With an Oral Bisphosphonate Who Are at Higher Risk for Fracture**
Jacques P. Brown*[1], Michael A. Bolognese[2], Pei-Ran Ho[3], Jesse Hall[3], Christian Roux[4], Henry G. Bone[5], Sydney Bonnick[6], Joop van den Bergh[7], Irene Ferreira[8], Prayashi Ghelani[9], Paula Dakin[3], Rachel B. Wagman[3], Christopher Recknor[10]. [1]CHU de Quebec Research Centre & Laval University, Canada, [2]Bethesda Health Research Center, USA, [3]Amgen Inc., USA, [4]Paris Descartes University, France, [5]Michigan Bone & Mineral Clinic, USA, [6]Clinical Research Center of North Texas, USA, [7]VieCuri Medical Centre & Maastricht University, Netherlands, [8]Amgen Inc., United Kingdom, [9]Ovatech Solutions, United Kingdom, [10]United Osteoporosis Centers, USA
Disclosures: Jacques P. Brown, Amgen, Eli Lilly, Merck, Novartis, Sanofi-Aventis, Warner Chilcott, 6; Abbott, Amgen, Bristol-Myers Squibb, Eli Lilly, Merck, Novartis, Pfizer, Roche, Sanofi-Aventis, Servier, Warner Chilcott, Takeda, 2; Amgen, Eli Lilly, Novartis, Merck, 9

8:30 am 1019 **The DATA Extension Study: 2 Years of Combined Denosumab and Teriparatide in Postmenopausal Women with Osteoporosis: A Randomized Controlled Trial.**
Benjamin Leder*[1], Alexander Uihlein[2], Joy Tsai[2], Robert Neer[2], Erica Siwila-Sackman[2], Yuli Zhu[2], Katelyn Foley[2], Hang Lee[2], Sherri-Ann Burnett-Bowie[2]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Massachusetts General Hospital, USA
Disclosures: Benjamin Leder, Amgen, 2; Lilly, 2; Merck, 5

8:45 am 1020 **A longitudinal study of Skeletal Histomorphometry in subjects On Teriparatide (TPTD) or Zoledronic acid (ZOL), the SHOTZ study**
David Dempster*[1], Hua Zhou[2], Robert Recker[3], Jacques P. Brown[4], Michael Bolognese[5], Christopher Recknor[6], David Kendler[7], E. Michael Lewiecki[8], David Hanley[9], Sudhaker Rao[10], Paul Miller[11], Grattan Woodson[12], Robert Lindsay[2], Neil Binkley[13], Jahangir Alam[14], Valerie A Ruff[14], Boris Janos[15], Kathleen A Taylor[14]. [1]Columbia University, USA, [2]Helen Hayes Hospital, USA, [3]Creighton University, USA, [4]CHU de Québec Research Centre, Canada, [5]Bethesda Health Research, USA, [6]United Osteoporosis Center, USA, [7]Associate Professor, University of British Columbia, Canada, [8]University of New Mexico School of Medicine, USA, [9]University of Calgary, Canada, [10]Henry Ford Hospital, USA, [11]Colorado Center for Bone Research, USA, [12]USA, [13]University of Wisconsin, Madison, USA, [14]Lilly USA, LLC, USA, [15]Eli Lilly Canada Inc., Canada
Disclosures: David Dempster, Eli Lilly, Amgen, Novartis, P&G, Merck, 8; Eli Lilly, Amgen, Merck, 5; Eli Lilly, 2

9:00 am **2013 ASBMR Young Investigator Award**

1021 **Teriparatide Is Associated with Improved Microarchitecture and Estimated Bone Strength in Premenopausal Women with Idiopathic Osteoporosis: An HR-pQCT Study**

Kyle Nishiyama*[1], Ji Wang[1], Polly Young[1], Robert Recker[2], Joan Lappe[3], Serge Cremers[1], X Guo[1], Elizabeth Shane[4], Adi Cohen[5]. [1]Columbia University, USA, [2]Creighton University, USA, [3]Creighton University Osteoporosis Research Center, USA, [4]Columbia University College of Physicians & Surgeons, USA, [5]Columbia University Medical Center, USA

Disclosures: Kyle Nishiyama, None

9:15 am **Effect of Romosozumab on Lumbar Spine and Hip Volumetric Bone Mineral Density (vBMD)**

1022 **as Assessed by Quantitative Computed Tomography (QCT)**

HK Genant*[1], S Boonen[2], MA Bolognese[3], C Mautalen[4], JP Brown[5], C Recknor[6], S Goemaere[7], K Engelke[8], Y-C Yang[9], M Austin[9], A Grauer[9], C Libanati[9]. [1]USCF & Synarc Inc., USA, [2]Leuven University Division of Geriatric Medicine, Belgium, [3]The Bethesda Health Research Center, USA, [4]Centro de Osteopatias Medicas, Argentina, [5]CHU de Québec Research Centre & Laval University, Canada, [6]United Osteoporosis Centers, USA, [7]Ghent University Hospital, Belgium, [8]Synarc Germany, Germany, [9]Amgen Inc., USA

Disclosures: HK Genant, Amgen, Merck, Lilly, Pfizer, Janssen, Servier, Novartis, Radius, 6; Synarc, 5; Synarc, 1; Novartis, Merck, 9; Synarc, 4

9:30 am **Effects of Blosozumab on Estimated Spine and Hip Strength in Postmenopausal Women with**

1023 **Low Bone Mineral Density: Finite Element Analysis of a Phase-II Dosing Study**

Tony Keaveny*[1], Stephen Myers[2], Alan Chiang[2], Jahangir Alam[2], Deborah Robins[2], John Krege[2], Adrien Sipos[2], Bruce Mitlak[2], Charles Benson[2]. [1]University of California, Berkeley, USA, [2]Eli Lilly & Company, USA

Disclosures: Tony Keaveny, O.N. Diagnostics, 5; Amgen, 5; Amgen, 2; O.N. Diagnostics, 1; O.N. Diagnostics, 4; Novartis, 2; Merck, 2; Eli Lilly and Company, 2; Wright Medical Technology, 5; J&J, 2; Wright Medical Technology, 2; Pfizer, 2; Merck, 5; GSK, 2; UC Berkeley, 4

9:45 am **2013 ASBMR Young Investigator Award**

1024 **Systemic Administration of NELL-1, a Wnt/β-Catenin Regulator, Induces Bone Formation in Osteoporotic Mice via Integrinβ1**

Aaron James*[1], Jia Shen[1], Omar Velasco[2], Greg Asatrian[2], Choon G Chung[2], Kevork Khadarian[3], Yulong Zhang[4], Le Chang[2], Raghav Goyal[2], Jung Kim[3], Xinli Zhang[1], John Adams[1], Kang Ting[1], Chia Soo[5]. [1]University of California, Los Angeles, USA, [2]Division of Associated Clinical Specialties & Section of Orthodontics, School of Dentistry, USA, [3]Department of Pathology & Laboratory Medicine, David Geffen School of Medicine, USA, [4]Department of Bioengineering, UCLA, USA, [5]Division of Plastic & Reconstructive Surgery, Department of Surgery, University of California, Los Angeles, USA

Disclosures: Aaron James, None

DISCOVERY HALL OPEN

10:00 am - 5:00 pm **Baltimore Convention Center**

Discovery Hall-Hall C

DISCOVERY HALL NETWORKING BREAK

10:00 am - 10:30 am **Baltimore Convention Center**

Discovery Hall-Hall C

SUCCESS IN RESEARCH: LEADERSHIP LESSONS FROM 2013 ASBMR ESTEEMED AWARDEES

Sponsored by the Women in Bone and Mineral Research, Membership Engagement and Education Committees

10:30 am - 11:30 am **Baltimore Convention Center**

Room 327-328

In this session designed for young investigators and individuals interested in career growth, ASBMR 2013 Esteemed Award recipients will provide insights into their research and career development, and offer leadership and career advice. Each recipient will briefly discuss their career path and research, highlighting the challenges they faced and the key leadership strategies they used to achieve success. Audience members will have the opportunity to ask questions. Don't miss this unique opportunity to hear directly from the leaders in the field.

ORAL POSTER PRESENTATIONS: BASIC

10:30 am - 12:00 pm **Room 307-310**

Moderators:
Masaki Noda, M.D., Ph.D.
Tokyo Medical and Dental University, Japan
Disclosures: Masaki Noda, None

Mary Farach-Carson, Ph.D.
Rice University, USA
Disclosures: Mary Farach-Carson, None

10:35 am **Periosteal Preosteoclasts Direct Cortical Bone Growth and Modeling by Secretion of PDGF**
SA0269 Hui Xie*[1], Zhuang Cui[2], Weizhong Chang[3], Chang-Jun Li[2], Lingling Xian[4], Bing Yu[5], Gehua Zhen[6], Janet Crane[3], Mei Wan[4], Maureen Pickarski[7], Le Thi Duong[8], Er-Yuan Liao[9], Xu Cao[3]. [1]Johns Hopkins Medical Institution, USA, [2]Department of Orthopaedic Surgery, Johns Hopkins Medical Institution, USA, [3]Johns Hopkins University, USA, [4]Johns Hopkins University School of Medicine, USA, [5]Johns Hopkins School of Medicine, USA, [6]The Johns Hopkins Hospital, USA, [7]Merck & Co., Inc., USA, [8]Merck Research Laboratories, USA, [9]Institute of Endocrinology & Metabolism, Second Xiangya Hospital of Central South University, China
Disclosures: Hui Xie, None

10:40 am **Postnatal Ablation of Ext1 in Cartilage Induces Ectopic Hypertrophy of Articular**
SA0110 **Chondrocytes and Loss of Bone Volume in Primary Spongiosa.**
Federica Sgariglia*[1], Maria Elena Candela[2], Julianne Huegel[2], Olena Jacenko[3], Eiki Koyama[4], Yu Yamaguchi[5], Maurizio Pacifici[4], Motomi Enomoto-Iwamoto[4]. [1]Ph.D., USA, [2]Translational Research Program in Pediatric Orthopaedics, Division of Orthopedic Surgery, Department of Surgery, Children's Hospital of Philadelphia, USA, [3]University of Pennsylvania, School of Veterinary Medicine, USA, [4]Children's Hospital of Philadelphia, USA, [5]Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute, USA
Disclosures: Federica Sgariglia, None

10:45 am **Impact of RARγ- BMP Signaling Cross-talk on Endochondral Bone Formation**
SA0106 Kenta Uchibe*[1], Jiyeon Son[2], Maurizio Pacifici[1], Masahiro Iwamoto[1]. [1]Children's Hospital of Philadelphia, USA, [2]Children's Hospital of Philadelphia, USA
Disclosures: Kenta Uchibe, None

10:55 am SA0089 **Modulating *Sost* Expression Influences the Progression and Severity of Post Traumatic Osteoarthritis in Mice**
Jiun Chiun Chang*[1], Blaine A. Christiansen[2], Cynthia B. Thomas[3], Nicole M. Collette[3], Craig Blanchette[4], Gabriela Loots[5]. [1]University of California, Merced, USA, [2]UC Davis Medical Center, Department of Orthopaedic Surgery, USA, [3]Lawrence Livermore National Laboratories, Physical & Life Sciences Directorate, USA, [4]Lawrence Livermore National Laboratories, USA, [5]Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Jiun Chiun Chang, None

11:00 am SA0082 **Complete Suppression of PTHrP Signaling in Chondrocytes in the Histone Deacetylase 4 and 5 Double Knockout Mouse**
Shigeki Nishimori*[1], Forest Lai[1], Marc Wein[1], Elena Kozhemyakina[2], Eric Olson[3], Andrew Lassar[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]Harvard Medical School, USA, [3]UT Southwestern Medical Center at Dallas, USA
Disclosures: Shigeki Nishimori, None

11:05 am SA0103 **Bmi-1 Is A Critical Molecule for Activation of the Sonic Hedgehog Signal Pathway**
Jun Wu*[1], Wen Sun[2], Rong Wang[1], David Goltzman[3], Dengshun Miao[4]. [1]Nanjing Medical University, China, [2]Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, [3]McGill University, Canada, [4]Nunjing Medical University, Peoples Republic of China
Disclosures: Jun Wu, None

11:15 am SA0111 **Bone Shaft Revascularization after Marrow Ablation is Dramatically Accelerated in BSP-/- mice, along with Faster Haematopoietic Recolonization**
Wafa Bouleftour*[1], Renata Neves Granito[1], Arnaud Vanden Bossche[1], Odile Sabido[2], Bernard Roche[1], Mireille Thomas[1], Marie-Thérèse Linossier[1], Jane Aubin[3], Marie-Helene Lafage-Proust[4], Laurence Vico[5], Luc Malaval[6]. [1]LBTO/INSERM U1059 - Université de Lyon, France, [2]Flow Cytometry Facility - Université de Lyon, France, [3]University of Toronto Faculty of Medicine, Canada, [4]INSERM Unit 890, France, [5]University of St-Etienne, France, [6]INSERM U1059-Université de Lyon-Université Jean Monnet, Saint-Etienne, France
Disclosures: Wafa Bouleftour, None

11:20 am SA0187 **Interdependence of Muscle and Bone Loss Induced by Disuse and Aging**
Shane Lloyd*, Yue Zhang, Emmanuel Paul, Lacee Laufenberg, Charles Lang, Henry Donahue. The Pennsylvania State University College of Medicine, USA
Disclosures: Shane Lloyd, None

11:25 am SA0053 **Running Decreases Marrow Adipose Tissue in Chow and High Fat Fed Mice**
Maya Styner*[1], Sanjay Kadari[1], Kornelia Galior[2], Gunes Uzer[3], William Thompson[3], Natasha Case[1], Zhihui Xie[3], Buer Sen[4], Andrew Romaine[5], Martin Styner[5], Gabriel Pagnotti[6], Clinton Rubin[7], Mark Horowitz[8], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]UNC-CH School of Medicine, USA, [3]University of North Carolina, USA, [4]University of North Carolina At Chapel Hill, USA, [5]University of North Carolina, departments of computer science & psychiatry, USA, [6]Stony Brook University, USA, [7]State University of New York at Stony Brook, USA, [8]Yale University School of Medicine, USA
Disclosures: Maya Styner, None

11:35 am SA0044 **Combined effects of botulinum toxin injection and hindlimb unloading on bone and muscle**
Rachel Ellman*[1], Daniel Grasso[1], Miranda Van Vliet[1], Daniel Brooks[1], Jordan Spatz[2], Christine Conlon[1], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT Division of Health Sciences & Technology (HST), USA
Disclosures: Rachel Ellman, None

11:40 am SA0461 **Role of the stathmin gene in development of prostate cancer bone metastasis**
Rongrong Zhang*[1], Asim Abdel-Mageed[1], Babatunde Oyajobi[2], Hong-Wen Deng[1], Ming Zhao[1]. [1]Tulane University, USA, [2]University of Texas Health Science Center at San Antonio, USA
Disclosures: Rongrong Zhang, None

11:45 am SA0185 **Effects of Irisin on Bone Metabolism and its Signal Mechanism**
Jin Zhang*, Jessica Cheng, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Jin Zhang, None

Moderators:
Susan Greenspan, M.D.
University of Pittsburgh, USA
Disclosures: Susan Greenspan, None

Ian Reid, M.D., MBChB
University of Auckland, New Zealand
Disclosures: Ian Reid, None

10:35 am SA0389 **The Effect of 6 versus 9 Years of Zoledronic Acid Treatment in Osteoporosis: A Randomized Extension to the HORIZON-Pivotal Fracture Trial (PFT)**
Dennis Black*[1], Ian Reid[2], Jane Cauley[3], Steven Boonen[4], Felicia Cosman[5], Ping Leung[6], Peter Lakatos[7], Zulema Man[8], Steven Cummings[9], Trisha Hue[1], Guoqin Su[10], Christina Bucci-Rechtweg[11], Monique Tan[12], Paul Aftring[10], Richard Eastell[13]. [1]University of California, San Francisco, USA, [2]University of Auckland, New Zealand, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [5]Helen Hayes Hospital, USA, [6]Chinese University of Hong Kong, China, [7]Semmelweis University Medical School, Hungary, [8]Centro Médico TIEMPO, Argentina, [9]San Francisco Coordinating Center, USA, [10]Novartis pharmaceuticals, USA, [11]Novartis Pharmaceuticals Corporation, USA, [12]Novartis Pharmaceutical, USA, [13]University of Sheffield, United Kingdom
Disclosures: Dennis Black, Amgen, Lilly, 5; Merck, Novartis, 2

10:40 am SA0268 **The Successful Design Of A Novel Highly Potent Nitrogen-Containing Bisphosphonate With Lower Bone Affinity.**
Frank H. Ebetino*[1], Mark Lundy[2], Aaron A. Kwaasi[1], James Dunford[3], Xuchen Duan[1], James Triffitt[4], Adam Mazur[5], Gwyn Jeans[6], Bobby L. Barnett[7], R Graham Russell[1]. [1]University of Oxford, United Kingdom, [2]Osteoresearch LLC, USA, [3]Oxford University, Headington, United Kingdom, [4]University of Oxford Nuffield Orthopaedic Centre, United Kingdom, [5]TWI Chem LLC, USA, [6]Procter & Gamble, USA, [7]University of Cincinnati, USA
Disclosures: Frank H. Ebetino, University of Oxford, 7; Procter & Gamble, 1

10:45 am SA0390 **The Pharmacokinetics of Odanacatib 50 mg Are Not Affected by Severe Renal Insufficiency**
Aubrey Stoch*[1], Chengcheng Liu[2], Stefan Zajic[3], Rose Witter[2], Julie Stone[2], Anish Mehta[2], Patrice Auger[4], Daria Stypinski[4], Nancy Wang[4], Anne Hohnstein[4], William Smith[5], Harry Alcorn[6], Thomas Marbury[7]. [1]Merck Sharp & Dohme, USA, [2]Merck Sharp & Dohme Corp., USA, [3]Merck Research Laboratories, USA, [4]Celerion, USA, [5]Volunteer Research Group/Graduate School of Medicine, University of Tennessee, USA, [6]DaVita Clinical Research, USA, [7]Orlando Clinical Research Center, USA
Disclosures: Aubrey Stoch, Merck, 3

10:55 am SA0400 **Cortical Bone Parameters at the Hip in Response to Denosumab vs Placebo and the Clinical Relevance of These Changes in Postmenopausal Women With Osteoporosis <75 and ⩾75 Years Old**
Harry K. Genant*[1], Tony M. Keaveny[2], Carol Zapalowski[3], Klaus Engelke[4], Thomas Fuerst[4], David L. Kendler[5], Christopher Recknor[6], Steven Boonen[7], Andrea Wang[3], Paula Dakin[3], Cesar Libanati[3], Michael R. McClung[8]. [1]UCSF & Synarc Inc., USA, [2]UC Berkeley & O.N. Diagnostics, USA, [3]Amgen Inc., USA, [4]Synarc Inc., USA, [5]University of British Columbia, Canada, [6]United Osteoporosis Centers, USA, [7]Leuven University, Belgium, [8]Oregon Osteoporosis Center, USA
Disclosures: Harry K. Genant, Amgen, Merck, Lilly, Pfizer, Janssen, Servier, Novartis, Radius,6; Synarc, 4; Novartis, Merck, 9; Synarc, 5; Synarc, 1

11:00 am SA0412 **ALX-0141, An Anti-RANK-L Targeting Nanobody®, Increases Bone Mass in Cynomolgus Monkeys**
Rana Samadfam*[1], Sandy Jacobs[2], Maarten Van Roy[2], Aidan McGuire[3], Pieter Schoen[2], Judith Baumeister[2], Susan Y. Smith[1], Josefin-Beate Holz[2]. [1]Charles River Laboratories, Canada, [2]Ablynx NV, Belgium, [3]Charles River Laboratories, United Kingdom
Disclosures: Rana Samadfam, None

11:05 am SA0399 **Changes in Lumbar Spine QCT, DXA, and TBS in Postmenopausal Women With Low Bone Mass Treated With Denosumab, Alendronate, or Placebo**
Thierry Thomas*[1], Angela M Cheung[2], Elizabeth Shane[3], Jose R Zanchetta[4], Ann Kearns[5], Didier Hans[6], Celia JF Lin[7], Matthew Austin[7], Cesar Libanati[7]. [1]INSERM U1059, University Hospital of St Etienne, France, [2]University of Toronto, Canada, [3]Columbia University, USA, [4]Instituto de Investigaciones Metabólicas, Argentina, [5]Mayo Clinic, USA, [6]Lausanne University Hospital, Center of Bone Diseases, Switzerland, [7]Amgen Inc., USA
Disclosures: Thierry Thomas, Amgen, UCB, Novartis, 6; Abbvie, Novartis, Roche/Chugaï, 2; Gibaud, GSK, Ipsen, Eli Lilly, MSD, 5

11:15 am SA0169 **Denosumab Treatment of Persistent or Relapsed Hypercalcemia of Malignancy (HCM)**
Karl Insogna*[1], Mimi Hu[2], Ilya Glezerman[3], Sophie Leboulleux[4], Rasim Gucalp[5], Waldemar Misiorowski[6], Bennett Yu[7], Paul Zorsky[7], Diego Tosi[8], Alberto Bessudo[9], Arnaud Jaccard[10], Giuseppe Tonini[11], Wendy Ying[12], Ada Braun[12], Rajul Jain[12]. [1]Yale University School of Medicine, USA, [2]University of Texas, M. D. Anderson Cancer Center, USA, [3]Memorial Sloan-Kettering Cancer Center & Weill Cornell Medical College, USA, [4]Institut Gustave Roussy, France, [5]Montefiore Medical Center-Bronx, USA, [6]Endocrinology Department, Medical Center for Postgraduate Education, Poland, [7]Peninsula Regional Medical Center, USA, [8]Centre Val d'Aurelle Paul Lamarque, France, [9]California Cancer Associates for Research & Excellence, USA, [10]Centre Hospitalier Universitaire de Limoges - Hôpital Dupuytren, France, [11]Policlinico Universitario Campus Biomedico, Italy, [12]Amgen Inc., USA
Disclosures: Karl Insogna, None

11:20 am SA0377 **Overlapping and Follow-up of Alendronate to Teriparatide Results in Continuing Volumetric Bone Mass Increase Measured by Quantitative Computed Tomography**
Christian Muschitz*[1], Roland Kocijan[2], Wolfgang Schima[3], Judith Haschka[2], Afrodite Zendeli[4], Astrid Fahrleitner-Pammer[5], Heinrich Resch[6]. [1]St. Vincent's Hospital, Austria, [2]St. Vincent Hospital Vienna, Austria, [3]Department of Radiology - St. Vincent Hospital, Austria, [4]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [5]Medical University Graz, Austria, [6]Medical University Vienna, Austria
Disclosures: Christian Muschitz, None

11:25 am SA0375 **Early Bone Resorptive Response to Teriparatide Predicts Bone Density Outcome at 2 Years**
Richard Bockman*[1], Erik Nielsen[2], Wei-Ti Huang[2]. [1]Hospital for Special Surgery, Weill Cornell Medical College, USA, [2]Hospital for Special Surgery, USA
Disclosures: Richard Bockman, None

11:35 am SA0411 **Therapeutic Potential of Sclerostin Antibody in Extreme Disuse-induced Bone Loss after Spinal Cord Injury: a Preclinical Study**
Weiping Qin*[1], Xiaodong Li[2], Jay Cao[3], Lauren Collier[4], Yuanzhen Peng[5], Jiliang Li[6], Hua Zhu (David) Ke[7], William A. Bauman[4], Christopher Cardozo[8]. [1]Bronx Veterans Affairs Medical Center, USA, [2]Amgen, Inc., USA, [3]USDA ARS, USA, [4]James J. Peters Veteran Affairs Medical Center, USA, [5]The Mount Sinai School of Medicine, USA, [6]Indiana University Purdue University Indianapolis, USA, [7]Amgen Inc., USA, [8]James J. Peters VA Medical Center, USA
Disclosures: Weiping Qin, None

11:40 am SA0405 **Bone Anabolic Effect of Sclerostin Antibody is Maintained with Antiresorptive Agents in Osteopenic, Ovariectomized Rats**
Yanfei Ma*[1], Qianqiang Zeng[1], Rick Cain[1], Mary D Adrian[1], Guilherme V Rocha[1], Anita Harvey[1], Matthew J Hamang[1], Jonathan D Lucchesi[1], Henry Bryant[1], Venkatesh Krishnan[1], Victor Obungu[1], Stuart Kuhstoss[1], Masahiko Sato[2]. [1]Eli Lilly & Company, USA, [2]Lilly Research Labs, USA
Disclosures: Yanfei Ma, Eli Lilly Company, 3

11:45 am **Bone Formation Response in Mice During Administration and Following Re-challenge With an Antibody to Sclerostin**
SA0406
Martyn Robinson*[1], Kevin Greenslade[2], Jose Joby[2], Zofia Stencel[2], Hishani Kirby[2], Gill Holdsworth[2], Adrian Moore[2]. [1]UCB-Celltech, United Kingdom, [2]UCB Pharma, United Kingdom
Disclosures: Martyn Robinson, UCB Pharma, 1; UCB Pharma, 3

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **Rooms 324-338**

Meet-the-Professor Session: Identification of Vertebral Fractures
Room 333
Judith Adams, MBBS, FRCR
Manchester Royal Infirmary, United Kingdom
Disclosures: Judith Adams, None

Meet-the-Professor Session: Impact of Diabetes and Bone: Cell and Molecular Mechanisms
Room 324
Laura McCabe, Ph.D.
Michigan State University, USA
Disclosures: Laura McCabe, None

Meet-the-Professor Session: Mechanotransduction
Room 336
X. Edward Guo, Ph.D.
Columbia University, USA
Disclosures: X. Edward Guo, None

Meet-the-Professor Session: Medical Treatment of Osteoporosis in the Elderly
Room 325
Cathleen Colon-Emeric, M.D., M.S.
Duke University Medical Center, USA
Disclosures: Cathleen Colon-Emeric, None

Meet-the-Professor Session: Models of Calcium Sensing Receptor Action
Room 335
Wenhan Chang, Ph.D.
Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

Meet-the-Professor Session: Notch Signaling
Room 334
Ernesto Canalis, M.D.
St. Francis Hospital & Medical Center, USA
Disclosures: Ernesto Canalis, None

Meet-the-Professor Session: Primary Hyperparathyroidism
Room 329
Mark Cooper, M.D., Ph.D.
University of Sydney, Australia
Disclosures: Mark Cooper, None

Maria Luisa Brandi, M.D., Ph.D.
University of Florence, Italy
Disclosures: Maria Luisa Brandi, None

Meet-the-Professor Session: Steroids and Bone Health in Children
Room 326
Mary Leonard, M.D.
Children's Hospital of Philadelphia, USA
Disclosures: Mary Leonard, None

Meet-the-Professor Session: Vitamin D in Pregnancy
Room 337-338

Christopher Kovacs, M.D.
Memorial University of Newfoundland, Canada
Disclosures: Christopher Kovacs, None

Nicholas Harvey, MBBChir
MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom
Disclosures: Nicholas Harvey, None

POSTER SESSION I & POSTER TOURS

12:00 pm - 2:00 pm **Discovery Hall-Hall C**

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: CELLULAR AND MOLECULAR MECHANISMS

SA0001 ***In Vitro* bone to muscle cell signaling is negatively affected by aging and common non-steroidal anti-inflammatory drugs (NSAIDs)**
Asmaa Alsousi*[1], Marco Brotto[2], Chenglin Mo[3], Mostafa Badr[2], Lori Wetmore[4], Lynda Bonewald[2], Julian Vallejo[3]. [1]PhD student, USA, [2]University of Missouri - Kansas City, USA, [3]University of Missouri-Kansas City, USA, [4]William Jewell College, USA
Disclosures: Asmaa Alsousi, None

SA0002 **Age-associated Changes in MicroRNA Expression Affects Differentiation Potential in Human Mesenchymal Stem Cells**
Sudharsan Periyasamy-Thandavan*[1], Sergi Mas[2], Sadanand Fulzele[3], Xingming Shi[3], Norman Chutkan[3], Randy Ruark[3], John Hinson[3], Monte Hunter[3], Raymond Corpe[3], Hongyan Xu[3], Carlos Isales[3], Mark Hamrick[4], William Hill[5]. [1]Georgia Regents University & Charlie Norwood VAMC, USA, [2]Universitat de Barcelona, Spain, [3]Georgia Regents University, USA, [4]Georgia Health Sciences University, USA, [5]Georgia Regents University & Charlie Norwood VAMC, USA
Disclosures: Sudharsan Periyasamy-Thandavan, None

SA0003 **Swedish mutant APP suppresses osteoblast differentiation and causes osteoporotic deficit, which are ameliorated by n-acetyl-l-cysteine**
Wen-Cheng Xiong*[1], Wen-Fang Xia[2], Jiung Jung[2], Shun Cui[2], Shan Xiong[2], Lei Xiong[2]. [1]Georgia Health Sciences University, USA, [2]Georgia Regents University, USA
Disclosures: Wen-Cheng Xiong, None

SA0004 **Testosterone Modulates Inflammation-Induced Periodontal Bone Loss**
Luis Carlos Spolidorio*[1], Leila Santana Coimbra[2], Carlos Rossa Jr[2], Alpdogan Kantarci[3], Thomas E Van Dyke[3], João Paulo Steffens[4]. [1]Campus of Araraquara, Brazil, [2]Department of Physiology & Pathology*, Dental School of Araraquara, State University of São Paulo (UNESP), Araraquara, São Paulo, Brazil, Brazil, [3]The Forsyth Institute, Department of Applied Oral Sciences, USA, [4]Department of Physiology & Pathology*, Dental School of Araraquara, State University of São Paulo (UNESP), Brazil
Disclosures: Luis Carlos Spolidorio, None

SA0005 **The Role of Inflammation in Senescence of Human MSCs**
Julie Glowacki*, Shuanhu Zhou. Brigham & Women's Hospital, USA
Disclosures: Julie Glowacki, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: FRAILTY AND SARCOPENIA

SA0006 **Baseline serum markers of adiposity driven immune/endocrine perturbations are not significantly correlated with longitudinal changes in lean mass in postmenopausal women**
Andriene Grant[1], Jennifer H Stern[2], Cynthia A Thomson[3], Robert Kaplan[4], Todd Manini[5], Charles Eaton[6], Lesley Tinker[7], Erin LeBlanc[8], Scott Going[9], Oleg Zaslavsky[10], Zhao Chen*[1]. [1]University of Arizona, USA, [2]University of Arizona Cancer Center, USA, [3]University of Arizona College of Public Health, USA, [4]Albert Einstein College of Medicine, USA, [5]University of Florida Aging Rehabilitation Research Center, USA, [6]Division of Biology & Medicine, Brown University, USA, [7]Fred Hutchinson Cancer Research Center, USA, [8]The Center for Health Research, Kaiser Permanente, USA, [9]The University of Arizona, USA, [10]Faculty of Health Science & Social Welfare, University of Haifa, Israel
Disclosures: Zhao Chen, None

SA0007 **Components of sarcopenia and the risk of co-morbidity among postmenopausal women – 10 year follow-up of the OSTPRE study**
Juha Suuronen*[1], Samu Sjöblom[1], Toni Rikkonen[1], Marjo Tuppurainen[2], Risto Honkanen[3], Heikki Kröger[4], Joonas Sirola[5]. [1]University of Eastern-Finland, Finland, [2]Kuopio University Hospital, Finland, [3]University of Eastern Finland, Finland, [4]Kuopio University Hospital, UEF, Finland, [5]University of Eastern Finland / Kuopio, Finland
Disclosures: Juha Suuronen, None

SA0008 **Dairy intake is not associated with quadriceps muscle strength in adults: The Framingham Offspring Study**
Shivani Sahni*[1], Kelsey Mangano[2], Robert McLean[3], Douglas Kiel[4], Xiaochun Zhang[5], Marian Hannan[6]. [1]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [2]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, USA, [3]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [4]Hebrew SeniorLife, USA, [5]Institute for Aging Research, Hebrew SeniorLife, USA, [6]HSL Institute for Aging Research & Harvard Medical School, USA
Disclosures: Shivani Sahni, from the General Mills Bell Institute for Health and Nutrition, 2

SA0009 **Genetic variants in *CAPN3* and *ACVR2B* are associated with lean body mass in postmenopausal women.**
Yann Klimentidis*[1], Patricia Thompson[2], Walter Klimecki[3], Chengcheng Hu[1], Guanglin Wu[4], Jennifer Bea[5], J. Skye Nicholas[6], CHARGE Consortium Musculoskeletal Working Group USA, David Allison[7], Zhao Chen[8]. [1]University of Arizona Mel & Enid Zuckerman College of Public Health Epidemiology & Biostatistics, USA, [2]University of Arizona Cellular & Molecular Medicine, USA, [3]University of Arizona Pharmacology & Toxicology, USA, [4]University of Arizona, USA, [5]University of Arizona College of Medicine, USA, [6]University of Arizona Mel & Enid Zuckerman College of Public Health, USA, [7]University of Alabama at Birmingham, USA, [8]University of Arizona College of Public Health, USA
Disclosures: Yann Klimentidis, None

SA0010 **Low protein intake is one of the correctable risk factors of sarcopenia in Korean men(KNHANES IV, 2008-2009)**
JO EUN KIM*[1], Kwang Joon Kim[2], Sihoon Lee[3], Yumie Rhee[4], Sung-Kil Lim[5]. [1]Yonsei University Health System, South Korea, [2]Severance Hospital, South Korea, [3]Gachon University School of Medicine, Rok, [4]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea, [5]Yonsei University College of Medicine, South Korea
Disclosures: JO EUN KIM, None

SA0011 **Low trunk muscle density is associated with prevalent vertebral fractures in older adults**
Dennis Anderson*[1], Brett Allaire[1], Alexander Bruno[2], Serkalem Demissie[3], Douglas Kiel[4], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT, USA, [3]Boston University School of Public Health, USA, [4]Hebrew SeniorLife, USA
Disclosures: Dennis Anderson, None

SA0012 **Sarcopenia and health-related quality of life over five years in community-dwelling older adults**
David Scott*[1], Kerrie Sanders[2], Laura Laslett[3], Alan Hayes[4], Peter Ebeling[1], Graeme Jones[5]. [1]The University of Melbourne, Australia, [2]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [3]Menzies Research Institute, University of Tasmania, Australia, [4]Institute of Sport, Exercise & Active Living, College of Health & Biomedicine, Victoria University, Australia, [5]Menzies Research Institute, Australia
Disclosures: David Scott, None

SA0013 **The Frequency of Hypothyroidism in Older Patients Presenting with Acute Thoracic and Lumbar Spine Fractures**
Alison Dittmer*[1], Osa Emohare[1], David Wright[2], Charles Ledonio[1], Robert Morgan[1], David Polly[1], Julie Switzer[3]. [1]University of Minnesota, USA, [2]Regions Hospital, USA, [3]University of Minnesota Physicians, USA
Disclosures: Alison Dittmer, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

SA0014 **Atsttrin Primer, an Engineering Protein Derived from Progranulin Growth Factor, Binds to TNF-α Receptors and is Therapeutic Against Inflammatory Arthritis**
Qingyun Tian*[1], Yunpeng Liu[2], Chuanju Liu[2]. [1]NYU Hospital for Joint Diseases, USA, [2]New York University, USA
Disclosures: Qingyun Tian, None

SA0015 **Bone Mass and Cartilage Traits among Asymptomatic Postmenopausal Women and those with Mild Knee Osteoarthritis**
Juhani Multanen*[1], Miika Nieminen[2], Arja Häkkinen[3], Urho Kujala[4], Hannu Kautiainen[5], Eveliina Lammentausta[6], Ilkka Kiviranta[7], Ari Heinonen[4]. [1]University of Jyväskylä, Finland, [2]Department of Diagnostic Radiology, Oulu University Hospital & Department of Radiology, University of Oulu, Finland, [3]Department of Health Sciences, University of Jyväskylä, & Department of Physical Medicine & Rehabilitation, Central Finland Central Hospital, Finland, [4]Department of Health Sciences, University of Jyväskylä, Finland, [5]Unit of Family Practice, Central Finland Central Hospital, & Unit of Primary Health Care, Kuopio University Hospital, Finland, [6]Department of Diagnostic Radiology, Oulu University Hospital, Finland, [7]Department of Orthopaedics & Traumatology, University of Helsinki, & Helsinki University of Central Hospital, Finland
Disclosures: Juhani Multanen, None

SA0016 **Deficiency of epidermal growth factor receptor (EGFR) signaling enhances cartilage destruction in mouse experimental osteoarthritis**
Xianrong Zhang[1], Ji Zhu[1], Yumei Li[2], Abhishek Chandra[3], Frank Beier[4], Motomi Enomoto-Iwamoto[5], Ling Qin*[3]. [1]University of Pennsylvania, School of Medicine, USA, [2]Shanghai Municipal Hospital of Traditional Chinese Medicine, Shanghai University of Traditional Chinese Medicine, China, [3]University of Pennsylvania, USA, [4]University of Western Ontario, Canada, [5]Children's Hospital of Philadelphia, USA
Disclosures: Ling Qin, None

SA0017 **Femoral Neck Structural Traits among Asymptomatic Postmenopausal Women and Those with Mild Knee Osteoarthritis**
Ari Heinonen*[1], Juhani Multanen[2], Miika Nieminen[3], Arja Häkkinen[4], Urho Kujala[1], Hannu Kautiainen[5], Eveliina Lammentausta[6], Ilkka Kiviranta[7]. [1]Department of Health Sciences, University of Jyväskylä, Finland, [2]University of Jyväskylä, Finland, [3]Department of Diagnostic Radiology, Oulu University Hospital & Department of Radiology, University of Oulu, Finland, [4]Department of Health Sciences, University of Jyväskylä, & Department of Physical Medicine & Rehabilitation, Central Finland Central Hospital, Finland, [5]Unit of Family Practice, Central Finland Central Hospital & Unit of Primary Health Care, Kuopio University Hospital, Finland, [6]Department of Diagnostic Radiology, Oulu University Hospital, Finland, [7]Department of Orthopaedics & Traumatology, University of Helsinki, & Helsinki University Central Hospital, Finland
Disclosures: Ari Heinonen, None

SA0018 **NELL-1 Protects Articular Cartilage from the Effects of IL-1β Induced Arthritis**
Jie Jiang*[1], Felipe Ituarte[1], Dahae Shim[1], Varsha Gupta[1], Dang Tran[1], Frank Petrigliano[1], Benjamin Bengs[2], Kang Ting[1], Chia Soo[1]. [1]University of California, Los Angeles, USA, [2]UCLA, USA
Disclosures: Jie Jiang, None

SA0019 **Raman spectroscopy reveals evidence for early bone changes in osteoarthritis**
Jemma Kerns*[1], Panagiotis Gikas[2], Kevin Buckley[3], Helen Birch[4], Ian McCarthy[5], Jonathan Miles[6], Tim Briggs[6], Richard Keen[6], Anthony Parker[3], Pavel Matousek[3], Allen Goodship[5]. [1]UCL, United Kingdom, [2]UCL, Institute of Orthopaedics, United Kingdom, [3]Central Laser Facility, STFC Rutherford Appleton Laboratory, United Kingdom, [4]UCL Institute of Orthopaedics & Musculoskeletal Science, Royal National Orthopaedic Hospital, United Kingdom, [5]UCL Institute of Orthopaedics & Musculoskeletal Science, Royal National Orthopaedic Hospital, United Kingdom, [6]Royal National Orthopaedic Hospital, United Kingdom
Disclosures: Jemma Kerns, None

SA0020 **Subchondral Bone Turnover and Osteophyte Formation Are Key aspects in the Progression of Osteoarthritis (OA) and May Be Assessed and Predicted by α-CTX**
Morten Karsdal*[1], Janet Huebner[2], Virginia Kraus[2], Diana Leeming[3], R Edward Coleman[2], Gary McDaniel[2], Kim Huffman[2], Anne-Christine Bay-Jensen[4], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Department of Medicine, Duke University, USA, [3]Nordic Bioscience & University of Copenhagen, Denmark, [4]Nordic Bioscience, Denmark
Disclosures: Morten Karsdal, nordic Bioscience, 1; Nordic Bioscience, 3

SA0021 **α5 Integrin Deficiency Attenuates Osteoarthritic Changes in Mouse Knee Joints**
Maria Elena candela*[1], Leslie Cantley[1], Motomi Enomoto-Iwamoto[1], Arjan van der Flier[2], Richard O. Hynes[2]. [1]Children's Hospital of Philadelphia, USA, [2]Howard Hughes Medical Institute, USA
Disclosures: Maria Elena candela, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: REHABILITATION AND EXERCISE

SA0022 **Exercise During Growth as an Independent Predictor of Cortical Bone Size and Strength in Older Swedish Men**
Martin Nilsson*[1], Claes Ohlsson[2], Magnus Karlsson[3], Dan Mellstrom[4], Mattias Lorentzon[5]. [1]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Sahlgrenska University Hospital, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Martin Nilsson, None

SA0023 **Long-term Exercise Intervention in Older Adults: 4-Year Follow-up of a Randomized Controlled Trial of Music-Based Multitask Training (Jaques-Dalcroze Eurhythmics)**
Andrea Trombetti*, Mélany Hars, François Herrmann, René Rizzoli. Division of Bone Diseases, Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Andrea Trombetti, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: ASSESSMENT OF PEDIATRIC BONE DISEASE

SA0024 **Height Age Correction of Pediatric DXA: Illustration of its Importance**
Katherine Madson*[1], Gary S Gottesman[1], Fan Zhang[2], Michael Whyte[1]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Shriners Hospital for Children, USA
Disclosures: Katherine Madson, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

SA0025 **An Examination of the Dose Response of Bone Consolidation to Docosahexaenoic Acid (DHA) in Young Female Sprague-Dawley Rats**
Marie Freundorfer*[1], Hope Weiler[2]. [1]McGill University, Montreal, Canada, [2]McGill University, USA
Disclosures: Marie Freundorfer, None

SA0026 **Bone Mineral Density Variation In Children Across Different Ethnic Backgrounds Is Partially Explained By Genetic Profiling. The Generation R Study**
Carolina Medina-Gomez*[1], Denise H.M. Heppe[2], Karol Estrada[3], Ling Oei[4], Claudia J. Kruithof[2], Albert Hofman[5], Vincent V.W. Jaddoe[2], Andre Uitterlinden[6], Fernando Rivadeneira[7]. [1]Erasmus Medical Center, The Netherlands, [2]The Generation R Study Group, Erasmus Medical Center, Netherlands, [3]Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, [4]Erasmus University Medical Center, The Netherlands, [5]Department of Epidemiology, Erasmus Medical Center, Netherlands, [6]Rm Ee 575, Genetic Laboratory, The Netherlands, [7]Erasmus University Medical Center, The Netherlands
Disclosures: Carolina Medina-Gomez, None

SA0027 **Does Insulin Initiate a Toxicity to the Bone Marrow Microenvironment Eliminating the Developmental Benefit of Bone Marrow Adipose Tissue?**
Krista Casazza*[1], Lynae Hanks[2], Anna Newton[1], Stephenie Wallace[1]. [1]UAB, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Krista Casazza, None

SA0028 **Implications of Mild vs Moderate Trauma Childhood Distal Forearm Fractures for Peak Bone Mass Acquisition: The Two Faces of Growth**
Joshua Farr*[1], Sundeep Khosla[2], L. Joseph Melton[1], Elizabeth Atkinson[1], Salman Kirmani[1], Louise McCready[1], Shreyasee Amin[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA
Disclosures: Joshua Farr, None

SA0029 **Influence of Age and Gender on Spine Bone Density and TBS Microarchitectural Texture Parameters in Infants**
Renaud Winzenrieth*[1], Catherine Cormier[2], Silvana DiGregorio[3], Luis Del Rio[4]. [1]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [2]AP-HP Groupe Hospitalier Cochin, France, [3]Cetir Grup Mèdic, Spain, [4]Cetir Centre Medical, Spain
Disclosures: Renaud Winzenrieth, Med-Imaps, 3

SA0030 **Perinatal Epigenetic Marking at The CDKN2A Promoter Is Associated With Postnatal Bone Development: Results From The Southampton Women's Survey**
Nicholas Harvey*[1], Rebecca Clarke-Harris[2], Robert Murray[2], Paula Costello[2], Emma Garratt[2], Joanna Holbrook[3], Ai-Ling Teh[3], Johnny Wong[3], Shaillay Dogra[3], Sheila Barton[1], Lucy Davies[1], Hazel Inskip[1], Mark Hanson[2], Peter Gluckman[4], Cyrus Cooper[1], Keith Godfrey[5], Karen Lillycrop[2]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]Institute of Developmental Sciences, University of Southampton, United Kingdom, [3]Singapore Institute for Clinical Sciences, Singapore, [4]Liggins Institute, University of Auckland, & Singapore Institute for Clinical Sciences, Singapore, New Zealand, [5]MRC Lifecourse Epidemiology Unit, University of Southampton, & NIHR Southampton Biomedical Research Centre, University of Southampton & University Hospital Southampton NHS Foundation Trust, United Kingdom
Disclosures: Nicholas Harvey, None

SA0031 **Soluble Corn Fiber Increases Calcium Absorption in Free Living Adolescent Girls**
Claire Macdonald-Clarke*[1], Berdine Martin[1], Corrie Whisner[2], George McCabe[1], Linda McCabe[1], Kimberly Ziarko[1], Claire Murphy[1], Connie Weaver[3]. [1]Purdue University, USA, [2]Cornell University, USA, [3]Purdue University, Dept of Nutrition Science, USA
Disclosures: Claire Macdonald-Clarke, None

SA0032 **The Relationship Between Intramuscular Fat and Cortical Bone Development from Age 11 to 19 Years**
Natalie Glass*, Kathleen Janz, Elena Letuchy, James Torner, Trudy Burns, Julie Eichenberger Gilmore, Steven Levy. University of Iowa, USA
Disclosures: Natalie Glass, None

SA0033 **Tracking of Bone Mass from Age 8 to 15 Years and Factors Associated with Tracking Deviations**
Elena Letuchy, Julie Eichenberger Gilmore*, Kathleen Janz, Trudy Burns, James Torner, Steven Levy. University of Iowa, USA
Disclosures: Julie Eichenberger Gilmore, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: PATHOPHYSIOLOGY OF PEDIATRIC BONE DISEASE

SA0034 **Disruption of Shp2 in Osteoblasts Causes Skeletal Abnormality in Mice Resembling of Human Noonan Syndrome**
Jun Zheng*[1], Jay Cao[2], Kehong Ding[1], Nianlan Yang[3], Thomas Clemens[4], Mark Hamrick[1], Carlos Isales[3], Xing-Ming Shi[1]. [1]Georgia Health Sciences University, USA, [2]USDA ARS, USA, [3]Georgia Regents University, USA, [4]Johns Hopkins University, USA
Disclosures: Jun Zheng, None

SA0035 **The Role of the Systemic Micro-Environment in DMD Bone Abnormalities**
Nicholas Greco*[1], Johnny Huard[2], Hongshuai Li[2], Bing Wang[2], Ying Tang[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA
Disclosures: Nicholas Greco, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: TREATMENT OF PEDIATRIC BONE DISEASE

SA0036 **A Randomized, Double-blind, Placebo-controlled Trial of Alendronate Treatment for Fibrous Dysplasia of Bone**
Alison Boyce*[1], Marilyn Kelly[2], Beth Brillante[2], Harvey Kushner[3], Shlomo Wientroub[4], Mara Riminucci[5], Paolo Bianco[6], Pamela Robey[7], Michael Collins[8]. [1]Children's National Medical Center, USA, [2]Clinical Skeletal Diseases Branch, National Institute of Dental & Craniofacial Research, National Institutes of Health, USA, [3]BioMedical Computer Research Institute, USA, [4]Dana Children's Hospital, Israel, [5]University La Sapienza, Italy, [6]Universita La Sapienza, Italy, [7]National Institute of Dental & Craniofacial Research, USA, [8]National Institutes of Health, USA
Disclosures: Alison Boyce, None

SA0037 **Exome Sequencing Reveals a Novel Nonsense Mutation in *MMP13* as a New Cause of Autosomal Recessive Metaphyseal Anadysplasia Type 1**
David Weber*[1], Dong Li[2], Matthew Deardorff[2], Hakon Hakonarson[2], Michael Levine[3]. [1]Children's Hospital of Philadelphia, University of Pennsylvania, USA, [2]The Children's Hospital of Philadelphia, University of Pennsylvania, USA, [3]Children's Hospital of Philadelphia, USA
Disclosures: David Weber, None

SA0038 **Serum Vitamin D Level can Affect the Treatment Outcome of Whole-body Vibration (WBV) for Osteopenia in Girls with Adolescent Idiopathic Scoliosis (AIS)**
Tsz Ping Lam*[1], Franco Tsz Fung Cheung[2], Queenie Wah Yan Mak[2], Fiona Wai Ping Yu[2], Kwong Man Lee[3], Bobby Kin Wah Ng[2], Ling Qin[4], Jack Chun Yiu Cheng[2]. [1]Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Hong Kong, [2]Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, China, [3]Lee Hysan Clinical Research Laboratories, The Chinese University of Hong Kong, China, [4]Chinese University of Hong Kong, Hong Kong
Disclosures: Tsz Ping Lam, None

BONE BIOMECHANICS AND QUALITY (BASIC): GENERAL

SA0039 **Accuracy of QCT-Based Finite Element Models of the Vertebra**
Amira Hussein*[1], Ginu Unnikrishnan[1], Glenn Barest[2], Elise Morgan[1]. [1]Boston University, USA, [2]Boston University Medical Center, USA
Disclosures: Amira Hussein, None

SA0040 **Advanced Glycation End Product Accumulation in Cortical and Cancellous Bone Predicts Vertebral Load Share and Vertebral Fracture Behavior**
Catalina Bravo*[1], Robert Hoy[2], Deepak Vashishth[2]. [1]Rensselaer Polytechnic Institute-, USA, [2]Rensselaer Polytechnic Institute, USA
Disclosures: Catalina Bravo, None

SA0041 **Bone Structure and Strength in Three Mouse Crosses as a Function of Strain**
Mohammed Akhter*[1], John Danforth[2], Donald Kimmel[3], Josh McElwee[4], Matthew Furia[4], Brenda Pennypacker[5], Le Thi Duong[5], Robert Recker[2], Greg Opiteck[4]. [1]Creighton University Osteoporosis Research Center, USA, [2]Creighton University, USA, [3]Kimmel Consulting Services, USA, [4]Merck & Co., USA, [5]Merck Research Laboratories, USA
Disclosures: Mohammed Akhter, None

SA0042 **Characterization of Bone Mineralization in a Rat Model of Chronic Kidney Disease**
Hiromi Kimura-Suda*[1], Kyosuke Kanazawa[1], Sachio Kobayashi[2], Mieko Kuwahara[3], Teppei Ito[1], Naoya Sakamoto[2], Makoto Kajiwara[4], Hideyuki Yamato[3], Kuniharu Ijiro[5], Hisayoshi Yurimoto[6]. [1]Chitose Institute of Science & Technology, Japan, [2]CRIS, Hokkaido University, Japan, [3]Kureha Corporation, Japan, [4]Kureha Special Laboratory, Japan, [5]RIES, Hokkaido University, Japan, [6]Department of Natural History Science, Hokkaido University, Japan
Disclosures: Hiromi Kimura-Suda, None

SA0043 **Characterization of Cancellous and Cortical Bone Strain in the Mouse Tibia During Axial Compression Loading Using Micro-CT Finite Element Analysis: A Sensitivity Study**
Haisheng Yang*[1], Kent Butz[2], Daniel Duffy[3], Glen Niebur[4], Eric Nauman[2], Russell Main[1]. [1]Purdue University, USA, [2]School of Mechanical Engineering, Purdue University, USA, [3]Weldon School of Biomedical Engineering, Purdue University, USA, [4]The University of Notre Dame, USA
Disclosures: Haisheng Yang, None

SA0044 **Combined effects of botulinum toxin injection and hindlimb unloading on bone and muscle**
Rachel Ellman*[1], Daniel Grasso[1], Miranda Van Vliet[1], Daniel Brooks[1], Jordan Spatz[2], Christine Conlon[1], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT Division of Health Sciences & Technology (HST), USA
Disclosures: Rachel Ellman, None

SA0045 **Comparative Study on the Effects of PTH(1-84) and Strontium Ranelate on Bone Biomechanics in Orquidectomized Rats**
David Guede*[1], María Permuy[2], Marta Martín-Fernández[3], Mónica López-Peña[2], Concepción de la Piedra[3], Antonio González-Cantalapiedra[2], José R. Caeiro[4]. [1]Trabeculae, S.L., Spain, [2]Departamento de Ciencias Clínicas Veterinarias, Universidade de Santiago de Compostela, Spain, [3]Bioquímica Investigación, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, [4]Servicio de Cirugía Ortopédica y Traumatología, Complexo Hospitalario Universitario de Santiago de Compostela, Spain
Disclosures: David Guede, None

SA0046 **Crack Accumulation and Strength Loss in Fatigue-damaged Bone Increase when Osteoclasts Are Stimulated and Decrease when Osteoclasts Are Inhibited**
Nicolas Bonnet*[1], Maude Gerbaix[2], Paul Kostenuik[3], Mike Ominsky[4], Serge Ferrari[5]. [1]University Geneva Hospital-Department of Internal Medecine Specialities, Switzerland, [2]Service of Bone Diseases, Hôpitaux Universitaires, Switzerland, [3]Amgen Inc., USA, [4]Metabolic disorders, Amgen Inc., Switzerland, [5]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, Amgen, 2

SA0047 **Fetal Exposure to Selective Serotonin Reuptake Inhibitors has Long-Term Adverse Effect on Bone Properties in Rats**
Maryam Badv*, Zahra Hosseini, Nicole De Long, Alison Holloway, Gregory Wohl. McMaster University, Canada
Disclosures: Maryam Badv, None

SA0048 **High Resolution Imaging of Reference Point Indentations in Control and Type II Diabetic Bone**
Connor Randall*, Kevin Hoffseth, Daniel Bridges, Henry Yang, Paul Hansma. University of California, Santa Barbara, USA
Disclosures: Connor Randall, Active Life Scientific, Inc., 7

SA0049 **Inhalant Lung Injury following Complex Organic Dust Extracts Results in Systemic Bone Loss and Disease in Mice**
Anand Dusad*[1], Geoffery M. Thiele[2], Lynell W. Klassen[2], Angela M. Gleason[2], Christopher Bauer[2], Ted R. Mikuls[2], Michael J. Duryee[2], William W. West[2], Debra J. Romberger[2], Jill A. Poole[2]. [1]University of Nebraska Medical Center, USA, [2]UNMC, USA
Disclosures: Anand Dusad, None

SA0050 **Life-long Western Style Diet has Greater Adverse Affects on Cancellous Bone in Adult Female Wistar Rats Compared to Male Rats**
Cheryl Druchok*, Alison Holloway, Andrew Don-Wauchope, Gregory Wohl. McMaster University, Canada
Disclosures: Cheryl Druchok, None

SA0051 **Reference Point Indentation Detects Changes in Rat Bone Induced by In Vitro Sodium Fluoride Incubation**
Lamya Karim*, Mamadou Diallo, Mary Bouxsein. Beth Israel Deaconess Medical Center, USA
Disclosures: Lamya Karim, None

SA0052 **Relationships between Cortical Bone Quality and Serum FGF23 in Growing Mice Challenged by Low Calcium and High Fructose in the Diet**
Edek Williams*[1], Veronique Douard[1], Devendra Bajaj[2], Yves Sabbagh[3], Ronaldo Ferraris[1], JC Fritton[4]. [1]Rutgers/NJMS, USA, [2]NJMS, USA, [3]Genzyme, A Sanofi Company, USA, [4]New Jersey Medical School, USA
Disclosures: Edek Williams, None

SA0053 **Running decreases marrow adipose tissue in chow and high fat fed mice**
Maya Styner*[1], Sanjay Kadari[1], Kornelia Galior[2], Gunes Uzer[3], William Thompson[3], Natasha Case[1], Zhihui Xie[3], Buer Sen[4], Andrew Romaine[5], Martin Styner[5], Gabriel Pagnotti[6], Clinton Rubin[7], Mark Horowitz[8], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]UNC-CH School of Medicine, USA, [3]University of North Carolina, USA, [4]University of North Carolina At Chapel Hill, USA, [5]University of North Carolina, departments of computer science & psychiatry, USA, [6]Stony Brook University, USA, [7]State University of New York at Stony Brook, USA, [8]Yale University School of Medicine, USA
Disclosures: Maya Styner, None

SA0054 **Small-angle X-ray Scattering Analysis of Bone Mineral in a Type 2 Diabetes Mouse Model**
Silvia Pabisch*[1], Tsuguno Yamaguchi[2], Yasushi Koike[2], Shoko Tanaka[2], Shinsuke Kataoka[2], Wolfgang Wagermaier[3], Richard Weinkamer[3], Michiaki Murakoshi[2], Peter Fratzl[4]. [1]Max Planck Institute of Colloids & Interfaces, Potsdam, Germany, [2]Life Science Research Laboratories, LION Corporation, Japan, [3]Max Planck Institute of Colloids & Interfaces, Department of Biomaterials, Germany, [4]Max Planck Institute of Colloids & Interfaces, Germany
Disclosures: Silvia Pabisch, LION Corporation, 2

SA0055 **Studying bone as a complex adaptive system may help identify QTLs that regulate strength**
Lauren M Smith*[1], Erin M.R. Bigelow[1], Bonnie T Nolan[1], Meghan Faillace[2], Joseph H Nadeau[3], Karl Jepsen[1]. [1]University of Michigan, USA, [2]GE Inspection Technologies, USA, [3]Pacific Northwest Diabetes Reasearch Institute, USA
Disclosures: Lauren M Smith, None

SA0056 **The Effects of Age, Weight and Femoral Shape on Cortical Thickness and Mass of the Hip**
Graham Treece*, Andrew Gee, Tom Turmezei, Kenneth Poole. University of Cambridge, United Kingdom
Disclosures: Graham Treece, None

SA0057 **The Effects of Disuse and Low Steroid Hormone Level due to Hindlimb Unloading on Mouse Femora and Muscle Quality**
Young Jeong*[1], Andries Ferreira[2], Marybeth Brown[2], Charlotte Phillips[3]. [1]University of Missouri, USA, [2]Biomedical Sciences & Physical Therapy Program, USA, [3]University of Missouri-Columbia, USA
Disclosures: Young Jeong, None

SA0058 **Towards Standardized Protocols for the Reference Point Indentation Method**
Alexander Setters*[1], Iwona Jasiuk[2]. [1]University of Illinois, USA, [2]University of Illinois at Urbana-Champaign, USA
Disclosures: Alexander Setters, None

SA0059 **Trabecular bone Adaptation declined Asymmetrically with Aging: a 3D Dynamic *in vivo* Morphometry Study**
Annette Birkhold*[1], Hajar Razi[1], Richard Weinkamer[2], Sara Checa[1], Georg Duda[1], Bettina Willie[3]. [1]Julius Wolff Institute, Charité Universitätsmedizin Berlin, Germany, [2]Max-Planck Institute of Colloids & Interfaces, Department of Biomaterials, Germany, [3]Charité- Universitätsmedizin Berlin, Germany
Disclosures: Annette Birkhold, None

SA0060 **Validation of Mechanical Response Tissue Analysis by Quasistatic Mechanical Testing of Artificial Human Ulnas**
Patricia Arnold*, Emily Ellerbrock, Lyn Bowman, Anne Loucks. Ohio University, USA
Disclosures: Patricia Arnold, None

BONE BIOMECHANICS AND QUALITY (BASIC): MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

SA0061 **Intermittent PTH and Mechanical Loading Increase the Quality, Quantity and Mechanical Integrity of a Porous Titanium Implant-Bone Interface**
Hayden-William Courtland*[1], Matthew Grosso[1], James Sutherland[1], Kirsten Stoner[1], BIN HU[2], Joseph Nguyen[1], Anna Fahlgren[1], F. Patrick Ross[1], Timothy Bromage[2], Marjolein Van Der Meulen[3], Mathias Bostrom[1]. [1]Hospital for Special Surgery, USA, [2]New York University College of Dentistry, USA, [3]Cornell University, USA
Disclosures: Hayden-William Courtland, None

SA0062 **Mechanical Loading And Big Endothelin-1 In Trabecular Bone Cores**
Diane Cullen*[1], Gwendolin Alvarez[1], Luisa Meyer[2], Michael Johnson[3], Juan Vivanco[3], Robert Blank[3], Heidi-Lynn Ploeg[3], Everett Smith[3]. [1]Creighton University, USA, [2]University of Wisconsin - Madison, USA, [3]University of Wisconsin, USA
Disclosures: Diane Cullen, None

SA0063 **Mechanical Stimulation Induces the Production of Soluble RANKL to Modulate Osteogenesis of Mesenchymal Stromal Cells**
Chun-Yi Chiu[1], Tsung-Lin Tsai[1], Ray Vanderby[1], Gino Bradica[2], Shyh-Liang Lou[3], Wan-Ju Li*[1]. [1]University of Wisconsin-Madison, USA, [2]Kenseynash, USA, [3]Chung-Yuan Christian University, Taiwan
Disclosures: Wan-Ju Li, None

SA0064 **Mechanosensitivity with cyclic loading is maintained with age at a localand global level in murine caudal vertebrae**
Floor Lambers*[1], Gisela Kuhn[2], Claudia Weigt[2], Kathleen Koch[2], Friederike Schulte[2], Ralph Müller[2]. [1]Cornell University, USA, [2]Institute for Biomechanics, ETH Zurich, Switzerland
Disclosures: Floor Lambers, None

SA0065 **Wnt16 Is an Important Regulator of Bone Size and the Periosteal Bone Formation Response to Mechanical Loading**
Chandrasekhar Kesavan*[1], Subburaman Mohan[1], Robert Brommage[2], Jon Wergedal[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Lexicon Pharmaceuticals, USA
Disclosures: Chandrasekhar Kesavan, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): ASSESSMENT OF BONE QUALITY AND STRENGTH

SA0066 **Atypical Femoral Fractures were Estimated Dependent on Deterioration of Bone Quality and Curvature of Femoral Shaft**
SATOSHI IKEDA*[1], Akinori Sakai[2], Hidetoshi Tanaka[1], Hideo Ohnishi[2], Yoshinori Takeuchi[2], Mitsuru Saito[3], Masako Ito[4], Toshitaka Nakamura[2]. [1]Ken-Ai Memorial Hospital, Japan, [2]University of Occupational & Environmental Health, Japan, [3]Jikei University School of Medicine, Japan, [4]Nagasaki University Hospital, Japan
Disclosures: SATOSHI IKEDA, None

SA0067 **BMI Has a Positive Non-Linear Association with Femoral Neck BMD and Structure But a Negative Linear Association with Strength Index in a Large Canadian Cohort**
Jian Shen*[1], Carrie Nielson[1], Eric Orwoll[1], Sumit Majumdar[2], William Leslie[3]. [1]Oregon Health & Science University, USA, [2]University of Alberta, Canada, [3]University of Manitoba, Canada
Disclosures: Jian Shen, None

SA0068 **Bone Shock Absorbance (BSA) and Trabecular Bone Score (TBS) in Patients With Osteoporosis, With and Without Vertebral Fracture**
Nelson Watts*[1], Didier Hans[2], Cyndy Cox[3], Ben House[3], Rakesh Shukla[3], Alok Dwivedi[4], Amit Bhattacharya[3]. [1]Mercy Health Osteoporosis & Bone Health Services, USA, [2]Lausanne University Hospital, Switzerland, [3]University of Cincinnati, USA, [4]Texas Tech University Health Sciences Center, USA
Disclosures: Nelson Watts, OsteoDynamics, 1

SA0069 **Physical Activity Related to Cortical but Not Trabecular Architecture in Young Women**
Joseph Kindler*[1], Hannah Goff[2], Emma Laing[1], Christopher Modlesky[3], Norman Pollock[4], Clifton Baile[2], Richard Lewis[1]. [1]The University of Georgia, USA, [2]University of Georgia, USA, [3]University of Delaware, USA, [4]Georgia Regents University, USA
Disclosures: Joseph Kindler, None

SA0070 **Presence Of Adrenal Incidentaloma induces Bone micro-architectural texture (TBS) impairment at Axial Skeleton in women**
Giuseppe Guglielmi[1], Michelangelo Nasuto[2], Alfredo Scillitani*[3], Renaud Winzenrieth[4], Didier Hans[5]. [1]Department of Radiology, University of Foggia, Viale Luigi Pinto 1, 71100, Foggia, Italy; - Department of Radiology, Scientific Institute Hospital ''Casa Sollievo della Sofferenza'', Viale Cappuccini 1, 71013, San Giovanni Rotondo (FG), Italy, [2]Department of Radiology, University of Foggia, Viale Luigi Pinto 1, 71100, Foggia, Italy, [3]Casa Sollievo Della Sofferenza Scientific Institute, Italy, [4]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [5]Lausanne University Hospital, Switzerland
Disclosures: Alfredo Scillitani, None

SA0071 **Relationship between Bone Marrow Edema and Structural Parameters in Cortical and Trabecular Bone**
Afrodite Zendeli*[1], Christian Muschitz[2], Lukas Fischer[3], Roland Kocijan[4], Judith Haschka[4], Wolfgang Schima[5], Fritz Lomoschitz[5], Arastoo Rahbarnia[6], Christina Marterer[7], Alexandra Kaider[8], Heinrich Resch[9]. [1]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [2]St. Vincent's Hospital, Austria, [3]CIR LAB, Department of Radiology/Medical University Vienna Austria, Austria, [4]St. Vincent Hospital Vienna, Austria, [5]Medical Department of Radiology – St. Vincent Hospital, Vienna Austria, Austria, [6]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Vienna Austria, Austria, [7]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Vienna, Austria, [8]Center for Medical Statistics, Informatics & Intelligent Systems, Section of Clinical Biometrics, Medical University of Vienna, Austria, [9]Medical University Vienna, Austria
Disclosures: Afrodite Zendeli, None

SA0072 **Sub-compartmental Bone Morphometry Analysis in Longitudinal HRpQCT Scans with Application to Chronic Kidney Disease**
Matthew DiFranco*[1], Lukas Fischer[1], Alexander Valentinitsch[1], Franz Kainberger[1], Georg Langs[1], Janina Patsch[1], Thomas Nickolas[2]. [1]Medical University of Vienna, Austria, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Matthew DiFranco, None

SA0073 **Towards Hip Fracture Prediction using Finite Element analysis and Machine Learning**
Samy Missoum*[1], Peng Jiang[2], Chengcheng Hu[3], Pei-Shan Hsieh[4], Zhao Chen[5]. [1]University of Arizona Aerospace-Mechanical Engineering, USA, [2]University of Arizona Mechanical Engineering, USA, [3]University of Arizona Mel & Enid Zuckerman College of Public Health Epidemiology & Biostatistics, USA, [4]University of Arizona, USA, [5]University of Arizona College of Public Health, USA
Disclosures: Samy Missoum, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

SA0074 **Comparison of US and French TBS normative data**
Christine Simonelli*[1], Edward Leib[2], E Mossman[3], Remy Dufour[4], Alain Heraud[5], Renaud Winzenrieth[6], Michael McClung[3], Didier Hans[7]. [1]HealthEast Osteoporosis Care, USA, [2]University of Vermont, USA, [3]Oregon Osteoporosis Center, USA, [4]Institut Sainte Catherine, France, [5]Rhumatologie, Centre hospitalier Robert Boulin, France, [6]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [7]Lausanne University Hospital, Switzerland
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SA0075 **Strontium Ranelate Treatment Improves Bone Material Level Properties and Microarchitecture of Human Transiliac Bone Biopsy Specimens**
Patrick Ammann*[1], Rene Rizzoli[2]. [1]Division of Bone Diseases, Che, [2]Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Patrick Ammann, AMGEN, MSD, Nestlé, Galapagos, Institut de Recherches Internationales Servier, 2; Labatec, 5

BONE BIOMECHANICS AND QUALITY (CLINICIAL): MECHANICAL LOADING EFFECTS IN HUMANS AND INTACT ANIMALS

SA0076 **Bone quality in osteopenic post-menopausal women is not improved during 12 months of whole body vibration training**
Anna-Maria Liphardt*[1], Michelle Kan[2], John D. Schipilow[2], Anna Steinhoff[3], Anne Bauer[4], David Hanley[2], Steven Boyd[2]. [1]German Sport University Cologne (DSHS Köln), Germany, [2]University of Calgary, Canada, [3]University Aachen, Germany, [4]German Sport University Cologne, Germany
Disclosures: Anna-Maria Liphardt, None

SA0077 **Variation in Bone Turnover Markers in Professional Sport Players During Training is Mediated by Changes in Sclerostin Levels**
Ranuccio Nuti*[1], Daniela Merlotti[1], Michele Bisogni[2], Beatrice Franci[2], Barbara Lucani[2], Stella Campagna[2], Laura Cresti[2], Matteo Beltrami[2], Konstantinos Stolakis[2], Stefano Rotatori[2], Andrea Causarano[3], Luigi Gennari[1]. [1]University of Siena, Italy, [2]Dept. Medicine Surgery & Neurosciences University of Siena, Italy, [3]Medical Staff Siena Football Club, Italy
Disclosures: Ranuccio Nuti, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS TECHNIQUES AND CALCIFICATION

SA0078 **Masticatory muscle tendon-aponeurosis hyperplasia exhibits heterotopic calcification in temporal tendon**
Tsuyoshi Sato*[1], YUICHIRO ENOKI[1], Shoichiro Kokabu[2], Masahiko Okubo[1], Tetsuya Yoda[1]. [1]Saitama Medical University, Japan, [2]Harvard School of Dental Medicine, USA
Disclosures: Tsuyoshi Sato, None

SA0079 **Microstructure of Narwhal Tusk Studied by Synchrotron Radiation Nano-Tomography**
Mie Birkbak[1], Karl Anker Jørgensen[2], Henrik Birkedal*[3]. [1]iNANO & Department of Chemistry, Aarhus University, Denmark, [2]Department of Chemistry, Aarhus University, Denmark, [3]Aarhus University, Denmark
Disclosures: Henrik Birkedal, None

SA0080 **Pericapillary Bone Formation by Mural Osteoblasts during Endochondral Ossification**
Ichiro Takada*[1], Nobuhito Nango[2], Yoshihiro Takeda[3], Atsushi Momose[4], Yoshiaki Kubota[1], Sho Kanzaki[1], Kouji Shimoda[1], Yasunari Takada[1], Latifa Bakiri[5], Erwin Wagner[5], Koichi Matsuo[1]. [1]School of Medicine, Keio University, Japan, [2]Ratoc System Engineering Co., Ltd., Japan, [3]Rigaku Corporation, Japan, [4]Tohoku University, Japan, [5]CNIO, Spain
Disclosures: Ichiro Takada, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: CARTILAGE AND CHONDROCYTES

SA0081 **Cartilage-specific RUNX2 Activity Regulates Endochondral Bone Formation and Articular Cartilage Homeostasis**
Jennifer Jonason[1], Donna Hoak*[1], Tzong-Jen Sheu[1], Fanxin Long[2], Regis O'Keefe[1], Matthew Hilton[3]. [1]UNIVERSITY OF ROCHESTER, USA, [2]Washington University School of Medicine, USA, [3]University of Rochester Medical Center, USA
Disclosures: Donna Hoak, None

SA0082 **Complete Suppression of PTHrP Signaling in Chondrocytes in the Histone Deacetylase 4 and 5 Double Knockout Mouse**
Shigeki Nishimori*[1], Forest Lai[1], Marc Wein[1], Elena Kozhemyakina[2], Eric Olson[3], Andrew Lassar[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]Harvard Medical School, USA, [3]UT Southwestern Medical Center at Dallas, USA
Disclosures: Shigeki Nishimori, None

SA0083 **Forkhead protein FoxC1 regulates chondrogenic genes expression by modulating Ihh/Gli2 signaling**
Michiko Yoshida*[1], Kenji Hata[2], Sachiko Iseki[3], Teruko Takano-Yamamoto[4], Toshiyuki Yoneda[5], Riko Nishimura[2]. [1]Division of Orthodontics & Dentofacial Orthopedics, Graduate School of Dentistry, Tohoku University, Japan, [2]Osaka University Graduate School of Dentistry, Japan, [3]Section of Molecular Craniofacial Embryology, Graduate School, Tokyo Medical & Dental University, Japan, [4]Tohoku University, Japan, [5]Indiana University School of Medicine, USA
Disclosures: Michiko Yoshida, None

SA0084 **Gene Expression Profiling Reveals Similarities between the Spatial Architectures of Articular and Growth Plate Cartilage**
Michael Chau*[1], Julian Lui[1], Stephan Spath[2], Jeffrey Baron[1], Ola Nilsson[1]. [1]NICHD, USA, [2]NIH, USA
Disclosures: Michael Chau, None

SA0085 **Histone Deacetylase 3 Controls Extracellular Matrix Degradation, Vascularization, and Secondary Ossification Formation during Endochondral Ossification**
Lomeli Carpio*[1], Elizabeth Bradley[2], Meghan McGee-Lawrence[2], Jennifer Westendorf[2]. [1]None, USA, [2]Mayo Clinic, USA
Disclosures: Lomeli Carpio, None

SA0086 **Identification of chondrocyte-binding peptides by phage display**
Sao Fong Cheung*[1], Julian Chun Kin Lui[2], Jeffrey Baron[2]. [1]National Insitutes of Health, USA, [2]NIH, USA
Disclosures: Sao Fong Cheung, None

SA0087 **Identifying Sox9 regulatory programs in mammalian skeletogenesis**
Xinjun He*[1], Andrew McMahon[1], Shinsuke Ohba[2]. [1]University of Southern California, USA, [2]The University of Tokyo, Japan
Disclosures: Xinjun He, None

SA0088 **Longitudinal Overgrowth Following Circumferential Periosteal Division of Femur of Developing Rat**
Shinjiro Takata*. Tokushima National Hospital, National Hospital Organization, Japan
Disclosures: Shinjiro Takata, None

SA0089 **Modulating *Sost* Expression Influences the Progression and Severity of Post Traumatic Osteoarthritis in Mice**
Jiun Chiun Chang*[1], Blaine A. Christiansen[2], Cynthia B. Thomas[3], Nicole M. Collette[3], Craig Blanchette[4], Gabriela Loots[5]. [1]University of California, Merced, USA, [2]UC Davis Medical Center, Department of Orthopaedic Surgery, USA, [3]Lawrence Livermore National Laboratories, Physical & Life Sciences Directorate, USA, [4]Lawrence Livermore National Laboratories, USA, [5]Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Jiun Chiun Chang, None

SA0090 **Phosphate regulates signaling molecules and apoptotic proteins in hypertrophic chondrocytes.**
Eva Liu*[1], Francesca Gori[2], Marie Demay[3]. [1]Brigham & Women's Hospital & Massachusetts General Hospital, USA, [2]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Eva Liu, None

SA0091 **Potential roles of neurotrophin-3 in growth plate cartilage bony repair and skeletal cell formation**
Yu-Wen Su[1], Rosa Chung[1], Cristina Vincent[1], Shek Man Chim[2], Fiona Zhou[1], Alice Lee[1], Chia-Ming Fan[1], Jiake Xu[2], Xin-Fu Zhou[3], Cory Xian*[1]. [1]University of South Australia, Australia, [2]University of Western Australia, Australia, [3]University of South Australia, Azerbaijan
Disclosures: Cory Xian, None

SA0092 **RBPjκ-dependent Notch Signaling Regulates the Initiation of Chondrocyte Hypertophy via SOX9**
Anat Kohn*[1], Timothy Rutkowski[2], Anthony Mirando[2], Alana Osinski[2], Yufeng Dong[1], Michael Zuscik[2], Regis O'Keefe[1], Matthew Hilton[3]. [1]UNIVERSITY OF ROCHESTER, USA, [2]University of Rochester School of Medicine & Dentistry, USA, [3]University of Rochester Medical Center, USA
Disclosures: Anat Kohn, None

SA0093 **Runx1 Increased Expression in Superficial Zone Chondrocytes in Response to Mechanical Loading and in Chondrocyte Clones of Osteoarthritic Tissue: Functional Implications**
Paul Fanning*[1], Kimberly LeBlanc[2], Marie Walcott[3], Tripti Guar[4], Shannon O'Connell[3], Kirti Basil[3], April Mason-Savas[3], Jason Silva[3], Andre Van Wijnen[5], Janet Stein[6], Gary Stein[7], David Ayers[8], Jane Lian[6]. [1]University of Massachusetts Medical School, USA, [2]Dept. of Cell Biology & Cancer Center, University of Massachusetts Medical School, USA, [3]Dept. of Orthopedics & Physical Rehabilitation, University of Massachusetts Medical School, USA, [4]Dept. of Cell Biology & Cancer Center, University of Massachusetts, USA, [5]Mayo Clinic, USA, [6]University of Vermont, USA, [7]University of Vermont, College of Medicine, USA, [8]UMass Memorial Medical Center, USA
Disclosures: Paul Fanning, None

SA0094 **Sirt6 regulate proliferation and differentiation of the postnatal growth plate chondrocyte via Ihh signaling.**
Jinying Piao*[1], Kunikazu Tsuji[2], Hiroki Ochi[3], Morita Sadao[4], Daisuke Koga[5], Atsushi Okawa[5], Shu Takeda[6], Yoshinori Asou[2]. [1]Graduate School, Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Laboratory of Veterinary Microbiology, Nippon Veterinary & Life Science University, Japan, [4]Department of Rehabititation Medecine, Tokyo Medical & Dental Univrsity, Japan, [5]Department of Orthopedics Surgery, Tokyo, Medical & Detal University, Japan, [6]Tokyo Medical & Dental University, Dept. of Cellular Physiology, Jpn
Disclosures: Jinying Piao, None

SA0095 **Transient, but not Sustained, NOTCH1 Signaling Promotes Articular Cartilage Maintenance**
Zhaoyang Liu*[1], Anthony Mirando[2], Regis O'Keefe[3], Michael Zuscik[4], Matthew Hilton[1]. [1]University of Rochester Medical Center, USA, [2]University of Rochester Medical Center, Center for Musculoskeletal Research, USA, [3]University of Rochester Medical Center, Department of Orthopaedics & Rehabilitation, Center for Musculoskeletal Research, USA, [4]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Zhaoyang Liu, None

SA0096 **β-catenin Signaling Regulates Endochondral Ossification through Bmp2 Signaling**
Jennifer Jonason[1], Yongchun Zhang*[1], Debbie Dao[2], Donna Hoak[1], Tzong-Jen Sheu[1], Matthew Hilton[3], Regis O'Keefe[1]. [1]UNIVERSITY OF ROCHESTER, USA, [2]University of San Francisco, USA, [3]University of Rochester Medical Center, USA
Disclosures: Yongchun Zhang, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENE IDENTIFICATION AND EXPRESSION

SA0097 ***Mustn1* Spatiotemporal Protein Expression During Skeletal Development and Regeneration**
Michael Hadjiargyrou*[1], Amanda Zigomalis[2], Affan Haleem[3], David Komatsu[4]. [1]New York Institute of Technology, USA, [2]Stony Brook University, Department of Biomedical Engineering, USA, [3]Stony Brook University, School of Medicine, USA, [4]Stony Brook University, Dept. of Orthopaedics, USA
Disclosures: Michael Hadjiargyrou, None

SA0098 **Genome-wide alterations in polycomb-regulated epigenomic modification in embryonic osteoblasts following exposure to maternal obesity in rats**
Jin-Ran Chen*[1], Jian Zhang[2], Oxana P. Lazarenko[2], Michael L. Blackburn[2], Martin J. J. Ronis[2], Thomas M. Badger[2], Kartik Shankar[2]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]University of Arkansas for Medical Sciences & Arkansas Children's Nutrition Center, Little Rock, AR 72202, USA
Disclosures: Jin-Ran Chen, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENERAL

SA0099 **Matrix Vesicle-Bound Bone Alkaline Phosphatase for the Assessment of Peripheral Blood Admixture of Human Bone Marrow Aspirates**
Evelien Nollet[1], Emeline Van Craenenbroeck[2], Wim Martinet[1], Inez Rodrigus[3], Christiaan Vrints[2], Viviane Conraads[2], Viviane Van Hoof*[4]. [1]University of Antwerp, Belgium, [2]University of Antwerp / Antwerp University Hospital, Belgium, [3]Antwerp University Hospital, Belgium, [4]University Hospital Antwerp, Belgium
Disclosures: Viviane Van Hoof, None

SA0100 ***Prx1* and *Col1a1* promoters target distinct bone cell populations in transgenic mice**
Zhufeng Ouyang, Zhijun Chen*, Masakazu Ishikawa, Xiuzhen Yue, Edward Greenfield, Shunichi Murakami. Case Western Reserve University, USA
Disclosures: Zhijun Chen, None

SA0101 **Advanced Glycation End Products Inhibit the Mineralization of Mouse Stromal ST2 Cells by Binding the Receptor for AGEs and Increasing TGF-β Expression and Secretion**
Masakazu Notsu*[1], Toru Yamaguchi[2], Kyoko Okazaki[3], Ken-ichiro Tanaka[4], Noriko Ogawa[3], Ippei Kanazawa[2], Toshitsugu Sugimoto[5]. [1]Shimane University, Japan, [2]Shimane University Faculty of Medicine, Japan, [3]Internal Medicine 1 Shimane University Faculty of Medicine, Japan, [4]Shimane University School of Medicine, Jpn, [5]Shimane University School of Medicine, Japan
Disclosures: Masakazu Notsu, None

SA0102 **Blocking β-adrenergic signaling attenuates reductions in trabecular bone mass, marrow adiposity and marrow leptin expression in high calorie diet fed but not low calorie diet fed growing mice.**
Kyunghwa Baek*[1], Hyo Rin Hwang[2], Hyun-Jung Park[2], Arang Kwon[2], Abdul Qadir[2], Jeong-Hwa Baek[3]. [1]Gangneung-Wonju national university, School of dentistry, South Korea, [2]Seoul National University, South Korea, [3]Seoul National University, School of Dentistry, South Korea
Disclosures: Kyunghwa Baek, None

SA0103 **Bmi-1 Is A Critical Molecule for Activation of the Sonic Hedgehog Signal Pathway**
Jun Wu*[1], Wen Sun[2], Rong Wang[1], David Goltzman[3], Dengshun Miao[4]. [1]Nanjing Medical University, China, [2]Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, [3]McGill University, Canada, [4]Nunjing Medical University, Peoples Republic of China
Disclosures: Jun Wu, None

SA0104 **CCN3 Participates in Bone Regeneration as an Inhibitory Factor**
Yuki Matsushita*[1], Kei Sakamoto[1], Kiyoshi Harada[1], Tokutarou Minamizato[2], Akira Yamaguchi[3]. [1]Tokyo Medical & Dental University, Japan, [2]Graduate School of Biomedical Science, Nagasaki University, Japan, [3]Tokyo Medical & Dental University, Jpn
Disclosures: Yuki Matsushita, None

SA0105 **Contribution of Hematopoietic Stem Cells to Dental Tissues**
Amanda LaRue[1], Beneta Parthiban[2], Jasper L Cumbee IV[2], James Borke[3], Makio Ogawa[2], Meenal Mehrotra*[4]. [1]Ralph H. Johnson VAMC, Medical University of South Carolina, USA, [2]MUSC, USA, [3]Western University of health Sciences, USA, [4]Medical University of South Carolina & Research Services, Ralph H Johnson VAMC, USA
Disclosures: Meenal Mehrotra, None

SA0106 **Impact of RARγ- BMP Signaling Cross-talk on Endochondral Bone Formation**
Kenta Uchibe*[1], Jiyeon Son[2], Maurizio Pacifici[1], Masahiro Iwamoto[1]. [1]Children's Hospital of Philadelphia, USA, [2]Children's Hospital of Philadelphia, USA
Disclosures: Kenta Uchibe, None

SA0107 **Increased Dietary Advanced Glycation End Products Induces Early Degenerative Spinal Structural Changes**
Young Lu*[1], Svenja Illien-Junger[2], Sheeraz Qureshi[2], Weijing Cai[2], Helen Vlassara[2], Gary Striker[2], James Iatridis[2]. [1]Mount Sinai Medical Center, USA, [2]Icahn School of Medicine at Mount Sinai, USA
Disclosures: Young Lu, None

SA0108 **Internal Ribosome Entry Site (IRES) Mediates theTranslation of Nuclear DMP1 (nuDMP1)**
Suzhen Wang[1], Chunlin Qin[1], Rena D'Souza[1], Yongbo Lu*[2]. [1]Texas A&M University Baylor College of Dentistry, USA, [2]Baylor College of Dentistry, USA
Disclosures: Yongbo Lu, None

SA0109 **Loss of the E3 Ubiquitin Ligase Von Hippel Lindau (VHL) in Limb Bud Mesenchyme causes dwarfism and tumors of the soft tissue**
Laura Mangiavini*[1], Christophe Merceron[2], Tremika Leshan Wilson[1], Rita Gerard-O'Riley[1], Amato J Giaccia[3], Ernestina Schipani[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University School of Medicine; Inserm, UMRS 791-LIOAD, Centre for Osteoarticular & Dental Tissue Engineering, Group STEP "Skeletal Tissue Engineering & Physiopathology", Nantes, France, USA, [3]Stanford University, USA
Disclosures: Laura Mangiavini, None

SA0110 **Postnatal Ablation of Ext1 in Cartilage Induces Ectopic Hypertrophy of Articular Chondrocytes and Loss of Bone Volume in Primary Spongiosa.**
Federica Sgariglia*[1], Maria Elena Candela[2], Julianne Huegel[2], Olena Jacenko[3], Eiki Koyama[4], Yu Yamaguchi[5], Maurizio Pacifici[4], Motomi Enomoto-Iwamoto[4]. [1]Ph.D., USA, [2]Translational Research Program in Pediatric Orthopaedics, Division of Orthopedic Surgery, Department of Surgery, Children's Hospital of Philadelphia, USA, [3]University of Pennsylvania, School of Veterinary Medicine, USA, [4]Children's Hospital of Philadelphia, USA, [5]Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute, USA
Disclosures: Federica Sgariglia, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MATRIX PROTEINS

SA0111 **Bone Shaft Revascularization after Marrow Ablation is Dramatically Accelerated in BSP-/- mice, along with Faster Haematopoietic Recolonization**
Wafa Bouleftour*[1], Renata Neves Granito[1], Arnaud Vanden Bossche[1], Odile Sabido[2], Bernard Roche[1], Mireille Thomas[1], Marie-Thérèse Linossier[1], Jane Aubin[3], Marie-Helene Lafage-Proust[4], Laurence Vico[5], Luc Malaval[6]. [1]LBTO/INSERM U1059 - Université de Lyon, France, [2]Flow Cytometry Facility - Université de Lyon, France, [3]University of Toronto Faculty of Medicine, Canada, [4]INSERM Unit 890, France, [5]University of St-Etienne, France, [6]INSERM U1059-Université de Lyon-Université Jean Monnet, Saint-Etienne, France
Disclosures: Wafa Bouleftour, None

SA0112 **Defective Mineralization in Craniofacial Bone and Cementum in *Bsp* Null Mice**
Brian Foster*[1], Yohannes Soenjaya[2], Francisco Nociti, Jr.[3], Erik Holm[4], Kamila Kantovitz[3], Helen Wimer[5], Patricia Zerfas[6], Jane Aubin[7], Graeme Hunter[8], Harvey Goldberg[9], Martha Somerman[3]. [1]National Institute of Arthritis & Musculoskeltal & Skin Diseases (NIAMS, USA, [2]Biomedical Engineering Program, Schulich School of Medicine & Dentistry, University of Western Ontario, Canada, [3]National Institute of Arthritis & Musculoskeletal & Skin Diseases (NIAMS), National Institutes of Health (NIH), USA, [4]Department of Biochemistry, Schulich School of Medicine & Dentistry, University of Western Ontario, Canada, [5]Department of Vertebrate Zoology, National Museum of Natural History, Smithsonian Institution, USA, [6]Department of Research Services, Division of Veterinary Resources, National Institutes of Health (NIH), USA, [7]University of Toronto Faculty of Medicine, Canada, [8]School of Dentistry, Schulich School of Medicine & Dentistry, University of Western Ontario, Canada, [9]The University of Western Ontario, Canada
Disclosures: Brian Foster, None

SA0113 **Osteonectin/SPARC Single Nucleotide Polymorphism (SNP) Alters Trabecular Bone and is Targeted by miRNA-433**
Neha Dole*[1], Kristina Kapinas[2], Catherine B Kessler[1], Anne Delany[1]. [1]University of Connecticut Health Center, USA, [2]University of Massachusetts, Worcester, USA
Disclosures: Neha Dole, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: CALCITONIN AND RELATED PEPTIDES

SA0114 **The Calcitonin hormone regulates the Osteocye**
Stephen Henry*[1], Su-Chen E Huang[2], Michael Starbuck[1], Ana Hoff[3], Gilbert Cote[4], Robert Gagel[4]. [1]University of Texas MD Anderson, USA, [2]mdanderson, USA, [3]ICESP, University of São Paulo, Brazil, [4]University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Stephen Henry, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: CALCIUM-SENSING RECEPTORS

SA0115 **Extracellular Ca^{2+} and the calcium-sensing receptor, CaSR, are important regulators of fetal lung development.**
Sarah Brennan*[1], William Wilkinson[1], Hsiu-Er Tseng[1], Bethan Monk[1], Holly Dibble[1], Samantha Quilliam[1], Rebecca Wadey[1], David Warburton[2], Luis Galietta[3], Paul Kemp[1], Daniela Riccardi[4]. [1]Cardiff University, United Kingdom, [2]University of Southern California, USA, [3]University of Genoa, Italy, [4]Cardiff Unviersity, United Kingdom
Disclosures: Sarah Brennan, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: FGF23 AND OTHER PHOSPHATONINS

SA0116 **Dosage Effect of a *Phex* Mutation in a Murine Model of X-linked Hypophosphatemia**
Shoji Ichikawa*, Amie Gray, Emmanuel Bikorimana, Michael Econs. Indiana University School of Medicine, USA
Disclosures: Shoji Ichikawa, None

SA0118 **The Novel Interplay of Anemia and Hypoxia in the Control of FGF23 Expression**
Erica Clinkenbeard*[1], Taryn Cass[2], Tim Lahm[3], Mircea Ivan[3], Kenneth White[4]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Department of Medical & Molecular Genetics, Indiana University, USA, [3]Department of Medicine, Indiana University, USA, [4]Indiana University School of Medicine, USA
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CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

SA0119 **Crosstalk Between Parathyroid Hormone Related Proteins And Minor Fibrillar Collagens.**
Minoti Hiremath*, Neda Shefa, Julia Oxford. Boise State University, USA
Disclosures: Minoti Hiremath, None

SA0120 **Withdrawn**

SA0121 **Parathyroid Hormone Agonists Linked to a Collagen Binding Domain Increase Anagen Hair Follicles and Reduce Hair Loss in Mice with Alopecia Areata.**
Ranjitha Katikaneni*[1], Rohan Gulati[2], Daniel Suh[1], Joshua Sakon[3], Andrew Seymour[4], Tulasi Ponnapakkam[5], Robert Gensure[6]. [1]Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, [2]Children's Hospital at Montefiore, USA, [3]University of Arkansas, USA, [4]Pathology, Montefiore Medical Center, USA, [5]Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA, [6]Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA
Disclosures: Ranjitha Katikaneni, None

SA0122 **Subclinical PTH resistance in a patient with a novel heterozygous GNAS mutation: Gαs haploinsufficiency as a plausible cause.**
Serap Turan*[1], Susanne Thiele[2], Bettina Brix[2], Zeynep Atay[3], Saygin Abali[4], Murat Bastepe[5]. [1]Marmara University Istanbul-Turkey, Turkey, [2]Division of Experimental Paediatric Endocrinology & Diabetes, University of Luebeck, Germany, [3]Pediatric Endocrinology, Marmara University, Turkey, [4]Pediatric Endocrinology Marmara University, Turkey, [5]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Serap Turan, None

SA0123 **βAdrenergic Receptor agonist suppresses BMP-induced osteoblastic differentiation in MC3T3E-1 cells while epinephrine modulates it differently**
Takayuki Yamada*[1], Tadayoshi Hayata[2], Takuya Notomi[3], Yoichi Ezura[4], Kiyoshi Harada[5], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [3]GCOE, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [5]Department of Maxillofacial Surgery, Maxillofacial & Neck Reconstruction, Graduate School of Medical & Dental Sciences, Tokyo Medical & Dental University, Japan
Disclosures: Takayuki Yamada, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PTH/PTHRP RECEPTORS

SA0124 **Withdrawn**

SA0125 **Role of PTH/PTHrP Receptor Signaling in Osteocytes in Ovariectomy-Induced Osteopenia**
Jenna Garr*[1], Dean Marengi[1], Vaibhav Saini[2], Xiaolong Liu[1], Paola Divieti Pajevic[3]. [1]Massachusetts General Hospital, USA, [2]MGH, Harvard Medical School, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Jenna Garr, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENERAL STUDIES

SA0126 **A Genetic Test to Predict Patient Response to rhBMP-2 for Lumbar Spinal Arthrodesis**
Travis Burgers*[1], Jianfeng Xu[2], Martin Hoffmann[3], Debra Sietsema[4], Victoria Zismann[5], Berry Button[5], Paula Davidson[1], Sha Tao[6], Waibhav Tembe[5], Jeffrey Kiefer[5], James Mason[1], Bart Williams[7], Jeffrey Trent[5], Clifford Jones[4]. [1]Van Andel Institute, USA, [2]Translational Genomics Research Institute; Center for Cancer Genomics, USA, [3]Grand Rapids Medical Education Partners, USA, [4]Orthopaedic Associates of Michigan; Michigan State University, USA, [5]Translational Genomics Research Institute, USA, [6]Center for Cancer Genomics, USA, [7]Van Andel Research Institute, USA
Disclosures: Travis Burgers, None

SA0127 **A Mouse Model to Study the Function of *RECQL4* on Skeletogenesis**
Linchao Lu*[1], Karine Harutyunyan[2], Weidong Jin[1], Tao Yang[3], Yuqing Chen[4], Jianhong Wu[1], Brian Dawson[4], Ming-Ming Jiang[4], Kyu-Sang Joeng[1], Brendan Lee[5], Lisa Wang[1]. [1]Baylor College of Medicine, USA, [2]MD Anderson Cancer Center, USA, [3]Van Andel Research Institute, USA, [4]Baylor College of Medicine, Howard Hughes Medical Institute, USA, [5]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Linchao Lu, None

SA0128 **Cinacalcet as adjunct therapy in familial hypophosphatemic rickets: 18 months experience**
Uri Alon*. Children's Mercy Hospital, USA
Disclosures: Uri Alon, None

SA0129 **Delayed Fracture Healing in a Mouse Model for Craniometaphyseal Dysplasia**
Yusuke Hagiwara, Xi Jiang, Zhifang Hao, Ernst Reichenberger, I-Ping Chen*. University of Connecticut Health Center, USA
Disclosures: I-Ping Chen, None

SA0130 **Discoidin Receptor 2 Control of Skeletal Osteogenesis and Adipogenesis**
Chunxi Ge*[1], Zhengyan Wang[2], Jinhui Liao[3], Guisheng Zhao[3], Binbin Li[3], Renny Franceschi[2]. [1]Pom Univ of Michigan School of Dentistry, USA, [2]University of Michigan, USA, [3]University of Michigan School of Dentistry, USA
Disclosures: Chunxi Ge, None

SA0131 **ER stress response to procollagen misfolding leads to osteoblast malfunction in the Amish mouse model of OI**
Lynn Mirigian, Elena Makareeva, Sergey Leikin*. National Institutes of Health, USA
Disclosures: Sergey Leikin, None

SA0132 **High-Throughput DEXA and MicroCT Screening in Gene Knockout Mice Identifies Bone Mass Phenotypes**
Robert Brommage*, Jeff Liu, Laura Kirkpatrick, Gwenn Hansen, David Powell, Peter Vogel. Lexicon Pharmaceuticals, USA
Disclosures: Robert Brommage, Lexicon Pharmaceuticals, 3

SA0133 **Neurofibromin regulates pyrophosphate homeostasis and bone matrix mineralization**
Jean De La Croix Ndong*[1], Koichiro Ono[2], Alexander Makowski[3], Daniel Perrien[4], Jeffry Nyman[4], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Center for Bone Biology, USA, [3]Department of Veterans Affairs, Vanderbilt University, USA, [4]Vanderbilt University Medical Center, USA
Disclosures: Jean De La Croix Ndong, None

SA0134 **Osteoblast CFTR Regulates Bone Formation and Osteoprotegerin Expression in Cystic Fibrosis-Related Bone Disease**
Michael Stalvey, Katrina Clines, Viktoria Havasi, W. Joon Chung, Gregory Clines*. University of Alabama at Birmingham, USA
Disclosures: Gregory Clines, None

SA0135 **Withdrawn**

SA0136 **Trabecular and Not Cortical Bone Is Affected in Different Forms of Osteogenesis Imperfecta**
Roland Kocijan*[1], Christian Muschitz[2], Didier Hans[3], Judith Haschka[1], Janina Patsch[4], Georg Schett[5], Matthias Englbrecht[5], Afrodite Zendeli[6], Daniela Süß[6], Heinrich Resch[7]. [1]St. Vincent Hospital Vienna, Austria, [2]St. Vincent's Hospital, Austria, [3]Lausanne University Hospital, Switzerland, [4]Medical University of Vienna, Austria, [5]Friedrich-Alexander University Medical School, Germany, [6]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [7]Medical University Vienna, Austria
Disclosures: Roland Kocijan, None

SA0137 **Whole Exome Sequencing is a Sensitive and Cost-Effective Means of Detecting Mutations in Patients with Marfan Syndrome and Osteogenesis Imperfecta**
Emma Duncan*[1], Aideen McInerney-Leo[2], Paul Leo[2], Brooke Gardiner[2], Mhairi Marshall[2], Paul Coucke[3], Bart Loeys[4], Malcolm West[5], Jennifer west[5], Paul Wordsworth[6], Andreas Zankl[2], Matthew Brown[7], Lut van Laer[8]. [1]Royal Brisbane & Women's Hospital, Australia, [2]University of Queensland Diamantina Institute, Australia, [3]University of Ghent, Belgium, [4]Antwerp University, Belgium, [5]Prince Charles Hospital, Australia, [6]University of Oxford, United Kingdom, [7]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [8]University of Antwerp, Belgium
Disclosures: Emma Duncan, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: LINKAGE STUDIES AND POLYMORPHISMS

SA0138 **A Functional Amino Acid Substitution in the Glucose-dependent Insulinotropic Polypeptide-Receptor (GIPR) Gene is Associated with Bone Mineral Density, Bone Loss, and Osteoporotic Fractures: The Danish Osteoporosis Prevention Study**
Torben Harsloef*[1], Signe S Torekov[2], Torben Hansen[2], Jens J Holst[2], Oluf Pedersen[2], Lars Rejnmark[3], Bente Langdahl[4]. [1]Aarhus University Hospital, Aarhus Sygehus, Denmark, [2]Department of Biomedical sciences & Novo Nordic Center for Basic Metabolic Research, Faculty of Health Sciences, University of Copenhagen, Denmark, [3]Aarhus University Hospital, Denmark, [4]Aarhus University Hospital, Dnk
Disclosures: Torben Harsloef, None

SA0139 **Association of Vitamin D Binding Protein Polymorphisms, Serum 25-hydroxyvitamin D and Serum Parathyroid Hormone Concentrations in 37-47 Year Old Caucasian Women and Men in Finland**
Elisa Saarnio*[1], Minna Pekkinen[2], Suvi Itkonen[1], Virpi Kemi[1], Heini Karp[1], Merja Karkkainen[1], Outi Makitie[3], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [3]Children's Hospital, Helsinki University Central Hospital, Finland
Disclosures: Elisa Saarnio, None

SA0140 Functional characterization of GWAS loci associated with fracture risk

Ling Oei[1], Sjur Reppe[2], Evangelia Ntzani[3], Matthew Hibbs[4], Kwangbom Choi[4], Hou-Feng Zheng[5], Karol Estrada[6], Jeroen van de Peppel[7], Carrie Nielson[8], Unnur Styrkársdóttir[9], Paul Ridker[10], Yi-Hsiang Hsu[11], Melissa Garcia[12], Aaron Aragaki[13], Emma Duncan[14], Anke Enneman[7], Terho Lehtimäki[15], Tõnu Esko[16], Stella Trompet[17], Stephen Kaptoge[18], Joel Eriksson[19], Najaf Amin[7], Annie Kung[20], Carolina Medina-Gomez[21], Konstantinos Tsilidis[3], Gudmar Thorleifsson[9], Lynda Rose[10], Joseph Zmuda[22], Ching-Ti Liu[23], Albert Vernon-Smith[24], Priya Srikanth[8], Scott Wilson[25], Graeme Clark[26], Jorma Viikari[27], Evelin Mihailov[16], Alireza Moayyeri[28], Guo Li[29], Candace Kammerer[22], Mattias Lorentzon[30], Natalia Rivera[7], Sumei Xiao[31], Jian Yang[32], Peter Visscher[32], Gregory Tranah[33], Dan Evans[33], David Karasik[34], Kristin Siggeirsdottir[35], Edwin Oei[7], Kari Stefansson[9], Ville Aalto[36], Dana Willner[26], Nicholas Wareham[37], Ryan Minster[38], Joshua Bis[29], Cornelia van Duijn[7], Alan Boyle[39], Michael Snyder[39], Lizbeth Herrera[7], L. Adrienne Cupples[23], Thor Aspelund[24], Olli Raitakari[36], Paul Leo[26], Kay-Tee Khaw[40], John Robbins[41], Yongmei Liu[42], Stephan Breda[7], Robert Luben[40], Jane Cauley[22], Alice Arnold[29], Lisette Stolk[7], Huibert Pols[43], Albert Hofman[7], Jian Shen[8], Joyce Van Meurs[43], Pak Sham[44], Maria Zillikens[45], Claes Ohlsson[46], Bruce Psaty[29], Tamara Harris[47], Jonathan Reeve[48], J. Wouter Jukema[17], Andres Metspalu[16], Mika Kahonen[49], Nathalie van der Velde[7], Matthew Brown[50], Vilmundar Gudnason[24], John Ioannidis[39], Andre Uitterlinden[51], Steven Cummings[52], Timothy Spector[28], Douglas Kiel[53], Rebecca Jackson[54], Unnur Thorsteinsdottir[9], Daniel Chasman[10], Eric Orwoll[8], Vijay Yadav[55], Johannes Van Leeuwen[43], Evangelos Evangelou[3], Elin Grundberg[5], Brent Richards[5], Kaare Gautvik[56], Fernando Rivadeneira[43], Cheryl Ackert-Bicknell*[4], the GEFOS consortium USA.

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Disclosures: Cheryl Ackert-Bicknell, None

SA0141 **Haplotype Analysis Supports a "Founder" for the Balkan OPG Mutation Causing Juvenile Paget's Disease**
Steven Mumm*[1], Kristin Geczi[2], Margaret Huskey[2], Dorit Naot[3], Stergios Polyzos[4], Tim Cundy[3], Wim Van Hul[5], Panagiotis Singhellakis[6], Michael Whyte[7]. [1]Washington University School of Medicine, USA, [2]Washington University, USA, [3]University of Auckland, New Zealand, [4]Aristotle University of Thessaliniki, Greece, [5]University of Antwerp, Belgium, [6]Athens University, Greece, [7]Shriners Hospital for Children, USA
Disclosures: Steven Mumm, None

SA0142 **Systematic integration of functional and computational genomics suggests that the indel rs79240969 in the *DNM3* gene influences both bone- and obesity-related traits.**
Melina Claussnitzer*[1], Xing Chen[2], David Karasik[3], L Adrienne Cupples[4], Douglas Kiel[5], Yi-Hsiang Hsu[6]. [1]Hebrew Senior Life, Harvard Medical School, USA, [2]Harvard University, USA, [3]Hebrew SeniorLife; Bar Ilan University, USA, [4]Boston University, USA, [5]Hebrew SeniorLife, USA, [6]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA
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GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: BONE MORPHOGENETIC PROTEINS

SA0143 **CK2.3, a mimetic peptide of the Bone Morphogenetic Protein receptor Ia, increases endochondral bone formation *in vivo*.**
Kristine Olli*[1], Jeremy Bonor[1], Hemanth Akkiraju[1], Christopher Bowen[1], Beth Bragdon[2], Randall Duncan[1], Anja Nohe[1]. [1]University of Delaware, USA, [2]Boston University School of Medicine Department of Orthopaedics, USA
Disclosures: Kristine Olli, None

SA0144 **L51P, a BMP-2 Antagonist Inhibitor, Enhances the Osteoiduction of BMP-2 by a Negative Feedback Regulation**
Hany Khattab*[1], Mitsu ONO[2], Wataru Sonoyama[3], Yasutaka OIDA[2], Shigehiko SHINKAWA[2], Kenji MAEKAWA[2], Kazushige SUGAMA[4], Walter SEBALD[5], Takuo KUBOKI[2]. [1]Okayama University Graduate School of Medicine, Japan, [2]Department of Oral Rehabilitation & Regenerative Medicine, Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [3]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, [4]Osteopharma Inc., Japan, [5]Physiological Chemistry II, Theodor-Boveri-Institute for Biocenter of Würzburg University, Germany
Disclosures: Hany Khattab, None

SA0145 **SDF-1/CXCL12 is Critical for Bone Regeneration: SDF-1β Promotes BMP-2 Function**
Samuel Herberg*[1], Manuel Pelaez[1], Nicole Howie[1], Mohammed Elsalanty[2], Mark Hamrick[3], Carlos Isales[1], Ulf Wikesjö[1], Cristiano Susin[1], William Hill[4]. [1]Georgia Regents University, USA, [2]Georgia Health Science University, USA, [3]Georgia Health Sciences University, USA, [4]Georgia Regents University & Charlie Norwood VAMC, USA
Disclosures: Samuel Herberg, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: GENERAL

SA0146 **A novel oxysteol, Oxy133, promotes cranial bone regeneration through Hedgehog signaling pathway.**
Akishige Hokugo*[1], Andrew Li[1], Farhad Parhami[2], Reza Jarrahy[1]. [1]David Geffen School of Medicine at UCLA, USA, [2]University of California, Los Angeles, USA
Disclosures: Akishige Hokugo, None

SA0147 **EGF suppresses BMP-induced osteogenic differentiation through the up-regulation of Smurf1 expression**
Jeong-Hwa Baek*[1], Hye-Lim Lee[2], Hyun-Mo Ryoo[2], Kyung Mi Woo[2]. [1]Seoul National University, School of Dentistry, South Korea, [2]Seoul National University School of Dentistry, South Korea
Disclosures: Jeong-Hwa Baek, None

SA0148 **Enhanced Bone Regeneration Utilizing Non-Viral Nanoplex Activated Collagen Scaffolds**
Satheesh Elangovan*[1], Sheetal D'Mello[2], Liu Hong[3], Ryan Ross[4], Clark Stanford[1], Georgia Johnson[3], Rick Sumner[5], Aliasger Salem[2]. [1]University of Iowa, USA, [2]University of Iowa College of Pharmacy, USA, [3]University of Iowa College of Dentistry, USA, [4]Rush University Medical Center, USA, [5]Rush University Medical College, USA
Disclosures: Satheesh Elangovan, International Team of Implantologist Foundation, 2

SA0149 **Inhibition of Hedgehog But Not Trpv1 Signaling Sustainably Attenuates Heterotopic Ossification Induced by Midpoint Achilles Tenotomy**
Ina Kramer*[1], Charles Gerard Moes[1], Annabelle Heier[1], Janet Dawson[1], Francesco Galimi[2], Mark Nash[1], Ursula Schramm[1], Michaela Kneissel[1], Sabine Guth-Gundel[1]. [1]Novartis Institutes for Biomedical Research, Switzerland, [2]Genomics Institute of the Novartis Research Foundation, USA
Disclosures: Ina Kramer, Novartis Institutes for BioMedical Research, 3

SA0150 **Novel Hedgehog Agonists Regulate Dental Epithelial Cell Proliferation and Differentiation**
Masahiro Naruse*[1], Tomoko Ikeuchi[2], Yuta Chiba[2], Mariko Ono[2], Satoshi Fukumoto[2], Takashi Nakamura[2]. [1]Tohoku University, Graduate School of Dentistry, Japan, [2]Tohoku University Graduate School of Dentistry, Japan
Disclosures: Masahiro Naruse, None

SA0151 **Oncostatin M Promotes Osteoblastic Differentiation of Human Vascular Smooth Muscle Cells**
Yoshinori Kakutani*[1], Atsushi Shioi[2], Tetsuo Shoji[3], Hirokazu Okazaki[4], Hidenori Koyama[4], Masanori Emoto[1], Masaaki Inaba[1]. [1]Department of Metabolism, Endocrinology, & Molecular Medicine, Osaka City University Graduate School of Medicine, Japan, [2]Osaka City University Graduate School of Medicine, Japan, [3]Department of Geriatrics & Vascular Medicine, Osaka City University Graduate School of Medicine, Japan, [4]Department of Internal Medicine, Division of Endocrinology & Metabolism, Hyogo College of Medicine, Japan
Disclosures: Yoshinori Kakutani, None

SA0152 **Remote Remodeling Does Not Contribute to Systemic Differences in Biomarkers Following Local Skeletal Insult**
Ryan Ross*[1], Amarjit Virdi[1], Shou Liu[2], Kotaro Sena[3], D. Rick Sumner[1]. [1]Rush University Medical Center, USA, [2]University of Maryland, USA, [3]Kagoshima University, Japan
Disclosures: Ryan Ross, None

SA0153 **Withdrawn**

SA0154 **SH3BP2 "Cherubism" Gain-of-Function Mutation Exacerbates Inflammation and Bone Erosion in Murine Collagen-Induced Arthritis Model**
Tomoyuki Mukai*[1], Shu Ishida[1], Teruhito Yoshitaka[2], Yoshitaka Morita[3], Keiichiro Nishida[4], Yasuyoshi Ueki[5]. [1]University of Missouri - Kansas City, USA, [2]University Missouri-Kansas City, School of Dentistry, USA, [3]Kawasaki Medical University, Japan, [4]Okayama University, Japan, [5]University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Tomoyuki Mukai, None

SA0155 **Tissue-type Plasminogen Activator Is Involved in Bone Repair**
Naoyuki Kawao*[1], Yukinori Tamura[1], Katsumi Okumoto[2], Masato Yano[1], Kiyotaka Okada[1], Osamu Matsuo[1], Hiroshi Kaji[1]. [1]Kinki University Faculty of Medicine, Japan, [2]Life Science Research Institute, Kinki University, Japan
Disclosures: Naoyuki Kawao, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: INSULIN-LIKE GROWTH FACTORS AND BINDING PROTEINS

SA0156 **EphrinB2/EphB4 Mediates the Actions of IGF-I Signaling in Regulating Vascularization during Endochondral Bone Formation**
Yongmei Wang*[1], Alicia Menendez[2], Chak Fong[3], Daniel Bikle[4]. [1]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [2]Endocrine Unit, University of California, San Francisco/San Francisco VA Medical Center, USA, [3]Endocine Unit, University of California, San Francisco/San Francisco VA Medical Center, USA, [4]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Yongmei Wang, None

SA0157 **IGF-I – Estrogen Cross Talk is Essential for Cortical Bone Response to Mechanical Loading in Mice**
Bhat Chetan*[1], Subburaman Mohan[2], Jon Wergedal[2], Chandrasekhar Kesavan[2]. [1]JLP VA Medical Center, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Bhat Chetan, None

SA0158 **Osteoblast-Specic Loss of IGF-1R Results in Impaired Callus Formation during Tibial Fracture Healing**
Tao Wang*[1], Yongmei Wang[2], Muriel Babey[3], Frankie Fong[2], Candice GT Tahimic[4], Alicia Menendez[2], Zhiqiang Cheng[1], Daniel Bikle[4]. [1]University of California, San Francisco, USA, [2]University of California, San Francisco, California, USA, [3]UCSF, Division of Endocrinology, USA, [4]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Tao Wang, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: OSTEOIMMUNOLOGY

SA0159 **Differential regulation of osteoblast function by toll-like receptor 2 and 4**
Wareeratn Chengprapakorn*[1], Alejandro Garcia[2], Rene Chun[3], Ichiro Nishimura[4], Martin Hewison[4]. [1]University of California Los Angeles, USA, [2]Univ. of California, Los Angeles, USA, [3]UCLA/Orthopedic Hospital Research Center, USA, [4]University of California, Los Angeles, USA
Disclosures: Wareeratn Chengprapakorn, None

SA0160 **Ovariectomy Induces Short-Term Hemopoietic Stem Cell Expansion through T Cells**
Jau-Yi Li*[1], Jonathan Adams[2], Laura Calvi[3], M. Neale Weitzmann[2], Roberto Pacifici[2]. [1]Emory University, USA, [2]Emory University School of Medicine, USA, [3]University of Rochester School of Medicine, USA
Disclosures: Jau-Yi Li, None

SA0161 **The Molecular Mechanism of Macrophage Polarization Epigenetically Regulated by Adiponectin in Obesity**
Dong Ying Xuan*, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Dong Ying Xuan, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: TRANSFORMING GROWTH FACTOR

SA0162 **Inhibition of TGF-β Signaling in Osteoblasts Leads to Activation of SOST and AXIN, Sciliosis-like Pathological Defects in Mice.**
Hsin-chiu Ho*[1], Shen-chin Hsu[2], Shanshan Shi[3], Eric Beier[3], Yongchun Zhang[3], Tzong-Jen Sheu[3], Mo Chen[4], Min-jon Lin[5], Wei Hsu[3], J. Edward Puzas[6]. [1]Wan-Chuan Clinics, Fangliao General Hospital, Taiwan, [2]Chung Shan Medical University Hospital Dept of Pharmacy, Taiwan, [3]University of Rochester, USA, [4]Columbia University, USA, [5]Chung Shan Medical University Dept of Biomedical Sciences, Taiwan, [6]University of Rochester School of Medicine, USA
Disclosures: Hsin-chiu Ho, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: CKD AND METABOLIC BONE DISEASE

SA0163 **Atypical Femoral Fractures: Radiographic and Histomorphometric Features in 19 Patients**
Aliya Khan*[1], Angela M. Cheung[2], O. Ahmed Khan[3], Zohair Rahman[4], Ken Pritzker[5], Brian Lentle[6]. [1]McMaster University, Canada, [2]University Health Network-University of Toronto, Canada, [3]Oakville Bone Centre, Canada, [4]McMaster, Canada, [5]University of Toronto, Canada, [6]University of British Columbia, Canada
Disclosures: Aliya Khan, AMGEN, Merck, NPS, 2

SA0164 **Chronic Kidney Disease Induces a Microarchitectural Alteration at the Spine as Evaluated by TBS**
Edward Leib*[1], Renaud Winzenrieth[2], Didier Hans[3]. [1]University of Vermont, USA, [2]Medimaps, Hôpital X. Arnozan, PTIB, Pessac, France, [3]Lausanne University Hospital, Switzerland
Disclosures: Edward Leib, None

SA0165 **FGF23 neutralization improves bone quality and osseointegration of titanium implants in chronic kidney disease mice**
Ningyuan Sun*[1], shiwen zhang[2], Huawei Zou[2], Victoria Shalhoub[3], Reinhold Erben[4], Quan Yuan[5], Beate Lanske[5]. [1]State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, , [2]State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, China, [3]Amgen Inc., USA, [4]University of Veterinary Medicine, Austria, [5]Harvard School of Dental medicine, USA
Disclosures: Ningyuan Sun, None

SA0166 **Serum Sclerostin Predicts Bone Loss more Strongly than Age in Patients with CKD-5D**
Hartmut Malluche*[1], Daniel Davenport[2], Gustav Blomquist[3], Marie-Claude Faugere[1]. [1]University of Kentucky Medical Center, USA, [2]University of Kentucky, Department of Surgery, USA, [3]University of Kentucky, Department of Radiology, USA
Disclosures: Hartmut Malluche, None

SA0167 **The CKD-MBD is Established in Early CKD by Stimulation of Vascular Calcification, Modulation of Osteocyte Function and an Osteodystrophy While Ca, Pi, VitD and PTH are Normal.**
Keith Hruska*[1], Yifu Fang[2], Toshifumi Sugatani[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Keith Hruska, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: CONGENITAL AND GENETIC BONE DISEASES

SA0168 **Localization Of The Gene For X-linked Calvarial Hyperostosis To Xq27.3-Xqter**
Vere Borra*[1], Ellen Steenackers[1], Els Van Hul[2], Ian Glass[3], Wim Van Hul[1]. [1]University of Antwerp, Belgium, [2]University & University Hospital Antwerp, Belgium, [3]University of Washington, Seattle Children's Hospital, USA
Disclosures: Vere Borra, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: HYPERCALCEMIA OF MALIGNANCY

SA0169 **Denosumab Treatment of Persistent or Relapsed Hypercalcemia of Malignancy (HCM)**
Karl Insogna*[1], Mimi Hu[2], Ilya Glezerman[3], Sophie Leboulleux[4], Rasim Gucalp[5], Waldemar Misiorowski[6], Bennett Yu[7], Paul Zorsky[7], Diego Tosi[8], Alberto Bessudo[9], Arnaud Jaccard[10], Giuseppe Tonini[11], Wendy Ying[12], Ada Braun[12], Rajul Jain[12]. [1]Yale University School of Medicine, USA, [2]University of Texas, M. D. Anderson Cancer Center, USA, [3]Memorial Sloan-Kettering Cancer Center & Weill Cornell Medical College, USA, [4]Institut Gustave Roussy, France, [5]Montefiore Medical Center-Bronx, USA, [6]Endocrinology Department, Medical Center for Postgraduate Education, Poland, [7]Peninsula Regional Medical Center, USA, [8]Centre Val d'Aurelle Paul Lamarque, France, [9]California Cancer Associates for Research & Excellence, USA, [10]Centre Hospitalier Universitaire de Limoges - Hôpital Dupuytren, France, [11]Policlinico Universitario Campus Biomedico, Italy, [12]Amgen Inc., USA
Disclosures: Karl Insogna, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: OSTEOMALACIA/RICKETS

SA0170 **A New Class of Osteoblast Ion Transport Defects Causing Delayed Mineralization**
Li Liu*[1], Deborah Nelson[2], Paul Schlesinger[3], Lisa Robinson[1], Peter Friedman[4], Harry Blair[1]. [1]University of Pittsburgh, USA, [2]University of Chicago, USA, [3]Washington University, USA, [4]University of Pittsburgh School of Medicine, USA
Disclosures: Li Liu, None

SA0171 **The Effects of Loss of Function *PHEX*/*Phex* Mutations in X-Linked Hypophosphatemia are Mediated by Up-Regulation of the MicroRNA335 Family**
Baozhi Yuan*[1], Abigail Radcliff[2], Michael Johnson[1], Robert Blank[1], Marc Drezner[1]. [1]University of Wisconsin, USA, [2]University of Wisconsin-Madison, USA
Disclosures: Baozhi Yuan, None

SA0172 **Beneficial Effects of PTH(1-84) in Hypoparathyroidism as Determined by Microarchitectural Texture Assessment (TBS): a 4-year Experience**

Barbara Silva*[1], Natalie Cusano[2], Chiyuan Zhang[3], Dinaz Irani[1], Jim Sliney Jr[1], Zachary Lenane[3], Laura Beth Anderson[3], Stephanie Boutroy[4], Didier Hans[5], Mishaela Rubin[3], John Bilezikian[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]INSERM U1033 & Université de Lyon, France, [5]Lausanne University Hospital, Switzerland

Disclosures: Barbara Silva, None

SA0173 **Bone-Related Complications Reported Among Patients With Hypoparathyroidism: Patients' Attitudes and Reponses About HypoparathyroiDism TOleration EXplored (PARADOX Study)**

Bart Clarke*[1], James Sanders[2], Hjalmar Lagast[3]. [1]Mayo Clinic College of Medicine, USA, [2]Hypoparathyroidism Association, Inc., USA, [3]NPS Pharmaceuticals, Inc., USA

Disclosures: Bart Clarke, NPS Pharmaceuticals, Inc., 5

SA0174 **CDC73/HRPT2 mutations and parafibromin immunohistochemistry in a large series of sporadic parathyroid carcinomas and atypical adenomas**

Filomena Cetani*[1], Chiara Banti[2], Elena Pardi[2], Liborio Torregrossa[3], Simona Borsari[2], Federica Saponaro[2], Massimo Rugge[4], Gianmaria Pennelli[4], Mariarosa Pelizzo[5], Mauro Papotti[6], Marco Volante[7], Guido Gasparri[8], Paolo Miccoli[3], Claudio Marcocci[1]. [1]University of Pisa, Italy, [2]Department of Clinical & Experimental Medicine, University of Pisa, Italy, [3]Department of Surgical, Medical & Molecular Pathology, University of Pisa, Italy, [4]Department of Medicine, University of Padova, Italy, [5]Department of Medical & Surgical Sciences, Italy, [6]Department of Clinical & Biological Sciences, University of Torino, Italy, [7]Department of Clinical & Biological Sciences, University of Torino, Italy, [8]Department of Surgical Sciences, University of Torino, Italy

Disclosures: Filomena Cetani, None

SA0175 **Changes in Bone Turnover Markers and Bone Mineral Density with Recombinant Human Parathyroid Hormone, rhPTH(1-84), in Hypoparathyroidism: Potential Utility as Surrogate Endpoints for Monitoring - the REPLACE Study**

John Bilezikian*[1], Tamara Vokes[2], Jeffrey Rothman[3], Bart Clarke[4], Michael Mannstadt[5], Hjalmar Lagast[6], Dolores Shoback[7]. [1]College of Physicians & Surgeons, Columbia University, USA, [2]University of Chicago, USA, [3]Staten Island University Hospital, USA, [4]Mayo Clinic College of Medicine, USA, [5]Massachusetts General Hospital & Harvard Medical School, USA, [6]NPS Pharmaceuticals, Inc., USA, [7]University of California-San Francisco Veterans Affairs Medical Center, USA

Disclosures: John Bilezikian, NPS Pharmaceuticals, Inc., 2; NPS Pharmaceuticals, Inc., 5

SA0176 **Effects of Long Term PTH(1-84) Replacement Therapy in Hypoparathyroidism and the Consequence of Termination of Therapy**

Tanja Sikjaer*[1], Lars Rolighed[2], Emil Moser[3], Leif Mosekilde[3], Lars Rejnmark[2]. [1]Department of Medicine & Endocrinology, MEA Aarhus University Hospital, Denmark, [2]Aarhus University Hospital, Denmark, [3]Department of Endocrinology & Internal Medicine, MEA, Aarhus University Hospital, Denmark

Disclosures: Tanja Sikjaer, None

SA0177 **Methylation of cytosine-guanine dinucleotide (CpG) islands of vitamin D receptor (VDR) and calcium sensing receptor (CaSR) genes in parathyroid adenomas**

Sanjay Bhadada*[1], Shweta Varshney[2], Naresh Sachdeva[3], Uma Nahar Saikia[4], Ashutosh Arya[2], Arunanshu Behera[5], Sudhaker D. Rao[6]. [1]PGIMER, Chandigarh, India, [2]Department of Endocrinology, PGIMER, India, [3]Department of Endocrinology, India, [4]Department of Histopathology, PGIMER, India, [5]Department of General Surgery, India, [6]Henry Ford Hospital, USA

Disclosures: Sanjay Bhadada, None

SA0178 **Normocalcemic Primary Hyperparathyroidism: BMD gain at the individual patient level after parathyroidectomy**
Eugenie Koumakis*[1], Jean-Claude Souberbielle[2], Emile Sarfati[3], Didier Borderie[4], Andre Kahan[5], Catherine Cormier[6]. [1]Hôpital Cochin, France, [2]Explorations Fonctionnelles, Hôpital Necker Enfants Malades, France, [3]Chirurgie Générale et Endocrinienne, Hôpital Saint-Louis, Paris, France, [4]Laboratoire de Biochimie Générale et Spécialisée, Hôpital Cochin, Paris, France, [5]Rheumatology Department A, Cochin Hospital, France, [6]AP-HP Groupe Hospitalier Cochin, France
Disclosures: Eugenie Koumakis, None

SA0179 **Parathyroid Hormone Regulates Bone Microstructure: Reciprocal Changes After Treatment of Hyper- and Hypoparathyroid Subjects**
Natalie Cusano*[1], Mishaela Rubin[2], Barbara Silva[3], Chiyuan Zhang[2], Wen-Wei Fan[1], Megan Romano[1], Laura Beth Anderson[2], Jim Sliney Jr[3], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Natalie Cusano, None

SA0180 **Parathyroidectomy eliminates arrhythmic risk in primary hyperparathyroidism, as evaluated by exercise test**
Jessica Pepe*[1], Mario Curione[2], Marisa Varrenti[2], Mirella Cilli[2], Sara Piemonte[2], Cristiana Cipriani[3], Claudio Savoriti[2], Orlando Raimo[2], Federica De Lucia[2], Carolina Clementelli[2], Elisabetta Romagnoli[4], Salvatore Minisola[3]. [1]"Sapienza", Univeristy of Rome, Italy, [2]"Sapienza", University of Rome, Italy, [3]"Sapienza", University of Rome, Italy, [4]"Sapienza", University of Rome, Italy
Disclosures: Jessica Pepe, None

SA0181 **Predictors of Bone Mass Recovery Following Cure of Primary Hyperparathyroidism: 1-Year Follow-Up of 49 cases**
Bruno Ferraz-de-Souza*[1], Regina M Martin[1], Manuela GM Rocha-Braz[1], Adriana M Fernandes[1], Pedro Henrique Correa[2]. [1]Univ of Sao Paulo School of Medicine (FMUSP), Brazil, [2]University of Sao Paulo School of Medicine, Brazil
Disclosures: Bruno Ferraz-de-Souza, None

SA0182 **Standard Definition of Vitamin D Deficiency Does Not Identify Bone Mineral Density Differences in Mild Primary Hyperparathyroidism**
Elaine Cong*[1], Marcella Walker[2], Chiyuan Zhang[2], Shonni Silverberg[2]. [1]Columbia Presbyterian Medical Center, USA, [2]Columbia University, USA
Disclosures: Elaine Cong, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: VASCULAR AND ECTOPIC CALCIFICATION

SA0183 **Carotid Calcification and Osteoporosis in Postmenopausal Women – OSTPRE BBA – Study**
Miika Värri*[1], Tomi-Pekka Tuomainen[2], Risto Honkanen[3], Heikki Kroger[4], Marjo Tuppurainen[4]. [1]Bone & Cartilage Research Unit, University of Eastern Finland, Finland, [2]Institute of Public Health & Clinical Nutrition, University of Eastern Finland, Finland, [3]University of Eastern Finland, Finland, [4]Kuopio University Hospital, Finland
Disclosures: Miika Värri, None

SA0184 **Ectopic mineralization of spinal tissues in mice lacking equilibrative nucleoside transporter 1: Age-dependent alterations in the expression of genes regulating biomineralization**
Hisataka Ii*[1], Sumeeta Warraich[1], Diana Quinonez[1], James R. Hammond[2], S. Jeffrey Dixon[3], Cheryle A. Séguin[1]. [1]University of Western Ontario, Canada, [2]University of Alberta, Canada, [3]The University of Western Ontario, Canada
Disclosures: Hisataka Ii, None

MUSCLE AND BONE INTERACTIONS (BASIC): CELLULAR AND MOLECULAR MECHANISMS

SA0185 **Effects of Irisin on Bone Metabolism and its Signal Mechanism**
Jin Zhang*, Jessica Cheng, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Jin Zhang, None

SA0186 **Potential Role of Leptin and BMP2 in Osteocyte Regulation of Muscle Mass and Function in the Adult Skeleton and With Age**
Jeffrey Gorski*[1], Nichole T. Huffman[2], Leticia Brotto[2], Mark Dallas[2], Anne Breggia[3], Sridar V. Chittur[4], Jian Huang[2], Chenglin Mo[2], Ying Liu[2], Nabil G. Seidah[5], Clifford Rosen[3], Marco Brotto[1], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA, [3]Maine Medical Center, USA, [4]Center for Functional Genomics, University of Albany, SUNY, USA, [5]Clinical Research Institute of Montreal, Canada
Disclosures: Jeffrey Gorski, None

MUSCLE AND BONE INTERACTIONS (BASIC): GENERAL

SA0187 **Interdependence of Muscle and Bone Loss Induced by Disuse and Aging**
Shane Lloyd*, Yue Zhang, Emmanuel Paul, Lacee Laufenberg, Charles Lang, Henry Donahue. The Pennsylvania State University College of Medicine, USA
Disclosures: Shane Lloyd, None

SA0188 **Muscle, Physical Activity and Sedentary Time are Independent Predictors of Bone Strength in Post-Menarcheal Girls**
Vina Tan*[1], Lindsay Nettlefold[2], Heather Macdonald[1], SoJung Kim[3], Douglas Race[2], Joan Wharf-Higgins[4], Patti-Jean Naylor[4], Heather McKay[1]. [1]University of British Columbia, Canada, [2]Centre for Hip Health & Mobility, Canada, [3]University of British Columbia, South Korea, [4]University of Victoria, Canada
Disclosures: Vina Tan, None

SA0189 **Muscle-Bone Interactions during Multiple Hindlimb Unloading and Reambulation Cycles**
Sarah Manske*[1], Surabhi Vijayaraghavan[1], Alyssa Tuthill[1], Jean Olivier Brutus[1], Shikha Gupta[2], Stefan Judex[1]. [1]Stony Brook University, USA, [2]State University of NY, Stonybrook, USA
Disclosures: Sarah Manske, None

SA0190 **Visualizing the Skeletal Response to Resistance Exercise**
Thomas Lang*[1], Isra Saeed[2], Julio Carballido-Gamio[2], Roy Harnish[2], Lynda Frassetto[2], Tim Streeper[2], Jean Sibonga[3], Stuart Lee[3], Joyce Keyak[4], Peter Cavanagh[5]. [1]University of California, San Francisco, USA, [2]UC San Francisco, USA, [3]NASA, USA, [4]Department of Radiological Sciences, University of California, Irvine, USA, [5]University of Washington, USA
Disclosures: Thomas Lang, Amgen, 5

MUSCLE BIOLOGY (BASIC): GENERAL

SA0191 **17β-Estradiol and Testosterone Exert Antiapoptotic Effects in Skeletal Muscle Cells Involving AR, ER, ERK, MnSOD and COXIV**
Anabela La Colla, Lucia Pronsato, Ana Carolina Ronda, Lorena Milanesi, Andrea Vasconsuelo, Ricardo Boland*. Universidad Nacional del Sur, Argentina
Disclosures: Ricardo Boland, None

SA0192 **Selective RARγ agonist blocks heterotopic ossification and promotes skeletal muscle repair**
Agnese Di Rocco*[1], Kenta Uchibe[2], Maurizio Pacifici[2], Masahiro Iwamoto[2]. [1]Children's Hospital of Philadelphia, ARC, USA, [2]Children's Hospital of Philadelphia, USA
Disclosures: Agnese Di Rocco, None

MUSCLE BIOLOGY (CLINICAL): CLINICAL APPLICATION OF MUSCLE WASTING AND DISEASE

SA0193 **Clinical Definitions of Sarcopenia and Risk of Falls and Hip Fractures in Older Men: The Osteoporotic Fractures in Men (MrOS) Study**
Peggy Cawthon*[1], Terri Blackwell[2], Jane Cauley[3], Christine Lee[4], Deborah Kado[5], Elizabeth Barrett-Connor[5], Andy Hoffman[6], Marcia Stefanick[6], Michael Nevitt[7], Nancy Lane[8], Kristine Ensrud[9], Steven Cummings[10], Eric Orwoll[4]. [1]California Pacific Medical Center Research Institute, USA, [2]CPMCRI, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Oregon Health & Science University, USA, [5]University of California, San Diego, USA, [6]Stanford, USA, [7]UCSF, USA, [8]University of California, Davis Medical Center, USA, [9]Minneapolis VA Medical Center / University of Minnesota, USA, [10]San Francisco Coordinating Center, USA
Disclosures: Peggy Cawthon, None

MUSCLE BIOLOGY (CLINICAL): GENERAL

SA0194 **CKMM Polymorphism Is Associated with Physical Fitness Test Scores In Military Recruits**
Courtney Sprouse*[1], Laura Tosi[1], Jason Lipof[2], Mai Abdel-Ghani[3], Hugo Clifford[2], Kirsten Norrell[2], Nathanael Leo[2], Victoria Rentas[4], Heather Gordish-Dressman[1], Joseph Devaney[1], Karen Kelly[5]. [1]Children's National Medical Center, USA, [2]George Washington University, USA, [3]George Mason University, USA, [4]Howard University, USA, [5]Naval Health Research Center, USA
Disclosures: Courtney Sprouse, None

SA0195 **The relationship between HRpQCT derived muscle parameters and DXA derived lean tissue mass**
Marta Erlandson*[1], Eva Szabo[1], Miranda Boggild[2], Nicolas Vilayphiou[3], Robert Josse[4], Angela M. Cheung[5]. [1]University Health Network, Canada, [2]University of Toronto, Canada, [3]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [4]St. Michael's Hospital, University of Toronto, Canada, [5]University Health Network-University of Toronto, Canada
Disclosures: Marta Erlandson, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

SA0196 **Apoptosis Induced by Bilirubin and Lithocholic Acid in Human Osteoblasts Is Decreased by Ursodeoxycholic Acid**
Silvia Ruiz-Gaspa*[1], Marta Dubreuil[2], Andres Combalia[3], Pilar Peris[4], Ana Monegal[3], Albert Pares[5], Nuria Guanabens[6]. [1]Centro de Investigación Biomédica en Red en Enfermedades Hepáticas y Digestivas (CIBERehd), Spain, [2]Centro de Investigación Biomédica en Red en Enfermedades Hepáticas y Digestivas (CIBERehd), Spain, [3]Metabolic Bone Diseases Unit, Department of Rheumatology &, Spain, [4]Hospital Clínic of Barcelona, Spain, [5]Liver Unit, Digestive Diseases Institute, Hospital Clínic, IDIBAPS, University of Barcelona, Spain, [6]Universitat De Barcelona, Spain
Disclosures: Silvia Ruiz-Gaspa, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

SA0197 **A *Gja1* Oculodentodigital Dysplasia Mutant Discloses Complex Functions of Connexin43 (Cx43) in Bone Modeling and Homeostasis**
Marcus Watkins*[1], Susan Grimston[1], Jin Yi Norris[2], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in Saint Louis, USA
Disclosures: Marcus Watkins, None

SA0198 **ATF4 Regulates Bone Angiogenesis by Promoting VEGF Expression And Release in the Bone Environment**
Ke Zhu*[1], Hongli Jiao[2], Shuai Li[1], Huiling Cao[3], Deborah Galson[3], Zhongfang Zhao[1], Xi Zhao[1], Yumei Lai[4], Jie Fan[5], Hee-Jeong Im[6], Di Chen[7], Guozhi Xiao[7]. [1]College of Life Sciences, Nankai University, China, [2]Department of Biochemistry, Rush University Medical Center, USA, [3]University of Pittsburgh School of Medicine, USA, [4]Department of Biochemistry, Rush University Medical Center, USA, [5]Department of Surgery, University of Pittsburgh, USA, [6]Department of Biochemistry, Rush University Medical Center, Chicago, Illinois 60612, USA, [7]Rush University Medical Center, USA
Disclosures: Ke Zhu, None

SA0199 **c-Abl broadcasts BMP-2 function to Osterix and CSF-1 for concerted osteogenesis via PI 3 kinase/Akt**
Nandini Ghosh-Choudhury*. University of Texas Health Science Center at San Antonio, USA
Disclosures: Nandini Ghosh-Choudhury, None

SA0200 **Diabetes Inhibits Bone Formation via Regulation of Histone Acetylation by HDAC2**
Qianqian Han*, Liming Yu, Dong Ying Xuan, Lan Zhang, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Qianqian Han, None

SA0201 **Hypoxia-Inducible Factor-1α-Induced Bone Anabolism Requires Heightened Glycolysis**
Jenna Regan*[1], Kyu Sang Joeng[2], Emel Esen[3], Fanxin Long[4]. [1]Washington University St. Louis, USA, [2]Baylor College of Medicine, USA, [3]Washington University St Louis, USA, [4]Washington University School of Medicine, USA
Disclosures: Jenna Regan, None

SA0202 **Intermittent PTH Increases Bone Formation but Not Bone Mass in Osteopenic Mice Lacking Gsa in Osteoblasts**
Rhiannon Chubb[1], Partha Sinha[1], Piia Aarnisalo[2], Rachelle Johnson[3], Ingrid Poulton[4], Min Chen[5], Lee Weinstein[5], Natalie Sims[6], Henry Kronenberg[1], Joy Wu*[7]. [1]Massachusetts General Hospital, USA, [2]University of Helsinki & Helsinki University Central Hospital, Finland, [3]St. Vincent's Institute of Medical Research, Australia, [4]St. Vincent's Institute for Medical Research, Australia, [5]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [6]St. Vincent's Institute for Medical Research, Australia, [7]Stanford University School of Medicine, USA
Disclosures: Joy Wu, None

SA0203 **Isolation and Characterization of Human Osteoblasts From Needle Biopsies Without *In Vitro* Culture**
Koji Fujita*[1], Matthew Roforth[1], James Peterson[1], Salman Kirmani[1], Matthew Drake[2], Louise McCready[1], David Monroe[3], Sundeep Khosla[4]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA, [3]Mayo Foundation, USA, [4]Mayo Clinic College of Medicine, USA
Disclosures: Koji Fujita, None

SA0204 **Microvesicles released from stromal/osteoblast facilitate ostoclast formation via RANK/RANKLOPG pathway**
Lili Deng*[1], Ying Peng[1], Yu Wu[1], Yuedi Ding[1], Meilin Yang[1], Qiang Fu[2]. [1]Jiangsu Institute of Nuclear Medicine, China, [2]Institute of Nuclear Medicine, Peoples Republic of China
Disclosures: Lili Deng, None

SA0205 **New therapeutic approach for the induction of bone formation by muramyl dipeptide**
Ok-Jin Park*[1], Cheol-Heui Yun[2], Seung Hyun Han[1]. [1]School of Dentistry, Seoul National University, South Korea, [2]Department of Agricultural Biotechnology & Research Institute for Agriculture & Life Sciences, Seoul National University, South Korea
Disclosures: Ok-Jin Park, None

SA0206 **Osteoblast GH actions promote bone mass and strength through mechanisms that are independent of local IGF-I production: Lessons from the SOCS2 knockout mouse.**
Ross Dobie*[1], Vicky MacRae[2], Carmen Huesa[2], Rob van't Hof[2], S. Faisal Ahmed[3], Colin Farquharson[4]. [1]Edinburgh University, United Kingdom, [2]University of Edinburgh, United Kingdom, [3]Royal Hospital for Sick Children, United Kingdom, [4]Roslin Institute, University of Edinburgh, United Kingdom
Disclosures: Ross Dobie, None

SA0207 **Osteoblastic and T Cell-derived RANKL in Bone Remodeling and Modeling**
Toshio Fumoto[1], Sunao Takeshita[1], Masako Ito[2], Kyoji Ikeda*[1]. [1]National Center for Geriatrics & Gerontology, Japan, [2]Nagasaki University Hospital, Japan
Disclosures: Kyoji Ikeda, None

SA0208 **Osteogenic Differentation and Mineralization of Adult Mesenchymal Stem Cells Isolated from Human Periodontal Ligament**
Cecilia Romagnoli*[1], Niccolò Nuti[1], Roberto Zonefrati[1], Francesco Saverio Martelli[2], Marialaura Martelli[2], Elena Fanti[2], Marco Duvina[1], Paolo Tonelli[1], Luisella Cianferotti[3], Annalisa Tanini[1], Maria Luisa Brandi[1]. [1]University of Florence, Italy, [2]I.R.F. in Microdentistry, Italy, [3]University of Florence, Florence, Italy
Disclosures: Cecilia Romagnoli, None

SA0209 **Repair of nonunion with percutaneous autogenous iliac crest bone marrow aspirate; demineralised bone matrix and bone morphogenic protein**
Pingal Desai*, Joseph Lane, Parth Vyas. Hospital for special surgery, USA
Disclosures: Pingal Desai, None

SA0210 **Semaphorin 3A regulates bone homeostasis through sensory nerve system**
Toru Fukuda*[1], Ren Xu[2], Hiroki Ochi[3], Satoko Sunamura[3], Tsuyoshi Sato[4], Shinsuke Shibata[3], Chenshan Ma[2], Cheng Xu[2], Ayako Kimura[2], Yoshinori Asou[2], Mitsuhiro Enomoto[2], Hideyuki Okano[3], Atsushi Okawa[2], Hiroshi Ito[3], Shu Takeda[3]. [1]Keio University School of Medicine, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Keio University, School of Medicine, Japan, [4]Saitama Medical University, Japan
Disclosures: Toru Fukuda, None

SA0211 **TRAPPC9 modulates osteoblast proliferation and differentiation through NIK – IKK signaling**
Thomas Mbimba*[1], Kabrina Monton[2], Kevin Crowford[3], Roshanak Razmpour[3], Samir Abdelmagid[4], Safadi Fayez[5]. [1]Kent State University, USA, [2]Central State University, USA, [3]Temple University, USA, [4]Northeast Ohio Medical University, USA, [5]NEOMED, Temple University, USA
Disclosures: Thomas Mbimba, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

SA0212 **Aminobisphosphonates promote osteoblastic differentiation and function in association with upregulation of Cx43 in vitro**
Dong Jin Chung*, Jin Ook Chung, Dong Hyeok Cho, Min Young Chung. Chonnam National University Medical School, South Korea
Disclosures: Dong Jin Chung, None

SA0213 **Epigenetic Plasticity of MSC Trans-Differentiation and Selective Distal Enhancers for Mmp13**
Mark Meyer*[1], Nancy Benkusky[1], Amber Mael[2], Janet Rubin[3], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]Univerisity of Wisconsin-Madison, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: Mark Meyer, None

SA0214 **Global Epigenetic Changes in Histone Post-translational Modifications Establish the Osteoblast Lineage**
Jonathan Gordon*[1], Hai Wu[1], Troy Whitfield[2], Phillip Tai[3], Andre Van Wijnen[4], Janet Stein[5], Gary Stein[6], Jane Lian[1]. [1]University of Vermont, USA, [2]University of Massachusetts Medical School, Department of Cellular & Developmental Biology, USA, [3]University of Vermont, College of Medicine, Department of Biochemistry, USA, [4]Mayo Clinic, USA, [5]University of Vermont, Department of Biochemistry, USA, [6]University of Vermont, College of Medicine, USA
Disclosures: Jonathan Gordon, None

SA0215 **Lactoferrin activates Osx gene expression through the mitogen-activated protein kinase p38 pathway in osteoblasts**
Chi Zhang*[1], Yang Li[2], Harry Kim[3]. [1]Bone Research Laboratory, Texas Scottish Rite Hospital, USA, [2]Texas Scottish Rite Hospital for Children, USA, [3]Scottish Rite Hospital for Children, USA
Disclosures: Chi Zhang, None

SA0216 **Lysyl Oxidase is a BMP Target Gene Regulated by Smad4 and Runx2 in Osteoblasts**
Valerie Salazar*[1], Gabriel Mbalaviele[2], Vicki Rosen[1], Roberto Civitelli[2]. [1]Harvard School of Dental Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Valerie Salazar, None

SA0217 **MicroRNA-99a is a Novel Regulator of KDM6B-Mediated Osteogenic Differentiation**
Yin Tang*, Lan Zhang, Qianqian Han, Dana Murray, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Yin Tang, None

SA0218 **Oxygen-Dependent Mineralization Differences with High Intrinsic Aerobic Capacity are Associated with Osteoblast Extracellular Matrix Gene Expression**
Jacqueline Cole*[1], Kristin Graf[1], Parth Patel[1], Lauren Koch[1], Steven Britton[1], Andrea Alford[1], Ronald Zernicke[1], Kenneth Kozloff[2]. [1]University of Michigan, USA, [2]University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: Jacqueline Cole, None

SA0219 **P2X7 Nucleotide Receptor Signaling Potentiates the Wnt/β-catenin Pathway in Osteoblasts: Implications for Mechanotransduction in Bone**
Matthew Grol*, Patricia Brooks, Alexey Pereverzev, Stephen Sims, S. Jeffrey Dixon. The University of Western Ontario, Canada
Disclosures: Matthew Grol, None

SA0220 **Prx-1 Coverts MAPK Regulation of Osterix Transcription from Stimulation to Inhibition**
Linda Gilbert[1], Mark Nanes*[2]. [1]VA Medical Center, USA, [2]VA Medical Center & Emory University, USA
Disclosures: Mark Nanes, None

SA0221 **Role of Sirtuin 1 in the Function of PTH in Osteoblasts**
Yurong Fei*[1], Emi Shimizu[1], Teruyo Nakatani[2], Nicola Partridge[1]. [1]New York University College of Dentistry, USA, [2]New York University College of Dentistry, USA
Disclosures: Yurong Fei, None

SA0222 **Stepwise Differentiation of Pluripotent Stem Cells into Osteoblasts with Four Small Molecules under a Serum-free Condition**
Kosuke Kanke*[1], Taku Saito[2], Hironori Hojo[3], Alexander Lichtler[4], Ung-Il Chung[5], Shinsuke Ohba[1]. [1]The University of Tokyo, Japan, [2]University of Tokyo, Graduate School of Medicine, Japan, [3]The Center for Disease Biology & Integrative Medicine, USA, [4]University of Connecticut Health Center, USA, [5]University of Tokyo Schools of Engineering & Medicine, Japan
Disclosures: Kosuke Kanke, None

SA0223 **The Transcriptional Coregulator αNAC is a PKA Substrate Downstream of PTH Signaling**
Martin Pellicelli*[1], Julie Miller[1], Claude Gauthier[1], Rene St-Arnaud[2]. [1]Shriners Hospitals for Children - Canada, Canada, [2]Shriners Hospital for Children & McGill University, Canada
Disclosures: Martin Pellicelli, None

SA0224 **TIEG enhances canonical Wnt signaling in the skeleton via dual mechanisms**
John Hawse*[1], Kevin Pitel[1], Anne Gingery[2], Nalini Rajamannan[3], Malayannan Subramaniam[4], Thomas Spelsberg[4]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic School of Medicine, USA, [3]Northwestern University Medical School, USA, [4]Mayo Clinic, USA
Disclosures: John Hawse, None

SA0225 **Transcription factor AP2 suppresses FZD1 expression and mineralization in osteoblasts**
Shibing Yu*[1], Laura Yerges-Armstrong[2], Yanxia Chu[3], Joseph Zmuda[4], Yingze Zhang[5]. [1]University of Pittsburgh Medical Center, USA, [2]University of Maryland School of Medicine, USA, [3]upmc, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University of Pittsburgh, USA
Disclosures: Shibing Yu, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

SA0226 **N-cadherin Restrains the Anabolic Action of Parathyroid Hormone via Interference with Lrp6/β-catenin Signaling**
Leila Revollo*[1], Jin Norris[2], Gabriel Mbalaviele[3], Roberto Civitelli[3]. [1]Washington University, Division of Bone & Mineral Diseases, USA, [2]Washington University in St Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Leila Revollo, None

SA0227 **PTH Additively Enhances The Mechanical Stress-induced Proliferation of Calvarial Osteoblasts**
Jumpei Shirakawa*[1], Yoichi Ezura[2], Makiri Kawasaki[1], Takayuki Yamada[1], Shuichi Moriya[3], Takuya Notomi[4], Tadayoshi Hayata[5], Ken Omura[1], Masaki Noda[1]. [1]Tokyo medical & dental university, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan, [5]Medical Reserach Institute, Tokyo Medical & Dental University, Japan
Disclosures: Jumpei Shirakawa, None

SA0228 **Rho GTPases control nuclear localization of beta-catenin and TCF/LEF activity in osteoblasts under flow**
Qiaoqiao Wan*[1], Eunhye Cho[2], Ping Zhang[3], Hiroki Yokota[4], Sungsoo Na[2]. [1]Purdue University, USA, [2]Indiana University-Purdue University Indianapolis, USA, [3]Indiana University – Purdue, University Indianapolis, USA, [4]Indiana University Purdue University Indianapolis, USA
Disclosures: Qiaoqiao Wan, None

SA0229 **Tob1, a BMP repressor, is activated by parathyroid hormone in osteoblasts in vitro and in vivo and reciprocally regulates PTH signaling**
Shuichi Moriya*[1], Tadayoshi Hayata[2], Jumpei Shirakawa[3], Makiri Kawasaki[3], Takuya Notomi[4], Yoichi Ezura[5], Kazuo Kaneko[6], Masaki Noda[3]. [1]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [2]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [3]Tokyo medical & dental university, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan, [5]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [6]Department of Orthopaedics, Juntendo University School of Medicine, Japan
Disclosures: Shuichi Moriya, None

SA0230 **Trabecular bone loss in Gα11 transgenic mice is characterized by decreased bone formation and increased osteoclastogenesis**
Ariana Dela Cruz*[1], Michael Mattocks[1], Kim S. Sugamori[1], Marc Grynpas[2], Jane Mitchell[1]. [1]University of Toronto, Canada, [2]Samuel Lunenfeld Research Institute, of Mount Sinai Hospital, Canada
Disclosures: Ariana Dela Cruz, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

SA0231 **A Novel hESC/iPSC Differentiation Protocol Generates a Cell Population with Endochondral Bone Formation Potential**
Xiaonan Xin*[1], Xi Jiang[1], Liping Wang[1], Mary Louise Stover[1], Shuning Zhan[1], Jianping Huang[2], I-Ping Chen[1], Ernst Reichenberger[1], David Rowe[1], Alexander Lichtler[1]. [1]University of Connecticut Health Center, USA, [2]University Connecticut Health Center, USA
Disclosures: Xiaonan Xin, None

SA0232 **Copper Coated Bone Implant Material Prevents Bacterial Growth and Stimulate Osteogenic Differentiation of Mesenchymal Stem Cells**
Ines Burghardt[1], Frank Lüthen[1], Cornelia Prinz[2], Hans-Georg Neumann[2], Joachim Rychly*[1]. [1]Rostock University Medical Center, Germany, [2]DOT GmbH, Germany
Disclosures: Joachim Rychly, None

SA0233 **Effect of Type I Diabetes Mellitus in Circulating Osteoblastic Cells in Pheripheral Blood in Children and Young Adults**
Merce Giner*[1], Ramón Pérez-Temprano[2], M[a] Angeles Vázquez[3], M[a] José Montoya[4], Cristina Miranda[5], M[a] José Miranda[5], Ramón Pérez-Cano[2]. [1]University Hospital Virgen Macarena, Spain, [2]Bone Metabolism Unit, "Virgen Macarena" University Hospital & University of Seville, Spain, [3]Medicine Department, University of Seville, Spain, [4]University of Seville, Spain, [5]Bone Metabolism Unit, "Virgen Macarena" University Hospital of Seville, Spain
Disclosures: Merce Giner, None

SA0234 **Epigenetic Landscaping using HDAC Inhibitors Primes Multi-Potent Human Adipose-Derived Mesenchymal Stem Cells for Osteogenic Lineage-Commitment**
Amel Dudakovic*[1], Andre Van Wijnen[1], Gary Stein[2], Jennifer Westendorf[1], Sergii Kvasha[1], Xiaodong Li[1], Michael Yaszemski[3], Martin Montecino[4], Johannes Van Leeuwen[5], Eric Hesse[6], Simon Cool[7], Alan Dietz[1]. [1]Mayo Clinic, USA, [2]University of Vermont, College of Medicine, USA, [3]Mayo Clinic College of Medicine, USA, [4]Universidad de Concepcion, Chile, [5]Erasmus University Medical Center, The Netherlands, [6]University Medical Center Hamburg-Eppendorf, Germany, [7]Institute of Medical Biology, Singapore
Disclosures: Amel Dudakovic, None

SA0235 **Epigenetic modification enables transdifferentiation between adipocytes and osteoblasts**
YOUNG DAN CHO*[1], Won Joon Yoon[1], Kyung Mi Woo[2], Jeong-Hwa Baek[3], Hyun-Mo Ryoo[2]. [1]Seoul National University, South Korea, [2]Seoul National University School of Dentistry, South Korea, [3]Seoul National University, School of Dentistry, South Korea
Disclosures: YOUNG DAN CHO, None

SA0236 **Intermittent PTH administration inhibits transformation of mature osteoblasts into quiescent lining cells.**
Mi Gyeong Jang*[1], Seung Hye Kim[1], Jae-Yeon Yang[1], Hyojung Park[1], Jung Hee Kim[2], Sun Wook Cho[3], Jung-Eun Kim[4], Chan Soo Shin[5], Sang Wan Kim[6]. [1]Seoul National University, South Korea, [2]Seoul National University College of Medicine, South Korea, [3]National Medical Center, South Korea, [4]Kyungpook National University School of Medicine, South Korea, [5]Seoul National University College of Medicine, South Korea, [6]Seoul National University Boramae Hospital, South Korea
Disclosures: Mi Gyeong Jang, None

SA0237 **Normoxia vs Hypoxia: Nutrient Activation of Distinct Signaling Pathways in Bone Marrow Mesenchymal Stem Cells is Dependent on Experimental Conditions**
Mona El Refaey*[1], Qing Zhong[2], Xing-Ming Shi[3], Yun Su[1], Kehong Ding[3], William Hill[4], Wendy Bollag[1], Maribeth Johnson[1], Norman Chutkan[1], Mark Hamrick[3], Carlos Isales[1]. [1]Georgia Regents University, USA, [2]Medical College of Georgia, USA, [3]Georgia Health Sciences University, USA, [4]Georgia Regents University & Charlie Norwood VAMC, USA
Disclosures: Mona El Refaey, None

SA0238 **N-Terminus Amelogenin Peptide Induces Osteoblastic Differentiation of Stem Cells through ERK1/2**
Rene Olivares-Navarrete*[1], Sharon Hyzy[2], Kathryn Vesper[3], Argelia Almaguer-Flores[4], Zvi Schwartz[1], Barbara Boyan[1]. [1]Virginia Commonwealth University, USA, [2]Georgia Tech, USA, [3]Georgia Regents University, USA, [4]Universidad Nacional Autonoma de Mexico, Mexico
Disclosures: Rene Olivares-Navarrete, None

SA0239 **Pigment Epithelium Derived Factor Enhances Differentiation and Mineral deposition of Human Mesenchymal Stem Cells**
Feng Li*[1], Na Song[1], Joyce Tombran-Tink[1], Christopher Niyibizi[2]. [1]Penn State College of Medicine, USA, [2]The Pennsylvania State University College of Medicine, USA
Disclosures: Feng Li, None

SA0240 **Pin1 plays a critical role in Wnt3a-induced osteoblast differentiation through structural modification of β-catenin**
Hea-rim SHIN*[1], Taegyung Lee[1], Young-Dan Cho[1], Won-Joon Yoon[1], Kyung Mi Woo[2], Jeong-Hwa Baek[3], Hyun-Mo Ryoo[2]. [1]Seoul National University, South Korea, [2]Seoul National University School of Dentistry, South Korea, [3]Seoul National University, School of Dentistry, South Korea
Disclosures: Hea-rim SHIN, None

SA0241 **Prostaglandin E2 Regulates Osteoblastic Niche Selectively for Hematopoietic Progenitors through Induction of Osteopontin via EP4 Receptor**
Yuko Kawano*[1], Mari Sato[2], Noboru Asada[2], Chie Fukui[2], Kanako Wakahashi[2], Hiroki Kawano[2], Kentaro Minagawa[2], Akiko Sada[2], Satoshi Uematsu[3], Shizuo Akira[3], Toshimitsu Uede[4], Shuh Narumiya[5], Toshimitsu Matsui[2], Yoshio Katayama[6]. [1]Hematology, Kobe University Graduate School of Medicine, Japan, [2]Hematology, Department of Medicine, Kobe University Graduate School of Medicine, Japan, [3]Laboratory of Host Defense, WPI Immunology Frontier Research Center, Osaka University, Japan, [4]Division of Molecular Immunology, Institute for Genetic Medicine, Hokkaido University, Japan, [5]Department of Pharmacology, Kyoto University Graduate School of Medicine, Japan, [6]Hematology, Dept. Med., Kobe Univ., Japan
Disclosures: Yuko Kawano, None

SA0242 **Rejuvenating Bone Fracture Repair**
Gurpreet Baht*[1], Benjamin Alman[2]. [1]University of Toronto, Hospital for Sick Children, Canada, [2]Hospital for Sick Children, Canada
Disclosures: Gurpreet Baht, None

SA0243 **Sirt1 in osteoblast progenitors expressing Osterix1 promotes cortical bone mass accrual**
Srividhya Iyer*[1], Li Han[1], Shoshana Bartell[1], Aaron Warren[2], Julie Crawford[3], Rafael de Cabo[4], Stavros Manolagas[1], Maria Jose Almeida[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, [3]University of Arkansas for Medical Sciences, USA, [4]Experimental Gerontology, NIA, NIH, Baltimore, MD, USA
Disclosures: Srividhya Iyer, None

SA0244 **Withdrawn**

SA0245 **Toll-Like Receptor 2 Modulating Lipids of *Porphyromonas Gingivalis* Inhibit Osteoblast Differentiation and Function**
Yu-Hsiung Wang*, Qiang Zhu, Jin Jiang, Jianping Huang, Robert Clark, Frank Nichols. University of Connecticut Health Center, USA
Disclosures: Yu-Hsiung Wang, None

OSTEOBLASTS: STEROID/SERM EFFECTS

SA0246 **Abnormal Mitochondrial Energetics in Osteoblasts Derived from Aromatase Deficient Male Mice**
Orhan Oz*[1], Aktar Ali[2], Jianfei Guo[2]. [1]University of Texas Southwestern Medical Center, Dallas, USA, [2]UT Southwestern Medical Center at Dallas, USA
Disclosures: Orhan Oz, None

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

SA0247 **From fibers to peptides: The mechanism of collagen degradation by cathepsin K**
Dieter Bromme*. The University of British Columbia, Canada
Disclosures: Dieter Bromme, None

OSTEOCLASTS: CELL ADHESION

SA0248 **Vinculin Regulates Osteoclast Function**
Tomohiro Fukunaga*, Wei Zou, Steven Teitelbaum. Washington University in St. Louis School of Medicine, USA
Disclosures: Tomohiro Fukunaga, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

SA0249 **Deletion of the Glycoprotein130 Co-Receptor in Osteoclasts Reduces Cortical Bone Formation**
Rachelle Johnson*[1], Narelle McGregor[1], Holly Brennan[1], Ingrid Poulton[1], T John Martin[1], Natalie Sims[2]. [1]St. Vincent's Institute of Medical Research, Australia, [2]St. Vincent's Institute for Medical Research, Australia
Disclosures: Rachelle Johnson, None

OSTEOCLASTS: DIFFERENTIATION

SA0250 **Effect of celecoxib on osteoclast differentiation**
Kakei Ryu*[1], Hitoshi Amano[2], Haruka Emori[1], Takehiko Sambe[1], Katsuji Oguchi[1], Shinichi Iwai[3]. [1]Department of Pharmacology, School of Medical, Showa University, Japan, [2]Showa University School of Dentistry, Japan, [3]Department of Healthcare & Regulatory Sciences, School of Pharmacy, Showa University, Japan
Disclosures: Kakei Ryu, None

SA0251 **EphrinB2/EphB4 control of osteoclast formation is mediated by the osteoblast lineage**
Stephen Tonna*[1], Farzin Takyar[2], Blessing Crimeen-Irwin[1], Patricia Ho[3], T. John Martin[4], Natalie Sims[5]. [1]St Vincent's Institute, Australia, [2]Yale University, School of Medicine, USA, [3]St Vincent's Institute of Medical Research, Australia, [4]St. Vincent's Institute of Medical Research, Australia, [5]St. Vincent's Institute for Medical Research, Australia
Disclosures: Stephen Tonna, None

SA0252 **Gene Expression Profiling during RANKL-Induced Osteoclastogenesis Using RNA-Sequencing and Identification of the Novel Component of NFATc1 Transcription Complex**
Tomohiko Yoshida*[1], Akitoshi Nakayama[2], Hidekazu Nagano[2], Hisashi Koide[2], Yutaka Suzuki[3], Sumio Sugano[3], Ichiro Tatsuno[4], Koutaro Yokote[2], Tomoaki Tanaka[2]. [1]Chiba University Hospital, Japan, [2]Division of Endocrinology, Diabetes & Metabolism, Chiba University Graduate School of Medicine, Japan, [3]Institute of Medical Science, University of Tokyo, Japan, [4]Center for Diabetes, Metabolism & Endocrinology, Toho University Sakura Medical Center, Japan
Disclosures: Tomohiko Yoshida, None

SA0253 **The Rho GEF Def6 is a Novel, RANKL-independent in vivo Suppressor of Osteoclastogenesis and Bone Resorption under Inflammatory Conditions**
F. Patrick Ross, Nikolaus Binder*, Benjamin Schatz, Alessandra Pernis, Steven Goldring. Hospital for Special Surgery, USA
Disclosures: Nikolaus Binder, None

SA0254 **Inhibitory effects of intravenous immune globulin (IVIG) on osteoclastogenesis and bone resorption**
Elisha Lim, Lionel Ivashkiv, Kyung-Hyun Park-Min*. Hospital for Special Surgery, USA
Disclosures: Kyung-Hyun Park-Min, None

SA0255 **miRNA-29 Promotes Osteoclastogenesis Through Regulation of Osteoclast Commitment and Migration**
Tiziana Franceschetti*, Catherine B. Kessler, Sun-Kyeong Lee, Anne Delany. University of Connecticut Health Center, USA
Disclosures: Tiziana Franceschetti, None

SA0256 **MSK1 is a novel signaling molecule involved in RANKL-induced osteoclastogenesis**
Hong-Hee Kim*[1], Hyung Joon Kim[1], Jeongim Ha[1], Hao Huang[2], Zang Hee Lee[3]. [1]Seoul National University, South Korea, [2]University of Chicago, USA, [3]Seoul National University School of Dentistry, South Korea
Disclosures: Hong-Hee Kim, None

SA0257 **Mutation in SNX10 gene leads to autosomal recessive osteopetrosis and formation of osteoclasts unable to resorb bone**
Petra Henning*[1], Eva-Lena Stattin[2], Per-Erik Sandström[3], Christina Stecksen-Blicks[4], Therese G. Kellgren[5], Patrik Ryden[5], Torsten Lönnerholm[6], Niklas Dahl[7], Joakim Klar[7], Ulf Lerner[8]. [1]CENTRE FOR BONE & ARTHRITIS RESEARCH, Sweden, [2]Department of Medical Biosciences, Medical & Clinical Genetics, Umeå University, Sweden, [3]Barnkliniken, Umeå University Hospital, Sweden, [4]Pediatric Dentistry, Department of Odontology, Faculty of Medicine, Umeå university, Sweden, [5]Department of Mathematics & Mathematical Statistics, Computational Life science Cluster (CLiC), Umeå University, Sweden, [6]Department of Radiology, Akademiska sjukhuset, Uppsala University, Sweden, [7]Department of Immunology, Genetics & Pathology, Science for Life Laboratory, Uppsala University, Sweden, [8]University of Umea, Sweden
Disclosures: Petra Henning, None

SA0258 **High Bone Mass in Mice Lacking Cx37 Due to a Cell-autonomous Defect in Osteoclast Differentiation and Fusion**
Rafael Pacheco Da Costa*[1], Drew M Brown[2], Iraj Hassan[2], Surajudeen Bolarinwa[2], Meloney Cregor[2], Rejane Reginato[3], Angela Bruzzaniti[4], Teresita Bellido[5], Matthew Allen[5], Lilian Plotkin[5]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Dept. Anatomy & Cell Biology, USA, [3]Department of Morphology & Genetics, Federal University of São Paulo, Brazil, [4]Indiana University School of Dentistry, USA, [5]Indiana University School of Medicine, USA
Disclosures: Rafael Pacheco Da Costa, None

OSTEOCLASTS: INHIBITION OF RESORPTION

SA0259 **Cx43 Scaffolding Cytoplasmic Domain Restrains Bone Resorption but is Dispensable for the Anabolic Action of Intermittent PTH Administration**
Rafael Pacheco Da Costa*[1], Iraj Hassan[2], Xiaolin Tu[3], Rejane D Reginato[4], Eduardo Katchburian[4], Teresita Bellido[3], Lilian Plotkin[3]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Dept. Anatomy & Cell Biology, USA, [3]Indiana University School of Medicine, USA, [4]Department of Morphology & Genetics, Federal University of São Paulo, Brazil
Disclosures: Rafael Pacheco Da Costa, None

SA0260 **Withdrawn**

SA0261 **A novel role of farnesyl diphosphate synthase (FDPS) on the activity of Cl^- extrusion in osteoclasts**
Hiroshi Kajiya*, Takashi Tsutsumi, Yoshiyuki Nagaoka, Kazuko Goto-T, Teruhisa Fukawa, Mina Sasaki, Fujio Okamoto, Koji Okabe. Fukuoka Dental College, Japan
Disclosures: Hiroshi Kajiya, None

SA0262 **Dual Modulation of Activin A on Osteoclast Differentiation, Activity and Survival**
Tristan Fowler*[1], Archana Kamalakar[2], Nisreen Akel[2], Larry Suva[2], Dana Gaddy[2]. [1]Universität Wien, Aut, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Tristan Fowler, None

SA0263 **Induction of osteoclast-rich osteopetrosis leads to uncoupled formation and resorption, while induction of osteoclast-poor osteopetrosis does not**
Christian Thudium*[1], Carmen Flores[2], Ilana Moscatelli[2], Annemarie Brüel[3], Jesper Thomsen[4], Karoline Natasja Stæhr Gudmann[1], Ellen Hauge[5], Morten Karsdal[1], Johan Richter[2], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Lund University, Sweden, [3]University of Aarhus, Denmark, [4]Aarhus University, Denmark, [5]Aarhus University Hospital, Denmark
Disclosures: Christian Thudium, None

SA0264 **Loss of *Aim2* is Associated with Increased BMD and Decreased Bone Resorption**
Kathryn Shultz*[1], Laura Reinholdt[1], Leah Rae Donahue[2], Katherine Fitzgerald[3], Leonard Shultz[1], Wesley Beamer[1], Cheryl Ackert-Bicknell[1]. [1]The Jackson Laboratory, USA, [2]Jackson Laboratory, USA, [3]Department of Medicine, University of Massachusetts Medical School, USA
Disclosures: Kathryn Shultz, None

SA0265 **Molecular Mechanism of the Inhibitory Effect of Oleanolic Acid on Osteoclastogenesis**
Dongfeng Zhao*[1], Xu Feng[2], Yongjun Wang[3]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama at Birmingham, USA, [3]Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Dongfeng Zhao, None

SA0266 **Relationship between Soluble OSCAR and Disease Activity: A 12 Month Study of Newly Diagnosed RA Patients**
Anak Dharmapatni[1], Roxanne Coleman[2], Michelle Lorimer[3], Andrew Zannettino[1], Helen Weedon[4], Mihir Wechalekar[4], David Haynes[1], Malcolm Smith[4], Tania Crotti*[5]. [1]School of Medical Sciences, The University of Adelaide, Australia, [2]School f Medical Sciences, The University of Adelaide, Australia, [3]School of Public Health, The University of Adelaide, Australia, [4]Rheumatology, Repatriation General Hospital, Australia, [5]University of Adelaide, Australia
Disclosures: Tania Crotti, None

SA0267 **Salubrinal Inhibits Differentiation of Osteoclasts in Unloaded Mice**
Ping Zhang*[1], Andy Chen[2], Hiroki Yokota[2]. [1]Indiana University – Purdue, University Indianapolis, USA, [2]Indiana University Purdue University Indianapolis, USA
Disclosures: Ping Zhang, None

SA0268 **The Successful Design Of A Novel Highly Potent Nitrogen-Containing Bisphosphonate With Lower Bone Affinity.**
Frank H. Ebetino*[1], Mark Lundy[2], Aaron A. Kwaasi[1], James Dunford[3], Xuchen Duan[1], James Triffitt[4], Adam Mazur[5], Gwyn Jeans[6], Bobby L. Barnett[7], R Graham Russell[1]. [1]University of Oxford, United Kingdom, [2]Osteoresearch LLC, USA, [3]Oxford University, Headington, United Kingdom, [4]University of Oxford Nuffield Orthopaedic Centre, United Kingdom, [5]TWI Chem LLC, USA, [6]Procter & Gamble, USA, [7]University of Cincinnati, USA
Disclosures: Frank H. Ebetino, University of Oxford, 7; Procter & Gamble, 1

OSTEOCLASTS: ISOLATION AND HEMATOPOIETIC LINEAGE CELLS

SA0269 **Periosteal Preosteoclasts Direct Cortical Bone Growth and Modeling by Secretion of PDGF**
Hui Xie*[1], Zhuang Cui[2], Weizhong Chang[3], Chang-Jun Li[2], Lingling Xian[4], Bing Yu[5], Gehua Zhen[6], Janet Crane[3], Mei Wan[4], Maureen Pickarski[7], Le Thi Duong[8], Er-Yuan Liao[9], Xu Cao[3]. [1]Johns Hopkins Medical Institution, USA, [2]Department of Orthopaedic Surgery, Johns Hopkins Medical Institution, USA, [3]Johns Hopkins University, USA, [4]Johns Hopkins University School of Medicine, USA, [5]Johns Hopkins School of Medicine, USA, [6]The Johns Hopkins Hospital, USA, [7]Merck & Co., Inc., USA, [8]Merck Research Laboratories, USA, [9]Institute of Endocrinology & Metabolism, Second Xiangya Hospital of Central South University, China
Disclosures: Hui Xie, None

SA0270 **Comparative Analysis of the Specificity of Available Osteoclast Lineage Cre-Drivers and Identification of Novel Osteoclast Lineage Selective Genes**
Megan Weivoda*[1], Katharina Jähn[2], Matt Prideaux[3], Ming Ruan[1], Sundeep Khosla[4], Lynda Bonewald[5], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]University Medical Center Hamburg-Eppendorf, Germany, [3]University of Missouri-Kansas City, USA, [4]Mayo Clinic College of Medicine, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Megan Weivoda, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

SA0271 **Deletion of the cell-adhesion mediator PODXL in early osteoclast precursors leads to a high bone mass phenotype in female, but not male mice: A role for PODXL in the localization of active Rac1 in osteoclasts**
Megan Weivoda*[1], Muzaffer Cicek[1], Ashok Kumar[2], Ming Ruan[1], Larry Pederson[1], Christine Hachfeld[1], Michael Hughes[3], Kelly McNagny[3], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]University of British Columbia, Canada
Disclosures: Megan Weivoda, None

SA0272 **Diacylglycerol kinase ζ (DGKζ) is a critical regulator of bone homeostasis via modulation of DAG levels in osteoclasts**
Ali Zamani*[1], Pamela Hesker[2], Roberta Faccio[3]. [1]Department of Orthopedics, Washington University, St. Louis, Missouri, USA, [2]Washington University in St Louis School, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Ali Zamani, None

SA0273 **Novel Role of the Alternative NF-κB Pathway in Regulating Osteoclast Mitochondrial Biogenesis Distinct from Osteoclast Differentiation**
Rong Zeng*[1], Chang Yang[2], Deborah Novack[3]. [1]Washington University in St. Louis, USA, [2]Washington University in St Louis School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Rong Zeng, None

SA0274 **RANKL/M-CSF-PI3K-Akt signaling in osteoclast differentiation and function is regulated via the direct interaction between G protein α subunit and Class IA PI3K**
Mengrui Wu*[1], Wei Chen[2], Yi-Ping Li[2]. [1]The University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Mengrui Wu, None

OSTEOCYTES: BONE MECHANICS

SA0275 **Activation of intracortical resorption in mouse long bone by acute placement of focal microdamage by in vivo indentation is controlled by osteocyte apoptosis**
Oran Kennedy*[1], Anaya Philip[2], Jelena Basta Pljakic[2], Mitchell Schaffler[3]. [1]New York University, Hospital for Joint Diseases, USA, [2]City College New York, USA, [3]City College of New York, USA
Disclosures: Oran Kennedy, None

SA0276 **Calcium-dependent actomyosin contractility in osteocytes**
Andrew Baik*[1], Ivo Kalajzic[2], Elizabeth M.C. Hillman[1], Yingxiao Wang[3], Cheng Dong[4], X Guo[1]. [1]Columbia University, USA, [2]University of Connecticut Health Center, USA, [3]University of California, San Diego, USA, [4]Penn State University, USA
Disclosures: Andrew Baik, None

SA0277 **Disruption of Connexin 43 Channel Function in Osteocytes Differentially Reduces Bone Mass and Impairs the Tibial Anabolic Response to Load**
Jean Jiang*. University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

OSTEOCYTES: REGULATION OF BONE FORMATION

SA0278 **Cortical Bone Gene Expression is Altered by Post Obitum Isolation Treatment Prior to RNA Extraction in Adult Female Mouse Tibiae**
Kimberly Atteberry*, Whitney Bullock, Russell Main. Purdue University, USA
Disclosures: Kimberly Atteberry, None

SA0279 **Osteocyte Lacuna Density Scales With Human Body Size**
BIN HU*[1], Ingrid Murra[1], Yusuf Juwayeyi[2], John Chisi[3], Timothy Bromage[1]. [1]New York University College of Dentistry, USA, [2]Department of Anthropology, Long Island University, USA, [3]University of Malawi College of Medicine, Malawi
Disclosures: BIN HU, None

SA0280 **Osteocytes release microvesicles that regulate osteoblast function**
Patricia Veno*[1], Matt Prideaux[2], Vladimir Dusevich[1], Lynda Bonewald[1], Sarah Dallas[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri-Kansas City, USA
Disclosures: Patricia Veno, None

SA0281 **Sclerostin expression in bone is associated with bone mass**
Nathalie Bravenboer*[1], Ruben Visser[2], Angela Oostlander[3], Eveline Sohl[3], Huib Van Essen[4], Annemieke Heijboer[5], Martin Den Heijer[6], Paul Lips[1]. [1]VU University Medical Center, The Netherlands, [2]Dept Clinical Chemistry, VU Unversity Medical Center, Netherlands, [3]dept Endocrinology, VU University Medical Center, Netherlands, [4]VU Medical Center, The Netherlands, [5]dept Clinical chemistry, VU University Medical Center, Netherlands, [6]VU Medical CenterPostbus 70571007 MB Amsterdam, The Netherlands
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OSTEOCYTES: REGULATION OF BONE RESORPTION

SA0282 **A role for cementocytes in the pathogenesis of periapical bone resorption**
Andiara De Rossi*[1], Raquel Silva[2], Sandra Alves[3], Lea Assed Bezerra da Silva[2], Paulo Nelson Filho[2], Marcos Antonio Rossi[4]. [1]Faculty of Dentistry of Ribeirão Preto, University of São Paulo, Bra, [2]School of Dentistry of Ribeirao Preto - University of Sao Paulo, Brazil, [3]School of Pharmaceutical Sciences of Ribeirao Preto - University of Sao Paulo, Brazil, [4]School of Medicine of Ribeirão Preto, University of São Paulo, Brazil
Disclosures: Andiara De Rossi, None

SA0283 **Inhibition of Osteocyte Apoptosis Prevents Extensive Trabecular Bone Loss Caused by Unloading in the Long Bone of Mice**
Pamela Cabahug*[1], Robert Majeska[2], Damien Ladier[3], Alyssa Tuthill[4], Stefan Judex[4], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]City College of New York, USA, [3]The City College of NY, USA, [4]Stony Brook University, USA
Disclosures: Pamela Cabahug, None

SA0284 **Osteocytes Produce Interferon-β to Negatively Control Osteoclastogenesis**
Chiyomi Hayashida, Junta Ito, Mai Nakayachi, Mari Okayasu, Yoshiyuki Hakeda, Takuya Sato*. Meikai University School of Dentistry, Japan
Disclosures: Takuya Sato, None

SA0285 **PTH upregulates RANKL and MMP13 expression through direct actions on osteocytes, but MMP13 is derived from non-osteocytic cells**
Jesus Delgado-Calle*, Xiaolin Tu, Amy Sato, Meloney Cregor, Kevin McAndrews, Lilian Plotkin, Teresita Bellido. Indiana University School of Medicine, USA
Disclosures: Jesus Delgado-Calle, None

SA0286 **PTH/PTHrP Receptor Signaling in Osteocytes Differentially Regulates Skeletal Homeostasis during Adulthood and Aging**
Vaibhav Saini*[1], Keertik Fulzele[2], Xiaolong Liu[3], Christopher Dedic[3], Hiroaki Saito[4], Eric Hesse[4], Paola Divieti Pajevic[5]. [1]MGH, Harvard Medical School, USA, [2]Massachusetts General Hospital; Harvard Medical School, USA, [3]Endocrine Unit, Mass General Hospital, Harvard Medical School, USA, [4]University Medical Center Hamburg-Eppendorf, Germany, [5]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Vaibhav Saini, None

OSTEOCYTES: REGULATION OF MINERALIZATION AND MINERAL ION HOMEOSTASIS

SA0287 **Assessment of Peri-lacunar and Peri-canalicular Tissue Mass Density Alterations in Human Jaw Bone after Bisphosphonate Treatment by 3D Synchrotron Phase NanoCT**
Bernhard Hesse*[1], Peter Varga[2], Max Langer[3], Heikki Suhonen[1], Nils Maennicke[2], Susanne Schrof[2], Peter Cloetens[1], Peter Maurer[4], Françoise Peyrin[3], Kay Raum[2]. [1]European Synchrotron Radiation Facility, France, [2]Julius Wolff Institut, Charité - Universitätsmedizin Berlin, Germany, [3]Creatis, INSA-Lyon, CNRS, Université CB Lyon 1; European Synchrotron Radiation Facility, France, [4]Klinikum Bremerhaven, Germany
Disclosures: Bernhard Hesse, None

SA0288 **Osteocytes are Key to the Formation and Maintenance of Mineralized Bone**
Yinshi Ren*[1], Shuxian Lin[2], Xianglong Han[3], Baozhi Yuan[4], Yan Jing[1], Ying Liu[1], Marc Drezner[4], Paul Dechow[2], Min Liu[5], Jian Feng[6]. [1]Baylor college of dentistry, Texas A&M Health Science Center, USA, [2]Baylor College of Dentistry, USA, [3]Baylor College of Dentistry, Texas A&M University, Biomedical Sciences, USA, [4]University of Wisconsin, USA, [5]Amgen Inc., USA, [6]Texas A&M Health Science Center, USA
Disclosures: Yinshi Ren, None

SA0289 **Signaling of Extracellular Inorganic Phosphate Induces the Expression of *Dmp1* in Osteoblast/Osteocyte Lineage Cells via Na^+/Pi Co-transporter and MEK/ERK Pathway**
Jin Nishino*[1], Kazuaki Miyagawa[2], Masanobu Kawai[1], Miwa Yamazaki[1], Kanako Tachikawa[1], Yuko Mikuni-Takagaki[3], Mikihiko Kogo[4], Keiichi Ozono[5], Toshimi Michigami[6]. [1]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Osaka University, Japan, [3]Kanagawa Dental College & Graduate School of Dentistry, Japan, [4]Osaka University Graduate School of Dentistry, Japan, [5]Osaka University Graduate School of Medicine, Japan, [6]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Jin Nishino, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

SA0290 **Assessing the balance between formation and resorption: An index of net bone formation**
Albert Shieh*[1], Neil Binkley[2], Teresa Seeman[3], Gail Greendale[3], Dana Miller-Martinez[3], Carolyn Crandall[3], Arun Karlamangla[3]. [1]UCLA, USA, [2]University of Wisconsin, Madison, USA, [3]University of California, Los Angeles, USA
Disclosures: Albert Shieh, None

SA0291 **Serum Levels of Procollagen type 1 Amino-terminal Propeptide (PINP) and Risk of Hip Fracture in Elderly Women. The Hordaland Health Study**
Trine Elisabeth Finnes*[1], Haakon E. Meyer[2], Cathrine Marie Lofthus[3], Erik Fink Eriksen[4], Ellen Margrethe Apalset[5], Grethe S Tell[6], Kristin Holvik[7]. [1]Sykehuset Innlandet Thrust, Norway, [2]Norwegian Institute of Public Health/University of Oslo, Norway, [3]Oslo Universtiy Hospital, Norway, [4]Oslo University Hospital, Norway, [5]Department of Public Health & Primary Health Care, University of Bergen. Department of Rheumatology, Haukeland University Hospital, Norway, [6]Department of Public Health & Primary Health Care, University of Bergen, Norway, [7]Division of Epidemiology, Norwegian Institute of Public Health, Oslo, Norway. Department of Global Public Health & Primary Care, University of Bergen, Bergen, Norway. Surgical Department, Diakonhjemmet Hospital, Oslo, Norway., Norway
Disclosures: Trine Elisabeth Finnes, None

OSTEOPOROSIS - ASSESSMENT: BONE IMAGING

SA0292 **A Low Dose 3D QCT Protocol for the Spine**
Oleg Museyko[1], Axel Heinemann[2], Matthias Krause[3], Claus-C Glueer[4], Klaus Engelke*[5]. [1]University of Erlangen-Nuremberg, Germany, [2]Institute for Forensic Medicine, University of Hamburg, Germany, [3]Institute for Osteology & Biomechanics, University of Hamburg, Germany, [4]Christian Albrechts Universitaet zu Kiel, Germany, [5]University of Erlangen, Germany
Disclosures: Klaus Engelke, None

SA0293 **FE-based bone strength can classify femoral neck fractures in a case-control retrospective study**
Enrico Schileo*[1], Cristina Falcinelli[2], Luca Balistreri[3], Fabio Baruffaldi[3], Saverio Gnudi[4], Aldo Toni[4], Ugo Albisinni[4], Francesco Ceccarelli[5], Luigi Milandri[6], Marco Viceconti[7], Fulvia Taddei[3]. [1]Istituto Ortopedico Rizzoli, Bologna, Italy, [2]Laboratorio di Bioingegneria Computazionale, Istituto Ortopedico Rizzoli, Italy, [3]Laboratorio di Tecnologia Medica, Istituto Ortopedico Rizzoli, Italy, [4]Istituto Ortopedico Rizzoli, Italy, [5]Clinica Ortopedica, Università di Parma, Italy, [6]Ortopedia Programmata, Ospedale di Faenza, Italy, [7]Department of Mechanical Engineering, The University of Sheffield, United Kingdom
Disclosures: Enrico Schileo, None

SA0294 **First Demonstration of Microdamages in the Alveolar Bone in vivo Using Computerized Magnification Radiography with Emphasis of Surface Unevenness by Changing Light's Direction to Achieve a 3D Effect**
Yoshitomo Takaishi*[1], Seizaburo Arita[2], Mitsugi Honda[3], Takeshi Sugishita[1], Aiko Kamada[4], Takashi Ikeo[4], Takami Miki[5], Takuo Fujita[6], Masahiro Nakajima[7], Katsura Ueda[8]. [1]Takaishi Dental Clinic, Japan, [2]Department of Life & Medical Sciences, Doshisha University, Japan, [3]Department of Radiology, Okayama University Hospital, Japan, [4]Osaka Dental University, Japan, [5]Osaka City University Medical School, Japan, [6]Katsuragi Hospital, Japan, [7]Second Dept. of Oral & Maxillofacial Surgery, Japan, [8]Dept.of Oral Anatomy, Osaka Dental University, Japan
Disclosures: Yoshitomo Takaishi, None

SA0295 **In Vivo Study of Trabecular and Cortical Bone in Young Adults with Varying Trajectories of Bone Development using Multi-Row Detector CT Imaging**
Punam K. Saha, Ryan Amelon*, Yinxiao Liu, Cheng Li, Dakai Jin, Cheng Chen, Jessica Fishbaugher, Elena Letuchy, CHADI CALARGE, Kathleen Janz, Douglas Hornick, Julie Eichenberger-Gilmore, Trudy Burns, James Torner, Steven Levy. University of Iowa, USA
Disclosures: Ryan Amelon, None

SA0296 **Influence of Glucocorticoids on Trabecular Bone Score in Patients With Rheumatoid Arthritis**
Vladyslav Povoroznyuk*[1], Tetyana Karasevska[2], Berengere Aubry-rozier[3], Nataliia Dzerovych[2], Didier Hans[3]. [1]Institute of Gerontology AMS Ukraine, Ukraine, [2]Institute of Gerontology NAMS Ukraine, Ukraine, [3]Lausanne University Hospital, Switzerland
Disclosures: Vladyslav Povoroznyuk, None

SA0297 **Multimodality imaging and its utility to monitor marrow damage for cancer survivor bone health studies**
Luke Arentsen[1], Keenan Brown[2], Susanta Hui*[1]. [1]University of Minnesota, USA, [2]Mindways Software, USA
Disclosures: Susanta Hui, None

SA0298 **Prediction Models for Older Women at High Risk of Unrecognized Radiographic Vertebral Fracture: Simple is Better than Complex**
John Schousboe*[1], Harold Rosen[2], Tamara Vokes[3], Jane Cauley[4], Steven Cummings[5], Michael Nevitt[6], Dennis Black[6], Eric Orwoll[7], Deborah Kado[8], Kristine Ensrud[9]. [1]Park Nicollet Clinic, University of Minnesota, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]University of Chicago, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]San Francisco Coordinating Center, USA, [6]University of California, San Francisco, USA, [7]Oregon Health & Science University, USA, [8]University of California, San Diego, USA, [9]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: John Schousboe, None

SA0299 **Quantification of Lower Leg Arterial Calcifications by High-Resolution Peripheral Quantitative Computed Tomography**
Janina M Patsch*[1], Martin A. Zulliger[2], Nicolas Vilayphiou[3], Elizabeth Samelson[4], Daniel Cejka[1], Danielle Diarra[1], Gundula Berzaczy[1], Thomas Link[5], Michael Weber[1], Christian Loewe[1]. [1]Medical University of Vienna, Austria, [2]Former employee of SCANCO MEDICAL AG, Switzerland, [3]SCANCO MEDICAL AG, Switzerland, [4]Hebrew SeniorLife, Harvard Medical School, USA, [5]University of California, San Francisco, USA
Disclosures: Janina M Patsch, None

SA0300 **Reasons for Referral for BMD Testing among Family Physicians**
Sarah Munce*, Sonya Allin, Leslie Carlin, Gillian Hawker, Susan Jaglal. University of Toronto, Canada
Disclosures: Sarah Munce, None

SA0301 **Shedding light on the accuracy of HR-pQCT assessment of cortical porosity through synchrotron μCT at the Canadian Light Source**
Britta Jorgenson*[1], Helen Buie[2], Steven Boyd[2]. [1]Schulich School of Engineering, University of Calgary, Canada, [2]University of Calgary, Canada
Disclosures: Britta Jorgenson, None

SA0302 **Systematic Assessment of Bone Texture by BMA-device complementary to measurement of Bone Mineral Density by DXA in Patients with Bone Gragility Fractures**
Sarah Cheriet[1], Jean-François Menard[2], Olivier Vittecoq[1], Alain Daragon*[1]. [1]Department of Rheumatology, Rouen University Hospital, France, [2]Department of Biostatistics, Rouen University Hospital, France
Disclosures: Alain Daragon, None

SA0303 **The relationship between bone architecture and density at the hip and at peripheral sites: a comparison of hip QCT and HRpQCT from the QUALYOR cohort.**
Jean-Baptiste Pialat*[1], Jeremy Bayet[2], Amanda Martinon[3], Pauline Azzano[2], Stephanie Boutroy[4], Anne Marie Schott[5], Eric Lespessailles[6], Roland Chapurlat[7]. [1]INSERM U1033, Team1, Université de Lyon & Hospices Civils de Lyon, France, [2]Université de Lyon, France, [3]Hospices Civils de Lyon et Université de Lyon, France, [4]INSERM U1033 & Université de Lyon, France, [5]Hospices Civils de Lyon & Université de Lyon, France, [6]Centre Hospitalier Regional, France, [7]E. Herriot Hospital, France
Disclosures: Jean-Baptiste Pialat, None

SA0304 **Trabecular Bone Score (TBS) Variations in Type 2 Diabetes Mellitus**
Ruban Dhaliwal*[1], Joseph Spadaro[2], Chaitali Ghosh[1], Jennifer Kelly[2], Arnold Moses[2]. [1]SUNY Upstate Medical University, USA, [2]State University of New York Upstate Medical University, USA
Disclosures: Ruban Dhaliwal, None

SA0305 **Trait variances capture the micro-structural basis of bone fragility better than trait means**
Yohann Bala*[1], Sandra Iuliano-Burns[2], Ali Ghasem-Zadeh[2], Xiao-Fang Wang[3], Qingju Wang[2], Roger Zebaze[2], Ego Seeman[2]. [1]University of Melbourne, Dept. of Medicine, Australia, [2]Austin Health, University of Melbourne, Australia, [3]University of Melbourne, Austin Health, Australia
Disclosures: Yohann Bala, None

SA0306 **Ultrasonic Assessment of BMD at the 1/3 Radius**
Emily Stein[1], Gangming Luo[2], Polly Young[3], Stanley Rosenfeld[4], Jonathan Kaufman*[2], Alfred Rosenbaum[4], Elizabeth Shane[1], Robert Siffert[5]. [1]Columbia University College of Physicians & Surgeons, USA, [2]CyberLogic, Inc., USA, [3]Columbia University, USA, [4]Computerized Diagnostic Scanning Associates, USA, [5]The Mount Sinai School of Medicine, USA
Disclosures: Jonathan Kaufman, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

SA0307 **BMD and FRAX have Limited Ability to Identify Women with Breast Cancer who Fracture**
Beatrice Edwards*[1], William Gradishar[2], Maureen Smith[2], Jennifer Pacheco[2], Jaimee Holbrook[2], June McKoy[2], Beatrice Nardone[2], Stephani Tica[2], Victoria Godinez Puig[2], Alfred Rademaker[2], Andrew Bunta[3], Paula Stern[4], Steven Rosen[2], Dennis West[2]. [1]MD Anderson Cancer Center, USA, [2]Northwestern University, USA, [3]Northwestern University Feinberg School of Medicine, USA, [4]Northwestern University Feinberg School of Medicine Department of Molecular Phar, USA
Disclosures: Beatrice Edwards, None

SA0308 **Gender- and skeletal site- differences of maternal and paternal inheritance for the peak bone mass in their offsprings**
Kyoung Min Kim*[1], Sung Hee Choi[2], Soo Lim[2], Sang Wan Kim[3], Hak-Chul Jang[2], Chan Soo Shin[4]. [1]Seoul National University Bundang Hospitatl, South Korea, [2]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [3]Seoul National University Boramae Hospital, South Korea, [4]Seoul National University College of Medicine, South Korea
Disclosures: Kyoung Min Kim, None

SA0309 **Non-Osteoporotic Low-Trauma Fractures and the Burden of Re-Fracture And Mortality**
Jacqueline Center*, Dana Bliuc, Nguyen Nguyen, Tuan Nguyen, John Eisman. Garvan Institute of Medical Research, Australia
Disclosures: Jacqueline Center, None

SA0310 **Prevalence of vertebral fractures and densitometric osteoporosis in Spanish adult men. The Camargo cohort study**
Jose Olmos[1], José L. Hernández[2], Josefina Martínez[2], Pilar García-Velasco[3], Daniel Nan[2], Sheila Ruiz[2], Jesús González-Macías*[2]. [1]Hospital Universitario M. Valdecilla, Spain, [2]Department of Internal Medicine, Hospital Universitario Marqués de Valdecilla-IFIMAV, Universidad de Cantabria. RETICEF, Spain, [3]Centro de Salud de Camargo, Spain
Disclosures: Jesús González-Macías, None

SA0311 **Trabecular Bone Score Improves Prediction Ability for Vertebral Fracture over 10 Years in Middle-aged and Elderly Women Evaluated by Reclassification Improvement Measures: The Japanese Population-based Osteoporosis (JPOS) Cohort Study**
Masayuki Iki*[1], Junko Tamaki[2], Yuho Sato[3], Eiko Kadowaki[1], Namiraa Dongmei[1], RENAUD WINZENRIETH[4], Sadanobu Kagamimori[5], Yoshiko Kagawa[6], Hideo Yoneshima[7]. [1]Kinki University Faculty of Medicine, Japan, [2]Kinki University School of Medicine, Japan, [3]Jin-ai University, Japan, [4]Center of Bone diseases, Lausanne University Hospital, Lausanne, Switzerland, France, [5]University of Toyama, Japan, [6]Kagawa Nutrition University, Japan, [7]Shuuwa General Hospital, Japan
Disclosures: Masayuki Iki, None

OSTEOPOROSIS - EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

SA0312 **Adherence to a Vegetable-fruit-soy Dietary Pattern or the Alternate Healthy Eating Index is Associated with Lower Hip Fracture Risk among Singapore Chinese**
Zhaoli Dai*[1], Lesley Butler[2], Rob M. van Dam[3], Li-Wei Ang[4], Jian-Min Yuan[2], Woon-Puay Koh[5]. [1]National University of Singapore, Sgp, [2]Division of Cancer Control & Population Sciences, University of Pittsburgh Cancer Institute, Pittsburgh, Pennsylvania, USA; Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania, USA, [3]Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore, [4]Epidemiology & Disease Control Division, Ministry of Health, Singapore, Singapore, [5]Saw Swee Hock School of Public Health, National University of Singapore, Singapore; Duke-NUS Graduate Medical School Singapore, Singapore, Singapore
Disclosures: Zhaoli Dai, None

SA0313 **Associations Between Biomarker-Calibrated Protein Intake and Bone Health in the Women's Health Initiative**
Jeannette Beasley*[1], Andrea Lacroix[2], Joseph Larson[2], Charles Eaton[3], Marian Neuhouser[2], Lesley Tinker[2], Ying Huang[2], Rebecca Jackson[4], Karen Johnson[5], Linda Snetselaar[6], Ross Prentice[2]. [1]Einstein College of Medicine, Yeshiva University, USA, [2]Fred Hutchinson Cancer Research Center, USA, [3]MHRI, USA, [4]The Ohio State University, USA, [5]University of Tennessee Health Science Center, USA, [6]University of Iowa, USA
Disclosures: Jeannette Beasley, None

SA0314 **Impact of a Theory-Based Osteoporosis Education Intervention and BMD Screening on Calcium and Vitamin D Intake in Older Men and Women**
Katherine McLeod*[1], Shanthi Johnson[2], Drona Rasali[3]. [1]University of Regina, Saskatchewan, Canada, [2]Saskatchewan Population Health & Evaluation Research Unit, University of Regina, Canada, [3]University of Regina, Canada
Disclosures: Katherine McLeod, None

SA0315 **Low Serum Concentration of Vitamin E Is Associated With Increased Risk of Hip Fracture in the Elderly. A NOREPOS Case-Cohort Study**
Kristin Holvik*[1], Clara Gjesdal[2], Grethe Tell[3], Guri Grimnes[4], Ellen Apalset[3], Berit Schei[5], Rune Blomhoff[6], Karl Michaelsson[7], Haakon E. Meyer[8]. [1]Norwegian Institute of Public Health, Norway, [2]Department of Rheumatology, Haukeland University Hospital, Norway, [3]Department of Global Public Health & Primary Care, University of Bergen, Norway, [4]University Hospital of Northern Norway, Norway, [5]Department of Public Health & General Practice, Norwegian University of Science & Technology, Norway, [6]Department of Nutrition, Institute of Basic Medical Sciences, University of Oslo, Norway, [7]Uppsala Clinical Research Center, Sweden, [8]Norwegian Institute of Public Health/University of Oslo, Norway
Disclosures: Kristin Holvik, None

SA0316 **Withdrawn**

OSTEOPOROSIS - EPIDEMIOLOGY: FRACTURE OUTCOME

SA0317 **Can Changes in FRAX Probability Be Used to "Treat-to-Target"? A Clinical Feasibility Study**
William Leslie*[1], Lisa Lix[1], Suzanne Morin[2], Sumit Majumdar[3], Helena Johansson[4], Eugene McCloskey[5], Anders Oden[6], John Kanis[7]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada, [4]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [5]University of Sheffield, United Kingdom, [6]Consulting statistician, Sweden, [7]University of Sheffield, Belgium
Disclosures: William Leslie, None

SA0318 **Lumbar Spine Trabecular Bone Score (TBS) combined with FRAX improves fracture prediction: The Manitoba BMD Cohort**
William Leslie*[1], John Kanis[2], Olivier Lamy[3], Helena Johansson[4], anders oden[5], Eugene McCloskey[5], Didier Hans[6]. [1]University of Manitoba, Canada, [2]University of Sheffield, Belgium, [3]University Hospital, Switzerland, [4]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [5]University of Sheffield, United Kingdom, [6]Lausanne University Hospital, Switzerland
Disclosures: William Leslie, None

SA0319 **Correlation between early Micro-Architectural Changes and Patient-Rated Wrist Pain and Disability 12 weeks after a Distal Radius Fracture**
Joost De Jong*[1], Ursina Meyer[2], Sandrine Bours[3], Paul Willems[4], J. J. Chris Arts[4], Peter Brink[5], Tineke Van Geel[6], Bert Rietbergen[7], Joop Van Den Bergh[8], Piet Geusens[9]. [1]Maastricht University Medical Center, The Netherlands, [2]Department of Human Movement Sciences, Maastricht University, Netherlands, [3]Maastricht University Medical Centre, The Netherlands, [4]Department of Orthopaedic surgery, Maastricht University Medical Centre, Netherlands, [5]Department of Trauma Surgery, Maastricht University Medical Centre, Netherlands, [6]Maastricht University, The Netherlands, [7]Eindhoven University of Technology, The Netherlands, [8]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, [9]University Hasselt, Belgium
Disclosures: Joost De Jong, None

SA0320 **Efficacy of a Hospital-Based Fracture Liaison Service in the Secondary Prevention of Osteoporotic Fractures**
Elizabeth McAninch*[1], Violet Lagari[2], Sanford Baim[3]. [1]University of Miami/Jackson Memorial Hospital, USA, [2]University of Miami, USA, [3]Miller School of Medicine, University of Miami, USA
Disclosures: Elizabeth McAninch, None

SA0321 **Fracture Burden For Men, In Relation To Osteopenia And Osteoporosis Defined By Male And Female Reference Data For Areal Bone Mineral Density**
Julie Pasco*[1], Stephen Lane[1], Sharon Brennan[2], Elizabeth Timney[1], Gosia Bucki-Smith[1], Amelia Dobbins[1], Mark Kotowicz[3]. [1]Deakin University, Australia, [2]The University of Melbourne, Australia, [3]Deakin University School of Medicine, Australia
Disclosures: Julie Pasco, None

SA0322 **FRAX in combination with Lumbar Spine Trabecular Bone Score (TBS) better discriminates vertebral fracture than BMD, TBS or FRAX alone: The OsteoLaus Study**
Olivier Lamy*[1], Marc-Antoine Krieg[2], Delphine Stoll[3], Berengere Aubry-rozier[4], Marie Metzger[5], Didier Hans[4]. [1]Chief of the Bone Unit, Switzerland, [2]University Hospital, Switzerland, [3]MD, Bone Unit, University hospital, Switzerland, [4]Lausanne University Hospital, Switzerland, [5]Bone Unit, University hospital, Switzerland
Disclosures: Olivier Lamy, None

SA0323 **Hip Fracture Trends in Denmark 1980-2010 with Age-Period-Cohort-effects**
Bjorn Rosengren*[1], Jonas Björk[2], Cyrus Cooper[3], Bo Abrahamsen[4]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Unit for Medical Statistics & Epidemiology at R&D Centre Skåne, Skåne University Hospital, Sweden, [3]University of Southampton, United Kingdom, [4]University of Southern Denmark, Denmark
Disclosures: Bjorn Rosengren, None

SA0324 **How to Adjust the Overestimate of the Incidence of Major Osteporotic Fracture When Using Summary Data**
Thor Aspelund*[1], Kristin Siggeirsdottir[1], Elias Gudmundsson[1], Brynjolfur Y Jonsson[2], Brynjolfur Mogensen[3], Vilmundur Gudnason[4], Gunnar Sigurdsson[3]. [1]Icelandic Heart Association, Iceland, [2]Skane University Hospital, Sweden, [3]Landspitalinn University Hospital, Iceland, [4]Icelandic Heart Association Research Institute, Iceland
Disclosures: Thor Aspelund, None

SA0325 **Impact of a Fragility Fracture on Quality of Life 6 and 18 Months Post Fracture**
Claudia Beaudoin*[1], Sonia Jean[2], Louis Bessette[3], Louis-Georges Ste-Marie[4], Jacques P. Brown[5]. [1]Centre de recherche du CHU de Québec, Canada, [2]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [3]CHU de Quebec Research Centre, Canada, [4]CHUM, Canada, [5]CHU de Québec Research Centre, Canada
Disclosures: Claudia Beaudoin, None

SA0326 **Clinical and Economic Characteristics of Hip Fracture Patients in the United States with Poor Health Outcomes**
Zhanglin Cui*[1], Yang Zhao[2], Lei Chen[3], Yi Chen[4], Russel Burge[1]. [1]Eli Lilly & Company, USA, [2]Novartis Pharmaceuticals Corporation, USA, [3]Eli Lilly, USA, [4]inVentiv Health Clinical, USA
Disclosures: Zhanglin Cui, Eli Lilly and Company, 3

SA0327 **Markers of Bone Turnover for Prediction of Fracture: a Meta-analysis.**
Eugene McCloskey*[1], Anders Odén[2], John Kanis[3], Helena Johansson[4]. [1]University of Sheffield, United Kingdom, [2]WHO Collaborating Centre, University of Sheffield, United Kingdom, [3]University of Sheffield, Belgium, [4]WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden
Disclosures: Eugene McCloskey, None

SA0328 **Osteoporosis Treatment after Vertebral and Hip Fractures: Analysis of a Managed Care Population in the US**
Ankita Modi[1], Amber Wilk[2], Chun-Po Steve Fan[3], Shiva Sajjan*[1], Panagiotis Mavros[1]. [1]Merck & Co., Inc., USA, [2]Virginia Commonwealth University, USA, [3]AsclepiusJT LLC, USA
Disclosures: Shiva Sajjan, Merck & Co., Inc, 3

SA0329 **Prevalence and Predictive Capacities of Different Definitions of Severe Osteoporosis**
Claudie Berger*[1], Lisa Langsetmo[2], David Goltzman[1], George Ioannidis[3], Jerilynn Prior[4], Youb Chalabi[5], Robert Josse[6], Stephanie Kaiser[7]. [1]McGill University, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]McMaster University, Canada, [4]University of British Columbia, Canada, [5]Eli Lilly, Canada, [6]St. Michael's Hospital, University of Toronto, Canada, [7]Dalhousie University, Canada
Disclosures: Claudie Berger, None

SA0330 **Secular Trends in the Incidence of First Hip, Clinical Vertebral, Distal forearm and Proximal Humerus Fractures in Icelandic Men and Women in 1989-2008**
Gunnar Sigurdsson*[1], Kristin Siggeirsdottir[2], Elias Gudmundsson[2], Brynjolfur Y Jonsson[3], Brynjolfur Mogensen[4], Thor Aspelund[2], Vilmundur Gudnason[5]. [1]Landspitali, Iceland, [2]Icelandic Heart Association, Iceland, [3]Skane University Hospital, Sweden, [4]Landspitalinn University Hospital, Iceland, [5]Icelandic Heart Association Research Institute, Iceland
Disclosures: Gunnar Sigurdsson, None

SA0331 **Site-specific Associations between Fracture and Height, Weight and Body Mass Index in Postmenopausal Women: GLOW Registry**
Juliet Compston*[1], Julie Flahive[2], Jonathan Adachi[3], Silvano Adami[4], Steven Boonen[5], Roland Chapurlat[6], Cyrus Cooper[7], Adolfo Diez-Perez[8], Stephen Gehlbach[9], Susan Greenspan[10], Andrea Lacroix[11], Robert Lindsay[12], Lyn March[13], Coen Netelenbos[14], Johannes Pfeilschifter[15], Maurizio Rossini[4], Christian Roux[16], Kenneth Saag[17], Ethel Siris[18], Stuart Silverman[19], Nelson Watts[20]. [1]University of Cambridge School of Clinical Medicine, United Kingdom, [2]Center for Outcomes Research, UMASS Medical School, USA, [3]St. Joseph's Hospital, Canada, [4]University of Verona, Italy, [5]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [6]E. Herriot Hospital, France, [7]University of Southampton, United Kingdom, [8]Autonomous University of Barcelona, Spain, [9]University of Massachusetts, USA, [10]University of Pittsburgh, USA, [11]Fred Hutchinson Cancer Research Center, USA, [12]Helen Hayes Hospital, USA, [13]Royal North Shore Hospital, Australia, [14]VU Medical Center, The Netherlands, [15]Alfried Krupp Krankenhaus Steele, Germany, [16]Hospital Cochin, France, [17]University of Alabama at Birmingham, USA, [18]Columbia University College of Physicians & Surgeons, USA, [19]Cedars-Sinai/UCLA, USA, [20]Mercy Health Osteoporosis & Bone Health Services, USA
Disclosures: Juliet Compston, Warner Chilcott Company and sanofi-aventis, 2

SA0332 **The Burden of Osteoporotic Fracture: Epidemiology and Health-care Utilisation in Older Adults, 1997-2010**
Sonia Jean*[1], Philippe Gamache[1], Louis Bessette[2], Étienne Belzile[3], Suzanne Morin[4], Mathieu Gagné[1], Jacques P. Brown[5]. [1]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [2]CHU de Quebec Research Centre, Canada, [3]Centre du recherche du CHUQ-CHUL, Canada, [4]McGill University, Canada, [5]CHU de Québec Research Centre, Canada
Disclosures: Sonia Jean, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

SA0333 **Association of Genetic Variants Detected by Whole Genome Sequencing with Fracture Risk**
Scott Wilson*[1], David Evans[2], Brent Richards[3], Josine Min[2], Klaudia Walter[4], Nicole Soranzo[4], Richard Durbin[4], Nicholas Timpson[2], on behalf of the UK10K Consortium .[4]. [1]Sir Charles Gardner Hospital, Australia, [2]University of Bristol, United Kingdom, [3]McGill University, Canada, [4]Wellcome Trust Sanger Institute, United Kingdom
Disclosures: Scott Wilson, None

SA0334 **Attenuated Monocyte Apoptosis, A New Mechanism For Osteoporosis Suggested By A Transcriptome-Wide Study Of Monocytes**
Yaozhong Liu, Yu Zhou, Yongjun Liu, Lei Zhang, Jian Li, Qing Tian, Jigang Zhang, Hong-Wen Deng*. Tulane University, USA
Disclosures: Hong-Wen Deng, None

SA0335 **Copy Number Variations are associated with Bone Mineral Density: A large-scale genome-wide analysis in the Framingham Study**
Wen-Chi Chou*[1], Kannabiran Nandakumar[2], David Karasik[3], Ching-Ti Liu[4], Adrienne Cupples[4], Douglas Kiel[1], Yi-Hsiang Hsu[5]. [1]Hebrew SeniorLife, USA, [2]Hebrew Senior Life Harvard Medical School, USA, [3]Hebrew SeniorLife; Bar Ilan University, USA, [4]Boston University School of Public Health, USA, [5]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA
Disclosures: Wen-Chi Chou, None

SA0336 **Family-based genome wide association reveals genetic determinants of total body bone mineral density and fat content in adults of Northern European descent**
Yi Zhang*[1], Jack Kent[2], Bradford Towne[3], Stefan Czerwinski[4], Tom Dyer[2], Michael Olivier[1], Ulrich Broeckel[1], Omar Ali[1], Diana Cerjak[1], Roland James[1], Ahmed Kissebah[1], John Blangero[2], Robert Blank[5]. [1]Medical College of Wisconsin, USA, [2]Texas Biomedical Research Institute, USA, [3]Wright State University, USA, [4]Wright State University Boonshoft School of Medicine, USA, [5]University of Wisconsin, USA
Disclosures: Yi Zhang, None

SA0337 **GWAS meta-analysis of vertebral trabecular volumetric BMD by QCT**
Carrie Nielson*[1], Ching-Ti Liu[2], Johanna Jakobsdottir[3], Jeanne Latourelle[4], Albert Smith[5], Melissa Garcia[6], Michael Nalls[7], Christina Wassel[8], Priya Srikanth[9], Matthew Budoff[10], Jeffrey Carr[11], Richard Myers[4], Elizabeth Samelson[12], Kristin Siggeirsdottir[3], Joseph Zmuda[13], L Adrienne Cupples[2], Eric Orwoll[1], David Karasik[14], Mary Bouxsein[15], Thomas Lang[16], Vilmundur Gudnason[17], Tamara Harris[18], Douglas Kiel[19], Yi-Hsiang Hsu[20]. [1]Oregon Health & Science University, USA, [2]Department of Biostatistics, Boston University School of Public Health, USA, [3]Icelandic Heart Association, Iceland, [4]Department of Neurology, Boston University School of Medicine, USA, [5]Icelandic Heart Association, Kopavogur, Iceland; Faculty of Medicine, University of Iceland, Reykjavik, Iceland, Iceland, [6]Laboratory of Epidemiology, Demography, & Biometry, National Institute on Aging, USA, [7]Laboratory of Neurogenetics, National Institute on Aging, National Institutes of Health, USA, [8]Department of Epidemiology, University of Pittsburgh, USA, [9]Department of Public Health & Preventive Medicine, Oregon Health & Science University, USA, [10]Los Angeles Biomedical Research Institute, USA, [11]Wake Forest School of Medicine, USA, [12]Hebrew SeniorLife, Harvard Medical School, USA, [13]University of Pittsburgh Graduate School of Public Health, USA, [14]Hebrew SeniorLife; Bar Ilan University, USA, [15]Beth Israel Deaconess Medical Center, USA, [16]University of California, San Francisco, USA, [17]Icelandic Heart Association Research Institute, Iceland, [18]Intramural Research Program, National Institute on Aging, USA, [19]Hebrew SeniorLife, USA, [20]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA
Disclosures: Carrie Nielson, None

SA0338 **Identification of Novel Genes and Regulatory Network Modules for Bone Mineral Density by Integrated Analyses of Transcriptome, miRNAome and Methylome Data**
Li-Jun Tan[1], Tianhua Niu*[2], Jigang Zhang[2], Chuan Qiu[2], Yu Zhou[2], Hui Shen[3], Jian Li[2], Shu-Feng Lei[1], Xiang-Ding Chen[1], Hong-Wen Deng[3]. [1]College of Life Sciences, Hunan Normal University, China, [2]Center for Bioinformatics & Genomics, Dept of Biostat & Bioinformatics, Tulane University SPHTM, USA, [3]Tulane University, USA
Disclosures: Tianhua Niu, None

OSTEOPOROSIS - EPIDEMIOLOGY: LIFESTYLE

SA0339 **Effects of vitamin D and Exercise on Bone Health and Physical Performance in Elderly Women: Preliminary Results**
Kirsti Uusi-Rasi*[1], Saija Karinkanta[1], Pekka Kannus[1], Kari Tokola[1], Christel Lamberg-Allardt[2], Harri Sievänen[1]. [1]UKK Institute for Health Promotion Research, Finland, [2]University of Helsinki, Finland
Disclosures: Kirsti Uusi-Rasi, None

SA0340 **Health beliefs and educational needs among patients with osteoporosis : a qualitative study according to gender and types of osteoporosis from the workgroup SOLID'OS**
Catherine Beauvais[1], Eric Lespessailles*[2], Yves Magar[3], Corinne Thevenot[4], Liana Euller Ziegler[5], Edith Filaire [6], Sylvie Gendarme[7], Karine Legrand[7], Florence Levy-Weil[8], Dominique Aubraye [9], Bernard Cortet[10], Didier Poivret [11], Mickael Rousiere[12], Anne Christine Rat[7]. [1]Service de Rhumatologie, C.H.U Saint-Antoine, France, [2]Centre Hospitalier Regional, France, [3]Edusanté, France, [4]Médecine Interne et Spécialité, C.H., France, [5]Service de Rhumatologie, C.H.U. L'Archet, France, [6]CIAMS EA4532, Université Orleans, Université Paris-Sud, France, [7]Epidémiologie et Evaluation Cliniques et Cic-Ec Cie6, C.H.U. Nancy-Brabois, France, [8]Centre Hospitalier Victor Dupouy, France, [9]Service de Rhumatologie, C.H. Victor Dupouy, France, [10]Service de Rhumatologie, France, [11]Unité ETP Rhumatologie, Centre Hospitalier régional Metz-Thionville, France, [12]Hôpital Saint Antoine, France
Disclosures: Eric Lespessailles, None

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

SA0341 **Adding VFA to DXA Changes Clinical Classification and Improves Detection of Fracture Risk**
Jay Ginther*, Dixie Burk. Cedar Valley Bone Health Institute of Iowa, USA
Disclosures: Jay Ginther, Amgen - Prolia Orthopedic Surgeon Advisory Board, 5; Lilly, 8; www.BoneDocBlog.com, 4

SA0342 **Atypical Femoral Fracture Risk Factors: A Population-based Case-control Study**
Annette Adams*[1], Fei Xue[2], Jean Wang[1], Richard Dell[3], Cathy Critchlow[4]. [1]Kaiser Permanente Southern California, USA, [2]Amgen, Inc., USA, [3]Kaiser, USA, [4]Amgen Inc., USA
Disclosures: Annette Adams, Amgen, Inc., 2

SA0343 **Comorbidity in Subjects with Osteoporosis or Fractures: a Cross Sectional Survey (A.M.I.C.O.Study, Italian Multicentric Analysis on Comorbidities in Osteoporosis)**

Luigi Gennari*[1], Stefano Gonnelli[1], Giovanni D'Avola[2], Emilio D'Erasmo[3], Luigi Di Matteo[4], Ombretta Di Munno[5], Carmelo Fiore[6], Giovanni Gandolini[7], Salvatore Gatto[8], Giovanni Iolascon[9], Giancarlo Isaia[10], Nazzarena Malavolta[11], Giuseppe Martini[1], Giovanni Minisola[12], Maurizio Muratore[13], Daniela Merlotti[1], Stefano Rotatori[14], Chiara Alessi[14], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]Reumatology Unit AUSL3 Catania, Italy, [3]Internal Medicine II Policlinic Rome, Italy, [4]Reumatology Unit, Ospedale S.Spirito, Pescara, Italy, [5]Reumatology Unit, Azienda Ospedaliera Univerasitaria Pisana Ospedale "S.Chiara", Pisa, Italy, [6]University of Catania Clinica Medica OVE, Italy, [7]Fondazione Don C.Gnocchi Onlus IRCCS "S.Maria Nascente" Milan, Italy, [8]A.O.U. OO.RR. San Giovanni di Dio e Ruggi D'Aragona, Salerno, Italy, [9]Department of Ortopedic & Rehabilitation University of Naples, Italy, [10]University of Torino, Italy, [11]Azienda Ospedaliera Universitaria Di Bologna, Italy, [12]Reumatology Unit Ospedale San Camillo, Rome, Italy, [13]Reumatology Unit, Presidio Ospedaliero A. Galateo, Lecce, Italy, [14]Department of Medicine, Surgery & Neurosciences, University of Siena, Italy

Disclosures: Luigi Gennari, None

SA0344 **Fall Risk in Relation to Bioavailable Vitamin D: The Osteoporotic Fractures in Men (MrOS) Study**

J Cai Gillis*[1], Lynn Marshall[1], Jodi Lapidus[1], Iva Miljkovic[2], Amy Warriner[3], Jeffrey Curtis[3], Tien Dam[4], James Shikany[5], Peggy Cawthon[6], Rene Chun[7], Martin Hewison[8], Michael Nevitt[9], Eric Orwoll[1], Carrie Nielson[1]. [1]Oregon Health & Science University, USA, [2]Department of Epidemiology, University of Pittsburgh, USA, [3]University of Alabama At Birmingham, USA, [4]Columbia University Medical Center, USA, [5]University of Alabama at Birmingham School of Medicine, USA, [6]California Pacific Medical Center Research Institute, USA, [7]UCLA/Orthopedic Hospital Research Center, USA, [8]University of California, Los Angeles, USA, [9]University of California, San Francisco, USA

Disclosures: J Cai Gillis, None

SA0345 **Femoral Cortical Index: Is the Really Strength of Femur?**

Cecilia Rao*[1], Monica Celi[1], Maurizio Feola[1], Valerio Tempesta[1], Elena Gasbarra[1], Umberto Tarantino[2]. [1]University of Rome Tor Vergata, Italy, [2]Università degli Studi di Roma Tor Vergata, Italy

Disclosures: Cecilia Rao, None

SA0346 **FRAX® Predicts Future Falls in Elderly Men. MrOs Sweden**

Helena Johansson*[1], Anders Odén[2], Magnus Karlsson[3], Bjorn Rosengren[3], Osten Ljunggren[4], Eugene McCloskey[5], John Kanis[6], Claes Ohlsson[7], Dan Mellström[8]. [1]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [2]WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, United Kingdom, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Uppsala University Hospital, Sweden, [5]University of Sheffield, United Kingdom, [6]University of Sheffield, Belgium, [7]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [8]Centre for Bone & Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

Disclosures: Helena Johansson, None

SA0347 **Hip Fracture In Early Stages of Type 2 Diabetes: A Population-Based Cohort Study.**

Daniel Prieto-alhambra*[1], Daniel Martinez-Laguna[2], Cristian Tebé[3], Xavier Nogues[4], Adolfo Diez-Perez[5]. [1]University of Oxford, United Kingdom, [2]GREMPAL Research Group, IDIAP Jordi Gol Primary Care Research Institute; Primary Care Department, Institut Català de la Salut, Spain, [3]Agencia de Qualitat i Avaluació Sanitàries de Catalunya, Spain, [4]Institut Municipal D'Investigació Mèdica, Spain, [5]Autonomous University of Barcelona, Spain

Disclosures: Daniel Prieto-alhambra, AMGEN, 2; BIOIBERICA SA, 2

SA0348 **Identifying Barriers and Facilitators of Informed Consent for an Osteoporosis Pragmatic Clinical Trial**

Rachael Moloney[1], Donna Messner[1], Kenneth Saag[2], Jeffrey Curtis[2], Amy Warriner[2], Nicole Wright*[2], Phillip Jeffrey Foster[2]. [1]Center for Medical Technology Policy, USA, [2]University of Alabama at Birmingham, USA

Disclosures: Nicole Wright, None

SA0349 **Increased Serum Low-Density Lipoprotein and Triglycerides Negatively Affect Cortical Bone in Women with a High Body Mass Index**
Peter Dellatore*[1], Deeptha Sukumar[1], Yvette Schlussel[1], Xiangbing Wang[2], Claudia Pop[1], Sue Shapses[1]. [1]Rutgers University, USA, [2]Robert Wood Johnson Medical School, USA
Disclosures: Peter Dellatore, None

SA0350 **Long-Term Height Loss and Low BMI Strongly Predict Hip Fracture among 16,009 Women and Men Aged 70-79 Years. A NOREPOS Study.**
Haakon E. Meyer*[1], Siri Forsmo[2], Grethe S. Tell[3], Kristin Holvik[4], John Eisman[5], Anne Johanne Søgaard[1]. [1]Norwegian Institute of Public Health, Norway, [2]Norwegian University of Science & Technology, Norway, [3]University of Bergen, Norway, [4]University of Oslo, Norway, [5]Garvan Institute of Medical Research, Australia
Disclosures: Haakon E. Meyer, None

SA0351 **Withdrawn**

SA0352 **Racial/ethnic Differences in Bone Loss among Aging Men are Attributable to Variation in Socioeconomic Status, Morbidity and Health Behaviors**
Andre Araujo*[1], Gretchen Chiu[1], Benedetta Bartali[1], Thomas Travison[2], Mary Bouxsein[3], Joseph Zmuda[4]. [1]New England Research Institutes, USA, [2]Brigham & Women's Hospital, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Andre Araujo, None

SA0353 **Relationship between specific antidepressants use and bone mineral density – A longitudinal study on postmenopausal women**
Päivi Rauma[1], Risto Honkanen*[1], Heikki Kroger[2], Marjo Tuppurainen[2], Lana Williams[3], Heli Koivumaa-Honkanen[4]. [1]University of Eastern Finland, Finland, [2]Kuopio University Hospital, Finland, [3]The University of Melbourne, Australia, [4]University of Oulu, University of Eastern Finland, Lapland Hospital District, Finland
Disclosures: Risto Honkanen, None

SA0354 **Serotonin Transporters in Bone: A Longitudinal Study of Bone Turnover After Initiation of Selective Serotonin Reuptake Inhibitors in Older Adults**
Elizabeth Haney*[1], Melanie Abrahamson[1], Zunqiu Chen[1], Yiyi Chen[1], Amy Eshleman[1], Kimberly Vesco[2], Elizabeth Eckstrom[1], Martha Gerrity[1], Eric Orwoll[1], Jodi Lapidus[1], Michael Bliziotes[3]. [1]Oregon Health & Science University, USA, [2]Kaiser Permanente Center for Health Research, USA, [3]OHSU/Portland VA Medical Research Center, USA
Disclosures: Elizabeth Haney, None

SA0355 **Using FRAX® to Evaluate Incidental Osteoporotic Vertebral Fractures in Patients Treated with Bisphosphonate**
Yuji Kasukawa*[1], Naohisa Miyakoshi[1], Toshihito Ebina[2], Michio Hongo[1], Koji Nozaka[1], Yoshinori Isikawa[1], Toshiaki Aizawa[3], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Kakunodate General Hospital, Japan, [3]Kitaakita General Hospital, Japan
Disclosures: Yuji Kasukawa, None

SA0356 **Vitamin D Insufficiency Sustained Over 5 Years Contributes to Increased 10-year Fracture Risk in Elderly Women**
David Buchebner*[1], Fiona McGuigan[2], Paul Gerdhem[3], Kaisa Ivaska[4], Martin Ridderstråle[5], Kristina Akesson[6]. [1]Halmstad Hospital, Sweden, [2]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [3]Karolinska Institutet, Sweden, [4]University of Turku, Finland, [5]University of Lund, Sweden, [6]Skåne University Hospital, Malmö, Sweden
Disclosures: David Buchebner, None

SA0357 **When, Where and How Osteoporosis-Associated Fractures Occur: An Analysis from the Global Longitudinal Study of Osteoporosis in Women (GLOW)**
Aline Costa*[1], Allison Wyman[2], Ethel Siris[3], Nelson Watts[4], Stuart Silverman[5], Kenneth Saag[6], Christian Roux[7], Maurizio Rossini[8], Johannes Pfeilschifter[9], Jeri Nieves[10], Coen Netelenbos[11], Lyn March[12], Andrea Lacroix[13], Frederick Hooven[14], Susan Greenspan[15], Stephen Gehlbach[16], Adolfo Diez-Perez[17], Cyrus Cooper[18], Juliet Compston[19], Roland Chapurlat[20], Steven Boonen[21], Fred Anderson[16], Jonathan Adachi[22], Silvano Adami[8]. [1]Columbia University, USA, [2]UMASS Medical School, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Mercy Health Osteoporosis & Bone Health Services, USA, [5]Cedars-Sinai/UCLA, USA, [6]University of Alabama at Birmingham, USA, [7]Hospital Cochin, France, [8]University of Verona, Italy, [9]Alfried Krupp Krankenhaus Steele, Germany, [10]Columbia University & Helen Hayes Hospital, USA, [11]VU Medical Center, The Netherlands, [12]Royal North Shore Hospital, Australia, [13]Fred Hutchinson Cancer Research Center, USA, [14]University of Massachusetts Medical School, USA, [15]University of Pittsburgh, USA, [16]University of Massachusetts, USA, [17]Autonomous University of Barcelona, Spain, [18]University of Southampton, United Kingdom, [19]University of Cambridge School of Clinical Medicine, United Kingdom, [20]E. Herriot Hospital, France, [21]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [22]St. Joseph's Hospital, Canada
Disclosures: Aline Costa, Warner Chilcott Company, 2; sanofi-aventis, 2

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MINERAL DENSITY

SA0358 **Association of Bone Marrow Sphingosine 1-Phosphate Levels with Osteoporotic Hip Fractures**
Seong Hee Ahn*[1], Jung-Min Koh[1], Sun-Young Lee[2], Seongeun Byun[3], Beom-Jun Kim[1], Seung Hun Lee[4], Jae Suk Chang[3], Ghi Su Kim[4]. [1]Asan Medical Center, South Korea, [2]Asan Institute for Life Sciences, South Korea, [3]Division of Orthopedic Surgery, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [4]Asan Medical Center, University of Ulsan College of Medicine, South Korea
Disclosures: Seong Hee Ahn, None

SA0359 **The 3 Chinese Herbs extracts Mixture Reverse Glucocorticoid-Induced Osteoporosis in Rat**
Jian Wang*[1], Hongxin Zheng[2], Fang Yang[2], Dezhi Tang[3], Tianfang Li[4], Hui Zhu[2], zhangguo Zhang[5]. [1]Liaoning University of Traditional Chinese Medicine, USA, [2]Liaoning University of Traditional Chinese Medicine, China, [3]Shanghai University of Traditional Chinese Medicine, , [4]Rush University Medical Center, USA, [5]Liaoning University of Traditional Chinese Medicine, China
Disclosures: Jian Wang, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE REMODELING

SA0360 **Analysis of 48-hr Profiles of Melatonin and the Bone Resorption Marker Crosslinked N-terminal Telopeptide of Collagen I (NTx) in Blind Women With and Without Light Perception**
Melissa St. Hilaire[1], Erin Flynn-Evans[1], Suzanne Higginbotham[2], Paula Witt-Enderby*[3], Steven Lockley[1]. [1]Division of Sleep Medicine, Department of Medicine, Harvard Medical School, Brigham & Women's Hospital, USA, [2]Division of Clinical, Social & Administrative Sciences, School of Pharmacy, USA, [3]Duquesne University, School of Pharmacy, USA
Disclosures: Paula Witt-Enderby, None

SA0361 **B Cell Dysregulation Promotes HIV-induced Bone Loss**
Kehmia Titanji*, Ashwani Vunnava, Anandi Sheth, Jeffrey Lennox, Ighovwerha Ofotokun, M. Neale Weitzmann. Emory University School of Medicine, USA
Disclosures: Kehmia Titanji, None

SA0362 **Circulating Sclerostin, Bone Turnover Markers and BMD In Type-2 Diabetic Women Treated With Metformin or Pioglitazone**

Mohammed-Salleh Ardawi*[1], Daad Akbar[2], Abdulrahman Al-Shaik[2], Maimoona Ahmed[3], Mohammed Qari[4], Abdulrahim Rouzi[1], Rajaa Raddadi[5]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia, [2]Center of Excellence for Osteoporosis Research & Department of Internal Medicine & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [3]Center of Excellence for Osteoporosis Research & Department of Internal Medicine, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [4]Center of Excellence for Osteoporosis Research & Department of Haematology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [5]Center of Excellence for Osteoporosis Research, King Abdulaziz University, Saudi Arabia

Disclosures: Mohammed-Salleh Ardawi, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE STRUCTURE

SA0363 **Decrease in Bone Strength Due to Reduced Total Density and Content is Not Completely Compensated by Increase in Bone Area: Prospective pQCT Evidence from Distal Radius and Tibia in Postmenopausal Women**

Saija Kontulainen*, Chantal Kawalilak, Andrew Frank, Wojciech Olszynski, James Johnston. University of Saskatchewan, Canada

Disclosures: Saija Kontulainen, None

SA0364 **Differences in Cortical and Trabecular Microstructure in Chinese and Caucasian Females originate during Peripubertal Growth**

Xiao-Fang Wang*[1], Ali Ghasem-Zadeh[2], Qingju Wang[2], Jia Wei Teo[2], Sandra Iuliano-Burns[2], Yohann Bala[3], Roger Zebaze[2], Ego Seeman[2]. [1]University of Melbourne, Austin Health, Australia, [2]Austin Health, University of Melbourne, Australia, [3]University of Melbourne, Dept. of Medicine, Australia

Disclosures: Xiao-Fang Wang, None

SA0365 **Hip Cortical Porosity Predicts Fragility Fractures in Postmenopausal Women with Normal Hip Bone Mineral Density and Osteopenia**

Luai A Ahmed*[1], Rajesh Shigdel[1], Ragnar Joakimsen[1], Petter Eldevik[2], Erik Fink Eriksen[3], Roger Zebaze[4], Ashild Bjornerem[1]. [1]University of Tromsø, Norway, [2]University Hospital North Norway, Norway, [3]Oslo University Hospital, Norway, [4]Austin Health, University of Melbourne, Australia

Disclosures: Luai A Ahmed, None

SA0366 **Premenopausal women with idiopathic osteoporosis and those with anorexia nervosa have similar bone structural defects but differ in terms of marrow fat**

Anna Kepley[1], Wei Shen[2], Laurel Mayer[2], Elizabeth Shane[3], Julia Weigel[2], Lindsay Kenney[2], Polly Young[2], Chiyuan Zhang[2], Robert Recker[4], Joan Lappe[5], Adi Cohen*[1]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Creighton University, USA, [5]Creighton University Osteoporosis Research Center, USA

Disclosures: Adi Cohen, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: DIETARY FACTORS

SA0367 **Vitamin D status and response to treatment of vitamin D in Korean women initially diagnosed as osteoporosis**

Sung Soo Kim*[1], Jin Ju Kim[2]. [1]School of Medicine Chungnam National University, South Korea, [2]Chungnam National University Hospital, South Korea

Disclosures: Sung Soo Kim, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

SA0368 **Identification of proteins important for male osteoporosis from human peripheral blood monocytes**

Yingchun Zhao*, Lan Zhang, Hualin Huang, Yao-Zhong Liu, Yong-Jun Liu, Fei-Yan Deng, Hong-Wen Deng. Tulane University, USA

Disclosures: Yingchun Zhao, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: MISCELLANEOUS

SA0369 **Serum Dickkopf1 (DKK1): Relationship With Bone Metabolism And Atherosclerotic Disease In Type 2 Diabetes Mellitus**
Rebeca Reyes-García*[1], Pedro Rozas-Moreno[2], Antonia Garcia-Martin[3], Beatriz Garcia-Fontana[4], Sonia Morales-Santana[4], Manuel Munoz-Torres[5]. [1]Hospital Rafael Méndez, Spain, [2]Endocrinology Division. Hospital General de Ciudad Real. Ciudad Real, Spain., Spain, [3]Hospital Comarcal del Noroeste, Spain, [4]Hospital Clínico San Cecilio, Spain, [5]Hospital Universitario San Cecilio, Spain
Disclosures: Rebeca Reyes-García, None

SA0370 **Second generation antipsychotic drugs have direct effects on the skeleton via G-protein coupled neural receptors: Implications for bone and energy metabolism**
Karen Houseknecht[1], Katherine Motyl*[2], Rachel Mayer[3], Shail Patel[3], Deborah Barlow[3], John Streicher[3], Daniel Brazeau[3], Clifford Rosen[4]. [1]University of New England, College of Pharmacy, USA, [2]Maine Medical Center Research Institute, USA, [3]University of New England, USA, [4]Maine Medical Center, USA
Disclosures: Katherine Motyl, None

OSTEOPOROSIS - TREATMENT (CLINICAL): ANABOLIC AGENTS, INCLUDING PTH, ANTI-SCLEROSTIN

SA0371 **Bone Remodeling and Structure in the Proximal Femur**
Felicia Cosman*[1], David Dempster[2], Jeri Nieves[3], Hua Zhou[1], Catherine Roimisher[1], Yvonne Houle[4], Robert Lindsay[1], Mathias Bostrom[5]. [1]Helen Hayes Hospital, USA, [2]Columbia University, USA, [3]Columbia University & Helen Hayes Hospital, USA, [4]Hospital for Special Surger, USA, [5]Hospital for Special Surgery, USA
Disclosures: Felicia Cosman, Eli Lilly, Amgen, 8; Eli Lilly, Novartis, Amgen, 2; Eli Lilly, Amgen, Merck, Zosano, GSK, Unigene, Tarsa, 5

SA0372 **Comparative Effects of Teriparatide, Denosumab, and Combination Therapy on Peripheral Compartmental Bone Density and Microarchitecture: the DATA-HRpQCT Study**
Joy Tsai*[1], Alexander Uihlein[1], Yuli Zhu[1], Katelyn Foley[1], Nicholas Derrico[1], Hang Lee[1], Sherri-Ann Burnett-Bowie[1], Robert Neer[1], Mary Bouxsein[2], Benjamin Leder[3]. [1]Massachusetts General Hospital, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Joy Tsai, None

SA0373 **Comparison of Analgesic Action of and Vertebral Collapse Prevention by Teriparatide and Risedronate Administration for Fresh Osteoporotic Vertebral Fracture**
Hiroyuki Tsuchie*[1], Naohisa Miyakoshi[2], Yuji Kasukawa[2], Tomio Nishi[1], Hidekazu Abe[1], Masaaki Takeshima[1], Toyohito Segawa[2], Yoichi Shimada[2]. [1]Ugo Municipal Hospital, Japan, [2]Akita University Graduate School of Medicine, Japan
Disclosures: Hiroyuki Tsuchie, None

SA0374 **Cortical Thickness and Density Changes Over the Proximal Femur Resulting From Switching To or Combining With Teriparatide After Prior Treatment With Raloxifene or Alendronate**
Tristan Whitmarsh*, Graham Treece, Andrew Gee, Kenneth Poole. University of Cambridge, United Kingdom
Disclosures: Tristan Whitmarsh, None

SA0375 **Early Bone Resorptive Response to Teriparatide Predicts Bone Density Outcome at 2 Years**
Richard Bockman*[1], Erik Nielsen[2], Wei-Ti Huang[2]. [1]Hospital for Special Surgery, Weill Cornell Medical College, USA, [2]Hospital for Special Surgery, USA
Disclosures: Richard Bockman, None

SA0376 **Once-weekly Teriparatide Reduces Vertebral Fracture Risk – Subgroup Analysis from the Teriparatide Once Weekly Efficacy Research (TOWER) Trial**
Toshitsugu Sugimoto*[1], Masataka Shiraki[2], Tetsuo Nakano[3], Hideaki Kishimoto[4], Masako Ito[5], Masao Fukunaga[6], Hiroshi Hagino[7], Teruki Sone[6], Toshitaka Nakamura[8]. [1]Shimane University School of Medicine, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Tamana Central Hospital, Japan, [4]Nojima Hospital, Japan, [5]Nagasaki University Hospital, Japan, [6]Kawasaki Medical School, Japan, [7]Tottori University, Japan, [8]University of Occupational & Environmental Health, Japan
Disclosures: Toshitsugu Sugimoto, None

SA0377 **Overlapping and Follow-up of Alendronate to Teriparatide Results in Continuing Volumetric Bone Mass Increase Measured by Quantitative Computed Tomography**
Christian Muschitz*[1], Roland Kocijan[2], Wolfgang Schima[3], Judith Haschka[2], Afrodite Zendeli[4], Astrid Fahrleitner-Pammer[5], Heinrich Resch[6]. [1]St. Vincent's Hospital, Austria, [2]St. Vincent Hospital Vienna, Austria, [3]Department of Radiology - St. Vincent Hospital, Austria, [4]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [5]Medical University Graz, Austria, [6]Medical University Vienna, Austria
Disclosures: Christian Muschitz, None

SA0378 **Teriparatide Delivered Orally with Novel Drug Delivery Technology - First in Humans Results**
Hillel Galitzer*[1], Naifang Wang[2], Gregory Burshtien[3], Phillip Schwartz[1], Yoseph Caraco[4], Ehud Arbit[5]. [1]Entera Bio, Israel, [2]Entera Bio & Align Bioscience, USA, [3]Entera Bio Ltd., Israel, [4]Hadassah Hospital Jerusalem, Israel, [5]Entera Bio & NYU-Poly, USA
Disclosures: Hillel Galitzer, Entera Bio Ltd., 3

OSTEOPOROSIS - TREATMENT (CLINICAL): ANTI-CATABOLIC, INCLUDING BISPHOSPHONATES, CATHEPSIN K INHIBITOR, ESTROGENS

SA0379 **Alendronate Sodium/Vitamin D_3 Combination Tablet versus Calcitriol for Osteoporosis in Chinese Postmenopausal Women: A 6-Month, Randomized, Open-Label, Active-Comparator Controlled Study with a 6-Month Extension Phase**
Zhenlin Zhang*[1], Er Yuan Liao[2], Bo Xia Wei[3], Hua Lin[4], Li Wang[5], De Cai Chen[6], Hai Tang[7], Wei Hong[8], Yong Qiang Hao[9], Yong De Peng[10], Liang He[11], Zhao Heng Hu[12], Fang Wei[13], Jue Wang[13], Arthur Santora[14]. [1]Shanghai Sixth People's Hospital, Shanghai Jiaotong University School of Medicine, China, [2]The Second Xiangya Hospital of Central South University, China, [3]Peking Union Medical College Hospital, China, [4]Nanjing Drum Tower Hospital, China, [5]TianJin Hospital, China, [6]West China School Of Medicine, West China Hospital, Sichuan University, China, [7]Beijing Friendship Hospital, Capital Medical University, China, [8]Huadong Hospital Affiliated to Fudan University, China, [9]Shanghai Ninth People's Hospital, China, [10]Shanghai First People's Hospital, China, [11]Beijing Jishuitan Hospital, China, [12]Peking University People's Hospital, China, [13]Merck Sharp & Dohme Corp., China, [14]Merck Sharp & Dohme Corp, USA
Disclosures: Zhenlin Zhang, Merck, 2

SA0380 **Bisphosphonates, Glucocorticoids, and Suffering from Collagen Diseases were Risk Factors for Developing Atypical Femoral Fractures in Japan**
Yoshitomo Saita*, Muneaki Ishijima, Masashi Nagao, Kazuo Kaneko. Department of Orthopaedics, Juntendo University School of Medicine, Japan
Disclosures: Yoshitomo Saita, None

SA0381 **Bone Mineral Density Increases with Monthly i.v. Ibandronate Injections Contribute to its Fracture Risk Reduction in Primary Osteoporosis: 3-Year Analysis of the Phase III MOVER Study**
Hiroshi Hagino*[1], Toshitaka Nakamura[2], Masako Ito[3], Tetsuo Nakano[4], Junko Hashimoto[5], Masato Tobinai[6], Hideki Mizunuma[7]. [1]Tottori University, Japan, [2]National Center for Global Health & Medicine, Japan, [3]Nagasaki University Hospital, Japan, [4]Tamana Central Hospital, Japan, [5]Chugai Pharmaceutical Corporation Limited, Japan, [6]Chugai Pharmaceutical Co. Ltd., Japan, [7]Hirosaki University, Japan
Disclosures: Hiroshi Hagino, Asahi Kasei Pharma, Astellas Pharma, Banyu Pharmaceutical Co, Chugai Pharmaceutical Co Ltd, Eisai Co Ltd, Eli Lilly Japan KK, Mitsubishi Tanabe Pharma Corp, Ono Pharmaceutical Co Ltd, Pfizer Inc, Takeda Pharmaceutical Co Ltd, and Teijin Pharma Ltd, 5

SA0382 **Differential Effects of Intravenous Bisphosphonates on First-dose Acute-phase Reactions in a Clinical Setting**
Albrecht Popp*[1], Renate Senn[2], Helene Buffat[2], Christoph Senn[2], Philipp Popp[2], Ivanka Curkovic[2], Kurt Lippuner[2]. [1]Department of Osteoporosis, Switzerland, [2]Department of Osteoporosis, University Hospital & University of Berne, Switzerland
Disclosures: Albrecht Popp, None

SA0383 **Effect of Denosumab Two Years Therapy in Women with Osteoporosis and Contraindications to Oral Bisphosphonates on Bone Mineral Density – One Centre Open Study Results**
Andrzej Sawicki*. Synexus Poland, Poland
Disclosures: Andrzej Sawicki, None

SA0384 **Effect of odanacatib on BMD and fractures: Results from Bayesian univariate and bivariate meta-analyses**

Olga Gajic-Veljanoski*[1], George Tomlinson[2], Jeevitha Srighanthan[3], Jonathan Adachi[4], Robert Josse[5], Jacques P. Brown[6], Angela M. Cheung[7]. [1]University Health Network, Canada, [2]Dalla Lana School of Public Health, University of Toronto, Canada, [3]Osteoporosis Program, University Health Network, Toronto, Canada, [4]St. Joseph's Hospital, Canada, [5]St. Michael's Hospital, University of Toronto, Canada, [6]CHU de Québec Research Centre, Canada, [7]University Health Network-University of Toronto, Canada

Disclosures: Olga Gajic-Veljanoski, None

SA0385 **Efficacy and Safety of Zoledronic Acid in Postmenopausal Osteoporosis Patients Between 50-65 Years Old**

NURTEN ESKIYURT*[1], Rezzan Gunaydin[2], Belgin Erhan[3], Hatice Bodur[4], Mehmet Kırnap[5], Vesile Sepici[6], Banu Kuran[7], Gulay Dincer[8], Hatice Ugurlu[9], Bulent Butun[10], Serhan Sevgi[11], Merih Sarıdogan[12]. [1]Istanbul University, Turkey, [2]Izmir Training & Research Hospital, Turkey, [3]Istanbul Physical Treatment & Rehab. Training & Research Hospital, Turkey, [4]Ankara Numune Trainig & Research Hospital, Turkey, [5]Erciyes University Faculty of Medicine, Turkey, [6]Gazi University Faculty of Medicine, Turkey, [7]Sisli Etfal Training & Research Hospital, Turkey, [8]Ankara University Faculty of Medicine, Turkey, [9]Necmettin Erbakan University Faculty of Medicine, Turkey, [10]Akdeniz University Faculty of Medicine, Turkey, [11]Novatis Pharma, Turkey, [12]Istanbul University Cerrahpasa Faculty of Medicine, Turkey

Disclosures: NURTEN ESKIYURT, None

SA0386 **Efficacy and Safety Results from a Six Month Double-Blind Study Comparing 60 mg Denosumab (DMAb) and Placebo in Korean Postmenopausal Women with Osteoporosis**

Jung-Min Koh*[1], Han-Jin Oh[2], Il Hyung Park[3], In-Ju Kim[4], Moo-Il Kang[5], Sung-Kil Lim[6], Yong-Ki Min[7], Yoon-Sok Chung[8], Yil-Seob Lee[9], Barbara Kravitz[10], Brian Waterhouse[10], Antonio Nino[10], Lorraine Fitzpatrick[10]. [1]Asan Medical Center, South Korea, [2]Cheil General Hospital, Kwandong University, South Korea, [3]Kyungpook National University Hospital, South Korea, [4]Pusan National University Hospital, South Korea, [5]Seoul St. Mary's Hospital, South Korea, [6]Yonsei University College of Medicine, South Korea, [7]Samsung Medical Center, South Korea, [8]Ajou University School of Medicine, South Korea, [9]GlaxoSmithKline Pharmaceuticals, South Korea, [10]GlaxosmithKline Pharmaceuticals, USA

Disclosures: Jung-Min Koh, None

SA0387 **Factors associated with negative BMD response to Risedronate**

Ryoichi Muraoka[1], Ryo Okazaki*[2]. [1]Ajinomoto Phamaceuticals Co, Ltd., Japan, [2]Teikyo University Chiba Medical Center, Japan

Disclosures: Ryo Okazaki, None

SA0388 **Microdamage analysis of the cortical bone of fracture site in the patient with atypical femoral fracture**

Ken Iwata*[1], Tasuku Mashiba[2], Takeshi Manabe[3], Toshiaki Hitora[1], Yoshiki Yamagami[1], Tetsuji Yamamoto[1]. [1]Kagawa University School of medicine, Japan, [2]Kagawa University Faculty of Medicine, Japan, [3]Kinashi Ohbayashi Hospital, Japan

Disclosures: Ken Iwata, None

SA0389 **The Effect of 6 versus 9 Years of Zoledronic Acid Treatment in Osteoporosis: A Randomized Extension to the HORIZON-Pivotal Fracture Trial (PFT)**

Dennis Black*[1], Ian Reid[2], Jane Cauley[3], Steven Boonen[4], Felicia Cosman[5], Ping Leung[6], Peter Lakatos[7], Zulema Man[8], Steven Cummings[9], Trisha Hue[1], Guoqin Su[10], Christina Bucci-Rechtweg[11], Monique Tan[12], Paul Aftring[10], Richard Eastell[13]. [1]University of California, San Francisco, USA, [2]University of Auckland, New Zealand, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [5]Helen Hayes Hospital, USA, [6]Chinese University of Hong Kong, China, [7]Semmelweis University Medical School, Hungary, [8]Centro Médico TIEMPO, Argentina, [9]San Francisco Coordinating Center, USA, [10]Novartis pharmaceuticals, USA, [11]Novartis Pharmaceuticals Corporation, USA, [12]Novartis Pharmaceutical, USA, [13]University of Sheffield, United Kingdom

Disclosures: Dennis Black, Amgen, Lilly, 5; Merck, Novartis, 2

SA0390 **The Pharmacokinetics of Odanacatib 50 mg Are Not Affected by Severe Renal Insufficiency**
Aubrey Stoch*[1], Chengcheng Liu[2], Stefan Zajic[3], Rose Witter[2], Julie Stone[2], Anish Mehta[2], Patrice Auger[4], Daria Stypinski[4], Nancy Wang[4], Anne Hohnstein[4], William Smith[5], Harry Alcorn[6], Thomas Marbury[7]. [1]Merck Sharp & Dohme, USA, [2]Merck Sharp & Dohme Corp., USA, [3]Merck Research Laboratories, USA, [4]Celerion, USA, [5]Volunteer Research Group/Graduate School of Medicine, University of Tennessee, USA, [6]DaVita Clinical Research, USA, [7]Orlando Clinical Research Center, USA
Disclosures: Aubrey Stoch, Merck, 3

OSTEOPOROSIS - TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

SA0391 **Adherence to Oral Bisphosphonate Therapy in a Fracture Liaison Service: A Randomised Controlled Trial**
Kirtan Ganda*[1], Markus Seibel[2], Andrea Schaffer[3], Sallie Pearson[3]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]Pharmcoepidemiology & Pharmaceutical Policy Ressearch Group, Faculty of Pharmacy, School of Public Healht, Sydney Medical School, The University of Sydney, Australia
Disclosures: Kirtan Ganda, None

SA0392 **Baseline characteristics of a prospective observational study in Germany, Austria, Greece and Belgium to evaluate medication-taking behavior of women with postmenopausal osteoporosis (PMO) receiving denosumab (DMab) in clinical practice**
Nikolaos Papaioannou*[1], Astrid Fahrleitner-Pammer[2], Maurille Feudjo Tepie[3], Gerd Moeller[4], Eddie Zhang[3], Peyman Hadji[5]. [1]University of Athens, KAT Hospital, Greece, [2]Medical University Graz, Austria, [3]Amgen Ltd, United Kingdom, [4]Amgen (Europe) GmbH, Switzerland, [5]Philipps-University of Marburg, Germany
Disclosures: Nikolaos Papaioannou, Amgen, Eli Lilly, 2; Amgen and Servier, 8; Amgen, 5

SA0393 **Healthcare Consequences Associated With Non-Compliance in a Managed Care Population**
Ankita Modi*[1], Jackson Tang[2], Ethel Siris[3], Shuvayu Sen[1]. [1]Merck & Co., Inc., USA, [2]AsclepiusJT LLC, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Ankita Modi, Merck, 1; Merck, 3

SA0394 **Non-pharmacological Strategies used by Patients at High Risk for Future Fracture to Manage Fracture Risk - A Qualitative Study**
Joanna Sale*[1], Monique Gignac[2], Gillian Hawker[3], Dorcas Beaton[4], Earl Bogoch[1], Fiona Webster[3], Lucy Frankel[1], Victoria Elliot-Gibson[1]. [1]St. Michael's Hospital, Canada, [2]University Health Network, Canada, [3]University of Toronto, Canada, [4]Keenan Research Centre, St Michael's Hospital, Canada
Disclosures: Joanna Sale, None

SA0395 **Patterns and Predictors of Osteoporosis Medication Switching in Low-Income Elderly Patients**
Daniel Solomon*[1], David Chandler[2], Erika Brown[3], Helen Mogun[3], Jessica Myers Franklin[3]. [1]Harvard Medical School, USA, [2]Amgen, USA, [3]Brigham & Women's Hospital, USA
Disclosures: Daniel Solomon, Lilly, 2; Amgen, 2

OSTEOPOROSIS - TREATMENT (CLINICAL): DIET, VITAMIN D AND METABOLITES

SA0396 **Active Vitamin D3 Analog (eldecalcitol) Improves Muscle Strength and Dynamic Balance in Postmenopausal Osteoporotic Women**
Kimio Saito*[1], Naohisa Miyakoshi[2], Michio Hongo[2], Yuji Kasukawa[2], Yoichi Shimada[3]. [1]Akita University, Japan, [2]Akita University Graduate School of Medicine, Japan, [3]Department of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan
Disclosures: Kimio Saito, None

SA0397 **Fracture?, Think Osteoporosis: Rehabilitation of Patients Post Hip Fracture**
George Ioannidis*[1], Naomi Dore[1], Pauline Fisher[2], Courtney Kennedy[1], Lisa Dolovich[1], Jonathan Adachi[3], Leo Farrauto[1], Alexandra Papaioannou[2]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]St. Joseph's Hospital, Canada
Disclosures: George Ioannidis, None

SA0398 **VitaminD Supplementation Protocol in Osteoporosis: Chart Review**
Vithika Sivabalasundaram*[1], Sandra Kim[2], Ina Radziunas[3], Sophie Jamal[4]. [1]University of Toronto, Canada, [2]Women's College Hospital, University of Toronto, Canada, [3]Women's College Hospital, Canada, [4]The University of Toronto, Canada
Disclosures: Vithika Sivabalasundaram, None

OSTEOPOROSIS - TREATMENT (CLINICAL): OTHER AGENTS

SA0399 **Changes in Lumbar Spine QCT, DXA, and TBS in Postmenopausal Women With Low Bone Mass Treated With Denosumab, Alendronate, or Placebo**
Thierry Thomas*[1], Angela M Cheung[2], Elizabeth Shane[3], Jose R Zanchetta[4], Ann Kearns[5], Didier Hans[6], Celia JF Lin[7], Matthew Austin[7], Cesar Libanati[7]. [1]INSERM U1059, University Hospital of St Etienne, France, [2]University of Toronto, Canada, [3]Columbia University, USA, [4]Instituto de Investigaciones Metabólicas, Argentina, [5]Mayo Clinic, USA, [6]Lausanne University Hospital, Center of Bone Diseases, Switzerland, [7]Amgen Inc., USA
Disclosures: Thierry Thomas, Amgen, UCB, Novartis, 6; Abbvie, Novartis, Roche/Chugaï, 2; Gibaud, GSK, Ipsen, Eli Lilly, MSD, 5

SA0400 **Cortical Bone Parameters at the Hip in Response to Denosumab vs Placebo and the Clinical Relevance of These Changes in Postmenopausal Women With Osteoporosis <75 and ⩾75 Years Old**
Harry K. Genant*[1], Tony M. Keaveny[2], Carol Zapalowski[3], Klaus Engelke[4], Thomas Fuerst[4], David L. Kendler[5], Christopher Recknor[6], Steven Boonen[7], Andrea Wang[3], Paula Dakin[3], Cesar Libanati[3], Michael R. McClung[8]. [1]UCSF & Synarc Inc., USA, [2]UC Berkeley & O.N. Diagnostics, USA, [3]Amgen Inc., USA, [4]Synarc Inc., USA, [5]University of British Columbia, Canada, [6]United Osteoporosis Centers, USA, [7]Leuven University, Belgium, [8]Oregon Osteoporosis Center, USA
Disclosures: Harry K. Genant, Amgen, Merck, Lilly, Pfizer, Janssen, Servier, Novartis, Radius,6; Synarc, 4; Novartis, Merck, 9; Synarc, 5; Synarc, 1

SA0401 **Does Calcitonin-Salmon Cause Cancer?**
George Wells[1], David Krause*[2], Jonathan Chernoff[3], James Gilligan[4]. [1]Universtiy of Ottawa, Canada, [2]Tarsa Therapeutics Inc., USA, [3]Fox Chase Cancer Center, USA, [4]Tarsa Therapeutics, USA
Disclosures: David Krause, Tarsa, 5

SA0402 **Treatment Criteria of Osteoporotic Vertebral Compression Fractures (VCFS)**
Mashood Siddiqi*[1], Giovanni Anselmetti[2], Jason Bernard[3], Christian Kasperk[4], Thomas Blattert[5], Charles Court[6], Daniel Fagan[7], Hendrik Fransen[8], Patrick Fransen[9], Tarun Sabharwal[10], Frederic Schils[11], Rupert Schupfner[5]. [1]University Hospital Aintree, Liverpool, UK, United Kingdom, [2]Interventional Radiologist, Italy, [3]Orthopaedic Surgeon, United Kingdom, [4]University of Heidelberg, Germany, [5]Trauma Surgeon, Germany, [6]Orthopaedic surgeon, France, [7]Spinal Surgeon, United Kingdom, [8]Interventional Radiologist, Belgium, [9]Neurosurgeon, Belgium, [10]Interventional Radiologist, United Kingdom, [11]Neurosurgen, Belgium
Disclosures: Mashood Siddiqi, None

SA0403 **Variations in Patients Receiving DXA Across Three Health Care Systems**
Mollie Giller[1], Nicole Wright[2], Fredric Wolinsky[3], Thuy Nguyen[3], Douglas Roblin[4], Kenneth Saag[2], Peter Cram*[5]. [1]University of Iowa Hosptials & Clinics, USA, [2]University of Alabama at Birmingham, USA, [3]University of Iowa Hospitals & Clinics, USA, [4]Kaiser Permanante of Georgia, USA, [5]University of Iowa, USA
Disclosures: Peter Cram, None

OSTEOPOROSIS - TREATMENT (CLINICAL): QUALITY OF LIFE

SA0404 **Characteristics, Treatments, and Quality Of Life of Patients In a Swedish Osteoporosis Patient Registry**
Dan Mellstrom[1], Arun Krishna*[2], Zhiyi Li[3], Chun-Po Steve Fan[4], Stina Salomonsson[5]. [1]Sahlgrenska University Hospital, Sweden, [2]Merck, USA, [3]AsclepiusJT LLC, USA, [4]AsclpeiusJT LLC, Canada, [5]MSD, Sweden
Disclosures: Arun Krishna, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANABOLIC AGENTS, INCLUDING PTH, ANTI-SCLEROSTIN

SA0405 **Bone Anabolic Effect of Sclerostin Antibody is Maintained with Antiresorptive Agents in Osteopenic, Ovariectomized Rats**
Yanfei Ma*[1], Qianqiang Zeng[1], Rick Cain[1], Mary D Adrian[1], Guilherme V Rocha[1], Anita Harvey[1], Matthew J Hamang[1], Jonathan D Lucchesi[1], Henry Bryant[1], Venkatesh Krishnan[1], Victor Obungu[1], Stuart Kuhstoss[1], Masahiko Sato[2]. [1]Eli Lilly & Company, USA, [2]Lilly Research Labs, USA
Disclosures: Yanfei Ma, Eli Lilly Company, 3

SA0406 **Bone Formation Response in Mice During Administration and Following Re-challenge With an Antibody to Sclerostin**
Martyn Robinson*[1], Kevin Greenslade[2], Jose Joby[2], Zofia Stencel[2], Hishani Kirby[2], Gill Holdsworth[2], Adrian Moore[2]. [1]UCB-Celltech, United Kingdom, [2]UCB Pharma, United Kingdom
Disclosures: Martyn Robinson, UCB Pharma, 1; UCB Pharma, 3

SA0407 **CaMKK2 Inhibition as a Novel Bone Anabolic Strategy in the Prevention of Post-Menopausal and Therapy-Induced Osteoporosis**
Zachary Pritchard*[1], Rachel Cary[2], Deborah Novack[3], Michael Voor[4], Uma Sankar[2]. [1]Department of Pharmacology & Toxicology, University of Louisville, USA, [2]University of Louisville, USA, [3]Washington University in St. Louis School of Medicine, USA, [4]Department of Orthopedic Surgery, University of Louisville, USA
Disclosures: Zachary Pritchard, None

SA0408 **Combined Effects of Treadmill Exercise and Sclerostin Antibody in Ovariectomized Rats**
Hechmi Toumi[1], Delphine Benaitreau*[1], Michael Ominsky[2], Claude Laurent Benhamou[3], Eric Lespessailles[4], Stephane Pallu[5]. [1]EA4708 I3MTO University of Orleans, France, [2]Amgen Inc., USA, [3]CHR ORLEANS, France, [4]Centre Hospitalier Regional, France, [5]EA 4708 - I3MTO Orléans, France
Disclosures: Delphine Benaitreau, None

SA0409 **Long Term effect of BA058, a Novel Human PTHrP Analog, Restores Bone Mass in the Aged Osteopenic Ovariectomized Cynomolgus Monkey**
Nancy Doyle*[1], Aurore Varela[1], Susan Y. Smith[1], Gary Hattersley[2]. [1]Charles River Laboratories, Canada, [2]Radius, USA
Disclosures: Nancy Doyle, None

SA0410 **Role of paraoxonase-1 in bone anabolic effects of parathyroid hormone in hyperlipidemic mice**
Jinxiu Lu[1], Henry Cheng[2], Elisa Atti[1], Diana Shih[1], Linda Demer[3], Yin Tintut*[4]. [1]UCLA, USA, [2]Johns Hopkins, USA, [3]David Geffen School of Medicine At University of California Los Angeles, USA, [4]University of California, Los Angeles, USA
Disclosures: Yin Tintut, None

SA0411 **Therapeutic Potential of Sclerostin Antibody in Extreme Disuse-induced Bone Loss after Spinal Cord Injury: a Preclinical Study**
Weiping Qin*[1], Xiaodong Li[2], Jay Cao[3], Lauren Collier[4], Yuanzhen Peng[5], Jiliang Li[6], Hua Zhu (David) Ke[7], William A. Bauman[4], Christopher Cardozo[8]. [1]Bronx Veterans Affairs Medical Center, USA, [2]Amgen, Inc., USA, [3]USDA ARS, USA, [4]James J. Peters Veteran Affairs Medical Center, USA, [5]The Mount Sinai School of Medicine, USA, [6]Indiana University Purdue University Indianapolis, USA, [7]Amgen Inc., USA, [8]James J. Peters VA Medical Center, USA
Disclosures: Weiping Qin, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANTI-CATABOLIC, INCLUDING BISPHOSPHONATES, CATHEPSIN K INHIBITOR, ESTROGENS

SA0412 **ALX-0141, An Anti-RANK-L Targeting Nanobody®, Increases Bone Mass in Cynomolgus Monkeys**
Rana Samadfam*[1], Sandy Jacobs[2], Maarten Van Roy[2], Aidan McGuire[3], Pieter Schoen[2], Judith Baumeister[2], Susan Y. Smith[1], Josefin-Beate Holz[2]. [1]Charles River Laboratories, Canada, [2]Ablynx NV, Belgium, [3]Charles River Laboratories, United Kingdom
Disclosures: Rana Samadfam, None

SA0413 **Effect of Dosing Interval Duration of Intermittent Ibandronate Treatment on the Healing Process of Femoral Osteotomy in a Rat Fracture Model**
Tasuku Mashiba*[1], Takeshi Manabe[2], Ken Iwata[3], Tetsuji Yamamoto[3]. [1]Kagawa University Faculty of Medicine, Japan, [2]Kinashi Obayashi Hospital, Japan, [3]Kagawa University, Japan
Disclosures: Tasuku Mashiba, None

SA0414 **Effects of the Novel Cathepsin K Inhibitor, SCI-629, on Bone Resorption in in vitro and in vivo Assays**
Yoshitaka TANAKA*[1], Toshiaki Fujii[2]. [1]SEIKAGAKU CORPORATION, Japan, [2]SEIKAGAKU CORPRATION, Japan
Disclosures: Yoshitaka TANAKA, None

SA0415 **Efficacy of odanacatib versus alendronate in the treatment of bone loss in orchidectomized male rabbits**
Charles Chen*[1], Brenda Pennypacker[2], Mary Belfast[3], Le Thi Duong[2]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA, [3]Merck & Company, USA
Disclosures: Charles Chen, Merck, 3

SA0416 **Short-Term Effects of Zoledronic Acid and Teriparatide on Microcrack Density in Ewes: Comparison between Iliac Crest and Lumbar Vertebra.**
Nathalie Portero-Muzy*[1], Pascale Chavassieux[2], Evelyne Gineyts[1], Marlène Pierre[1], Roland Chapurlat[1]. [1]INSERM UMR 1033 et Université de Lyon, France, [2]INSERM UMR1033, Université De Lyon, France
Disclosures: Nathalie Portero-Muzy, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): CALCIUM AND DIETARY FACTORS

SA0417 **Dietary Dried Grape Improves Bone Calcium Retention in Ovariectomzied Rats**
Emily Hohman*[1], Connie Weaver[2]. [1]Purdue University, USA, [2]Purdue University, Dept of Nutrition Science, USA
Disclosures: Emily Hohman, None

SA0418 **Effects of Vitamin C and Minodronate on Bonemineral Density, Quality, and Strength in Vitamin C-deficient Rats**
Toyohito Segawa*[1], Naohisa Miyakoshi[1], Yuji Kasukawa[1], Hiroshi Aonuma[1], Hiroyuki Tsuchie[2], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Ugo Municipal Hospital, Japan
Disclosures: Toyohito Segawa, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): DIET, VITAMIN D AND METABOLITES

SA0419 **Eldecalcitol Improves Endothelial Function Deteriorated by the Oxidative Stress in the Femoral Artery and Prevents Bone Loss in Ovariectomized Rats**
Koichi Endo[1], Ken-ichi Serizawa*[2], Satoshi Takeda[2], Yoshihito Tashiro[2], Kenji Yogo[2]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]Product Research Department, Chugai Pharmaceutical Co., Ltd., Japan
Disclosures: Ken-ichi Serizawa, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): OTHER AGENTS

SA0420 **Effects of AB-25E9, a Monoclonal Antibody Targeting Siglec-15, on Biomarkers of Bone Remodeling in Estrogen-Deficient Cynomolgus Monkeys**
Julie Laurin*[1], Mauricio Lemus[1], Elisabeth Viau[1], Anna Moraitis[1], Martine Pagé[2], Gilles Tremblay[1], Mario Filion[1]. [1]Alethia Biotherapeutics, Canada, [2]Alethia Bioatherapeutics, Canada
Disclosures: Julie Laurin, Alethia Biotherapeutics, 3

SA0421 **Effects of alfacalcidol and ED-71/eldecalcitol alone or in combination with risedronate in ovariectomized rats: histomorphometric analysis**
Tetsuo Yano*[1], Mei Yamada[1], Makoto Shiozaki[2], Daisuke Inoue[3]. [1]Ajinomoto Pharmaceuticals Co., LTD, Japan, [2]Ajinomoto Pharmaceuticals, Japan, [3]Teikyo University Chiba Medical Center, Japan
Disclosures: Tetsuo Yano, Ajinomoto Pharmaceuticals, 3

SA0422 **Green tea polyphenols improve bone matrix in alcohol-induced bone loss of young male rats**
Chwan-Li Shen*[1], Susan Bergeson[1], Peter Syapin[1], Raul Dagda[1], Jia Jia Chen[1], Jennifer Graef[2], Gordon Brackee[1], Brenda Smith[2]. [1]Texas Tech University Health Sciences Center, USA, [2]Oklahoma State University, USA
Disclosures: Chwan-Li Shen, None

SA0423 **Icariin exerts an osteogenic effect in OVX-mice via suppression of ERK and stimulation of p38 MAPK**
Qin Bian*[1], Zhu Yang[2], Yongjian Zhao[2], Xiangyin Mao[3], Shufen Liu[2], Jianhua Huang[4], Zinyin Shen[4], Yongjun Wang[2]. [1], [2]Department of Orthopaedics & Traumatology, Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China, [3]Institute of Life Science, Fudan University, China, [4]Institute of integrated Traditional Chinese Medicine & Western Medicine, Huashan Hospital, Fudan University, China
Disclosures: Qin Bian, None

SA0424 **Improved Bone Quality in Diet-Induced Obesity by Low Intensity Vibrations is Paralleled by Suppressed Bone Marrow Adiposity and Reduced Pro-Inflammatory State of Mesenchymal Stem Cells**
M. Ete Chan*[1], Benjamin Adler[1], Danielle Green[1], Gabriel Pagnotti[1], Vihitaben Patel[2], Denis Nguyen[2], Clinton Rubin[3]. [1]Stony Brook University, USA, [2]Biomedical Engineering Department, Stony Brook University, USA, [3]State University of New York at Stony Brook, USA
Disclosures: M. Ete Chan, None

SA0425 **Transplantation of Hemopoietic Cells Engineered to Constitutively Produce Wnt10b Leads to Massive Bone Anabolism – A New Potential Strategy for Bone Regeneration and Fracture Repair**
Jau-Yi Li*[1], Jonathan Adams[2], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory Univeraity School of Medicine, USA
Disclosures: Jau-Yi Li, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA, ETC.

SA0426 **Small Bone Size and Compromised Bone Strength Characterize the Tibia in Young Amenorrheic Exercising Women**
Rebecca Mallinson*[1], Nancy Williams[2], Daniel Schiferl[3], Emily Southmayd[1], Mary Jane De Souza[1]. [1]Pennsylvania State University, USA, [2]The Pennsylvania State University College of Medicine, USA, [3]Bone Diagnostic, Inc., USA
Disclosures: Rebecca Mallinson, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MISCELLANEOUS

SA0427 **A Dual Isotope Hybrid μCT-PET System Reveals Functional Heterogeneity of Bone Lining Cells and Longitudinal Changes in Marrow from Local Radiation and Chemotherapy**
Masashi Yagi*[1], Luke Arentsen[1], Yutaka Takahashi[1], Leslie Sharkey[1], Masahiko Koizumi[2], Cory Xian[3], Clifford Rosen[4], Douglas Yee[1], Susanta Hui[1]. [1]University of Minnesota, USA, [2]Osaka University, Japan, [3]University of South Australia, Australia, [4]Maine Medical Center, USA
Disclosures: Masashi Yagi, None

SA0428 **A Randomized Controlled Trial of Exercise to Prevent Bone Loss and Adverse Cardiovascular changes in Premenopausal Women with Breast Cancer**
Deborah Sellmeyer*[1], Susan Stewart[2], Joan Bloom[3]. [1]The Johns Hopkins Bayview Medical Center, USA, [2]University of California, Davis, USA, [3]University of California, Berkeley, USA
Disclosures: Deborah Sellmeyer, None

SA0429 **Bone Density in Apheresis Donors compared to Whole Blood donors.**
Carolien Boot[1], Jessie Luken[2], Peter van den Burg[2], Wim de Kort[2], Rianne Koopman[2], Hans Vrielink[2], Natasja van Schoor[1], Martin Den Heijer[3], Paul Lips*[4]. [1]VU University Medical Center, Netherlands, [2]Sanquin Blood Supply, Netherlands, [3]VU Medical CenterPostbus 70571007 MB Amsterdam, The Netherlands, [4]VU University Medical Center, The Netherlands
Disclosures: Paul Lips, None

SA0430 **Bone loss and microarchitectural deterioration continue despite cessation of weight loss after bariatric surgery**
Emily Stein*[1], Polly Young[2], Mariana Bucovsky[2], Chiyuan Zhang[2], Angela Carrelli[3], Marcella Walker[2], Elizabeth Shane[1], Shonni Silverberg[2]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Emily Stein, None

SA0431 **Denosumab for Elderly Men with Osteoporosis: A Cost-effectiveness Analysis from the US Payer Perspective**
Anju Parthan[1], Morgan Kruse[1], Irene Agodoa*[2], Stuart Silverman[3], Eric Orwoll[4]. [1]OptumInsight, USA, [2]Amgen, USA, [3]Cedars-Sinai/UCLA, USA, [4]Oregon Health & Science University, USA
Disclosures: Irene Agodoa, Amgen, 5

SA0432 **Discrepant Areal and Volumetric BMD of the Spine and Hip in HIV-infected Postmenopausal Women**
Polly Young*[1], Michael Yin[1], Ivelisse Colon[2], Mariana Bucovsky[1], Chiyuan Zhang[1], Susan Olender[1], Thomas Lang[3], Isra Saeed[4], David Ferris[5], Cosmina Zeana[6], Donald McMahon[7], Elizabeth Shane[7]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]University of California, San Francisco, USA, [4]Univ of California, San Francisco, USA, [5]St Lukes Hospital Center, USA, [6]Bronx Lebanon Hospital Center, USA, [7]Columbia University College of Physicians & Surgeons, USA
Disclosures: Polly Young, None

SA0433 **Early Dental Implant Stability Correlates with Bone Turnover in Bisphosphonate Exposed Patients**
Pamela Taxel MD*, Denise Ortiz MPH, David Shafer DMD, David Pendrys DDS PhD, Susan Reisine PhD, Kandasamy Rengasamy, D.D.S., Martin Freilich DDS. University of Connecticut Health Center, USA
Disclosures: Pamela Taxel MD, None

SA0434 **Factors Associated with Nonunion in 97 Consecutive Type 2 and Type 3 Odontoid Fractures in Elderly Patients**
Debra Sietsema*[1], Michael Merrick[2], Casey Smith[2], Tan Chen[3], Scott Russo[4], Clifford Jones[1], James Stubbart[4]. [1]Orthopaedic Associates of Michigan; Michigan State University, USA, [2]Grand Rapids Medical Education Partners, USA, [3]Michigan State University, USA, [4]Orthopaedic associates of Michigan, USA
Disclosures: Debra Sietsema, Lilly USA, 8

OSTEOPOROSIS IN SPECIAL POPULATIONS: MOBILITY DISORDERS

SA0435 **DXA vs QCT Imaging of the Knee in People with Spinal Cord Injury**
Apoorv Prasad[1], William Edwards[2], Kristine Herrmann[1], Danielle Barkema[1], Narina Simonian[1], Renita Yeasted[1], Karen Troy[2], Thomas Schnitzer*[1]. [1]Northwestern University, USA, [2]University of Illinois at Chicago, USA
Disclosures: Thomas Schnitzer, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSIENT OSTEOPOROSIS, STRESS FRACTURES, ETC

SA0436 **Postpartum Osteoporosis and 1,25-Dihydroxyvitamin D-Mediated Hypercalcemia**
Stephanie Stein*[1], Elizabeth Streeten[2]. [1]University of Maryland Medical Center, USA, [2]University of Maryland School of Medicine, USA
Disclosures: Stephanie Stein, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

SA0437 **FRAX Predicts Fracture Risk in Kidney Transplant Recipients**
Kyla Naylor*[1], William Leslie[2], Anthony Hodsman[1], David Rush[3], Amit Garg[4]. [1]Western University, Canada, [2]University of Manitoba, Canada, [3]Department of Medicine, University of Manitoba, Canada, [4]Division of Nephrology, Western University, Canada
Disclosures: Kyla Naylor, None

SA0438 **Treatment with intravenous ibandronate does not affect renal function - a 24 months prospective controlled trial on renal function**

Doris Wagner*[1], Georg Werkgartner[2], Hans Jörg Mischinger[3], Alexander R Rosenkranz[4], Karl Fenzl[5], Astrid Fahrleitner-Pammer[6]. [1]Medical University of Graz, Austria, [2]Department of Surgery, Divison of General Surgery, Medical University of Graz, Austria, [3]Department of Surgery, Division for General Surgery, Medical University of Graz, Austria, [4]Department of Internal Medicine, Division for Nephrology, Medical University of Graz, Austria, [5]Roche Austria GMBH, Austria, [6]Medical University Graz, Austria

Disclosures: Doris Wagner, None

PAGET'S DISEASE: GENERAL

SA0439 **Clinical outcome with long-term bisphosphonate therapy in Paget's disease of Bone: The PRISM-EZ study**

Kirsteen Goodman[1], Graeme MacLennan[2], Peter Selby[3], William Fraser[4], Stuart Ralston*[1]. [1]University of Edinburgh, United Kingdom, [2]University of Aberdeen, United Kingdom, [3]Manchester University, United Kingdom, [4]University of East Anglia, United Kingdom

Disclosures: Stuart Ralston, None

SA0440 **IGF1 Contributes to the Increased Bone Formation Induced by Measles Virus Nucleocapsid Protein Expressed by Osteoclasts in Paget's Bone Disease**

Noriyoshi Kurihara*[1], Jumpei Teramachi[2], Yukiko Kitagawa[1], Jolene Windle[3], G. David Roodman[1]. [1]Indiana University, USA, [2]The University of Tokushima, USA, [3]Virginia Commonwealth University, USA

Disclosures: Noriyoshi Kurihara, None

SA0441 **Pharmacogenomics Of Bisphosphonate Treatment In Paget's Disease Of Bone: Retrospective And Prospective Analysis**

Daniela Merlotti*[1], Fernando Gianfrancesco[2], Domenico Rendina[3], Riccardo Muscariello[3], Teresa Esposito[2], Beatrice Franci[4], Barbara Lucani[4], Stella Campagna[4], Laura Cresti[4], Pasquale Strazzullo[3], Ranuccio Nuti[1], Luigi Gennari[1]. [1]University of Siena, Italy, [2]Institute of Genetics & Biophysics - National Research Council of Italy, Italy, [3]Department.of Clinical & Experimental Medicine, University of Naples Federico II, Italy, [4]Dept. Medicine Surgery & Neurosciences University of Siena, Italy

Disclosures: Daniela Merlotti, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

SA0442 **Glucocorticoid Receptor in Inflammatory Bone Disease and Osteoporosis: New Mechanisms of Action and new functional relevant Target Genes identified**

Ulrike Baschant[1], Stephanie Wittig-Blaich[2], Mubashir Ahmad[2], Jeanette Knoll[3], Torsten Kroll[3], Stephan Culemann[3], Alexander Rauch[3], Gerhard Krönke[4], Markus Seibel[5], Hong Zhou[5], Aspasia Ploubidou[6], Jan Tuckermann*[7]. [1]Institute for General Zoology & Endocrinology, University of Ulm, Germany, [2]Institute of General Zoology & Endocrinology, University of Ulm, Germany, [3]FLI, Leibniz Institute for Age Research, Jena, Germany, [4]Med. Clinic III, University of Erlangen, Germany, [5]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [6]FLI, Leibniz Institute for Age Research, Jena;, Germany, [7]University of Ulm, Germany

Disclosures: Jan Tuckermann, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

SA0443 **ERα Expression in Non-Hematopoietic Cells is Required for the Protective Effects of Estrogen on Bone**

Petra Henning[1], Cecilia Engdahl[2], Helen Farman[1], Andree Krust[3], Pierre Chambon[3], Hans Carlsten[4], Sara Windahl[2], Claes Ohlsson[5], Marie Lagerquist*[6]. [1]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Institut de Génétique et de Biologie Moléculaire et Cellulaire (CNRS, INSERM, UdS, Collège de France), Illkirch, Strasbourg, France, [4]Centre for Bone & Arthritis Research, Department of Rheumatology & Inflammation Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [5]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [6]Centre for Bone & Arthritis Research, USA

Disclosures: Marie Lagerquist, None

SA0444 **Estrogen Receptor α36 Mediates the Anti-apoptotic Effect of Estradiol *in vitro* and Associates with Clinical Outcome *in vivo***
Reyhaan Chaudhri*[1], Agreen Hadadi[2], Barbara Boyan[3], Zvi Schwartz[1]. [1]Georgia Institute of Technology, USA, [2]School of Biology, Georgia Institute of Technology, USA, [3]Virginia Commonwealth University, USA
Disclosures: Reyhaan Chaudhri, None

SA0445 **Mice Lacking Estrogen Receptor α in Hypothalamic Pro-opiomelanocortin (POMC) Neurons Display Enhanced Estrogenic Response on Bone Mass**
Helen Farman*[1], Sara Windahl[2], Deborah Clegg[3], Shang Kui Xie[3], John-Olov Jansson[4], Lisa Hahner[3], Jordan Zehr[3], Marie Lagerquist[5], Claes Ohlsson[6]. [1]University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Department of Internal Medicine, UT Southwestern, Dallas, USA, [4]Department of Internal Medicine, UT Southwestern, Dallas, USA, Sweden, [5]Centre for Bone & Arthritis Research, USA, [6]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Helen Farman, None

SA0446 **Unlike the estrogen receptor α, the androgen receptor in osteoblast progenitors is dispensable for optimal cortical bone accrual**
Semahat Serra Ucer*[1], Aaron Warren[2], Shoshana Bartell[3], Srividhya Iyer[3], Li Han[3], Julie Crawford[4], Charles O'Brien[3], Maria Jose Almeida[3], Stavros Manolagas[3]. [1]University of Arkansas for Medical Sciences, USA, [2]Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [4]University of Arkansas for Medical Sciences, USA
Disclosures: Semahat Serra Ucer, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

SA0447 **1, 25 dihydroxyvitamin D Regulates Tumor Growth through NF Kappa B in a Mouse Model of Breast Cancer Progression**
Jiarong Li*[1], Aimee-Lee Luco[1], Ben Ochietietti[1], Rene St-Arnaud[2], Timothy Reinhardt[3], Anne Camirand[1], William Muller[1], Richard Kremer[4]. [1]McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada, [3]National Animal Disease Center, USDA, ARS, USA, [4]McGill University, Royal Victoria Hospital, Canada
Disclosures: Jiarong Li, None

SA0448 **Appropriately Directed Expression of a Human Ligand Binding-Defective Vitamin D Receptor Rescues Hair Cycling Defects But Not Mineral Homeostasis in Humanized VDR-Null Mice**
Seong Min Lee*[1], Erin Riley[1], Charles O'Brien[2], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Seong Min Lee, None

SA0449 **Calmodulin Mediates 1α,25$(OH)_2D_3$-Induced Activation of CaMKII in Osteoblasts**
Sharon Hyzy[1], Maryam Doroudi*[2], Barbara Boyan[3], Zvi Schwartz[2]. [1]Georgia Tech, USA, [2]Georgia Institute of Technology, USA, [3]Virginia Commonwealth University, USA
Disclosures: Maryam Doroudi, None

SA0450 **Deletion of vitamin D receptor in mature osteoblasts and osteocytes, but not osteoclasts, impairs bone turnover in growing mice.**
Howard Morris*[1], Paul Anderson[2], Yolandi Starczak[3], Jackson Ryan[3], Helen Tsangari[3], Rebecca Sawyer[4], Kate Barratt[3], Andrew Turner[3], Gerald Atkins[5], Rachel Davey[6]. [1]SA Pathology, Australia, [2]Musculoskeletal Biology Research, University of South Australia, Australia, [3]School of Pharmacy & Medical Sciences, University of South Australia, Australia, [4]Chemical Pathology Directorate, SA Pathology, Australia, [5]University of Adelaide, Australia, [6]University of Melbourne, Australia
Disclosures: Howard Morris, None

SA0451 **Effect of Combined Calcium and Vitamin D Supplementation on Insulin Secretion and Insulin Sensitivity in Vitamin D-deficient Adults at High Risk of Type 2 Diabetes**
Claudia Gagnon*[1], Robin Daly[2], André Carpentier[3], Zhong X. Lu[4], Catherine Shore-Lorenti[5], Ken Sikaris[4], Sonia Jean[6], Peter Ebeling[7]. [1]Centre hospitalier universitaire de Québec, Université Laval, Canada, [2]Centre for Physical Activity & Nutrition Research, Deakin University, Australia, [3]Department of Medicine, University of Sherbrooke, Canada, [4]Melbourne Pathology, Australia, [5]Department of Medicine, NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [6]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [7]The University of Melbourne, Australia
Disclosures: Claudia Gagnon, None

SA0452 **The Metabolite 24R,25-dihydroxyvitamin D Plays a Role in Primary Human Bone Cell Differentiation**
Karen Van Der Meijden*, Paul Lips, Nathalie Bravenboer. VU University Medical Center, The Netherlands
Disclosures: Karen Van Der Meijden, None

SA0453 **The Vitamin D Receptor Promotes Human Breast Cancer Cell Growth via a Ligand Independent Cytoplasmic Function**
Trupti Trivedi*[1], Yu Zheng[1], Pierrick Fournier[2], Colin Dunstan[3], Khalid Mohammad[2], Hong Zhou[4], Markus Seibel[4], Theresa Guise[2]. [1]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [2]Indiana University, USA, [3]University of Sydney, Australia, [4]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Trupti Trivedi, None

SA0454 **Thyroid hormones decrease plasma 1α,25-dihydroxyvitamin D levels through directly and indirectly transrepression of the renal 25-hydroxyvitamin D_3 1α-hydroxylase gene (CYP27B1)**
Hironori Yamamoto*[1], Mina Kozai[2], Tomohiro Kagawa[2], Nagakatsu Harada[2], Shoko Ikeda[2], Otoki Nakahashi[2], Yutaka Taketani[2], Ken-ichi Takeyama[3], Shigeaki Kato[4], Eiji Takeda[5]. [1]University of Jin-ai, Japan, [2]University of Tokushima, Japan, [3]University of Harvard, USA, [4]Fukushima Medical University, Japan, [5]University of Tokushima School of Medicine, Japan
Disclosures: Hironori Yamamoto, None

SA0455 **Vitamin D Is a Regulator of Endothelial Nitric Oxide Synthase and Arterial Stiffness in Mice**
OLENA ANDRUKHOVA*[1], Svetlana Slavic[2], Ute Zeitz[2], Sabine Riesen[3], Tamas Ambrisko[4], Mato Markovic[4], Wolfgang Kuebler[5], Reinhold Erben[6]. [1]INST. OF PHYSIOLOGY, PATHOPHYSIOLOGY & BIOPHYSICS, Austria, [2]Department of Biomedical Research, University of Veterinary Medicine, Austria, [3]Department for Companion Animals & Horses, University of Veterinary Medicine, Austria, [4]Department for Companion Animals & Horses, University of Veterinary Medicine, Austria, [5]nstitute of Physiology, Charité, Germany, [6]University of Veterinary Medicine, Austria
Disclosures: OLENA ANDRUKHOVA, None

TUMORS AND BONE: BREAST AND PROSTATE

SA0456 **Anti-PTHrP monoclonal antibodies are potent proliferation inhibitors in triple negative human breast cancer cells and potentiate the effects of taxol and doxorubicin**
Richard Kremer*[1], Benoit Ochietti[2], Ibtihal Fadhil[2], Anne Camirand[2]. [1]McGill University, Royal Victoria Hospital, Canada, [2]McGill University, Canada
Disclosures: Richard Kremer, None

SA0457 **Biological characterization of PTHrP(12-48): Novel biomarker of breast cancer bone metastasis or new active peptide?**
Larry Suva[1], Archana Kamalakar*[1], Dana Gaddy[1], Charity Washam[2], Frances Swain[2], Bethany Allen[2], Nisreen Akel[1], Kim Leitzel[3], Alan Lipton[3]. [1]University of Arkansas for Medical Sciences, USA, [2]UAMS Orth Surgery, USA, [3]Penn State Hershey Cancer Institute, USA
Disclosures: Archana Kamalakar, None

SA0458 **Function of ERRa in Mediating Mixed Metastatic Bone Lesion from Prostate Cancer Cells: Implication of Endothelin 1 and Wnt/periostin pathway**
Anais Fradet[1], Akeila Bellahcene[2], Vincent Castronovo[2], Philippe A.R. Clezardin[1], Edith Bonnelye*[3]. [1]INSERM & University of Lyon, France, [2]University of Liège, GIGA-CANCER, Belgium, [3]Faculte de Medecine RTH Laennec, France
Disclosures: Edith Bonnelye, None

SA0459 **PGE2 receptor EP4 regulates breast cancer metastasis and bone resorption through osteoblastic RANKL production.**
Satoshi Yokoyama[1], Kenta Watanabe[1], Michiko Hirata[1], Chiho Matsumoto[1], Takayuki Maruyama[2], Chisato Miyaura[1], Masaki Inada*[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Ono Pharmaceutical Co., Ltd., Japan
Disclosures: Masaki Inada, None

SA0460 **Presence of Giant Osteoclasts in Zoledronic Acid Treated Prostate Cancer Bone Metastasis**
Martine P Roudier*[1], Colm Morrissey[1], Alexander Dowell[2], Eva Corey[1], Celestia HIGANO[3], Lawrence TRUE[3], Robert Vessella[3]. [1]University of Washington, USA, [2]University of Alabama at Birmingham, USA, [3]UW, USA
Disclosures: Martine P Roudier, None

SA0461 **Role of the stathmin gene in development of prostate cancer bone metastasis**
Rongrong Zhang*[1], Asim Abdel-Mageed[1], Babatunde Oyajobi[2], Hong-Wen Deng[1], Ming Zhao[1]. [1]Tulane University, USA, [2]University of Texas Health Science Center at San Antonio, USA
Disclosures: Rongrong Zhang, None

TUMORS AND BONE: GENERAL

SA0462 **Combined TGF-β and Proteasome Inhibition Improves Bone Architecture and Reduces Tumor Burden in Myeloma Bone Disease**
Jeffry Nyman*[1], Alyssa Merkel[1], Barbara Rowland[2], Alexander Makowski[3], Julie Sterling[4]. [1]Vanderbilt University Medical Center, USA, [2]Department of Veterans Affairs (TVHS), USA, [3]Department of Veterans Affairs, Vanderbilt University, USA, [4]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Jeffry Nyman, None

SA0463 **Hypoxia upregulates calpain-6 expression in osteosarcoma cells: implication in cancer stem cells.**
Imene Kaci[1], Rafik MANSOURI[2], Pierre Marie[3], Dominique Modrowski*[4]. [1]Unité 606 INSERM, France, [2]INSERM, France, [3]Inserm Unit 606 & University Paris Diderot, France, [4]INSERM U606, France
Disclosures: Dominique Modrowski, None

SA0464 **Osteosarcoma Cells modulate Bone Microenvironment via Extracellular Membrane Vesicle Biogenesis and Calcium Signaling Pathways**
Rama Garimella*[1], Laurie Washington[2], Janalee Isaacson[3], Ossama Tawfik[4], Raymond Perez[5], Peter Rowe[1], Julian Vallejo[6], Madoka Spence[7], Marco Brotto[8]. [1]University of Kansas Medical Center, USA, [2]Division of Medical Clinical Oncology, Department of Internal Medicine, The University of Kansas Medical Center, USA, [3]Muscle Biology Research Group, School of Nursing & Health Studies, University of Missouri-Kansas City, USA, [4]Department of Pathology, The University of Kansas Medical Center, USA, [5]Division of Medical Clinical Oncology, Department of Internal Medicine, The University of Kansas Cancer Center, The University of Kansas, USA, [6]Muscle Biology Research Group, School of Nursing & Health Sciences, The University of Missouri-Kansas City, USA, [7]Muscle Biology Research Group, School of Nursing & Health Studies, The University of Missouri-Kansas City, USA, [8]University of Missouri - Kansas City, USA
Disclosures: Rama Garimella, None

SA0465 **Potent induction of bone formation in myeloma bone lesions by the cathepsin K inhibitor KK1-300-01 in combination with the proteasome inhibitor bortezomib**
Keiichiro Watanabe*[1], Masahiro Abe[2], Hiroshi Mori[3], Ryota Amachi[4], Masahiro Hiasa[5], Takeshi Harada[6], Shiro Fujii[6], Shingen Nakamura[6], Hirokazu Miki[6], Kumiko Kagawa[6], Itsuro Endo[7], Eiji Tanaka[4], Toshio Matsumoto[7]. [1]Tokushima University Hospital, Japan, [2]University of Tokushima, Japan, [3]Ono Pharmaceutical Co., Ltd., Japan, [4]Department of Orthodontics & Dentofacial Orthopedics, The University of Tokushima Graduate School, Japan, [5]University of Tokushima Graduate School, Japan, [6]Department of Medicine & Bioregulatory Sciences, The University of Tokushima Graduate School, Japan, [7]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Keiichiro Watanabe, None

SA0466 **The Potential Role of JAB1 in Osteosarcoma Pathogenesis**
Lindsay Bashur*, Guang Zhou. Case Western Reserve University, USA
Disclosures: Lindsay Bashur, None

SA0467 **Tumor Suppressive Function of MicroRNA34c in Osteosarcoma**
Yangjin Bae*[1], Huan-Chang Zeng[1], Jianning Tao[1], Lisa Wang[1], Jason Yustein[1], Brendan Lee[2]. [1]Baylor College of Medicine, USA, [2]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Yangjin Bae, None

LATE-BREAKING POSTERS I

12:00 pm - 2:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

LB-SA01 **A new *in vivo* methodology for quantifying intramuscular adipose tissue (IMAT) in the lower leg of women to define the relationship with BMD, strength, physical function and lifestyle variables**
Janet Pritchard*[1], Sarah Karampatos[2], Karen Beattie[1], Lora Giangregorio[3], Stephanie Atkinson[1], Hertzel Gerstein[1], Zubin Punthakee[1], Jonathan Adachi[4], Alexandra Papaioannou[5]. [1]McMaster University, Canada, [2]Hamilton Health Sciences McMaster University, Canada, [3]University of Waterloo, Canada, [4]St. Joseph's Hospital, Canada, [5]Hamilton Health Sciences, Canada
Disclosures: Janet Pritchard, None

LB-SA02 **Elevated Levels of Circulating Sclerostin in Hypophosphatemic Rickets**
Telma Oliveira*[1], Francis Glorieux[2], Frank Rauch[3]. [1]Bone & Mineral Unit, Division of Endocrinology-UNIFESP, Bra, [2]Shriners Hospital for Children & McGill University, Canada, [3]Shriners Hospital for Children, Montreal, Canada
Disclosures: Telma Oliveira, None

LB-SA03 **Longitudinal modelling of fat and bone mass between aged 10 and 18 in a large cohort of boys: The Reciprocal Relationships between Bone Mass and Fat Mass**
Adrian Sayers*[1], Emma Clark[1], J.H. Tobias[2], Kate Tilling[1], Fiona Steele[1]. [1]University of Bristol, United Kingdom, [2]Avon Orthopaedic Centre, United Kingdom
Disclosures: Adrian Sayers, None

LB-SA04 **Effects of Spaceflight on the "Non-Weight Bearing" L5 Vertebra Measured by Finite Element Analysis in Mice Flown on Space Shuttle Flight STS-135**
Elizabeth Marshall*[1], Lindsay Sullivan[2], Eric Livingston[3], Andrea Hanson[4], Travis Pruitt[5], Louis Stodieck[6], Laura Bowman[2], Rachel Ellman[7], Jordan Spatz[8], Chris Paszty[9], Mary Bouxsein[7], Virginia Ferguson[6], Ted Bateman[10], Anthony Lau[2]. [1]Meredith College, USA, [2]University of North Carolina at Chapel Hill, USA, [3]University of North Carolina, USA, [4]Wyle, USA, [5]Clemson University, USA, [6]University of Colorado, USA, [7]Beth Israel Deaconess Medical Center, USA, [8]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [9]Amgen, Inc., USA, [10]Univesity of North Carolina, USA
Disclosures: Elizabeth Marshall, None

LB-SA05 **Passive Standing and Electrical Stimulation are Eligible Therapies for Preserving and Reverting the Loss of Bone Quality in Rats with Complete Spinal Cord Injury**
Ariane Zamarioli[1], Daniel Maranho*[1], Francisco Jose De Paula[2], Leslie Morse[3], Ricardo Battaglino[4], Jose Volpon[1], Antonio Shimano[1]. [1]University of Sao Paulo, Brazil, [2]School of Medicine of Ribeirao Preto - USP, Brazil, [3]Harvard Medical School, USA, [4]The Forsyth Institute, USA
Disclosures: Daniel Maranho, None

LB-SA06 **Alterations to Cortical Bone Fatigue Life Depend on Bisphosphonate Type**
Garry Brock*[1], Anthony Ingraffea[1], Jennifer MacLeay[2], Adele Boskey[3], Marjolein Van Der Meulen[1]. [1]Cornell University, USA, [2]Colorado State University, USA, [3]Hospital for Special Surgery, USA
Disclosures: Garry Brock, None

LB-SA07 **Nuclear Src Activity Functions to Suppress the Anabolic Response of Osteoblasts and Osteocytes to Fluid Shear Stress**
Julia Hum*[1], Richard Day[1], Joseph Bidwell[1], Yingxiao Wang[2], Fredrick Pavalko[1]. [1]Indiana University School of Medicine, USA, [2]University of California San Diego, USA
Disclosures: Julia Hum, None

LB-SA08 **Ankle and forearm fractures are associated with similar low areal BMD and bone microstructural alterations in post-menopausal women**
Emmanuel Biver*[1], Claire Durosier[1], Thierry Chevalley[2], François Herrmann[1], Serge Ferrari[1], René Rizzoli[1]. [1]Division of Bone Diseases, Geneva University Hospitals & Faculty of Medicine, Switzerland, [2]University Hospitals of Geneva Division of Bone Diseases, Switzerland
Disclosures: Emmanuel Biver, None

LB-SA09 **The role of FoxA factors in the onset and development of Osteoarthritis**
Andreia Ionescu*[1], Lin Xu[2], Elena Kozhemyakina[1], Yefu Li[2], Andrew Lassar[1]. [1]Harvard Medical School, USA, [2]Harvard School of Dental Medicine, USA
Disclosures: Andreia Ionescu, None

LB-SA10 **Detection and Partial Characterization of Bone Marrow Derived Cells in Periodontal Ligament.**
Masaru Kaku*, Asadullah Mohammad Edris, Megumi Kitami, Takako Ida, JM Rosales Rocabado, Katsumi Uoshima. Graduate School of Medical & Dental Science, Niigata University, Japan
Disclosures: Masaru Kaku, None

LB-SA11 **RANKL-Dependent and -Independent Mechanisms of Acute Calcemic Responses to PTH(1-34)**
Hila Bahar*[1], Akira Maeda[2], Monica Reyes[2], Thomas Dean[2], Ernestina Schipani[3], Paul Kostenuik[4], John Potts[2], Thomas Gardella[2]. [1]MGH & HMS, USA, [2]Massachusetts General Hospital, USA, [3]Indiana University School of Medicine, USA, [4]Amgen Inc., USA
Disclosures: Hila Bahar, None

LB-SA12 **Identification of Small Molecule Activators and Inhibitors of the Mutated $G_s\alpha$ Responsible for Fibrous Dysplasia of Bone by High-Throughput Screening; Results from the Secondary Screen using the Rat Pituitary GH3 cell-line model.**
Nisan Bhattacharyya*[1], Marek Kucka[2], Lesley A. Mathews[3], Marc Ferrer[3], Michael Collins[4]. [1]Csdb Nidcr Nih, USA, [2]NICHD, NIH, USA, [3]NCATS, NIH, USA, [4]National Institutes of Health, USA
Disclosures: Nisan Bhattacharyya, None

LB-SA13 **BMP2 Regulates CXCL12 in Endosteal Cells and their Commitment to Osteoblastic Differentiation**
Timothy Myers*[1], Lara Longobardi[2], Helen Willcockson[1], Alessandra Esposito[3], Billie Moats-Staats[3], Ping Ye[3], Tieshi Li[2], Joseph Temple[3], Anna Spagnoli[2]. [1]University of North Carolina, USA, [2]University of North Carolina at Chapel Hill, USA, [3]UNC, USA
Disclosures: Timothy Myers, None

LB-SA14 **Putative Hematopoietic Progenitor Cells (HPCs) from Craniofacial Skeleton: Contrasting Long Bone Marrow Hematopoietic Stem/Progenitor Cells**
Nan Jiang*[1], Jeremy Mao[2]. [1]USA, [2]PI, USA
Disclosures: Nan Jiang, None

LB-SA15 **Fra1 deletion in B cells regulates bone homeostasis**
Aline Bozec*[1], Bettina Groetsch[2], Dirk Mielenz[3], Erwin Wagner[4], Georg Schett[5]. [1]Deu, [2]1Medizinische Klinik 3 Rheumatologie und Immunologie, Friedrich-Alexander-Universitat Erlangen-Nurnberg, Germany, [3]1Medizinische Klinik 3 Rheumatologie und Immunologie, Friedrich-Alexander-Universitat Erlangen-Nurnberg, Germany, Germany, [4]Research Institute of Molecular Pathology, Austria, [5]Friedrich-Alexander University Medical School, Germany
Disclosures: Aline Bozec, None

LB-SA16 **Cortical and Trabecular Microarchitecture Impairment Correlates with Fibroblast Growth Factor-23 and Metabolic Acidosis in Men with Stages 3 and 4 of Chronic Kidney Disease**
Francisco Paranhos Neto*[1], Guilherme Lima[2], Luciana Silva[2], Miguel Madeira[2], Inayá Lima[3], Maurilo Leite Junior[4], Carlos Gomes[4], Maria Lucia Farias[5]. [1]ISCD, IOF, Brazil, [2]Division of Endocrinology - University Hospital Clementino Fraga Filho, Federal University of Rio de Janeiro, Brazil, [3]Nuclear Instrumentation Laboratory, COPPE, Federal University of Rio de Janeiro, Brazil, [4]Division of Nephrology - University Hospital Clementino Fraga Filho, Federal University of Rio de Janeiro, Brazil, [5]Federal University of Rio de Janeiro, Brazil
Disclosures: Francisco Paranhos Neto, None

LB-SA17 **Cutaneous Skeletal Hypophosphatemic Syndrome: A new syndrome of FGF23 excess.**
Diana Ovejero*[1], Young Lim[2], Harald Jüppner[3], Michael Gottschalk[4], Cynthia Tifft[5], Rachel Gafni[6], Alison Boyce[7], Edward Cowen[8], Nisan Bhattacharyya[9], Lori Guthrie[1], William Gahl[5], Gretchen Golas[5], Keith Choate[2], Michael Collins[6]. [1]Skeletal Clinical Studies Unit, Craniofacial & Skeletal Disease Branch, National Institute of Dental & Craniofacial Research, National Institutes of Health, USA, [2]Department of Dermatology, Yale University School of Medicine, USA, [3]Pediatric Nephrology Unit & Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, [4]9Pediatric Endocrinology, Rady Children's Hospital, San Diego & Departments of Pediatrics, University of California, USA, [5]NIH Undiagnosed Diseases Program, NIH Common Fund; Office of the Clinical Director, NHGRI, National Institutes of Health, USA, [6]National Institutes of Health, USA, [7]Children's National Medical Center, USA, [8]Dermatology Branch, Center for Cancer Research, National Cancer Institute, National Institutes of Health, USA, [9]2Skeletal Clinical Studies Unit, Craniofacial & Skeletal Disease Branch, National Institute of Dental & Craniofacial Research, National Institutes of Health, USA
Disclosures: Diana Ovejero, None

LB-SA18 **Minimally invasive parathyroidectomy versus bilateral neck exploration for primary hyperparathyroidism: a systematic review and meta-analysis**
Omar Kreidieh*[1], Ghada El-Hajj Fuleihan[2], Hala Ahmadieh[3], Elie Akl[3]. [1]Lebanon, [2]American University of Beirut-Medical Center, Lebanon, [3]American University of Beirut, Lebanon
Disclosures: Omar Kreidieh, None

LB-SA19 **Caloric Restriction during Growth, Serum Irisin and Bone Mass loss at Maturity**
Vanessa Yingling, Tiffiny Butler*. Temple University, USA
Disclosures: Tiffiny Butler, None

LB-SA20 **Early Behaviors of Transplanted Cells and the Effect of HSP27 on the Cell Survival**
Megumi Kitami*[1], Masaru Kaku[2], Takako Ida[1], JM Rosales[1], Kastumi Uoshima[1]. [1]Graduate School of Medical & Dental Science,Niigata University, Japan, [2]Graduate School of Medical & Dental Science, Niigata University, Japan
Disclosures: Megumi Kitami, None

LB-SA21 **Roles of Histone Demethylase PHF8 in Osteogenic Differentiationand Bone Regeneration**
Qianqian Han*, Qisheng Tu, Lan Zhang, Yin Tang, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Qianqian Han, None

LB-SA22 **Anabolic Wnt-mTOR signaling enhances Integrated Stress Response via stimulation of Glutamine consumption**
Courtney Karner*, Fanxin Long, Emel Esen. Washington University School Of Medicine, USA
Disclosures: Courtney Karner, None

LB-SA23 **Netrin1 is a critical autocrine factor for osteoclast differentiation**
Aranzazu Mediero*[1], Bhama Ramkhelawon[2], Edward Purdue[3], Steven Goldring[4], Kathryn Moore[2], Bruce Cronstein[5]. [1]NYU SCHOOL OF MEDICINE, USA, [2]Leon H. Charney Division of Cardiology, Department of Medicine, NYU-Langone Medical Center, USA, [3]Caspary Research Building, Hospital for Special Surgery, USA, [4]Hospital for Special Surgery, USA, [5]NYU Medical School, USA
Disclosures: Aranzazu Mediero, patent on use of adenosine A2AR agonists to prevent prosthesis loosening (pending)., 99

LB-SA24 **Direct Comparison of Pre- and Post-Contrast Enhanced Scans for Quantitative CT Bone Mineral Density Measurement at the Proximal Femur: Implications for Opportunistic Osteoporosis Screening**
Alyssa Maciejewski[1], Timothy Ziemlewicz[1], Neil Binkley[2], Alan Brett*[3], Keenan Brown[4], Perry Pickhardt[1]. [1]University of Wisconsin School of Medicine & Public Health, USA, [2]University of Wisconsin, Madison, USA, [3]Mindways Software, Inc., USA, [4]Mindways Software, USA
Disclosures: Alan Brett, None

LB-SA25 **Large-scale Whole Genome Sequencing Study for Bone Mineral Density: the UK10K Consortium**
Hou-Feng Zheng*[1], Vincenzo Forgetta[1], Scott Wilson[2], Nicholas Timpson[3], Nicole Soranzo[4], Tim Spector[5], Brent Richards[6]. [1]McGill University, Canada, [2]University of Western Australia, Australia, [3]Bristol University, Canada, [4]Sanger institute, Canada, [5]King's College London, United Kingdom, [6]McGill University, Can
Disclosures: Hou-Feng Zheng, None

LB-SA26 **Associations of Serum Sclerostin and Polymorphisms in the *SOST* Gene with Bone Mineral Density and Markers of Bone Metabolism in Postmenopausal Chinese Women**
Jin-Wei He*[1], Zhen-Lin Zhang[2]. [1], [2]Shanghai Sixth People's Hospital affiliated with Shanghai Jiao Tong University, China
Disclosures: Jin-Wei He, None

LB-SA27 **Bone Marrow Adiposity is associated with Non-vertebral Fractures in Women**
Luai Ahmed[1], Rajesh Shigdel[2], Ragnar Joakimsen[3], Petter Eldevik[3], Erik Fink Eriksen[4], Jacqueline Center[5], Roger Zebaze[6], Ashild Bjornerem*[7]. [1]Faculty of Health Sciences, University of Tromsø, Norway, [2]University of Tromso, Norway, [3]University Hospital of North Norway, Norway, [4]Oslo University Hospital, Norway, [5]Garvan Institute of Medical Research, Australia, [6]Austin Health, University of Melbourne, Australia, [7]University of Tromsø, Norway
Disclosures: Ashild Bjornerem, None

LB-SA28 **Hyponatremia is associated with higher odds for fracture in hospitalized patient.**
Hussein Rajab*[1], Louis Loutrell[2]. [1]Medical University of South Carolina, USA, [2]Medial University of South Carolina, USA
Disclosures: Hussein Rajab, None

LB-SA29 **Safety and Tolerability of BA058 Transdermal, a Novel Analog of hPTHrP Delivered via a Microneedle Patch: Results of a Phase 2 Clinical Trial**
Louis Brenner*[1], Kris Hansen[2], Marcie Clarkin[3], Kyle Haraldsen[4], Bente Juel Riis[5], Michael Bolognese[6], Paul Miller[7]. [1]USA, [2]3M Drug Delivery Systems, USA, [3]Radius Health Inc., USA, [4]Radius Health, USA, [5]Nordic Bioscience, Denmark, [6]Bethesda Health Research, USA, [7]Colorado Center for Bone Research, USA
Disclosures: Louis Brenner, Radius Health, Inc, 3

LB-SA30 **The Effects of Oral Bisphosphonate Therapy on the Peripheral Skeleton in Postmenopausal Osteoporosis: The TRIO Study**
Richard Eastell*[1], Margaret Paggiosi[1], Nicola Peel[2], Eugene McCloskey[1], Jennifer Walsh[1]. [1]University of Sheffield, United Kingdom, [2]Sheffield Teaching Hospitals, United Kingdom
Disclosures: Richard Eastell, Merck, 5; Warner-Chilcott, 5

LB-SA31 **Effects of a New Conjugate Drug in a Rat Model of Postmenopausal Osteoporosis**
Careesa Liu*[1], Robert Young[2], Marc Grynpas[3]. [1]University of Toronto, Canada, [2]Simon Fraser University, Canada, [3]Samuel Lunenfeld Research Institute of Mount Sinai Hospital, Canada
Disclosures: Careesa Liu, None

LB-SA32 **Co-Administered 1,25-D Enhances the Direct Effect of Amino Acids on Total Transepithelial Calcium (Ca) Transport In Vitro**
Jessica Bihuniak*[1], Jane Kerstetter[2], Karl Insogna[3]. [1]University of Connecticut, USA, [2]University of Connecticut, USA, [3]Yale University School of Medicine, USA
Disclosures: Jessica Bihuniak, None

LB-SA33 **Teriparatide increases bone formation and bone mineral density in adult women with anorexia nervosa**
Pouneh Fazeli*[1], Irene Wang[2], Karen Miller[2], Joel Finkelstein[2], Mary Bouxsein[3], Anne Klibanski[4]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Massachusetts General Hospital, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Pouneh Fazeli, None

LB-SA34 **Effects of 1α,25-Dihydroxyvitamin D3 on subcellular localization, VDR/ RXRα interaction by Fluorescent resonance energy transfer (FRET) and nuclear mobility of RXRα by Fluorescent loss after photobleaching (FLIP)**
Sylvester Jusu*[1], John Presley[2], Loan Nguyen-Yamamoto[3], Benoit Ochetti[2], Richard Kremer[3]. [1]Canada, [2]McGill University, Canada, [3]McGill University, Royal Victoria Hospital, Canada
Disclosures: Sylvester Jusu, None

LB-SA35 **Validation of The University of Connecticut Osteonecrosis Numerical Scale (UCONNS) for Risk Assessment of Osteonecrosis of the Jaws.**
Regina Landesberg*[1], Yana Stolyarov[2], Lisa Marie Di Pasquale[2], James Grady[2], Daniel Wakefield[2], Pamela Taxel[3]. [1]University of Connecticut HC, USA, [2]UCHC, USA, [3]University of Connecticut Health Center, USA
Disclosures: Regina Landesberg, None

CLINICAL ROUNDTABLE/CASE CONFERENCE - INTERPRETATION OF CLINICAL LABORATORY TESTING

Supported by an educational grant from Lilly USA, LLC

1:00 pm - 2:00 pm **Baltimore Convention Center**
Room 314-317

Chair
Robert Adler, M.D.
McGuire VA Medical Center, USA
Disclosures: Robert Adler, None

1:00 pm **Vitamin D Testing**
William Fraser, M.D., FRCPath
University of East Anglia, United Kingdom
Disclosures: William Fraser, None

1:30 pm **Laboratory Testing for Secondary Osteoporosis**
Marjorie Luckey, M.D.
St. Barnabas Osteoporosis & Metabolic Bone Disease Center, USA
Disclosures: Marjorie Luckey, None

LOUIS V. AVIOLI LECTURE - EPIGENETIC REGULATION OF SKELETAL BIOLOGY AND PATHOLOGY

2:00 pm - 3:00 pm **Baltimore Convention Center**
Hall A

Epigenetic Regulation of Skeletal Biology and Pathology
Jane Lian, Ph.D.
University of Vermont, USA
Disclosures: Jane Lian, None

CONCURRENT ORALS - BONE ACTIVE DRUGS: CLINICAL

3:15 pm - 4:15 pm **Baltimore Convention Center**
Room 307-310

Moderators:
Benjamin Leder, M.D.
Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Benjamin Leder, None

Nuria Guanabens, M.D.
Universitat De Barcelona, Spain
Disclosures: Nuria Guanabens, None

3:15 pm 1025 **Against All Odds: Results from the ZEST Trial in Long Term Care Residents**
Susan Greenspan*, MaryAnne Ferchak, Subashan Perera, David Nace, Neil Resnick. University of Pittsburgh, USA
Disclosures: Susan Greenspan, None

3:30 pm 1026 **The Platelet-inhibitor Clopidogrel Increases Risk of Bone Fractures in Stroke Patients**
Niklas Jorgensen*[1], Peter Vestergaard[2], Peter Schwarz[3], Helle K. Iversen[4]. [1]Copenhagen University Hospital Glostrup, Denmark, [2]Aalborg University Hospital, Denmark, [3]Glostrup Hospital, Denmark, [4]The Stroke Unit, Department of Neurology, Glostrup Hospital, Denmark
Disclosures: Niklas Jorgensen, None

3:45 pm 1027 **Effects of TZD Use and Discontinuation on Fracture Rates in ACCORD**
Ann Schwartz*[1], Haiying Chen[2], Walter Ambrosius[3], Ajay Sood[4], Robert Josse[5], Denise Bonds[6], Adrian Schnall[7], Eric Vittinghoff[1], Douglas Bauer[1], Mary Ann Banerji[8], Robert Cohen[9], Bruce Hamilton[10], Tamara Isakova[11], Deborah Sellmeyer[12], Debra Simmons[13], Monica Stiles[14], Jeff Williamson[2], Karen Margolis[15]. [1]University of California, San Francisco, USA, [2]Wake Forest University Health Sciences, USA, [3]Wake Forest University School of Medicine, USA, [4]Case Western Reserve University, USA, [5]St. Michael's Hospital, University of Toronto, Canada, [6]National Institute of Health, USA, [7]University Suburban Health Center, USA, [8]SUNY Downstate Medical Center & Kings County Hospital, USA, [9]University of Cincinnati College of Medicine, USA, [10]VA Medical Center & University of Maryland School of Medicine, USA, [11]University of Miami, USA, [12]Johns Hopkins School of Medicine, USA, [13]University of Arkansas for Medical Sciences, USA, [14]University of Minnesota, USA, [15]HealthPartners Research Foundation, USA
Disclosures: Ann Schwartz, None

4:00 pm 1028 **Estrogen Reduces Bone *sost* mRNA and Circulating Sclerostin Levels in Postmenopausal Women**
Matthew Roforth*[1], Koji Fujita[1], Susan Demaray[1], Ulrike McGregor[2], Salman Kirmani[1], Louise McCready[1], James Peterson[1], Matthew Drake[3], David Monroe[4], Sundeep Khosla[5]. [1]Mayo Clinic, USA, [2]King's College, London UK, United Kingdom, [3]College of Medicine, Mayo Clinic, USA, [4]Mayo Foundation, USA, [5]Mayo Clinic College of Medicine, USA
Disclosures: Matthew Roforth, None

CONCURRENT ORALS - BONE ACTIVE DRUGS: TRANSLATIONAL

3:15 pm - 4:15 pm **Baltimore Convention Center**
Hall A

Moderators:
Robert Klein, M.D.
Portland VA Medical Center, USA
Disclosures: Robert Klein, None

Michaela Kneissel, Ph.D.
Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Michaela Kneissel, None

3:15 pm **Efficacy of a Tissue-nonspecific Alkaline Phosphatase Inhibitor in a Mouse Model of Severe**
1029 **Medial Vascular Calcification.**
Campbell Sheen*[1], Thangchanthida N. Chhea[1], Anthony B. Pinkerton[2], Michael R. Jackson[2], Jose Luis Millan[3]. [1]Sanford Burnham Medical Research Institute, USA, [2]Conrad Prebys Center for Chemical Genomics, Sanford Burnham Medical Research Institute, USA, [3]Sanford-Burnham Medical Research Institute, USA
Disclosures: Campbell Sheen, None

3:30 pm **PTH 1-84 Targets Bone Vascular Structure and Perfusion in Mice: Impacts of its**
1030 **Administration Regimen and of Estrogen Deficiency**
Bernard Roche*, Arnaud Vanden-Bossche, Martin Jannot, Robin Chaux, Luc Malaval, Laurence Vico, Marie-Hélène Lafage-Proust. INSERM U1059-Université de Lyon-Université Jean Monnet, France
Disclosures: Bernard Roche, None

3:45 pm **Parathyroid Hormone Rescues Impaired Tooth Extraction Healing Associated with**
1031 **Bisphosphonates**
Junro Yamashita*[1], Laurie McCauley[2], Shinichiro Kuroshima[3]. [1]University of Michigan, USA, [2]University of Michigan School of Dentistry, USA, [3]Nagasaki University, Japan
Disclosures: Junro Yamashita, None

4:00 pm **2013 ASBMR Young Investigator Award**
1032 **Miglustat Normalizes Bone Mass And Improves Bone Microarchitecture In F508del Cystic Fibrosis Mice Through Beneficial Effects on Bone Formation and Resorption**
Carole Le Henaff*[1], Eric Haÿ[2], Caroline Marty[2], Pierre J. Marie[2], Jacky P. Jacquot[1]. [1]EA 4691, SFR CAP-Santé (FED 4231), Université Reims Champagne Ardenne, France, [2]Inserm Unit 606 & University Paris Diderot, France
Disclosures: Carole Le Henaff, None

CONCURRENT ORALS - BONE DISORDERS

3:15 pm - 4:15 pm **Baltimore Convention Center**
Room 314-317

Moderators:
Gregory Clines, M.D., Ph.D.
University of Alabama at Birmingham, USA
Disclosures: Gregory Clines, None

Xin Li
New York University, USA
Disclosures: Xin Li, None

3:15 pm **Parathyroid Cyp27b1 Mediates Skeletal Effects of Hyperparathyroidism by Controlling**
1033 **Serum 1,25-dihydroxyvitamin D_3 and Calcium Levels in Mice**
Zhiqiang Cheng, Chia-Ling Tu, Alfred Li, Rachel Roston, Nathan Liang, Hanson Ho, Tsui-Hua Chen, Nehal Naik, Daniel Bikle, Dolores Shoback, Wenhan Chang*. Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

3:30 pm **Suppression of Sclerostin by PTH in Osteocytes Contributes to the Coupling of Formation to**
1034 **Resorption in Trabecular Bone in Mouse Models of Primary and Secondary Hyperparathyroidism**
Robert Jilka*, Annick DeLoose, Kanan Vyas, Leslie Climer, Robert Weinstein, Charles O'Brien, Stavros Manolagas. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, None

3:45 pm **2013 ASBMR Young Investigator Award**

1035 **The Role of Macrophage Efferocytosis in Prostate Cancer Skeletal Metastasis**
Fabiana Soki*[1], Yeo Won Kim[2], Amy Koh[2], Payam Entezami[2], Sun Wook Cho[3], Serk In Park[4], Sudha Sud[2], Kenneth Pienta[2], Laurie McCauley[1]. [1]University of Michigan School of dentistry, USA, [2]University of Michigan, USA, [3]Seoul National University Hospital, South Korea, [4]Vanderbilt University, USA
Disclosures: Fabiana Soki, None

4:00 pm **Altered TGF-beta signaling contributes to skeletal and extraskeletal manifestations in the**

1036 **Crtap-/- model of recessive Osteogenesis Imperfecta**
Ingo Grafe*[1], Tao Yang[2], Stefanie Alexander[3], Erica Paige Homan[3], Caressa Lietman[3], Elda Munivez[3], Ming-Ming Jiang[3], Terry Bertin[3], Yuqing Chen[3], Gautam Sule[3], Mary Ann Weis[4], Yoshihiro Ishikawa[5], Brian Dawson[3], Kuber Sampath[6], Hans Peter Bächinger[5], David Eyre[7], Brendan Lee[8]. [1]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [2]Van Andel Research Institute, USA, [3]Baylor College of Medicine, USA, [4]University of Washington, USA, [5]Shriners Hospital for Children, USA, [6]Genzyme Corporation, USA, [7]University of Washington Orthopaedic Research Labs, USA, [8]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Ingo Grafe, None

CONCURRENT ORALS - MECHANICAL LOADING MECHANISMS

3:15 pm - 4:15 pm **Baltimore Convention Center**
Room 318-323

Moderators:
Henry Donahue, Ph.D.
The Pennsylvania State University College of Medicine, USA
Disclosures: Henry Donahue, None

Xiaowei Liu, Ph.D.
University of Pennsylvania, USA
Disclosures: Xiaowei Liu, None

3:15 pm **NOS-Mediated Vasodilation Causes Immediate Increases in Blood Flow Rate Following**

1037 **Osteogenic Mechanical Loading in Rats**
Ryan Tomlinson*[1], Kooresh Shoghi[1], Matthew Silva[2]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Ryan Tomlinson, None

3:30 pm **Interactions Among Cortical and Trabecular Traits During Growth Provide Insight Into**

1038 **Establishing Whole Bone Mechanical Function in the Lumbar Vertebral Body**
Melissa Ramcharan*[1], Meghan Faillace[2], Zoe Guengerich[1], Valerie Williams[1], Karl Jepsen[3]. [1]Mount Sinai School of Medicine, USA, [2]GE Inspection Technologies, USA, [3]University of Michigan, USA
Disclosures: Melissa Ramcharan, None

3:45 pm **Osteocyte Pericellular Matrix Density Regulates Bone's Anabolic Response to Mechanical Loading**

1039 Christopher Price*[1], Tonima Quabili[1], Wei-Ju Tseng[2], X. Sherry Liu[2], Catherine Kirn-Safran[1], Liyun Wang[1]. [1]University of Delaware, USA, [2]University of Pennsylvania, USA
Disclosures: Christopher Price, None

4:00 pm **Genotypic and Phenotypic Muscle-Bone Interactions During Unloading/Reloading**

1040 Stefan Judex*[1], Weidong Zhang[2], Leah Rae Donahue[2], Engin Ozcivici[3]. [1]Stony Brook University, USA, [2]Jackson Laboratory, USA, [3]Izmir Institute of Technology, Turkey
Disclosures: Stefan Judex, None

DISCOVERY HALL NETWORKING BREAK

4:15 pm - 4:45 pm **Baltimore Convention Center**
Discovery Hall-Hall C

STATE-OF-THE-ART LECTURES - OSTEOCYTES TAKE CENTER STAGE

Supported by an educational grant from Lilly USA, LLC.

4:45 pm - 6:00 pm **Baltimore Convention Center**
Room 307-310

Co-Chairs
Gerald Atkins, Ph.D.
University of Adelaide, Australia
Disclosures: Gerald Atkins, None

Hiroshi Kamioka, D.D.S., Ph.D.
Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sc, Japan
Disclosures: Hiroshi Kamioka, None

4:45 pm **Osteocytes as Regulatory and Secretory Cells**
Charles O'Brien, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None

5:10 pm **Osteocytes and Hematopoiesis**
Paola Divieti Pajevic, M.D., Ph.D.
Massachusetts General Hospital and Harvard Medical School, USA
Disclosures: Paola Divieti Pajevic, None

5:35 pm **Osteocytes in Motion**
Sarah Dallas, Ph.D.
University of Missouri - Kansas City, USA
Disclosures: Sarah Dallas, None

SYMPOSIUM - HIDDEN REGULATORS OF SKELETAL METABOLISM: ENERGY, FAT, FLUID

4:45 pm - 6:00 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Stavroula Kousteni, Ph.D.
Columbia University Medical Center, USA
Disclosures: Stavroula Kousteni, None

Jennifer Walsh, MRCP, Ph.D.
University of Sheffield, United Kingdom
Disclosures: Jennifer Walsh, None

4:45 pm **AP1 Transcription in the Hypothalamus Regulates Bone and Energy Homeostasis**
Roland Baron, DDS, PhD
Harvard School of Medicine and of Dental Medicine, USA
Disclosures: Roland Baron, None

5:10 pm **Sodium Homeostasis and Bone**
Joseph Verbalis, M.D.
Georgetown University Medical Center, USA
Disclosures: Joseph Verbalis, Otsuka 5; Cornerstone 5; Ferring 5

5:35 pm **Insights into the Biology of Adipose Tissues and Bone**
Ormond MacDougald, Ph.D.
University of Michigan Medical School, USA
Disclosures: Ormond MacDougald, None

CLINICAL EVENING AT ASBMR - DO OUR TREATMENTS FOR OSTEOPOROSIS HARM OUR PATIENTS?

Supported by an educational grant from Amgen, Inc. Lilly USA, LLC and Warner Chilcott Company, LLC.
Space is limited and available on a first-come, first-served basis.
Attendees must be registered for the ASBMR 2013 Annual Meeting.

6:30 pm - 8:30 pm **Hilton Baltimore**
Holiday Ballroom, Salon 2

Co-Chairs
Bo Abrahamsen, M.D., Ph.D.
Copenhagen University Hospital Gentofte, Denmark
Disclosures: Bo Abrahamsen, Nycomed 6; Merck 6; Novartis 2; Eli Lilly 9; Amgen 6

Markus Seibel, M.D., Ph.D.
Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia
Disclosures: Markus Seibel, Novartis 6; MSD Merck, Sharp & Dohme 7; Amgen 5; Merck 6; Amgen 7; Amgen 6; Sanofi 6

6:30 pm **Dinner**

7:00 pm **Calcitonin and Cancer**
Suzanne Jan De Beur, M.D.
Johns Hopkins University, USA
Disclosures: Suzanne Jan De Beur, None

7:25 pm **Calcium and Myocardial Infarction: Two Perspectives**
Ian Reid, M.D., MBChB
University of Auckland, New Zealand
Disclosures: Ian Reid, Sanofi 7

Jane Cauley, Ph.D.
University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Jane Cauley, Novartis 2; Merck 5

8:05 pm **Bisphosphonates and Atypical Fractures of the Femur**
Thomas Einhorn, M.D.
Boston Medical Center, USA
Disclosures: Thomas Einhorn, Merck 7

BASIC DISTINGUISHED ORALS & NETWORKING RECEPTION - MULTI-ORGAN INTERACTIONS WITH THE MUSCULOSKELETAL SYSTEM

Supported by an educational grant from Merck & Co., Inc.
Space is limited and available on a first-come, first-served basis.
Attendees must be registered for the ASBMR 2013 Annual Meeting.

6:30 pm - 8:30 pm **Baltimore Convention Center**
Room 314-317

The ASBMR Program Committee has designed this special session for basic scientists to hear presentations on the most exciting abstracts at the ASBMR 2013 Annual Meeting. Plan to arrive early for the Networking Reception that will begin at 6:30 p.m. as space is limited and available on a first-come, first-served basis. Light food and drinks will be provided.

Moderators:
Beata Lecka-Czernik, Ph.D.
University of Toledo College of Medicine, USA
Disclosures: Beata Lecka-Czernik, None

Henry Kronenberg, M.D.
Massachusetts General Hospital, USA
Disclosures: Henry Kronenberg, None

6:30 pm **Networking Reception**

7:00 pm **2013 ASBMR Young Investigator Award**
1041 **PHOSPHO1: Recognition of roles beyond skeletal mineralization**
Karla Oldknow*[1], Nik Morton[2], Manisha Yadav[3], Sophie Rajoanah[2], Carmen Huesa[4], Lutz Bunger[5], Derek Ball[6], Mathieu Ferron[7], Gerard Karsenty[8], Vicky MacRae[4], Jose Luis Millan[9], Colin Farquharson[10]. [1]The Roslin Institute, The University of Edinburgh., United Kingdom, [2]QMRI, The University of Edinburgh, United Kingdom, [3]Burnham Institute for Medical Research, USA, [4]The Roslin Institute, The University of Edinburgh, United Kingdom, [5]SRUC, United Kingdom, [6]Heriot-Watt University, United Kingdom, [7]Institut de recherches cliniques de Montreal, Canada, [8]Columbia University, USA, [9]Sanford-Burnham Medical Research Institute, USA, [10]Roslin Institute, University of Edinburgh, United Kingdom
Disclosures: Karla Oldknow, None

7:15 pm **Loss of Cbl PI3K Interaction Alters the Composition of Hematopoietic Stem Cells and**
1042 **Osteoclast Precursor Cells in Bone Marrow in Association with Increased SDF-1 Production by CAR Cells**
Naga Suresh Adapala[1], Sierra Root[2], Joseph Lorenzo[3], Hector Aguila[3], Archana Sanjay*[3]. [1]Department of Orthopedic Surgery, University of Connecticut Health Center, USA, [2]Department of Immunology, University of Connecticut Health Center, USA, [3]University of Connecticut Health Center, USA
Disclosures: Archana Sanjay, None

7:30 pm **2013 ASBMR Young Investigator Award**
1043 **Inhibition of AP-1 in specific hypothalamic neurons increases both energy expenditure and bone density in mice**
Anna Idelevich*[1], Kazusa Sato[2], Glenn Rowe[3], Francesca Gori[4], Roland Baron[5]. [1]Harvard University, USA, [2]Harvard School of Dental Medicine, USA, [3]Harvard Medical School, USA, [4]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Anna Idelevich, None

7:45 pm **Expression of Glucose Transporter-4 by the osteoblast is required for global glucose**
1044 **metabolism**
Zhu Li*[1], Julie Leslie[2], Guang William Wong[1], Barbara Kahn[3], Ryan Riddle[1], Thomas Clemens[2]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University, USA, [3]Harvard Medical School, USA
Disclosures: Zhu Li, None

8:00 pm **2013 ASBMR Young Investigator Award**
1045 **Fetal Stage-Specific Mineral Metabolism in *Hyp* Mice Is Associated with Effects of FGF23 on Placenta**
Yasuhisa Ohata*[1], Miwa Yamazaki[1], Masanobu Kawai[1], Kanako Tachikawa[1], Tomoko Koinuma[1], Kazuaki Miyagawa[2], Akihito Kimoto[1], Masahiro Nakayama[1], Noriyuki Namba[3], Hironori Yamamoto[4], Keiichi Ozono[3], Toshimi Michigami[1]. [1]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Osaka University, Japan, [3]Osaka University Graduate School of Medicine, Japan, [4]University of Jin-ai, Japan
Disclosures: Yasuhisa Ohata, None

8:15 pm **Bone Marrow Adipogenesis**

1046 Mark Horowitz*[1], Ryan Berry[2], Jackie Fretz[1], Tracy Nelson[2], Chris Church[2], Casey Doucette[3], Nancy Troiano[2], Joshua VanHoutan[2], Ormond MacDouglad[4], Clifford Rosen[5], Matthew Rodeheffer[2]. [1]Yale University School of Medicine, USA, [2]Yale University, USA, [3]Maine Medical Center Research Institute, USA, [4]University of Michigan, USA, [5]Maine Medical Center, USA

Disclosures: Mark Horowitz, None

ASBMR BONE BASH NETWORKING EVENT

Supported in part by an educational grant from Lilly USA, LLC
Ticket Required

8:30 pm - 11:30 pm **The Maryland Science Center**
601 Light Street, Baltimore

Network with colleagues from across the globe while enjoying music and delicious desserts at the Maryland Science Center. The museum is within walking distance of all of our hotels and is near great restaurants on the Inner Harbor, so we encourage attendees to go out for dinner before joining us. Along with an energetic band to get attendees moving on the dance floor, we'll have the museum exhibits open and accessible to everyone. Tickets cost $30 and can be purchased in advance through registration.

Sunday, October 6, 2013

Day-At-A-Glance

Time/Event/Location **All locations in the Baltimore Convention Center unless otherwise noted**

7:30 am - 8:00 am 122
Morning Networking
Charles Street Lobby

7:30 am - 5:00 pm 122
ASBMR Registration Open
Hall C

8:00 am - 10:00 am 122
Distinguished Orals - New Perspectives in Metabolic Bone Disease
Hall A

8:00 am - 10:00 am 124
Distinguished Orals - Powerful Signaling Pathways
Room 307-310

8:00 am - 6:00 pm 125
Posters Open
Discovery Hall-Hall C

10:00 am - 5:00 pm 125
Discovery Hall Open
Discovery Hall-Hall C

10:00 am - 10:30 am 125
Discovery Hall Networking Break
Discovery Hall-Hall C

10:30 am - 11:30 am 125
Funding Opportunities in a Changing NIH Landscape
Room 327-328

10:30 am - 12:00 pm 125
Oral Poster Presentations: Clinical
Hall A

10:30 am - 12:00 pm 127
Oral Poster Presentations: Basic
Room 307-310

11:00 am - 12:00 pm 129
Meet-the-Professor Sessions
Rooms 324-338

12:00 pm - 2:00 pm 130
Poster Session II & Poster Tours
Discovery Hall-Hall C

12:00 pm - 2:00 pm 190
Late-Breaking Posters II
Discovery Hall-Hall C

1:00 pm - 2:00 pm 194
Clinical Roundtable/Case Conference - Treating Osteoporosis Associated with Chronic Kidney Disease
Room 314-317

1:00 pm - 2:00 pm 194
JBMR Publications Workshop
Room 327-328

2:00 pm - 3:15 pm 195
ASBMR/ECTS Plenary Symposium - Sclerostin: The Journey from Discovery to Application
Hall A

3:30 pm - 4:30 pm 195
Concurrent Orals - Cortical Porosity
Hall A

3:30 pm - 4:30 pm 196
Concurrent Orals - Improving Skeletal Tissues
Room 307-310

3:30 pm - 4:30 pm 197
Concurrent Orals - Inflammatory Modulators
Room 318-323

3:30 pm - 4:30 pm 198
Concurrent Orals - Targeting Bone Formation
Room 314-317

4:30 pm - 5:00 pm 198
Discovery Hall Networking Break
Discovery Hall-Hall C

4:45 pm - 6:00 pm 199
State-of-the-Art Lectures - Bringing Back Muscle and Bone
Room 307-310

4:45 pm - 6:00 pm 199
Symposium - Ensuring the Implementation of Clinical Guidelines
Hall A

6:00 pm - 7:00 pm 200
ASBMR Town Hall Meeting
Room 327-328

7:30 pm - 9:30 pm 200
Working Group on Musculoskeletal Rehabilitation in Patients with Osteoporosis
Room 336
Ticket Required

7:15 pm - 9:30 pm 201
Pediatric Bone and Mineral Working Group
Room 341-342
Ticket Required

7:30 pm - 10:00 pm 201
Adult Bone and Mineral Working Group
Room 343-344
Ticket Required

7:15 pm - 9:30 pm 202
Bone Strength Working Group
Room 339-340
Ticket Required

7:30 pm - 10:00 pm 203
Imaging and Skeletal Macro-Architechture Working Group
Room 337-338
Ticket Required

MORNING NETWORKING

7:30 am - 8:00 am **Baltimore Convention Center**
Charles Street Lobby

ASBMR REGISTRATION OPEN

7:30 am - 5:00 pm **Baltimore Convention Center**
Hall C

DISTINGUISHED ORALS - NEW PERSPECTIVES IN METABOLIC BONE DISEASE

8:00 am - 10:00 am **Baltimore Convention Center**
Hall A

Moderators:
Suzanne Jan De Beur, M.D.
Johns Hopkins University, USA
Disclosures: Suzanne Jan De Beur, None

Roland Chapurlat, M.D., Ph.D.
E. Herriot Hospital, France
Disclosures: Roland Chapurlat, None

8:00 am
1047 **Bone Specific Deletion of *Fgfr1* in Hyp Mice Partially Corrects the Hypophosphatemic Rickets Phenotype**
Zhousheng Xiao*[1], Jinsong Huang[2], Li Cao[2], Yingjuan Liang[2], L. Darryl Quarles[3]. [1]The University of Tennessee Health Science Center, USA, [2]University of Tennessee Health Science Center, USA, [3]University of Tennessee Health Sciences Center, USA
Disclosures: Zhousheng Xiao, None

8:15 am
1048 **2013 ASBMR Most Outstanding Clinical Abstract Award**
A First-in-Human, Randomized, Double-Blind, Placebo-Controlled, Single-Dose Study of a Human Monoclonal Anti-FGF23 Antibody (KRN23) in X-linked Hypophosphatemia
Thomas Carpenter*[1], Erik Imel[2], Mary Ruppe[3], Thomas Weber[4], Mark Klausner[5], Margaret Wooddell[6], Tetsuyoshi Kawakami[6], Takahiro Ito[6], Xiaoping Zhang[6], Jeffrey Humphrey[6], Karl Insogna[1], Munro Peacock[7]. [1]Yale University School of Medicine, USA, [2]Indiana University School of Medicine, USA, [3]The Methodist Hospital, USA, [4]Duke University Medical Center, USA, [5]Kyowa Hakko Kirin, USA, [6]Kyowa Hakko Kirin Pharma Inc, USA, [7]Indiana University Medical Center, USA
Disclosures: Thomas Carpenter, Kyowa Hakko Kirin Inc., 2; Kyowa Hakko Kirin Inc., 5

8:30 am **Fracture Patterns with use of Selective Serotonin Receptor Inhibitors, Proton Pump Inhibitors**
1049 **and Glucocorticoids in a Large International Observational Study: GLOW**
Jonathan Adachi*[1], Allison Wyman[2], Gordon FitzGerald[2], Silvano Adami[3], Steven Boonen[4], Roland Chapurlat[5], Juliet Compston[6], Cyrus Cooper[7], Adolfo Diez-Perez[8], Stephen Gehlbach[9], Susan Greenspan[10], Andrea Lacroix[11], Robert Lindsay[12], Lyn March[13], Coen Netelenbos[14], Johannes Pfeilschifter[15], Maurizio Rossini[3], Christian Roux[16], Kenneth Saag[17], Ethel Siris[18], Stuart Silverman[19], Nelson Watts[20]. [1]St. Joseph's Hospital, Canada, [2]UMASS Medical School, USA, [3]University of Verona, Italy, [4]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [5]E. Herriot Hospital, France, [6]University of Cambridge School of Clinical Medicine, United Kingdom, [7]University of Southampton, United Kingdom, [8]Autonomous University of Barcelona, Spain, [9]University of Massachusetts, USA, [10]University of Pittsburgh, USA, [11]Fred Hutchinson Cancer Research Center, USA, [12]Helen Hayes Hospital, USA, [13]Royal North Shore Hospital, Australia, [14]VU Medical Center, The Netherlands, [15]Alfried Krupp Krankenhaus Steele, Germany, [16]Hospital Cochin, France, [17]University of Alabama at Birmingham, USA, [18]Columbia University College of Physicians & Surgeons, USA, [19]Cedars-Sinai/UCLA, USA, [20]Mercy Health Osteoporosis & Bone Health Services, USA
Disclosures: Jonathan Adachi, Warner Chilcott Company, 2; sanofi-aventis, 2

8:45 am **Prevention of Bone Loss in Breast Cancer Survivors on Aromatase Inhibitors: Results of the**
1050 **REBBeCA II Trial**
Susan Greenspan*[1], Subashan Perera[1], Karen Vujevich[1], Gisberta van Londen[2], Adam Brufsky[2], Barry Lembersky[2], Shannon Puhalla[2]. [1]University of Pittsburgh, USA, [2]Magee-Womens Hospital, USA
Disclosures: Susan Greenspan, None

9:00 am **Pathogenesis of Cortical Deficits and Decreased Bone Stiffness after Kidney Transplantation**
1051
Kyle Nishiyama[1], Sapna Iyer[2], Lucas Nikkel[3], Chiyuan Zhang[1], Elzbieta Dworakowski[1], Serge Cremers[1], Bin Zhou[1], Donald McMahon[4], X Guo[1], Elizabeth Shane[4], Thomas Nickolas*[4]. [1]Columbia University, USA, [2]University of California San Diego, USA, [3]Columbia University Medical Center, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Thomas Nickolas, None

9:15 am **Circulating Sclerostin is Negatively Associated with Cortical BMD, PINP, Estradiol and**
1052 **IGF-1**
Jennifer Walsh*, Fatma Gossiel, Margaret Paggiosi, Richard Eastell. University of Sheffield, United Kingdom
Disclosures: Jennifer Walsh, None

9:30 am **Serum Estradiol Levels are Inversely Associated with Cortical Pore Size in Older Men – The**
1053 **MrOS Sweden Study**
Liesbeth Vandenput*[1], Maria Nilsson[2], Daniel Sundh[3], Magnus Karlsson[4], Mattias Lorentzon[5], Dan Mellstrom[1], Claes Ohlsson[6]. [1]Sahlgrenska University Hospital, Sweden, [2]Department of Clinical Chemistry, Sahlgrenska University Hospital, Sweden, [3]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Skåne University Hospital Malmö, Lund University, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [6]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Liesbeth Vandenput, None

9:45 am **2013 ASBMR Young Investigator Award**
1054 **3D-XA-Based Vertebral Finite Element Model for Strength Evaluation in Osteoporosis**
Christophe Travert*[1], Anabela Darbon[2], Nicolas Vilayphiou[3], Helene Follet[4], Jean-Baptiste Pialat[5], Wafa Skalli[6]. [1]Arts et Metiers ParisTech, France, [2]EOS imaging, France, [3]INSERM UMR1033, Université de Lyon & Hospices Civils de Lyon, France, [4]INSERM, UMR1033 ; Universite De Lyon, France, [5]INSERM U1033, Team1, Université de Lyon & Hospices Civils de Lyon, France, [6]Arts et Metiers ParisTech, Fra
Disclosures: Christophe Travert, None

DISTINGUISHED ORALS - POWERFUL SIGNALING PATHWAYS

8:00 am - 10:00 am **Baltimore Convention Center**

Room 307-310

Moderators:
Fei Liu, D.D.S, Ph.D.
University of Michigan School of Dentistry, USA
Disclosures: Fei Liu, None

Mark Johnson, Ph.D.
University of Missouri, Kansas City Dental School, USA
Disclosures: Mark Johnson, None

8:00 am
1055 **Bone gain with unexpected elevated bone resorption by activating canonical Wnt/βcatenin signaling in osteocytes**
Xiaolin Tu*[1], Kevin McAndrews[1], Meloney Cregor[1], Munro Peacock[2], Makoto M. Taketo[3], Lilian Plotkin[1], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University Medical Center, USA, [3]Department of Pharmacology, Graduate School of Medicine, Kyoto University, Japan
Disclosures: Xiaolin Tu, None

8:15 am
1056 **2013 ASBMR Young Investigator Award**
Wnt Production of Signaling in Fate Determination and Differentiation of the Skeletal Precursors
Wei Hsu, Takamitsu Maruyama*, Ming Jiang. University of Rochester Medical Center, USA
Disclosures: Takamitsu Maruyama, None

8:30 am
1057 **2013 ASBMR Young Investigator Award**
Wnt16 Deletion Differentially Affects Cortical and Trabecular Bone: Increased Cortical Bone Resorption, Porosity and Fracture in Wnt16 Knockout Mice
Xianwen Liu*[1], Kenichi Nagano[2], Hiroaki Saito[2], Roland Baron[3], Francesca Gori[4]. [1]Harvard School of Dental Medicine, Sichuan University, USA, [2]Harvard School of Dental Medicine, USA, [3]Harvard School of Medicine & of Dental Medicine, USA, [4]Harvard School of Dental Medicine, Massachusetts General Hospital, USA
Disclosures: Xianwen Liu, None

8:45 am
1058 **2013 ASBMR President's Award**
Downregulation of PLCγ2/β-catenin pathway promotes activation and expansion of Myeloid-Derived Suppressor cells in cancer
Aude-Helene CAPIETTO*[1], Seokho Kim[2], Deborah Novack[3], Roberta Faccio[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St Louis School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Aude-Helene CAPIETTO, None

9:00 am
1059 **Adult-onset deletion of β-catenin in 10kbDmp1-expressing cells prevents intermittent PTH-induced bone gain**
Alexander Robling[1], Rajendra Kedlaya*[1], Paola Divieti Pajevic[2]. [1]Indiana University, USA, [2]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Rajendra Kedlaya, None

9:15 am
1060 **Continuous PTH Infusion Increases Trabecular but Not Cortical Bone in Cyclooxygenase-2 Knockout Mice**
Shilpa Choudhary*[1], Ernesto Canalis[2], Adam Harris[1], Douglas Adams[1], Renata Rydzik[1], Carol Pilbeam[1]. [1]University of Connecticut Health Center, USA, [2]St. Francis Hospital & Medical Center, USA
Disclosures: Shilpa Choudhary, None

9:30 am **2013 ASBMR Young Investigator Award**

1061 **Parathyroid Hormone-related Peptide (PTHrP) blockade inhibits the development of bone metastasis and potentiates the effect of zoledronic acid in vitro and in vivo in a mouse model of breast tumor progression**

Aimee-Lee Luco*[1], Jiarong Li[1], Benoit Ochietti[2], Ibtihal Fadhil[2], Anne Camirand[2], Monzur Murshed[1], Andrew Karaplis[1], Richard Kremer[3]. [1]McGill University, Canada, [2]McGill University Health Center, Canada, [3]McGill University, Royal Victoria Hospital, Canada

Disclosures: Aimee-Lee Luco, None

9:45 am **Continuous PTH Treatment Induces Bone Loss through T Cells Produced IL17**

1062 Jau-Yi Li*[1], Michael Reott[1], Qun Dai[2], Jonathan Adams[1], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory Univeraity School of Medicine, USA

Disclosures: Jau-Yi Li, None

POSTERS OPEN

8:00 am - 6:00 pm **Baltimore Convention Center**

Discovery Hall-Hall C

DISCOVERY HALL OPEN

10:00 am - 5:00 pm **Baltimore Convention Center**

Discovery Hall-Hall C

DISCOVERY HALL NETWORKING BREAK

10:00 am - 10:30 am **Baltimore Convention Center**

Discovery Hall-Hall C

FUNDING OPPORTUNITIES IN A CHANGING NIH LANDSCAPE

10:30 am - 11:30 am **Baltimore Convention Center**

Room 327-328

This will be an open forum for discussion with NIH directors and program officers regarding new, future and/or underutilized opportunities for supporting science in bone and mineral research. Institutes with interest in bone and mineral research will present brief bulleted overviews followed by questions from the audience either written in advance or taken from the floor during this interactive session.

ORAL POSTER PRESENTATIONS: CLINICAL

10:30 am - 12:00 pm **Hall A**

Moderators:

Bo Abrahamsen, M.D., Ph.D.
University of Southern Denmark, Denmark
Disclosures: Bo Abrahamsen, None

Ann Schwartz, Ph.D.
University of California, San Francisco, USA
Disclosures: Ann Schwartz, None

10:35 am SU0066 **Elevated Serum Sclerostin Levels Point Towards Compromised Mechanotransduction in Type 2 Diabetic Postmenopausal Women with Fragility Fractures and Have Potential as Biomarker for Fracture Risk Assessment in Type 2 Diabetics**

Ursula Heilmeier*[1], Janina Patsch[2], Dana Carpenter[3], Roy Harnish[1], Joyce Keyak[4], Thomas Baum[5], Gabby B. Joseph[1], Andrew J Burghardt[6], Ann Schwartz[7], Thomas Lang[7], Thomas Link[7]. [1]University of California San Francisco, USA, [2]Medical University of Vienna, Austria, [3]University of Colorado Denver, USA, [4]Department of Radiological Sciences, University of California, Irvine, USA, [5]Klinikum rechts der Isar, TU Muenchen, Germany, [6]Department of Radiology & Biomedical Imaging, University of California San Francisco, USA, [7]University of California, San Francisco, USA

Disclosures: Ursula Heilmeier, None

10:40 am SU0236 **Metformin Stimulates Compact Bone Mesenchymal Stem Cells and Accelerates Wound Healing in a Type 2 Diabetes Mouse Model**

Xin Li*[1], Satoko Matsumura[2], Yuqi Guo[2], Huawei Yuan[2], Wenbo Yan[3]. [1]New York University, USA, [2]New York University College of Dentistry, USA, [3]Nyack College, USA

Disclosures: Xin Li, None

10:45 am SU0410 **Parathyroid Hormone Improves Skeletal Status of Rats with Type 2 Diabetes Mellitus**

Christine Hamann*[1], Ann-Kristin Picke[2], Graeme Campbell[3], Martina Rauner[4], Ricardo Bernhardt[5], Claus-C Glueer[6], Gerd Huber[7], Klaus-Peter Günther[1], Michael Morlock[7], Lorenz Hofbauer[8]. [1]Dresden Technical University Medical Center, Germany, [2]Dresden University Medical Center, Germany, [3]Christian-Albrechts Universität zu Kiel, Germany, [4]Medical Faculty of the TU Dresden, Germany, [5]Technische Universität Dresden, Germany, [6]Christian Albrechts Universitaet zu Kiel, Germany, [7]Institute of Biomechanics, Hamburg University of Technology, Germany, [8]Dresden University Medical Center, Germany

Disclosures: Christine Hamann, None

10:55 am SU0428 **Abnormal Microarchitecture and Stiffness in Postmenopausal Women Treated with Glucocorticoids**

Stephanie Sutter[1], Kyle Nishiyama[2], Anna Kepley[1], Thomas Nickolas[3], Adi Cohen[1], Bin Zhou[2], X Guo[2], Elizabeth Shane[3], Emily Stein*[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA

Disclosures: Emily Stein, None

11:00 am SU0301 **Prevalent Osteoporotic Fracture and Past Use of Glucocorticoids Induce a Microarchitectural Impairment in Subjects Treated with Glucocorticoids**

Edward Leib*[1], Renaud Winzenrieth[2], Didier Hans[3]. [1]University of Vermont, USA, [2]Medimaps, Hôpital X. Arnozan, PTIB, Pessac, France, [3]Lausanne University Hospital, Switzerland

Disclosures: Edward Leib, None

11:05 am SU0408 **Ecdysterone, a Main Component from Chinese Herb, Achyranthes Root, Prevents Glucocorticoid-induced Bone Loss by Preserving Osteogenesis and Osteocyte Autophagy**

Weiwei Dai*[1], Evan Lay[2], Li Jiang[2], Sarah Amugongo[3], Nancy Lane[4], Wei Yao[4]. [1]Department of Biochemistry, Integrative Medicine Discipline, Shanghai University of Traditional Chinese Medicine, China, [2]UC Davis Medical Center, USA, [3]University of California, Davis, USA, [4]University of California, Davis Medical Center, USA

Disclosures: Weiwei Dai, None

11:15 am SU0409 **Effect of Sclerostin Antibody on the Osteocyte in a Glucocorticoid -Induced Osteopenia**

Zahra Achiou[1], Stephane Pallu[2], Hechmi Toumi[3], Michael Ominsky[4], Hugues Portier[3], Eric Lespessailles*[5], Claude Laurent Benhamou[6]. [1]EA4708 I3MTO Université d'Orleans, France, [2]EA 4708 - I3MTO Orléans, France, [3]EA4708 I3MTO University of Orleans, France, [4]Amgen Inc., USA, [5]Centre Hospitalier Regional, France, [6]CHR ORLEANS, France

Disclosures: Eric Lespessailles, None

11:20 am SU0323 **Dissecting the Relationship between High-Sensitivity Serum C-Reactive Protein and Increased Fracture Risk: the Rotterdam Study**

Ling Oei*[1], Natalia Campos[2], Abbas Dehghan[3], Edwin Oei[3], Lisette Stolk[3], Joyce Van Meurs[4], Albert Hofman[3], Andre Uitterlinden[5], Oscar Franco[3], Carola Zillikens[3], Fernando Rivadeneira[4]. [1]Erasmus University Medical Center, The Netherlands, [2]Erasmus MC, The Netherlands, [3]Erasmus MC, Netherlands, [4]Erasmus University Medical Center, The Netherlands, [5]Rm Ee 575, Genetic Laboratory, The Netherlands

Disclosures: Ling Oei, None

11:25 am SU0331 **Predictors of Re-fracture in Patients Managed within a Fracture Liaison Service: A 7-year Prospective Study**
Kirtan Ganda*[1], Markus Seibel[2]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Kirtan Ganda, None

11:35 am SU0356 **The Risk of Fractures after Initiating Antihypertensive Medications: Results from the National Claim Registry**
Hyung Jin Choi*[1], Chanmi Park[2], Young-Kyun Lee[3], Yong-Chan Ha[4], Sunmee Jang[5], Chan Soo Shin[6]. [1]Chungbuk National University Hospital, South Korea, [2]Health Insurance Review & Assessment Service, South Korea, [3]Seoul National University Bundang Hospital, South Korea, [4]Chung-Ang University Hospital, South Korea, [5]College of Pharmacy Inje University, South Korea, [6]Seoul National University College of Medicine, South Korea
Disclosures: Hyung Jin Choi, None

11:40 am SU0347 **Low Thyrotropin Levels as a Predictor of Major Osteoporotic Fractures in 260,783 Adult Men and Women - The *OPENTHYRO* Register Cohort**
Bo Abrahamsen*[1], Henrik Jørgensen[2], Anne Sofie Laulund[2], Mads Nybo[3], Thomas Brix[4], Laszlo Hegedüs[4]. [1]University of Southern Denmark, Denmark, [2]Bispebjerg Hospital, Denmark, [3]Odense University Hospital, Dept of Clin Biochemistry, Denmark, [4]Odense University Hospital, Dept of Endocrinology, Denmark
Disclosures: Bo Abrahamsen, None

11:45 am SU0169 **Pharmacokinetics and Pharmacodynamics of a Human Monoclonal Anti-FGF23 Antibody (KRN23) after Single-Dose Administration to Patients with X-linked Hypophosphatemia**
Xiaoping Zhang*[1], Thomas Carpenter[2], Erik Imel[3], Mary Ruppe[4], Thomas Weber[5], Mark Klausner[1], Tetsuyoshi Kawakami[1], Takahiro Ito[1], Jeffery Humphrey[1], Karl Insogna[2], Munro Peacock[6]. [1]Kyowa Hakko Kirin Pharma Inc, USA, [2]Yale University School of Medicine, USA, [3]Indiana University School of Medicine, USA, [4]The Methodist Hospital, USA, [5]Duke University Medical Center, USA, [6]Indiana University Medical Center, USA
Disclosures: Xiaoping Zhang, Kyowa Hakko Kirin Pharma Inc, 3

ORAL POSTER PRESENTATIONS: BASIC

10:30 am - 12:00 pm **Room 307-310**

Moderators:
Larry Suva, Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Larry Suva, None

Ted Gross, Ph.D.
University of Washington, USA
Disclosures: Ted Gross, None

10:35 am SU0281 **Osteocyte-derived Notch is a Determinant of Bone Mass and has Sexually Dimorphic Effects on Skeletal Remodeling**
Ernesto Canalis, Stefano Zanotti*. St. Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

10:40 am SU0125 **Osteocytic PTH Receptor is Required for Bone Anabolism Induced by Intermittent PTH Administration, but is Dispensable for Bone Resorption and the Loss of Bone Induced by Chronic PTH Elevation**
Xiaolin Tu*[1], Kevin McAndrews[1], Jesus Delgado-Calle[1], Naomie Olivos[2], Abdulah Ben-Awadh[1], Wonjin Kim[3], Rafael Pacheco da Costa[1], Danielle Richardson[1], Munro Peacock[4], Lilian Plotkin[1], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]IUPUI, USA, [3]Department of Internal Medicine, College of Medicine, Yonsei University, Korea, democratic people's republic of, [4]Indiana University Medical Center, USA
Disclosures: Xiaolin Tu, None

10:45 am **2013 ASBMR Young Investigator Award**

SU0284 **Osteocyte Specific Deletion of Superoxide Dismutase2 Induces Osteocyte Loss Resulting in Bone Loss Associated with Impairment of Bone Remodeling**

Keiji Kobayashi*[1], Hidetoshi Nojiri[2], Yoshitomo Saita[3], Daichi Morikawa[4], Masato Koike[5], Yusuke Ozawa[1], Yoshinori Asou[6], Kazuo Kaneko[5], Takahiko Shimizu[7]. [1]Chiba university, Graduate school of medicine, Japan, [2]Juntendo University, School of Medicine, Japan, [3]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [4]Juntendo Univerisity, Japan, [5]Juntendo University, Japan, [6]Tokyo Medical & Dental University, Japan, [7]Chiba University Graduate School of Medicine, Japan

Disclosures: Keiji Kobayashi, None

10:55 am **Trabecular Bone Matrix Composition in Cynomolgus Monkeys Treated with Sclerostin**

SU0060 **Antibody**

Ryan Ross*[1], Michael Ominsky[2], Alvin Acerbo[3], Lisa Miller[3], D. Rick Sumner[1]. [1]Rush University Medical Center, USA, [2]Amgen Inc., USA, [3]Brookhaven National Laboratory, USA

Disclosures: Ryan Ross, None

11:00 am **Inequivalence in Functional Morphology among Individuals: An Intraskeletal Investigation**

SU0052 **into Covarying Traits**

Stephen Schlecht*, Karl Jepsen. University of Michigan, USA

Disclosures: Stephen Schlecht, None

11:05 am **Post-Natal Deletion of the Connexin43 Gene (*Gja1*) in Osteoblasts/Osteocytes: Model**

SU0278 **Development**

Susan Grimston*[1], Marcus Watkins[1], Michael Brodt[2], Matthew Silva[1], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA

Disclosures: Susan Grimston, None

11:15 am **Transcriptional control of bone and fat lineage determination by Zinc finger protein 521**

SU0244 **(Zfp521)**

William Addison*[1], Martin Fu[2], Helen Yang[2], Zhao Lin[2], Francesca Gori[3], Roland Baron[4]. [1]Harvard University, USA, [2]Harvard Medical School & Harvard School of Dental Medicine, USA, [3]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [4]Harvard School of Medicine & of Dental Medicine, USA

Disclosures: William Addison, None

11:20 am **An Essential Role of Bmp Receptor1A (ALK3) in Postnatal Skeleton Formation**

SU0082

Junjun Jing*[1], Zhaowen Zhong[2], Chuanju Liu[3], Nobby Kamiya[4], Ying Liu[5], xuedong zhou[6], Jian Feng[7]. [1]Baylor college of dentistry, TA&M Health Science Center, USA, [2]TX A&M Baylor College of Dentistry, USA, [3]New York University, USA, [4]Texas Scottish Rite Hospital for Children, USA, [5]baylor college of dentistry, USA, [6]State Key Laboratory of Oral Diseases, West China Stomatology Hospital, China, [7]Texas A&M Health Science Center, USA

Disclosures: Junjun Jing, None

11:25 am **Reciprocal Control of Adipogenesis and Osteogensis by ERK/MAP Kinase Phosphorylation of**

SU0222 **PPARg In Vitro and In Vivo**

Chunxi Ge*[1], Guisheng Zhao[2], Hui Li[2], Binbin Li[2], Renny Franceschi[3]. [1]Pom Univ of Michigan School of Dentistry, USA, [2]University of Michigan School of Dentistry, USA, [3]University of Michigan, USA

Disclosures: Chunxi Ge, None

11:35 am **NF-κB RelB-/- Mice Have Enhanced Mesenchymal Progenitor Cell Differentiation and**

SU0237 **Fracture Repair**

Zhenqiang Yao*[1], Yanyun Li[2], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA

Disclosures: Zhenqiang Yao, None

11:40 am **Oxidative Stress Induced CD4 T Cell Activation Plays A Critical Role in Estrogen Deficiency**

SU0446 **Induced Bone Loss Mediated via Bmi1**

Jinbo Li*[1], Qian Wang[2], Dengshun Miao[3]. [1]Nanjing Medical University, China, [2]Nanjing Medical Univerisity, China, [3]Nunjing Medical University, Peoples Republic of China

Disclosures: Jinbo Li, None

11:45 am 2013 ASBMR Young Investigator Award

SU0447 Duodenal Ca Absorption Increases to Compensate for the Loss of Vitamin D Receptor (VDR) from the Large Intestine and Kidney of Mice

Perla Reyes*, James Fleet. Purdue University, USA

Disclosures: Perla Reyes, None

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **Rooms 324-338**

Meet-the-Professor Session: Bisphosphonates and Longevity
Room 326

R Graham Russell, M.D., Ph.D.
University of Oxford, United Kingdom
Disclosures: R Graham Russell, None

Kenneth Lyles, M.D.
Duke University Medical Center, USA
Disclosures: Kenneth Lyles, UCB 5; Faculty Connection, LLC 4; BisCardia, Inc. 9

Meet-the-Professor Session: Cortical Remodeling with Age
Room 335

Robert Jilka, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, None

Meet-the-Professor Session: How Long Should We Treat Osteoporosis?
Room 329

Dennis Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, Merck 2; Amgen 6; Novartis 2; Amgen 5; Eli Lilly 5

Meet-the-Professor Session: Hypoparathyroidism
Room 333

Aliya Khan, M.D., FRCPC, FACP, FACE
McMaster University, Canada
Disclosures: Aliya Khan, NPS 2

Rajesh Thakker, M.D., FRCP
Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom
Disclosures: Rajesh Thakker, None

Meet-the-Professor Session: Mechanics Matters
Room 336

Clinton Rubin, Ph.D.
State University of New York at Stony Brook, USA
Disclosures: Clinton Rubin, Marodyne Medical, Inc. 6

Janet Rubin, M.D.
University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: Janet Rubin, None

Meet-the-Professor Session: Muscle-Bone Interactions – More than Physical!
Room 324

Marco Brotto, BSN, MS, Ph.D
University of Missouri - Kansas City, USA
Disclosures: Marco Brotto, None

Meet-the-Professor Session: Osteoporosis in Men
Room 325

Supported by an educational grant from Merck & Co., Inc.

Peter Ebeling, M.D., FRACP
The University of Melbourne, Australia
Disclosures: Peter Ebeling, Amgen 2; Novartis 2; Amgen 6; Eli-Lilly 2; Merck 7; Merck 2

Meet-the-Professor Session: Stem Cells and Regenerative Medicine
Room 337-338

Pamela Robey, Ph.D.
National Institute of Dental and Craniofacial Research, USA
Disclosures: Pamela Robey, None

Meet-the-Professor Session: Tracking Effects of Osteoporotic Drugs on Bone Material Properties in Animal Models
Room 334

Matthew Allen, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Matthew Allen, ActiveLife Scientific 2; Merck 2; Eli Lilly 2

POSTER SESSION II & POSTER TOURS

12:00 pm - 2:00 pm **Discovery Hall-Hall C**

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: CELLULAR AND MOLECULAR MECHANISMS

SU0001 **Aged related Gait Disturbance in Fibroblast Growth Factor 2 knockout mice**
Toru Nishikawa*[1], Collin Homer-Bouthiette[2], Liping Xiao[2], Morgan Carlson[2], Marja Marie Hurley[3]. [1]Aichi Gakuin University, Japan, [2]University of Connecticut Health Center, USA, [3]University of Connecticut Health Center School of Medicine, USA
Disclosures: Toru Nishikawa, None

SU0002 **Age-related switch of bone mass in p47^{phox} deficient mice through increased inflammatory milieu in bone**
Jin-Ran Chen*[1], Oxana P. Lazarenko[2], Jian Zhang[2], Kelly Mercer[2], Michael L. Blackburn[3], Thomas M. Badger[2], Martin J. J. Ronis[2]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]University of Arkansas for Medical Sciences & Arkansas Children's Nutrition Center, Little Rock, AR 72202, USA, [3]University of Arkansas for Medical Sciences & Arkansas Children's Nutrition Center, Little Rock, AR 72202., USA
Disclosures: Jin-Ran Chen, None

SU0003 **Bmi1 Plays A Critical Role in Preventing Bone Aging by Inhibiting Oxidative Stress**
Qian Wang*[1], Rong Wang[1], Jianliang Jin[2], David Goltzman[3], Dengshun Miao[4]. [1]Nanjing Medical University, China, [2]Nanjing Medical University, Peoples Republic of China, [3]McGill University, Canada, [4]Nunjing Medical University, Peoples Republic of China
Disclosures: Qian Wang, None

SU0004 **Bone Breaks and Heart Aches- the Association between Bone Mass and Vascular Function**
Lynae Hanks*[1], Ambika Ashraf[1], Barbara Gower[1], Jessica Alvarez[2], Krista Casazza[3]. [1]University of Alabama at Birmingham, USA, [2]Emory University, USA, [3]UAB, USA
Disclosures: Lynae Hanks, None

SU0005 **CK2.1 a novel mimetic peptide, induces cartilage formation in vivo.**
Hemanth Akkiraju*, Anja Nohe. University of Delaware, USA
Disclosures: Hemanth Akkiraju, None

SU0006 **Decreased *Nfat1* Expression Contributes to Dysfunction of Articular Cartilage in Aging Mice**
Mingcai Zhang*[1], Qinghua Lu[2], Kenneth Caldwell[2], Jamie Crist[2], Clayton Theleman[2], Jinxi Wang[1]. [1]University of Kansas Medical Center, USA, [2]Department of Orthopedic Surgery, University of Kansas Medical Center, USA
Disclosures: Mingcai Zhang, None

SU0007 **microRNAs in the Regulation of Resorption and Healing of Bone Erosions in Rheumatoid Arthritis**
Yukiko Maeda*[1], Paul Fanning[1], Jane Lian[2], Ellen Gravallese[1], Melissa Matzelle[1], David Ayers[3]. [1]University of Massachusetts Medical School, USA, [2]University of Vermont, USA, [3]UMass Memorial Medical Center, USA
Disclosures: Yukiko Maeda, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: FRAILTY AND SARCOPENIA

SU0008 **Associations between Sarcopenia and Osteopenia/Osteoporosis in 2400 Japanese Women**
Naohisa Miyakoshi*[1], Michio Hongo[1], Yoichi Mizutani[2], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Joto Orthopedic Clinic, Japan
Disclosures: Naohisa Miyakoshi, None

SU0009 **Differential effects of age and menopause on proximal femur structure: a cross-sectional study of 719 Caucasian females aged 20 to 89 years**
Richard Prince*[1], Ben Khoo[2], Joshua Lewis[3], Keenan Brown[4], Christopher Cann[5]. [1]Sir Charles Gairdner Hospital, Australia, [2]Medical Technology & Physics, Sir Charles Gairdner Hospital, Perth, Western Australia, Australia, [3]University of Western Australia, Sir Charles Gairdner Hospital, Australia, [4]Mindways Software, USA, [5]University of California, San Francisco, USA
Disclosures: Richard Prince, None

SU0010 **Fall risk assessment using muscle mass, muscle strength and timed up and go test in hospitalized adults.**
Hideki Tsuboi*[1], Jun Hashimoto[2]. [1]Osaka Minami Medical Center, Japan, [2]National Hospital Organization, Osaka Minami Medical Center, Japan
Disclosures: Hideki Tsuboi, None

SU0011 **Investigating the predictive ability of gait speed and quadriceps strength for incident falls in community-dwelling older women at high risk of fracture**
David Scott*[1], Geoffrey Nicholson[2], Amanda Stuart[3], Peter Ebeling[1], Kerrie Sanders[4]. [1]The University of Melbourne, Australia, [2]The University of Queensland, Australia, [3]Department of Clinical & Biomedical Sciences, The University of Melbourne, Barwon Health, Australia, [4]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia
Disclosures: David Scott, None

SU0012 **Physical Ability Tests Predict Incident Falls – A Prospective Study of 3014 Men in MrOs Sweden**
Bjorn Rosengren*[1], Jan-Ake Nilsson[2], Osten Ljunggren[3], Eva Ribom[4], Dan Mellstrom[5], Mattias Lorentzon[6], Claes Ohlsson[7], Magnus Karlsson[1]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Clinical & Molecular Osteoporosis Unit, Dep of Orthopedics & Clinical Sciences, Skåne University Hospital, Lund University, Sweden, [3]Uppsala University Hospital, Sweden, [4]Department of Surgical Sciences, University Hospital, Sweden, [5]Sahlgrenska University Hospital, Sweden, [6]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [7]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Bjorn Rosengren, None

SU0013 **Possible Pathways for the Association of Appendicular Skeletal Muscle Mass with Leptin, Insulin, Myoglobin and Inflammatory Markers**
Zhao Chen*[1], Andriene Grant[1], Walter Klimecki[2], Nicole Wright[3], Chengcheng Hu[4], Jennifer Wright[1], Scott Going[5], J. Skye Nicholas[6], Patricia Thompson[1]. [1]University of Arizona, USA, [2]University of Arizona Pharmacology & Toxicology, USA, [3]University of Alabama at Birmingham, USA, [4]University of Arizona College of Public Health, USA, [5]The University of Arizona, USA, [6]University of Arizona Mel & Enid Zuckerman College of Public Health, USA
Disclosures: Zhao Chen, None

SU0014 **Precision and Monitoring Time Intervals for pQCT-Derived Muscle Area and Density in Community-Dwelling Older Adults.**
Andrew Frank*[1], W.P. Olszynski[2], Saija Kontulainen[1]. [1]University of Saskatchewan, Canada, [2]Midtown Professional Center (#103), Canada
Disclosures: Andrew Frank, None

SU0015 **Severity of Thoracic Curvature Increases Lung Function Decline: The Framingham Study**
Elizabeth Samelson*[1], George O'Connor[2], L Adrienne Cupples[3], Yanhua Zhou[3], Elana Brochin[4], Douglas Kiel[5], Harold Rosen[6]. [1]Hebrew SeniorLife, Harvard Medical School, USA, [2]Boston Medical Center, USA, [3]Boston University, USA, [4]Institute for Aging Research, USA, [5]Hebrew SeniorLife, USA, [6]Beth Israel Deaconess Medical Center, USA
Disclosures: Elizabeth Samelson, None

SU0016 **Skeletal Muscle Function Deficit**
Rosaly Correa-de-Araujo*. National Institute on Aging, National Institutes of Health, USA
Disclosures: Rosaly Correa-de-Araujo, None

SU0017 **Strength-to-weight ratio in population studies: toward a definition of sarcopenic-obesity that is relevant for mobility limitation**
Robert McLean*[1], Marian Hannan[1], Joanne Murabito[2], Alyssa Dufour[1], Douglas Kiel[1]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]Framingham Heart Study & Boston University School of Medicine, USA
Disclosures: Robert McLean, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

SU0018 **Bisphosphonate Rescues Cartilage from Trauma Damage by Promoting the Spontaneous Calcium Signaling in Chondrocytes**
Yilu Zhou*, Lauren Resutek, Christopher Price, Liyun Wang, X. Lucas Lu. University of Delaware, USA
Disclosures: Yilu Zhou, None

SU0019 **In Very Early Rheumatoid Arthritis Bone Changes can be Detected by Peripheral Quantitative Computed Tomography but not Dual-Energy X-ray Absorptiometry**
Mart Kull*[1], Raili Müller[2], Annika Aart[3], Riina Kallikorm[3], Margus Lember[3]. [1]University of Tartu, Estonia, [2]Tartu University, Department of Internal Medicine, Estonia, [3]University of Tartu, Department of Internal Medicine, Estonia
Disclosures: Mart Kull, None

SU0020 **MicroRNAs Are Related to Progression of Osteoarthritis (OA) in the DMM (destablization of medial meniscus) Mouse Model**
Paul Fanning*[1], Christopher Raskett[2], Eric Mick[3], Yukiko Maeda[1], Nicholas Farina[4], Ellen Gravallese[1], Gary Stein[5], David Ayers[6], Jane Lian[7]. [1]University of Massachusetts Medical School, USA, [2]Dept. of Orthopedics & Rehabilitation, University of Massachusetts Medical School, USA, [3]Dept. of Quantitative Health Sciences, University of Massachusetts Medical School, USA, [4]Dept. of Biochemistry, University of Vermont Medical School, USA, [5]University of Vermont, College of Medicine, USA, [6]UMass Memorial Medical Center, USA, [7]University of Vermont, USA
Disclosures: Paul Fanning, None

SU0021 **Notch Inhibition Prevents Inflammatory Bone Loss by Targeting Mesenchymal Stem Cells**
Hengwei Zhang*[1], Matthew Hilton[2], Jennifer Anolik[3], Zhenqiang Yao[3], Brendan Boyce[2], Lianping Xing[3]. [1]Univeristy of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]University of Rochester, USA
Disclosures: Hengwei Zhang, None

SU0022 **Prevention of Osteoarthritis by Combination of Proteoglycan 4 and Interleukin 1 Receptor Antagonist Expression**
Zhechao (Merry) Ruan*[1], Kilian Guse[1], Ayelet Erez[1], Vincenzo Cerullo[1], Brian Dawson[1], Michael Heggeness[1], Francis Gannon[1], Brendan Lee[2]. [1]Baylor College of Medicine, USA, [2]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Zhechao (Merry) Ruan, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: REHABILITATION AND EXERCISE

SU0023 **Gender Different Pleotropic Bone-Muscle Relationship in The Elderly: From A Nationwide Survey (KNHANES IV)**

Ji Hye Huh*[1], Kwang Joon Kim[2], Kyeong Hye Park[3], Jo Eun Kim[4], Kyoung Min Kim[5], Yumie Rhee[6], Sung-Kil Lim[7]. [1]Division of Endocrinology & Metabolism, South Korea, [2]Severance Hospital, South Korea, [3]Executive Healthcare Clinic, Severance Hospital, South Korea, [4]Division of Endocrinology & Metabolism, Department of Internal, South Korea, [5]Department of Internal Medicine, Bundang Seoul National University Hospital, South Korea, [6]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea, [7]Yonsei University College of Medicine, South Korea

Disclosures: Ji Hye Huh, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: ASSESSMENT OF PEDIATRIC BONE DISEASE

SU0024 **Larger Bone Size is Associated With Increased Risk of Forearm Fracture in Young Girls**

Mikko Maatta*[1], Christa Hoy[1], Douglas Race[1], Lindsay Nettlefold[1], Leigh Gabel[1], Kishore Mulpuri[2], Heather Macdonald[1], Heather McKay[1]. [1]University of British Columbia, Canada, [2]Child & Family Research Institute, Canada

Disclosures: Mikko Maatta, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

SU0025 **Withdrawn**

SU0026 **Age effect on pediatric longitudinal BMD by multiple loci uncovered in adult BMD-related GWAS meta-analyses**

Babette Zemel*[1], Heidi Kalkwarf[2], Mingyao Li[3], Sandra Deliard[4], Cecilia Kim[4], Liming Qu[3], Rosetta Chiavacci[4], Donna Paulhamus[4], Joan Lappe[5], Vicente Gilsanz[6], Hakon Hakonarson[4], Sharon Oberfield[7], John Shepherd[8], Benjamin Voight[3], Andrea Kelly[4], Struan Grant[1]. [1]Children's Hospital of Philadelphia, USA, [2]Cincinnati Children's Hospital Medical Center, USA, [3]University of Pennsylvania, USA, [4]The Children's Hospital of Philadelphia, USA, [5]Creighton University Osteoporosis Research Center, USA, [6]Children's Hospital Los Angeles, USA, [7]Columbia University Medical Center, USA, [8]University of California, San Francisco, USA

Disclosures: Babette Zemel, None

SU0027 **Association Between Lower Extremity Muscle Mass and Bone Structure in Individuals With Unilateral Cerebral Palsy**

Harshvardhan Singh*[1], Christopher Modlesky[1], Freeman Miller[2], Brianne Mulrooney[1], Jacques Riad[3]. [1]University of Delaware, USA, [2]AIduPont Hospital for Children, USA, [3]Astrid Lindgrens Children's Hospital, Sweden

Disclosures: Harshvardhan Singh, None

SU0028 **Bone mass, Bone microarchitecture (TBS) and anthropometric measurements during childhood growth in Spanish girls**

Luis Del Rio[1], Renaud Winzenrieth*[2], Catherine Cormier[3], Silvana Di Gregorio[4], [1]Cetir Centre Medical, Spain, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [3]AP-HP Groupe Hospitalier Cochin, France, [4]CETIR Centre Mèdic, Spain

Disclosures: Renaud Winzenrieth, None

SU0029 **Cortical Bone Fragility Contributes to Fractures in Children**

Sandra Iuliano-Burns*[1], Qingju Wang[1], Xiaofang Wang[2], Ali Ghasem-Zadeh[2], Roger Zebaze[1], Yohann Bala[3], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]University of Melbourne, Australia, [3]University of Melbourne, Dept. of Medicine, Australia

Disclosures: Sandra Iuliano-Burns, None

SU0030 **Development of a New Tool for Evaluating Bone Mineralization as a Function of Age in Pediatric Patients**
Joyce Keyak*[1], Liliane Gibbs[2], Sandra Murray[3], Antoine Hamedi-Sangsari[4], Diana Lubyanaya[5], AiChun Chen[5]. [1]Department of Radiological Sciences, University of California, Irvine, USA, [2]Pediatric Radiology, RADNET; & Department of Radiological Sciences, University of California, Irvine, USA, [3]University of California, Irvine & Miller Children's Hospital, Long Beach, USA, [4]School of Biological Sciences, University of California, Irvine, USA, [5]Department of Mathematics, University of California, Irvine, USA
Disclosures: Joyce Keyak, None

SU0031 **Maternal Pregnancy Vitamin D Status and Offspring Bone Health: A Systematic Review and Meta-analysis**
Nicholas Harvey*[1], Christopher Holroyd[1], Georgia Ntani[1], Kassim Javaid[2], Philip Cooper[1], Rebecca Moon[1], Zoe Cole[1], Tannaze Tinati[1], Nicholas Bishop[3], Keith Godfrey[4], Elaine Dennison[1], Janis Baird[1], Cyrus Cooper[1], UK Vitamin D in Pregnancy Working Group[1]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]NIHR Musculoskeletal Biomedical Research Unit, University of Oxford, United Kingdom, [3]Academic Unit of Child Health, University of Sheffield, United Kingdom, [4]MRC Lifecourse Epidemiology Unit, University of Southampton, & NIHR Southampton Biomedical Research Centre, University of Southampton & University Hospital Southampton NHS Foundation Trust, United Kingdom
Disclosures: Nicholas Harvey, None

SU0032 **Pre- and Early Post-Natal Methylphenidate Exposure and Rat Skeletal Development**
David Komatsu*[1], David Fealey[2], Alexandra Filippi[2], Lacey Schwab[3], Jordan Fakhoury[4], Panayotis Thanos[5], Sherry A Ferguson[6]. [1]Stony Brook University, Dept. of Orthopaedics, USA, [2]School of Medicine, Stony Brook University, USA, [3]Department of Materials Science & Engineering, Stony Brook University, USA, [4]Department of Biology, Stony Brook University, USA, [5]Behavior Neuropharmacology & Neuroimaging Lab, Medical Department, Brookhaven National Laboratory, USA, [6]Division of Neurotoxicology, National Center for Toxicological Research/FDA, USA
Disclosures: David Komatsu, None

SU0033 **2013 ASBMR Young Investigator Award**
Relationships between Muscle Power, Force, Density and Bone Quality in Children, Adolescents and Young Adults
Leigh Gabel*[1], Heather McKay[1], Danmei Liu[2], Heather Macdonald[1]. [1]University of British Columbia, Canada, [2]University of British Columbia, Can
Disclosures: Leigh Gabel, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

SU0034 **Cessation of Ambulation Not Corticosteroid Exposure Results in a Dramatic loss of Trabecular Bone Density in Boys with Duchenne Muscular Dystrophy (DMD).**
Nicola Crabtree*[1], Natalie Bebbington[2], Heather McMurchie[3], Helen Roper[3], Nicholas Shaw[1]. [1]Birmingham Children's Hospital, United Kingdom, [2]Birmingham Children's Hopital, United Kingdom, [3]Heart of England Hospital, United Kingdom
Disclosures: Nicola Crabtree, None

SU0035 **Trabecular Bone Microarchitecture Impairment in Juvenile Systemic Lupus Erythematous (JSLE) with Low BMD for Chronological Age**
Rosa Pereira*, Juliane Paupitz, Glauce Lima, Liliam Takayama, Jackeline Alvarenga, Luciana Seguro, Eloisa Bonfa. Faculdade de Medicina da Universidade de São Paulo, Brazil
Disclosures: Rosa Pereira, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: PATHOPHYSIOLOGY OF PEDIATRIC BONE DISEASE

SU0036 **Gnathodiaphyseal Dysplasia due to Mutations in the Cleavage Site of the C-propetide region of *COL1A1*: a Form of Osteogenesis Imperfecta with Bone Fragility, Increased Bone Mineral Density and Fibro-osseus Lesions of the Skull and Jaw**
Emma Duncan*[1], Aideen McInerney-Leo[2], Andreas Zankl[2], Matthew Brown[3]. [1]Royal Brisbane & Women's Hospital, Australia, [2]University of Queensland Diamantina Institute, Australia, [3]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia
Disclosures: Emma Duncan, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: TREATMENT OF PEDIATRIC BONE DISEASE

SU0037 **Etanercept Administration to Neonatal SH3BP2 Knock-In Cherubism Mice Prevents TNF-α-induced Inflammation and Bone Loss**
Teruhito Yoshitaka[1], Shu Ishida[2], Tomoyuki Mukai[3], Ernst Reichenberger[4], Yasuyoshi Ueki*[5]. [1]University Missouri-Kansas City, School of Dentistry, USA, [2]University of Missouri-Kansas City, USA, [3]University of Missouri - Kansas City, USA, [4]University of Connecticut Health Center, USA, [5]University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Yasuyoshi Ueki, None

SU0038 **Sclerostin Antibody Increases Cortical Bone Thickness in a Rapidly Growing Brtl/+ Model of OI by Inducing Bone Formation on Quiescent or Resorbing Surfaces**
Benjamin Sinder*[1], Joseph Salemi[1], Michael Ominsky[2], Michelle Caird[1], Joan Marini[3], Kenneth Kozloff[4]. [1]University of Michigan, USA, [2]Amgen Inc., USA, [3]National Institute of Child Health & Human Development, USA, [4]University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: Benjamin Sinder, None

BONE BIOMECHANICS AND QUALITY (BASIC): GENERAL

SU0039 **3D Visualization of Reference-Point Indentation in Human and Murine Bone**
John Jameson*[1], Alexander Proctor[2], Carolyne Albert[3], Gerald Harris[3]. [1]Lawrence Berkeley National Lab, USA, [2]Active Life Scientific, USA, [3]Orthopaedic & Rehabilitation Engineering Center, Department of Biomedical Engineering, Marquette University, USA
Disclosures: John Jameson, None

SU0040 **A New Viewpoint on Using Glycine to Prevent and Treat Rats' Osteoporosis**
Jingkun Zhang*. Nankai University, Peoples Republic of China
Disclosures: Jingkun Zhang, None

SU0041 **A Proteome Profile of Fragile Human Bones**
Corinne Thomas*, Dmitri Zagorevski, Grazyna Sroga, Pankaj Karande, Deepak Vashishth. Rensselaer Polytechnic Institute, USA
Disclosures: Corinne Thomas, None

SU0042 **Altered Chemokine Signaling in Fracture Callus in Response to Binge Alcohol Exposure**
Roman Natoli*[1], Rachel Nauer[1], John Callaci[2]. [1]Loyola University Medical Center Chicago, USA, [2]Loyola University of Chicago, USA
Disclosures: Roman Natoli, None

SU0043 **Bone Material Properties Are Impaired in Fractured-patients with Type 1 Diabetes Mellitus**
Delphine Farlay*[1], Laura Armas[2], Anne-sophie Bravo Martin[3], Robert Recker[2], Georges Boivin[4]. [1]INSERM, UMR1033; Université De Lyon, France, [2]Creighton University, USA, [3]INSERM UMR 1033; Université de Lyon, France, [4]INSERM, UMR1033; Universite De Lyon, France
Disclosures: Delphine Farlay, None

SU0044 **Bone quality adaptations to running in a murine model of impaired reactive oxygen species (ROS) scavenging**
Vanessa Sherk*[1], Lillian Chatham[2], Kathryn Pate[3], Elizabeth Regan[3], Wendy Kohrt[2], Dana Carpenter[2]. [1]University of Colorado - Denver, USA, [2]University of Colorado Denver, USA, [3]National Jewish Health, USA
Disclosures: Vanessa Sherk, None

SU0045 **Bone Regeneration Varies in Four Different Mouse Strains after Marrow Ablation**
Meghan Moran*[1], Amarjit S Virdi[1], Kotaro Sena[2], Margaret A McNulty[3], D.R. Sumner[1]. [1]Rush Medical College, USA, [2]Kagoshima University, Japan, [3]Louisiana State University, USA
Disclosures: Meghan Moran, None

SU0046 **Compressive Loading Reveals Local Changes in Bone Maturation Levels**
Ingrid Bergstrom*[1], Jemma kerns[2], Allen Goodship[3], Sara Windahl[4]. [1]Karolinska Institutet, Sweden, [2]UCL Institute of Orthopaedics & Musculoskeletal Science, Royal National Orthopaedic Hospital, United Kingdom, [3]UCL Institute of Orthopaedics & Musculoskeletal Science, Royal National Orthopaedic HospitalUCL Institute of Orthopaedics & Musculoskeletal Science, Royal National Orthopaedic Hospital, United Kingdom, [4]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden
Disclosures: Ingrid Bergstrom, None

SU0047 **Cortical bone Adaptation is greater at the Metaphysis than Diaphysis**
Annette Birkhold*[1], Hajar Razi[1], Georg Duda[1], Sara Checa[1], Bettina Willie[2]. [1]Julius Wolff Institute, Charité Universitätsmedizin Berlin, Germany, [2]Charité- Universitätsmedizin Berlin, Germany
Disclosures: Annette Birkhold, None

SU0048 **Distinguished Density and Structure Analysis of the Distal Radius under the Aspects of Trauma Surgery**
Volker Kuhn*[1], Gerald Degenhart[1], Thomas Müller[2], Felix Eckstein[3], Martin Lutz[1]. [1]Medical University Innsbruck, Austria, [2]ETH Zürich, Switzerland, [3]PMU Salzburg, Austria
Disclosures: Volker Kuhn, None

SU0049 **Evaluation of Bone Mineral Density and Bone Strength in Autochthonous Transgenic Mice for Diabetes Mellitus (Akita mice)**
Kentaro Ohuchi*, Naohisa Miyakoshi, Yuji Kasukawa, Koji Nozaka, Toyohito Segawa, Hayato Kinoshita, Yoichi Shimada. Akita University Graduate School of Medicine, Japan
Disclosures: Kentaro Ohuchi, None

SU0050 **Genetic Regulation of Bone Morphology is Strongly Non-Uniform within a Single Bone**
Jeyantt Srinivas Sankaran*[1], Svetlana Lublinsky[1], Weidong Zhang[2], Leah Rae Donahue[2], Stefan Judex[1]. [1]Stony Brook University, USA, [2]Jackson Laboratory, USA
Disclosures: Jeyantt Srinivas Sankaran, None

SU0051 **In silico simulations of bone remodeling with improved parameter estimation from local strains and dynamic morphometry in vivo**
Alina Levchuk*[1], Remo Sommer[2], Sandro D. Badilatti[3], Friederike A. Schulte[3], Davide Ruffoni[3], Claudia Weigt[4], Gisela Kuhn[3], Ralph Müller[3]. [1]ETH Zurich, Switzerland, [2]ETH Zurich, Insitute for Biomechanics, Switzerland, [3]ETH Zurich, Institute for Biomechanics, Switzerland, [4]ETH Zurich, ETH Phenomics Center, Switzerland
Disclosures: Alina Levchuk, None

SU0052 **Inequivalence in Functional Morphology among Individuals: An Intraskeletal Investigation into Covarying Traits**
Stephen Schlecht*, Karl Jepsen. University of Michigan, USA
Disclosures: Stephen Schlecht, None

SU0053 **Measuring Bone Heterogeneity with Raman Spectroscopy to Explain Aging Differences in Human Fracture Toughness**
Alexander Makowski*[1], Sasidhar Uppuganti[2], Ahbid Zein-Sabatto[2], Jack Whitehead[2], Mathilde Granke[3], Anita Mahadevan-Jansen[2], Jeffry Nyman[3]. [1]Department of Veterans Affairs, Vanderbilt University, USA, [2]Vanderbilt University, USA, [3]Vanderbilt University Medical Center, USA
Disclosures: Alexander Makowski, None

SU0054 **Non-Collagenous Proteins in Genetically Modified Mice Exercise a Control on Bone Size and Shape**
Stacyann Morgan*[1], Atharva Poundarik[2], Caren Gundberg[3], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, USA, [2]Rensselaer Polytechnic University, USA, [3]Yale University School of Medicine, USA
Disclosures: Stacyann Morgan, None

SU0055 **Physical Activity Producing Loads from Diverse Orientations Enhances Growing Bones**
Ian Wallace*[1], Brigitte Demes[1], Stefan Judex[1], Andrea Kwaczala[1], Kristian Carlson[2]. [1]Stony Brook University, USA, [2]University of the Witwatersrand, South Africa
Disclosures: Ian Wallace, None

SU0056 **RANKL and OPG Administration Influence the Pattern and Location of Fractures Created During Biomechanical Testing of Intact and Fatigued Mouse Tibia**
Nicolas Bonnet*[1], Paul Kostenuik[2], Mike Ominsky[3], Serge Ferrari[4]. [1]University Geneva Hospital-Department of Internal Medecine Specialities, Switzerland, [2]Amgen Inc., USA, [3]Metabolic disorders, Amgen Inc., USA, [4]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, Amgen, 2

SU0057 **The involvement of tumor necrosis factor-α in osteoclast differentiation induced by mechanical stress in a murine maxilla loading model**
Kengo Fujiki*[1], Noriyuki Wakabayashi[2], Natsuki Suzuki[2], Libor Borák[3], Keiichi Ohya[1], Kazuhiro Aoki[1]. [1]Tokyo medical & dental university, Japan, [2]Department of Removable Partial Prosthodontics, Graduate School, Tokyo Medical & Dental University, Tokyo, Japan, [3]Institute of Solid Mechanics, Mechatronics & Biomechanics, Brno University of Technology, Czech Republic
Disclosures: Kengo Fujiki, None

SU0058 **The Relationship Between Microscopic Damage Accumulation and Impaired Biomechanical Performance in Cancellous Bone Under Fatigue Loading**
Floor Lambers*[1], Amanda Bouman[1], Kristin Regan[1], Clare Rimnac[2], Christopher Hernandez[1]. [1]Cornell University, USA, [2]Case Western Reserve University, USA
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SU0059 **Tissue-scale Bone Mechanical Behavior Varies between Measurement Sites and Mouse Strains**
Pinaki Bhattacharya*[1], An-Katrien Braeken[2], Michael Laurent[3], Dirk Vanderschueren[4], Steven Boonen[5], Harry Van Lenthe[6]. [1]KU Leuven, Belgium, [2]Biomechanics Section, KU Leuven, Belgium, [3]Laboratory of Molecular Endocrinology & Gerontology & Geriatrics, KU Leuven, Belgium, [4]Catholic University of Leuven, Belgium, [5]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [6]Katholieke Universiteit Leuven, Belgium
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SU0060 **Trabecular Bone Matrix Composition in Cynomolgus Monkeys Treated with Sclerostin Antibody**
Ryan Ross*[1], Michael Ominsky[2], Alvin Acerbo[3], Lisa Miller[3], D. Rick Sumner[1]. [1]Rush University Medical Center, USA, [2]Amgen Inc., USA, [3]Brookhaven National Laboratory, USA
Disclosures: Ryan Ross, None

BONE BIOMECHANICS AND QUALITY (BASIC): MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

SU0061 **Alterations of Gene Expressions of Osteogenic Growth Factors and Transcription Factors in Response to Dynamic Fluid Flow Stimulation**
Minyi Hu*[1], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Minyi Hu, None

SU0062 **Enhancement of Nucleo-Cytoskeletal Connectivity by Low Intensity Vibration Augments Mechanosensitivity in Mesenchymal Stem Cells**
Gunes Uzer*[1], Buer Sen[2], Zhihui Xie[1], William Thompson[1], Maya Styner[3], Clinton Rubin[4], Stefan Judex[5], Janet Rubin[3]. [1]University of North Carolina, USA, [2]University of North Carolina At Chapel Hill, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA, [4]State University of New York at Stony Brook, USA, [5]Stony Brook University, USA
Disclosures: Gunes Uzer, None

SU0063 **Enhancement of Osteogenic Ingrowth and Proliferation in 3-D Scaffolds with Low-Intensity Pulsed Ultrasound**
Lin Wu*, Liangjun Lin, Yong Gao, Yi-Xian Qin. State University of New York at Stony Brook, USA
Disclosures: Lin Wu, None

SU0064 **Mechanically Activated Fyn Modulates Adipogenic Commitment through mTORC2/Akt/RhoA Effects on Mesenchymal Stem Cell Cytoskeleton**
William Thompson*[1], Sherwin Yen[2], Buer Sen[3], Zhihui Xie[2], Natasha Case[4], Gunes Uzer[1], Maya Styner[4], Janet Rubin[4]. [1]University of North Carolina, USA, [2]University of North Carolina Department of Medicine, USA, [3]University of North Carolina At Chapel Hill, USA, [4]University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: William Thompson, None

SU0065 **Novel Silorane Bone Cements Exhibit Similar Mechanical Properties but None of the *in vivo* Inflammatory Effects of Commercial Bone Cement**
Lianxiang Bi*[1], David Eick[2], Kathleen Kilway[2], Rachel Weiler[2], Bradley Miller[2], Thomas Schuman[3], Lynda Bonewald[4]. [1]University of Missouri-Kansas City, USA, [2]University of Missouri Kansas City, USA, [3]Missouri University of Science & Technology, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Lianxiang Bi, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): ASSESSMENT OF BONE QUALITY AND STRENGTH

SU0066 **Elevated Serum Sclerostin Levels Point Towards Compromised Mechanotransduction in Type 2 Diabetic Postmenopausal Women with Fragility Fractures and Have Potential as Biomarker for Fracture Risk Assessment in Type 2 Diabetics**
Ursula Heilmeier*[1], Janina Patsch[2], Dana Carpenter[3], Roy Harnish[1], Joyce Keyak[4], Thomas Baum[5], Gabby B. Joseph[1], Andrew J Burghardt[6], Ann Schwartz[7], Thomas Lang[7], Thomas Link[7]. [1]University of California San Francisco, USA, [2]Medical University of Vienna, Austria, [3]University of Colorado Denver, USA, [4]Department of Radiological Sciences, University of California, Irvine, USA, [5]Klinikum rechts der Isar, TU Muenchen, Germany, [6]Department of Radiology & Biomedical Imaging, University of California San Francisco, USA, [7]University of California, San Francisco, USA
Disclosures: Ursula Heilmeier, None

SU0067 **Femoral strength computed from QCT-based finite element analyses is not influenced by voxel or smooth mesh type**
Dieter Pahr*[1], Michael Kinzl[1], Enrico Dall'Ara[1], Oleg Museyko[2], Klaus Engelke[2], Jarunan Panyasantisuk[3], Philippe Zysset[3]. [1]Vienna University of Technology, Austria, [2]University of Erlangen, Germany, [3]University of Bern, Switzerland
Disclosures: Dieter Pahr, None

SU0068 **Highly efficient HRpQCT-based plate and rod (PR) finite element models of whole bone distinguish postmenopausal women with vertebral fractures**
Ji Wang*[1], Bin Zhou[1], Emily Stein[2], Elizabeth Shane[2], X Guo[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Ji Wang, None

SU0069 **HIV Infected Patients have Deteriorated Bone Material Properties at a Tissue Level Measured by "in vivo" Microindentation**
Robert Guerri Fernandez*[1], María Rodríguez Sanz[2], Judit Villar-Garcia[2], Natalia Garcia-Giralt[3], Elisa Torres del Pliego[4], Laia Vilaplana Marz[4], Ana Guelar-Grinberg[2], Xavier Nogues[5], Leonardo Mellibovsky[2], Daniel Prieto-alhambra[6], Hernando Knobel[2], Adolfo Diez-Perez[7]. [1]Fundacio IMIM, Spain, [2]Internal Medicine-Infectious Diseases. Hospital del Mar, Spain, [3]IMIM, Spain, [4]Internal Medicine-Infectious Diseases, Spain, [5]Institut Municipal D'Investigació Mèdica, Spain, [6]University of Oxford, United Kingdom, [7]Autonomous University of Barcelona, Spain
Disclosures: Robert Guerri Fernandez, None

SU0070 **Microstructural and Biomechanical Properties, Bone Mineral Density and Bone Turnover in Patients with Hip Osteoporotic Fracture vs. Osteoarthritis**
Mª José Montoya*[1], Merce Giner[2], Cristina Miranda[3], Mª Angeles Vazquez[1], Ramón Pérez-Temprano[4], David Guede[5], José Ramón Caeiro[6], Ramon Perez-Cano[1]. [1]University of Seville, Spain, [2]Bone Metabolism Unit, "Virgen Macarena" University Hospital, Spain, [3]Bone Metabolism Unit, "Virgen Macarena" University Hospital of Seville, Spain, [4]Bone Metabolism Unit, "Virgen Macarena" University Hospital & University of Seville, Spain, [5]Parque Tecnolóxico de Galicia, Spain, [6]Department of Orthopaedic Surgery, Complexo Hospitalario Universitario de Santiago de Compostela, A Coruña, Spain
Disclosures: Ma José Montoya, None

SU0071 **Regional Heterogeneity of Trabecular Bone Microcrack Density in Association with Trabecular Microarchitecture and Bone Resorption in Whole Human Lumbar Vertebrae**
Vincent Carpentier[1], Helen Tsangari[2], Nicola Fazzalari[3], Julia Kuliwaba*[2]. [1]Harvard School of Dental Medicine, USA, [2]SA Pathology, Australia, [3]The University of Adelaide, Australia
Disclosures: Julia Kuliwaba, None

SU0072 **Substitutability of Cortical Parameters of Bone Strength Assessed by DXA and HR-pQCT in Premenopausal Women at the Distal Tibia**
Albrecht Popp*[1], Helene Buffat[2], Kurt Lippuner[2], Ursula Eberli[3], Manuela Ernst[3], R Geoff Richards[3], Vincent Stadelmann[3], Markus Windolf[3]. [1]Department of Osteoporosis, Switzerland, [2]Department of Osteoporosis, University Hospital & University of Berne, Switzerland, [3]AO Research Institute Davos, Switzerland
Disclosures: Albrecht Popp, None

SU0073 **The Trabecular Bone Score is Associated with Volumetric Bone Density and Microarchitecture as Assessed by cQCT and HRpQCT in Chinese-American and Caucasian Women**
Alice Abraham*[1], Barbara Silva[2], Marcella Walker[1], Stephanie Boutroy[3], Chiyuan Zhang[1], Donald McMahon[4], George Liu[5], Didier Hans[6], John Bilezikian[4]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]INSERM U1033 & Université de Lyon, France, [4]Columbia University College of Physicians & Surgeons, USA, [5]New York Downtown Hospital, USA, [6]Lausanne University Hospital, Switzerland
Disclosures: Alice Abraham, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

SU0074 **Bone geometry and strength are negatively affected even by low-normal or subclinical thyrotoxic range of TSH level in the elderly.**
Su Jin Lee*[1], Kyoung Min Kim[2], JO EUN KIM[3], Sung-Kil Lim[4], Yumie Rhee[5]. [1]Yonsei University Health System, South Korea, [2]Seoul National University Bundang Hospitatl, South Korea, [3]Yonsei University Health System, South Korea, [4]Yonsei University College of Medicine, South Korea, [5]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
Disclosures: Su Jin Lee, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): DISUSE OSTEOPOROSIS

SU0075 **Changes in Fracture Strength as a Function of Time since Spinal Cord Injury**
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Disclosures: William Edwards, None

BONE BIOMECHANICS AND QUALITY (CLINICIAL): MECHANICAL LOADING EFFECTS IN HUMANS AND INTACT ANIMALS

SU0076 **Influence of Physical Activity on the Distribution of Human Cortical Tissue as a Function of its Mass and its Mechanical Quality**
Paola Reina[1], Gustavo Roberto Cointry[1], Laura Nocciolino[1], Sara Feldman[1], Jose Ferretti*[2], Joern Rittweger[1], Ricardo Francisco Capozza[1]. [1]Center for Phosphocalcic Metabolism, Argentina, [2]National University of Rosario, Argentina
Disclosures: Jose Ferretti, None

SU0077 **Muscle Force and Bone Strength in Osteogenesis Imperfecta Type I**
Louis-Nicolas Veilleux*[1], Frank Rauch[2]. [1]McGill University, Canada, [2]McGill University/ Shriners Hospital for Children, Canada
Disclosures: Louis-Nicolas Veilleux, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS TECHNIQUES AND CALCIFICATION

SU0078 **Association Between Lumbar Bone Density (BMD) and Lumbar Disc Degeneration (LDD)**
Sami Salo*[1], Ville Leinonen[2], Toni Rikkonen[3], Pauli Vainio[2], Risto Honkanen[1], Heikki Kroger[2], Joonas Sirola[4]. [1]University of Eastern Finland, Finland, [2]Kuopio University Hospital, Finland, [3]University of Eastern Finland, Bone & Cartilage research unit, Finland, [4]University of Eastern Finland / Kuopio, Finland
Disclosures: Sami Salo, None

SU0079 **Plasma Concentration and Expression of Matrix Gla Protein (MGP) in Ectopic Calcification Model Rats**
Naoko Tsugawa*, Haruna Sakurai, Tetsushi Kasuga, Toshio Okano. Kobe Pharmaceutical University, Japan
Disclosures: Naoko Tsugawa, None

SU0080 **Post-Union Response to External Fixation versus Intramedullary Pinning in Mouse Tibia Fracture Healing**
Yusuke Hagiwara*, Douglas Adams, Nathaniel Dyment, Xi Jiang, David Rowe. University of Connecticut Health Center, USA
Disclosures: Yusuke Hagiwara, None

SU0081 **Tissue-specific Extracellular Matrix Controls the Fate of Bone Marrow-derived Mesenchymal Stem Cell Differentiation**
Rubie Rakian[1], Zhi-Liang Zhang[2], Travis Block[1], Qiuxia Dai[1], Zhongding Lu[1], Xiao-Dong Chen*[1]. [1]University of Texas Health Science Center at San Antonio, USA, [2]Ren-Ji Hospital, Shanghai Jiao-Tong University School of Medicine, China
Disclosures: Xiao-Dong Chen, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: CARTILAGE AND CHONDROCYTES

SU0082 **An Essential Role of Bmp Receptor1A (ALK3) in Postnatal Skeleton Formation**
Junjun Jing*[1], Zhaowen Zhong[2], Chuanju Liu[3], Nobby Kamiya[4], Ying Liu[5], xuedong zhou[6], Jian Feng[7]. [1]Baylor college of dentistry, TA&M Health Science Center, USA, [2]TX A&M Baylor College of Dentistry, USA, [3]New York University, USA, [4]Texas Scottish Rite Hospital for Children, USA, [5]baylor college of dentistry, USA, [6]State Key Laboratory of Oral Diseases, West China Stomatology Hospital, China, [7]Texas A&M Health Science Center, USA
Disclosures: Junjun Jing, None

SU0083 **C-raf is Required for Normal Postnatal Growth Plate Maturation**
Eva Liu*[1], Adalbert Raimann[2], Eric Zhu[3], Marie Demay[4]. [1]Brigham & Women's Hospital, USA, [2]Medical University Vienna & Massachusetts General Hospital, Austria, [3]Massachusetts General Hospital, USA, [4]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Eva Liu, None

SU0084 **Dullard/Ctdnep1 regulates endochondral bone formation through limiting TGF-ß signaling**
Tadayoshi Hayata*[1], Yoichi Ezura[2], Makoto Asashima[3], Ryuichi Nishinakamura[4], Masaki Noda[5]. [1]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Research Center of Stem Cell Engineering, National Institute of Advanced Industrial Science & Technology (AIST), Japan, [4]Department of Kidney Development, Institute of Molecular Embryology & Genetics, Kumamoto University, Japan, [5]Tokyo Medical & Dental University, Japan
Disclosures: Tadayoshi Hayata, None

SU0085 **Endogenous BMP7 activity maintains articular cartilage integrity by modulating inflammatory and catabolic factors.**
Kahaer Abula*[1], Takeshi Muneta[1], Kazumasa Miyatake[1], Jun Yamada[1], Yu Matsukura[1], Makiko Inoue[1], Ichiro Sekiya[1], Daniel Graf[2], Aris Economides[3], Vicki Rosen[4], Kunikazu Tsuji[1]. [1]Tokyo Medical & Dental University, Japan, [2]University of Zurich, Switzerland, [3]Regeneron Pharmaceuticals, Inc., USA, [4]Harvard School of Dental Medicine, USA
Disclosures: Kahaer Abula, None

SU0086 **Essential roles of Cdc42 during endochondralossification**
Wataru Suzuki*[1], Atsushi Yamada[1], Ryo Aizawa[2], Dai Suzuki[2], Mutsuko Nakayama[2], Shu Takeda[3], Koutaro Maki[2], Matsuo Yamamoto[1], Atsu Aiba[4], Kazuyoshi Baba[2], Ryutaro Kamijo[1]. [1]Showa University School of Dentistry, Japan, [2]Showa University, Japan, [3]Tokyo Medical & Dental University, Dept. of Cellular Physiology, Jpn, [4]Tokyo University, Japan
Disclosures: Wataru Suzuki, None

SU0087 **Estrogen Via Estrogen Recptor Beta Inhibits Growth Of The Mandibular Condylar Cartilage**
Sunil Wadhwa*[1], Manshan Xu[2], Jing Chen[1], Yoskue Kamiya[1]. [1]Columbia University, USA, [2]University of Connecticut Health Center, USA
Disclosures: Sunil Wadhwa, None

SU0088 **Expression of PPARα, β, γ, and H- and L-PGDS During Osteoarthritis in the Spontaneous Hartley Guinea Pig and the Experimental Dog Models**
Sarah Salwa Nebbaki*, Fatim Ezzahra El Mansouri, Hassan Fahmi. Osteoarthritis Research Unit, Research Center- Hospital Center of Montreal University, Canada
Disclosures: Sarah Salwa Nebbaki, None

SU0089 **H3K9 Demethylation by LSD1 Contributes to IL-1-Induced mPGES-1 Expression in OA Chondrocytes**
Fatima Ezzahra El Mansouri*[1], Hassan Fahmi[2]. [1]Research Center-CHUM, Canada, [2]Osteoarthritis research Unit, Research Center- Hospital Center of Montreal University, Canada
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SU0090 **Hdac3 Promotes Chondrocyte Proliferation and β-Catenin Stability**
Elizabeth Bradley*, Lomeli R. Carpio, Jennifer Westendorf. Mayo Clinic, USA
Disclosures: Elizabeth Bradley, None

SU0091 **Hif-2α inhibits chondrocyte differentiation through Runx2 degradation**
Xiangguo Che*[1], Na-Rae Park[1], Gyoung-Ho Cho[1], Min-Su Han[1], Kyung-Eun Lim[1], Eui Kyun Park[1], Seungwoo Han[2], Youn-Kwan Jung[2], Gun-Woo Kim[2], Jae-Hwan Jeong[3], Je-Yong Choi[3]. [1]Kyungpook National University, South Korea, [2]Daegu Fatima Hospital, South Korea, [3]Kyungpook National University, School of Medicine, South Korea
Disclosures: Xiangguo Che, None

SU0092 **NELL-1 Exerts Stage Specific Chondrogenic Effects During Chondrogenesis**
Chenshuang Li*[1], Jie Jiang[1], Varsha Gupta[1], Michelle Ruano[1], Steven Shen[1], Chelsea Fan[1], Xinli Zhang[1], Chia Soo[1], Yanheng Zhou[2], Kang Ting[1]. [1]University of California, Los Angeles, USA, [2]Peking University, School & Hospital of Stomatology, China
Disclosures: Chenshuang Li, None

SU0093 **Neutral Sphingomyelinase 2 Is Increased During BMP-induced Differentiation of ATDC5 Chondrocytes to Suppress the Maturation as a Negative Feedback Mechanism**
Shingo Maeda*[1], Hironori Kakoi[2], Kanehiro Matsuyama[3], Katsuyuki Imamura[3], Ichiro Kawamura[2], Naohiro Shinohara[3], Masahiro Yokouchi[2], Yasuhiro Ishidou[3], Setsuro Komiya[2]. [1]Graduate School of Medical & Dental Sciences, Kagoshima University, Japan, [2]Department of Orthopaedic Surgery, Graduate School of Medical & Dental Sciences, Kagoshima University, Japan, [3]Department of Medical Joint Materials, Graduate School of Medical & Dental Sciences, Kagoshima University, Kagoshima, Japan
Disclosures: Shingo Maeda, None

SU0094 **The distinct role of the infrapatellar fat pad in a murine high-fat diet-induced osteoarthritis model.**
Munetaka Iwata*[1], Hiroki Ochi[2], Yasushi Hara[3], Masahiro Tagawa[3], Daisuke Koga[4], Atsushi Okawa[5], Yoshinori Asou[6]. [1]Division of Veterinary Surgery, School of Veterinary Medicine, Nippon Veterinary & Life Science University, Japan, [2]Laboratory of Veterinary Microbiology, Nippon Veterinary & Life Science University, Japan, [3]Division of Veterinary Surgery, Department of Veterinary Science, Faculty of Veterinary Medicine, Nippon Veterinary & Life Science University, Japan, [4]Department of Orthopaedic Surgery, Tokyo Medical & Dental University, Japan, [5]Department of Orthopaedic Surgery, Tokyo Medical & Dental University, 1-5-45, Japan, [6]Tokyo Medical & Dental University, Japan
Disclosures: Munetaka Iwata, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENE IDENTIFICATION AND EXPRESSION

SU0095 **A ChIP-seq Defined Genome-wide Map of MEF2C Binding Reveals Pathways Associated with Bone Disease**
Matthew Johnson*[1], Sandra Deliard[1], Fengchang Zhu[2], Andrew Wells[1], Kurt Hankenson[2], Struan Grant[1]. [1]Children's Hospital of Philadelphia, USA, [2]University of Pennsylvania, USA
Disclosures: Matthew Johnson, None

SU0096 **Altered collagen pro-peptide endopeptidases, bone morphogenetic protein-1 and a disintegrin and metalloproteinase with thrombospondin motifs-2, in thrombospondin-2 deficient osteoblasts**
Eugene Manley, Jr.*, Andrea Alford. University of Michigan, USA
Disclosures: Eugene Manley, Jr., None

SU0097 **Differentiation Potential and Molecular Characterization of Mesenchymal Stem Cells During Long-Term Monolayer Culture**
Ali Mirsaidi[1], Reto Luginbuehl[2], Willy Hofstetter[3], Rainer Egli*[2]. [1]Bone & Stem Cell Research Group, CABMM, University of Zürich, Switzerland, [2]RMS Foundation, Switzerland, [3]University of Bern, Switzerland
Disclosures: Rainer Egli, None

SU0098 **Second Generation Sequencing Reveals the micro-RNA Expression Patterns in Primary Human Bone Cells treated with Parathyroid Hormone or Dexamethasone**
Navya Laxman*[1], Carl-Johan Rubin[1], Hans Mallmin[2], Olle Nilsson[1], Christian Tellgren-Roth[1], Andreas Kindmark[2]. [1]uppsala University, Sweden, [2]Uppsala University Hospital, Sweden
Disclosures: Navya Laxman, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENERAL

SU0099 **Comparison of a Novel Osteogenic Oxysterol Molecule and rhBMP2 Fusion Rates in a Rabbit Posterolateral Lumbar Spine Model**
Trevor Scott*[1], Kevin Phan[1], Scott Montgomery[1], Akinobuh Suzuki[1], Haijun Tian[1], Michael Daubs[1], Sotirios Tetradis[2], Elisa Atti[1], Theodore Hahn[3], Jeffrey Wang[1], Farhad Parhami[2]. [1]UCLA, USA, [2]University of California, Los Angeles, USA, [3]VA Greater Los Angeles/ UCLA Medical Center, USA
Disclosures: Trevor Scott, None

SU0100 **Dose dependent effect of low intensity pulsed ultrasound on the condylar growth during functional appliance treatment.**
Harmanpreet Kaur*, Hasan uludag, Douglas Dederich, Tarek El-Bialy. University of Alberta, Canada
Disclosures: Harmanpreet Kaur, None

SU0101 **Effects of Selective Serotonin Reuptake Inhibitor Exposure on Markers of Osteogenesis**
James Cray*[1], Kameron Khaksarfard[1], Seth Weinberg[2], Mohammed Elsalanty[3], Jack Yu[1]. [1]Georgia Regents University, USA, [2]University of Pittsburgh, USA, [3]Georgia Health Science University, USA
Disclosures: James Cray, None

SU0102 **Withdrawn**

SU0103 **Human Dental Pulp Cells as Sources for iPS Cell Banking**
Ken-Ichi Tezuka*[1], Tomoko Kawaguchi[2], Naritaka Tamaoki[3], Kazuki Iida[2]. [1]Gifu University Graduate School of Medicine, Japan, [2]Gifu University, Japan, [3]Gifu Univeristy, Japan
Disclosures: Ken-Ichi Tezuka, None

SU0104 **IDG-SW3 osteocyte-like cell line expresses insulin receptor as well as GLUT1 and GLUT3.**
Donna Pacicca*[1], Tammy Brown[1], Karen Kover[1], Lynda Bonewald[2]. [1]Children's Mercy Hospital, USA, [2]University of Missouri - Kansas City, USA
Disclosures: Donna Pacicca, None

SU0105 **MLB13 Cells Recapitulate In Vitro Endochondral Bone Formation with Distinct Responses to Various Skeletal Growth Factors**
Valerie Salazar*, Vicki Rosen. Harvard School of Dental Medicine, USA
Disclosures: Valerie Salazar, None

SU0106 **Nutritionally Induced Delayed Union Model of Femur Fractures In Mice**
Anthony De Giacomo*[1], Joshua Teich[1], Marie Demay[2], Elise Morgan[3], Louis Gerstenfeld[1], Thomas Einhorn[4]. [1]Boston University School of Medicine, USA, [2]Massachusetts General Hospital & Harvard Medical School, USA, [3]Boston University, USA, [4]Boston Medical Center, USA
Disclosures: Anthony De Giacomo, None

SU0107 **PLGA/TCP Scaffolds Incorporating Phytoestrogenic Molecule Icaritin Developed for Bone Defect Repair**
Shihui Chen*[1], Lizhen Zheng[2], Xinhui Xie[2], Xinluan Wang[2], Ling Qin[3]. [1]Prince of Wales Hospital, Hong Kong, [2]The Chinese University of Hong Kong, Hong Kong, [3]Chinese University of Hong Kong, Hong Kong
Disclosures: Shihui Chen, None

SU0108 **Serum Undercarboxylated Osteocalcin correlates with aging related hearing loss**
SANG HYEON JE[1], Duck Joo Lee*[2]. [1]Ajou University Hospital, Department of Family Medicine, South Korea, [2]Ajou University School of Medicine, South Korea
Disclosures: Duck Joo Lee, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MATRIX PROTEINS

SU0109 **Characterization of an Fkbp10$^{-/-}$ mouse model of recessive Osteogenesis Imperfecta**
Caressa Lietman*[1], Erica Homan[1], Tao Yang[2], Elda Munivez[1], Ming-Ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Deborah Krakow[3], Brendan Lee[4]. [1]Baylor College of Medicine, USA, [2]Van Andel Research Institute, USA, [3]UCLA, USA, [4]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Caressa Lietman, None

SU0110 **Expression of both Bone Sialoprotein and Osteopontin Is Necessary to the Anabolic Action of PTH on Mouse Calvaria Bone**
Wafa Bouleftour*[1], Guénaëlle Bouët[2], Renata Neves Granito[3], Mireille Thomas[3], Marie-Thérèse Linossier[3], Arnaud Vanden Bossche[3], Jane Aubin[4], Marie-Helene Lafage-Proust[5], Laurence Vico[6], Luc Malaval[7]. [1]LBTO/INSERMU1059 - Université de Lyon, France, [2]LBTO/INSERM U1059 - F42023 Université de Lyon, France, [3]LBTO/INSERM U1059 - Université de Lyon, France, [4]University of Toronto Faculty of Medicine, Canada, [5]INSERM Unit 890, France, [6]University of St-Etienne, France, [7]INSERM U1059-Université de Lyon-Université Jean Monnet, Saint-Etienne, France
Disclosures: Wafa Bouleftour, None

SU0111 **Two Fibronectin Isoforms Exert Opposite Effects on Osteoblast Differentiation and Affect the Interaction of the Integrin–Wnt Signaling Cascades**
Carla Sens[1], Carina Wuerfel[1], Anja von Au[1], Inaam Nakchbandi*[2]. [1]Max-Planck Institute of Biochemistry & University of Heidelberg, Germany, [2]Max-Planck Institute for Biochemistry & University of Heidelberg, Germany
Disclosures: Inaam Nakchbandi, None

SU0112 **WISP3 Affects Cell Survival in Human Chondrocytes and Mesenchymal Stem Cells**
Sylvia Hondke*[1], Viola Zehe[2], Katrin Schlegelmilch[2], Susanne Wiesner[2], Alexander Keller[3], Norbert Schütze[2]. [1]University of Wuerzburg, Germany, [2]University of Wuerzburg - Orthopedic Center for Musculoskeletal Research, Germany, [3]University of Wuerzburg - Biocenter - DNA Analytics, Germany
Disclosures: Sylvia Hondke, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MECHANICAL STRESS

SU0113 **Visualization of Chondrocyte Mechanotransduction in 3D**
Qiaoqiao Wan*[1], Eunhye Cho[2], Seungman Park[1], Bumsoo Han[1], Hiroki Yokota[3], Sungsoo Na[2]. [1]Purdue University, USA, [2]Indiana University-Purdue University Indianapolis, USA, [3]Indiana University Purdue University Indianapolis, USA
Disclosures: Qiaoqiao Wan, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: CALCIUM-SENSING RECEPTORS

SU0114 **Association of 25-hydroxyvitamin D, Parathyroid Hormone Levels with Blood Pressure in Elderly Populations**
HyeonMok Kim*[1], Beom Kim[2], Jung-Min Koh[3]. [1]South Korea, [2]Departments of Internal medicine, Seoul Veterans Health service medical center, Seoul, Korea, South Korea, [3]Asan Medical Center, South Korea
Disclosures: HyeonMok Kim, None

SU0115 **Gain-of-Function Mutations in Gα11 Cause a Novel Form of Autosomal-Dominant Hypoparathyroidism**
Michael Mannstadt*[1], M. Andrew Nesbit[2], Sarah Howles[2], Angela Rogers[2], Rajesh Thakker[2], Harald Jueppner[3]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Nuffield Department of Clinical Medicine, University of Oxford, United Kingdom, [3]Massachusetts General Hospital, USA
Disclosures: Michael Mannstadt, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: FGF23 AND OTHER PHOSPHATONINS

SU0116 **Chronically Elevated Circulating Fgf23 Modulates Renal Sodium Handling in *Hyp* Mice**
OLENA ANDRUKHOVA*[1], Ute Zeitz[2], Sathish Kumar Murali[2], Reinhold Erben[3]. [1]INST. OF PHYSIOLOGY, PATHOPHYSIOLOGY & BIOPHYSICS, Austria, [2]Department of Biomedical Research University of Veterinary Medicine, Austria, [3]University of Veterinary Medicine, Austria
Disclosures: OLENA ANDRUKHOVA, None

SU0117 **Deletion of *Fgf23* does not Perturb Fetal Mineral Homeostasis, Skeletal Mineral Content, Placental Phosphorus Transport, or Placental Expression of FGF23 Target Genes**
M. Manoharee Samaraweera*[1], Yue Ma[1], Beth J. Kirby[1], S. Teja Vatturi[1], Beate Lanske[2], Christopher Kovacs[1]. [1]Memorial University of Newfoundland, Canada, [2]Harvard School of Dental Medicine, USA
Disclosures: M. Manoharee Samaraweera, None

SU0118 **Metabolic Acidosis Stimulates Fibroblast Growth Factor 23 in Osteoblasts by a Calcium- and Prostaglandin-Mediated Mechanism**
Nancy Krieger*[1], Christopher Culbertson[2], Kelly Kyker-Snowman[2], David Bushinsky[1]. [1]University of Rochester, USA, [2]University of Rochester School of Medicine, USA
Disclosures: Nancy Krieger, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

SU0119 **Disruption of LRP6 in Osteoblasts Blunts the Bone Anabolic Activity of PTH**
Changjun Li*[1], Qiujuan Xing[1], Bing Yu[2], Hui Xie[1], Janet Crane[3], Xu Cao[3], Mei Wan[1]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins School of Medicine, USA, [3]Johns Hopkins University, USA
Disclosures: Changjun Li, None

SU0120 **Hospital Care for Primary Hyperparathyroidism in Italy: a Six-Year Register-Based Study**
Cristiana Cipriani*[1], Vincenzo Carnevale[2], Elisabetta Romagnoli[3], Rina Frateloreto[4], Jessica Pepe[4], Sara Piemonte[4], Alfredo Scillitani[5], Salvatore Minisola[1]. [1]"Sapienza", University of Rome, Italy, [2]IRCCS "Casa Sollievo della Sofferenza" Hospital, Italy, [3]"Sapienza", University of Rome, Italy, [4]"Sapienza" University of Rome, Italy, [5]Casa Sollievo Della Sofferenza Scientific Institute, Italy
Disclosures: Cristiana Cipriani, None

SU0121 **SILAC-Based Quantitative Analysis of Phosphorylation Dynamics in Osteoblasts Simulated with Parathyroid Hormone (PTH 1-34)**
Lauren Ball[1], Grace Williams*[2], Louis Luttrell[2], Mary Berkaw[2]. [1]The Medical University of South Carolina, USA, [2]Medical University of South Carolina, USA
Disclosures: Grace Williams, None

SU0122 **Three Dimentional Structure of Human PTH (1-84)**
Abdulhafez Selim*. Center for Chronic Disorders of Aging, PCOM, USA
Disclosures: Abdulhafez Selim, None

SU0123 **Vitamin D Supplementation Increases Calcium Absorption without a Threshold Effect**
Mageda Mikhail*[1], John Aloia[1], Steven Abrams[2], ruban dhaliwal[1], Albert Shieh[3], melissa fazzari[1], louis ragolia[1]. [1]Winthrop University Hospital, USA, [2]Baylor College of Medicine, USA, [3]University of California, Los Angeles, USA
Disclosures: Mageda Mikhail, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PTH/PTHRP RECEPTORS

SU0124 **MAGI-3 Regulates PTH Receptor Signaling in Osteoblasts**
Bin Wang*, Harry Blair. University of Pittsburgh, USA
Disclosures: Bin Wang, None

SU0125 **Osteocytic PTH Receptor is Required for Bone Anabolism Induced by Intermittent PTH Administration, but is Dispensable for Bone Resorption and the Loss of Bone Induced by Chronic PTH Elevation**
Xiaolin Tu*[1], Kevin McAndrews[1], Jesus Delgado-Calle[1], Naomie Olivos[2], Abdulah Ben-Awadh[1], Wonjin Kim[3], Rafael Pacheco da Costa[1], Danielle Richardson[1], Munro Peacock[4], Lilian Plotkin[1], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]IUPUI, USA, [3]Department of Internal Medicine, College of Medicine, Yonsei University, Korea, democratic people's republic of, [4]Indiana University Medical Center, USA
Disclosures: Xiaolin Tu, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENE THERAPY

SU0126 **Lentiviral transduction of TCIRG1 into CD34+ IMO cells rescues osteoclast function in a cell stage dependent but promoter independent manner**
Christian Thudium*[1], Ilana Moscatelli[2], Carmen Flores[2], Karoline Natasja Stæhr Gudmann[1], Morten Karsdal[1], Johan Richter[2], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Lund University, Sweden
Disclosures: Christian Thudium, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENERAL STUDIES

SU0127 **Adipose Tissues are Reduced in Transgenic Mice with Induced $G_s\alpha$ Signaling in Osteoblasts**
Corey Cain*, Edward Hsiao. University of California, San Francisco, USA
Disclosures: Corey Cain, None

SU0128 **Alveolar Bone-Associated Dental Anomalies in Craniometaphyseal Dysplasia Patients and Mouse Model**
I-Ping Chen*, Aditya Tadinada, Eliane Dutra, Achint Utreja, Flavio Uribe, Ernst Reichenberger. University of Connecticut Health Center, USA
Disclosures: I-Ping Chen, None

SU0129 **Bone Deficits Resulting from MeCP2 Deficiency in a Mouse Model of Rett Syndrome are Partially Restored by Treatment with Teriparatide or Zoledronic Acid.**
Jay Shapiro*. Kennedy Krieger Institute, Johns Hopkins, USA
Disclosures: Jay Shapiro, None

SU0130 **Calcific periarthritis as the only complication of adult hypophosphatasia in three middle-aged sisters**
Nuria Guanabens*[1], Steven Mumm[2], Ingrid Möller[3], Eva Gonzalez-Roca[4], Pilar Peris[5], Jennifer Demertzis[6], Michael Whyte[7]. [1]Universitat De Barcelona, Spain, [2]Washington University School of Medicine, USA, [3]Institute Poal of Rheumatology, Spain, [4]Immunology Department, Hospital Clinic, Spain, [5]Hospital Clínic of Barcelona, Spain, [6]Musculoskeletal Disease Section, Mallinckrodt Institute of Radiology at Barnes-Jewish Hospital, USA, [7]Shriners Hospital for Children-Saint Louis, USA
Disclosures: Nuria Guanabens, None

SU0131 **Cyclophilin B KO Mouse Model of Type IX OI has Diminished Hydroxylation of Specific Collagen Helical Lysines Causing Altered Bone Crosslink Patterns**
Wayne Cabral*[1], Irina Perdivara[2], MaryAnn Weis[3], Masahiko Terajima[4], Angela Blissett[1], Weizhong Chang[1], Elena Makareeva[5], Edward Mertz[5], Sergey Leikin[5], Kenneth Tomer[2], David Eyre[3], Mitsuo Yamauchi[4], Joan Marini[1]. [1]Bone & Extracellular Matrix Branch, NICHD, NIH, USA, [2]Laboratory of Structural Biology, NIEHS, NIH, USA, [3]Orthopaedic Research Laboratories, University of Washington, USA, [4]North Carolina Oral Health Institute, University of North Carolina, USA, [5]Section on Physical Biochemistry, NICHD, NIH, USA
Disclosures: Wayne Cabral, None

SU0132 **Genetic Variation In The Obesity Related GeneMC4R Is Associated With Bone Quality In Elderly Women**
Gaurav Garg*[1], Jitender Kumar[2], Fiona McGuigan[3], Mattias Callréus[4], Paul Gerdhem[5], Kristina Akesson[6]. [1]Clinical Research Center, Lund University, Sweden, [2]Upsala University, Sweden, [3]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [4]Skåne University Hospital, Sweden, [5]Karolinska Institutet, Sweden, [6]Skåne University Hospital, Malmö, Sweden
Disclosures: Gaurav Garg, None

SU0133 **IFITM5 c.−14C>T Mutation Causing Type V Osteogenesis Imperfecta Decreases COL1A1 Expression and Increases Mineralization by Cultured Proband Osteoblasts**
ADI REICH*[1], Alison S Bae[2], Aileen M Barnes[2], Wayne A Cabral[2], David Chitayat[3], Joan Marini[1]. [1]National Institute of Child Health & Human Development, USA, [2]NIH/NICHD/BEMB, USA, [3]The Hospital for Sick Children, & the Department of Obstetrics & Gynecology, The Prenatal Diagnosis & Medical Genetics Program, Canada
Disclosures: ADI REICH, None

SU0134 **Sclerostin antibody treatment improves bone mass and microarchitectural parameters in young Crtap-/- mice, a model of pediatric recessive Osteogenesis Imperfecta**
Ingo Grafe*[1], Tao Yang[2], Caressa Lietman[3], Erica Homan[3], Elda Munivez[3], Yuqing Chen[3], Ming-Ming Jiang[3], Terry Bertin[3], Brian Dawson[3], Franklin Asuncion[4], Hua Zhu (David) Ke[4], Michael Ominsky[4], Brendan Lee[5]. [1]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [2]Van Andel Research Institute, USA, [3]Baylor College of Medicine, USA, [4]Amgen Inc., USA, [5]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Ingo Grafe, None

SU0135 **Sexual Dimorphism of Trabecular Bone Is Epigenetically Imprinted**
Beth Bragdon*[1], Robert Burns[2], Amelia Baker[2], Anna Belkina[2], Gerald Denis[2], Elise Morgan[3], Louis Gerstenfeld[2], Jennifer Schlezinger[4]. [1]Boston University School of Medicine Department of Orthopaedics, USA, [2]Boston University School of Medicine, USA, [3]Boston University, USA, [4]Boston University, School of Public Health, USA
Disclosures: Beth Bragdon, None

SU0136 **The G60S Connexin 43 Mutation Activates the Osteoblast Lineage and Results in a Resorption-Stimulating Bone Matrix and Abrogation of old Age-Related Bone Loss**
Tanya Zappitelli*[1], Frieda Chen[1], Luisa Moreno[1], Ralph Zirngibl[1], Marc Grynpas[2], Janet Henderson[3], Jane Aubin[4]. [1]University of Toronto, Canada, [2]Samuel Lunenfeld Research Institute, of Mount Sinai Hospital, Canada, [3]Division of Orthopedics, Montreal General Hospital, Canada, [4]University of Toronto Faculty of Medicine, Canada
Disclosures: Tanya Zappitelli, None

SU0137 **The Osteogenesis Imperfecta Adult Natural History Initiative: a web-based survey**
Laura Tosi*[1], Matthew Oetgen[1], Melanie Rak[2], Marianne Floor[1], Carole Tucker[3], Tracy Hart[4], Mary Beth Huber[5], Fergus McKiernan[6]. [1]Children's National Medical Center, USA, [2]Rehabilitation Institute of Chicago, USA, [3]Temple University, USA, [4]Osteogenisis Imperfecta Foundation, USA, [5]Osteogenesis Imperfecta Foundation, USA, [6]Marshfield Clinic, USA
Disclosures: Laura Tosi, None

SU0138 **Yunis-Varón syndrome is caused by mutations in *FIG4* encoding a phosphoinositide phosphatase**
Philippe Campeau*[1], Guy Lenk[2], James Lu[3], Yangjin Bae[4], Lindsay Burrage[4], Peter Turnpenny[5], Jorge Román Corona-Rivera[6], Lucia Morandi[7], Marina Mora[7], Heiko Reutter[8], Anneke Vulto-van Silfhout[9], Laurence Faivre[10], Eric Haan[11], Richard Gibbs[12], Miriam Meisler[13], Brendan Lee[14]. [1]Baylor College of Medicine, USA, [2]Department of Human Genetics, University of Michigan, MI, 48109-0618, USA, [3]Human Genome Sequencing Center, Baylor College of Medicine, USA, [4]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [5]Clinical Genetics Department, Royal Devon & Exeter Hospital, United Kingdom, [6]Genetics service, Division of Pediatrics, "Dr. Juan I. Menchaca" New Civil Hospital of Guadalajara, Mexico, [7]Neuromuscular Diseases & Neuroimmunology Unit, Foundation IRCCS Neurological Institute "Carlo Besta", Italy, [8]Department of Neonatology & Institute of Human Genetics, Children's Hospital, University of Bonn, Germany, [9]Department of Human Genetics, Radboud University Nijmegen Medical Centre, Netherlands, [10]Centre de Génétique, Centre de Référence Maladies Rares "Anomalies du Développement et Syndromes Malformatifs", Hôpital d'Enfants, France, [11]South Australian Clinical Genetics Service, SA Pathology at Women's & Children's Hospital, & Discipline of Paediatrics, The University of Adelaide, Australia, [12]Human Genome Sequencing Center & Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [13]Department of Human Genetics, University of Michigan, USA, [14]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Philippe Campeau, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: LINKAGE STUDIES AND POLYMORPHISMS

SU0139 **Association between Polymorphisms in Leptin, its Receptor and Beta Adrenergic Receptor Genes and Bone Response to Hormone Therapy in Postmenopausal Korean Women**
Jung-Gu Kim*[1], Hoon Kim[2], Seung-Yup Ku[2], Seok Hyun Kim[2], Young Min Choi[2], Jong Hak Kim[3]. [1]Seoul National University Hospital, South Korea, [2]Department of Obstetrics & Gynecology, Seoul National University College of Medicine, South Korea, [3]Ewha Womans University Mokdong Hospital, South Korea
Disclosures: Jung-Gu Kim, None

SU0140 **Identification and characterization of novel FGFR2 mutation causing craniosynostosis**
Han-sol Bae*[1], Hyun-Mo Ryoo[2], Ye-jin Seo[1], Seung-Hak Baek[3]. [1]Seoul National University, South Korea, [2]Seoul National University School of Dentistry, South Korea, [3]A professor responsible for management, South Korea
Disclosures: Han-sol Bae, None

SU0141 **On Genome-wide Association Studies and their Meta-analyses – Lessons Learned from Osteoporosis Studies**
Yongjun Liu*[1], Lei Zhang[1], Yufang Pei[2], Christopher Papasian[3], Hong-Wen Deng[1]. [1]Tulane University, USA, [2]Tulane, USA, [3]UMKC, USA
Disclosures: Yongjun Liu, None

SU0142 **SIBLING Family Genes and Bone Mineral Density: Association and Allele-specific Expression in Human**
Imranul Alam*[1], Leah Padgett[2], Shoji Ichikawa[1], Mohammed Alkhouli[2], Daniel Koller[1], Dongbing Lai[3], Munro Peacock[4], Xiaoling Xuei[5], Tatiana Foroud[3], Howard Edenberg[6], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Medicine, IUPUI, USA, [3]Medical & Molecular Genetics, IUPUI, USA, [4]Indiana University Medical Center, USA, [5]Biochemistry & Molecular Biology, USA, [6]Biochemistry & Molecular Biology, Medicine, IUPUI, USA
Disclosures: Imranul Alam, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: BONE MORPHOGENETIC PROTEINS

SU0143 **BMP-2 Delivery using Electrospun PLLA/Collagen I Scaffolds with Surface Adsorbed plasmid DNA/Transfection Complexes**
Xia Zhao[1], David Komatsu[2], Michael Hadjiargyrou*[3]. [1]Stony Brook University, USA, [2]Stony Brook University, Dept. of Orthopaedics, USA, [3]New York Institute of Technology, USA
Disclosures: Michael Hadjiargyrou, None

SU0144 **PERK-ATF4-CHOP Signaling Contributes to TNFα-induced Vascular Calcification**
MASASHI MASUDA*[1], Shinobu Miyazaki[2], Makoto Miyazaki[2]. [1]University of Colorado-Denver, USA, [2]Universtiy of Colorado-Denver, USA
Disclosures: MASASHI MASUDA, None

SU0145 **Rescuing Impaired Bone Healing in Type 1 Diabetes BBDP/Wor Rats**
Tera Filion*[1], David Ayers[2], Jie Song[3]. [1]UMASS Medical School, USA, [2]UMass Memorial Medical Center, USA, [3]University of Massachusetts Medical School, USA
Disclosures: Tera Filion, None

SU0146 **Robust and Distinct Patterns of Transcriptional Activity of *Bmp2*, *Bmp4*, and *Noggin* in the Postnatal Skeleton**
Steven Pregizer*, Douglas Mortlock. Vanderbilt University Medical Center, USA
Disclosures: Steven Pregizer, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: FIBROBLAST GROWTH FACTORS

SU0147 **FGF2 Primes Periosteal Cells for Endochondral Ossification via Maintenance of Skeletal Precursors and Modulation of BMP Signaling**
Nick Van Gastel*[1], Steve Stegen[1], Riet Van Looveren[1], Ingrid Stockmans[1], Jan Schrooten[2], Daniel Graf[3], Frank Luyten[4], Geert Carmeliet[5]. [1]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [2]Department of Metallurgy & Materials Engineering, KU Leuven, Belgium, [3]Orofacial Development & Regeneration, Institute of Oral Biology, Center for Dental Medicine, University of Zurich, Switzerland, [4]University Hospitals KU Leuven, Belgium, [5]Katholieke Universiteit Leuven, Belgium
Disclosures: Nick Van Gastel, None

SU0148 **Molecular Characterization of FGF-18 and FGF Receptors 1, 2 and 3**
Abdulhafez Selim[1], Sherry Wang*[2]. [1]Center for Chronic Disorders of Aging, PCOM, USA, [2]Medical Device & Biomedical Technologies Labratory, Industrial Technology Research Institute, Taiwan
Disclosures: Sherry Wang, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: GENERAL

SU0149 **Adiponectin Modulates Bone Metabolism Via a Hypothalamic Relay Through the Epigenetic Regulation of CB1 Signaling Pathway**
Hua Jiang*[1], Yuwei Wu[2], Qisheng Tu[1], Dana Murray[1], Jin Tang[1], Qianqian Han[1], Jake Jinkun Chen[1]. [1]Tufts University School of Dental Medicine, USA, [2]Tufts University, USA
Disclosures: Hua Jiang, None

SU0150 **Disulfide Bond Requirements for Active Wnt Morphogens**
Bryan MacDonald*[1], Annie Hien[2], Xinjun Zhang[2], Xi He[2]. [1]Children's Hospital Harvard Medical School, USA, [2]The F. M. Kirby Neurobiology Center, Boston Children's Hospital, Harvard Medical School, USA
Disclosures: Bryan MacDonald, None

SU0151 **EGFR Signaling Promotes Proliferation and Survival in Osteoprogenitors by Increasing Egr2 Expression**
Abhishek Chandra*[1], Shenghui Lan[1], Ji Zhu[2], Valerie Siclari[1], Ling Qin[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania, School of Medicine, USA
Disclosures: Abhishek Chandra, None

SU0152 **Erythropoietin (EPO) excess results in Bone Loss in a Transgenic mouse model that overexpresses EPO**
Paraskevi-Rea Oikonomidou*[1], Stefano Rivella[2], Jae Hyuck Shim[2], Stephen Doty[3], Sara Gardenghi[2], Zhiwei Yang[2], Carla Casu[2], Maria Vogiatzi[4]. [1]Cornell University, USA, [2]Weill Cornell Medical College, USA, [3]Hospital for Special Surgery, USA, [4]New York Presbyterian Hospital, Weill Cornell Medical College, USA
Disclosures: Paraskevi-Rea Oikonomidou, None

SU0153 **Induction of CXC Chemokines in Human Mesenchymal Stem Cells (hMSCs) by Stimulation with Secreted Frizzled-Related Proteins (sFRPs)**
David Bischoff*, Jian-hua Zhu, Nalini Makhijani, Dean Yamaguchi. VA Greater Los Angeles Healthcare System, USA
Disclosures: David Bischoff, None

SU0154 **Myeloid-derived suppressor cells as key immune regulators of nonunion fractures**
Seth Levy*[1], Anandi sawant[2], Shawn Gilbert[3], Selvarangan Ponnazhagan[2]. [1]The University of Alabama At Birmingham, USA, [2]UAB, USA, [3]University of Alabama at Birmingham, USA
Disclosures: Seth Levy, None

SU0155 **The Metabolic Nature of Marrow Fat: insulin signaling, CREB phosphorylation and the 'adiponectin paradox'**
Erica Scheller*[1], William Cawthorn[2], Brian Learman[2], Hiroyuki Mori[2], Becky Simon[2], Sebastian Parlee[2], Xiaomin Ning[2], Joshua Miller[3], Katherine Gallagher[4], Pouneh Fazeli[5], Clifford Rosen[6], Mark Horowitz[7], Anne Klibanski[8], Ormond MacDougald[2]. [1]University of Michigan, USA, [2]Department of Molecular & Integrative Physiology, University of Michigan, USA, [3]Department of Orthopedics, University of Michigan, USA, [4]Medical School, University of Michigan, USA, [5]Massachusetts General Hospital & Harvard Medical School, USA, [6]Maine Medical Center, USA, [7]Yale University School of Medicine, USA, [8]Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Erica Scheller, None

SU0156 **TLR-2 Serum Level is Higher in Prosthetic Joint Infection Patients: A New Potential Diagnostic Marker of Implant Infection?**
Lorenzo Drago[1], Christian Vassena[2], Monica Gioia Marazzi[3], Lucia Salcito[3], Massimiliano Marco Corsi Romanelli[4], Emanuela Galliera*[5]. [1]Department of Bioemdical Science for health, Università degli Studi di Milano, Milan, Italyand IRCCS Galeazzi Orthopaedic Institute, Milan, Italy, [2]IRCCS Galeazzi Orthopaedic Institute, Italy, [3]Department of Biomedical Science for health, Università degli Studi di Milano, Milan, Italy, [4]Department of Biomedical Science for health, Università degli Studi di Milano, Milan, Italy & IRCCS Policlinico San Donato, San Donato, Italy, [5]Department of biomedical, Surgical & Oral Science, Università degli Studi di Milano, Milan, Italy & IRCCS Galeazzi Orthopaedic Institute, Milan, Italy
Disclosures: Emanuela Galliera, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: INSULIN-LIKE GROWTH FACTORS AND BINDING PROTEINS

SU0157 **Crosstalk of IGF-1 Signaling with the Mechanosensing Machinery of Osteogenic Cells**
Candice GT Tahimic*[1], Roger Long[2], Takuo Kubota[3], Alicia T Menendez[4], Chak Fong[4], Jean-Pierre Vilardaga[5], Yongmei Wang[6], Daniel Bikle[4]. [1]Endocrine Unit, San Francisco Veterans Affairs Medical Center / UCSF, USA, [2]University of California, San Francisco, USA, [3]Osaka University Graduate School of Medicine & Dentistry, Japan, [4]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA, [5]University of Pittsburgh, School of Medicine, USA, [6]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA
Disclosures: Candice GT Tahimic, None

SU0158 **GH induced linear bone growth in SOCS2 knockout mice is IGF-1 independent**
Ross Dobie*[1], S. Faisal Ahmed[2], Katherine Staines[3], Chloe Pass[4], Seema Jasim[4], Vicky MacRae[4], Colin Farquharson[5]. [1]Edinburgh University, United Kingdom, [2]Royal Hospital for Sick Children, United Kingdom, [3]Royal Veterinary College, United Kingdom, [4]University of Edinburgh, United Kingdom, [5]Roslin Institute, University of Edinburgh, United Kingdom
Disclosures: Ross Dobie, None

SU0159 **IGF-1 Signaling Is Essential for Differentiation of Mesenchymal Stem Cells for Peak Bone Mass**
Janet Crane*[1], Luo Zhao[2], Joseph Frye[3], Lingling Xian[4], Tao Qiu[4], Xu Cao[1]. [1]Johns Hopkins University, USA, [2]Peking Union Medical College, China, [3]University of Missouri School of Medicine, USA, [4]Johns Hopkins University School of Medicine, USA
Disclosures: Janet Crane, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: OSTEOIMMUNOLOGY

SU0160 **Depletion of TLR4 in Macrophage Involved in Accelerated Bone Healing**
Dan Wang*, James R. Gilbert, Melissa A. Shaw, Adam A. Kubala, Sameer Shakir, Joseph E. Losee, Timothy R. Billiar, Gregory Cooper. University of Pittsburgh, USA
Disclosures: Dan Wang, None

SU0161 **HMGB1 is Essential for Autologous Bone Graft Induced Calvarial Bone Healing**
Dan Wang*, James R Gilbert, Adam A Kubala, Melissa A. Shaw, Sameer Shakir, Joseph E Losee, Timothy R Billiar, Gregory Cooper. University of Pittsburgh, USA
Disclosures: Dan Wang, None

SU0162 **Multiplex Magnetic Bead Assay Panels for Human, Rat and Mouse Bone Metabolism Related Biomarkers Using Luminex xMAP Technology**
Munmun Banerjee*[1], Wen-rong Lie[1], Jehangir Mistry[2], Qiang Xiao[1]. [1]EMD Millipore, USA, [2]EMD Millipore.com, USA
Disclosures: Munmun Banerjee, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: CKD AND METABOLIC BONE DISEASE

SU0163 **Chronic kidney disease differentially influences bone across two mouse strains**
Andrew Cureton[1], Alicia Ortega*[2], Ryan Clark[3], Laura Shum[3], Eric Livingston[4], Xiaoxin Wang[3], Ted Bateman[5], Moshe Levi[3], Karen King[6], Virginia Ferguson[2]. [1]Mechanical Engineering, University of Colorado, USA, [2]University of Colorado, USA, [3]University of Colorado Denver, USA, [4]University of North Carolina, USA, [5]Univesity of North Carolina, USA, [6]University of Colorado School of Medicine, USA
Disclosures: Alicia Ortega, None

SU0164 **Nutritional Status and Bone Turnover Markers in Adult Post-kidney Transplantation Recipients**
Atsushi Suzuki*[1], Hitomi Sasaki[2], Midori Hasegawa[3], Hiroyuki Hirai[4], Yoshiteru Maeda[5], Sahoko Sekiguchi-Ueda[1], Megumi Shibata[6], Yukio Yuzawa[3], Kiyotaka Hoshinaga[2], Kazuhiro Uenishi[7], Mitsuyasu Itoh[5]. [1]Fujita Health University, Division of Endocrinology, Japan, [2]Department of Urology, Fujita Health University, Japan, [3]Division of Nephrology, Fujita Health University, Japan, [4]Fujita Health University Division of Endocrinology, Japan, [5]Division of Endocrinology & Metabolism, Fujita Health University, Japan, [6]Fujita Health University Division of Endocrinology, Japan, [7]Kagawa Nutrition University, Japan
Disclosures: Atsushi Suzuki, None

SU0165 **Parathyroidectomy and Heart Rate Variability in Patients with Stage 5 Chronic Kidney Disease**
Ningning Wang*[1], Jing Zhang[2], Bin Sun[2], Jianling Bai[3], Yongyue Wei[3], Xiaoming Zha[2], Yiyao Cui[2], Ming Zeng[2], Jingjing Zhang[2], Jia Liu[2], Huijuan Mao[2], Bo Zhang[2], Haibin Ren[2], Yifei Ge[2], Xueqiang Xu[2], Zhixiang Shen[4], Changying Xing[2], Kejiang Cao[2], Xiangbao Yu[2]. [1]Nanjing Medical University, Peoples Republic of China, [2]First Affiliated Hospital of Nanjing Medical University, China, [3]Nanjing Medical University, China, [4]Jiangsu Province Geriatric Hospital, China
Disclosures: Ningning Wang, None

SU0166 **Sclerostin Levels Increase as Kidney Function Declines and Associate Directly with FGF23 Levels in Chronic Kidney Disease (CKD)**
Tamara Isakova*[1], Katherine Wesseling-Perry[2], Ina Kramer[3], Michaela Kneissel[3]. [1]University of Miami, USA, [2]UCLA Medical Center, USA, [3]Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Tamara Isakova, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: CONGENITAL AND GENETIC BONE DISEASES

SU0167 **Fibrous Dysplasia with Normal Bone Resorption Markers: An Unexplained Phenomenon**
Ruban Dhaliwal*[1], Arnold Moses[2]. [1]SUNY Upstate Medical University, USA, [2]State University of New York Upstate Medical University, USA
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SU0168 **Mutation in the Ligand-Binding Domain of the Vitamin D Receptor (VDR) in a Patient with Spontaneous Recovery of Hereditary Vitamin D-Resistant Rickets (HVDRR)**
Flavia M Damiani*[1], Regina M Martin[1], Ana Claudia Latronico[1], Pedro Henrique Correa[2], Bruno Ferraz-de-Souza[1]. [1]Univ of Sao Paulo School of Medicine (FMUSP), Brazil, [2]University of Sao Paulo School of Medicine, Brazil
Disclosures: Flavia M Damiani, None

SU0169 **Pharmacokinetics and Pharmacodynamics of a Human Monoclonal Anti-FGF23 Antibody (KRN23) after Single-Dose Administration to Patients with X-linked Hypophosphatemia**
Xiaoping Zhang*[1], Thomas Carpenter[2], Erik Imel[3], Mary Ruppe[4], Thomas Weber[5], Mark Klausner[1], Tetsuyoshi Kawakami[1], Takahiro Ito[1], Jeffery Humphrey[1], Karl Insogna[2], Munro Peacock[6]. [1]Kyowa Hakko Kirin Pharma Inc, USA, [2]Yale University School of Medicine, USA, [3]Indiana University School of Medicine, USA, [4]The Methodist Hospital, USA, [5]Duke University Medical Center, USA, [6]Indiana University Medical Center, USA
Disclosures: Xiaoping Zhang, Kyowa Hakko Kirin Pharma Inc, 3

SU0170 **Spondyloepimetaphyseal Dysplasia: A Distinctive Phenotype In A Three-Generation Family**
Gary S Gottesman*[1], William McAlister[2], Michael P Whyte[3]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Washington University School of Medicine, USA, [3]Shiners Hospital for Children-Saint Louis, USA
Disclosures: Gary S Gottesman, None

SU0171 **Whole Body Muscle Mass Is Low and Fat Mass Is High in Osteoporosis Pseudoglioma Syndrome**
Sarada Jaimungal*[1], Jin Long[2], Mary Leonard[3], Elizabeth Streeten[4]. [1]University of Maryland Medical Center, USA, [2]Children's Hospital of Philadelphia, USA, [3]Children's Hospital of Philadelphia, USA, [4]University of Maryland School of Medicine, USA
Disclosures: Sarada Jaimungal, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: OSTEOMALACIA/RICKETS

SU0172 **Occult Hyperosteoidosis in Subjects Undergoing Orthopedic Surgery**
Julie Glowacki*[1], Sherwin Erfani[1], Laurence Higgins[1], Shuanhu Zhou[1], Thomas Thornhill[2], Lisa Gao[1], Meryl LeBoff[1]. [1]Brigham & Women's Hospital, USA, [2]Brighan & Women's Hospital, USA
Disclosures: Julie Glowacki, None

SU0173 **Preadipocyte Cell Lines to Evaluate the Role of PHEX on Osteoblast Differentation and Mineralization *in Vitro***
Cecilia Romagnoli*[1], Roberto Zonefrati[1], Gianna Galli[1], Caterina Fossi[1], Valeria Nardone[1], Gaia Palmini[1], Alessia Gozzini[1], Luisella Cianferotti[2], Laura Masi[1], Annalisa Tanini[1], Maria Luisa Brandi[1]. [1]University of Florence, Italy, [2]University of Florence, Florence, Italy
Disclosures: Cecilia Romagnoli, None

SU0174 **Tenofovir-Induced Osteomalacia**
Catherine Anastasopoulou[1], Patamaporn Lekprasert*[2], Nissa Blocher[2]. [1]Albert Einstein Medical Center Endocrine Associates, USA, [2]Albert Einstein Medical Center, USA
Disclosures: Patamaporn Lekprasert, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: PARATHYROID DISEASES

SU0175 **After parathyroidectomy in primary hyperparathyroidism, sclerostin, osteocalcin, and undercarboxylated osteocalcin change rapidly**
Aline Costa*[1], Zachary Lenane[1], Chiyuan Zhang[1], Elzbieta Dworakowski[1], Serge Cremers[1], James Lee[1], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Aline Costa, None

SU0176 **Long-term Outcome of Bisphosphonate Therapy in Patients with Mild Primary Hyperparathyroidism**
D Segula[1], V Mishra*[2], E MARKS[3], LR RANGANATHAN[3], S NIKOLOVA[3]. [1]University of liverpool, United Kingdom, [2]Royal Liverpool & Broadgreen University Hospital NHS Trust, United Kingdom, [3]Royal Liverpool & Broadgreen University Hospital NHS, United Kingdom
Disclosures: V Mishra, None

SU0177 **Low Vitamin D Levels in Primary Hyperparathyroidism Are Associated with Low Cortical Bone Density at the Radius Independent of PTH**
Marcella Walker*[1], Elaine Cong[2], Polly Young[1], Nicole Weber[1], Anna Kepley[3], Chiyuan Zhang[1], Donald McMahon[4], James Lee[1], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Columbia Presbyterian Medical Center, USA, [3]Columbia University Medical Center, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

SU0178 **Major changes in the clinical phenotypes of primary hyperparathyroidism in the United States and China over the past 20 years: a tale of two countries**
Jian-min Liu*[1], Barbara C Silver[2], Lin Zhao[3], Xiao-yan He[3], Bei Tao[3], Li-hao Sun[3], Hong-yan Zhao[3], Natalie Cusano[4], Wen-wei Fan[2], Megan E. Romano[2], Guang Ning[3], John Bilezikian[4]. [1]Rui-jin Hospital, Shanghai Jiao-tong University School of Medicine, Peoples Republic of China, [2]Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, USA, [3]Department of Endocrine & Metabolic Diseases, Rui-jin Hospital, Shanghai Jiao-tong University School of Medicine, China, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Jian-min Liu, None

SU0179 **Major Differences in Trabecular Bone Score Between Primary Hyperparathyroidism and Hypoparathyroidism Remain 1 Year After Reversal of the Abnormal Parathyroid State**
Barbara Silva*[1], Natalie Cusano[2], Wen-Wei Fan[1], Megan Romano[1], Jim Sliney Jr[1], Zachary Lenane[3], Laura Beth Anderson[3], Didier Hans[4], Mishaela Rubin[3], John Bilezikian[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]Lausanne University Hospital, Switzerland
Disclosures: Barbara Silva, None

SU0180 **PTH(1-84) Administration Improves Three Dimensional Cancellous Bone Structure in Hypoparathyroidism Early in Treatment**
Mishaela Rubin*[1], Alexander Zwahlen[2], David Dempster[1], Hua Zhou[3], Natalie Cusano[4], James Sliney[1], maryann dellabadia[1], Donald McMahon[4], Ralph Muller[2], John Bilezikian[4]. [1]Columbia University, USA, [2]Institute for Biomechanics ETH Zurich, Switzerland, [3]Regional Bone Center, Helen Hayes Hospital, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Mishaela Rubin, NPS Pharmaceuticals, 2

SU0181 **Skeletal Microstructure Improves Markedly After Parathyroidectomy in Primary Hyperparathyroidism: Site- and Gender-specific Differences**
Natalie Cusano*[1], Barbara Silva[2], Chiyuan Zhang[3], Kyle Nishiyama[3], Wen-Wei Fan[1], Megan Romano[1], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University Medical Center, USA, [3]Columbia University, USA
Disclosures: Natalie Cusano, None

SU0182 **Vitamin D Treatment in Primary Hyperparathyroidism: a Randomized Placebo Controlled Trial**
Lars Rolighed*[1], Lars Rejnmark[1], Tanja Sikjaer[2], Lene Heickendorff[3], Peter Vestergaard[4], Leif Mosekilde[1], Peer Christiansen[5]. [1]Aarhus University Hospital, Denmark, [2]Department of Medicine & Endocrinology, MEA Aarhus University Hospital, Denmark, [3]Dept. of Clinical Biochemistry, Denmark, [4]Aalborg University Hospital, Denmark, [5]Dept. of Surgery P, Denmark
Disclosures: Lars Rolighed, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: VASCULAR AND ECTOPIC CALCIFICATION

SU0183 **Bone micro-architectural anomalies and vascular calcification in uremic rats**
Fabrice Mac-Way*[1], Alexandra Gauthier-Bastien[2], Ioan-Andrei Iliuta[2], Roth-Visal Ung[2], Richard Lariviere[2], Mohsen Agharazii[2]. [1]Hôtel-Dieu de Québec, Canada, [2]CHU de Quebec Research Center, Canada
Disclosures: Fabrice Mac-Way, None

SU0184 **Reduced Nedd4 Function Promotes Vascular Calcification through Stabilizing a Smad1**
Ji-Hyun Lee*[1], Michiko Takeda[2], Jae-Jin Cho[3], Je-Yong Choi[4], Hiroshi Kawabe[2], Nils Brose[2], Je-Yoel Cho[5]. [1]Veterinary Medicine, Seoul National University, South Korea, [2]Max Planck Institute of Experimental Medicine, Germany, [3]Seoul National University, South Korea, [4]Kyungpook National University, School of Medicine, South Korea, [5]College of Veterinary Medicine, Seoul National University, South Korea
Disclosures: Ji-Hyun Lee, None

MUSCLE AND BONE INTERACTIONS (BASIC): CELLULAR AND MOLECULAR MECHANISMS

SU0185 **Delayed Bone Regeneration Is Linked To Chronic Inflammation In Murine Muscular Dystrophy**
Rana Abou-Khalil*[1], Frank Yang[2], Marie Mortreux[2], Shirley Lieu[2], Yan Yiu Yu[3], Maud Wurmser[2], Catia Pereira[1], Frederic Relaix[4], Theodore Miclau[2], Ralph Marcucio[3], Celine Colnot[1]. [1]INSERM U781, Université Paris Descartes-Sorbonne Paris Cité, Institut Imagine, Hôpital Necker Enfants Malades, France, [2]Department of Orthopaedic Surgery, University of California at San Francisco, USA, [3]University of California, San Francisco, USA, [4]INSERM, UMR-S 787, UPMC Paris VI, Institut de Myologie, Faculté de Médecine Pitié-Salpétrière, France
Disclosures: Rana Abou-Khalil, None

SU0186 **Muscle-derived Cytokines and Chemokines Inhibit Osteoblast Function**
Rachelle Johnson*[1], Jason White[2], Emma Walker[1], T John Martin[1], Natalie Sims[3]. [1]St. Vincent's Institute of Medical Research, Australia, [2]Murdoch Childrens Research Institute, Royal Childrens Hospital; School of Veterinary Medicine, University of Melbourne, Australia, [3]St. Vincent's Institute for Medical Research, Australia
Disclosures: Rachelle Johnson, None

SU0187 **Role of the osteoinductive factors, Tmem119, BMP-2 and the ER stress response PERK-eIF2α-ATF4 pathway in the commitment of myoblastic into osteoblastic cells**
Ken-ichiro Tanaka*[1], Hiroshi Kaji[2], Ippei Kanazawa[3], Lucie Canaff[4], Geoffrey Hendy[5], Toshitsugu Sugimoto[6]. [1]Shimane University School of Medicine, Jpn, [2]Kinki University Faculty of Medicine, Japan, [3]Shimane University Faculty of Medicine, Japan, [4]McGill University, Canada, [5]McGill University, Royal Victoria Hospital, Canada, [6]Shimane University School of Medicine, Japan
Disclosures: Ken-ichiro Tanaka, None

MUSCLE AND BONE INTERACTIONS (BASIC): GENERAL

SU0188 **Imaging and Quantifying Muscle-Bone Crosstalk via Intact Periosteum**
Xiaohan Lai*, Christopher Price, Liyun Wang. University of Delaware, USA
Disclosures: Xiaohan Lai, None

SU0189 **Recombinant Osteocalcin Improves Insulin-stimulated Glucose Uptake Following Muscle Contraction**
Itamar Levinger*[1], xuzhu lin[1], Xinmei Zhang[1], Alan Hayes[1], George Jerums[2], Mathieu Ferron[3], Gerard Karsenty[3], Ego Seeman[4], Glenn McConell[1]. [1]Victoria University, Australia, [2]University of Melbourne & the Department of Endocrinology, Austin Health, Australia, [3]Columbia University, USA, [4]Austin Health, University of Melbourne, Australia
Disclosures: Itamar Levinger, None

SU0190 **Wnt3a Potentiates Myogenesis in C2C12 Myoblasts by Orchestrated Changes in IP3-mediated Calcium Signaling and β-catenin Activation**
Jian Huang*[1], Chenglin Mo[2], Sandra Romero-Suarez[3], Lynda Bonewald[4], Marco Brotto[4]. [1]University of missouri kansas city, USA, [2]University of Missouri-Kansas City, USA, [3]University of Missouri, Kansas City, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Jian Huang, None

MUSCLE BIOLOGY (BASIC): CLINICAL APPLICATION OF MUSCLE WASTING AND DISEASE

SU0191 **Effects of Sex Steroid Deprivation on Skeletal Muscle Function and Ryanodine Receptor (RyR1) Modulation**
Laura Wright*[1], Dennis Joseph[1], Ahmed Harhash[1], David Waning[2], Sutha John[1], Khalid Mohammad[1], Andrew Marks[3], Theresa Guise[1]. [1]Indiana University, USA, [2]Indiana University School of Medicine, USA, [3]Columbia University, USA
Disclosures: Laura Wright, None

MUSCLE BIOLOGY (BASIC): GENERAL

SU0192 **Uniaxial Cyclic Stretch Enhance Adipose-Derived Stem Cell Myogenesis**
Pinar Yilgor Huri*[1], Colin Cook[1], Daphne Hutton[1], Brian Goh[2], Douglas Digirolamo[1], Warren Grayson[1]. [1]Johns Hopkins University, USA, [2]Johns Hopkins University School of Medicine, USA
Disclosures: Pinar Yilgor Huri, None

MUSCLE BIOLOGY (CLINICAL): CLINICAL APPLICATION OF MUSCLE WASTING AND DISEASE

SU0193 **Muscle Strength and the Functional Muscle-Bone Unit in Children and Adolescents with Chronic Disease**
Dale Lee*, Rachel Wetzsteon, Babette Zemel, Justine Shults, Mary Leonard. Children's Hospital of Philadelphia, USA
Disclosures: Dale Lee, None

MUSCLE BIOLOGY (CLINICAL): FUNCTION BEYOND CONTRACTION

SU0194 **Magnetic Resonance Imaging (MRI)-Based Measures of Muscle Structure and Fat Infiltration in the Lower Leg of Postmenopausal Women with Osteopenia and Osteoporosis**
Amanda Lorbergs*, Mike Noseworthy, Norma MacIntyre. McMaster University, Canada
Disclosures: Amanda Lorbergs, None

MUSCLE BIOLOGY (CLINICAL): GENERAL

SU0195 **Thigh muscle attenuation measured by computed tomography was associated with the risk of low bone density in community-dwelling elderly population**
Jung Hee Kim*[1], Sung Hee Choi[2], Soo Lim[2], Jae Young Lim[3], Ki Woong Kim[4], Hak Chul Jang[2], Chan Soo Shin[5]. [1]Seoul National University College of Medicine, South Korea, [2]Department of Internal Medicine, Seoul National University Bundang Hospital, South Korea, [3]Department of Rehabilitation Medicine, Seoul National University Bundang Hospital, South Korea, [4]Department of Neuropsychiatry, Seoul National University Bundang Hospital, South Korea, [5]Seoul National University College of Medicine, South Korea
Disclosures: Jung Hee Kim, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

SU0196 **Prevention of Palmitate-induced Lipotoxicity in Human Osteoblasts**
Krishanthi Gunaratnam*[1], Christopher Vidal[2], Chris Brooks[3], Ross Boadle[4], Gustavo Duque[5]. [1]Sydney Medical School-Nepean, Level 5 South Block, Australia, [2]University of Sydney, Australia, [3]Ageing Bone Research Program, Sydney Medical School Nepean, The University of Sydney, Australia, [4]Electron Microscope Laboratory, ICPMR, Westmead, Australia, [5]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Krishanthi Gunaratnam, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

SU0197 ***In Vitro* Cultures of Human Adipose Tissue Mesenchymal Stem Cells and Human Bone Marrow Mesenchymal Stem Cells: Effects of Strontium on Proliferation and Osteoinduction.**
Valeria Nardone*, Roberto Zonefrati, Carmelo Mavilia, Gaia Palmini, Cecilia Romagnoli, Gianna Galli, Annamaria Carossino, Laura Masi, Annalisa Tanini, Maria Luisa Brandi. University of Florence, Italy
Disclosures: Valeria Nardone, None

SU0198 **Withdrawn**

SU0199 **Acute Cold-Induced Thermogenesis Uncouples Bone Remodeling by Activation of TRPM8 in a Non-Cell Autonomous Manner**
Katherine Motyl*[1], Casey Doucette[1], Daniel Brooks[2], Mary Bouxsein[2], Clifford Rosen[3]. [1]Maine Medical Center Research Institute, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Maine Medical Center, USA
Disclosures: Katherine Motyl, None

SU0200 **Biglycan Modulates Angiogenesis and Bone Formation During Fracture Healing**
Aaron Brown, Emily Pinnow, Agnes Berendsen, Nancy McCartney-Francis, Vardit Kram, Azusa Maeda, Tina Kilts, Marian Young*. National Institutes of Health, USA
Disclosures: Marian Young, None

SU0201 **Inhibition of GSK3-β Rescues the Impairments in Bone Formation and Mechanical Properties Associated with Fracture Healing in Osteoblast/ Osteocyte-Selective Connexin 43 Deficient Mice**
Alayna Loiselle*[1], Shane Lloyd[2], Emmanuel Paul[2], Gregory Lewis[2], Henry Donahue[2]. [1]Penn State Hershey, USA, [2]The Pennsylvania State University College of Medicine, USA
Disclosures: Alayna Loiselle, None

SU0202 **MiR-142-5p Promotes Osteoblast Activity and Bone Repair by Targeting WWP1**
Chao Chen*[1], Peng Chen[2], Jiaji Gong[2], Eryuan Liao[2], Xianghang Luo[2]. [1]The Second Xiangya Hospital of Central South University, Peoples Republic of China, [2]Institute of Endocrinology & Metabolism, China
Disclosures: Chao Chen, None

SU0203 **P2X7 Receptor Polymorphisms Modulate Osteoblast Cell Functions**
Qi Guang Wang*[1], Elena Adinolfi[2], Alison Gartland[3]. [1]Mellanby Centre for Bone Research, United Kingdom, [2]University of Ferrara, Italy, [3]The Mellanby Centre for Bone Research, The University of Sheffield, United Kingdom
Disclosures: Qi Guang Wang, None

SU0204 **Real time monitoring for differentiation of primary osteoblast culture by using Raman microscopy**
Yusuke Oshima*[1], Atsuhiko Hikita[1], Takeshi Imamura[2]. [1]Ehime University, Japan, [2]Ehime University Graduate School of Medicine, Japan
Disclosures: Yusuke Oshima, None

SU0205 **Supplementation of Bone Substitutes with Prolyl Hydroxylase Inhibitors: Insights in the Cellular Responses and the Effect on Craniofacial Bone Regeneration**
Hermann Agis*[1], Heinz-Dieter Müller[2], Ulrike Kuchler[2], Barbara Cvikl[3], Reinhard Gruber[4]. [1]Medical University of Vienna, Austria, [2]Department of Oral Surgery, Medical University of Vienna & Austrian Cluster for Tissue Regeneration, Austria, [3]Department of Conservative Dentistry & Periodontology, Medical University of Vienna & Austrian Cluster for Tissue Regeneration, Austria, [4]Laboratory of Oral Cell Biology, School of Dental Medicine, University of Bern, Switzerland
Disclosures: Hermann Agis, None

SU0206 **The Phosphorylation and GTPase activity of Dynamin are Critical for Osteoblast Function**
Pierre Eleniste*, Su Huang, Heather Largura, Kornchanok Wayakanon, Angela Bruzzaniti. Indiana University School of Dentistry, USA
Disclosures: Pierre Eleniste, None

SU0207 **The Role of Donor and Host Age on Human Muscle Derived Stem Cells Mediated Bone Regeneration**
Xueqin Gao*[1], Johannes Schneppendahl[1], Ying Tang[1], Aiping Lu[2], Bing Wang[1], Johnny Huard[3]. [1]University of Pittsburgh, USA, [2]University of Pittsbugh, USA, [3]Orthopaedic Surgery, USA
Disclosures: Xueqin Gao, None

SU0208 **The role of intracellular calcium phosphate in monoosteophil-mediated bone apatite formation**
Zhifang Zhang*[1], Keith Le[2], Frances Chang[2], John Shively[2]. [1]City of hope, USA, [2]Department of Immunology, City of Hope, USA
Disclosures: Zhifang Zhang, None

SU0209 **Thrombin receptor deficiency leads to osteopetrosis by decreasing the RANKL/OPG ratio**
Bram Van Der Eerden*[1], Kukiat Tudpor[2], Prapaporn Jongwattapapisan[2], Marijke Schreuders-Koedam[3], Cindy van der Leije[3], Titia E Woudenberg-Vrenken[2], Rene JM Bindels[2], Joost GJ Hoenderop[2], Johannes PTM van Leeuwen[3]. [1]Erasmus MC, The Netherlands, [2]Cell Physiology, Radboud University Nijmegen Medical Centre, Netherlands, [3]Internal Medicine, Erasmus MC, Netherlands
Disclosures: Bram Van Der Eerden, None

SU0210 **Wnt5a Enhances Wnt/β-catenin Signaling Through the Up-regulation of Lrp5/6 During Osteogenesis**
Masanori Okamoto*[1], Nobuyuki Udagawa[2], Teruhito Yamashita[2], Shunsuke Uehara[2], Hiroyuki Kato[1], Naoto Saito[3], Yasuhiro Minami[4], Naoyuki Takahashi[2], Yasuhiro Kobayashi[2]. [1]Department of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [2]Matsumoto Dental University, Japan, [3]Department of Applied Physical Therapy, Shinshu University School of Health Sciences, Japan, [4]Department of Physiology & Cell Biology, Kobe University Graduate School of Medicine, Japan
Disclosures: Masanori Okamoto, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

SU0211 **Both the Connexin43-specific Channel and C-terminus Are Required for the Regulation of Runx2 Activity and Osteoblast Gene Expression**
Carla Hebert*[1], Joseph Stains[2]. [1]University of Maryland, USA, [2]University of Maryland School of Medicine, USA
Disclosures: Carla Hebert, None

SU0212 **Decipering the Role of Parafibromin in Wnt Transcription During Osteoblast Differentiation**
Casey Droscha*[1], Cassandra R. Zylstra-Diegel[2], Travis Burgers[1], Jake Baker[3], Bart Williams[2]. [1]Van Andel Institute, USA, [2]Van Andel Research Institute, USA, [3]VAI, USA
Disclosures: Casey Droscha, None

SU0213 **DICER is Specifically Regulated by RUNX2 During Osteogenesis and Enhances Osteogenic MicroRNA Expressions**
Leilei Zheng*, Shu Meng, Liming Yu, Lan Zhang, Qisheng Tu, Jake Jinkun Chen. Tufts University School of Dental Medicine, USA
Disclosures: Leilei Zheng, None

SU0214 **Ebf1 Promotes Early But Suppresses Late Osteoblast Differentiation**
Vappu Nieminen-Pihala[1], Kati Tarkkonen[2], Julius Laine[2], Kei Yamana[3], James R. Hagman[4], Roland Baron[5], Riku Kiviranta*[2]. [1]Department of Medical Biochemistry & Genetics & Department of Medicine, Finland, [2]Department of Medical Biochemistry & Genetics & Department of Medicine, University of Turku, Finland, [3]Teijin Institute for Biomedical Research, Japan, [4]University of Colorado, National Jewish Medical Research Center, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Riku Kiviranta, None

SU0215 **Epigenetic control of osteoblast differentiation by Osterix and NO66 histone demethylase**
Krishna Sinha*[1], Xin Zhou[2], Hideyo Yasuda[3], Benoit DeCrombrugghe[1]. [1]UT MD Anderson Cancer Center, USA, [2]MD Anderson Cancer Center, USA, [3]U.T.M.D. Anderson Cancer Center, USA
Disclosures: Krishna Sinha, None

SU0216 **Hepatic Lipase Is Expressed by Osteoblast and Affects Bone Mass in Diet-induced Obesity in Mice**
Alexander Bartelt[1], Timo Beil[1], Brigitte Müller[1], Till Koehne[1], Markus Heine[1], Tayfun Yilmaz[1], Jörg Heeren[1], Thorsten Schinke[2], Andreas Niemeier*[1]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany
Disclosures: Andreas Niemeier, None

SU0217 **Identification of Slc9a9 as a candidate gene for a bone mineral density locus on mouse Chromosome 9**
Kwangbom Choi[1], Kathryn Shultz[1], Dana Godfrey[1], Rong Yuan[2], Matthew Hibbs[3], Daniel Gatti[1], Gary Churchill[1], Beverly Paigen[1], Wesley Beamer[1], Cheryl Ackert-Bicknell*[1]. [1]The Jackson Laboratory, USA, [2]Southern Illinois University School of Medicine, USA, [3]Department of Computer Science, Trinity University, USA
Disclosures: Cheryl Ackert-Bicknell, None

SU0218 **Novel Compounds Mimic Hedgehog Activity and Promote Osteoblast Differentiation in C3H10T1/2 Cells and Osteoblastic Cells from Runx2-Deficient Mice**
Takashi Nakamura*[1], Masahiro Naruse[2], Tomoko Ikeuchi[1], Toshihisa Komori[3], Aya Yamada[1], Masahiro Iwamoto[4], Satoshi Fukumoto[1]. [1]Tohoku University Graduate School of Dentistry, Japan, [2]Tohoku UniversityGraduate School of Dentistry, Japan, [3]Nagasaki University Graduate School of Biomedical Sciences, Japan, [4]Children's Hospital of Philadelphia, USA
Disclosures: Takashi Nakamura, None

SU0219 **Odd-skipped related 2 regulates Wnt signaling pathway through Dkk1**
Shinji Kawai*[1], Atsuo Amano[2]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Osaka University, Japan
Disclosures: Shinji Kawai, None

SU0220 **Persistent low level of Osterix accelerates interleukin-6 production and impairs regeneration after tissue injury**
Wook-Young Baek*[1], Seung-Yoon Park[2], Yeo Hyang Kim[3], Yeon-Ju Lee[1], Tae-Hwan Kwon[1], Kwon-Moo Park[1], Benoit de Crombrugghe[4], Jung-Eun Kim[1]. [1]Kyungpook National University School of Medicine, South Korea, [2]Department of Biochemistry, School of Medicine, Dongguk University, South Korea, [3]Department of Pediatrics, Keimyung University School of Medicine, South Korea, [4]University of Texas M. D. Anderson Cancer Center, USA
Disclosures: Wook-Young Baek, None

SU0221 **Primary osteoblasts from CKD patients retain abnormal gene expression ex vivo**
Renata Pereira*[1], Barbara Gales[1], Navdeep Tumber[1], Harald Jueppner[2], Isidro Salusky[3], Katherine Wesseling-Perry[4]. [1]UCLA, USA, [2]Massachusetts General Hospital, USA, [3]University of California, Los Angeles School of Medicine, USA, [4]UCLA Medical Center, USA
Disclosures: Renata Pereira, None

SU0222 **Reciprocal Control of Adipogenesis and Osteogensis by ERK/MAP Kinase Phosphorylation of PPARg In Vitro and In Vivo**
Chunxi Ge*[1], Guisheng Zhao[2], Hui Li[2], Binbin Li[2], Renny Franceschi[3]. [1]Pom Univ of Michigan School of Dentistry, USA, [2]University of Michigan School of Dentistry, USA, [3]University of Michigan, USA
Disclosures: Chunxi Ge, None

SU0223 **Small Interfering RNA Targeting Smad1 suppresses osteoclast differentiation**
Yoshihiro Yoshikawa*, Eisuke Domae, Seiji Goda, Isao Tamura, Aiko Kamada, Takashi Ikeo. Osaka Dental University, Japan
Disclosures: Yoshihiro Yoshikawa, None

SU0224 **The Osteoblast Negative Regulator, BRM-SWI/SNF, is a Positive Regulator of Adipocyte Differentiation**
KEVIN HONG NGUYEN*[1], FUHUA XU[2], Stephen Flowers[3], Shruti Goel[1], Elizabeth Moran[4]. [1]Department of Orthopaedics & NJMS-UH Cancer Center, UMDNJ, USA, [2]New Jersey Medical School, UMDNJ, USA, [3]NJMS-UH Cancer Center, University of Medicine of Dentistry of New Jersey, USA, [4]University of Medicine & Dentistry of New Jersey, Cancer Center, USA
Disclosures: KEVIN HONG NGUYEN, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

SU0225 **Accumulation of Menaqunone-4 in the Bones of Mice Orally Given K Vitamers and Its Biological Activity in Osteoblasts.**
Kimie Nakagawa*[1], Yoshitomo Suhara[2], Toshio Okano[1]. [1]Kobe Pharmaceutical University, Japan, [2]Shibaura Institute of Technology, Japan
Disclosures: Kimie Nakagawa, None

SU0226 **Both SOST and SOSTDC1 Bind to E1 Domain of LRP5 and Inhibit Wnt/b-catenin Signaling in MC3T3E1 Cells and INS-1 Cells**
Mi Jeong Lee*[1], Sung Kil Lim[2], Eun Jin Kim[2], Myung Jin Lee[2], Han Seok Choi[3], Si Hoon Lee[4]. [1]Yonsei University Health System, South Korea, [2]Yonsei University, South Korea, [3]Dongguk university, South Korea, [4]Gachon university, South Korea
Disclosures: Mi Jeong Lee, None

SU0227 **Dock7 plays an Integral role in the Adhesion, Migration and Morphology of Osteoblasts**
Kathleen Bishop*[1], David Maridas[1], Katherine Motyl[1], Clifford Rosen[2]. [1]Maine Medical Center Research Institute, USA, [2]Maine Medical Center, USA
Disclosures: Kathleen Bishop, None

SU0228 **Macrophage Stimulating Protein Stimulates Osteoblast Differentiation via ERK Signaling Pathway**
Byung-Chul Jeong*[1], Hyuck Choi[2], Jeong-Tae Koh[3]. [1]Chonnam National University School of Dentistry, South Korea, [2]Post-doctoal fellowship, South Korea, [3]Chonnam National University, South Korea
Disclosures: Byung-Chul Jeong, None

SU0229 **Mechanism of Action for Cell Cycle and Apoptosis Regulatory Protein (CARP)-1 expression and Cytoplasmic Translocation by PTH in Differentiated Osteoblasts**
Sonali Sharma, Varsha Das, Chandrika Mahalingam, Nabanita Datta*. Wayne State University School of Medicine, USA
Disclosures: Nabanita Datta, None

SU0230 **Osteoblast Differentiating Activities of Thyroxine (T4), 3,5,3'-triiodo-L-thyronine (T3) and Their Metabolites**
Shaohong Cheng*[1], Weirong Xing[2], Sheila Pourteymoor[3], Subburaman Mohan[4]. [1]VA Loma Linda Health Care Systems, USA, [2]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [3]Jerry L Pettis VA Medical Center, USA, [4]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Shaohong Cheng, None

SU0231 **Utilizing hTERT-immortalized Primary Mouse Osteoblasts to Assess the Role of Cx43 in Osteoblast Signaling Pathways**
Atum Buo*[1], Joseph Stains[2]. [1]University of Maryland, School of Medicine, USA, [2]University of Maryland School of Medicine, USA
Disclosures: Atum Buo, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

SU0232 **Active DNA demethylation controls osteoblastic and adipocytic differentiation**
Roman Thaler*[1], Monika Rumpler[1], Ines Sturmlechner[1], Silvia Spitzer[1], Klaus Klaushofer[2], Franz Varga[1]. [1]Ludwig Boltzmann Institute of Osteology, Austria, [2]Hanusch Hospital, Ludwig Boftzmann Institute of Osteology, Austria
Disclosures: Roman Thaler, None

SU0233 **Constitutive Activation of NF-κB Impairs Osteogenesis and Skeletal Development**
Yousef Abu-Amer[1], Gaurav Swarnkar*[2], Kaihua Zhang[3], Fanxin Long[4]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University SOM, USA, [3]Washington University, USA, [4]Washington University School of Medicine, USA
Disclosures: Gaurav Swarnkar, None

SU0234 **Human Serine Protease HTRA1 is A Novel Mediator of Human Bone Marrow-Derived Stromal Cell Osteogenesis**
Andre Tiaden*[1], Maike Breiden[2], Ali Mirsaidi[3], Fabienne Weber[3], Gregor Bahrenberg[3], Stephan Glanz[3], Paolo Cinelli[3], Michael Ehrmann[2], Peter Richards[4]. [1]University of Zurich, Switzerland, [2]University Duisburg-Essen, Germany, [3]University of Zürich, Switzerland, [4]CABMM, Zurich University, Switzerland
Disclosures: Andre Tiaden, None

SU0235 **LIF: A Mediator of Reciprocal Regulation by *Pkig* of Osteoblast and Adipocyte Differentiation**
Xin Chen*[1], Bryan Hausman[1], Guangbin Luo[1], Guang Zhou[1], Shunichi Murakami[1], Janet Rubin[2], Edward Greenfield[1]. [1]Case Western Reserve University, USA, [2]University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: Xin Chen, None

SU0236 **Metformin stimulates compact bone mesenchymal stem cells and accelerates wound healing in a Type 2 Diabetes mouse model**
Xin Li*[1], Satoko Matsumura[2], Yuqi Guo[2], Huawei Yuan[2], Wenbo Yan[3]. [1]New York University, USA, [2]New York University College of Dentistry, USA, [3]Nyack College, USA
Disclosures: Xin Li, None

SU0237 **NF-κB RelB$^{-/-}$ Mice Have Enhanced Mesenchymal Progenitor Cell Differentiation and Fracture Repair**
Zhenqiang Yao*[1], Yanyun Li[2], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Zhenqiang Yao, None

SU0238 **No correlation between in vitro osteogenic differentiation of MSCs and hip implant healing**
Jessica Alm*, Niko Moritz, Hannu Aro. University of Turku, Finland
Disclosures: Jessica Alm, None

SU0239 **Novel Potent Lactam Acetylene EP_4 Agonists Stimulate Alkaline Phosphatase Production and Differentiation in Bone Marrow Cells**
Stephen Barrett*[1], Gregory Endres[2], Thomas Owen[3], Adam Uzieblo[1], Bradlee Germain[1], Andrei Kornilov[1], Joseph Colombo[1], James Kramer[1], Liyue Huang[1], Jeffrey Johnson[2], Jim O'Malley[3]. [1]Cayman Chemical Company, Inc., USA, [2]Cayman Chemical Company, USA, [3]Myometrics, LLC, USA
Disclosures: Stephen Barrett, None

SU0240 **Osteoanabolic Effect of Alendronate and Zoledronate on Bone Marrow Stromal Cells (BMSCs) Isolated from Senile Osteoporotic Patients and its Implications for their Mode of Action in the Treatment of Age-related Bone Loss**
Richard Lindtner[1], André Tiaden[2], Konstantin Genelin[1], Hannes Ebner[1], Claudia Manzl[1], Marina Klawitter[2], Ingrid Sitte[1], Brigitte von Rechenberg[2], Michael Blauth[1], Peter Richards*[3]. [1]Innsbruck Medical University, Austria, [2]Zurich University, Switzerland, [3]University of Zurich, Switzerland
Disclosures: Peter Richards, None

SU0241 **P2X7 receptors – do they have a role in commitment of mesenchymal stem cells?**
Solveig Petersen*[1], Susanne Syberg[2], Peter Schwarz[2], Niklas Jorgensen[3]. [1]Research Center for Ageing & Osteoporosis, Departments of Diagnostics & Medicine, Glostrup Hospital, Denmark, [2]Glostrup Hospital, Denmark, [3]Copenhagen University Hospital Glostrup, Denmark
Disclosures: Solveig Petersen, None

SU0242 **Pulsed Electromagnetic Field Stimulates Human Osteoblastic Cells and Inhibits Human Osteoclastic Cells**
Nicola Partridge*, Zhiming He. New York University College of Dentistry, USA
Disclosures: Nicola Partridge, Orthofix, Inc., 5; Orthofix, Inc., 2

SU0243 **The Nuclear Envelope Protein Emerin Regulates Mesenchymal Stem Cell Differentiation**
Sandra Bermeo*[1], Christopher Vidal[1], Wei Li[2], Gustavo Duque[3]. [1]University of Sydney, Australia, [2]University of Sydney, Nepean Clinical School, Australia, [3]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Sandra Bermeo, None

SU0244 **Transcriptional control of bone and fat lineage determination by Zinc finger protein 521 (Zfp521)**
William Addison*[1], Martin Fu[2], Helen Yang[2], Zhao Lin[2], Francesca Gori[3], Roland Baron[4]. [1]Harvard University, USA, [2]Harvard Medical School & Harvard School of Dental Medicine, USA, [3]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [4]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: William Addison, None

SU0245 **Up-regulation of Inhibitors of DNA Binding/differentiation Gene During Alendronate-Induced Osteoblast Differentiation**
Min Hyung Jung[1], Hoon Choi*[2], Heung Yeol Kim[3]. [1]School of Medicine, Kyung Hee University, Kyung Hee Medical Center, South Korea, [2]Inje University Sanggyepaik Hospital, South Korea, [3]Department of Obstetrics & Gynecology, College of Medicine, Kosin University, South Korea
Disclosures: Hoon Choi, None

SU0246 **Using mouse embryonic and human induced pluripotent cells, differentiated into osteoblasts, to identify genes critical for osteoblastogenesis to pave ways for future genetic engineering.**
Pablo Roman-Garcia*[1], Linda Raphel[2], Vijay Yadav[2]. [1]Systems Biology of Bone, Wellcome Trust Sanger Institute, United Kingdom, [2]Systems Biology of Bone, Wellcome Trust Sanger Isntitute, United Kingdom
Disclosures: Pablo Roman-Garcia, None

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

SU0247 **Consequences of calcification, ageing and deglycosylation on collagen fiber degradation by cathepsin cysteine proteases**
PREETY PANWAR*. University of British Columbia, Canada
Disclosures: PREETY PANWAR, None

SU0248 **Exosite inhibitors targeting the collagenase activity of cathepsin K**
Dieter Bromme*. The University of British Columbia, Canada
Disclosures: Dieter Bromme, None

OSTEOCLASTS: CELL ADHESION

SU0249 **Subcellular calcium-calpain signaling regulates uropod retraction, but not lamellipod outgrowth in migrating osteoclasts**
Benjamin Wheal*[1], Natsuko Tanabe[2], S. Jeffrey Dixon[1], Stephen Sims[1]. [1]The University of Western Ontario, Canada, [2]Nihon University School of Dentistry, Japan
Disclosures: Benjamin Wheal, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

SU0250 **Downstream Effects of BMP Signaling in Osteoclasts: BMPs Induce MKP1 Activity and NFATc1 Nuclear Localization.**
Broege Aaron*, Raphael Huntley, Zainah Shaker, Eric Jensen, Kim Mansky, Raj Gopalakrishnan. University of Minnesota, USA
Disclosures: Broege Aaron, None

SU0251 **Leptin increases polyethylene particle-induced osteolysis in *oblob* mice**
Kenneth Philbrick*, Carmen Wong, Russell Turner, Urszula Iwaniec. Oregon State University, USA
Disclosures: Kenneth Philbrick, None

OSTEOCLASTS: DIFFERENTIATION

SU0252 **BMP-Binding is Essential for Inhibitory Effect of Twisted Gastrulation on Osteoclast Differentiation**
Raphael Huntley*, Raj Gopalakrishnan, Charles Billington, Lan Pham, Eric Jensen, Aaron Broege, Anna Petryk, Kim Mansky. University of Minnesota, USA
Disclosures: Raphael Huntley, None

SU0253 **Caspase-2 as a Mediator of Osteoclast Apoptosis and Differentiation**
Danielle Victor*[1], Brian Herman[2], Jean Jiang[3]. [1]University of Texas, USA, [2]UT HSC San Antonio, USA, [3]University of Texas Health Science Center at San Antonio, USA
Disclosures: Danielle Victor, None

SU0254 **Epigenetic regulation of osteoclastogenesis**
Naohiro Izawa*[1], Takanori Fujita[2], Seitaro Nomura[2], Hiroyuki Aburatani[2], Sakae Tanaka[1]. [1]The University of Tokyo, Japan, [2]Genome Science Division, Research Center for Advanced Science & Technology, The University of Tokyo, Japan
Disclosures: Naohiro Izawa, None

SU0255 **Metabolic Adaptation during Osteoclastogenesis**
Yoriko Indo[1], Sunao Takeshita*[1], Hiroyuki Aburatani[2], Kyoji Ikeda[1]. [1]National Center for Geriatrics & Gerontology, Japan, [2]RCAST, Univ of Tokyo, Japan
Disclosures: Sunao Takeshita, None

SU0256 **Withdrawn**

SU0257 **Withdrawn**

SU0258 **The *rankl* knock-out medaka exhibits a defective phenotype of bone resorption following abnormal organogenesis together with a small number of osteoclasts regulated by RANKL-independent osteoclastogenesis**
Masahiro Chatani*[1], Tomoko Ishikawa[2], Takeshi Todo[2], Akira Kudo[1]. [1]Tokyo Institute of Technology, Japan, [2]Graduate School of Medicine, Osaka University, Japan
Disclosures: Masahiro Chatani, None

OSTEOCLASTS: INHIBITION OF RESORPTION

SU0259 ***Nrp2* Deficiency Leads to Trabecular Bone Loss and Is Accompanied by Enhanced Osteoclast and Reduced Osteoblast Numbers**
Lieve Verlinden*[1], Carsten Kriebitzsch[2], Ine Beullens[3], Geert Carmeliet[4], Annemieke Verstuyf[4]. [1]KULeuven, Belgium, [2]KU Leuven, Clinical & Experimental Endocrinology, Belgium, [3]KULeuven, Clinical & Experimental Endocrinology, Belgium, [4]Katholieke Universiteit Leuven, Belgium
Disclosures: Lieve Verlinden, None

SU0260 **An antibody targeting Siglec-15 decreases bone loss in OVX rats by reducing osteoclast activity and increasing bone formation**
Anna Moraitis*, Émilie Turcotte, Dominique Bédard, Martine Pagé, Elisabeth Viau, Mauricio Lemus, Julie Laurin, Matthew Stuible, Mario Filion, Gilles Tremblay. Alethia Biotherapeutics, Canada
Disclosures: Anna Moraitis, Alethia Biotherapeutics, 3

SU0261 **Dual functions the role of Pax6 in the regulation of bone and glucose metabolism**
Masahito Matsumoto*[1], Masakazu Kogawa[2], Koji Hisatake[3], Gerald Atkins[4], David Findlay[4], YUICHIRO ENOKI[1], Tsuyoshi Sato[1], Seiki Wada[5], Aya Fukuda[3], Shigehiro Katayama[6], Tetsuya Yoda[7], Tatsuo Suda[8], Yasushi Okazaki[9]. [1]Saitama Medical University, Japan, [2]Discipline of Orthopaedics & Trauma, The University of Adelaide, Australia, [3]Laboratory of Gene Regulation, Faculty of Medicine, University of Tsukuba, Japan, [4]University of Adelaide, Australia, [5]Musashifujisawa Central Clinic, Japan, [6]Department of Endocrinology & Diabetic Internal Medicine, Saitama Medical University, Japan, [7]Department of Oral & Maxillofacial Surgery, Saitama Medical University, Japan, [8]Research Center for Genomic Medicine Saitama Medical School, Japan, [9]Division of Functional Genomics & Systems Medicine, Research Center for Genomic Medicine, Saitama Medical University, Japan
Disclosures: Masahito Matsumoto, None

SU0262 **Ectopic Expression of Human Leucine Rich Repeat Kinase 1 (hLRRK1) in *Lrrk1* Knockout Osteoclast Precursors Rescues the Bone Resorption Defect *in vitro* by Modulating C-Terminal Src Kinase (Csk) Activity**
Weirong Xing*[1], Shaohong Cheng[2], Subburaman Mohan[3]. [1]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [2]VA Loma Linda Health Care Systems, USA, [3]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Weirong Xing, None

SU0263 **Inhibition of osteoclastogenesis and inflammatory bone resorption by targeting bromodomain-containing chromatin regulators**
Kyung-Hyun Park-Min*[1], Elisha Lim[1], Rab Prinjha[2], Lionel Ivashkiv[1]. [1]Hospital for Special Surgery, USA, [2]GlaxoSmithKline, United Kingdom
Disclosures: Kyung-Hyun Park-Min, None

SU0264 **Jaw Bone Marrow-Derived Osteoclast Precursors Internalize More Bisphosphonate than Long-Bone Marrow Precursors**
Jenny Vermeer*[1], Ineke Jansen[2], Matangi Marthi[1], Fraser Coxon[3], Charles McKenna[4], Shuting Sun[4], Teun De Vries[5], Vincent Everts[6]. [1]Department of Oral Cell Biology & Functional Anatomy, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [2]Department of Periodontology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [3]Musculoskeletal Programme, Division of Applied Medicine, Institute of Medical Sciences, University of Aberdeen, Foresterhill, Aberdeen, United Kingdom, [4]Department of Chemistry, University of Southern California, Los Angeles, CA, USA, [5]ACTA, University of Amsterdam & VU University, The Netherlands, [6]Department of Oral Cell Biology, Academic Centre of Dentistry Amsterdam (ACTA), The Netherlands
Disclosures: Jenny Vermeer, None

SU0265 **Long-chain Fatty Acid Analogues Inhibit Osteoclastogenesis**
Jillian Cornish*, Jian-ming Lin, Karen Callon, Andrew Marshall, William Denny, Ian Reid, Andrew Grey. University of Auckland, New Zealand
Disclosures: Jillian Cornish, None

SU0266 **Novel Human RANKL Inhibitors Targeting Its Trimerization**
Vagelis Rinotas[1], Fotini Violitzi[1], Polyxeni Alexiou[2], Fotini Liepouri[3], Anna Maranti[3], Katerina Tsiliouka[3], Alexandros Strongilos[3], Thanos Papakyriakou[2], Christos Papaneophytou[4], George Kontopidis[4], Elias Couladouros[2], Elias Eliopoulos[2], Eleni Douni*[5]. [1]BSRC Alexander Fleming, Greece, [2]Agricultural University of Athens, Greece, [3]pro-ACTINA SA, Koropi Attikis, Greece, [4]Centre for Research & Technology- Thessaly, Greece, [5]Agricultural University of Athens/ BSRC Al. Fleming, Greece
Disclosures: Eleni Douni, None

SU0267 **S1P-mediated Osteoclast Precursor Monocyte Migration Is a Critical Point of Control in Antibone-resorptive Action of Active Vitamin D**
Junichi Kikuta*[1], Fumie Okiji[1], Mai Shirazaki[1], Sadaoki Sakai[2], Hitoshi Saito[2], Masaru Ishii[1]. [1]Department of Immunology & Cell Biology, Graduate School of Medicine & Frontier Biosciences, Osaka University, Japan, [2]Medical Affairs Division, Chugai Pharmaceutical Co., Ltd., Japan
Disclosures: Junichi Kikuta, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

SU0268 **An Osteoclast Transmembrane Protein-tyrosine Phosphatase, PTP-oc, Enhances Osteoclast Activity In Part Through Dephosphorylation of the EphA4 Receptor in Osteoclasts**
Kin-Hing William Lau*[1], Virginia Stiffel[1], Matilda Sheng[2], Shin-Tai Chen[1], Mehran Amoui[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Loma Linda University, USA
Disclosures: Kin-Hing William Lau, None

SU0269 **DOK3 negatively regulates RANKL-induced osteoclastogenesis**
Mary Beth Humphrey*, Courtney Long. University of Oklahoma Health Sciences Center, USA
Disclosures: Mary Beth Humphrey, None

SU0270 **Mice deficient in CD44 display reduced pro-MMP9 activation and membrane localization of MT1-MMP in osteoclasts**
Meenakshi Chellaiah*. University of MarylandDental School, USA
Disclosures: Meenakshi Chellaiah, None

SU0271 **Myo9B, a Rho-GAP Protein Associated with Inflammatory Bowel Disease, is Critical for Osteoclast Function**
Beth Lee*[1], Brooke McMichael[2]. [1]Department of Physiology & Cell Biology, Ohio State University, USA, [2]Ohio State University, USA
Disclosures: Beth Lee, None

SU0272 **PDK1/Akt pathway in osteoclast signaling in Paget's disease of bone**
Stephen McManus*, Gino Laberge, Martine Bisson, Sophie Roux. University of Sherbrooke, Canada
Disclosures: Stephen McManus, None

SU0273 **Regulator of Calcineurin 1 (Rcan1) is Highly Induced in Mouse Osteoclasts Generated on Bone and Regulates RANKL-induced Calcineurin Activity and Osteoclast Formation**
Diana Metz-Estrella*[1], Kofi Mensah[1], Bryant Darnay[2], Betty Lamothe[3], Ed Purdue[1], Allison Shaber[1], Song Xue[4], Steven Goldring[1], Kevin McHugh[4], F. Patrick Ross[1]. [1]Hospital for Special Surgery, USA, [2]University of Texas M.D. Anderson Cancer Center, USA, [3]MD Anderson Cancer Center, USA, [4]University of Florida, USA
Disclosures: Diana Metz-Estrella, None

SU0274 **The Transcription Factor Sox4 Regulates TRAF6 Activity and Subcellular Localization**
Philip Auron[1], Deborah Galson[2], Juraj Adamik[2], An-Jey Su*[3]. [1]Duquesne University, USA, [2]University of Pittsburgh School of Medicine, USA, [3]Duquesne Universoty, USA
Disclosures: An-Jey Su, None

OSTEOCYTES: BONE MECHANICS

SU0275 **Functional Interplay between Connexin Hemichannels, Integrins, and PI3K-AKt Signaling in Mechanotransduction of Osteocytes**
Jean Jiang*. University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

SU0276 **Integrin αv in the Mechanical Response of Osteoblast Lineage Cells**
Keiko Kaneko*[1], Masako Ito[2], Adam Lacy-Hulbert[3], Kyoji Ikeda[4]. [1]NCGG, Japan, [2]Nagasaki University Hospital, Japan, [3]MGH, USA, [4]National Center for Geriatrics & Gerontology, Japan
Disclosures: Keiko Kaneko, None

SU0277 **Lower Bone Volume Fraction and Bone Formation Rate in Premenopausal Women with Abdominal Obesity Are Associated with Less Physical Activity and Higher Serum Sclerostin**
Adi Cohen*[1], Aline Costa[2], Robert Recker[3], Joan Lappe[4], Serge Cremers[2], David Dempster[2], Hua Zhou[5], Alexander Zwahlen[6], Ralph Müller[7], Emily Stein[8], Thomas Nickolas[8], Clifford Rosen[9], Elizabeth Shane[8]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Creighton University, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Helen Hayes Hospital, USA, [6]ETH Zurich, Switzerland, [7]ETH Zurich, Institute for Biomechanics, Switzerland, [8]Columbia University College of Physicians & Surgeons, USA, [9]Maine Medical Center, USA
Disclosures: Adi Cohen, None

SU0278 **Post-Natal Deletion of the Connexin43 Gene (*Gja1*) in Osteoblasts/Osteocytes: Model Development**
Susan Grimston*[1], Marcus Watkins[1], Michael Brodt[2], Matthew Silva[1], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA
Disclosures: Susan Grimston, None

OSTEOCYTES: REGULATION OF BONE FORMATION

SU0279 **New Tool to Study Human Sclerostin Gene Expression In Vitro**
Jesus Delgado-Calle*[1], Carolina Sañudo[2], Marta Morante[3], Jose Riancho[4]. [1]Indiana University School of Medicine, USA, [2]IFIMAV, Spain, [3]Univ Francisco de Vitoria, Spain, [4]University of Cantabria, Spain
Disclosures: Jesus Delgado-Calle, None

SU0280 **Novel immortalized cell lines expressing a membrane targeted GFP variant in osteocytes – identification of a "mini-bone" forming clone.**
Lisa Le*, Patricia Veno, Sarah Dallas. University of Missouri - Kansas City, USA
Disclosures: Lisa Le, None

SU0281 **Osteocyte-derived Notch is a Determinant of Bone Mass and has Sexually Dimorphic Effects on Skeletal Remodeling**
Ernesto Canalis, Stefano Zanotti*. St. Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

SU0282 **Rapid, Automated Counting of Osteocytes from Histological Sections Using Matlab Based Software**
Ganesh Thiagarajan[1], Nuria Lara[1], Bhavani Ramneedi[2], Mark Johnson*[3]. [1]University of Missouri - Kansas City, USA, [2]UMKC School of Computing & Engineering, USA, [3]University of Missouri, Kansas City Dental School, USA
Disclosures: Mark Johnson, None

OSTEOCYTES: REGULATION OF BONE RESORPTION

SU0283 **Altered Osteocyte Mechanosensitivity in Response to Elevated Extracellular Glucose Levels**
Chao Liu*[1], Hashem Al-Dujaili[2], Christian Fischer[3], Liyun Wang[4], Lidan You[5]. [1]University of Toronto, Canada, [2]University of Western Ontario, Canada, [3]University of Würzburg, Germany, [4]University of Delaware, USA, [5]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Chao Liu, None

SU0284 **2013 ASBMR Young Investigator Award**
Osteocyte Specific Deletion of Superoxide Dismutase2 Induces Osteocyte Loss Resulting in Bone Loss Associated with Impairment of Bone Remodeling
Keiji Kobayashi*[1], Hidetoshi Nojiri[2], Yoshitomo Saita[3], Daichi Morikawa[4], Masato Koike[5], Yusuke Ozawa[1], Yoshinori Asou[6], Kazuo Kaneko[5], Takahiko Shimizu[7]. [1]Chiba university, Graduate school of medicine, Japan, [2]Juntendo University, School of Medicine, Japan, [3]Department of Orthopaedics, Juntendo University School of Medicine, Japan, [4]Juntendo Univerisity, Japan, [5]Juntendo University, Japan, [6]Tokyo Medical & Dental University, Japan, [7]Chiba University Graduate School of Medicine, Japan
Disclosures: Keiji Kobayashi, None

SU0285 **Osteocytes Reveal NADH Fluorescence Heterogeneity *in Situ* in Response to Ischemia**
Dorra Frikha-Benayed*[1], Jelena Basta-Plajkic[2], Robert Majeska[3], Mitchell Schaffler[4]. [1]The City University of New York, USA, [2]City college of NY, USA, [3]City College of New York, USA, [4]City College of New York, USA
Disclosures: Dorra Frikha-Benayed, None

SU0286 **Osteocytic Osteolysis Induced by Immobilization in Rats**
Fiona Bach-Gansmo*[1], Jesper Thomsen[1], Annemarie Brüel[2], Henrik Birkedal[1]. [1]Aarhus University, Denmark, [2]University of Aarhus, Denmark
Disclosures: Fiona Bach-Gansmo, None

SU0287 **TNF-α upregulates sclerostin expression through NF-κB signaling pathway in high fat diet fed obese mice**
Kyunghwa Baek*[1], Hyo Rin Hwang[2], Hyun-Jung Park[2], Arang Kwon[2], Abdul Qadir[2], Seong-Hee Ko[3], Jeong-Hwa Baek[4]. [1]Gangneung-Wonju national university, School of dentistry, South Korea, [2]Seoul National University, South Korea, [3]Gangneung-Wonju National University, South Korea, [4]Seoul National University, School of Dentistry, South Korea
Disclosures: Kyunghwa Baek, None

OSTEOCYTES: REGULATION OF MINERALIZATION AND MINERAL ION HOMEOSTASIS

SU0288 **Imaging Mass Spectrometry-based Molecular Histology of Bone Shows the Implication of MEPE-ASARM for the Klotho-Deficient Phenotype**
Yoko Fujino*[1], Tomoko Minamizaki[2], Kaoru Sakurai[1], Yasumasa Irie[3], Hirotaka Yoshioka[2], Yuichiro Takei[2], Katsuyuki Kozai[2], Mitsugi Okada[2], Yuji Yoshiko[2]. [1]Hiroshima University Graduate School of Biomedical & Health Sciences, Japan, [2]Hiroshima University Institute of Biomedical & Health Sciences, Japan, [3]Hiroshima University Faculty of Dentistry, Japan
Disclosures: Yoko Fujino, None

SU0289 **Selective Deletion of c-fms in Osteocytes Increases Cortical and Trabecular Tissue Mineral Density**
Meiling Zhu*[1], Benhua Sun[2], Joshua VanHouten[2], Christine Simpson[2], Karl Insogna[2]. [1]Yale University, USA, [2]Yale University School of Medicine, USA
Disclosures: Meiling Zhu, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

SU0290 **Distributions of serum total osteocalcin, undercarboxylated osteocalcin, N-propeptide of Type 1 collagen and C-telopeptide of Type 1 collagen in older men. The Health In Men Study.**
Peter Ebeling*[1], SA Paul Chubb[2], Elizabeth Byrnes[2], John Beilby[2], Kieran A McCaul[3], Samuel Vasikaran[2], Paul E Norman[4], Leon Flicker[5], Bu B Yeap[6]. [1]The University of Melbourne, Australia, [2]PathWest Laboratory Medicine, Australia, [3]Western Australian Centre for Health & Ageing, Centre for Medical Research, University of Western Australia, Australia, [4]School of Surgery, University of Western Australia, Australia, [5]University of Western Australia, Australia, [6]School of Medicine & Pharmacology, University of Western Australia, 6Department of Endocrinology & Diabetes, Fremantle Hospital, Australia
Disclosures: Peter Ebeling, None

SU0291 **Serum Levels of Sclerostin and dickkopf-1 in Geriatric Patients with Osteoporotic Hip Fractures**
Sonja Dorfer[1], Andrea Kapfenberger[1], Ursula Föger-Samwald[1], Stefan Kudlacek[2], Peter Dovjak[3], Peter Pietschmann*[1]. [1]Department of Pathophysiology & Allergy Research, Medical University Vienna, Austria, [2]Department of Medicine, Hospital Barmherzige Brüder, Austria, [3]Department of Geriatric Acute Care, Hospital Gmunden, Austria
Disclosures: Peter Pietschmann, None

SU0292 **A novel image analysis method for longitudinal assessment of trabecular volumetric bone mineral density (vBMD) in rabbit lumbar vertebrae using Quantitative Computed Tomography (QCT)**
Randolph Crawford*[1], Sangeetha Somayajula[1], Brenda Pennypacker[2], Dahai Xue[1], Christopher Winkelmann[3]. [1]Merck & Co., USA, [2]Merck Research Laboratories, USA, [3]Merck, USA
Disclosures: Randolph Crawford, Merck and Co., 3

SU0293 **Agreement Between Forearm Measurements Performed on the Norland pDEXA and the Norland XR-800 Table Scanner**
Jingmei Wang*[1], Felix Rajan[2], Chad Dudzek[3], Terry Schwalenberg[3], Tom Sanchez[4]. [1]Norland–a CooperSurgical Company, China, [2]Siemens Healthcare, USA, [3]Norland–a CooperSurgical Company, USA, [4]Norland - A Cooper Surgical Company, USA
Disclosures: Jingmei Wang, None

SU0294 **Bone Micro-Architecture Assessed by Spine TBS Predicts Osteoporotic Fractures in Men: The Manitoba Study**
William Leslie*[1], Berengere Aubry-rozier[2], Didier Hans[2]. [1]University of Manitoba, Canada, [2]Lausanne University Hospital, Switzerland
Disclosures: William Leslie, None

SU0295 **Bone Strength Differences in Older Women With and Without a Recent Distal Radius Fracture**
Katie Crockett*, Cathy Arnold, Jonathan Farthing, Phil Chilibeck, Adam Baxter-Jones, Saija Kontulainen. University of Saskatchewan, Canada
Disclosures: Katie Crockett, None

SU0296 **Cortical Thickness Mapping from Multi-view DXA**
Nikolaos Tsaousis*[1], Andrew Gee[2], Graham Treece[3], Kenneth Poole[3]. [1]Cambridge University, United Kingdom, [2]University of Cambridge Engineering Department, United Kingdom, [3]University of Cambridge, United Kingdom
Disclosures: Nikolaos Tsaousis, None

SU0297 **Interpreting Bone Mineral Density Results: Whose Job Is It, Anyway?**
Sonya Allin*, Sarah Munce, Leslie Carlin, Gillian Hawker, Susan Jaglal. University of Toronto, Canada
Disclosures: Sonya Allin, None

SU0298 **Investigation of the Local Relationship Between Bone Marrow Fat Content and Bone Mineral Density in the Proximal Femur of Subjects With and Without Fragility Fractures**
Julio Carballido-Gamio*[1], Dimitrios C. Karampinos[2], Andrew Lai[3], Sonia Lee[3], Roland Krug[3]. [1]University of California, San Francisco, USA, [2]Musculoskeletal & Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California, San Francisco, USA; Department of Diagnostic & Interventional Radiology, Technische Universität München, Germany, [3]Musculoskeletal & Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California, San Francisco, USA
Disclosures: Julio Carballido-Gamio, None

SU0299 **No More annual BMD exam in Rheumatoid Arthritis Patients with Osteoporosis**
Mie Jin Lim*[1], Won Park[2], Seong Ryul Kwon[3], Kyung Hee Jung[3], Kowoon Joo[3], Hoyeon Joo[3]. [1]Inha University Hospital, Republic of Korea, [2]Inha University Hospital, South Korea, [3]Inha Univeristy Hospital, South Korea
Disclosures: Mie Jin Lim, None

SU0300 **Potential Sources of Quantification Error When Retrospectively Assessing Metacarpal Bone Loss from Historical Radiographs by Using Digital X-ray Radiogrammetry**
Johan Kälvesten*[1], Torkel Brismar[2], Anders Persson[3]. [1]Linköping University, Sectra, Sweden, [2]Karolinska Institutet, Sweden, [3]Linköping University, Sweden
Disclosures: Johan Kälvesten, Sectra AB, 3

SU0301 **Prevalent Osteoporotic Fracture and Past Use of Glucocorticoids Induce a Microarchitectural Impairment in Subjects Treated with Glucocorticoids**
Edward Leib*[1], Renaud Winzenrieth[2], Didier Hans[3]. [1]University of Vermont, USA, [2]Medimaps, Hôpital X. Arnozan, PTIB, Pessac, France, [3]Lausanne University Hospital, Switzerland
Disclosures: Edward Leib, None

SU0302 **Relationships Between Age, Sex and Bone Microarchitecture at the Distal Radius and Tibia in Late Adulthood**
Mark Edwards*[1], Camille Parsons[2], Jennifer Thompson[3], Ann Prentice[3], Cyrus Cooper[2], Elaine Dennison[2], Kate Ward[3]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton., United Kingdom, [2]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [3]MRC Human Nutrition Research, United Kingdom
Disclosures: Mark Edwards, None

SU0303 **Screening for Osteoporosis Using Digital X-ray Radiogrammetry (DXR) in Conjunction with a National Mammography Screening Program**
Michael Wilczek*[1], Christel Nielsen[2], Johan Kälvesten[3], Jakob Algulin[4], Torkel Brismar[1]. [1]Karolinska Institutet, Sweden, [2]Region Skåne, Sweden, [3]Linköping University, Sectra, Sweden, [4]Sectra, Sweden
Disclosures: Michael Wilczek, None

SU0304 **Systematic Bias between Results Measured on Cross-calibrated DXA Scanners in Pediatric and Young Adult Females**
Jodi Dowthwaite*[1], Paula Rosenbaum[2], Tamara Scerpella[3]. [1]SUNY Upstate Medical University;, Syracuse University, USA, [2]SUNY Upstate Medical University, USA, [3]University of Wisconsin, USA
Disclosures: Jodi Dowthwaite, None

SU0305 **Trabecular bone score (TBS) marginally improves the prediction of prevalent vertebral fractures with bone densitometry in primary care**
Petra Elders*[1], Thomas Merlijn[2], Martin Den Heijer[3], Coen Netelenbos[4]. [1]Free University Medical Centre, The Netherlands, [2]dpt General Practice & Elderly Care, VU Medical Centre, Netherlands, [3]VU Medical CenterPostbus 70571007 MB Amsterdam, The Netherlands, [4]VU Medical Center, The Netherlands
Disclosures: Petra Elders, None

SU0306 **Trabecular Bone Score: Evaluation of Precision and Comparison of Values Between GE Lunar Prodigy and Lunar iDXA Densitometers**
Diane Krueger*, Jessie Libber, Neil Binkley. University of Wisconsin, Madison, USA
Disclosures: Diane Krueger, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

SU0307 **A novel method for obtaining bone mineral densities from a dataset of radiology reports and clinic notes: Natural language processing in a national cohort of postmenopausal veterans**
Joanne LaFleur*[1], Thomas Ginter[2], Jeffrey Curtis[3], Robert Adler[4], Irene Agodoa[5], Brad Stolshek[5], Richard Nelson[2], Scott DuVall[2]. [1]University of Utah, USA, [2]University of Utah Division of Epidemiology, USA, [3]University of Alabama at Birmingham, USA, [4]McGuire VA Medical Center, USA, [5]Amgen Inc, USA
Disclosures: Joanne LaFleur, Amgen Inc, 2; Merck, 2; Amgen Inc, 5

SU0308 **Bone Mineral Density in Korean Women with Uterine Leiomyoma**
Tae-Hee Kim*[1], Hae-Hyeog Lee[2], Junsik Park[2], Soo-Ho Chung[2], Dong-Won Byun[3]. [1]Soonchunhyang University College of Medicine, South Korea, [2]Department of Obstetrics & Gynecology, Soonchunhyang University College of Medicine, South Korea, [3]Internal Medicine, Soonchunhyang University College of Medicine, South Korea
Disclosures: Tae-Hee Kim, None

SU0309 **Differences in bone geometry, mass and microarchitecture between Caribbean-Hispanic and Caucasian young men**
Anna Kepley*[1], Chiyuan Zhang[2], Donald McMahon[3], Elizabeth Shane[3], Thomas Nickolas[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Anna Kepley, None

SU0310 **Impact of a Patient Self-Referral of DXA Intervention on Patient-Provider Communication about Osteoporosis Testing and Treatment: A Randomized Trial in Two Large Regional Healthcare Systems**

Amy Warriner*[1], Ryan Outman[1], Jeffrey Curtis[1], Adrianne Feldstein[2], David Redden[1], Junling Ren[3], Brandi Robinson[3], Douglas Roblin[3], Ana Rosales[4], Monika Safford[1], Kenneth Saag[1]. [1]University of Alabama At Birmingham, USA, [2]Kaiser Permanente Center for Health Research, USA, [3]Kaiser Permanente Georgia, USA, [4]Kaiser Permanente Northwest, USA

Disclosures: Amy Warriner, None

SU0311 **National osteoporosis risk factor's and BMD measurements study of postmenopausal women population in Latvia**

Inese Pavlina*[1], Ingvars Rasa[2], Inara Adamsone[3], Ilze Daukste[4], Sandra Jaundzeikare[2], Dainis Kaneps[5], Ingrida Kaze[2], Agita Medne[6], Signe Zelca[2]. [1]Riga East Clinical Univerity Hospital, Latvia, [2]RIGA EAST CLINICAL UNIVERSITY HOSPITAL, Latvia, [3]Pauls Stradins Clinical University Hospital, Latvia, [4]Riga 2nd Hospital, Latvia, [5]Latvian Maritime Medicine Cente, Latvia, [6]Health Centre 4, Latvia

Disclosures: Inese Pavlina, None

SU0312 **Reliable Osteoporosis Diagnostics with Pocket Size Ultrasound Instrument**

Janne Karjalainen*[1], Ossi Riekkinen[2], Juha Töyräs[3], Jukka Jurvelin[3], Heikki Kroger[4]. [1]Bone Index Finland Ltd., Finland, [2]Bone Index Finland, Ltd., Finland, [3]University of Eastern Finland, Finland, [4]Kuopio University Hospital, Finland

Disclosures: Janne Karjalainen, Bone Index Finland Ltd., 3

SU0313 **The relationship between sarcopenia and bone mineral density over the year post hip fracture**

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Disclosures: Denise Orwig, None

OSTEOPOROSIS - EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

SU0314 **Associations among Vitamin K Intake, Serum Osteocalcin Concentrations and Bone Traits in 37-to-47-year-old Caucasian Population - The PHOMI Study**

Suvi Itkonen*[1], Lotta Juslin[1], Elisa Saarnio[1], Virpi Kemi[1], Merja Kärkkäinen[1], Heini Karp[1], Minna Pekkinen[2], Harri Sievänen[3], Kaisa Ivaska[4], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [3]UKK Institute for Health Promotion Research, Finland, [4]University of Turku, Finland

Disclosures: Suvi Itkonen, None

SU0315 **Associations of Protein Intake and Protein Source with Bone Biomarkers, Bone Mineral Density and Fracture Risk in a Canadian Population-based Study**

Lisa Langsetmo*[1], Claudie Berger[2], Nancy Kreiger[3], David Goltzman[4], Susan Barr[5], Stephanie Kaiser[6], Jerilynn Prior[5], Robert Josse[7], Elham Rahme[8], David Hanley[9], Alexandra Papaioannou[10], Jonathan Adachi[11], Christopher Kovacs[12]. [1]Canandian Multicenter Osteoporosis Study, Canada, [2]CaMos, McGill University, Canada, [3]University of Toronto, Canada, [4]McGill University, Canada, [5]University of British Columbia, Canada, [6]Dalhousie University, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]University of McGill, Canada, [9]University of Calgary, Canada, [10]Hamilton Health Sciences, Canada, [11]St. Joseph's Hospital, Canada, [12]Memorial University of Newfoundland, Canada

Disclosures: Lisa Langsetmo, None

SU0316 **Development of a Simplified Self-Questionnaire for Evaluation of Calcium Intake in Osteoporosis Prevention: a Study from the Workgroup SOLIDOS**

Florence Levy-Weil*[1], Eric Lespessailles[2], Catherine Beauvais[3], Dominique Aubraye[4], Francoise Debiais[5], Christelle Sordet[6], Corinne Thevenot[7], Didier Poivret[8], Patrice Fardellone[9], Anne-Christine Rat[10]. [1]Centre Hospitalier Victor Dupouy, France, [2]Centre Hospitalier Regional, France, [3]Service de Rhumatologie, CHU Saint-Antoine, France, [4]Service de Rhumatologie, Centre hospitalier Victor Dupouy, France, [5]Hopital Jean Bernard, France, [6]Service de Rhumatologie, CHRU Strasbourg, France, [7]Médecine Interne et Spécialité, CH Laon, France, [8]Service de Rhumatologie, CHR Metz-Thionville, France, [9]Service de rhumatologie, CHU Hôpital Nord, France, [10]Lorraine Universié Ea 4360 Apemac, Cic-Ec Cie6 et Rhumatologie, CHU Nancy-Brabois, France

Disclosures: Florence Levy-Weil, None

SU0317 **Early Postmenopausal Dietary Patterns and Markers of Bone Formation, but not Bone Resorption, Predict Bone Mineral Density 10 Years On**

Helen Macdonald*[1], Adrian Wood[2], Ania Gryka[2], Antonia Hardcastle[3], Lorna Aucott[2], Alison Black[4], William Fraser[3], David Reid[5]. [1]University of Aberdeen Musculoskeletal Research, United Kingdom, [2]University of Aberdeen, United Kingdom, [3]University of East Anglia, United Kingdom, [4]Woolmanhill Hospital Aberdeen Osteoporosis Research Unit, United Kingdom, [5]University of Aberdeen, GBR

Disclosures: Helen Macdonald, None

OSTEOPOROSIS - EPIDEMIOLOGY: FRACTURE OUTCOME

SU0318 **Bone Mineral Density (BMD) Loss May Predict Fracture Differently in Older Adults According to Fall History**

Sarah Berry*[1], Robert McLean[2], Marian Hannan[3], L. Adrienne Cupples[4], Douglas Kiel[5]. [1]Hebrew SeniorLife/Beth Israel Deaconess Medical Center, USA, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]HSL Institute for Aging Research & Harvard Medical School, USA, [4]Boston University School of Public Health, USA, [5]Hebrew SeniorLife, USA

Disclosures: Sarah Berry, None

SU0319 **Changes In Femoral Shaft Cortical Thickness In Older Women: the Study of Osteoporotic Fractures**

Dennis Black*[1], Katherine Peters[2], Kristine Ensrud[3], Nicola Napoli[4], Jane Cauley[5]. [1]University of California, San Francisco, USA, [2]California Pacific Medical Center, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University Campus Biomedico, Italy, [5]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Dennis Black, None

SU0320 **Prevalent Vertebral Fractures Predict Risk of Vertebral and Non-Vertebral Fractures in Older Men: the MrOS Study**

Dennis Black*[1], Katherine Peters[2], Peggy Cawthon[3], Jane Cauley[4], Steven Cummings[5], Eric Orwoll[6], Kristine Ensrud[7], Howard Fink[8], Lynn Marshall[6], Neeta Parimi[2], Deborah Kado[9], Marcia Stefanick[10], John Schousboe[11]. [1]University of California, San Francisco, USA, [2]California Pacific Medical Center, USA, [3]California Pacific Medical Center Research Institute, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]San Francisco Coordinating Center, USA, [6]Oregon Health & Science University, USA, [7]Minneapolis VA Medical Center / University of Minnesota, USA, [8]GRECC, Minneapolis VA Medical Center, USA, [9]University of California, San Diego, USA, [10]Stanford University School of Medicine, USA, [11]Park Nicollet Clinic, University of Minnesota, USA

Disclosures: Dennis Black, None

SU0321 **Concordance and Discordance between Incident Radiographic Vertebral Fractures and Clinical Vertebral Fractures in Older Men**

Kristine Ensrud*[1], Terri Blackwell[2], Howard Fink[3], Jie Zhang[4], Jane Cauley[5], Peggy Cawthon[2], Dennis Black[6], Douglas Bauer[6], Jeffrey Curtis[4], Eric Orwoll[7], Elizabeth Barrett-Connor[8], Deborah Kado[8], John Schousboe[9]. [1]Minneapolis VA Medical Center / University of Minnesota, USA, [2]California Pacific Medical Center Research Institute, USA, [3]GRECC, Minneapolis VA Medical Center, USA, [4]University of Alabama at Birmingham, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]University of California, San Francisco, USA, [7]Oregon Health & Science University, USA, [8]University of California, San Diego, USA, [9]Park Nicollet Clinic, University of Minnesota, USA

Disclosures: Kristine Ensrud, Merck Sharpe & Dohme, 5

SU0322 **Construction validity of the ICECAP-O index amongst people with non-traditional low trauma fractures**

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Disclosures: Yu Zhang, None

SU0323 **Dissecting the Relationship between High-Sensitivity Serum C-Reactive Protein and Increased Fracture Risk: the Rotterdam Study**

Ling Oei*[1], Natalia Campos[2], Abbas Dehghan[3], Edwin Oei[3], Lisette Stolk[3], Joyce Van Meurs[4], Albert Hofman[3], Andre Uitterlinden[5], Oscar Franco[3], Carola Zillikens[3], Fernando Rivadeneira[4]. [1]Erasmus University Medical Center, The Netherlands, [2]Erasmus MC, The Netherlands, [3]Erasmus MC, Netherlands, [4]Erasmus University Medical Center, The Netherlands, [5]Rm Ee 575, Genetic Laboratory, The Netherlands

Disclosures: Ling Oei, None

SU0324 **Frequency of calcaneal insufficiency fracture in elderly patients**

Koji Nozaka*, Naohisa Miyakoshi, Michio Hongo, Yuji Kasukawa, Hiroyuki Tsuchie, Kentaro Ohuchi, Hayato Kinoshita. Akita University Graduate School of Medicine, Japan

Disclosures: Koji Nozaka, None

SU0325 **Genetic Risk Scores for the Prediction of BMD, BMD Loss and Fracture Risk in Elderly Subjects**

Joel Eriksson*[1], Dan Evans[2], Jian Shen[3], Priya Srikanth[4], Carrie Nielson[3], Marc Hochberg[5], Shannon McWeeney[6], Peggy Cawthon[7], Beth Wilmot[8], Joseph Zmuda[9], Greg Tranah[10], Daniel Mirel[11], Sashi Challa[12], Michael Mooney[13], Andrew Crenshaw[14], Magnus Karlsson[15], Dan Mellström[16], Liesbeth Vandenput[17], Eric Orwoll[3], Claes Ohlsson[18]. [1]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Department of Medicine, University of California, San Francisco, USA, [3]Oregon Health & Science University, USA, [4]Department of Public Health & Preventive Medicine, Oregon Health & Science University, Portland, OR, USA, [5]University of Maryland School of Medicine, USA, [6]Oregon Clinical & Translational Research Institute, Oregon Health & Science University, Portland, OR, USA & Department of Biostatistics-Public Health & Preventative Medicine, Oregon Health & Science University, Portland, OR, USA, [7]California Pacific Medical Center Research Institute, USA, [8]Department of Molecular & Medical Genetics, Oregon Health & Sciences University, Portland, OR, United States, USA, [9]University of Pittsburgh Graduate School of Public Health, USA, [10]Research Institute, California Pacific Medical Center, 185 Berry Street, Suite 5700, San Francisco, California 94107-1728, USA, [11]Program in Medical & Population Genetics, Broad Institute, Cambridge, Massachusetts, United States of America, USA, [12]Oregon Clinical & Translational Research Institute, Oregon Health & Science University, Portland, OR, USA, [13]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University, Portland, OR, USA, [14]Broad Institute of MIT & Harvard, Cambridge, MA, 02142, USA, [15]Skåne University Hospital Malmö, Lund University, Sweden, [16]Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, [17]University of Gothenburg, Sweden, [18]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden

Disclosures: Joel Eriksson, None

SU0326 **How well hip fractures can be captured using the postal enquiry?**
Reijo Sund[1], Liisa Ollikainen[2], Risto Honkanen[2], Heikki Kroger*[3]. [1]National Institute for Health & Welfare, Finland, [2]University of Eastern Finland, Finland, [3]Kuopio University Hospital, Finland
Disclosures: Heikki Kroger, None

SU0327 **Impact of Vertebral Fractures on Hospitalization for Major Disease and Longterm Care Placement**
Jane Cauley*[1], Li-Yung Lui[2], Misti Paudel[3], Lih-Wen Mau[4], Brent Taylor[4], Peggy Cawthon[2], Teresa Hillier[5], John Schousboe[6], Kristine Ensrud[7]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]California Pacific Medical Center Research Institute, USA, [3]Department of Epidemiology, University of Minnesota, USA, [4]University of Minnesota, USA, [5]Kaiser Center for Health Research, USA, [6]Park Nicollet Clinic, University of Minnesota, USA, [7]Minneapolis VA Medical Center / University of Minnesota, USA
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SU0328 **Low Bone Mineral Density in Swedish Men with Distal Radius Fracture**
Lisa Egund*[1], Fiona McGuigan[2], Kristina Akesson[3]. [1]Skåne University Hospital, Malmoe, Sweden, [2]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [3]Skåne University Hospital, Malmö, Sweden
Disclosures: Lisa Egund, None

SU0329 **Outcomes in Patients with Atypical Femur Fractures: the Ontario AFF Cohort**
Angela M. Cheung*[1], Aliya Khan[2], Robert Josse[3], Earl Bogoch[4], Lianne Tile[1], Robert Bleakney[5], George Tomlinson[6], Adrian Lau[6], Rowena Ridout[7], Heather McDonald-Blumer[6], Moira Kapral[1], Savannah Cardew[8], Khalid Syed[1], Nicholas Bellamy[9], Jessica Chang[1], Judite Scher[1], Hanxian Hu[1], Alexandra Papaioannou[10], Suzanne Morin[11], Jonathan Adachi[12]. [1]University Health Network, Canada, [2]McMaster University, Canada, [3]St. Michael's Hospital, University of Toronto, Canada, [4]St. Michael's Hospital, Canada, [5]Mount Sinai Hospital, Canada, [6]University of Toronto, Canada, [7]Toronto Western Hospital, Canada, [8]Women's College Hospital, Canada, [9]The University of Queensland, Australia, [10]Hamilton Health Sciences, Canada, [11]McGill University, Canada, [12]St. Joseph's Hospital, Canada
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SU0330 **Prediction of Fracture and Fracture-associated Outcomes**
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SU0331 **Predictors of Re-fracture in Patients Managed within a Fracture Liaison Service: A 7-year Prospective Study**
Kirtan Ganda*[1], Markus Seibel[2]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Kirtan Ganda, None

SU0332 **Changes in Frailty-Related Characteristics of the Hip Fracture Population and their Implications for Healthcare Services: Evidence from Quebec, Canada**
Mohammad Auais*[1], Suzanne Morin[2], Lyne Nadeau[3], Lois Finch[3], Nancy Mayo[3]. [1]Ivey International Centre for Health Innovation, Can, [2]McGill University, Canada, [3]McGill University Health Centre, Canada
Disclosures: Mohammad Auais, None

SU0333 **Serum Pentosidine and its Decoy Receptor, endogenous secretory receptor for Advanced Glycation End Products, Predict Fragility Fractures in Elderly Men: the Fujiwara-kyo Osteoporosis Risk in Men (FORMEN) Study**

Junko TAMAKI*[1], Katsuyasu KOUDA[1], Yuki FUJITA[1], Masayuki IKI[2], Akiko YURA[1], Eiko KADOWAKI[2], Masakazu MIURA[3], Yuho SATO[4], Nozomi OKAMOTO[5], Norio KURUMATANI[5]. [1]Department of Public Health, Kinki University Facluty of Medicine, Japan, [2]Department of Public Health, Kinki University Faculty of Medicine, Japan, [3]Hokuriku University Faculty of Pharmaceutical Sciences, Japan, [4]Department of Human Life, Jin-ai University, Japan, [5]Department of Community Health & Epidemiology, Nara Medical University School of Medicine, Japan

Disclosures: Junko TAMAKI, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

SU0334 **Interaction of a single genotype and body mass index for prediction of hip fracture risk: a prospective cohort study**

Joshua Lewis*[1], Karol Estrada[2], Andre Uitterlinden[3], Fernando Rivadeneira[4], Richard Prince[5]. [1]School of Medicine & Pharmacology, the University of Western Australia, Department of Endocrinology & Diabetes, Sir Charles Gairdner Hospital, Australia, [2]Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, [3]Rm Ee 575, Genetic Laboratory, The Netherlands, [4]Erasmus University Medical Center, The Netherlands, [5]Sir Charles Gairdner Hospital, Australia

Disclosures: Joshua Lewis, None

SU0335 **Testing reported SNPs for cortical and trabecular vBMD for hip and spine in the Age, Gene/Environment Susceptibility-Reykjavik Study**

Tamara Harris*[1], Albert Smith[2], Thomas Lang[3], Kristin Siggeirsdottir[2], Gudny Eiriksdottir[2], Vilmundur Gudnason[4]. [1]Intramural Research Program, National Institute on Aging, USA, [2]Icelandic Heart Association, Iceland, [3]University of California, San Francisco, USA, [4]Icelandic Heart Association Research Institute, Iceland

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SU0336 **TNSALP Mutation Analysis in Women with Atypical Femoral Fracture and Bisphosphonate Therapy for Osteoporosis**

Melissa Sum*[1], Margaret Huskey[1], Kathryn Diemer[1], Roberto Civitelli[1], Michael Gardner[1], Christopher McAndrew[1], William Ricci[1], Michael Whyte[2], Steven Mumm[3]. [1]Washington University, USA, [2]Shriners Hospital for Children-Saint Louis, USA, [3]Washington University School of Medicine, USA

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OSTEOPOROSIS - EPIDEMIOLOGY: LIFESTYLE

SU0337 **Gastrointestinal Events and Osteoporosis Treatment Initiation among Elderly Women with Medicare Part D Coverage**

Ethel Siris[1], Jingbo Yu*[2], Ankita Modi[3], Mitch Dekoven[4], Anshu Shrestha[5]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck & Co, Inc., USA, [3]Merck & Co., Inc., USA, [4]IMS Health, USA, [5]Precision Health Economics, LLC, USA

Disclosures: Jingbo Yu, Merck & Co., Inc, 5

SU0338 **Objectively Measured Physical Activity and Bone Health in Frail Older Adults**

Hyuntae Park*, Hiroyuki Shimada, Hyuma Makizako, Daisuke Yoshida, Yuya Anan, Takehiko Doi, Kazuki Uemura, Kota Tsutsumimoto, Sangyoon Lee, Tadashi Ito, Takao Suzuki. National Center for Geriatrics & Gerontology, Japan

Disclosures: Hyuntae Park, None

SU0339 **Physical Activity in Midlife Is Associated with Peripheral Bone Density and Microarchitecture in Later Life: The Framingham Osteoporosis Study**
Kerry Broe*[1], Marian Hannan[2], Elizabeth Samelson[3], Robert McLean[4], Ching-An Meng[5], Mary Hogan[6], Danette Carroll[5], Xiaochun Zhang[5], L. Adrienne Cupples[7], Mary Bouxsein[8], Douglas Kiel[9]. [1]Institute for Aging Research, Hebrew SeniorLife, USA, [2]HSL Institute for Aging Research & Harvard Medical School, USA, [3]Hebrew SeniorLife, Harvard Medical School, USA, [4]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [5]Institute for Aging Research, Hebrew SeniorLife, USA, [6]Institute for Aging Reseach, Hebrew SeniorLife, USA, [7]Department of Biostatistics, Boston University School of Public Health, USA, [8]Beth Israel Deaconess Medical Center, USA, [9]Hebrew SeniorLife, USA
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OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

SU0340 **A Randomized Controlled Trial Evaluating Appropriate Osteoporosis Treatment by Family Physicians in Response to FRAX® versus CAROC Reports**
Karen Beattie*[1], George Ioannidis[1], Alexandra Papaioannou[2], Joy MacDermid[1], Ruby Grewal[3], Jonathan Adachi[4], Anthony Hodsman[5]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]University of Western Ontario, Canada, [4]St. Joseph's Hospital, Canada, [5]Western University, Canada
Disclosures: Karen Beattie, None

SU0341 **Association of Waist Circumference with Bone Mineral Densities in Middle- and Old-aged Men and Women: The Dong-gu Study**
Lian-Hua Cui[1], Sun-Seog Kweon[2], Jin-Su Choi[2], Hae-Sung Nam[3], Jane Cauley[4], Min-Ho Shin*[5]. [1]Department of Preventive Medicine, Qingdao University Medical college, China, [2]Department of Preventive Medicine, Chonnam National University Medical School, South Korea, [3]Department of Preventive Medicine, Chungnam National University Medical School, South Korea, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Chonnam National University Medical School, South Korea
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SU0342 **Associations of Overweight and Obesity with Incident Major Osteoporotic and Hip Fractures: A Large Clinical Cohort Study of Women and Men**
Carrie Nielson*[1], Eric Orwoll[1], Suzanne Morin[2], Sumit Majumdar[3], William Leslie[4]. [1]Oregon Health & Science University, USA, [2]McGill University, Canada, [3]University of Alberta, Canada, [4]University of Manitoba, Canada
Disclosures: Carrie Nielson, None

SU0343 **Withdrawn**

SU0344 **Changes in the Prevalence of Osteoporosis in the United States After Inclusion of the Long Term Care Population**
Nicole Wright*[1], Bess Dawson-Hughes[2], David Redden[1], Jeffrey Curtis[1], Susan Randall[3], Kenneth Saag[1]. [1]University of Alabama at Birmingham, USA, [2]Tufts University, USA, [3]National Osteoporosis Foundation, USA
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SU0345 **Predicting Osteoporosis Knowledge and Perceived Susceptibility and Seriousness of Osteoporosis**
Nicole Wright*[1], Stephanie Edmonds[2], Mollie Giller[2], Peter Cram[2], Kenneth Saag[1]. [1]University of Alabama at Birmingham, USA, [2]University of Iowa, USA
Disclosures: Nicole Wright, None

SU0346 **Increased Risk of Hip Fracture Among Spouses. Effect of Homogamy?**
Dan Mellstrom*[1], Valter Sundh[2], Cecilie Hongslo Vala[2], Magnus Karlsson[3], Bjorn Rosengren[3], Claes Ohlsson[4], Mattias Lorentzon[5], John Kanis[6], Boo Johansson[7], Anders Odén[8]. [1]Sahlgrenska University Hospital, Sweden, [2]Geriatric Medicine, Department of Internal Medicine & Clinical Nutrition. Center for Bone & Arthritis Research (CBAR) at Sahlgrenska Academy, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [6]University of Sheffield, Belgium, [7]Department of Psychology, University of Gothenburg, Sweden, [8]Department of Biostatics, Chalmers University, Gothenburg., Sweden
Disclosures: Dan Mellstrom, None

SU0347 **Low thyrotropin levels as a predictor of major osteoporotic fractures in 260,783 adult men and women - The *OPENTHYRO* register cohort.**
Bo Abrahamsen*[1], Henrik Jørgensen[2], Anne Sofie Laulund[2], Mads Nybo[3], Thomas Brix[4], Laszlo Hegedüs[4]. [1]University of Southern Denmark, Denmark, [2]Bispebjerg Hospital, Denmark, [3]Odense University Hospital, Dept of Clin Biochemistry, Denmark, [4]Odense University Hospital, Dept of Endocrinology, Denmark
Disclosures: Bo Abrahamsen, None

SU0348 **Mild to Moderate Chronic Kidney Disease is Associatedwith Vertebral Fracture Independent of Albuminuria or Bone Mineral Density in Patients with Type 2 Diabetes Mellitus**
Masahiro Yamamoto*[1], Toru Yamaguchi[1], Shozo Yano[1], Mika Yamauchi[1], Toshitsugu Sugimoto[2]. [1]Shimane University Faculty of Medicine, Japan, [2]Shimane University School of Medicine, Japan
Disclosures: Masahiro Yamamoto, None

SU0349 **Modified "Osteoporosis Questionnaire" of FRAX is sufficient tool for screening of osteoporosis patients**
Shinya Tanaka*[1], Sawako Moriwaki[2], Kiyoshi Tanaka[3], Syunpei Niida[2]. [1]Saitama Medical University, Japan, [2]Biobank-Omics, National center for geriatrics & gerontology, Japan, [3]Kyoto Women's University, Japan
Disclosures: Shinya Tanaka, None

SU0350 **Multiple Gene Polymorphisms can Improve Prediction of Non-vertebral Fracture in Postmenopausal Women**
Seung Hun Lee*[1], Seon Woo Lee[2], Seong Hee Ahn[1], Taehyeung Kim[2], Beom-Jun Kim[3], Eun-Hee Cho[4], Sang-Wook Kim[4], Tae-Ho Kim[5], Ghi Su Kim[1], Shin-Yoon Kim[6], Changwon Kang[2], Jung-Min Koh[3]. [1]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [2]Department of Biological Sciences, Korea Advanced Institute of Science & Technology, South Korea, [3]Asan Medical Center, South Korea, [4]Department of Internal Medicine, Kangwon National University College of Medicine, South Korea, [5]Kyungpook National University School of Medicine, South Korea, [6]Kyungpook National University Hospital, South Korea
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SU0351 **Parathyroid Hormone and Bone Mineral Density as Independent Risk Factors for Mortality in Community-Dwelling Older Adults: the São Paulo Ageing & Health Study (SPAH)**
Diogo Domiciano*[1], Luana Machado[1], Camille Figueiredo[1], Jaqueline Lopes[2], Valéria Caparbo[1], Liliam Takayama[1], Eloisa Bonfa[1], Rosa Pereira[2]. [1]University of São Paulo, Brazil, [2]Faculdade De Medicina Da Universidade De São Paulo, Brazil
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SU0352 **Parental Divorce or Death Is Associated with Lower Adult Bone Strength: The Midlife in the U.S. Study**
Carolyn Crandall*[1], Arun Karlamangla[1], Sharon Stein Merkin[2], Neil Binkley[3], Deborah Carr[4], Gail Greendale[1], Teresa Seeman[2]. [1]University of California, Los Angeles, USA, [2]UCLA, USA, [3]University of Wisconsin, Madison, USA, [4]Rutgers University, USA
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SU0353 **Patients with Rheumatoid Arthritis Receiving High Doses of Prednisolone Tended to Fall More Frequently than Healthy Individuals: the TOMORROW study**
Tatsuya Koike*[1], Masahiro Tada[2], Yuko Sugioka[3], Tadashi Okano[3], Kenji Mamoto[3], Kentaro Inui[3]. [1]Osaka City University Medical School, USA, [2]Department of Orthopaedic Surgery, Osaka City University Medical School, Japan, [3]Osaka City University Medical School, Japan
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SU0354 **Evaluation of Patients' Response Toward an Automated Osteoporosis Intervention Program**
Matt Varacallo*[1], Edward Fox[2], Emmanuel Paul[3], Susan Hassenbein[3], Pamela Warlow[4]. [1]Penn State Hershey, Canada, [2]Pennsylvania State Hershey Medical Center, USA, [3]Penn State Hershey Department of Orthopaedics, USA, [4]Penn State Hershey, USA
Disclosures: Matt Varacallo, None

SU0355 **The Performance of FRAX® According to Different Levels of Socioeconomic Status**
Sharon Brennan*[1], William Leslie[2], Lisa Lix[2], Helena Johansson[3], Anders Oden[4], Eugene McCloskey[5], John Kanis[6]. [1]The University of Melbourne, Australia, [2]University of Manitoba, Canada, [3]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [4]World Health Organization (WHO) Collaborating Centre, University of Sheffield, United Kingdom, [5]University of Sheffield, United Kingdom, [6]University of Sheffield, Belgium
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SU0356 **The Risk of Fractures after Initiating Antihypertensive Medications: Results from the National Claim Registry**
Hyung Jin Choi*[1], Chanmi Park[2], Young-Kyun Lee[3], Yong-Chan Ha[4], Sunmee Jang[5], Chan Soo Shin[6]. [1]Chungbuk National University Hospital, South Korea, [2]Health Insurance Review & Assessment Service, South Korea, [3]Seoul National University Bundang Hospital, South Korea, [4]Chung-Ang University Hospital, South Korea, [5]College of Pharmacy Inje University, South Korea, [6]Seoul National University College of Medicine, South Korea
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SU0357 **Vertebral and Nonvertebral Fractures Depend on Physical Activity of Osteoporosis Patients**
Hans-Christof Schober*[1], Johanna Torner[2], Reimer Andresen[3]. [1]Klinikum Südstadt RostockKlinik Für Innere Medizin I, Germany, [2]Klinikum Südstadt ostock, Germany, [3]Westküstenklinikum, Germany
Disclosures: Hans-Christof Schober, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MINERAL DENSITY

SU0358 **Concurrently Lower Chance of Diabetes but Higher Chance of Osteoporosis in Elderly Women with Elevated Osteocalcin**
Kyoung Min Kim*[1], Eun Young Lee[2], Ju Mi Lee[3], Young Mi Yun[4], Yoosik Youm[5], Hyeon Chang Kim[3], Chang Oh Kim[2], Yumie Rhee[6]. [1]Seoul National University Bundang Hospitatl, South Korea, [2]Department of Internal Medicine, Yonsei University College of Medicine, South Korea, [3]Department of Preventive Medicine, Yonsei University College of Medicine, South Korea, [4]Medical Research Center, Yonsei University College of Medicine, South Korea, [5]Department of Sociology, Yonsei University, South Korea, [6]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
Disclosures: Kyoung Min Kim, None

SU0359 **Glycemic Control in Relation to High Bone Mineral Density and Fracture Risk Among Postmenopausal Women: The CEOR Study**
Mohammed-Salleh Ardawi*[1], Mohammed Qari[2], Abdulrahim Rouzi[1], Sharifa Al-Sibiani[3], Nawal Al-Senani[3], Bader Mustafa[4]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia, [2]Center of Excellence for Osteoporosis Research & Department of Haematology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [3]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [4]Center of Excellence for Osteoporosis Research, King Abdulaziz University, Saudi Arabia
Disclosures: Mohammed-Salleh Ardawi, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE REMODELING

SU0360 **Bone Turnover Markers and Calcium Metabolism in Young Men With Hyperthyroidism**

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Disclosures: Ana Paula Barbosa, None

SU0361 **Influence of vitamin D status on the effect of statins on bone mineral density and bone turnover markers**

Jesus Gonzalez-Macias*[1], José L. Hernández[1], Josefina Martínez[1], Sheila Ruiz[1], Jose Olmos[2]. [1]Department of Internal Medicine, Hospital Universitario Marqués de Valdecilla-IFIMAV, Universidad de Cantabria. RETICEF, Spain, [2]Hospital Universitario M. Valdecilla, Spain

Disclosures: Jesus Gonzalez-Macias, None

SU0362 **Oxytocin, A New Determinant of Bone Mineral Density and Bone Turnover in Post-menopausal Women: Analysis of the OPUS Cohort**

Veronique Breuil*[1], Patricia Panaia-ferrari[2], Eric Fontas[3], Christian Roux[4], Sami Kolta[5], Richard Eastell[6], Hedi Ben Yahia[7], Claude Laurent Benhamou[8], Liana Euller-Ziegler[9], Ez Zoubir Amri[10]. [1]Chu De Nice, France, [2]laboratoire d'hormonologie - CHU de Nice, France, [3]statistical department - CHU de Nice, France, [4]Hospital Cochin, France, [5]Centre D'Evaluation, Des Maladies Osseuses, France, [6]University of Sheffield, United Kingdom, [7]Laboratoire d'Hormonologie CHU de Nice, France, [8]CHR ORLEANS, France, [9]Rheumatology Department CHU de Nice, France, [10]CNRS UMR7277, F-06108, University of Nice Sophia Antipolis, France

Disclosures: Veronique Breuil, amgen, 2; Roche, 2

SU0363 **Role of Wnt antagonists (sclerostin and Dkk-1) on bone turnover markers and bone mass in patients with complete spinal cord injury. Preliminary results**

Laia Gifre*[1], Joan Vidal[2], Sílvia Ruiz-Gaspà[3], Enric Portell[2], Ana Monegal[4], África Muxí[5], Núria Guañabens[4], Pilar Peris[6]. [1]Hospital Clinic Barcelona, Spain, [2]Spinal Cord Unit. Neurorehabilitation Institute Guttmann, Badalona, Spain, [3]CIBERehd. Hospital Clínic of Barcelona, Spain, [4]Rheumatology Department. Metabolic Bone Diseases Unit. Hospital Clinic of Barcelona., Spain, [5]Nuclear Medicine Department. Hospital Clínic of Barcelona, Spain, [6]Hospital Clínic of Barcelona, Spain

Disclosures: Laia Gifre, None

SU0364 **The Association between Bone Turnover Markers and Kyphotic Status in Community-dwelling Older Adults**

Corinne McDaniels-Davidson*[1], Donna Kritz-Silverstein[2], Mei-Hua Huang[3], Gail Laughlin[2], Elizabeth Barrett-Connor[2], Deborah Kado[2]. [1]UCSD, USA, [2]University of California, San Diego, USA, [3]UCLA School of Medicine, USA

Disclosures: Corinne McDaniels-Davidson, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE STRUCTURE

SU0365 **Skin Wound Trauma after Low-dose Gamma-ray Exposure Exacerbates Cancellous Bone Loss in Mice**

Joshua Swift*[1], Matthew Allen[2], Joan Smith[1], Juliann Kiang[3]. [1]Armed Forces Radiobiology Research Institute, USA, [2]Indiana University School of Medicine, USA, [3]Armed Forces Radiobiology Research Institute, Uniformed Services University of the Health Sciences, USA

Disclosures: Joshua Swift, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: DIETARY FACTORS

SU0366 **Vitamin D supplementation on calcium absorption in young women**

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Disclosures: Prachi Jindal, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS

SU0367 **Relationship between Dexamethasone Suppressed Cortisol levels, Bone Mineral Density and Vertebral Fractures in Postmenopausal Women**
Miguel Debono*, Selina Simpson, Margaret Paggiosi, Fatima Gossiel, John Newell-Price, Richard Ross, Richard Eastell. University of Sheffield, United Kingdom
Disclosures: Miguel Debono, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

SU0368 **Increased Cortical Porosity in Older Men with Low 25-OH-Vitamin D**
Dan Mellstrom[1], Daniel Sundh[2], Magnus Karlsson[3], Anna Nilsson[1], Claes Ohlsson[4], Mattias Lorentzon*[5]. [1]Sahlgrenska University Hospital, Sweden, [2]Geriatric Medicine, Dept. of Internal Medicine & Clinical Nutrition, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden., Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Mattias Lorentzon, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: MISCELLANEOUS

SU0369 **Impact of Traumatic Brain Injury on Bone in a Mouse Model**
Hongrun Yu*[1], Heather Watt[2], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Jerry L Pettis Memorial VA Medical Center, USA
Disclosures: Hongrun Yu, None

SU0370 **Skin color measurement and serum 25OH Vitamin D level: A comparison in young Caucasian and African American women**
SRI HARSHA TELLA*[1], Prachi Jindal[2], J. Christopher Gallagher[2]. [1]Creighton University, USA, [2]Creighton university medical center, USA
Disclosures: SRI HARSHA TELLA, None

OSTEOPOROSIS - TREATMENT (CLINICAL): ANABOLIC AGENTS, INCLUDING PTH, ANTI-SCLEROSTIN

SU0371 **Changes in Serum Undercarboxylated/Carboxylated Osteocalcin Ratio in Daily vs. Weekly Teriparatide Therapy for Vertebral Compression Fracture**
Yoichi Kishikawa*. Kishikawa Orthopedics, Japan
Disclosures: Yoichi Kishikawa, None

SU0372 **Forteo Voluntary Patient Registry: 3-Year Progress on a Prospective Osteosarcoma Surveillance Study**
Nicole Kellier*[1], Kelly Krohn[2], Alicia Gilsenan[3], David Harris[3], Elizabeth Andrews[3], Daniel Masica[1]. [1]Eli Lilly & Company, USA, [2]Lilly USA, LLC, USA, [3]RTI Health Solutions, USA
Disclosures: Nicole Kellier, Eli Lilly & Company, 3

SU0373 **Monthly Cycles of Teriparatide and Raloxifene Increase BMD Comparable to Continuous Teriparatide: Is it Possible to "Open the Anabolic Window?"**
Neil Binkley*, Jessie Libber, Gretta Borchardt, Diane Krueger, Bjoern Buehring. University of Wisconsin, Madison, USA
Disclosures: Neil Binkley, Merck, 5; Lilly, 5; Lilly, 2; Amgen, 2; Merck, 2

SU0374 **Safety of Concomitant Use of 20 μg Teriparatide Once-Daily Subcutaneous Injection with Active Vitamin D Focusing on Calcium Levels**
Masako Nakano*[1], Mika Tsujimoto[2], Hideaki Sowa[3]. [1]Eli Lilly Japan, Japan, [2]Asia Pacific Statistical Science, LRL DCOE Asia Pacific Eli Lilly Japan K.K, Japan, [3]Lilly Research Laboratories Japan, Eli Lilly Japan K.K., Japan
Disclosures: Masako Nakano, Eli LIlly Japan.K.K., 3

OSTEOPOROSIS - TREATMENT (CLINICAL): ANTI-CATABOLIC, INCLUDING BISPHOSPHONATES, CATHEPSIN K INHIBITOR, ESTROGENS

SU0375 **Anti Resorptive Drugs Related Osteonecrosis of the Jaw: Epidemiology, Risk Factors and Evolution**

Alice Pham Quang Hai*[1], Bernard Cortet[2], Guillaume Penel[3], Jean Michel Maes[4], Jacques Bonneterre[5], Marie Helene Vieillard[1]. [1]Rheumatology department Lille Hospital, France, [2]Service de Rhumatologie, France, [3]Surgical dental department Lille Hospital, France, [4]Stomatology department Lille Hospital, France, [5]Oncology Oscar Lambret Center Lille, France

Disclosures: Alice Pham Quang Hai, None

SU0376 **Changes in Low Back Pain and Upper Gastrointestinal Symptoms in Japanese Osteoporotic Patients after Switching to Once-monthly Oral Minodronate from Daily or Weekly Bisphosphonates**

Nobukazu Okimoto*[1], Akinori Sakai[2], SATOSHI IKEDA[3], Toru Yoshioka[4], Kitau Teshima[5], Shinobu Arita[6], Masato Nagashia[7], Hidehiro Matsumoto[8], Fumio Fukuda[9], Yuichi Okazaki[10], Hiroshi Tsurukami[11]. [1]Okimoto Clinic, Japan, [2]University of Occupational & Environmental Health, Japan, [3]Ken-Ai Memorial Hospital, Japan, [4]Saka Midorii Hospital, Japan, [5]Teshima Orthopaedic Clinic, Japan, [6]Obase Hospital, Japan, [7]Katsuki Neurosurgery & Orthopaedic Clinic, Japan, [8]Sanzai Hospital, Japan, [9]Kitakyushu General Hospital, Japan, [10]Makiyama Central Hospital, Japan, [11]Tsurukami Clinic of Orthopedics & Rheumatology, Japan

Disclosures: Nobukazu Okimoto, None

SU0377 **Comparative Gastrointestinal Safety of Bisphosphonates: A Network Meta-analysis**

Mina Tadrous*[1], Lindsay Wong[2], David Juurlink[3], Murray Krahn[4], Linda Lévesque[5], Muhammad Mamdani[6], Suzanne Cadarette[1]. [1]University of Toronto, Canada, [2]Univeristy of Toronto, Canada, [3]Sunnybrook Health Sciences Centre, Canada, [4]Toronto Health Economics & Technology Assessment Collaborative, Canada, [5]Queen's University, Canada, [6]St. Michael's Hospital, Canada

Disclosures: Mina Tadrous, None

SU0378 **Comparison of bone mass in lumbar vertebral segmentation and femoral area after treatment of novel intravenous alendronate in Japanese women with osteoporosis**

Keiko Kobayashi, Akio Kanezashi, Serita Ikuro, Norihiko Kato*. otomi orthopedic clinic, Japan

Disclosures: Norihiko Kato, None

SU0379 **Early Response to Once-monthly Oral Minodronate after Switching from Daily or Weekly Bisphosphonates in Japanese Osteoporotic Patients**

Akinori Sakai*[1], SATOSHI IKEDA[2], Nobukazu Okimoto[3], Kitau Teshima[4], Shinobu Arita[5], Hidehiro Matsumoto[6], Hiroshi Tsurukami[7], Yuichi Okazaki[8], Masato Nagashima[9], Fumio Fukuda[10], Toru Yoshioka[11]. [1]University of Occupational & Environmental Health, Japan, [2]Ken-Ai Memorial Hospital, Japan, [3]Okimoto Clinic, Japan, [4]Teshima Orthopaedic Clinic, Japan, [5]Obase Hospital, Japan, [6]Sanzai Hospital, Japan, [7]Tsurukami Clinic of Orthopedics & Rheumatology, Japan, [8]Makiyama Central Hospital, Japan, [9]Katsuki Neurosurgery & Orthopaedic Clinic, Japan, [10]Kitakyushu General Hospital, Japan, [11]Sakamidorii Hospital, Japan

Disclosures: Akinori Sakai, None

SU0380 **Effect of One Year Alendronate Administration on the Bone Strength, Soft Tissue Mass and Biochemical Markers of Bone Metabolism**

Shigeharu Uchiyama*[1], Shota Ikegami[2], Mikio Kamimura[3], Hiroyuki Kato[4]. [1]Shinshu University, School of Medicine, Japan, [2]Department of Orthopaedic Surgery, Shisnhu University School of Medicine, Japan, [3]Kamimura Clinic, Japan, [4]Department of Orthopaedic Surgery Shinshu University School of Medicine, Japan

Disclosures: Shigeharu Uchiyama, None

SU0381 **MIV-711, a Highly Selective Cathepsin K Inhibitor, First in Man Study – Safety, Pharmacokinetics and Pharmacodynamics of Multiple Ascending Oral Doses in Healthy Subjects**

Urszula Grabowska[1], Markus Jerling[2], Disa Böttiger[2], Torbjörn Larsson[2], Kerstin Danielson[2], Erik Lindström[2], Charlotte Edenius*[2]. [1]Medivir, United Kingdom, [2]Medivir, Sweden

Disclosures: Charlotte Edenius, Medivir, 3

SU0382 **Patient Preference and Adherence to Once-monthly Oral Minodronate in Japanese Osteoporotic Patients Previously Using Daily or Weekly Bisphosphonates**
SATOSHI IKEDA*[1], Akinori Sakai[2], Nobukazu Okimoto[3], Yuichi Okazaki[4], Fumio Fukuda[5], Shinobu Arita[6], Kitau Teshima[7], Masato Nagashima[8], Hidehiro Matsumoto[9], Hiroshi Tsurukami[10], Toru Yoshioka[11]. [1]Ken-Ai Memorial Hospital, Japan, [2]University of Occupational & Environmental Health, Japan, [3]Okimoto Clinic, Japan, [4]Makiyama Central Hospital, Japan, [5]Kitakyushu General Hospital, Japan, [6]Obase Hospital, Japan, [7]Teshima Orthopaedic Clinic, Japan, [8]Katsuki Neurosurgery & Orthopaedic Clinic, Japan, [9]Sanzai Hospital, Japan, [10]Tsurukami Clinic of Orthopedics & Rheumatology, Japan, [11]Saka Midorii Hospital, Japan
Disclosures: SATOSHI IKEDA, None

SU0383 **Preliminary results of a randomized head to head study between Denosumab and Zoledronic Acid in severe osteoporotic women.**
Marco Invernizzi*[1], Stefano Carda[2], Alessio Baricich[3], Carlo Cisari[3]. [1]University of Eastern Piedmont, Novara, Italy, [2]Department of Neurorehabilitation & Neuropsychology, Centre Hospitalier Universitaire Vaudois (CHUV), Switzerland, [3]Physical & Rehabilitation Medicine, Department of Health Sciences, University of Eastern Piedmont "A. Avogadro", Italy
Disclosures: Marco Invernizzi, None

SU0384 **Relationship between Response to Treatment with Risedronate and Baseline TRACP-5b Activity -Subanalysis of Japanese Risedronate 75mg Phase III Trial-**
Taro Mawatari*[1], Ryoichi Muraoka[2], Yukihide Iwamoto[3]. [1]Hamanomachi Hospital, Japan, [2]Ajinomoto Phamaceuticals Co, Ltd., Japan, [3]Department of Orthopaedic Surgery, Kyushu University, Japan
Disclosures: Taro Mawatari, None

SU0385 **Risk factors for incident vertebral fractures treated with bisphosphonates in glucocorticoid-induced osteoporosis**
Mari Ushikubo*[1], Ikuko Tanaka[2], Harumi Kuda[1], Sayaka Kubo[1], Keisuke Izumi[1], Kumiko Akiya[3], Shigenori Tamaki[2], Hisaji Oshima[1]. [1]Tokyo Medical Center, Japan, [2]NAGOYA Rheumatology Clinic, Japan, [3]National Tokyo Medical Center, Japan
Disclosures: Mari Ushikubo, None

SU0386 **Safety and Tolerability of Monthly i.v. Ibandronate Injections: MOVER Study 3-Year Analysis**
Toshitaka Nakamura*[1], Tetsuo Nakano[2], Masako Ito[3], Hiroshi Hagino[4], Junko Hashimoto[5], Masato Tobinai[6], Hideki Mizunuma[7]. [1]National Center for Global Health & Medicine, Japan, [2]Tamana Central Hospital, Japan, [3]Nagasaki University Hospital, Japan, [4]Tottori University, Japan, [5]Chugai Pharmaceutical Corporation Limited, Japan, [6]Chugai Pharmaceutical Co. Ltd., Japan, [7]Hirosaki University, Japan
Disclosures: Toshitaka Nakamura, Asahi Kasei Pharma Corp, Astellas Pharma Inc, Banyu Pharmaceutical Co. Ltd, Chugai Pharmaceutical Co. Ltd, Daiichi Sankyo Inc, Eisai Co. Ltd, Eli Lilly Japan K. K., Ono Pharmaceutical Co Ltd, Takeda Pharmaceutical Co Ltd, and Teijin Pharma Ltd, 5; Belongs to Japan Ministry of Health, Welfare and Labor as a councillor for hospital admissions and social medical insurance, 6

SU0387 **Short term safety and Acute Phase Reaction assessment of Postmenopausal Osteoporosis patients within 4 weeks after Zoledronic Acid treatment in China**
Fuxing Pei*[1], Xun Liu[2]. [1]Department of Orthopaedics, West China Hospital, Sichuan University, China, [2]The Sun Yat-Sen Memorial Hospital, Peoples Republic of China
Disclosures: Fuxing Pei, None

SU0388 **The Instructive Effects of Minodronate on Prevention of New Vertebral Fractures at the Higher Fracture Risk of Japanese Patients with Osteoporosis**
Hiroshi Hagino*[1], Masataka Shiraki[2], Masao Fukunaga[3], Tetsuo Nakano[4], Kunio Takaoka[5], Yasuo Ohashi[6], Toshitaka Nakamura[7], Toshio Matsumoto[8]. [1]Tottori University, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Kawasaki Medical School, Japan, [4]Tamana Central Hospital, Japan, [5]Hanwa Joint Reconstruction Center Hospital, Japan, [6]University of Tokyo, Japan, [7]University of Occupational & Environmental Health, Japan, [8]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Hiroshi Hagino, ONO PHARMACEUTICAL CO., LTD., 5

SU0389 **The Prevalence of Major Radiographic Features of Atypical Femoral Fractures in Thai Patients**

Aasis Unnanuntana[1], Sittichai Luangkittikong*[2]. [1]Hospital for Special Surgery, Siriraj Hospital, Thailand, [2]Siriraj hospital, Mahidol University, Thailand

Disclosures: Sittichai Luangkittikong, None

SU0390 **Undercarboxylated osteocalcin and vitamin K nutritional status in postmenopausal osteoporotic women during bisphosphonate treatment**

Jun Iwamoto*. Keio University School of Medicine, Japan

Disclosures: Jun Iwamoto, None

OSTEOPOROSIS - TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

SU0391 ***Own the Bone*: A system-based intervention to improve osteoporosis care after fragility fractures**

Andrew Bunta[1], Beatrice Edwards*[2], William Macaulay[3], Kyle Jeray[4], Laura Tosi[5], Clifford Jones[6], Deborah Sietsema[7], John Kaufman[8], Sarah Murphy[9], James Goulet[10], Gary Friedlander[11], Mark Swiontkowski[12], Douglas Dirschl[13]. [1]Northwestern University Feinberg School of Medicine, USA, [2]MD Anderson Cancer Center, USA, [3]Columbia University, USA, [4]Greenville Hospital System, USA, [5]Children's National Medical Center, USA, [6]Orthopaedic Associates of Michigan; Michigan State University, USA, [7]Orthopaedic Association of Michigan, USA, [8]Henry Mayo Newhall Memorial Hospital, USA, [9]American Orthopaedic Association, USA, [10]University of Michigan, USA, [11]Yale University, USA, [12]University of Minnesota, USA, [13]University of Chicago, USA

Disclosures: Beatrice Edwards, None

SU0392 **Change in osteoporosis treatment rates after implementation of an electronic consult service for patients with recent fracture**

Richard Lee*[1], Kenneth Lyles[2], Megan Pearson[3], Karen Barnard[4], Cathleen Colon-Emeric[2]. [1]Duke University, USA, [2]Duke University Medical Center, USA, [3]Durham VA Medical Center, USA, [4]Duke University Medical Center, Durham VAMC, USA

Disclosures: Richard Lee, None

SU0393 **Management of Fragility Fracture: An Integrated Interdisciplinary Approach**

Marie-Claude Beaulieu*[1], Hélène Corriveau[2], Gilles Boire[3], François Cabana[4], Earl Bogoch[5], Pierre Dagenais[6], Suzanne Gosselin[1], Diane Theriault[7], Bernard Burnand[8], Sonia Jean[9], Johanne Filiatrault[10], Sophie Laforest[10], Marie Rochette[11], Alvine Fansi[1], Isabelle Gaboury[1]. [1]Université de Sherbrooke, Canada, [2]Université de Sherbroke, Canada, [3]Centre Hospitalier Universitaire De Sherbrooke, Canada, [4]CHUS, Canada, [5]St. Michael's Hospital, Canada, [6]INESS, Canada, [7]Dartmouth General Hospital, Canada, [8]CHUV, Switzerland, [9]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [10]Université de Montréal, Canada, [11]MSSQ, Canada

Disclosures: Marie-Claude Beaulieu, None

OSTEOPOROSIS - TREATMENT (CLINICAL): DIET, VITAMIN D AND METABOLITES

SU0394 **A Successful Knowledge Translation Intervention in Long-Term Care: Results from the Vitamin D and Osteoporosis (ViDOS) Cluster Randomized Trial**

Alexandra Papaioannou*[1], Courtney Kennedy[2], George Ioannidis[2], Lora Giangregorio[3], Lehana Thabane[2], Suzanne Morin[4], Richard Crilly[5], Sharon Marr[2], Robert Josse[6], Lynne Lohfeld[2], Laura Pickard[2], Mary-Lou van der Horst[7], Jackie Stroud[8], Glenda Campbell[8], Lisa Dolovich[2], Anna Sawka[9], Lynn Nash[2], Ravi Jain[10], Carly Skidmore[2], Jonathan Adachi[11]. [1]Hamilton Health Sciences, Canada, [2]McMaster University, Canada, [3]University of Waterloo, Canada, [4]McGill University, Canada, [5]University of Western Ontario, Canada, [6]St. Michael's Hospital, University of Toronto, Canada, [7]Ontario Osteoporosis Strategy for Long-Term Care, McMaster University, Hamilton Health Sciences, Canada, [8]Medical Pharmacies Group Limited, Canada, [9]Toronto General Hospital, Canada, [10]Osteoporosis Canada, Canada, [11]St. Joseph's Hospital, Canada

Disclosures: Alexandra Papaioannou, Amgen, Eli Lilly, Merck Frosst Canada, Novartis, Warner Chilcott, 2; Amgen, Eli Lilly, Merck Frosst Canada, Novartis, Warner Chilcott, 8; Amgen, Eli Lilly, Merck Frosst Canada, Novartis, Warner Chilcott, 5

SU0395 **Effect of a Mixture of Calcium, Vitamin D, Inulin and Soy Isoflavones on Bone Metabolism in Post-Menopausal Women: A Retrospective Analysis**
Giorgio Gandolini[1], Maurizio Bevilacqua*[2], Matteo Alemanni[3]. [1]Don C. Gnocchi Foundation IRCCS Milan, Italy, [2]Ospedale L. Sacco - Polo Universitario, Italy, [3]Medical Affairs, Medical Department, Bayer SpA – Pharmaceuticals, Milan, Italy
Disclosures: Maurizio Bevilacqua, None

SU0396 **Efficacy of Continuing with Alendronate or Risedronate after Long-term use can be Improved by Adding Alfacalcidol Instead of Plain Vitamin D in Postmenopausal and Male Osteoporosis**
Johann D. Ringe*[1], Erich Schacht[2]. [1]West-German Osteoporosis Center, Klinikum Leverkusen (University of Cologne) Leverkusen, Germany, [2]Zurich Osteoporosis Research Group (ZORG), Zollikerberg, Switzerland
Disclosures: Johann D. Ringe, Amgen, Novartis, Merck, Teva, 5

SU0397 **Potassium Citrate Supplementation Results in Sustained Improvement in Calcium Balance in Older Men and Women**
Kendall Moseley*[1], Connie Weaver[2], Lawrence Appel[3], Anthony Sebastian[4], Deborah Sellmeyer[5]. [1]Division of Endocrinology, Johns Hopkins Bayview Medical Center, USA, [2]Purdue University, Dept of Nutrition Science, USA, [3]Johns Hopkins University, USA, [4]University of California San Francisco, USA, [5]The Johns Hopkins Bayview Medical Center, USA
Disclosures: Kendall Moseley, None

SU0398 **Role of Vitamin D Status on Strontium Absorption after a Strontium Ranelate Oral Overload Test and its Influence on Parathyroid Hormone (PTH) Levels**
Tatiane Vilaca*[1], Marilia Camargo[1], Olguita Rocha[2], Marise Lazaretti Castro[3]. [1]Unifesp, Brazil, [2]CETEC, Brazil, [3]Escola Paulista de Medicina, Brazil
Disclosures: Tatiane Vilaca, None

OSTEOPOROSIS - TREATMENT (CLINICAL): OTHER AGENTS

SU0399 **"Is this exercise safe?" - Building consensus around responses to common questions about physical activity posed by people with osteoporosis**
Lora Giangregorio*[1], Maureen Ashe[2], Kathy Shipp[3], Angela M. Cheung[4], Ari Heinonen[5], Alexandra Papaioannou[6], Stuart McGill[1], Judi Laprade[7], Ravi Jain[8], Heather Keller[1], Norma MacIntyre[9], John Wark[10]. [1]University of Waterloo, Canada, [2]University of British Columbia, Canada, [3]Duke University Medical Center, USA, [4]University Health Network-University of Toronto, Canada, [5]Department of Health Sciences, University of Jyväskylä, Finland, [6]Hamilton Health Sciences, Canada, [7]University of Toronto, Canada, [8]Osteoporosis Canada, Canada, [9]McMaster University, Canada, [10]University of Melbourne, Department of Medicine, Australia
Disclosures: Lora Giangregorio, None

SU0400 **Effect of Denosumab Treatment on Bone Histology and Histomorphometry in Men With Low Bone Mineral Density**
David Dempster*[1], David L Kendler[2], Jesse Hall[3], Steven Boonen[4], Michael Bolognese[5], Roland Chapurlat[6], Stefan Goemaere[7], Lars Hyldstrup[8], E Michael Lewiecki[9], Paul Miller[10], Yu-Ching Yang[3], Rachel B Wagman[3], Bente Langdahl[11]. [1]Columbia University, USA, [2]University of British Columbia, Canada, [3]Amgen, Inc., USA, [4]Leuven University, Belgium, [5]Bethesda Health Research Center, USA, [6]Hopital Edouard Herriot, France, [7]Ghent University Hospital, Belgium, [8]Hvidovre Hospital, Denmark, [9]New Mexico Clinical Research & Osteoporosis Center, USA, [10]Colorado Center for Bone Research, USA, [11]Aarhus University Hospital, Denmark
Disclosures: David Dempster, Amgen, 5; Amgen, 6

SU0401 **Effect of TNF inhibitors on BMD in patients with ankylosing spondylitis- a systematic review and meta-analysis**
Nisha Nigil Haroon*[1], Jeevitha Srighanthan[2], Angela M. Cheung[3], Robert.D. Inman[4], Nayef Al Ghanim[5]. [1]University of Toronto, Canada, [2]Osteoporosis Program, University Health Network, Canada, [3]University Health Network-University of Toronto, Canada, [4]Rheumatology division, University Health Network, Canada, [5]UHN Toronto Western Hospital, Canada
Disclosures: Nisha Nigil Haroon, salary support from grant from Amgen, 2

OSTEOPOROSIS - TREATMENT (CLINICAL): QUALITY OF LIFE

SU0402 **A Novel ^{41}Ca Assay to Measure Short and Long-term Mineral Kinetics in Patients Undergoing Cancer Therapy**
Susanta Hui*[1], Luke Arentsen[1], Thanasak Sueblinvong[1], Levi Downs[1], David Potter[1], Gary Grammens[1], Rahel Ghebre[1], Sharon Allen[1], Anne Minenko[1], Yang Zhang[2], Chap Le[1], Jerry Froelich[1], George Jackson[3], Maryka Bhattacharyya[4], Douglas Yee[1]. [1]University of Minnesota, USA, [2]Creighton University, USA, [3]Purdue University, USA, [4]Georgia Health Sciences University, USA
Disclosures: Susanta Hui, None

SU0403 **Evaluation of QOL and Fracture Probability Using FRAX in Japanese Postmenopausal Women with Osteoporosis Treated with Raloxifene**
Kousei Yoh*[1], Etsuro Hamaya[2], Masanori Taketsuna[3], Hisashi Urushihara[4], Kiyoshi Tanaka[5]. [1]Department of Orthopedic Surgery, Hyogo College of Medicine Sasayama Hospital, Japan, [2]Eli Lilly, Japan, [3]Eli Lilly Japan K.K., Japan, [4]Eli Lilly Japan K.K. & Ethics Committee, Graduate School & Faculty of Medicine, Kyoto University, Japan, [5]Kyoto Women's University, Japan
Disclosures: Kousei Yoh, None

SU0404 **Osteoporosis Assessment Questionnaire-Physical Function (OPAQ-PF): a Psychometrically Validated Osteoporosis-Specific Patient Reported Outcome Measure of Daily Activities of Physical Function**
April Naegeli[1], Annabel Nixon[2], Helen Doll[3], Sarah Shingler[3], Katie Breheny[3], Russel Burge*[1], Stuart Silverman[4], Deborah Gold[5]. [1]Eli Lilly & Company, USA, [2]Oxford Outcomes, an ICON plc., United Kingdom, [3]Oxford Outcomes, United Kingdom, [4]Cedars-Sinai/UCLA, USA, [5]Duke University Medical Center, USA
Disclosures: Russel Burge, Eli Lilly and Company, 1

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANABOLIC AGENTS, INCLUDING PTH, ANTI-SCLEROSTIN

SU0405 ***In Vivo* Bone Dynamic Imaging Reveals Increased Bone Formation and Inhibited Bone Resorption in Rat Tibia in Response to Combined Alendronate (ALN) and PTH Treatment**
Chantal De Bakker*[1], Allison Altman[2], Wei-Ju Tseng[2], Mary Beth Tribble[2], Beom Kang Huh[2], Abhishek Chandra[2], Ling Qin[2], Xiaowei Liu[2]. [1]McKay Orthopaedic Research Laboratory, University of Pennsylvania, USA, [2]University of Pennsylvania, USA
Disclosures: Chantal De Bakker, None

SU0406 **A Closer Look at the Immediate Trabeculae Response to Combined Parathyroid Hormone and Alendronate Treatment**
Allison Altman*, Beom Kang Huh, Wei-Ju Tseng, Abhishek Chandra, Ling Qin, Xiaowei Liu. University of Pennsylvania, USA
Disclosures: Allison Altman, None

SU0407 **An Evaluation of Calcilytic Effects on Parathyroid Hormone and Bone Mineral Density Response Using a Physiologically-Based, Multiscale Systems Pharmacology Model**
Kyle Baron*[1], Matthew Riggs[1], Ryoko Sawamura[2], Takako Shimizu[3], Fumihiko Okada[2], Jin Zhou[4], Takahiro Shibayama[4], Mendel Jansen[5]. [1]Metrum Research Group LLC, USA, [2]Daiichi Sankyo Co., Ltd., Japan, [3]Daiichi Sankyo Co., Ltd., Japan, [4]Daiichi Sankyo Pharma Development, USA, [5]Daiichi Sankyo Development Ltd., United Kingdom
Disclosures: Kyle Baron, Daiichi Sankyo, 5

SU0408 **Ecdysterone, a Main Component from Chinese Herb, Achyranthes Root, Prevents Glucocorticoid-induced Bone Loss by Preserving Osteogenesis and Osteocyte Autophagy**
Weiwei Dai*[1], Evan Lay[2], Li Jiang[2], Sarah Amugongo[3], Nancy Lane[4], Wei Yao[4]. [1]Department of Biochemistry, Integrative Medicine Discipline, Shanghai University of Traditional Chinese Medicine, China, [2]UC Davis Medical Center, USA, [3]University of California, Davis, USA, [4]University of California, Davis Medical Center, USA
Disclosures: Weiwei Dai, None

SU0409 **Effect of Sclerostin Antibody on the Osteocyte in a Glucocorticoid -Induced Osteopenia**
Zahra Achiou[1], Stephane Pallu[2], Hechmi Toumi[3], Michael Ominsky[4], Hugues Portier[3], Eric Lespessailles*[5], Claude Laurent Benhamou[6]. [1]EA4708 I3MTO Université d'Orleans, France, [2]EA 4708 - I3MTO Orléans, France, [3]EA4708 I3MTO University of Orleans, France, [4]Amgen Inc., USA, [5]Centre Hospitalier Regional, France, [6]CHR ORLEANS, France
Disclosures: Eric Lespessailles, None

SU0410 **Parathyroid hormone improves skeletal status of rats with type 2 diabetes mellitus**
Christine Hamann*[1], Ann-Kristin Picke[2], Graeme Campbell[3], Martina Rauner[4], Ricardo Bernhardt[5], Claus-C Glueer[6], Gerd Huber[7], Klaus-Peter Günther[1], Michael Morlock[7], Lorenz Hofbauer[8]. [1]Dresden Technical University Medical Center, Germany, [2]Dresden University Medical Center, Germany, [3]Christian-Albrechts Universität zu Kiel, Germany, [4]Medical Faculty of the TU Dresden, Germany, [5]Technische Universität Dresden, Germany, [6]Christian Albrechts Universitaet zu Kiel, Germany, [7]Institute of Biomechanics, Hamburg University of Technology, Germany, [8]Dresden University Medical Center, Germany
Disclosures: Christine Hamann, None

SU0411 **Retreatment With Sclerostin Antibody Increased Bone Formation and Bone Mass in Ovariectomized Rats**
Xiaodong Li*, Kelly S Warmington, Qing-Tian Niu, Denise Dwyer, Chun-Ya Han, Marina Stolina, Andreas Grauer, Hua Zhu Ke. Amgen, Inc., USA
Disclosures: Xiaodong Li, Amgen, 1; Amgen, 3

SU0412 **Romosozumab (Sclerostin Antibody) Improves Bone Mass and Bone Strength in Ovariectomized Rats After 12 Months of Treatment**
Michael S Ominsky*[1], Aurore Varela[2], Susan Y Smith[2], Elisabeth Lesage[2], Sabina Buntich[1], Rogely W Boyce[1]. [1]Amgen, Inc, USA, [2]Charles River Laboratories, Canada
Disclosures: Michael S Ominsky, Amgen, 1; Amgen, 3

SU0413 **Sclerostin-Antibody is More Effective Than Dkk1-Antibody for Augmenting Bone Mass in Adult Rice Rats**
Carley Trcalek*[1], Jose Aguirre[1], Kathleen Neuville[1], Donald Kimmel[2], Thomas Wronski[1]. [1]University of Florida, USA, [2]Kimmel Consulting Services, USA
Disclosures: Carley Trcalek, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANTI-CATABOLIC, INCLUDING BISPHOSPHONATES, CATHEPSIN K INHIBITOR, ESTROGENS

SU0414 **Combination Therapy with Ibandronate and Eldecalcitol Enhances Bone Strength via Elevation of BMD in Aged Ovariectomized Rats**
Sadaoki Sakai*[1], Satoshi Takeda[1], Masanori Sugimoto[2], Masaru Shimizu[1], Koichi Endo[1]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]Molecular Function & Pharmacology Laboratories, Taisho Pharmaceutical Co., Ltd, Japan
Disclosures: Sadaoki Sakai, Chugai Pharmaceutical Co., Ltd., 3

SU0415 **Effects of Odanacatib on Early and Late Stage Fracture Healing in an Adult Rabbit Radial Osteotomy Model**
Tara Cusick*[1], Rana Samadfam[2], Le Thi Duong[3]. [1]Merck & Co., Inc., USA, [2]Charles River Laboratories, Canada, [3]Merck Research Laboratories, USA
Disclosures: Tara Cusick, Merck & Co., 3

SU0416 **Introduction of a New Class of Cathepsin K Inhibitor with Peptidomimetic Structure, SI-591**
Toshiaki Fujii*[1], Yoshitaka TANAKA[2]. [1]SEIKAGAKU CORPRATION, Japan, [2]SEIKAGAKU CORPORATION, Japan
Disclosures: Toshiaki Fujii, None

SU0417 **Treatment with Odanacatib Increases Bone Mass and Maintains Normal Biomechanical Properties in Orchidectomized Male Rabbits**
Brenda Pennypacker*[1], Charles Chen[2], Tara Cusick[2], Rana Samadfam[3], Le Thi Duong[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc., USA, [3]Charles River Laboratories, Canada
Disclosures: Brenda Pennypacker, Merck and Co., 3

OSTEOPOROSIS - TREATMENT (PRECLINICAL): CALCIUM AND DIETARY FACTORS

SU0418 **Effects of Fructus Ligustri Lucidi Extract and Its Fractions on Renal Calcium Reabsorption and Trabecular Bone Structure in Type 1 Diabetic Mice**
Yan Zhang*[1], Teng-Yue Diao[2], Man-Sau Wong[3]. [1]The Hong Kong Polytechnic University, Hong Kong, [2]University of Shanghai for Science & Technology, China, [3]Hong Kong Polytechnic University, Hong Kong
Disclosures: Yan Zhang, None

SU0419 **Prevention and Restoration of Bone Loss by n-3 fatty acids in an Ovariectomized Mouse Model**
Jameela Banu*[1], Gabriel Fernandes[2]. [1]University of Texas-Pan American, USA, [2]University of Texas Health Science Centre, USA
Disclosures: Jameela Banu, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): DIET, VITAMIN D AND METABOLITES

SU0420 **Eldecalcitol Increases Bone Mineral Density and Improves Trabecular Structure and Biomechanical Properties of the Lumbar Spine in Streptozotocin-Induced Diabetic Rats**
Satoshi Takeda*[1], Sadaoki Sakai[2], Koichi Endo[2]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]Chugai Pharmaceutical Co., Ltd., Japan
Disclosures: Satoshi Takeda, Chugai Pharmaceutical Co., Ltd., 3

SU0421 **High prevalence of vitamin D insufficiency in older community people: the role of season, diabetes, parathormone, female gender and age. The Sao Paulo Ageing & Healthy Study (SPAH)**
Camille Figueiredo*[1], Jaqueline Lopes[2], Georgea Fernandes[1], Liliam Takayama[3], Valeria Caparbo[3], Rosa Pereira[4]. [1]Hospital das Clinicas da Faculdade de Medicina da USP, Brazil, [2]Hospital das Clínicas da FMUSP, Brazil, [3]Faculdade de Medicina da USP, Brazil, [4]Faculdade de Medicina da Universidade de São Paulo, Brazil
Disclosures: Camille Figueiredo, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): OTHER AGENTS

SU0422 **12/15-LO But Not 5-LO is Critical For Denervation-Induced Bone Loss In Mice**
Md Rahman*, Arunabh Bhattacharya, Sabia Marian, Rasel Mohiuddin, Amanda Jernigan, Holly Van Remmen. University of Texas Health Science Center, USA
Disclosures: Md Rahman, None

SU0423 **Effects of a carbon-containing polyhedral boron-cluster compound BA321 on bone loss due to sex steroid deficiency by AR- and ER-dependent mechanism**
Chiho Matsumoto, Masaki Inada, Michiko Hirata, Chisato Miyaura*. Tokyo University of Agriculture & Technology, Japan
Disclosures: Chisato Miyaura, None

SU0424 **Preclinical Assessment of mesenchymal stromal cell (MSC) transplantation to treat type II (age-related) osteoporosis.**
Jeffrey Kiernan*[1], John E Davies[1], William Stanford[2]. [1]University of Toronto, Canada, [2]Ottawa Hospital Research Institute, Canada
Disclosures: Jeffrey Kiernan, None

SU0425 **Therapeutic Potential of Adipose-derived Stromal Cells (ASCs) for the Treatment of Osteoporosis**
Ali Mirsaidi*[1], Jolanda Vetsch[2], Matthias Arlt[3], Ralph Müller[2], Sandra Hofmann[2], Peter Richards[4]. [1]CABMM, Zurich University, Switzerland, [2]ETH Zurich, Institute for Biomechanics, Switzerland, [3]Balgrist University Hospital, Switzerland, [4]University of Zurich, Switzerland
Disclosures: Ali Mirsaidi, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA, ETC.

SU0426 **Differential effects of calorie restriction on the skeleton implicate marrow adipose tissue as an independent adipose tissue depot**
Casey Doucette*[1], Erica Scheller[2], Ormond MacDougald[3], Mark Horowitz[4], Clifford Rosen[5]. [1]Maine Medical Center Research Institute, USA, [2]University of Michigan, USA, [3]Department of Molecular & Integrative Physiology, University of Michigan Medical School, USA, [4]Yale University School of Medicine, USA, [5]Maine Medical Center, USA
Disclosures: Casey Doucette, None

SU0427 **Effects of opioid substitution therapy with diacetylmorphine or methadone on bone health: a controlled study**
Lisa Strahm*[1], Christoph Senn[2], Robert Haemmig[3], Kurt Lippuner[2]. [1]University Hospital of Berne, Inselspital, Switzerland, [2]Department of Osteoporosis, University Hospital & University of Berne, Switzerland, [3]University Psychiatric Departement Addiction Therapy Unit, Switzerland
Disclosures: Lisa Strahm, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MISCELLANEOUS

SU0428 **Abnormal Microarchitecture and Stiffness in Postmenopausal Women Treated with Glucocorticoids**
Stephanie Sutter[1], Kyle Nishiyama[2], Anna Kepley[1], Thomas Nickolas[3], Adi Cohen[1], Bin Zhou[2], X Guo[2], Elizabeth Shane[3], Emily Stein*[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Emily Stein, None

SU0429 **Altered Cortical Microarchitecture and Bone Metabolism in Patients with Monoclonal Gammopathy of Undetermined Significance**
Joshua Farr*[1], Wei Zhang[1], Richard Jacques[2], Alvin Ng[1], Louise McCready[1], Matthew Drake[3]. [1]Mayo Clinic, USA, [2]University of Sheffield, United Kingdom, [3]College of Medicine, Mayo Clinic, USA
Disclosures: Joshua Farr, None

SU0430 **Bone density and bone material strength measured by microindentation ten years after kidney transplant**
Laia Vilaplana[1], Maria José Pérez-Sáez[2], Daniel Prieto-alhambra[3], Elisa Torres-Del-Pliego[4], Leonardo Mellibovsky[5], Marta Crespo[2], Roberto Güerri-Fernández[5], Julio Pascual-Santos[2], Xavier Nogues[6], Adolfo Diez-Perez*[7]. [1]Internal Medicine Department, Parc de Salut Mar, Universitat Autònoma de, Spain, [2]Nefrology Department, Parc de Salut Mar, Universitat Autònoma de Barcelona, Spain, [3]University of Oxford, United Kingdom, [4]Internal Medicine Department, Hospital del Mar, Barcelona, Spain, [5]Internal Medicine Department, Parc de Salut Mar, Universitat Autònoma de Barcelona, Spain, [6]Institut Municipal D'Investigació Mèdica, Spain, [7]Autonomous University of Barcelona, Spain
Disclosures: Adolfo Diez-Perez, None

SU0431 **Bone Density Changes after Lower Limb Amputation**
Debra Bemben*[1], Vanessa Sherk[2], Michael Bemben[1]. [1]University of Oklahoma, USA, [2]University of Colorado - Denver, USA
Disclosures: Debra Bemben, None

SU0432 **Bone Health in Postmenopausal Women with Breast Cancer Receiving Aromatase Inhibitors**
Vit Zikan*[1], Martina Zimovjanova[2], Luboš Petruželka[2], Jana Přibylová[2], Michaela Cabinakova[3], Maria Raskova[1]. [1]3rd Department of Medicine - Department of Endocrinology & Metabolism, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Czech Republic, [2]Department of Oncology, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Czech Republic, [3]Department of Oncology, First Faculty of Medicine, Charles University in Prague & General University Hospital in Prague, Dominican Republic
Disclosures: Vit Zikan, None

SU0433 **Endosteal Resorption and Worsening Cortical Porosity after Roux-en-Y Gastric Bypass Surgery**
Elaine Yu*[1], Melissa Putman[2], Mary Bouxsein[3], Adam Roy[1], Nicolas Derrico[1], Joel Finkelstein[1]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital, Children's Hospital Boston, USA, [3]Beth Israel Deaconess Medical Center, USA
Disclosures: Elaine Yu, None

SU0434 **Genetic determinants of bone mineral density loss in Aromatase inhibitors treatment**
MARIA RODRIGUEZ-SANZ[1], Daniel Prieto-alhambra[2], Sonia Servitja-Tormo[3], Elisa Torres-Del-Pliego[4], Leonardo Mellibovsky[4], Laia Garrigós[3], Natalia Garcia-Giralt[1], Adolfo Diez-Perez[5], Ignacio Tusquets[3], Xavier Nogues*[6]. [1]IMIM, Spain, [2]University of Oxford, United Kingdom, [3]Medical Oncology Department, Parc de Salut Mar, Barcelona, Spain, Spain, [4]URFOA-IMIM, Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF), Instituto de Salud Carlos III FEDER, Barcelona, Spain, Spain, [5]Autonomous University of Barcelona, Spain, [6]Institut Municipal D'Investigació Mèdica, Spain
Disclosures: Xavier Nogues, None

SU0435 **HIV+ male patients receiving fluoride, present in an antiretroviral therapy (TRUVADA®), have an improved trabecular bone density and micro-architecture at the tibia.**
Pierre Sellier[1], Hervé Trout[2], Corinne Collet[3], Amanda Lopes[1], Karine Champion[1], Guy Simoneau[1], Agnès Ostertag[3], Sylvie Fernandez[3], Jean-Dominique Magnier[1], Marie-Christine De Vernejoul*[4], Jean-François Bergmann[1]. [1]Service de Medecine interne A, Hopital Lariboisiere, Assistance Publique-Hopitaux de Paris, France, [2]Pharmacie : medicaments et laboratoires, Hopital Lariboisiere, Assistance Publique-Hopitaux de Paris, France, [3]INSERM U 606 & University Paris Diderot, Service de rhumatologie, Hopital Lariboisiere, Assistance Publique-Hopitaux de Paris, France, [4]Fédération De Rhumatologie Et INSERM U606, France
Disclosures: Marie-Christine De Vernejoul, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSIENT OSTEOPOROSIS, STRESS FRACTURES, ETC

SU0436 **Longitudinal Change in Bone Mineral Density Among Adult Patients with Malignant Lymphoma Receiving Chemotherapy**
Julien Paccou*[1], Isabelle Henry-Desailly[1], Lavinia Merlusca[1], Said Kamel[1], Daciana Ursu[1], Rachel Desailloud[1], Jean-Pierre Marolleau[1], Patrice Fardellone[2], Gandhi Damaj[1]. [1]Université De Picardie Jules Verne, France, [2]Service de rhumatologie, CHU Hôpital Nord, France
Disclosures: Julien Paccou, None

SU0437 **Pregnancy Associated Osteoporosis with Vertebral Fractures: Report of a Case with 5-Year Follow-Up**
Gulseren Akyuz*[1], Ozun Bayindir[2], Beyhan Eren[3]. [1]Marmara University, Turkey, [2]MD, Department of Physical Medicine & Rehabilitation, School of Medicine, Marmara University, Turkey, [3]MD, Physical Medicine & Rehabilitation Clinic, Mersin State Hospital, Turkey
Disclosures: Gulseren Akyuz, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

SU0438 **Bone Density and Vitamin D Status in Liver Transplant Patients 12 Years After the First Assessment**
Elena Segal*[1], Yacov Baruch[1], Rimma Kramsky[1], Marina Nodelman[2], Marina Hefetz-Kustanovich[1], Sophia Ish-Shalom[1]. [1]Rambam Health Care Campus, Israel, [2]Western Galilee Hospital, Israel
Disclosures: Elena Segal, None

PAGET'S DISEASE: GENERAL

SU0439 **Case-control Study of the *SQSTM1/P392L* Post-zygotic Mutation in Paget's disease of Bone**
Sabrina Guay-Bélanger*[1], Edith Gagnon[2], Jean Morissette[2], Jacques P. Brown[2], Laetitia Michou[3]. [1]Centre de recherche du CHUQ-CHUL, Canada, [2]CHU de Québec Research Centre, Canada, [3]Université Laval, Canada
Disclosures: Sabrina Guay-Bélanger, None

SU0440 **Environmental Factors are Associated with Paget's Disease of Bone or with the *SQSTM1/P392L* Mutation Carriage**
Marie-Claude Audet*[1], Claudia Beaudoin[2], Jeannette Dumont[3], Jacques P. Brown[4], Laetitia Michou[5]. [1]CHU de Québec, Canada, [2]Centre de recherche du CHU de Québec, Canada, [3]Centre de recherche du CHU de Québec, Canada, [4]CHU de Québec Research Centre, Canada, [5]Université Laval, Canada
Disclosures: Marie-Claude Audet, None

SU0441 **Valosin containing protein is a key link between autophagy and osteoclastogenesis in Paget disease of bone (PDB)**
Milka Budnik-Zawilska*. University of East Anglia, United Kingdom
Disclosures: Milka Budnik-Zawilska, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

SU0442 **Glucocorticoids antagonize RUNX2 during osteoblast differentiation in a locus and concentration-dependent manner**
Theodora Koromila*[1], Anthony Martin[1], Jian Xiong[2], Yae Sam Song[2], Sanjeev Baniwal[1], Baruch Frenkel[1]. [1]University of Southern California, USA, [2]Department of Biochemistry & Molecular Biology, Institute for Genetic Medicine, Keck School of Medicine of the University of Southern California, USA
Disclosures: Theodora Koromila, None

SU0443 **Glucocorticoids Promote a Greater Decrease of VEGF, RANKL, Bone Turnover, Vasculature, and Material Properties in the Murine Femoral Head as Compared to the Distal Femur or Lumbar Vertebra: New Insights into the Pathogenesis of Osteonecrosis**
Robert Weinstein*[1], Erin A. Hogan[2], Stuart B Berryhill[2], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Central Arkansas VA Healthcare System, University of Arkansas for Medical Sciences, USA
Disclosures: Robert Weinstein, None

SU0444 **Treatment of aged rats with methylprednisolone decreases bone mass accrual by suppression of bone formation**
Rana Samadfam*, Elisabeth Lesage, Susan Y. Smith. Charles River Laboratories, Canada
Disclosures: Rana Samadfam, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

SU0445 **Gene Expression Profiling of Avian Osteoclasts Treated with Estrogen for Exploring Unidentified Action(s) of Estrogen in Bone.**
Shinji Hiyama*[1], Yumiko Kadoyama[2], Mineo Watanabe[3], Takashi Uchida[3]. [1]Hiroshima University Graduate School of Biomedical Sciences, Japan, [2]Hiroshima University, Faculty of Dentistry, Japan, [3]Hiroshima University Institute of Biomedical & Health Sciences, Japan
Disclosures: Shinji Hiyama, None

SU0446 **Oxidative Stress Induced CD4 T Cell Activation Plays A Critical Role in Estrogen Deficiency Induced Bone Loss Mediated via Bmi1**
Jinbo Li*[1], Qian Wang[2], Dengshun Miao[3]. [1]Nanjing Medical University, China, [2]Nanjing Medical Univerisity, China, [3]Nunjing Medical University, Peoples Republic of China
Disclosures: Jinbo Li, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

SU0447 **2013 ASBMR Young Investigator Award**
Duodenal Ca Absorption Increases to Compensate for the Loss of Vitamin D Receptor (VDR) from the Large Intestine and Kidney of Mice
Perla Reyes*, James Fleet. Purdue University, USA
Disclosures: Perla Reyes, None

SU0448 **Effect of Vitamin D Receptor Gene Polymorphism on Associations between Serum 25-hydroxyvitamin D and Biochemical Parameters in Young Adults**
Rieko Tanabe*[1], Yuka Kawamura[1], Naoko Tsugawa[2], Mayu Haraikawa[1], Natsuko Sogabe[3], Toshio Okano[2], Takayuki Hosoi[4], Masae Goseki-Sone[5]. [1]Department of Food & Nutrition, Faculty of Human Sciences & Design, Japan Women's University, Japan, [2]Kobe Pharmaceutical University, Japan, [3]Department of Health & Nutrition Sciences, Faculty of Human HEalth, Komazawa Women's University, Japan, [4]National Center for Geriatrics & Gerontology, Japan, [5]Japan Women's University, Japan
Disclosures: Rieko Tanabe, None

SU0449 **Gender-related differences in the skeletal phenotype of aged Vitamin D Receptor Knockout mice**
Jackson Ryan*[1], Howard Morris[2], Paul Anderson[3]. [1]University of South Australia, Australia, [2]SA Pathology, Australia, [3]Musculoskeletal Biology Research, University of South Australia, Australia
Disclosures: Jackson Ryan, None

SU0450 **Mechanism of Hyponatremia-Related Vitamin D Deficiency in Rats**
Julia (Julianna) Barsony*[1], Qin Xu[2], Aifen Wang[2], Joseph Verbalis[2]. [1]Georgetown University Hospital, USA, [2]Georgetown University, USA
Disclosures: Julia (Julianna) Barsony, None

SU0451 **Ratio of 25-OH-D_3:24,25-$(OH)_2D_3$ is a Novel and Sensitive Measure of Predicting Vitamin D Deficiency**
Martin Kaufmann*[1], J. Christopher Gallagher[2], Munro Peacock[3], Glenville Jones[1]. [1]Queen's University, Canada, [2]Cheighton University Medical School, USA, [3]Indiana University Medical Center, USA
Disclosures: Martin Kaufmann, None

SU0452 **Redistribution of the hormone binding protein catalase by 24,25-dihydroxyvitamin D_3**
Ilka Nemere*, Yang Zhang. Utah State University, USA
Disclosures: Ilka Nemere, None

SU0453 **Studies in Mice with Transgenic Expression of the Vitamin D Receptor (VDR) Exclusively in the Distal Intestine of VDR Knockout Mice Provide Evidence for a Critical Role of Intestinal Epithelial Cells in the Suppression of Inflammatory Bowel Disease by 1,25$(OH)_2D_3$/VDR.**
Ran Wei*, Puneet Dhawan, Sylvia Christakos. University of Medicine & Dentistry & New Jersey - New Jersey Medical School, USA
Disclosures: Ran Wei, None

SU0454 **Two-step immunoassay for free 25 Hydroxy Vitamin D**
Leon Swinkels[1], Ernst Lindhout*[1], Niels Donnelly[2], Gregg Mayer[2], Mike Martens[1]. [1]Future Diagnostics, The Netherlands, [2]Future Diagnostics, Netherlands
Disclosures: Ernst Lindhout, Future Diagnostics, 3

SU0455 **Vitamin D Levels in HIV Infected Adults and its Relation with Immunologic and Virologic Status. Exploratory Study**
Silvina Mastaglia*[1], Natalia Bello[2], Vanesa Fridman[3], Daniel Stecher[4], Beatriz Oliveri[5]. [1]Laboratorio de Enfermedades Metabólicas Oseas, Instituto de Inmunología, Genética, y Metabolismo (INIGEM), Hospital de Clínicas, CONCET-UBA. * Researcher of the National Council on Scientific & Technical Research (CONICET)., Argentina, [2]División Infectologia, Departamento de Medicina Interna, Hospital de Clínicas, Universidad de Buenos Aires, Argentina, [3]División Infectología, Departamento de Medicina Interna, Hospital de Clínicas, Universidad de Buenos Aires, Argentina, [4]División Infectología, Departamento de Medicina Interna, Hospital de Clínicas, Universidad de Buenos Aires, Argentina, [5]Centro De Osteopatías Médicas, Argentina
Disclosures: Silvina Mastaglia, None

TUMORS AND BONE: BREAST AND PROSTATE

SU0456 **Are BMP4 and Runx2 more prevalent in malignant canine mammary tumors?**
Kristi Milley*[1], Barbara Bacci[2], Stewart Ryan[2], Janine Danks[3]. [1]RMIT University, Australia, [2]The University of Melbourne, Faculty of Veterinary Science, Australia, [3]School of Medical Sciences, RMIT University, Australia
Disclosures: Kristi Milley, None

SU0457 **Beneficial Effects of Combined Therapy of Halofuginone and Zoledronic Acid on Breast Cancer Bone Metastases and Normal Bone Remodeling**
Patricia Juarez*[1], Pierrick Fournier[1], Khalid Mohammad[1], Ryan C Mckenna[2], Desiree Lane[1], Sreemala Murthy[1], Maryla Niewolna[1], Alexander Robling[1], Larry Suva[3], John Chirgwin[1], Theresa Guise[1]. [1]Indiana University, USA, [2]University of Virginia, USA, [3]University of Arkansas for Medical Sciences, USA
Disclosures: Patricia Juarez, None

SU0458 **Osteolytic Bone Lesions in Breast Cancer Cause Local and Systemic Alterations in Bone Composition**
Xiaohong Bi*[1], Jeffry Nyman[2], Julie Sterling[3], Daniel Perrien[2], Anita mahadevan-jansen[4]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA, [3]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA, [4]Vanderbilt Univ, USA
Disclosures: Xiaohong Bi, None

SU0459 **Zoledronic Acids Inhibits Epithelial-mesenchymal Transition (EMT) of Breast Cancer Cells in Bone via Ubiquitin/Proteasome System**
Toshiyuki Yoneda*[1], Soichi Tanaka[2], Kenji Hata[3], G. David Roodman[4], Riko Nishimura[3]. [1]Indiana University School of Medicine, USA, [2]Osaka University, Japan, [3]Osaka University Graduate School of Dentistry, Japan, [4]Indiana University, USA
Disclosures: Toshiyuki Yoneda, None

TUMORS AND BONE: GENERAL

SU0460 **Acidic conditions epigenetically repress the TRAIL receptor DR4 in myeloma cells to confer their resistance to TRAIL**
Ryota Amachi*[1], Masahiro Abe[2], Masahiro Hiasa[3], Keiichiro Watanabe[4], Shiro Fujii[5], Takeshi Harada[5], Hirokazu Miki[5], Shingen Nakamura[5], Itsuro Endo[6], Eiji Tanaka[7], Toshio Matsumoto[6]. [1]Dept. of Medicine & Bioregulatory Sciences, Tokushima Univ. /) Dept. of Orthodontics & Dentofacial Orthopedics, Tokushima Univ., Japan, [2]University of Tokushima, Japan, [3]University of Tokushima Graduate School, Japan, [4]Tokushima University Hospital, Japan, [5]Dept. of Medicine & Bioregulatory Sciences, Tokushima Univ., Japan, [6]University of Tokushima Graduate School of Medical Sciences, Japan, [7]Dept. of Orthodontics & Dentofacial Orthopedics, Tokushima Univ., Japan
Disclosures: Ryota Amachi, None

SU0461 **Autoregulation of RANK Ligand Expression in Oral Squamous Cell Carcinoma Tumor Cells**
Yuvaraj Sambandam*[1], Kumaran Sundaram[2], William Ries[1], Sakamuri Reddy[2]. [1]Medical University of South Carolina, USA, [2]Charles P. Darby Children's Research Institute, USA
Disclosures: Yuvaraj Sambandam, None

SU0462 **Denosumab an innovative and effective treatment for Giant Cell Reparative Granuloma**
Alicia Dean Ferrer[1], Francisco Alamillos[1], Juan José Ruiz Masera[1], Cristina Navarro Valverde[2], Jose Manuel Quesada gómez*[3]. [1]Servicio de Cirugía Maxilofacial. HU Reina Sofía, Spain, [2]Servicio de Endocrinología, Spain, [3]Servicio de Endocrinología.HU Reina Sofía, Spain
Disclosures: Jose Manuel Quesada gómez, None

SU0463 **Immunomodulatory Role of Mechanical Signals in Regulating the Expansion of Hematopoietic Precursors in a Murine Model of Multiple Myeloma**
Gabriel Pagnotti*[1], Benjamin Adler[1], M. Ete Chan[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Gabriel Pagnotti, None

SU0464 **Loss of Parafibromin Immunoreactivity in Sporadic Ossifying Fibroma**
Jessica Costa-Guda*[1], Andrew Arnold[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut School of Medicine, USA
Disclosures: Jessica Costa-Guda, None

SU0465 **Lung Cancer Stem-Like Cells (CSC) Display a Retarded Osseous Prometastatic Activity**
Anne-Marie Bleau*[1], Carolina Zandueta[1], Miriam Redrado[1], Susana Martinez-Canarias[1], Alfonso Calvo[1], Fernando Lecanda[2]. [1]Center for Applied Medical Research, Spain, [2]Foundation for Applied Medical Research, Spain
Disclosures: Anne-Marie Bleau, None

SU0466 **Ras Activation Mediates WISP-1 Induced Increases in Cell Motility and Matrix Metalloproteinase Expression in Human Osteosarcoma**
Yi-chin Fong*[1], Chih-Hsin Tang[2]. [1]China Medical University, Twn, [2]China Medical University, Taiwan
Disclosures: Yi-chin Fong, None

SU0467 **Transcriptome Signatures of Mesenchymal Stem Cells and their Osteogenic Offspring after Contact with Myeloma Cells**
Julia Dotterweich*[1], Beate Geyer[1], Katrin Schlegelmilch[1], Alexander Keller[2], Norbert Schuetze[1], Franz Jakob[1]. [1]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [2]University of Wuerzburg, Biocenter, DNA-Analytics, Germany
Disclosures: Julia Dotterweich, None

LATE-BREAKING POSTERS II

12:00 pm - 2:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

LB-SU01 **Hedgehog Signaling Regulates Expression of Cholesterol Biosynthetic Genes in Osteoarthritis**
Shabana Ali*[1], Benjamin Alman[2], Heather Whetstone[2]. [1]Canada, [2]The Hospital for Sick Children, Canada
Disclosures: Shabana Ali, None

LB-SU02 **Prepubertal calcium supplementation alters the timing of adolescent skeletal growth and mineral accretion in boys**
Kate Ward*[1], Tim J Cole[2], Yankuba Sawo[3], Ann Laskey[1], Ann Prentice[1]. [1]MRC Human Nutrition Research, United Kingdom, [2]MRC Centre of Epidemology for Child Health, United Kingdom, [3]MRC Keneba, Gambia
Disclosures: Kate Ward, None

LB-SU03 **Effects of Low-Magnitude High-Frequency Vibration on Bone Density, Bone Resorption and Muscular Strength in Ambulant Children Affected by Duchenne Muscular Dystrophy**
Maria Luisa Bianchi*[1], Silvia Vai[2], Lucia Morandi[3], Giovanni Baranello[3], Barbara Pasanisi[3], Clinton Rubin[4]. [1]Istituto Auxologico Italiano IRCCS, Ita, [2]Istituto Auxologico Italiano IRCCS, Italy, [3]Fondazione Istituto Neurologico C. Besta IRCCS, Italy, [4]State University of New York at Stony Brook, USA
Disclosures: Maria Luisa Bianchi, None

LB-SU04 **Mechanical Properties of Cancellous Bone from Normal, Osteoporotic and Treated Sheep**
Gavriel Feuer*[1], Subrata Saha[2], James Bennett[3]. [1]USA, [2]State University of New York Downstate Medical Center, USA, [3]SUNY Downstate, USA
Disclosures: Gavriel Feuer, None

LB-SU05 **Precision of Bone Mineral Density Calculation Utilizing Single X-Ray Absorptiometry (SEXA) versus Dual X-ray Absorptiometry (DEXA) in-vitro**
Chester Lowe*[1], Li Sun[2], Jianhua Li[3], Yan Chen[4]. [1]CHL Services LLC, USA, [2]Mt Sinai School of Medicine, USA, [3]Tount Sinai School of Medicine, USA, [4]KUB Technologies, Inc, USA
Disclosures: Chester Lowe, KUB Technologies, Inc., 5

LB-SU06 **Sequential *in vivo* tracking of osteogenic stem/progenitor cells during fracture repair**
Dongsu Park*[1], Charles Lin[1], David Scadden[2]. [1]Massachusetts General Hospital, USA, [2]Center for Regenerative Medicine, Massachusetts General Hospital, USA
Disclosures: Dongsu Park, None

LB-SU07 **Mechanical Loading on Turkey Trabecular Bone Marrow Morphology**
Quintin Eng*[1], Minyi Hu[1], Yi-Xian Qin[2]. [1]Stony Brook, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Quintin Eng, None

LB-SU08 **Reference Point Indentation Improves the DeXA-Derived BMD Prediction of Femoral Neck Strength**
Adam Abraham*[1], Avi Agarwalla[2], Simon Tang[2]. [1]Washington University in St Lous, USA, [2]Washington University in St Louis, USA
Disclosures: Adam Abraham, None

LB-SU09 **Cortical thickness and elastic modulus of trabecular bone assessed by a novel ultrasonic bone densitometry are associated with vertebral fracture in type2 diabetes.**
Takashi Mishima*[1], Koka Motoyama[1], Kae Hamamoto[1], Shinsuke Yamada[1], Nagato Kuriyama[2], Yasuo Imanishi[3], Masanori Emoto[1], Yoshiyuki Watanabe[2], Masaaki Inaba[1]. [1]Department of Metabolism, Endocrinology, & Molecular Medicine, Osaka City University Graduate School of Medicine, Japan, [2]Department of Neurology, Kyoto Prefectural University of Medicine, Japan, [3]Osaka City University Graduate School of Medicine, Japan
Disclosures: Takashi Mishima, None

LB-SU10 **mTOR Promotes Embryonic Skeletal Growth through Stimulation of Protein Synthesis**
Jianquan Chen*[1], Jeffrey Arbeit[2], Fanxin Long[3]. [1]Washington University, USA, [2]Department of Surgery, Washington University School of Medicine, USA, [3]Washington University School of Medicine, USA
Disclosures: Jianquan Chen, None

LB-SU11 **Runx1 and Runx3 are downstream effectors of Nanog in the promoted osteogenic differentiation of mesenchymal cells**
Toru Ogasawara*[1], Tadahito Saito[2], Shinsuke Ohba[3], Takahiro Abe[4], Yoshiyuki Yonehara[2], Tsuyoshi Takato[4]. [1]University of Tokyo, Japan, [2]Nihon University School of Dentistry, Department of Oral & Maxillofacial Surgery, Japan, [3]The University of Tokyo, Japan, [4]Department of Oral & Maxillofacial Surgery, Graduate School of Medicine, The University of Tokyo, Japan
Disclosures: Toru Ogasawara, None

LB-SU12 **FGF23 is a Naturally Phosphorylated Protein: FAM20C-mediated phosphorylation of Ser212 in human FGF23.**
Iris Lindberg[1], Kevin Li*[2], David Clark[1], Austin Yang[1], Lynda Bonewald[3]. [1]University of Maryland Medical School, USA, [2]University of Maryland Medical School, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Kevin Li, None

LB-SU13 **Role of Morphogenetic Proteins - FGF-23 and Klotho in the Vascular Calcification in Patients with Chronic Kidney Disease**
Alexandra Plotnikova*[1], Ludmila Milovanova[2], Yurii Milovanov[3], Sergey Moisseyev[4], Lydia Kozlovskaya[5], Nikolay Mukhin[6], Daria Kryukova[7]. [1]PhD Student, investigator, Russia, [2]PhD, researcher, Russia, [3]M.D., PhD, supervisor of the research, Russia, [4]M.D.,PhD, supervisor of the research, Russia, [5]Professor, M.D., Russia, [6]Professor, M.D., the Head of Department, Russia, [7]PhD student, Russia
Disclosures: Alexandra Plotnikova, None

LB-SU14 **Molecular insights into the RANKL-RANK interface using human protein expression models**
Subhajit Das*[1], Janice Bramham[2], Angela Duthie[1], Julie Crockett[1]. [1]University of Aberdeen, United Kingdom, [2]University of Edinburgh, United Kingdom
Disclosures: Subhajit Das, None

LB-SU15 **Activin Expression During Osteoblastic Mice Embryonic Stem Cell Differentiation Induced by Bone Morphogenetic Protein**
Bruno Camargos*[1], Aroldo Camargos[2], Fernando Reis[3], Rubens Tavares[3]. [1]Rua Padre Francisco Arantes, Brazil, [2]Menthor, Brazil, [3]Co-Menthor, Brazil
Disclosures: Bruno Camargos, None

LB-SU16 **Osteoclastogenesis And Bone Degradation In Aseptic Loosening And Implant-Associated Infection**
Ulrike Dapunt*[1], Felix Lasitschka[2], Matthias Gaida[2], Thomas Giese[3], Gertrud Maria Hänsch[3]. [1]Resident for Orthopaedic Surgery, Germany, [2]Heidelberg University, Department for Pathology, Germany, [3]Heidelberg University, Department for Immunology, Germany
Disclosures: Ulrike Dapunt, None

LB-SU17 **Pro-Resolving Mediators in the Bone Microenvironment Drive Macrophage Efferocytosis of Apoptotic Osteoblasts**
Laurie McCauley*[1], Jesmond Dalli[2], Amy Koh[3], Nan Chiang[2], Charles Serhan[2]. [1]University of Michigan School of Dentistry, USA, [2]Brigham & Woman's Hospital, USA, [3]University of Michigan, School of Dentistry, USA
Disclosures: Laurie McCauley, None

LB-SU18 **Effects of endurance training on bone formation in a rat model of chronic kidney disease (CKD) related growth retardation**
Daniel Landau*[1], Maayan Guterman[1], Ariel Troib[1], Ralph Rabkin[2], Yael Segev[1]. [1]Ben Gurion University, Israel, [2]Stanford University, USA
Disclosures: Daniel Landau, None

LB-SU19 **Intracortical remodeling to meet mineral demands in X-Linked Hypophosphatemia (XLH)**
Carolyn Macica*[1], Richard Feinn[2], Steven Tommasini[3]. [1]Frank H. Netter School of Medicine Quinnipiac University, USA, [2]Frank H. Netter, M.D., School of Medicine at Quinnipiac University, USA, [3]Yale School of Medicine, USA
Disclosures: Carolyn Macica, None

LB-SU20 **The Role of Pigment Epithelium Derived Factor in Osteoblast Differentiation**
Hadil Al-Jallad*[1], Frank Rauch[2], Marc McKee[3], Pierre Moffatt[4]. [1]Shriners Hospital for Children, McGill University, Canada, [2]Shriners Hospital for Children, Montreal, Canada, [3]McGill University, Canada, [4]Shriners Hospital for Children, Canada
Disclosures: Hadil Al-Jallad, None

LB-SU21 **Dlk1/FA1 Negatively Regulates Insulin-induced Osteoblast Differentiation and Osteocalcin Production In Mice**
Basem Abdallah*[1], Moustapha Kassem[2]. [1]Odense University Hospital, University of South Denmark, Denmark, [2]Odense University Hospital, Denmark
Disclosures: Basem Abdallah, None

LB-SU22 **Fate of Implanted Stem Cells in Tissue Engineered Bone**
Donna Jones*[1], David Turer[2], Jesse Taylor[3]. [1]USA, [2]University of Michigan, USA, [3]Hospital of the University of Pennsylvania, USA
Disclosures: Donna Jones, None

LB-SU23 **The combination of Cortical Porosity and FRAX improves the Diagnostic Sensitivity for Non-Vertebral Fractures in Women**
Rajesh Shigdel*[1], Luai Ahmed[2], Ragnar Joakimsen[3], Petter Eldevik[3], Erik Fink Eriksen[4], Roger Zebaze[5], Ashild Bjornerem[6]. [1]University of Tromso, Norway, [2]Faculty of Health Sciences, University of Tromsø, Norway, [3]University Hospital of North Norway, Norway, [4]Oslo University Hospital, Norway, [5]Austin Health, University of Melbourne, Australia, [6]University of Tromsø, Norway
Disclosures: Rajesh Shigdel, None

LB-SU24 **Comparison of DXA and Quantitative CT Bone Mineral Density Measurement using Contrast Enhanced Scans at the Proximal Femur: Implications for Opportunistic Osteoporosis Screening**
Alyssa Maciejewski[1], Timothy Ziemlewicz[1], Neil Binkley[2], Alan Brett*[3], Keenan Brown[4], Perry Pickhardt[1]. [1]University of Wisconsin School of Medicine & Public Health, USA, [2]University of Wisconsin, Madison, USA, [3]Mindways Software, Inc., USA, [4]Mindways Software, USA
Disclosures: Alan Brett, None

LB-SU25 **Cortical Bone Defects Associated with Hip Fractures in Men**
Fjola Johannesdottir*[1], Graham Treece[1], Andrew Gee[1], Karen Blesic[1], Madhavi Vindlacheruvu[2], Simon Donell[3], Kenneth Poole[1]. [1]University of Cambridge, United Kingdom, [2]Cambridge University Hospitals NHS Foundation Trust, United Kingdom, [3]Norfolk & Norwich University Hospital NHS Foundation Trust, United Kingdom
Disclosures: Fjola Johannesdottir, None

LB-SU26 **Time to Major Fracture in Younger Postmenopausal Women According to Age and BMD T-score: the Women's Health Initiative (WHI)**
Margaret Gourlay*[1], Robert Overman[1], Guillaume Filteau[1], Jason Fine[1], Kristine Ensrud[2], Carolyn Crandall[3], Catherine Womack[4], Margery L.S. Gass[5], Erin LeBlanc[6], John Robbins[7], Karen Johnson[8], Andrea Lacroix[9]. [1]University of North Carolina, USA, [2]Minneapolis VA Medical Center / University of Minnesota, USA, [3]University of California, Los Angeles, USA, [4]University of Tennessee, USA, [5]The North American Menopause Society, USA, [6]Kaiser Permanente NW, USA, [7]University of California, Davis Medical Center, USA, [8]University of Tennessee Health Science Center, USA, [9]Fred Hutchinson Cancer Research Center, USA
Disclosures: Margaret Gourlay, None

LB-SU27 **Predictors of non-vertebral fracture in older Chinese men and women: MrOS and Ms Os (Hong Kong)**
Timothy Kwok*. , Hong kong
Disclosures: Timothy Kwok, None

LB-SU28 **Long term effects of higher dietary calcium intake on vertebral fractures and severe abdominal aortic calcification in older Australians.**
Peter Ebeling[1], Dallas English[1], Caryl Nowson[2], Robin Daly[3], Belal Khan*[4]. [1]The University of Melbourne, Australia, [2]School of Exercise & Nutrition Sciences, Deakin University, Australia, [3]Centre for Physical Activity & Nutrition Research, Deakin University, Australia, [4]University of Melbourne, Australia
Disclosures: Belal Khan, None

LB-SU29 **Sexual Dimorphism in Sirtuin1 Regulation of Skeletal Aging**
Rivka Dresner-Pollak*[1], Hanna Artsi[2], Einav Cohen-Kfir[3], Irina Gurt[2], Alon Bajayo[4], Teresita Bellido[5], Gal Ben Shalom[2]. [1]Hadassah-Hebrew University Medical Center, Israel, [2]Endocrinology & Metabolism Hadassah-Hebrew University Medical Center, Jerusalem Israel, Israel, [3]HEBREW UNIVERSITY Medicine Faculty, Israel, [4]Bone Laboratory Hadassah-Hebrew University Medical Center, Jerusalem Israel, Israel, [5]Indiana University School of Medicine, USA
Disclosures: Rivka Dresner-Pollak, None

LB-SU30 **International Consensus on Diagnosis and Management of Osteonecrosis of the Jaw**
Aliya Khan*[1], Archie Morrison[2], David Hanley[3], Dieter Felsenberg[4], Laurie McCauley[5], Felice O'Ryan[6], Ian Reid[7], Sal Ruggiero[8], Akira Taguchi[9], Sotirios Tetradis[10], Nelson Watts[11], Maria Luisa Brandi[12], Ed Peters[13], Theresa Guise[14], Richard Eastell[15], Angela M. Cheung[16], Suzanne Morin[17], Basel Masri[18], Cyrus Cooper[19], Sarah Morgan[20], Barbara Obermayer-Pietsch[21], Bente Langdahl[22], Rana Al Dabagh[23], K. Shawn Davison[24], Juliet Compston[25]. [1]McMaster University, Canada, [2]Dalhousie University, Canada, [3]University of Calgary, Canada, [4]Charité - Campus Benjamin Franklin, Germany, [5]University of Michigan School of Dentistry, USA, [6]The Permanente Medical Group, USA, [7]University of Auckland, Nzl, [8]New York Center for Orthognathic & Maxillofacial Surgery, USA, [9]Matsumoto Dental University, Japan, [10]University of California, Los Angeles, USA, [11]Mercy Health Osteoporosis & Bone Health Services, USA, [12]University of Florence, Italy, [13]University of Alberta, Canada, [14]Indiana University, USA, [15]University of Sheffield, United Kingdom, [16]University Health Network-University of Toronto, Canada, [17]McGill University, Canada, [18]Jordan Hospital, Jordan, [19]University of Southampton, United Kingdom, [20]University of Alabama at Birmingham, USA, [21]Medical university of Graz, Austria, [22]Aarhus University Hospital, Denmark, [23]University of Toronto, Canada, [24]Laval University, Canada, [25]University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Aliya Khan, None

LB-SU31 **Densitometry comparison after five years of therapy in patients with continuous bisphosphonates (BF) vs. sequential treatment: 3 years of bisphosphonates follow by 2 years of Strontium Ranelate (SrR).**
Carolina Pelegrin*[1], Malena Alvarellos[2], Maria Valeria Premrou[2], Laura Elena Maffei[2]. [1]Consultorios Asociados de Endocrinologia, Argentina, [2]coleague, Argentina
Disclosures: Carolina Pelegrin, None

LB-SU33 **Preosteoblasts are targets of hyperlipidemia-induced PTH resistance; a role of reactive oxygen species**
Yin Tintut*[1], Xin Li[1], Jamie Garcia[1], Sidney Iriana[1], Jinxiu Lu[1], Ivo Kalajzic[2], David Rowe[2], Linda Demer[3]. [1]University of California, Los Angeles, USA, [2]University of Connecticut Health Center, USA, [3]David Geffen School of Medicine At University of California Los Angeles, USA
Disclosures: Yin Tintut, None

LB-SU34 **Osteoporosis Knowledge, Self-Efficacy, and Health Beliefs among Chinese Men and Women with HIV**
Evelyn Hsieh*[1], Liana Fraenkel[2], Elizabeth Bradley[3], Weibo Xia[4], Qu Cui[5], Karl Insogna[6], Taisheng Li[5]. [1]Yale School of Medicine, USA, [2]Yale School of Medicine, Section of Rheumatology, USA, [3]Yale School of Public Health, USA, [4]Peking Union Medical College Hospital, Department of Endocrinology, Peoples republic of china, [5]Peking Union Medical College Hospital, Department of Infectious Diseases, China, [6]Yale University School of Medicine, USA
Disclosures: Evelyn Hsieh, None

LB-SU35 **Macrophages support proliferation, invasion, and angiogenesis in thyroid cancer**
Sun Wook Cho*[1], Sun Kyoung Han[2], Hyun Jin Sun[3], Ka Hee Yi[2], Young Joo Park[2]. [1]National Medical Center, South korea, [2]Department of Internal Medicine, Seoul National University College of Medicine, South korea, [3]Department of Internal Medicine, National Medical Center, South korea
Disclosures: Sun Wook Cho, None

CLINICAL ROUNDTABLE/CASE CONFERENCE - TREATING OSTEOPOROSIS ASSOCIATED WITH CHRONIC KIDNEY DISEASE

1:00 pm - 2:00 pm **Baltimore Convention Center**
Room 314-317

Chair
Roland Chapurlat, M.D., Ph.D.
E. Herriot Hospital, France
Disclosures: Roland Chapurlat, Amgen 6; Novartis 6; Merck 2; Amgen 2

1:00 pm **Diagnosis/Assessment**
Keith Hruska, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Keith Hruska, Vifor 6; Celgene 2; Amgen 2

1:30 pm **Management and Treatment**
Paul Miller, M.D., FACP
Colorado Center for Bone Research, USA
Disclosures: Paul Miller, Amgen, Lilly, Merck 9; Amgen, Lilly, Merck, Novartis, Radius, Takeda 2; Warner Chilcott 9

JBMR PUBLICATIONS WORKSHOP

1:00 pm - 2:00 pm **Baltimore Convention Center**
Room 327-328

Offered for the first time, this special workshop offers readers and contributors to the *Journal of Bone and Mineral Research* a chance to meet with *JBMR's* Editor-in-Chief, Professor Juliet Compston, and learn what's new and exciting with *JBMR*. You'll also learn how to improve your manuscript and maximize visibility and discoverability for your paper. Don't miss this unique opportunity to hear directly from and interact with *JBMR's* editor!

ASBMR/ECTS PLENARY SYMPOSIUM - SCLEROSTIN: THE JOURNEY FROM DISCOVERY TO APPLICATION

Supported by educational grants from Lilly USA, LLC and Merck & Co., Inc.

2:00 pm - 3:15 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Benjamin Leder, M.D.
Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Benjamin Leder, Merck 5; Amgen 2; Lilly 2

Michaela Kneissel, Ph.D.
Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Michaela Kneissel, None

2:00 pm **Lessons from Human Genetic Diseases**
Socrates Papapoulos, M.D.
Leiden University Medical Center, The Netherlands
Disclosures: Socrates Papapoulos, None

2:25 pm **Circulating Sclerostin as a Marker of Bone Health and Disease**
Matthew Drake, M.D., Ph.D.
College of Medicine, Mayo Clinic, USA
Disclosures: Matthew Drake, None

2:50 pm **Sclerostin Antagonism: Clinical Applications and Therapeutic Potential**
John Bilezikian, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: John Bilezikian, None

CONCURRENT ORALS - CORTICAL POROSITY

3:30 pm - 4:30 pm **Baltimore Convention Center**
Hall A

Moderators:
Juliet Compston, M.D., FRCP
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, None

Joshua Farr
Mayo Clinic, USA
Disclosures: Joshua Farr, None

3:30 pm **Marked Increases in Cortical Porosity After Kidney Transplantation Especially Near the**
1063 **Endocortical Surface: An HR-pQCT Study**
Kyle Nishiyama*[1], Yves Pauchard[2], Lucas Nikkel[3], Sapna Iyer[4], Steven Boyd[5], Elizabeth Shane[6], Thomas Nickolas[6]. [1]Columbia University, USA, [2]University of Western Ontario, Canada, [3]Columbia University Medical Center, USA, [4]University of California San Diego, USA, [5]University of Calgary, Canada, [6]Columbia University College of Physicians & Surgeons, USA
Disclosures: Kyle Nishiyama, None

3:45 pm **Fracture History of Healthy Premenopausal Women is Associated with a Prevailing Reduction**
1064 **of Cortical Microstructural Components at the Distal Radius**
Thierry Chevalley*[1], Jean-Philippe Bonjour[2], Bert van Rietbergen[3], Serge Ferrari[4], Rene Rizzoli[5]. [1]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [2]University Hospital of Geneva, Switzerland, [3]Department of Biomedical Engineering, Netherlands, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Thierry Chevalley, None

4:00 pm **Denosumab Reduces Hip Cortical Porosity in Women With Osteoporosis**
1065
Roger M Zebaze*[1], Cesar Libanati[2], Michael R McClung[3], Jose R Zanchetta[4], David L Kendler[5], Arne Høiseth[6], Andrea Wang[2], Ali Ghasem-Zadeh[1], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]Amgen Inc., USA, [3]Oregon Osteoporosis Center, USA, [4]Instituto de Investigaciones Metabólicas, Argentina, [5]University of British Columbia, Canada, [6]Curato Røntgen, Norway
Disclosures: Roger M Zebaze, None

4:15 pm **Total Body Lean Mass and Fat Mass Differentially Affect Hip BMD and Strength Index in**
1066 **Women and Men But Are Not FRAX Independent Risk Factors for Fracture: A Large Clinical Cohort Study**
William Leslie*[1], Eric Orwoll[2], Carrie Nielson[2], Suzanne Morin[3], Sumit Majumdar[4], Helena Johansson[5], Eugene McCloskey[6], Anders Oden[7], John Kanis[8]. [1]University of Manitoba, Canada, [2]Oregon Health & Science University, USA, [3]McGill University, Canada, [4]University of Alberta, Canada, [5]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [6]University of Sheffield, United Kingdom, [7]Consulting statistician, Sweden, [8]University of Sheffield, Belgium
Disclosures: William Leslie, None

CONCURRENT ORALS - IMPROVING SKELETAL TISSUES

3:30 pm - 4:30 pm **Baltimore Convention Center**
Room 307-310

Moderators:
Emma Duncan, M.D., Ph.D.
Royal Brisbane and Women's Hospital, Australia
Disclosures: Emma Duncan, None

Stuart Ralston, MBChB, M.D.
University of Edinburgh, United Kingdom
Disclosures: Stuart Ralston, None

3:30 pm **Protein-Coding Less-Common Variants Are Associated with BMD: An Exome-Chip Meta-**
1067 **Analysis of Adult Caucasians**
Karol Estrada[1], Ching-Ti Liu[2], Chia-Ho Cheng[3], Carolina Medina-Gomez[4], Yanhua Zhou[2], Ling Oei[5], Albert Hofman[6], Carola Zillikens[6], David Karasik[7], Andre Uitterlinden[8], L. Adrienne Cupples[2], Douglas Kiel[9], Fernando Rivadeneira[10], Yi-Hsiang Hsu*[11]. [1]Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, [2]Dept. Biostatistics, School of Public Health, Boston Univ., USA, [3]Hebrew SeniorLife Institute for Aging Research, USA, [4]Erasmus Medical Center, The Netherlands, [5]Erasmus University Medical Center, The Netherlands, [6]Erasmus University Medical Center, Netherlands, [7]Hebrew SeniorLife; Bar Ilan University, USA, [8]Rm Ee 575, Genetic Laboratory, The Netherlands, [9]Hebrew SeniorLife, USA, [10]Erasmus University Medical Center, The Netherlands, [11]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA
Disclosures: Yi-Hsiang Hsu, None

3:45 pm **2013 ASBMR Young Investigator Award**
1068 **Sclerostin Preserves Cartilage Integrity in Murine Osteoarthritis**
Wafa Bouaziz*[1], Thomas Funck-Brentano[2], Hilène Lin[3], Caroline Marty[2], Dominique Come[2], Eric Hay[4], Martine Cohen-Solal[5]. [1]INSERM U606, France, [2]Univ Paris Diderot, Sorbonne Paris Cité, Lariboisière Teaching Hospital, France, [3]INSERM UMR-606, France, [4]INSERM 4606, France, [5]Centre Viggo Petersen, France
Disclosures: Wafa Bouaziz, None

4:00 pm **Acute Increase in Bone Formation Following Sclerostin Antibody Treatment Is Consistent**
1069 **With Activation of Bone Lining Cells in Aged Ovariectomized Rats**
Michael S Ominsky*, Steve Kaufman, Dave Cordover, Gwyneth Van, Irene Soto, Qing-Tian Niu, Rogely W Boyce. Amgen Inc., USA
Disclosures: Michael S Ominsky, Amgen, 1; Amgen, 3

4:15 pm **An End-product of Tryptophan Degradation is a Potential Anabolic Treatment for**
1070 **Osteoporosis**
Christopher Vidal*[1], Sandra Bermeo[1], Wei Li[2], Krishanthi Gunaratnam[3], Chai Lim[4], Guilles Guillemin[4], Gustavo Duque[5]. [1]University of Sydney, Australia, [2]University of Sydney, Nepean Clinical School, Australia, [3]Sydney Medical School-Nepean, Level 5 South Block, Australia, [4]Mcquarie University, Australia, [5]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Christopher Vidal, None

CONCURRENT ORALS - INFLAMMATORY MODULATORS

3:30 pm - 4:30 pm **Baltimore Convention Center**
Room 318-323

Moderators:
Mark Horowitz, Ph.D.
Yale University School of Medicine, USA
Disclosures: Mark Horowitz, None

Junro Yamashita, D.D.S., Ph.D.
University of Michigan, USA
Disclosures: Junro Yamashita, None

3:30 pm **High Fat Diet Rapidly Suppresses B Lymphopoiesis by Diminishing the Supportive Capacity**
1071 **of the Bone Marrow Niche**
Benjamin Adler*[1], Danielle Green[1], M. Ete Chan[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Benjamin Adler, None

3:45 pm **Inflammatory and Non-inflammatory Actions of Activated NLRP3 Inflammasome Culminate**
1072 **in Skeletal Abnormalities**
Sheri Bonar[1], Cynthia Brecks[2], Sung Yeop Jeong[3], Marcus Watkins[4], Matthew McGeough[5], Chang Yang[6], Deborah Novack[4], Ernestina Schipani[7], Hal Hoffman[5], Roberto Civitelli[4], Gabriel Mbalaviele*[4]. [1]Washington University in St. Louis, USA, [2]Washington University In St Louis, USA, [3]Washington University School of Medicine, USA, [4]Washington University in St. Louis School of Medicine, USA, [5]University of California, San Diego, USA, [6]Washington University in St Louis School of Medicine, USA, [7]Indiana University School of Medicine, USA
Disclosures: Gabriel Mbalaviele, None

4:00 pm **2013 ASBMR Young Investigator Award**
1073 **Osteoclast-secreted Complement Component 3a Stimulates Osteoblast Differentiation**
Kazuhiko Matsuoka*[1], Masako Ito[2], Kyoji Ikeda[1], Sunao Takeshita[1]. [1]National Center for Geriatrics & Gerontology, Japan, [2]Nagasaki University Hospital, Japan
Disclosures: Kazuhiko Matsuoka, None

4:15 pm **2013 ASBMR Young Investigator Award**
1074 **RANKL increase ROS and Bone Resorption by Inhibiting FoxO-mediated Catalase Expression**
Ha-Neui Kim*[1], Shoshana Bartell[2], Li Han[2], Aaron Warren[3], Srividhya Iyer[2], Julie Crawford[4], Haibo Zhao[2], Charles O'Brien[2], Stavros Manolagas[2], Maria Jose Almeida[2]. [1]Univ. Arkansas for Medical Sciences, USA, [2]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [3]Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, Little Rock, USA, [4]Univ. Arkansas for Medical Sciences, Little Rock, USA
Disclosures: Ha-Neui Kim, None

CONCURRENT ORALS - TARGETING BONE FORMATION

3:30 pm - 4:30 pm **Baltimore Convention Center**
Room 314-317

Moderators:
David Findlay, Ph.D.
University of Adelaide, Australia
Disclosures: David Findlay, None

Inaam Nakchbandi, M.D.
Max-Planck Institute of Biochemistry and University of Heidelberg, Germany
Disclosures: Inaam Nakchbandi, None

3:30 pm **Connective Tissue Growth Factor (Ctgf) is a Novel Notch Target Gene in Osteoblasts and**
1075 **Osteocytes**
Ernesto Canalis*, Anna Smerdel-Ramoya, Stefano Zanotti. St. Francis Hospital & Medical Center, USA
Disclosures: Ernesto Canalis, None

3:45 pm **2013 ASBMR Young Investigator Award**
1076 **HIF-1α Regulates Bone Formation Following Osteogenic Mechanical Loading**
Ryan Tomlinson*[1], Matthew Silva[2]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Ryan Tomlinson, None

4:00 pm **R-spondin 3 Is a Negative Regulator of Bone Formation**
1077 Kei Yamana*[1], Hiroaki Saito[1], Kenichi Nagano[1], Riku Kiviranta[1], Francesca Gori[2], Roland Baron[3]. [1]Harvard School of Dental Medicine, Harvard Medical School, USA, [2]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [3]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Kei Yamana, None

4:15 pm **Fracture Healing Via Periosteal Callus Formation Requires Macrophages for Both Initiation**
1078 **and Progression of Endochondral Ossification**
Allison Pettit[1], Liza Raggatt*[1], Martin Wullschleger[2], Kylie Alexander[3], Roland Steck[4], Simranpreet Kaur[5], Andy Wu[5]. [1]Mater Medical Research Institute, Australia, [2]The University of Queensland & RBWH, Australia, [3]Center for Clinical Research, Australia, [4]Queensland University of Technology, Australia, [5]The University of Queensland, UQ-CCR, Australia
Disclosures: Liza Raggatt, None

DISCOVERY HALL NETWORKING BREAK

4:30 pm - 5:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

STATE-OF-THE-ART LECTURES - BRINGING BACK MUSCLE AND BONE

Supported by an educational grant from Merck & Co., Inc.

4:45 pm - 6:00 pm **Baltimore Convention Center**
Room 307-310

Co-Chairs
Karl Jepsen, Ph.D.
University of Michigan, USA
Disclosures: Karl Jepsen, None

Tingting Tang
Shanghai Ninth People's Hospital, Peoples Republic of China
Disclosures: Tingting Tang, None

4:45 pm **Assessing the Regenerative Potential of Skeletal Tissues by Mesenchymal Progenitor Cells**
David Rowe, M.D.
University of Connecticut Health Center, USA
Disclosures: David Rowe, Amgen 2; Lilly 7

5:10 pm **Biologic Scaffolds for Reconstruction of Functional Skeletal Muscle**
Stephen Badylak, DVM, M.D., Ph.D.
University of Pittsburgh, McGowan Insitute for Regenerative Medicine, USA
Disclosures: Stephen Badylak, CR Bard 2; ACell, Inc. 2

5:35 pm **Regenerative Engineering**
Cato Laurencin, M.D., Ph.D.
The University of Connecticut, USA
Disclosures: Cato Laurencin, Globus Medical 5

SYMPOSIUM - ENSURING THE IMPLEMENTATION OF CLINICAL GUIDELINES

4:45 pm - 6:00 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Juliet Compston, M.D., FRCP
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, Sanofi-Aventis 2; Servier 7; Medtronic 5; Nycomed 5; Warner-Chilcott 2; Lilly 7; Hospira 9; Amgen 7

David Kendler, M.D., FRCPC
University of British Columbia, Canada
Disclosures: David Kendler, None

4:45 pm **Secondary Prevention of Fractures**
J. Timothy Harrington, M.D.
University of Wisconsin School of Medicine & Public Health (retired), Joiner Associates LLC, USA
Disclosures: J. Timothy Harrington, None

5:10 pm **Glucocorticoid-Induced Osteoporosis: From International Guidelines to Evidence Implementation**
Kenneth Saag, M.D., MSc
University of Alabama at Birmingham, USA
Disclosures: Kenneth Saag, Eli Lilly 5; Merck 2; Amgen 5; Amgen 2; Merck 5; Eli Lilly 2

5:35 pm **Cancer Treatment-induced Bone Loss in Early Breast and Prostate Cancer**
Jean-Jacques Body, M.D., Ph.D.
CHU Brugmann, Free University of Brussels, Belgium
Disclosures: Jean-Jacques Body, Amgen 6; Amgen 7; Novartis 7

ASBMR TOWN HALL MEETING

6:00 pm - 7:00 pm **Baltimore Convention Center**
Room 327-328

You are invited to attend the ASBMR Town Hall Meeting where you will learn about the Society, including the year in review, planned activities, strategic directions and leadership opportunities. Come learn more about ASBMR, meet with ASBMR leadership and ask questions during an ''open-mic'' time.

WORKING GROUP ON MUSCULOSKELETAL REHABILITATION IN PATIENTS WITH OSTEOPOROSIS

Fifteenth Annual Meeting
Ticket Required

7:30 pm - 9:30 pm **Baltimore Convention Center**
Room 336

Co-Chairs:
Mehrsheed Sinaki, M.D., M.S.
Mayo Clinic, USA

Michael Pfeifer, M.D.
Institute of Clinical Osteology, Germany

7:30 pm **Welcome and Introduction**
Mehrsheed Sinaki, M.D., M.S.
Mayo Clinic, USA

7:35 pm **Quality of Life in Frailty and Sarcopenia: Results of an ESCEO-IOF Consensus Conference 2013**
Rene Rizzoli, M.D.
Hôpitaux Universitaires de Genève, Switzerland

7:55 pm **The Overlooked Role of Muscle Strength in Comprehensive Management of Osteoporosis**
Mehrsheed Sinaki, M.D., M.S.
Mayo Clinic, USA

8:15 pm **Living in Space: Challenges to Protecting Bone Health and Performance in Astronauts**
Jean D. Sibonga, Ph.D.
NASA Johnson Space Center, USA

8:35 pm **Changes in Fragility-Related Characteristics of the Hip Fracture Population and their Implications for Healthcare Services: Evidence from Quebec, Canada**
Mohammad Auais, M.Sc., PT, Ph.D.
Western University, Canada

8:50 pm **Clinical Definitions of Sarcopenia and Risk of Falls and Hip Fractures in Older Men: The MrOS Study**
Peggy M. Cawthon, Ph.D.
California Pacific Medical Center Research Institute, USA

9:05 pm **Effects of Vitamin D and Exercise on Bone Health and Physical Performance in Elderly Women**
Kristi A. Uusi-Rasi, Ph.D.
UKK Institute for Health Promotion Research, Finland

9:20 pm **Summary and Closure**
Michael Pfeifer, M.D.
Institute of Clinical Osteology, Germany

Disclosures:

PEDIATRIC BONE AND MINERAL WORKING GROUP

Supported by an educational grant from Alexion Pharmaceuticals
Ticket Required

7:15 pm - 9:30 pm **Baltimore Convention Center**
Room 341-342

Session Co-Chairs:
Rachel Gafni, M.D.
National Institutes of Health, USA

Erik Imel, M.D.
Indiana University School of Medicine, USA

7:15 pm **Opening Remarks and Dinner**

7:30 pm **Issues in Imaging of Pediatric Bone Disease: Size correction in Pediatric Densitometry**
Babette S. Zemel, Ph.D.
The Children's Hospital of Philadelphia, USA

8:15 pm **Achondroplasia and C-type natriuretic peptide**
Michael Bober, M.D., Ph.D.
A.I. DuPont Hospital for Children, USA

8:30 pm **Is Vertebral Fracture Assessment by DXA More Useful in a High Fracture Risk Pediatric Population than in a Low Risk Screening Population?**
Nicola Crabtree, Ph.D.
Queen Elizabeth Hospital Bone Density, United Kingdom

8:45 pm **Exome Sequencing Reveals a Novel Nonsense Mutation in MMP13 as a New Cause of Autosomal Recessive Metaphyseal Anadysplasia Type 1**
David Weber
The Children's Hospital of Philadelphia, USA

9:00 pm **A Randomized, Double-blind, Placebo-controlled Trial of Alendronate Treatment for Fibrous Dysplasia of Bone**
Alison Boyce
Children's National Medical Center, USA

9:20 pm **Concluding Remarks**

Disclosures: Dr. Erik Imel-Kyowa Hakko Kirin Pharma 2, Amgen 5; Nicola Crabtree – none; Alison Boyce – none; Michael Bober – Biomann 2; David Weber – none; Babette Zemel – none; Rachel Gafni – none

ADULT BONE AND MINERAL WORKING GROUP

Ticket Required

7:30 pm - 10:00 pm **Baltimore Convention Center**
Room 343-344

7:30 pm **Dinner and Historical Vignette**
Bart Clarke, M.D.
Mayo Clinic, USA

7:45 pm **Normocalcemic Familial Hypocalciuric Hypercalcemia: Loss of Function Calcium Sensing Receptor (CASR) Mutation in a Patient with Noraml Serum Calcium**
Griebeler ML, et al.

8:00 pm **Treating Familial Hypocalciuric Hypocalcemia Type-3 (FHH3) with Cinacalcet**
McKenna MJ, et al.

8:15 pm **Fibrogenesis Imperfecta Ossium (FIO): Clinical Aspects to Global Gene Expression Profiling of Bone Tissue**
Bhadada SK, et al.

8:30 pm **Hypercalcemia and Pneumocystis Pneumonia After Liver Transplantation: A Case Report**
Cong E, et al.

8:45 pm **Osteoporotic Vertebral Fractures During Pregnancy: Be Aware of a Potential Underlying Genetic Cause**
Campos-Obando N, et al.

9:00 pm **Male Hypogonadism Impact in Bone Quality Assessed by Trabecular Bone Score (TBS)**
Mascarenhas MR, et al.

9:15 pm **Hyperthyroidism in Young Women: Which Impact on Body Composition and Silent Vertebral Fractures Detected by VFA**
Barbosa AP, et al.

9:30 pm **Skeletal Fluorosis Due to Excessive Tea Drinking**
Kakumanu N, et al.

9:45 pm **Boy Frame Award 2013**

10:00 pm **Adjourn**

BONE STRENGTH WORKING GROUP

Sponsored by the Canadian Bone Strength Working Group
Supported by unrestricted educational grants from Amgen Canada and Eli Lilly Canada
Ticket Required

7:15 pm - 9:30 pm **Baltimore Convention Center**
Room 339-340

Co-chairs:
David Hanley, M.D., University of Calgary, Canada
Louis-George St. Marie, M.D., University of Montreal, Canada

7:15 pm **Registration and Dinner**

7:35 pm **Welcome and Introduction**
Angela Cheung, M.D., Ph.D.
University of Toronto, Canada

Abstracts Presentation

7:40 pm **Comparative effects of teriparatide, denosumab and combination therapy on peripheral compartmental bone density and microarchitecture: the DATA-HRpQCT Study**
Joy N. Tsai, M.D.
Massachusetts General Hospital, USA

7:50 pm **Circulating Sclerostin, Bone Turnover Markers and BMD in Type 2 Diabetic Women Treated with Metformin or Pioglitazone**
Mohammed S. M. Ardawi, Ph.D., M.D.
King Abdulaziz University, Saudi Arabia

8:00 pm **Body Composition and Physical Activity During Childhood and Adolescence: Relations to Biomechanical Bone Strength**
Joshua N. Farr, Ph.D.
Mayo Clinic, USA

8:10 pm **Relationships Between Muscle Power, Force, Density and Bone Quality in Children, Adolescents and Young Adults**
Leigh Gabel, MSc
University of British Columbia, Canada

Keynote debate

8:25 pm **BMD-directed Goal of Therapy is Optimal for Fracture Reduction**
For: E Michael Lewiecki, M.D., FACF, FACE, University of New Mexico, School of Medicine, USA
Against: Eugene McCloskey, M.D., MRCP, M.B., University of Sheffield, United Kingdom

9:25 pm **Questions and Discussion/Final Vote**

9:30 pm **Concluding Remarks**
Richard Kremer, M.D., Ph.D.
McGill University Health Center, Canada

Disclosures: D. Hanley – Amgen 2,5,8, Eli Lilly 2,5,8, Novartis 8, Warner Chilcott 8, Merck 2,5; LG St. Marie – Amgen 2,5,9, Eli Lilly 2,5,9, Genzyme 2, Merck 5,9, Novartis 2,9, Paladin 5,9, Servier 2,5,9; JN Tsai – Amgen 2, Eli Lilly 2

IMAGING AND SKELETAL MACRO-ARCHITECHTURE WORKING GROUP

Jointly supported by the University of California, San Francisco and Cambridge NIHR Biomedical Research Centre
Ticket Required

7:30 pm - 10:00 pm **Baltimore Convention Center**
Room 337-338

7:30 pm **Dinner and Opening Remarks**

8:00 pm **Structural Patterns of Normal and Pathologic Aging in the Proximal Femur; What Can Voxel- and Tensor-based Morphometry Tell Us?**
Julio Carballido-Gamio, Ph.D.
University of California, San Francisco, USA

8:20 pm **Cortical Thickness and Mass in the Proximal Femur; What Can Statistical Parametric Mapping (SPM) Tell Us about Hip Fracture?**
Kenneth Poole, M.D.
University of Cambridge, United Kingdom

8:40 pm **Predicting Fracture Risk in Elderly Men: What Can Statistical Shape Modeling Tell Us?**
Daniel Nicolella, Ph.D.
Southwest Research Institute, USA

9:00 pm **Discussion Panel and Question/Answer Session: Computational Anatomy: A New Approach to Clinical Research in Osteoporosis and Other Musculoskeletal Disorders**
Discussion Leaders:
Tamara Harris, M.D., National Institute on Aging, USA
Sundeep Khosla, M.D., Mayo Clinic, USA
Eric Orwoll, M.D., Oregon Health Sciences University, USA

9:45 pm **Concluding Remarks**
Thomas Lang, Ph.D., University of California, San Francisco, USA
Kenneth Poole, M.D., University of Cambridge, United Kingdom

Disclosures: Thomas Lang, None; Kenneth Poole, Amgen, 2,5,8, Servier 5, Eli Lilly 5,8; Julio Carballido-Gamio, None; Daniel Nicolella, Merck 5; Sundeep Khosla, Amgen 5; Tamara Harris, None; Eric Orwoll, None

Monday, October 7, 2013

Day-At-A-Glance

Time/Event/Location **All locations in the Baltimore Convention Center unless otherwise noted**

7:30 am - 8:00 am 206
Morning Networking
Charles Street Lobby

7:30 am - 4:00 pm 206
ASBMR Registration Open
Hall C

8:00 am - 2:00 pm 206
Posters Open
Discovery Hall-Hall C

8:00 am - 10:00 am 206
Distinguished Orals - Altered Bone Quality
Hall A

8:00 am - 10:00 am 207
Distinguished Orals - Diverse Signaling Pathways
Room 307-310

10:00 am - 2:30 pm 208
Discovery Hall Open
Discovery Hall-Hall C

10:00 am - 10:30 am 209
Discovery Hall Networking Break
Discovery Hall-Hall C

10:30 am - 11:30 am 209
Career Development: Collaboration 101
Room 327-328

10:30 am - 12:00 pm 209
Oral Poster Presentations: Basic
Room 307-310

10:30 am - 12:00 pm 211
Oral Poster Presentations: Clinical
Hall A

10:30 am - 12:00 pm 213
Oral Poster Presentations: Late-Breaking Abstracts
Room 314-317

11:00 am - 12:00 pm 215
Meet-the-Professor Sessions
Rooms 311-335

12:00 pm - 2:00 pm 216
Poster Session III & Poster Tours
Discovery Hall-Hall C

12:00 pm - 2:00 pm 277
Late-Breaking Posters III
Discovery Hall-Hall C

1:00 pm - 2:00 pm 282
Clinical Roundtable/Case Conference - Monitoring Treatment Response in Osteoporosis
Room 314-317

2:00 pm - 3:15 pm 282
Plenary Symposium - Up and Coming Treatments for Bone Disease
Hall A

3:30 pm - 5:00 pm 283
Concurrent Orals - Atypical Fractures and More
Hall A

3:30 pm - 5:00 pm 284
Concurrent Orals - Bone Development
Room 318-323

3:30 pm - 5:00 pm 285
Concurrent Orals - Fragility Fractures
Room 307-310

3:30 pm - 5:00 pm 286
Concurrent Orals - Therapeutic Impact: Early Stages
Room 314-317

5:00 pm - 6:00 pm 287
Closing Reception: A Taste of Houston
Outdoor Terrace, Level 300

MORNING NETWORKING

7:30 am - 8:00 am **Baltimore Convention Center**
Charles Street Lobby

ASBMR REGISTRATION OPEN

7:30 am - 4:00 pm **Baltimore Convention Center**
Hall C

POSTERS OPEN

8:00 am - 2:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

DISTINGUISHED ORALS - ALTERED BONE QUALITY

8:00 am - 10:00 am **Baltimore Convention Center**
Hall A

Moderators:
Felicia Cosman, M.D.
Helen Hayes Hospital, USA
Disclosures: Felicia Cosman, None

Nicholas Harvey, MBBChir
MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom
Disclosures: Nicholas Harvey, None

8:00 am **2013 ASBMR Young Investigator Award**
1079 **Histology of atypical femoral fractures.**
Jörg Schilcher*[1], Per Aspenberg[2], Olof Sandberg[3]. [1]Linköping University, Sweden, [2]Linkoping University, Sweden, [3]Department of clinical & experimental medicine, Linköping University., Sweden
Disclosures: Jörg Schilcher, None

8:15 am **Effect of Teriparatide on Healing of Incomplete Atypical Femur Fractures**
1080 Angela M. Cheung*[1], Jonathan Adachi[2], Aliya Khan[3], Robert Bleakney[4], Earl Bogoch[5], Rowena Ridout[6], Heather McDonald-Blumer[7], Lianne Tile[1], Savannah Cardew[8], Khalid Syed[1], Jessica Chang[1], Judite Scher[1], Hanxian Hu[1], Suzanne Morin[9], Alexandra Papaioannou[10], Sophie Jamal[11], Robert Josse[12]. [1]University Health Network, Canada, [2]St. Joseph's Hospital, Canada, [3]McMaster University, Canada, [4]Mount Sinai Hospital, Canada, [5]St. Michael's Hospital, Canada, [6]Toronto Western Hospital, Canada, [7]University of Toronto, Canada, [8]Women's College Hospital, Canada, [9]McGill University, Canada, [10]Hamilton Health Sciences, Canada, [11]The University of Toronto, Canada, [12]St. Michael's Hospital, University of Toronto, Canada
Disclosures: Angela M. Cheung, Eli Lilly, 9; Amgen, 9; Eli Lilly, 2; Amgen, 7; Eli Lilly, 7; Merck, 9; Amgen, 2; Merck, 2; Warner Chilcott, 7; Warner Chilcott, 5

8:30 am **Beyond 10 yrs Prediction of Fragility Fracture by DXA in Women. The OFELY study**
1081 Elisabeth Sornay-Rendu[1], François Duboeuf[2], Stephanie Boutroy[2], Roland Chapurlat*[2]. [1]INSERM UMR1033, Université de Lyon, France, [2]INSERM UMR1033 & Université de Lyon, France
Disclosures: Roland Chapurlat, None

8:45 am **2013 ASBMR Young Investigator Award**

1082 **A Five-Year Longitudinal Study of Site-Specific Changes in Bone Quality in the Calgary Population-Based Cohort: an HR-pQCT Study**

Lauren Burt*[1], Anne-Laure Ménard[2], Heather Macdonald[3], David Hanley[1], Steven Boyd[1]. [1]University of Calgary, Canada, [2]Ecole Polytechnique de Montréal, CHU Ste-Justine Research Center, Canada, [3]University of British Columbia, Canada

Disclosures: Lauren Burt, None

9:00 am **Inflammatory Markers and Risk of Hip Fracture in Older Women: The Study of Osteoporotic**

1083 **Fractures**

Kamil Barbour*[1], Li-Yung Lui[2], Kristine Ensrud[3], Teresa Hillier[4], Marc Hochberg[5], Jane Cauley[6]. [1]CDC, USA, [2]California Pacific Medical Center Research Institute, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]Kaiser Center for Health Research, USA, [5]University of Maryland School of Medicine, USA, [6]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Kamil Barbour, None

9:15 am **Bone Material Strength Measured by *In Vivo* Microindentation is Compromised in**

1084 **Postmenopausal Women with Type 2 Diabetes Mellitus**

Joshua Farr*[1], Shreyasee Amin[1], L. Joseph Melton[1], Louise McCready[1], Sundeep Khosla[2]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Joshua Farr, None

9:30 am **2013 ASBMR Young Investigator Award**

1085 **Associations of Fetal and Childhood Growth with Bone Mass in School Age Children. The Generation R Study.**

Denise Heppe*[1], Carolina Medina-Gomez[2], Albert Hofman[3], Fernando Rivadeneira[4], Vincent W.V. Jaddoe[5]. [1]Erasmus MC, The Netherlands, [2]Erasmus Medical Center, The Netherlands, [3]Department of Epidemiology Erasmus Medical Center, Netherlands, [4]Erasmus University Medical Center, The Netherlands, [5]Generation R Erasmus Medical Center, Netherlands

Disclosures: Denise Heppe, None

9:45 am **The Oral Small Molecule Phenamil Regulates BMP Signaling and Prevents Ovariectomy-**

1086 **Induced Osteoporosis**

Aaron James*[1], Choon G Chung[2], Greg Asatrian[2], Omar Velasco[2], Daniel Halperin[3], Kye Won Park[4], Georgina Bayani[2], Kevork Khadarian[2], Xinli Zhang[1], Kang Ting[1], Peter Tontonoz[3], Chia Soo[5]. [1]University of California, Los Angeles, USA, [2]Division of Associated Clinical Specialties & Section of Orthodontics, UCLA School of Dentistry, USA, [3]Department of Pathology & Laboratory Medicine, David Geffen School of Medicine, USA, [4]Sunkyunkwon University, Korea, Korea, democratic people's republic of, [5]Division of Plastic & Reconstructive Surgery, Department of Surgery, University of California, Los Angeles, USA

Disclosures: Aaron James, None

DISTINGUISHED ORALS - DIVERSE SIGNALING PATHWAYS

8:00 am - 10:00 am **Baltimore Convention Center**

Room 307-310

Moderators:

Yasuyoshi Ueki
University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Yasuyoshi Ueki, None

Deborah Novack, M.D., Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Deborah Novack, None

8:00 am **Bone Marrow Stromal Cell Proliferation in Mice Lacking NFATc1 in Mature Osteoclasts**
1087 Julia Charles*[1], Jonathan Quang[2], Kelly Tsang[3], Antonios Aliprantis[4]. [1]Brigham & Women's Hospital & Harvard School of Medicine, USA, [2]Boston University School of Medicine, USA, [3]Brigham & Women's Hospital, USA, [4]Brigham & Women's Hospital & Harvard School of Public Health, USA
Disclosures: Julia Charles, None

8:15 am **Absence of the αvβ3 Integrin and the ITAM Protein, DAP12, Causes Severe Osteopetrosis**
1088 Wei Zou*[1], Jean Chappel[2], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Wei Zou, None

8:30 am **CSF-1 in Osteocytes and Late Osteoblasts Controls Major Aspects of Bone Remodeling**
1089 Sherry Abboud Werner*[1], Diane Horn[1], Yves Gorin[1], Roberto Fajardo[2], Jean Jiang[1], Marie Harris[1], Stephen Harris[1]. [1]University of Texas Health Science Center at San Antonio, USA, [2]UT Health Science Center, San Antonio, USA
Disclosures: Sherry Abboud Werner, None

8:45 am **Deletion of ERβ in Early Osteoprogenitor Cells Leads to a Doubling of Trabecular Bone Volume**
1090 Kristy Nicks*[1], Koji Fujita[1], Daniel Fraser[1], Ulrike McGregor[2], Meghan McGee-Lawrence[1], Jennifer Westendorf[1], David Monroe[3], Sundeep Khosla[4]. [1]Mayo Clinic, USA, [2]King's College, London UK, United Kingdom, [3]Mayo Foundation, USA, [4]Mayo Clinic College of Medicine, USA
Disclosures: Kristy Nicks, None

9:00 am **Deletion of gp130 in Osteocytes Blocks PTH Anabolic Effect**
1091 Therese Standal*[1], Rachelle Johnson[2], Narelle McGregor[3], T. John Martin[3], Natalie Sims[4]. [1]St Vincent's Institute for Medical Research, Melbourne & Department of Cancer Research & Molecular Medicine, Trondheim, Norway, [2]St. Vincent's Institute of Medical Research, Australia, [3]St Vincent's Institute for Medical Research, Australia, [4]St. Vincent's Institute for Medical Research, Australia
Disclosures: Therese Standal, None

9:15 am **Conditional ablation of Cbfβ in different stages of skeletogenesis results in a novel cleidocranial**
1092 **dysplasia mouse model revealing a new role of Cbfβ in postnatal skeletal and tooth development**
Joel Jules*[1], Mengrui Wu[2], Wei Chen[1], Junqing Ma[1], Guochun Zhu[1], Fei Tian[1], Matthew McConnell[1], Christie Paulson[1], Yi-Ping Li[1]. [1]University of Alabama at Birmingham, USA, [2]The University of Alabama at Birmingham, USA
Disclosures: Joel Jules, None

9:30 am **2013 ASBMR Young Investigator Award**
1093 **NF-κB Family Member Rela/p65 in Chondrocytes Controls Skeletal Growth and Osteoarthritis Development by Inhibiting Chondrocyte Apoptosis**
Hiroshi Kobayashi*[1], Makoto Hirata[2], Shozo Itoh[3], Taku Saito[4], Haruhiko Akiyama[5], Ung-Il Chung[6], Hiroshi Kawaguchi[7]. [1]The University of Tokyo Hospital, Japan, [2]University of Tokyo, Japan, [3]The University of Tokyo, Japan, [4]University of Tokyo, Graduate School of Medicine, Japan, [5]Kyoto University, Japan, [6]University of Tokyo Schools of Engineering & Medicine, Japan, [7]University of Tokyo, Faculty of Medicine, Japan
Disclosures: Hiroshi Kobayashi, None

9:45 am **2013 ASBMR Young Investigator Award**
1094 **TGF-beta Signaling Regulates Interleukin-36 alpha in Joint Development and Osteoarthritis.**
Tieshi Li*[1], Lara Longobardi[1], Timothy Myers[2], Joseph Temple[1], Alessandra Esposito[1], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]University of North Carolina, USA
Disclosures: Tieshi Li, None

DISCOVERY HALL OPEN

10:00 am - 2:30 pm **Baltimore Convention Center**
Discovery Hall-Hall C

DISCOVERY HALL NETWORKING BREAK

10:00 am - 10:30 am **Baltimore Convention Center**
Discovery Hall-Hall C

CAREER DEVELOPMENT: COLLABORATION 101

Sponsored by the ASBMR Membership Engagement and Women in Bone and Mineral Research Committees

10:30 am - 11:30 am **Baltimore Convention Center**
Room 327-328

Collaborations, while challenging, can lead to outstanding scientific discoveries, increased funding opportunities and career growth. In Collaboration 101, learn how to make your collaborations successful. This session will focus on establishing collaborations, developing relationships with non-academic bodies, and international collaborations. Attendees will engage in interactive discussion following the panel. This session is a must-attend event for investigators at all career stages and will provide practical, useful advice for establishing and maintaining successful scientific collaborations.

Co-Chairs
Teresita Bellido, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Teresita Bellido, None

Wenhan Chang, Ph.D.
Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

Speakers
John Adams, M.D., University of California, Los Angeles, USA
Natalie Sims, Ph.D., Vincent's Institute for Medical Research, Australia
Larry S. Suva, Ph.D., University of Arkansas, USA

Panelists
Stuart Ralston, MBChB, M.D., University of Edinburgh, UK
Ivo Kalajzic, M.D., Ph.D., University of Connecticut Health Center, USA
Melissa Kacena, Ph.D., Indiana University School of Medicine, USA

ORAL POSTER PRESENTATIONS: BASIC

10:30 am - 12:00 pm **Room 307-310**

Moderators:
Marian Young, Ph.D.
National Institutes of Health, USA
Disclosures: Marian Young, None

Eric Hesse, M.D., Ph.D.
University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Eric Hesse, None

10:35 am **2013 ASBMR Young Investigator Award**
MO0470 **Tumor-initiating Stem Cells are Regulated by α-CaMKII-induced VEGF in Human Osteosarcoma**
Paul Daft*[1], Joan Cadillac[2], Majd Zayzafoon[2]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Paul Daft, None

10:40 am MO0465 **Cells of the Osteoblast lineage Hinder Acute Leukemia Progression in Murine Models: therapeutic implications**
Maria Krevvata*[1], Barbara Silva[1], J. Sanil Manavalan[1], Aris Economides[2], Julie Teruya-Feldstein[3], Govind Bhagat[4], Ellin Berman[3], Stavroula Kousteni[1]. [1]Columbia University Medical Center, USA, [2]Regeneron Pharmaceuticals, Inc., USA, [3]Memorial Sloan-Kettering Cancer Center, USA, [4]Coumbia University Medical Center, USA
Disclosures: Maria Krevvata, None

10:45 am MO0460 **Ectopic expression of twist-1 in breast cancer cells promotes bone metastasis formation**
Martine Croset[1], Delphine Goehrig[1], Stephane Ansieau[2], Alain Puisieux[2], Philippe A.R. Clezardin*[3]. [1]INSERM, UMR1033, France, [2]INSERM, UMR 1052, France, [3]INSERM & University of Lyon, France
Disclosures: Philippe A.R. Clezardin, None

10:55 am MO0261 **2013 ASBMR Young Investigator Award**
RBP-J imposes a requirement for ITAM-mediated co-stimulation of RANKL and TNF signaling during osteoclastogenesis
Susan Li*, Xiaoyu Hu, Lionel Ivashkiv, Baohong Zhao. Hospital for Special Surgery, USA
Disclosures: Susan Li, None

11:00 am MO0256 **C/EBPα Is a Novel Regulator in Osteoclast Lineage Commitment and Regulates Both Bone Resorption and Bone Formation Synchronously**
Guochun Zhu*[1], Wei Chen[2], Mengrui Wu[3], Joel Jules[2], Liang Hao[1], Yi-Ping Li[2]. [1]Department of Pathology, University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA, [3]The University of Alabama at Birmingham, USA
Disclosures: Guochun Zhu, None

11:05 am MO0268 **H_2O_2 Production in Osteoclast Mitochondria Promotes Bone Resorption and Mediates the Effects of Estrogen Deficiency**
Shoshana Bartell*[1], Li Han[1], Aaron Warren[1], Julie Crawford[1], Semahat Serra Ucer[2], Stavros Manolagas[1], Maria Jose Almeida[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Shoshana Bartell, None

11:15 am MO0265 **TMEM178 is a novel negative regulator of osteoclastogenesis and inflammatory bone loss via specific modulation of the RANKL- NFATc1 axis**
Corinne Decker*[1], Deborah Novack[2], Roberta Faccio[3]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Corinne Decker, None

11:20 am MO0269 **Individual and Combining Effects of Anti-RANKL Monoclonal Antibody and Teriparatide in Ovariectomized Mice**
Naoto Tokuyama*[1], Hironari Masuda[1], Jun Hirose[2], Yasunori Omata[1], Yuho Kadono[1], YURIKO FURUYA[3], Hisataka Yasuda[4], Nobuyuki Udagawa[5], Hiroshi Takayanagi[6], Sakae Tanaka[1]. [1]The University of Tokyo, Japan, [2]Research Hospital, The Institute of Medical Science, The University of Tokyo, Japan, [3]ORIENTAL YEAST CO., LTD, Jpn, [4]Oriental Yeast Company, Limited, Japan, [5]Matsumoto Dental University, Japan, [6]The University of Tokyo, Department of Immunology, Japan
Disclosures: Naoto Tokuyama, None

11:25 am MO0127 **Withdrawn**

11:35 am MO0125 **Leptin-independent Regulation of Bone Homeostasis by ΔFosB in the Ventral Hypothalamus Contrasts with its Leptin-dependent Effects on Energy and Glucose Metabolism**
Kazusa Sato*[1], Anna Idelevich[2], Glenn Rowe[3], Francesca Gori[4], Roland Baron[5]. [1]Harvard School of Dental Medicine, USA, [2]Harvard University, USA, [3]Harvard Medical School, USA, [4]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Kazusa Sato, None

11:40 am **Deletion of osteopontin rescues the skeletal deformities observed in *Phospho1*$^{-/-}$ mice**
MO0131 Manisha Yadav*[1], Carmen Huesa[2], Sonoko Narisawa[3], Alain Moreau[4], Colin Farquharson[5], Jose Luis Millan[6]. [1]Burnham Institute for Medical Research, USA, [2]The Roslin Institute & R(D)SVS, University of Edinburgh, Easter Bush, Midlothian EH25 9RG, United Kingdom, [3]Sanford Burnham Medical Research Institute, USA, [4]Sainte-Justine Hospital Research Center, Canada, [5]Roslin Institute, University of Edinburgh, United Kingdom, [6]Sanford-Burnham Medical Research Institute, USA
Disclosures: Manisha Yadav, None

11:45 am **Osteoimmmunology deregulation in the osteopetrotic grey-lethal mouse**
MO0162 Marie Mutabaruka*[1], Monica Pata[1], Nathalie Labrecque[2], Jean Vacher[1]. [1]Institut de Recherches Cliniques de Montréal, Canada, [2]Maisonneuve-Rosemont Hospital Research Center, Montreal, Qc, Canada
Disclosures: Marie Mutabaruka, None

ORAL POSTER PRESENTATIONS: CLINICAL

10:30 am - 12:00 pm **Hall A**

Moderators:
Elizabeth Shane, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Elizabeth Shane, None

Lorenz Hofbauer, M.D.
Dresden University Medical Center, Germany
Disclosures: Lorenz Hofbauer, None

10:35 am **Inclusion of Anthropometric Parameters in the Creation of Reference Curves for Pediatric**
MO0024 **Bone Mineral Density and Bone Mineral Content: Impact on Classification of Below-Normal Individuals**
Thomas Hangartner*[1], David Short[1], Vicente Gilsanz[2], Heidi Kalkwarf[3], Joan Lappe[4], Sharon Oberfield[5], John Shepherd[6], Babette Zemel[7], Karen Winer[8]. [1]Wright State University, USA, [2]Children's Hospital Los Angeles, USA, [3]Cincinnati Children's Hospital Medical Center, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Columbia University Medical Center, USA, [6]University of California, San Francisco, USA, [7]Children's Hospital of Philadelphia, USA, [8]National Institutes of Health, USA
Disclosures: Thomas Hangartner, None

10:40 am **Norepinephrine Reuptake is Required for Acquisition of a Normal Peak Bone Mass**
MO0035 Yun Ma*[1], Jeffry Nyman[2], Maureen Hahn[1], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Yun Ma, None

10:45 am **Circulating Periostin: a novel serum marker of cortical bone structure in human**
MO0289 Nicolas Bonnet*[1], Claire Durosier[2], Patrick Garnero[3], Serge Ferrari[4], Rene Rizzoli[5]. [1]University Geneva Hospital-Department of Internal Medecine Specialities, Switzerland, [2]Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, Switzerland, [3]INSERM Research Unit, France, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None

10:55 am **Metabolomics Signature and Risks of Osteoporosis: A Systems Biology Approach by**
MO0134 **Integrating Bone Tissue-Specific Metabolomics and Transcriptomics in Postmenopausal Caucasian Women**
Yi-Hsiang Hsu*[1], Sjur Reppe[2], Chin-Lin Chi[3], David Karasik[4], Joseph Brain[5], Douglas Kiel[6], Kaare Gautvik[7]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]Oslo University Hospital, Ullevaal, Norway, [3]Medical Informatics Center, Harvard Medcial School, USA, [4]Hebrew SeniorLife; Bar Ilan University, USA, [5]Dept. Envrionmental Health, Harvard School of Public Health, USA, [6]Hebrew SeniorLife, USA, [7]Department of Medical Biochemistry, Oslo University Hospital, Norway
Disclosures: Yi-Hsiang Hsu, None

11:00 am MO0029 **Does Bone Resorption Stimulate Periosteal Expansion? A Cross-sectional Analysis of β-C-telopeptides of Type I Collagen (CTX), Genetic Markers of Resorption, and Periosteal Circumference as Measured by pQCT**

John P Kemp[1], Adrian Sayers[2], David M Evans[1], Lavinia Paternoster[1], Kevin Deere[1], Mattias Lorentzon[3], Terho Lehtimäki[4], Joel Eriksson[5], Mika Kähönen[6], Olli Raitakari[7], Marika Laaksonen[8], Harri Sievänen[9], Jorma Viikari[10], Leo-Pekka Lyytikäinen[6], William D Fraser[11], Liesbeth Vandenput[12], Claes Ohlsson[12], Jonathan H Tobias*[13]. [1]MRC Centre for Causal Analyses in Translational Epidemiology, School of Social & Community Medicine, University of Bristol, United Kingdom, [2]School of Social & Community Medicine, University of Bristol, United Kingdom, [3]Geriatric Medicine, Dept. of internal medicine & clinical nutrition & The Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Department of Clinical Chemistry, Fimlab Laboratories, University of Tampere & Tampere University Hospital, Finland, [5]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [6]Department of Clinical Physiology, University of Tampere & Tampere University Hospital, Finland, [7]Research Centre of Applied & Preventive Cardiovascular Medicine, University of Turku & the Department of Clinical Physiology & Nuclear Medicine, Turku University Hospital, Finland, [8]Department of Food & Environmental Sciences, University of Helsinki, Finland, [9]The UKK Institute for Health Promotion, Finland, [10]Department of Medicine, University of Turku & Turku University Hospital, Finland, [11]Norwich Medical School, University of East Anglia, UK, United Kingdom, [12]Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [13]School of Clinical Sciences, University of Bristol, United Kingdom

Disclosures: Jonathan H Tobias, None

11:05 am MO0363 **Increased Cortical Porosity in Older Men with Fracture**

Mattias Lorentzon*[1], Daniel Sundh[2], Magnus Karlsson[3], Claes Ohlsson[4], Dan Mellstrom[5]. [1]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [2]Geriatric Medicine, Dept. of Internal Medicine & Clinical Nutrition, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden., Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [5]Sahlgrenska University Hospital, Sweden

Disclosures: Mattias Lorentzon, None

11:10 am MO0301 **Precise 3D Localisation of Cortical Defects Associated with Subcapital, Trans-cervical and Trochanteric Hip Fractures in Life**

Kenneth Poole*[1], Graham Treece[1], Karen Blesic[1], Paul Mayhew[1], Thomas Turmezei[1], Fjola Johannesdottir[1], Madhavi Vindlacheruvu[1], Simon Donell[2], Jan Vaculik[3], Pavel Dungl[3], Martin Horak[4], Jan Stepan[5], Andrew Gee[1]. [1]University of Cambridge, United Kingdom, [2]University of East Anglia, United Kingdom, [3]Charles University Prague, Czech Republic, [4]Homolka Hospital, Czech Republic, [5]Charles University, Czech Republic

Disclosures: Kenneth Poole, Patent - GB0917524.1, 99

11:20 am MO0297 **Detection of Incomplete Non-displaced Atypical Femur Fractures by Densitometer**

Angela M. Cheung*[1], Robert Bleakney[2], Harry Genant[3], Rowena Ridout[4], Heather McDonald-Blumer[5], Diana Yau[1], Lianne Tile[1], George Tomlinson[5]. [1]University Health Network, Canada, [2]Mount Sinai Hospital, Canada, [3]UCSF/Synarc, USA, [4]Toronto Western Hospital, Canada, [5]University of Toronto, Canada

Disclosures: Angela M. Cheung, Eli Lilly, 7; Merck, 2; Merck, 9; Eli Lilly, 2; Amgen, 2; Warner Chilcott, 5; Warner Chilcott, 7; Amgen, 7

11:25 am MO0329 **Mortality After a Hip Fracture in the United Kingdom: 2000 – 2011**

Corinne Klop*[1], Paco Welsing[2], Cyrus Cooper[3], Johannes Bijlsma[4], Hubert Leufkens[1], Frank de Vries[1]. [1]Utrecht Institute for Pharmaceutical Sciences, Division of Pharmacoepidemiology & Clinical Pharmacology, Utrecht University, Netherlands, [2]Julius Center for Health Sciences & Primary Care, University Medical Center, Netherlands, [3]University of Southampton, United Kingdom, [4]Department of Rheumatology & Clinical Immunology, University Medical Center, Netherlands

Disclosures: Corinne Klop, None

11:30 am **Factors Associated with Osteoporosis Treatment Following Fragility Fracture**
MO0348 Cynthia O'Malley*[1], Akhila Balasubramanian[1], Douglas Dirschl[2], Pei-Ran Ho[3], Joseph Lane[4], Laura Tosi[5]. [1]Amgen Inc., USA, [2]University of Chicago Medicine & Biological Sciences, USA, [3]Amgen, Inc, USA, [4]Hospital for Special Surgery, USA, [5]Children's National Medical Center, USA
Disclosures: Cynthia O'Malley, Amgen, Inc, 3; Amgen, Inc, 1

11:40 am **Leptin Blunts the Starvation-Induced Increase in Bone Marrow Adiposity**
MO0032 Maureen Devlin*[1], Christine Conlon[2], Miranda Van Vliet[2], Leeann Louis[2], Lamya Karim[2], Clifford Rosen[3], Mary Bouxsein[2]. [1]University of Michigan, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Maine Medical Center, USA
Disclosures: Maureen Devlin, None

11:45 am **Trabecular Bone Score: A Tool for Identification of Severe Spinal Osteoporosis**
MO0306 Kawtar Nassar[1], Simon Paternotte[1], Sami Kolta[1], Jacques Fechtenbaum[1], Christian Roux[1], Karine Briot*[2]. [1]Paris Descartes University, Cochin Hospital, Rheumatology Department, France, [2]Paris Descartes University, Cochin hospital, Rheumatology Hospital, France
Disclosures: Karine Briot, None

ORAL POSTER PRESENTATIONS: LATE-BREAKING ABSTRACTS

10:30 am - 12:00 pm **Room 314-317**

10:35 am **Eight Years of Denosumab Treatment in Postmenopausal Women With Osteoporosis: Results**
LB-MO26 **From the First Five Years of the FREEDOM Extension**
Socrates Papapoulos*[1], Kurt Lippuner[2], Christian Roux[3], Jesse Hall[4], David Kendler[5], E. Michael Lewiecki[6], Maria Luisa Brandi[7], Edward Czerwiński[8], Edward Franek[9], Péter Lakatos[10], Carlos Mautalen[11], Salvatore Minisola[12], Jean Yves Reginster[13], Soren Jensen[14], Nadia Daizadeh[4], Andrea Wang[4], Michelle Geller[4], Rachel B. Wagman[4], Henry G. Bone[15]. [1]Leiden University Medical Center, The netherlands, [2]Bern University Hospital, Switzerland, [3]Paris Descartes University, France, [4]Amgen Inc., USA, [5]University of British Columbia, Vancouver, Canada, [6]New Mexico Clinical Research & Osteoporosis Center, USA, [7]University of Florence, Italy, [8]Krakow Medical Center, Poland, [9]Central Clinical Hospital MSWiA, Poland, [10]Semmelweis University, Hungary, [11]Centro de Osteopatias Medicas, Argentina, [12]Sapienza University, Italy, [13]University of Liège, Belgium, [14]CCBR, Denmark, [15]Michigan Bone & Mineral Clinic, USA
Disclosures: Socrates Papapoulos, Amgen Inc., Merck & Co., GSK, 7; Merck & Co., Novartis, 99; Amgen Inc., Merck & Co., GSK, Axsome, Gador, 5

10:40 am **Continuous modeling-based bone formation: a novel mechanism that could explain the**
LB-MO30 **sustained increases in hip bone mineral density (BMD) with denosumab treatment**
Michael Ominsky[1], Cesar Libanati[1], Rogely Waite Boyce[2], Paul Kostenuik[1], Roland Baron[3], Rachel Wagman[4], David Dempster*[5]. [1]Amgen Inc., USA, [2]Amgen Inc, USA, [3]Harvard School of Medicine & of Dental Medicine, USA, [4]Amgen, Incorporated, USA, [5]Columbia University, USA
Disclosures: David Dempster, Amgen, 1; Amgen, 3

10:45 am **BA058, a Novel Human PTHrP Analog: Reverses Ovariectomy-Induced Bone Loss and**
LB-MO29 **Strength at the Lumbar Spine in Aged Cynomolgus Monkeys**
Nancy Doyle[1], Aurore Varela[1], Susan Y. Smith[1], Robert Guldberg[2], Gary Hattersley*[3]. [1]Charles River Laboratories, Canada, [2]Georgia Institute of Technology, USA, [3]Radius, USA
Disclosures: Gary Hattersley, None

10:55 am **Adherence to Oral Bisphosphonates and the Risk of Subtrochanteric or Diaphyseal Femur**
LB-MO23 **Fractures among US Medicare Beneficiaries with Part D Coverage**
John Wang*[1], Michael Ward[2], Timothy Bhattacharyya[2], Leighton Chan[3]. [1]Intramural Research Program, NIAMS/NIH, USA, [2]Intramural Research Program, NIAMS, NIH, USA, [3]Rehabilitation Med Dept, Clinical Center, NIH, USA
Disclosures: John Wang, None

11:00 am LB-MO21 **Post–Alendronate DXA Monitoring Strategy Based on 5-year Changes in BMD**
Brian Mcnabb*[1], Eric Vittinghoff[1], Richard Eastell[2], Ann Schwartz[1], Douglas Bauer[1], Kristine Ensrud[3], Elizabeth Barrett-Connor[4], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]University of Sheffield, United Kingdom, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University of California, San Diego, USA
Disclosures: Brian Mcnabb, DocMatter, 1

11:05 am LB-MO32 **Effect of Aromatase Inhibition on Bone Density and Bone Turnover in Healthy Postmenopausal Women: Results of the International Breast cancer Intervention Study II (IBIS-II)**
Richard Eastell*[1], Ivana Sestak[2], Fatma Gossiel[1], Rajesh Patel[3], Glen Blake[4], Robert Coleman[1], Anthony Howell[5], Mitch Dowsett[6], John Forbes[7], Shalini Singh[2], Jack Cuzick[2]. [1]University of Sheffield, United Kingdom, [2]Queen Mary University, United Kingdom, [3]Imperial College London, United Kingdom, [4]King's College London, United Kingdom, [5]Paterson Institute for Cancer Research, United Kingdom, [6]Institute of Cancer Research, United Kingdom, [7]University of Newcastle, Australia
Disclosures: Richard Eastell, Aventis, 2; Astrazeneca, 2

11:15 am LB-MO35 **Control of Breast Cancer Growth and Dissemination By the Skeleton**
Claire-Sophie Devignes*[1], Audrey Brenot[2], Amy-Jo Casbon[3], Audrey Devillers[1], Ying Yu[3], Zena Werb[3], Sylvain Provot[1]. [1]INSERM, France, [2]Washington University School of Medicine, USA, [3]UCSF, USA
Disclosures: Claire-Sophie Devignes, None

11:20 am LB-MO18 **Retinaldehyde (Rald) Increases Bone Mass by Repressing PPARγ, Increasing BMP2, and Stimulating Brown- like Adipogenesis: Implications for Treating Obesity and Osteoporosis**
Shriram Nallamshetty*[1], Phuong Le[2], Hong Wang[1], Jorge Plutzky[1], Clifford Rosen[3]. [1]Brigham & Women's Hospital, USA, [2]Maine Medical Center Research Institute, USA, [3]Maine Medical Center, USA
Disclosures: Shriram Nallamshetty, None

11:25 am LB-MO13 **Type 2 receptor-level competition between BMP and Activin ligands regulates postnatal bone mass**
Jonathan Lowery*, Giuseppe Intini, Laura Gamer, Karen Cox, Vicki Rosen. Harvard School of Dental Medicine, USA
Disclosures: Jonathan Lowery, None

11:35 am LB-MO08 **XBP1S, a BMP2-inducible transcription factor, Accelerates Endochondral Bone Growth by activating GEP Growth Factor**
Fengjin Guo*[1], Xiaofeng Han[2], Peng Zhang[2], Zhangyuan Xiong[2], Meiling Li[2], Fei Xia[2]. [1]Chongqing Medical University, Peoples republic of china, [2]Chongqing Medical University, China
Disclosures: Fengjin Guo, None

11:40 am LB-MO11 ***Asxl1* Plays an Important Role in Bone Remodeling by Regulating both Osteoblasto- and Osteoclasto-genesis Through Histone Modification**
Feng-Chun Yang, Peng Zhang*. Indiana University, USA
Disclosures: Peng Zhang, None

11:45 am LB-MO19 **Ras Signaling Increases the Number of Osteoprogenitor Cells leading to Increased Bone Mass**
Garyfallia Papaioannou*[1], Noriaki Ono[1], Simona Nedelcu[2], Jacqueline A Lees[2], Henry Kronenberg[1], Tatsuya Kobayashi[1]. [1]Massachusetts General Hospital, USA, [2]Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, USA
Disclosures: Garyfallia Papaioannou, None

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **Rooms 324-338**

Meet-the-Professor Session: Fat and Bone
Room 324

Mark Horowitz, Ph.D.
Yale University School of Medicine, USA
Disclosures: Mark Horowitz, None

Meet-the-Professor Session: Fibrous Dysplasia, Bench to Bedside
Room 335

Roland Chapurlat, M.D., Ph.D.
E. Herriot Hospital, France
Disclosures: Roland Chapurlat, None

Paolo Bianco, M.D.
Universita La Sapienza, Italy
Disclosures: Paolo Bianco, None

Meet-the-Professor Session: Genetic Basis for Osteoporosis
Room 334
Supported by an educational grant from Merck & Co., Inc.

Emma Duncan, M.D., Ph.D.
Royal Brisbane and Women's Hospital, Australia
Disclosures: Emma Duncan, None

Meet-the-Professor Session: Hip Structure by QCT
Room 311

Thomas Lang, Ph.D.
University of California, San Francisco, USA
Disclosures: Thomas Lang, None

Meet-the-Professor Session: Physical Activity and Fracture Risk
Room 325

Harri Sievanen, Sc.D.
The UKK Institute for Health Promotion Research, Finland
Disclosures: Harri Sievanen, None

Meet-the-Professor Session: Redox Balance in Bone Metabolism
Room 312

Stavros Manolagas, M.D., Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Stavros Manolagas, None

Meet-the-Professor Session: Wnt Signaling
Room 333

Bart Williams, Ph.D.
Van Andel Research Institute, USA
Disclosures: Bart Williams, Genentech 2

Meet-the-Professor Session: X-linked Hypophosphatemia
Room 313

Thomas Carpenter, M.D.
Yale University School of Medicine, USA
Disclosures: Thomas Carpenter, None

Marc McKee, Ph.D.
McGill University, Canada
Disclosures: Marc McKee, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: CELLULAR AND MOLECULAR MECHANISMS

MO0001 **Anti-dementia glutaminergic NMDA and Acetylcholine esterase inhibitor inhibits osteoclastogenesis**
Charles Inderjeeth*[1], Jiake Xu[1], Dian Teguh[2], Bay Sie Lim[2]. [1]University of Western Australia, Australia, [2]University of WA, Australia
Disclosures: Charles Inderjeeth, None

MO0002 **2013 ASBMR Young Investigator Award**
Characterization of Age-related Skeletal Muscle Regenerative Function and Gait Performance Recovery in Hindlimb Injured Fibroblast Growth Factor-2 Null Mice
Toru Nishikawa*[1], Collin Homer-Bouthiette[1], Liping Xiao[1], Marja Marie Hurley[2], Morgan Carlson[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
Disclosures: Toru Nishikawa, None

MO0003 **Inducible Conditional Inactivation of FGFR3 in Collagen II Expressing Cells at adult stage Leads to Early-Onset Degeneration of the Intervertebral Disc**
Yangli Xie*[1], Siru Zhou[2], Wei Xu[2], Junlan Huang[2], Xiaolan Du[2], Lin Chen[3]. [1]Trauma Center, Daping Hospital, Third Military Medical University, Peoples Republic of China, [2]Trauma Center, Daping Hospital, Third Military Medical University, China, [3]Daping Hospital, Peoples Republic of China
Disclosures: Yangli Xie, None

MO0004 **Selective Amino Acid Supplementation Can Exacerbate or Prevent Low Protein-Induced Bone Loss in the Aged Animal**
Kehong Ding[1], Qing Zhong[2], Bryce Wyatt[3], Jarrad Rowse[3], Xing-Ming Shi[1], Jianrui Xu[3], Mona El Refaey[3], William Hill[4], Wendy Bollag[3], Mohammed Elsalanty[5], Nicole Howie[3], Karl Insogna[6], Norman Chutkan[3], Monte Hunter[3], Mark Hamrick[1], Carlos Isales*[3]. [1]Georgia Health Sciences University, USA, [2]Medical College of Georgia, USA, [3]Georgia Regents University, USA, [4]Georgia Regents University & Charlie Norwood VAMC, USA, [5]Georgia Health Science University, USA, [6]Yale University School of Medicine, USA
Disclosures: Carlos Isales, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: FRAILTY AND SARCOPENIA

MO0005 **Association of Sarcopenia with Muscle Strength and Quality of Life in Postmenopausal Women with or without Osteoporosis**
Michio Hongo*, Naohisa Miyakoshi, Yuji Kasukawa, Yoichi Shimada. Akita University Graduate School of Medicine, Japan
Disclosures: Michio Hongo, None

MO0006 **Choice of Reference Population Radically Affects Sarcopenic Obesity Prevalence**
Bjoern Buehring*, Ellen Fidler, Jessie Libber, Diane Krueger, Neil Binkley. University of Wisconsin, Madison, USA
Disclosures: Bjoern Buehring, None

MO0007 **Defining Osteosarcopenic Obesity and Identifying its Prevalence in Women Across a Wide Age-range**
Julia E. Inglis*[1], Lynn B. Panton[2], Michael J. Ormsbee[2], Owen J. Kelly[3], Jasminka Z. Ilich[2]. [1]Florida State University Dept. of Nutrition, Food, & Exercise Science, USA, [2]Florida State University, USA, [3]Abbott Nutrition, USA
Disclosures: Julia E. Inglis, None

MO0008 **Effects of Age and Caloric Restriction on the Expression of Leptin in Peripheral Tissues**
Phonepasong Arounleut[1], Sunil Upadhyay[2], Xing-Ming Shi[3], William Hill[4], Carlos Isales[2], Mark Hamrick*[3]. [1]Georgia Regents University (formally Georgia Health Sciences University), USA, [2]Georgia Regents University, USA, [3]Georgia Health Sciences University, USA, [4]Georgia Regents University & Charlie Norwood VAMC, USA
Disclosures: Mark Hamrick, None

MO0009 **Identification of a single nucleotide polymorphism in the 5'-flanking region of *PRDM16* gene as a novel susceptibility marker for low lean body mass**
Tomohiko Urano*[1], Masataka Shiraki[2], Yasuyoshi Ouchi[3], Satoshi Inoue[4]. [1]UMIN, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]The University of Tokyo, Japan, [4]University of Tokyo, Japan
Disclosures: Tomohiko Urano, None

MO0010 **Osteocalcin and Musculoskeletal Health in Older Women.**
Itamar Levinger*[1], David Scott[2], Geoffrey Nicholson[3], Gustavo Duque[4], Thomas McCorquodale[5], Amanda Stuart[6], Peter Ebeling[2], Markus Herrmann[7], Kerrie Sanders[8]. [1]Victoria University, Australia, [2]The University of Melbourne, Australia, [3]The University of Queensland, Australia, [4]Ageing Bone Research Program, University of Sydney, Australia, [5]Nepean Clinical School, University of Sydney, Australia, [6]Department of Clinical & Biomedical Sciences, The University of Melbourne, Barwon Health, Australia, [7]Royal Prince Alfred Hospital, The University of Sydney, Australia, [8]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia
Disclosures: Itamar Levinger, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

MO0011 **Alterations of Bone Quantity and Quality of the Periarticular and Non-Periarticular Bone in Patients with Rheumatoid Arthritis**
Roland Kocijan*[1], Stephanie Finzel[2], Matthias Englbrecht[2], Axel Hueber[2], Jürgen Rech[2], Georg Schett[2]. [1]St. Vincent Hospital Vienna, Austria, [2]Friedrich-Alexander University Medical School, Germany
Disclosures: Roland Kocijan, None

MO0012 **Control of cartilage maintenance and degeneration by Twist1 and Runx1 transcription factors.**
Rosa Guzzo*[1], Jason Gibson[1], Douglas Spicer[2], Gregory Polkowski[1], Hicham Drissi[1]. [1]University of Connecticut Health Center, USA, [2]University of New England, USA
Disclosures: Rosa Guzzo, None

MO0013 **Degenerative Changes in Knee Joints and Joint Pain in Surgically and Chemically Induced Rat Models of Osteoarthritis**
Jukka Morko*, ZhiQi Peng, Jukka Vääräniemi, Katja Fagerlund, Jukka Rissanen, Jenni Bernoulli, Jussi Halleen. Pharmatest Services Ltd, Finland
Disclosures: Jukka Morko, Pharmatest Services Ltd, 3

MO0014 **Withdrawn**

MO0015 **Identification of osteoarthritis patients with chronic tissue inflammation whom may benefit from anti-inflammatory treatment**
Anne Sofie Siebuhr*[1], Kristian Kjær Petersen[2], Lars Arendt-Nielsen[2], Line Egsgaard[3], Thomas Eskehave[3], Claus Christiansen[4], Ole Simonsen[5], Hans Christian Hoegh[3], Morten Karsdal[4], Anne-Christine Bay-Jensen[6]. [1]Nordic Bioscience, Herlev, Denmark, [2]Center for Sensory-Motor Interaction (SMI), Department of Health Science & Technology, Faculty of Medicine, Aalborg University, Denmark, [3]Center for Clinical & Basic Research, Denmark, [4]Nordic Bioscience A/S, Denmark, [5]Aalborg University Hospital, Orthopaedic Surgery Research Unit, Denmark, [6]Nordic Bioscience, Denmark
Disclosures: Anne Sofie Siebuhr, Full time employee at Nordic Bioscience, 3

MO0016 **Inhibition of TGF-β Signaling in Articular Chondrocytes Leads to Activation of MMP13 and Adamts5, OA-like Pathological Defects and Pain-Related Behavior Change in Mice**
Jia Li*[1], Jie Shen[2], Jeffrey Kroin[1], Guozhi Xiao[3], Hee-Jeong Im[1], Di Chen[3]. [1]Rush University, USA, [2]University of Rochester, USA, [3]Rush University Medical Center, USA
Disclosures: Jia Li, None

MO0017 **Inhibition of TGFβ signaling in Mesenchymal Stem Cells Prevents Onset of Osteoarthritis**
Gehua Zhen*[1], Xu Cao[2]. [1]The Johns Hopkins Hospital, USA, [2]Johns Hopkins University, USA
Disclosures: Gehua Zhen, None

MO0018 **K/BxN Mouse Serum–Induced Arthritis Is Aggravated in Mice with Tamoxifen-Induced Chondrocytic Glucocorticoid Receptor Knockout**
Jinwen Tu[1], Yaqing Zhang[1], Shihani Stoner[1], Edgar Wiebe[1], Tazio Maleitzke[1], Ulrike Baschant[2], Di Chen[3], Jan Tuckermann[4], Markus Seibel[1], Hong Zhou*[1]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Institute of General Zoology & Endocrinology, University of Ulm, Germany, [3]Rush University Medical Center, USA, [4]University of Ulm, Germany
Disclosures: Hong Zhou, None

MO0019 **The development of articular cartilage thickness, impeded by obesity, is protected by low magnitude mechanical signals.**
Tee Pamon*[1], M. Ete Chan[1], Denis Nguyen[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Tee Pamon, None

MO0020 **TRAF3: A potential biomarker of anti-TNF treatment response in rheumatoid and psoriatic arthritis.**
Yan Xiu*[1], Christopher Ritchlin[2], Lianping Xing[2], Brendan Boyce[1]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA
Disclosures: Yan Xiu, None

AGING, ARTHRITIS AND MUSCLE/BONE INTERACTIONS: REHABILITATION AND EXERCISE

MO0021 **Lifestyle therapy preserves bone quality, reduces visceral fat inflammation and bone marrow adipogenic signals in obese old mice**
Xavier DeLeon*[1], Lina Aguirre[2], Alexander Proctor[3], Dennis Villareal[4], Reina Armamento-Villareal[4]. [1]Biomedical Research Institute of New Mexico, USA, [2]BRINM, USA, [3]Active Life Scientific, USA, [4]University of New Mexico School of Medicine, USA
Disclosures: Xavier DeLeon, None

MO0022 **Withdrawn**

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: ASSESSMENT OF PEDIATRIC BONE DISEASE

MO0023 **Healthy Black and White Children Show No Difference in the Relationship between Change in Serum PTH and Change in Serum 25-Hydroxyvitamin D with Oral Vitamin D_3**
Kathleen Hill Gallant*[1], George McCabe[2], Linda McCabe[2], Berdine Martin[2], Emma Laing[3], Dorothy Hausman[4], Connie Weaver[5], Richard Lewis[3], Munro Peacock[6]. [1]Indiana University School of Medicine, USA, [2]Purdue University, USA, [3]The University of Georgia, USA, [4]University of Georgia, USA, [5]Purdue University, Dept of Nutrition Science, USA, [6]Indiana University Medical Center, USA
Disclosures: Kathleen Hill Gallant, None

MO0024 **Inclusion of Anthropometric Parameters in the Creation of Reference Curves for Pediatric Bone Mineral Density and Bone Mineral Content: Impact on Classification of Below-Normal Individuals**
Thomas Hangartner*[1], David Short[1], Vicente Gilsanz[2], Heidi Kalkwarf[3], Joan Lappe[4], Sharon Oberfield[5], John Shepherd[6], Babette Zemel[7], Karen Winer[8]. [1]Wright State University, USA, [2]Children's Hospital Los Angeles, USA, [3]Cincinnati Children's Hospital Medical Center, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Columbia University Medical Center, USA, [6]University of California, San Francisco, USA, [7]Children's Hospital of Philadelphia, USA, [8]National Institutes of Health, USA
Disclosures: Thomas Hangartner, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

MO0025 **A Pediatric Bone Mass Scan has Poor Ability to Predict Adult Bone Mass - A 28-Year Prospective Study**

Bjorn Rosengren*, Christian Buttazzoni, Magnus Karlsson. Skåne University Hospital Malmö, Lund University, Sweden

Disclosures: Bjorn Rosengren, None

MO0026 **A Pre-Pubertal Bone Mass Scan has Poor Ability to Predict Peak Bone Mass - A 12-Year Prospective Study in 121 Children**

Bjorn Rosengren*[1], Magnus Dencker[2], Jan-Åke Nilsson[2], Magnus Karlsson[1]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Inst of Clinical Sciences, Skane University Hospital, Lund University, Sweden

Disclosures: Bjorn Rosengren, None

MO0027 **Body Composition and Physical Activity During Childhood and Adolescence: Relations to Biomechanical Bone Strength**

Joshua Farr*[1], Shreyasee Amin[1], L. Joseph Melton[1], Salman Kirmani[1], Louise McCready[1], Elizabeth Atkinson[1], Sundeep Khosla[2]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Joshua Farr, None

MO0028 **Bone formation markers during growth hormone treatment in short prepubertal children**

Diana Swolin-Eide*[1], Björn Andersson[2], Per Magnusson[3], Berit Kriström[4], Kerstin Albertsson-Wikland[5]. [1]Queen Silvia Children's Hospital, Sweden, [2]The Queen Silvia Children's Hospital, Sweden, [3]Linkoping University, Sweden, [4]Institute of Clinical Sciences, Department of Pediatrics, Umeå University, Sweden, [5]Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, The Queen Silvia Children's, Sweden

Disclosures: Diana Swolin-Eide, None

MO0029 **Does Bone Resorption Stimulate Periosteal Expansion? A Cross-sectional Analysis of β-C-telopeptides of Type I Collagen (CTX), Genetic Markers of Resorption, and Periosteal Circumference as Measured by pQCT**

John P Kemp[1], Adrian Sayers[2], David M Evans[1], Lavinia Paternoster[1], Kevin Deere[1], Mattias Lorentzon[3], Terho Lehtimäki[4], Joel Eriksson[5], Mika Kähönen[6], Olli Raitakari[7], Marika Laaksonen[8], Harri Sievänen[9], Jorma Viikari[10], Leo-Pekka Lyytikäinen[6], William D Fraser[11], Liesbeth Vandenput[12], Claes Ohlsson[12], Jonathan H Tobias*[13]. [1]MRC Centre for Causal Analyses in Translational Epidemiology, School of Social & Community Medicine, University of Bristol, United Kingdom, [2]School of Social & Community Medicine, University of Bristol, United Kingdom, [3]Geriatric Medicine, Dept. of internal medicine & clinical nutrition & The Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Department of Clinical Chemistry, Fimlab Laboratories, University of Tampere & Tampere University Hospital, Finland, [5]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [6]Department of Clinical Physiology, University of Tampere & Tampere University Hospital, Finland, [7]Research Centre of Applied & Preventive Cardiovascular Medicine, University of Turku & the Department of Clinical Physiology & Nuclear Medicine, Turku University Hospital, Finland, [8]Department of Food & Environmental Sciences, University of Helsinki, Finland, [9]The UKK Institute for Health Promotion, Finland, [10]Department of Medicine, University of Turku & Turku University Hospital, Finland, [11]Norwich Medical School, University of East Anglia, UK, United Kingdom, [12]Center for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [13]School of Clinical Sciences, University of Bristol, United Kingdom

Disclosures: Jonathan H Tobias, None

MO0030 **Estradiol Dependent Accrual of Bone Mass in Young Growing Rats is not Amplitude–Modulated**

Ingrid Kantner*[1], Hartmut Blode[2], Kerstin Gude[3], Reinhold Erben[4]. [1]Vetmeduni Vienna, Austria, [2]Bayer Healthcare Global R&D Centre, China, [3]Bayer Healthcare AG, Germany, [4]University of Veterinary Medicine, Austria

Disclosures: Ingrid Kantner, None

MO0031 **In Growing Girls, Muscle Functional Indices and Activity Dose Are Robust Predictors of Upper Extremity Bone Outcomes, but Less Consistent as Predictors of 1- Year Growth Velocities**
Alex Skwirz[1], Jodi Dowthwaite*[2], Carol Sames[3], Melissa Zajdel[4], Paula Rosenbaum[3], Tamara Scerpella[5]. [1]Syracuse University, USA, [2]SUNY Upstate Medical University;, Syracuse University, USA, [3]SUNY Upstate Medical University, USA, [4]Princeton University, USA, [5]University of Wisconsin, USA
Disclosures: Jodi Dowthwaite, None

MO0032 **Leptin Blunts the Starvation-Induced Increase in Bone Marrow Adiposity**
Maureen Devlin*[1], Christine Conlon[2], Miranda Van Vliet[2], Leeann Louis[2], Lamya Karim[2], Clifford Rosen[3], Mary Bouxsein[2]. [1]University of Michigan, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Maine Medical Center, USA
Disclosures: Maureen Devlin, None

MO0033 **Novel implemental roles of the NF-κB subunit RelB in osteoblastogenesis: intrinsic antagonism of the classical NF-κB pathway by RelB**
Masahiro Hiasa*[1], Masahiro Abe[2], Toshio Matsumoto[3], Naozumi Ishimaru[2]. [1]University of Tokushima Graduate School, Japan, [2]University of Tokushima, Japan, [3]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Masahiro Hiasa, None

MO0034 **RANKL, OPG, and Exercise Dose in Overweight and Obese Children**
Norman Pollock*[1], Haidong Zhu[2], De-Huang Guo[2], Catherine Davis[2]. [1]Georgia Health Sciences University, Medical College of Georgia, USA, [2]Georgia Regents University, USA
Disclosures: Norman Pollock, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

MO0035 **Norepinephrine reuptake is required for acquisition of a normal peak bone mass**
Yun Ma*[1], Jeffry Nyman[2], Maureen Hahn[1], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Yun Ma, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: TREATMENT OF PEDIATRIC BONE DISEASE

MO0036 ***In Vivo*** **Evaluation of Skeletal Development in Non-Clinical Pediatric Studies in Rabbits**
Rana Samadfam*[1], Nancy Doyle[2], Aurore Varela[1], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Charles River Laboritories, Canada
Disclosures: Rana Samadfam, None

MO0037 **Pamidronate use in Children with Osteogenesis Imperfecta at Boston Children's Hospital: Retrospective Cohort Study**
Paulina Ortiz-Rubio*[1], Ingrid Holm[2], Nina Ma[1]. [1]Boston Children's Hospital, USA, [2]Children's Hospital Boston, USA
Disclosures: Paulina Ortiz-Rubio, None

BONE BIOMECHANICS AND QUALITY (BASIC): GENERAL

MO0038 **Age and Sex Dependence of Baboon Proximal Femur Composite Traits Determined Using Statistical Shape and Density Modeling**
Todd Bredbenner*[1], Arthur Nicholls[1], Donald Moravits[1], Jennifer Harris[2], Shayna Levine[2], Lorena Havill[2], Daniel Nicolella[1]. [1]Southwest Research Institute, USA, [2]Texas Biomedical Research Institute, USA
Disclosures: Todd Bredbenner, None

MO0039 **Bone microstructure characteristics in high fat diet induced fatty liver disease mice**
Shen Qu[1], Ran Cui*[1], Yunzi Liu[2], Chunlei Jiang[2]. [1]Shanghai Tenth People's Hospital of Tongji University, School of Medicine, China, [2]The Second Military Medical University, China
Disclosures: Ran Cui, None

MO0040 **Can lost bone be recovered after 12 weeks of reduced energy availability?**
Corinne Metzger*[1], Kaleigh Camp[1], Sibyl Swift[2], Mary Jane DeSouza[3], Evelyn Yuen[1], Florence Lima[1], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]Armed Forces Radiobiology Research Institute, USA, [3]The Pennsylvania State University, USA
Disclosures: Corinne Metzger, None

MO0041 **Comparative Experimental Study of the Effect of Osteoprotegerine and Testosterone on the OPG/RANKL System in an Animal Model of Male Castrate Rats**
Marta Martín-Fernández*[1], Mónica Sánchez-Sánchez[1], Manuel Díaz-Curiel[2], Concepción De la Piedra[3]. [1]Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, [2]Medicina Interna. Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, [3]Bioquímica Investigación. Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain
Disclosures: Marta Martín-Fernández, None

MO0042 **Correlating FTIRI and Raman Parameters using Iliac Crest Biopsies**
Adele Boskey*[1], Lyudmila Spevak[1], Gurjit Mandair[2], Susan P. Bare[3], Robert Recker[3], Michael Morris[4]. [1]Hospital for Special Surgery, USA, [2]University of Michigan, Department of Chemistry, USA, [3]Creighton University, USA, [4]University of Michigan, USA
Disclosures: Adele Boskey, None

MO0043 **Cx43 Hemichannels Involves in TMJ Cartilage Degradation Induced by Biomechanical Dental Stimulation**
Mei-Qing Wang*[1], JIng Zhang[2], Mian Zhang[2], Min Guo[2], Min Guo[2], Ting Yang[2]. [1]College of Stomatology, Fourth Military Medical University, Peoples Republic of China, [2]FMMU, China
Disclosures: Mei-Qing Wang, None

MO0044 **Does Reference Point Indentation Assess the Fracture Toughness of Human Cortical Bone?**
Mathilde Granke*[1], Sasidhar Uppuganti[1], Alexander Makowski[2], Ahbid Zein-Sabatto[1], Andrew J Schultze[1], Jack M Whitehead[1], Jeffry Nyman[1]. [1]Vanderbilt University Medical Center, USA, [2]Department of Veterans Affairs, Vanderbilt University, USA
Disclosures: Mathilde Granke, None

MO0045 **DPP4 Inhibition Attenuates Bone Loss in Diabetic Rats**
Lorenzo Glorie*[1], Geert Behets[2], Lesley Baerts[3], Ingrid De Meester[3], Patrick D'Haese[2], Anja Verhulst[2]. [1]Universiteit Antwerpen, Belgium, [2]Laboratory of Pathophysiology, Belgium, [3]Laboratory of Medical Biochemistry, Belgium
Disclosures: Lorenzo Glorie, None

MO0046 **Evaluating the Precision of Compressive Failure Tests of the Murine Tibia Using 3D Printing**
Lillian Chatham*[1], Vanessa Sherk[2], Dana Carpenter[3]. [1]University of Colorado, Denver, USA, [2]University of Colorado - Denver, USA, [3]University of Colorado Denver, USA
Disclosures: Lillian Chatham, None

MO0047 **Exercise During Recovery Between Two Hindlimb Unloading Exposures Enhances Cancellous Bone Microarchitecture and Mechanical Properties**
Yasaman Shirazi-Fard*[1], Andrea Kwaczala[2], Stefan Judex[2], Susan Bloomfield[1], Harry Hogan[1]. [1]Texas A&M University, USA, [2]Stony Brook University, USA
Disclosures: Yasaman Shirazi-Fard, None

MO0048 **Human Ossicles Adapt their Tissular Bone Quality to their Biomechanical Function**
François Duboeuf*[1], Brigitte Burt-Pichat[1], Delphine Farlay[2], Paul Suy[3], Eric Truy[4], Georges Boivin[5]. [1]INSERM UMR 1033; Université de Lyon, France, [2]INSERM, UMR1033; Université De Lyon, France, [3]Hôpital Edouard Herriot, Département d'ORL, Lyon, France, [4]Hôpital Edouard Herriot, Département d'ORL, Université de Lyon, France, [5]INSERM, UMR1033; Universite De Lyon, France
Disclosures: François Duboeuf, None

MO0049 **Intensive Treadmill Running Induces Microstructural Deterioration in Mouse Femoral Trabecular Bone**
Allison Altman*[1], Klyde Breitton[1], Guangyi Zhao[2], Beom Kang Huh[1], Wei-Ju Tseng[1], James H-C Wang[2], Xiaowei Liu[1]. [1]University of Pennsylvania, USA, [2]University of Pittsburgh, USA
Disclosures: Allison Altman, None

MO0050 **Modeling Reference Point Indention in Equine Cortical Bone with Finite Elements and Mechanical Testing Data**
Kevin Hoffseth*[1], Connor Randall[2], Paul Hansma[2], Henry Yang[2]. [1]UC Santa Barbara, USA, [2]University of California, Santa Barbara, USA
Disclosures: Kevin Hoffseth, None

MO0051 **Mouse Femoral Neck Architecture Determined by MicroCT Reflects Skeletal Architecture Observed at Other Bone Sites**
Robert Brommage*, Sabrina Jeter-Jones, Wendy Xiong, Rose Champ, Jeff Liu. Lexicon Pharmaceuticals, USA
Disclosures: Robert Brommage, Lexicon Pharmaceuticals, 3

MO0052 **Notch1 and Notch2 receptors show opposite patterns of expression and differing effects on osteoblastogenesis in murine and human mesenchymal stem cells**
Fengchang Zhu*, Kurt Hankenson, Michael Dishowitz, dereck dopkin, Patricia Mutyaba. University of Pennsylvania, USA
Disclosures: Fengchang Zhu, None

MO0053 **The Effect of Bone Tissue Ductility on Vertebral and Femoral Strength**
Shashank Nawathe*[1], Haisheng Yang[1], Aaron Fields[2], Mary Bouxsein[3], Tony Keaveny[4]. [1]University Of California at Berkeley, USA, [2]University of California at San Fracisco, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]University of California, Berkeley, USA
Disclosures: Shashank Nawathe, None

MO0054 **The Optimization and Effect of a Platinum Catalyst on the Mechanical and Handling Properties of Novel Silorane Bone Cements while maintaining Osteogenic Capacity**
Kathleen Kilway*[1], Rachel Weiler[1], Lianxiang Bi[2], J. David Eick[1], Bradley Miller[1], Thomas Schuman[3], Lynda Bonewald[4]. [1]University of Missouri – Kansas City, USA, [2]University of Missouri Kansas City, USA, [3]Missouri University of Science & Technology, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Kathleen Kilway, None

MO0055 **Thoracic vertebral fracture is associated with a localized increase in spine curvature at the fracture site that exceeds the observed increases in global thoracic kyphosis**
Alexander Bruno*[1], Dennis Anderson[2], Brett Allaire[2], M. Clara De Paolis Kaluza[2], Douglas Kiel[3], Elizabeth Samelson[4], Mary Bouxsein[2]. [1]Harvard-MIT, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Hebrew SeniorLife, USA, [4]Hebrew SeniorLife, Harvard Medical School, USA
Disclosures: Alexander Bruno, None

MO0056 **Trabecular Plates Have Different Elastic Modulus and Tissue Mineral Density (TMD) from Trabecular Rods in Human Trabecular Bone**
Eric Yu*[1], Ji Wang[1], Bin Zhou[1], Zhang Zhendong[2], X Guo[1]. [1]Columbia University, USA, [2]Department of Orthopedic Surgery, First Affiliated Hospital of the Medical College, China
Disclosures: Eric Yu, None

MO0057 **Transitional Zones Displacement at the Subchondral Bone Layers in an Experimental Model of Osteoporosis and Osteoarthritis**
Santos Castañeda*[1], David Guede[2], Jose R Caeiro[3], Jorge A Roman-Blas[4], Raquel Largo[5], Gabriel Herrero-Beaumont[5]. [1]Rheumatology Department, Hospital de la Princesa, IIS-Princesa, Spain, [2]Coordinator I+D+ i. Trabeculae, Empresa de Base Tecnológica, S.L., Spain, [3]Orthopaedic Surgery Department, Spain, [4]Bone & Joint Research Laboratory, IIS-FJD, Fundación Jiménez Díaz, Spain, [5]Bone & Joint Research Laboratory, IIS-FJD, Spain
Disclosures: Santos Castañeda, None

BONE BIOMECHANICS AND QUALITY (BASIC): MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

MO0058 **Effects of Spaceflight and Sclerostin Antibody on Femoral Neck Strength in Estimated by Finite Element Analysis in Mice flown on Space Shuttle Flight STS-135**
Lindsay Sullivan*[1], Alicia Ortega[2], Ted Bateman[3], Andrea Hanson[4], Eric Livingston[1], Travis Pruitt[5], Colin Smith[6], Angelica de Rosa[1], Eric Lai[1], Louis Stodieck[7], Laura Bowman[8], Rachel Ellman[9], Jordan Spatz[10], Kelly Warmington[11], HL Tan[11], Dave Hill[11], Rachel Paietta[2], Andrew Cureton[2], Chris Paszty[12], Mary Bouxsein[9], Virginia Ferguson[7], Anthony Lau[8]. [1]University of North Carolina-Chapel Hill- Biomedical Engineering, USA, [2]University of Colorado-Boulder-BioServe/Department of Mechanical Engineering, USA, [3]Univesity of North Carolina, USA, [4]Wyle Science, Technology & Engineering Group, USA, [5]Clemson Universeity, USA, [6]North Carolina State University-Department of Mechanical & Aerospace Engineering, USA, [7]University of Colorado, USA, [8]University of North Carolina at Chapel Hill, USA, [9]Beth Israel Deaconess Medical Center, USA, [10]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [11]Amgen Inc, USA, [12]Amgen, Inc., USA
Disclosures: Lindsay Sullivan, None

MO0059 **Finite Element Analysis of the Dynamically Loaded Mouse Forearm**
Ganesh Thiagarajan*[1], Yunkai Lu[2], Mark Dallas[2], Mark Johnson[3]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri Kansas City, USA, [3]University of Missouri, Kansas City Dental School, USA
Disclosures: Ganesh Thiagarajan, None

MO0060 **FSTL3 Mediates Exercise Driven Bone Formation**
Sudha Agarwal[1], Derrick Knapik*[2], Alisa Blazek[2], Beth Lee[3], Lai-Chu Wu[2], JIn Nam[4]. [1]The Ohio State University, USA, [2]Wexner Medical center Ohio State University, USA, [3]Department of Physiology & Cell Biology, Ohio State University, USA, [4]University of California at Riverside, USA
Disclosures: Derrick Knapik, None

MO0061 **Hedgehog pathway inhibitor GDC-0449 impairs the woven bone healing response to stress fractures in the rat ulna**
Jennifer McKenzie*[1], Nikolas Kazmers[1], Fanxin Long[2], Matthew Silva[3]. [1]Washington University in St. Louis, USA, [2]Washington University School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Jennifer McKenzie, None

MO0062 **Response and Adaption of Bone Cells to Mechanical Stimulation**
Airong Qian*[1], Hu Lifang[2], Wang Yang[2], Shang Peng[2]. [1]Northwestern Polytechnical University, Peoples Republic of China, [2]Northwestern Polytechnical University, China
Disclosures: Airong Qian, None

MO0063 **The Ability of Human Mesenchymal Stem Cells to Differentiate between Vertical and Horizontal Vibrations in Vitro Depends on the Intensity of the Signals**
Suphannee Pongkitwitoon*, Stefan Judex. Stony Brook University, USA
Disclosures: Suphannee Pongkitwitoon, None

MO0064 **Vibrations Increase Osteocyte Gap Junctional Communication Independent of the Level of Fluid Shear**
Gunes Uzer*[1], M. Ete Chan[2], Suphannee Pongkitwitoon[2], Stefan Judex[2]. [1]University of North Carolina, USA, [2]Stony Brook University, USA
Disclosures: Gunes Uzer, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): ASSESSMENT OF BONE QUALITY AND STRENGTH

MO0065 **Effect of Body Size on the Quantification of Bone Mineral Density From QCT Images Using a Novel Anthropomorphic Hip Phantom**
Serena Bonaretti*[1], Isra Saeed[2], Andrew Burghardt[1], Lifeng Yu[3], Michael Bruesewitz[3], Sundeep Khosla[4], Thomas Lang[1]. [1]University of California, San Francisco, USA, [2]UC San Francisco, USA, [3]Mayo Clinic, USA, [4]Mayo Clinic College of Medicine, USA
Disclosures: Serena Bonaretti, None

MO0066 **Pre- and post-yield mechanical properties are altered in multiple myeloma patients with fractures as assessed by qCT-based finite element models of the vertebral body**
Graeme Campbell*[1], Sarah Giravent[2], Christian Graeff[3], Claus-C Glueer[4]. [1]Christian-Albrechts Universität zu Kiel, Germany, [2]Universitätsklinikum Schleswig-Holstein, Germany, [3]University Clinic Schleswig-Holstein, Germany, [4]Christian Albrechts Universitaet zu Kiel, Germany
Disclosures: Graeme Campbell, None

MO0067 **Quantitative 3D microcrack imaging for weak and strong bones assessed by reference point indentation**
Philipp Schneider*[1], Paul Hansma[2], Connor Randall[3], Ralph Müller[4]. [1]Institute for Biomechanics, ETH Zurich, Switzerland, [2]University of California, Santa Barbara, USA, [3]Department of Physics, University of California at Santa Barbara, USA, [4]ETH Zurich, Institute for Biomechanics, Switzerland
Disclosures: Philipp Schneider, None

MO0068 **Relationships of Bone Stiffness, Bone Structure, Muscle, and Fat**
Edward Colt*[1], Muhammad Akram[2], Xavier Pi Sunyer[2]. [1]Columbia University & St. Luke's-Roosevelt Hospital, USA, [2]Columbia University, USA
Disclosures: Edward Colt, None

MO0069 **Risedronate Slows or Partly Reverses Microarchitecture Deterioration Depending on Whether Remodelling Is Perturbed or in Steady State**
Yohann Bala*[1], Roland Chapurlat[2], Dieter Felsenberg[3], Thierry Thomas[4], Michel Laroche[5], Edward Morris[6], Jose Ruben Zanchetta[7], Angela M. Cheung[8], Ali Ghasem-Zadeh[9], Roger Zebaze[9], Ego Seeman[9], Rene Rizzoli[10]. [1]University of Melbourne, Dept. of Medicine, Australia, [2]E. Herriot Hospital, France, [3]Charité - Campus Benjamin Franklin, Germany, [4]Hôpital Nord - CHU de St-Etienne, France, [5]Centre de Rhumatologie, CHU Purpan, France, [6]Department of Obstetrics & Gynaecology, Norfolk & Norwich University Hospitals, United Kingdom, [7]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [8]University Health Network-University of Toronto, Canada, [9]Austin Health, University of Melbourne, Australia, [10]Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Yohann Bala, None

MO0070 **Trabecular Plate Deficiencies in Young Men Infected with HIV Early in Life**
Bin Zhou*[1], Michael Yin[1], Stephen Arpadi[2], Ji Wang[1], Kyle Nishiyama[1], Emily Broun[3], Jayesh Shah[3], Chiyuan Zhang[1], Marc Foca[3], Natalie Neu[3], John Nelson[3], David Bell[3], Elizabeth Shane[4], X Guo[1]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University Medical Center, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Bin Zhou, None

MO0071 **Women With and Without Fragility Fractures: The Bone Quality By TBS**
Mário Rui Mascarenhas*[1], Ana Paula Barbosa[2], Ana Gonçalves[3], Vera Simões[4], Didier Hans[5], Isabel do Carmo[3]. [1]Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN, EPE, Portugal, [2]Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, [3]Endocrinology, Diabetes & Metabolism Department, Santa Maria University Hospital, CHLN-EPE, Portugal, [4]CEDML - Lisbon's Endocrinology, Diabetes & Metabolism Clinic (Osteoporosis Unit), Portugal, [5]Lausanne University Hospital, Switzerland
Disclosures: Mário Rui Mascarenhas, None

BONE BIOMECHANICS AND QUALITY (CLINICAL): CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

MO0072 **Characterizing Micro-architectural Changes at the Distal Radius and Tibia in Postmenopausal Women Using HR-pQCT**
Chantal Kawalilak*[1], James Johnston[1], Wojciech Olszynski[2], Saija Kontulainen[1]. [1]University of Saskatchewan, Canada, [2]College of Medicine; University of Saskatchewan, Canada
Disclosures: Chantal Kawalilak, None

MO0073 **Withdrawn**

BONE BIOMECHANICS AND QUALITY (CLINICIAL): MECHANICAL LOADING EFFECTS IN HUMANS AND INTACT ANIMALS

MO0074 **Atypical Femoral Fractures are Associated with High Cyclic Tensile Strain Regions During Walking**

Saulo Martelli*[1], Peter Pivonka[2], Mariana Kersh[1], Peter Ebeling[3], Marcus Pandy[1]. [1]Department of Mechanical Engineering, The University of Melbourne, Australia, [2]Australian Institute for Musculoskeletal Science, The University of Melbourne, Australia, [3]The University of Melbourne, Australia

Disclosures: Saulo Martelli, None

MO0075 **Physically Active Women Have Denser Bones and May Be Less Responsive to a Mechanical Loading Intervention**

Karen Troy*, Breanna Johnson, Mary Lou Bareither. University of Illinois at Chicago, USA

Disclosures: Karen Troy, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: ANALYSIS TECHNIQUES AND CALCIFICATION

MO0076 **Comparison of Raman spectroscopic mapping and histological characterization of heterotopic ossification**

Nicole Crane*[1], Eric Elster[2], Benjamin Potter[3], Jonathan Forsberg[1]. [1]Naval Medical Research Center, USA, [2]Uniformed Services University of Health Sciences, USA, [3]Walter Reed National Military Medical Center, USA

Disclosures: Nicole Crane, None

MO0077 **High-Precision Analysis of Subchondral Sclerosis as an Early and Progressive Marker of Post-Traumatic Osteoarthritis Using Micro-Computed Tomography**

Joseph Temple*[1], Lara Longobardi[2], Tieshi Li[2], Timothy Myers[3], Alessandra Esposito[4], Anna Spagnoli[2]. [1]University of North Carolina at Chapel Hill Department of Biomedical Engineering, USA, [2]University of North Carolina at Chapel Hill, USA, [3]University of North Carolina, USA, [4]University of North Carolina at Chapel Hill Department of Pediatrics, USA

Disclosures: Joseph Temple, None

MO0078 **Joint Bleeding in Factor VIII Deficient Mice Causes an Acute Loss of Trabecular Bone and Calcification of Joint Soft Tissues, Which is Prevented with Aggressive Factor Replacement**

Anthony Lau*[1], Junjiang Sun[2], William Hannah[3], Eric Livingston[4], Dominique Heymann[5], Ted Bateman[6], Paul Monahan[7]. [1]University of North Carolina at Chapel Hill, USA, [2]University of North Carolina-Chapel Hill- Gene Therapy Center, USA, [3]University of North Carolina-Chapel Hill-Gene Therapy Center, USA, [4]University of North Carolina-Chapel Hill- Department of Biomedical Enginering, USA, [5]INSERM U957, University of Nantes, France, [6]Univesity of North Carolina, USA, [7]University of North Carolina-Chapel Hill-Gene Therapy Center & Department of Pediatrics, USA

Disclosures: Anthony Lau, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: CARTILAGE AND CHONDROCYTES

MO0079 **Evidence that Perichondrial Cells are derived from Chondrocytes**

Stephan Spath*[1], Michael Chau[2], Ola Nilsson[2]. [1]NIH, USA, [2]NICHD, USA

Disclosures: Stephan Spath, None

MO0080 **Bio-Adhesive for Tissue Integration and Construction of Bone and Cartilage Interface**

Hyunji Cho*[1], Changhwan Kim[1], Sung Hyun Kim[2], Seungwoo Nam[1], EunAh Lee[3], Youngsook Son[1]. [1]Lab of Tissue Engineering, Department of Genetic Engineering, College of Life Science, Kyung Hee University, South Korea, [2]Materials Research Center for Information Display, College of Engineering, Kyung Hee University, South Korea, [3]Kyung Hee University, South Korea

Disclosures: Hyunji Cho, None

MO0081 **Choline Kinase Beta is an Important Regulator of Endochondral Bone Formation**
Zhuo Li*[1], Gengshu Wu[1], Roger Sher[2], Kayla Rumack[3], Gregory Cox[4], Michael Doschak[1], Monzur Murshed[5], Frank Beier[3], Dennis Vance[1]. [1]University of Alberta, Canada, [2]University of Maine, USA, [3]University of Western Ontario, Canada, [4]The Jackson Laboratory, USA, [5]McGill University, Canada
Disclosures: Zhuo Li, None

MO0082 **Evaluation of osteoarthritis based on second harmonic generation microscopy**
Hiroshi Kiyomatsu*[1], Yusuke Oshima[2], Atsuhiko Hikita[3], Hiromasa Miura[4], Takeshi Imamura[4]. [1]Ehime University Hospital, Japan, [2]Translational Research Center, Ehime University Hospital, Japan, [3]Ehime University, Japan, [4]Ehime University Graduate School of Medicine, Japan
Disclosures: Hiroshi Kiyomatsu, None

MO0083 **Genes significantly highly expressed in synovium derived stromal cells than in bone marrow derived cells are conserved both in mouse and human, and may contribute to higher potential for chondrogenic differentiation**
Yoichi Ezura*[1], Tadayoshi Hayata[2], Takuya Notomi[3], Ichiro Sekiya[4], Masaki Noda[5]. [1]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [2]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [3]GCOE, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental Univerisyt, Japan, [5]Tokyo Medical & Dental University, Japan
Disclosures: Yoichi Ezura, None

MO0084 **Ihh Directly Regulates ColX Expression by PTHrP-independent Mechanisms via Runx2/Smad Interaction during Limb Development**
Katsuhiko Amano*[1], Michael Densmore[1], Riko Nishimura[2], Toshiyuki Yoneda[3], Mikihiko Kogo[2], Beate Lanske[1]. [1]Harvard School of Dental Medicine, USA, [2]Osaka University Graduate School of Dentistry, Japan, [3]Indiana University School of Medicine, USA
Disclosures: Katsuhiko Amano, None

MO0085 **Indispensable Role of Thyroid Hormone in Secondary Ossification via a Novel Mechanism Involving Transdifferentiation of Chondrocytes into Osteoblasts**
Subburaman Mohan*[1], Shaohong Cheng[2], Weirong Xing[3], Heather Watt[4], Sheila Pourteymour[4], Catrina Alarcon[5], Jon Wergedal[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]VA Loma Linda Health Care Systems, USA, [3]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [4]Jerry L Pettis VA Medical Center, USA, [5]Jerry L. Pettis VA Medical Center, USA
Disclosures: Subburaman Mohan, None

MO0086 **Inhibiting calcineurin activity promotes chondrogenic differentiation through induction of Dkk1**
Seungwoo Han*[1], Eun-Ju Lee[2], Youn-Kwan Jung[2], Min-su Han[2], Gun-Woo Kim[3], Hye-Ri Park[2], Je-Yong Choi[4]. [1]Daegu Fatima Hospital, South Korea, [2]Laboratory for Arthritis & Bone Biology, Fatima Research Institute, South Korea, [3]Department of Internal Medicine, Daegu Fatima hospital, South Korea, [4]Kyungpook National University, School of Medicine, South Korea
Disclosures: Seungwoo Han, None

MO0087 **IRE1α Dissociates with BiP and Inhibits ER Stress-mediated Apoptosis in Cartilage Development**
Fengjin Guo*[1], Xiaofeng han[2], yanna Liu[2]. [1]Chongqing Medical University, Peoples Republic of China, [2]Department of Cell Biology & Genetics, Core Facility of Development Biology, Chongqing Medical University, Chongqing 400016, China
Disclosures: Fengjin Guo, None

MO0088 **Runx2 is required for early stages of endochondral ossification but delays final stages of bone repair in Axin2-deficient mice**
Meghan McGee-Lawrence*[1], Elizabeth Bradley[1], Wei Hsu[2], Jane Lian[3], Andre Van Wijnen[1], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of Rochester Medical Center, USA, [3]University of Vermont, USA
Disclosures: Meghan McGee-Lawrence, None

MO0089 **Sclerostin Is Up-regulated In Articular Chondrocytes Exposed To Simulated Microgravity**
Liliana Mellor*, Minoti Hiremath, Lindsey Catlin, Travis Baker, Julia Oxford. Boise State University, USA
Disclosures: Liliana Mellor, None

MO0090 **Skull growth anomalies in *fgfr3*$^{Y367Cl+}$ mice explain craniofacial malformation of achondroplasia**
Laurence Legeai-Mallet*[1], Martin Biosse Duplan[2], Catherine Benoist-Lasselin[3], Nabil KACI[3], Arnold Munnich[3], Federico Di Rocco[3]. [1]INSERM U781 - Paris Descartes university, Necker hospital, France, [2]Faculté de Chirurgie Dentaire, Université Paris Descartes, AP-HP, France, [3]INSERM U781, France
Disclosures: Laurence Legeai-Mallet, None

MO0091 **TGF-β1 inhibits maturation of chondrogenic cell line ATDC5 by impeding canonical hedgehog signaling through direct down-regulation of ciliary component gene Ift88**
Makiri Kawasaki*[1], Tetsuya Nakamoto[1], Takuya Notomi[2], Tadayoshi Hayata[3], Yoichi Ezura[4], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]GCOE, Tokyo Medical & Dental University, Japan, [3]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Makiri Kawasaki, None

MO0092 **Thyroid Hormone Interacts with Alpha$_{2A}$ Adrenergic Receptor to Regulate Longitudinal Bone Growth**
Marcos Silva*[1], Manuela Rodrigues[1], Marilia Teixeira[1], Patrícia Brum[2], Cecilia Gouveia[3]. [1]Department of Anatomy, Institute of Biomedical Sciences, University of Sao Paulo, Brazil, [2]School of Physical Education & Sport, University of Sao Paulo, Brazil, [3]University of Sao Paulo, Institute of Biomedical Sciences, Bra
Disclosures: Marcos Silva, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENE IDENTIFICATION AND EXPRESSION

MO0093 **Defining Mesenchymal Stem/Stromal Cell Subpopulations With Variable Differentiation and Immunomodulatory Potential**
Sally James*, Farinaz Afsari, Jennifer Dyson, James Ashmore, Charlotte Knight, Peter Ashton, Paul Genever. University of York, United Kingdom
Disclosures: Sally James, None

MO0094 **Epigenetic Regulation of Age-Dependent *Sox9* Expression in Mouse Articular Cartilage**
Mingcai Zhang*[1], Qinghua Lu[2], James Bernard[2], Andrew Miller[2], Jinxi Wang[1]. [1]University of Kansas Medical Center, USA, [2]Department of Orthopedic Surgery, University of Kansas Medical Center, USA
Disclosures: Mingcai Zhang, None

MO0095 **Transcriptome Profiling Reveals that Postmenopausal Osteoporosis and Bone Density Correlate with Fat Metabolism but not Adiposity**
Sjur Reppe*[1], Ole K. Olstad[2], Simon J. Cockell[3], Paul Sanderson[4], Vigdis T. Gautvik[5], Kaare M. Gautvik[6], Harish Datta[7]. [1]Oslo University Hospital, Ullevaal, Norway, [2]Oslo University Hospital, Norway, [3]Faculty of Medical Sciences, Newcastle University, United Kingdom, [4]The Royal Victoria Infirmary, United Kingdom, [5]Institute of Basic Medical Sciences, University of Oslo, Norway, [6]University of Oslo, Oslo University Hospital, Lovisenberg Deacon Hospital, Norway, [7]Newcastle University, United Kingdom
Disclosures: Sjur Reppe, None

MO0096 **Trps1 Regulates Mineralization in a Context-Dependent Fashion**
Maria Kuzynski[1], Callie Mobley[2], Tony Winters[2], Manisha Yadav[3], Anne Poliard[4], Odile M.C. Kellerman[5], Jose Luis Millan[6], Dobrawa Napierala*[7]. [1]University of Alabama at Birmingham, USA, [2]Institute of Oral Health Research, Department of Oral & Maxillofacial Surgery, School of Dentistry, University of Alabama at Birmingham, Birmingham, AL, USA, [3]Burnham Institute for Medical Research, USA, [4]Faculté de Chirurgie Dentaire, et UMR-S 747, Université Paris Descartes, France, [5]UMR-S 747 INSERM, France, [6]Sanford-Burnham Medical Research Institute, USA, [7]University of Alabama At Birmingham School of Dentistry, USA
Disclosures: Dobrawa Napierala, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: GENERAL

MO0097 ***Sostdc1*, a paralog of *Sost*, is Involved in Bone Maintenance and Fracture Repair**
Nicole Collette*[1], Cristal Yee[2], Salustra Urbin[1], Liqin Xie[3], Aris Economides[4], Gabriela Loots[5]. [1]Lawrence Livermore National Laboratory, USA, [2]University of California, Merced, USA, [3]Regeneron Pharmaceutical company, USA, [4]Regeneron Pharmaceuticals, Inc., USA, [5]Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Nicole Collette, None

MO0098 **Application of Silver Nanoparticle-based Materials in Orthopedic Surgery**
Zhong Zheng*[1], Ching-Yun Hsu[1], Yulong Zhang[1], Kevin S. Lee[1], Todd Rackohn[1], Ching Shen[1], Thua Thang Ngo[1], Benjamin Wu[1], Xinli Zhang[2], Kang Ting[2], Chia B Soo[1]. [1]UCLA, USA, [2]University of California, Los Angeles, USA
Disclosures: Zhong Zheng, None

MO0099 **Atorvastatin Increases Biomechanical Strength of Repaired Rotator Cuff Tendon Via a Cyclooxygenase-2 Dependent Mechanism**
Oleg Dolkart*[1], Ofir Chechik[2], Tamar Liron[3], Dalia Somjen[2], Tamar Brosh[4], Yankel Gabet[5], Eran Maman[2]. [1]Orthopedic Surgery Division, Tel-Aviv Medical Center & Bone resarch lab. the Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel, [2]Orthopedic Surgery Division, Tel-Aviv Medical Center & the Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel, [3]Bone research laboratory, Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel, [4]Biomechanics Laboratory, School of Dental Medicine, Tel-Aviv University, Tel-Aviv, Israel, [5]Sackler School of Medicine, Tel Aviv University, Israel
Disclosures: Oleg Dolkart, None

MO0100 **Epigenetic Transcriptional Silencing of ZIC1 in Human Trabecular Bone Is Associated with Promoter Hypermethylation**
Harish Datta*[1], Marianne Kringen[2], Ole K Olstad[2], Sjur Reppe[3], Vigdis T Gautvik[4], Paul Sanderson[5], Kaare M Gautvik[6]. [1]Newcastle University, United Kingdom, [2]Oslo University Hospital, Norway, [3]Oslo University Hospital, Ullevaal, Norway, [4]Institute of Basic Medical Sciences, University of Oslo, Norway, [5]The Royal Victoria Infirmary, United Kingdom, [6]University of Oslo, Oslo University Hospital, Lovisenberg Deacon Hospital, Norway
Disclosures: Harish Datta, None

MO0101 **FOXO1 Deletion in Dendritic Cells Leads to Bacteria Induced Osteoclastogenesis and Periodontitis**
Wenmei Xiao*[1], Sandra Pacios[1], Maher Alnammary[1], Dana Graves[2]. [1]University of Pennsylvania Dental School, USA, [2]University of Pennsylvania, School of Dental Medicine, USA
Disclosures: Wenmei Xiao, None

MO0102 **Glycated Osteocalcin**
Grazyna Sroga*, Deepak Vashishth. Rensselaer Polytechnic Institute, USA
Disclosures: Grazyna Sroga, None

MO0103 **Heterozygous Inactivation of Gnas Induces Heterotopic Ossification and Impairs Normal Skeletal Development**
Girish Ramaswamy*[1], Deyu Zhang[1], Frederick Kaplan[2], Robert Pignolo[1], Eileen Shore[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania Hospital, USA
Disclosures: Girish Ramaswamy, None

MO0104 **The mineral dissolution function of osteoclasts is dispensable for hypertrophic cartilage resorption during the development and growth of long bones**
Heiani Touaitahuata*[1], Gaelle Cres[1], Virginie Vives[1], Anne Blangy[2]. [1]CNRS CRBM Montpellier University, France, [2]CNRS CRBM Montpellier University, France
Disclosures: Heiani Touaitahuata, None

MO0105 **Zfp521 in conjunction with the NuRD complex and Tgm3 regulates mesenchymal stem cell lineage determination and induced pluripotency.**
Harikiran Nistala*[1], Ken-ichi Takeyama[2], Hsu-Hsin Chen[1], Bernard Boback[2], Francesca Gori[3], Roland Baron[4]. [1]Harvard University, USA, [2]Harvard school of dental medicine, USA, [3]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [4]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Harikiran Nistala, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MATRIX PROTEINS

MO0106 **Development of a WISP2/CCN5-specific immunoassay**
Alexander Noll[1], Katrin Schlegelmilch[2], Susanne Duncker*[1], F. Armbruster[1], Norbert Schuetze[3]. [1]Immundiagnostik AG, Germany, [2]Universität Würzburg, Germany, [3]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany
Disclosures: Susanne Duncker, Immundiagnostik AG, 3

MO0107 **Fibrillin-1 is an extracellular component of the Bone Marrow Stem Cell niche**
Francesco Ramirez[1], Silvia Smaldone*[2]. [1]Icahn School of Medicine at Mount Sinia, USA, [2]Icahn School of Medicine at Mount Sinai, USA
Disclosures: Silvia Smaldone, None

MO0108 **Fibronectin Splice Variation in Human Knee Cartilage, Meniscus and Synovial Membrane and Association with Osteoarthritis**
Carla Scanzello[1], Dessislava Markova[2], Ana Chee[1], Sherrill Adams[3], D. Greg Anderson[2], Howard An[1], Yejia Zhang*[4]. [1]Rush University Medical Center, USA, [2]Thomas Jefferson University, USA, [3]University of Pennsylvania School of Dental Medicine, USA, [4]Rush University Medical CTR, USA
Disclosures: Yejia Zhang, None

MO0109 **Osteopontin as a Novel Substrate for Proprotein Convertase 5/6 (*PCSK5*) in Bone**
Betty Hoac[1], Delia Susan-Resiga[2], Rachid Essalmani[2], Edwidge Marcinkiewicz[2], Nilana Barros[3], Nabil Seidah[2], Marc McKee*[1]. [1]McGill University, Canada, [2]Clinical Research Institute of Montreal, Canada, [3]Federal University of Sao Paulo, Brazil
Disclosures: Marc McKee, None

MO0110 **Role of Fibromodulin and Biglycan in Periodontal Development and Homeostasis**
Le Wang*[1], Brian Foster[2], Vardit Kram[3], Francisco Nociti[4], Brendan Lopez[5], Anne Tran[4], Kanako Nagatomo[5], Marian Young[6], Martha Somerman[7]. [1]NIAMS/NIH, USA, [2]National Institute of Arthritis & Musculoskeltal & Skin Diseases (NIAMS, USA, [3]National Institute of Dental & Craniofacial Research (NIDCR), USA, [4]National Institute of Arthritis & Musculoskeletal & Skin Diseases (NIAMS), USA, [5]University of Washington School of Dentistry, USA, [6]National Institutes of Health, USA, [7]NIDCR, USA
Disclosures: Le Wang, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX & DEVELOPMENT: MECHANICAL STRESS

MO0111 **In Vitro Mechanobiological Studies of Tenocyes**
David Musson*[1], JungJoo Kim[2], Karen Callon[2], Dorit Naot[2], Iain Anderson[3], Vickie Shim[4], Jillian Cornish[2]. [1]University of Auckland, New Zealand, [2]University of Auckland, New Zealand, [3]Unversity of Auckland, New Zealand, [4]Universityof Auckland, New Zealand
Disclosures: David Musson, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: CALCIUM-SENSING RECEPTORS

MO0112 **Determination and Modulation of Total and Surface Calcium-sensing Receptor Expression in Monocytes in vivo and in vitro**
Julien Paccou*[1], Cédric Boudot[1], Aurélien Mary[1], Said Kamel[1], Tilman Drueke[1], Patrice Fardellone[2], Ziad Massy[1], Michel Brazier[3], Romuald Mentaverri[4]. [1]Université De Picardie Jules Verne, France, [2]Service de rhumatologie, CHU Hôpital Nord, France, [3]University of Picardie, France, [4]INSERM U1088, Fra
Disclosures: Julien Paccou, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: FGF23 AND OTHER PHOSPHATONINS

MO0113 **Effect of adriamycin on mineral metabolism of Pi loaded and vitamin D depleted C57BL/6J mice**

Masanori Takaiwa*[1], Kunihiko Aya[2], Kosei Hasegawa[3], Hiroyuki Tanaka[4], Yoichi Kondo[5], Tsuneo Morishima[3], Nobuyuki Kodani[5]. [1]Dept. of Pediatrics, Matsuyama Red Cross Hosp., Japan, [2]Department of Pediatrics, Kurashiki Chuou Hospital, Okayama, Japan, [3]Department of Pediatrics, Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [4]Okayama Saiseikai General Hospital, Japan, [5]Department of Pediatrics, Matsuyama Red Cross Hospital, Japan

Disclosures: Masanori Takaiwa, None

MO0114 **FGF23 Reduces Endothelium–Dependent Vasorelaxation and Nitric Oxide Bioavailability**

Neerupma Silswal*[1], Dorothy Daniel[1], Chad Touchberry[1], Lynda Bonewald[2], Jason Stubbs[3], Jon Andresen[1], Michael Wacker[1]. [1]University of Missouri-Kansas City School of Medicine, USA, [2]University of Missouri - Kansas City, USA, [3]University of Kansas Medical Center, USA

Disclosures: Neerupma Silswal, None

MO0115 **Iron Status Regulates Serum C-terminal FGF23 in Healthy Adult Women.**

Erik Imel*[1], Siu Lui Hui[1], Amie Gray[1], Dena Acton[1], Anthony Acton[1], Leah Padgett[1], Munro Peacock[2], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University Medical Center, USA

Disclosures: Erik Imel, Kyowa Hakko Kirin Pharma, Inc., 2; Kyowa Hakko Kirin Pharma, Inc., 5

MO0116 **PHEX Substrate Protein Osteopontin and its ASARM Peptide Decrease *NaPT2A* Expression**

Gabrielly Chiarantin[1], Raquel Neves[1], Betty Hoac[2], Adriana Carmona[1], Marc McKee[2], Nilana Barros*[1]. [1]Federal University of Sao Paulo, Brazil, [2]McGill University, Canada

Disclosures: Nilana Barros, None

MO0117 **Sympathetic Activation Induces Skeletal *Fgf23* Expression in a Circadian Rhythm Dependent Manner**

Masanobu Kawai*[1], Saori Kinoshita[1], Shigeki Shimba[2], Keiichi Ozono[3], Toshimi Michigami[1]. [1]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]School of Pharmacy, Nihon University, Japan, [3]Osaka University Graduate School of Medicine, Japan

Disclosures: Masanobu Kawai, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

MO0118 **Depolarizing Membrane Potential by PTH and VD_3 Regulates RANKL-intracellular Transportation; A Novel Mechanism of PTH- and VD_3-induced Osteoclastogenesis**

Takuya Notomi*[1], Miyuki Kuno[2], Yoichi Ezura[3], Masaki Noda[4]. [1]GCOE, Tokyo Medical & Dental University, Japan, [2]Osaka City University, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Tokyo Medical & Dental University, Japan

Disclosures: Takuya Notomi, None

MO0119 **Parathyroid hormone (PTH) mediated down-regulation of dentin matrix protein 1 (*Dmp1*) expression**

Anne Tran[1], Mudita Patel*[2], Francisco Nociti[2], Kamila Kantovitz[2], Le Wang[2], Brian Foster[3], Martha Somerman[4]. [1]National Institutes of Health, USA, [2]NIAMS/NIH, USA, [3]National Institute of Arthritis & Musculoskeltal & Skin Diseases (NIAMS, USA, [4]NIDCR, USA

Disclosures: Mudita Patel, None

MO0120 **PTH Alters Cartilage Callus Remodeling in a Model of Delayed Osteotomy Repair**
Jiliang Li*[1], Masahiko Sato[2], Yanfei Ma[3], Evan Himes[1], Matthew Hamang[2], Jonathan Lucchesi[2], David Rowe[4]. [1]Indiana University Purdue University Indianapolis, USA, [2]Lilly Research Labs, USA, [3]Eli Lilly & Company, USA, [4]University of Connecticut Health Center, USA
Disclosures: Jiliang Li, Lilly Research Labs, 2

MO0121 **Signal Transduction Pathways Associated with PTHrP-induced Proliferation of Colon Adenocarcinoma Cells**
Maria Julia Martin, Natalia Calvo, Ana Russo De Boland*, Claudia Gentili. Universidad Nacional del Sur, Argentina
Disclosures: Ana Russo De Boland, None

MO0122 **The Cell Cycle Inhibitor p27 Mediates the Regulation of Dental and Mandibular Development by Parathyroid Hormone-Related Peptide**
Wen Sun*[1], Hong Liu[2], Rong Wang[2], David Goltzman[3], Andrew Karaplis[3], Dengshun Miao[4]. [1]Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, [2]Nanjing Medical University, China, [3]McGill University, Canada, [4]Nunjing Medical University, Peoples Republic of China
Disclosures: Wen Sun, None

MO0123 **The Remarkable Voyage of the MCL**
Meina Wang*[1], Steven Tommasini[2], Ali Nasiri[1], Arthur Broadus[3]. [1]Yale University, USA, [2]Yale School of Medicine, USA, [3]Yale University School of Medicine, USA
Disclosures: Meina Wang, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES AND MINERAL METABOLISM: PTH/PTHRP RECEPTORS

MO0124 **Hypocalcemic myopathy in a 16 -year old boy with pseudohypoparathyroidism**
Stepan Kutilek*[1], Pavla Bebova-Mala[2], Kristyna Hasenohorlova[2]. [1]Pardubice Hospital; Faculty of Health Studies; University of Pardubice, Czech Republic, [2]Dept. of Pediatrics, Pardubice Hospital, Czech Republic
Disclosures: Stepan Kutilek, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENE THERAPY

MO0125 **Leptin-independent Regulation of Bone Homeostasis by ΔFosB in the Ventral Hypothalamus Contrasts with its Leptin-dependent Effects on Energy and Glucose Metabolism**
Kazusa Sato*[1], Anna Idelevich[2], Glenn Rowe[3], Francesca Gori[4], Roland Baron[5]. [1]Harvard School of Dental Medicine, USA, [2]Harvard University, USA, [3]Harvard Medical School, USA, [4]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Kazusa Sato, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: GENERAL STUDIES

MO0126 **Altered Behavior of Bone Marrow Mesenchymal Stem Cells in the *Crtap* Murine Model of Osteogenesis Imperfecta**
Roberta Besio*, Milena Dimori, Katrin Gruenwald, Roy Morello. University of Arkansas for Medical Sciences, USA
Disclosures: Roberta Besio, None

MO0127 **Withdrawn**

MO0128 **Bone from Low Capacity Running Rats Exhibit Altered Mitochondrial Gene Expression Compared to High Capacity Running Rats after an Exhaustive Bout of Exercise**
Anamaria Antolic*[1], Adeel Safdar[2], Steven Britton[3], Mark Tarnopolsky[1], Gregory Wohl[1]. [1]McMaster University, Canada, [2]Harvard Medical School, USA, [3]University of Michigan, USA
Disclosures: Anamaria Antolic, None

MO0129 **Change of Phenotypic in a Patient with Hypophosphatasia with the Onset of Renal Failure**
Tim Cundy*[1], Toshimi Michigami[2], Kanako Tachikawa[3], John Collins[4], Michael Dray[5]. [1]Faculty of Medical & Health Sciences University of Auckland, New Zealand, [2]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [3]Department of Bone & Mineral Research, Osaka General Medical Center, Japan, [4]Renal Medicine, Auckland City Hospital, New Zealand, [5]Department of Pathology, Waikato Hospital, New Zealand
Disclosures: Tim Cundy, None

MO0130 **Combination Therapy with Bone Morphogenetic Protein 2 (BMP-2) and Zoledronic Acid (ZA) Improves Posterolateral Spinal Fusion in a Mouse Model of Neurofibromatosis Type 1**
Justin Bobyn*[1], Anton Rasch[2], Kathy Mikulec[2], Aaron Schindeler[3], David Little[4]. [1]Sydney University, Australia, [2]Childrens Hospital Westmead, Australia, [3]The Children's Hospital at Westmead, Australia, [4]Sydney University, Australia
Disclosures: Justin Bobyn, None

MO0131 **Deletion of osteopontin rescues the skeletal deformities observed in *Phospho1*$^{-/-}$ mice**
Manisha Yadav*[1], Carmen Huesa[2], Sonoko Narisawa[3], Alain Moreau[4], Colin Farquharson[5], Jose Luis Millan[6]. [1]Burnham Institute for Medical Research, USA, [2]The Roslin Institute & R(D)SVS, University of Edinburgh, Easter Bush, Midlothian EH25 9RG, United Kingdom, [3]Sanford Burnham Medical Research Institute, USA, [4]Sainte-Justine Hospital Research Center, Canada, [5]Roslin Institute, University of Edinburgh, United Kingdom, [6]Sanford-Burnham Medical Research Institute, USA
Disclosures: Manisha Yadav, None

MO0132 **Genetic Analysis of Serum Sclerostin**
Allison Kuipers*[1], Yingze Zhang[2], Shibing Yu[3], Candace Kammerer[1], Cara Nestlerode[2], Yanxia Chu[2], Clareann Bunker[2], Alan Patrick[4], Victor Wheeler[4], Iva Miljkovic[2], Joseph Zmuda[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of Pittsburgh, USA, [3]University of Pittsburgh Medical Center, USA, [4]Tobago Health Studies Office, Trinidad & tobago
Disclosures: Allison Kuipers, None

MO0133 **Genotype-Phenotype Correlations and Pharmacogenetic Studies in 152 Swedish Families with Osteogenesis Imperfecta**
Katarina Lindahl*[1], Carl-Johan Rubin[2], Eva Åström[3], Barbro Malmgren[4], Andreas Kindmark[5], Osten Ljunggren[5]. [1]Endocrinology, Sweden, [2]Uppsala University, Sweden, [3]Department of Woman & Child Health, Division of Pediatric Neurology, Karolinska Institutet, Sweden, [4]Department of Clinical Science, Intervention & Technology, Division of Paediatrics, Karolinska University Hospital, Sweden, [5]Uppsala University Hospital, Sweden
Disclosures: Katarina Lindahl, None

MO0134 **Metabolomics Signature and Risks of Osteoporosis: A Systems Biology Approach by Integrating Bone Tissue-Specific Metabolomics and Transcriptomics in Postmenopausal Caucasian Women**
Yi-Hsiang Hsu*[1], Sjur Reppe[2], Chin-Lin Chi[3], David Karasik[4], Joseph Brain[5], Douglas Kiel[6], Kaare Gautvik[7]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]Oslo University Hospital, Ullevaal, Norway, [3]Medical Informatics Center, Harvard Medcial School, USA, [4]Hebrew SeniorLife; Bar Ilan University, USA, [5]Dept. Envrionmental Health, Harvard School of Public Health, USA, [6]Hebrew SeniorLife, USA, [7]Department of Medical Biochemistry, Oslo University Hospital, Norway
Disclosures: Yi-Hsiang Hsu, None

MO0135 **Mutant ALK2 receptors found in patients with typical and variant fibrodysplasia ossificans progressiva are activated by different BMP type II receptors through phosphorylation at Thr203**

Mai Fujimoto*[1], Satoshi Ohte[2], Arei Miyamoto[3], Sho Tsukamoto[4], Kenji Osawa[1], Takato Mizuta[1], Shoichiro Kokabu[1], Naoto Suda[5], Takenobu Katagiri[1]. [1]Saitama Medical University Research Center for Genomic Medicine, Japan, [2]Harvard School of Dental Medicine, USA, [3]Saitama Medical University, Research Center for Genomic Medicine, Japan, [4]Saitama Medical University RCGM, Japan, [5]Division of Orthodontics, Meikai University School of Dentistry, Japan

Disclosures: Mai Fujimoto, None

MO0136 **Mutations in *WNT1* cause different forms of bone fragility**

Katharina Keupp[1], Filippo Beleggia[1], Hülya Kayserili[2], Aileen Barnes[3], Magdalena Steiner[4], Oliver Semler[5], Ekkehart Lausch[6], Stefan Breer[7], Eckhard Schoenau[5], Thorsten Schinke[8], Bernhard Zabel[6], Stefan Mundlos[4], Michael Amling[9], Joan Marini[10], Uwe Kornak*[11], Bernd Wollnik[12]. [1]Center for Molecular Medicine Cologne (CMMC), University of Cologne, Germany, [2]Medical Genetics Department, Istanbul Medical Faculty, Istanbul University, Turkey, [3]Bone & Extracellular Matrix Branch, NICHD, NIH, USA, [4]Institute of Medical Genetics & Human Genetics, Charité-Universitaetsmedizin Berlin, Germany, [5]Children's Hospital, University of Cologne, Germany, [6]Children's Hospital, Division of Genetics, University of Freiburg, Germany, [7]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [8]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany, [9]University Medical Center Hamburg-Eppendorf, Germany, [10]National Institute of Child Health & Human Development, USA, [11]Charité-Universitaetsmedizin Berlin, Deu, [12]Center for Molecular Medicine Cologne (CMMC), University of Cologne, Germany

Disclosures: Uwe Kornak, None

MO0137 **Primary Cilia are Essential for Determination of Dentin Thickness**

Courtney Haycraft*, Michael B. Chavez. Medical University of South Carolina, USA

Disclosures: Courtney Haycraft, None

MO0138 **Role of endothelial cells in heterotopic ossification using FOP iPS cells**

Emilie Barruet*[1], Christopher Schlieve[1], Hannah Kim[1], Mark White[2], Christina Theodoris[3], Deepak Srivastava[3], Ashley Urrutia[1], Edward Hsiao[1]. [1]Institute for Human Genetics & the Division of Endocrinology & Metabolism, University of California, San Francisco, USA, [2]Gladstone Institute of Cardiovascular Disease, San Francisco, CA, USA, [3]Gladstone Institute of Cardiovascular Disease, San Francisco, USA

Disclosures: Emilie Barruet, None

MO0139 **Withdrawn**

MO0140 The genetic basis of cross-phenotype correlation with bone fracture risk: the GEFOS consortium

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Adrienne Cupples[23], Thor Aspelund[24], Olli Raitakari[34], Paul Leo[26], Kay-Tee Khaw[38], John Robbins[39], Yongmei Liu[40], Stephan Breda[16], Robert Luben[38], Jane Cauley[22], Alice Arnold[29], Sjur Reppe[41], Matthew Hibbs[42], Lisette Stolk[16], Julie Pasco[43], Elin Grundberg[4], Kaare Gautvik[44], Cheryl Ackert-Bicknell[42], Vijay Yadav[45], Kwangbom Choi[42], Jeroen van de Peppel[16], Johannes Van Leeuwen[46], Huibert Pols[46], Albert Hofman[16], Jian Shen[11], Joyce van Meurs[16], Biljana Atanasovska[16], Pak Sham[47], Claes Ohlsson[48], Bruce Psaty[29], Tamara Harris[49], Jonathan Reeve[50], J. Wouter Jukema[19], Andres Metspalu[18], Mika Kahonen[51], Nathalie van der Velde[16], Matthew Brown[52], Vilmundar Gudnason[24], John Ioannidis[37], Andre Uitterlinden[53], Steven Cummings[54], Tim Spector[28], Douglas Kiel[55], Rebecca Jackson[56], Unnur Thorsteinsdottir[12], Daniel Chasman[13], Eric Orwoll[11], David Karasik[57], Maria Zillikens[58], Evangelos Evangelou[3], Brent Richards[4], Peter Visscher[10], Karl Michaelsson[59], Fernando Rivadeneira[46], the GEFOS consortium USA. 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Disclosures: Ling Oei, None

MO0141 **Transcriptional Induction of ADAMTS5 by an NF-κ Family Member RelA/p65 in Chondrocytes during Osteoarthritis Development**
Hiroshi Kobayashi*[1], Makoto Hirata[2], Shozo Itoh[3], Taku Saito[4], Ung-Il Chung[5], Hiroshi Kawaguchi[6]. [1]The University of Tokyo Hospital, Japan, [2]University of Tokyo, Japan, [3]The University of Tokyo, Japan, [4]University of Tokyo, Graduate School of Medicine, Japan, [5]University of Tokyo Schools of Engineering & Medicine, Japan, [6]University of Tokyo, Faculty of Medicine, Japan
Disclosures: Hiroshi Kobayashi, None

GENETIC DISORDERS OF BONE AND MINERAL METABOLISM: LINKAGE STUDIES AND POLYMORPHISMS

MO0142 **Genome-wide association identifies *Wnt4* as a regulator of osteoblast activity**
Cheryl Ackert-Bicknell*[1], Gina Calabrese[2], Dana Godfrey[1], Kathryn Shultz[1], Charles Farber[2]. [1]The Jackson Laboratory, USA, [2]University of Virginia, USA
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GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: BONE MORPHOGENETIC PROTEINS

MO0143 **BMP3 Expression by Osteoblasts Is Regulated by Canonical Wnt Signaling**
Shoichiro Kokabu*[1], Laura Gamer[1], Jonathan Lowery[1], Tsuyoshi Sato[2], Tetsuya Yoda[2], Takenobu Katagiri[3], Vicki Rosen[1]. [1]Harvard School of Dental Medicine, USA, [2]Saitama Medical University, Japan, [3]Saitama Medical University Research Center for Genomic Medicine, Japan
Disclosures: Shoichiro Kokabu, None

MO0144 **Evaluation of muscle derived stem cells combined with a sustained release of BMP2 coacervate for bone regeneration**
Hongshuai Li*[1], Noah Johnson[2], Xueqin Gao[1], Yadong Wang[2], Johnny Huard[3]. [1]University of Pittsburgh, USA, [2]Dept. of Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States, USA, [3]Orthopaedic Surgery, USA
Disclosures: Hongshuai Li, None

MO0145 **The BMP Type I Receptor Alk2 is a Key Regulator of Chondrogenesis**
Andria Culbert*, Salin Chakkalakal, Edwin Theosmy, Linda Wang, Eileen Shore. University of Pennsylvania, USA
Disclosures: Andria Culbert, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: FIBROBLAST GROWTH FACTORS

MO0146 **Determining the role of FGF on osteogenic and adipogenic differentiation and conversion in mesenchymal stem cells**
Meike Simann*[1], Solange Le Blanc[2], Franz Jakob[3], Norbert Schuetze[4], Tatjana Schilling[5]. [1]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [2]Universitat Wurzburg, Germany, [3]Orthopedic Center for Musculoskeletal Research, Germany, [4]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [5]University of Wuerzburg, Germany
Disclosures: Meike Simann, None

MO0147 **Differential Fracture Healing in FGF2KO and FGF2 Transgenic Mice is Associated with Altered Periosteal Progenitor Proliferation**
Collin Homer-Bouthiette*[1], Liping Xiao[1], Marja Marie Hurley[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
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GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: GENERAL

MO0148 **Bone metastatic melanoma promotes angiogenesis with the production of prostaglandin E2 by host stromal cells**
Kenta Watanabe[1], Satoshi Yokoyama[2], Chiho Matsumoto[1], Michiko Hirata[1], Masaki Inada[1], Chisato Miyaura*[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Tokyo, Japan
Disclosures: Chisato Miyaura, None

MO0149 **Effect of Foxo1 Deletion in Dendritic Cells on Developing Antibody Levels and Bone Loss in Periodontal Model**
Yu Wang*[1], Wenmei Xiao[2], Sandra Pacios[2], Marisa Reason[2], Guangyu Dong[2], Dana Graves[3]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania Dental School, USA, [3]University of Pennsylvania, School of Dental Medicine, USA
Disclosures: Yu Wang, None

MO0150 **Identification of Novel Small Molecules That Bind to the Loop2 Region of Sclerostin –An *In Silico* Computational Analysis**
Karthikeyan Muthusamy*[1], Subburaman Mohan[2], Selvaraman Nagamani[3], Chandrasekhar Kesavan[2]. [1]Dept. of Bioinformatics, Alagappa University, Karaikudi, India, [2]Jerry L. Pettis Memorial VA Medical Center, USA, [3]Dept. of Bioinformatics, Alagappa University, India
Disclosures: Karthikeyan Muthusamy, None

MO0151 **miR-125a, a Pro-inflammatory microRNA that Enhances NF-kB Signaling, Is Elevated with Age in Human Bone Marrow Microvesicles**
Sunil Upadhyay*[1], Sudharsan Periyasamy-Thandavan[2], William Hill[3], Carlos Isales[1], Randy Ruark[1], Norman Chutkan[1], Jay Hinson[1], Raymond Corpe[1], Mary Anne Park[1], Candelario Laserna[1], Mark Hamrick[4]. [1]Georgia Regents University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Regents University & Charlie Norwood VAMC, USA, [4]Georgia Health Sciences University, USA
Disclosures: Sunil Upadhyay, None

MO0152 **Oxy133, An Osteogenic Oxysterol, Promotes Healing In A Rat Femoral Defect Model**
Scott Montgomery*[1], Michael Daubs[1], Haijun Tian[1], Gil Weintraub[1], Elisa Atti[1], Bayan Aghdasi[1], Akinobu Suzuki[1], Trevor Scott[1], Jeffrey Wang[1], Farhad Parhami[2]. [1]UCLA, USA, [2]University of California, Los Angeles, USA
Disclosures: Scott Montgomery, None

MO0153 **PDGF Induces Development of Vascularized Bone Grafts by Adipose-Derived Stem Cells**
Daphne Hutton*[1], Erika Moore[1], Jeffrey Gimble[2], Xiaofeng Jia[1], Warren Grayson[1]. [1]Johns Hopkins University, USA, [2]Pennington Biomedical Research Center, USA
Disclosures: Daphne Hutton, None

MO0154 **Progranulin protects against titanium particle induced inflammation and inflammatory osteolysis**
Qingyun Tian*[1], Yunpeng Zhao[2], Chuanju Liu[2]. [1]NYU Hospital for Joint Diseases, USA, [2]New York University, USA
Disclosures: Qingyun Tian, None

MO0155 **Vasopressin Negatively Regulates Bone Mass**
Roberto Tamma*[1], Concetta Cuscito[1], Michelangelo Corcelli[1], Graziana Colaianni[1], Adriana Di Benedetto[1], Maria Grano[1], Silvia Colucci[1], Jianhua Li[2], Tony Yuen[3], Li Sun[3], Mone Zaidi[4], Alberta Zallone[1]. [1]University of Bari Medical School, Italy, [2]Tount Sinai School of Medicine, USA, [3]Mount Sinai School of Medicine, USA, [4]Mount Sinai Medical Center, USA
Disclosures: Roberto Tamma, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: INSULIN-LIKE GROWTH FACTORS AND BINDING PROTEINS

MO0156 **Delayed bone fracture healing in mice due to Tamoxifen-induced knockout of IGF1R gene in chondrocyte.**
Zhiqiang Cheng*[1], Hanson Ho[2], Fuqing Song[3], Nathan Liang[3], Alfred Li[3], Rachel Roston[3], Christian Maria[3], Yongmei Wang[4], michael you[3], Chia-ling Tu[3], Daniel Bikle[5], Wenhan Chang[6]. [1]University of California, San Francisco, USA, [2]VAMC, USA, [3]UCSF, USA, [4]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [5]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA, [6]Endocrine Unit, VA Medical Center, University of California, San Francisco, USA
Disclosures: Zhiqiang Cheng, None

MO0157 **IGFBP-2 and estrogen are co-regulators of bone mass, body composition and energy expenditure in B6 mice**
Victoria Demambro*[1], Anyonya Guntur[1], Phuong Le[1], David Clemmons[2], Clifford Rosen[3]. [1]Maine Medical Center Research Institute, USA, [2]UNC, USA, [3]Maine Medical Center, USA
Disclosures: Victoria Demambro, None

MO0158 **Skeletal IGF-1 signaling impacts glucose and energy metabolism**
Muriel Babey*[1], Chak Fong[2], Monique O'Leary[3], Emmeline Academia[3], Yongmei Wang[4], Candice GT Tahimic[5], Brian Kennedy[3], Pankaj Kapahi[3], Daniel Bikle[5]. [1]UCSF, Division of Endocrinology, USA, [2]UCSF, USA, [3]Buck Institute, USA, [4]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [5]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Muriel Babey, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: OSTEOIMMUNOLOGY

MO0159 **Bone cells govern T lymphopoiesis by regulating thymic emigrants from bone marrow**
Vionnie Yu*[1], Borja Saez[2], Sutada Lotinun[3], Colleen Cook[2], Rushdia Yusuf[2], Marc Raajimakers[2], Joy Wu[4], Henry Kronenberg[2], Roland Baron[5], David Scadden[2]. [1]Massachusetts General Hospital/Harvard University, USA, [2]Massachusetts General Hospital, USA, [3]Harvard School of Dental Medicine, USA, [4]Stanford University School of Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Vionnie Yu, None

MO0160 **IDR-1018: A Synthetic Host Defense Peptide that Decreases Infection of Orthopaedic Implants**
Hyonmin Choe*[1], David Corn[1], Ashley Rettew[1], Joscelyn Tatro[1], Steve Marshall[2], Aaron Weinberg[1], Zhenghong Lee[1], Robert Bonomo[2], Edward Greenfield[1]. [1]Case Western Reserve University, USA, [2]Louis Stokes Cleveland VA Medical Center, USA
Disclosures: Hyonmin Choe, None

MO0161 **Lectin-like Oxidized Low-density of Lipoprotein Receptor-1 Is Involved in RANKL-production Elevated by Lipopolysaccharide-injection on Mouse Calvaria and thereby Contributes to Inflammatory Bone Destruction**
Mai Nakayachi*[1], Junta Ito[1], Mari Okayasu[2], Chiyomi Hayashida[1], Takuya Sato[1], Naoto suda[1], Tatsuya Sawamura[3], Yoshiyuki Hakeda[1]. [1]Meikai University School of Dentistry, Japan, [2]The University of Tokyo Hospital, Japan, [3]National Cerebral & Cardiovascular Center, Japan
Disclosures: Mai Nakayachi, None

MO0162 **Osteoimmmunology deregulation in the osteopetrotic grey-lethal mouse**
Marie Mutabaruka*[1], Monica Pata[1], Nathalie Labrecque[2], Jean Vacher[1]. [1]Institut de Recherches Cliniques de Montréal, Canada, [2]Maisonneuve-Rosemont Hospital Research Center, Montreal, Qc, Canada
Disclosures: Marie Mutabaruka, None

GROWTH FACTORS, CYTOKINES AND IMMUNOMODULATORS: TRANSFORMING GROWTH FACTOR

MO0163 **Inhibition of MCP-5 Signaling Decreases Osteoarthritic Lesions in a Murine Model of Post-traumatic Osteoarthritis**

Lara Longobardi*[1], Huseyin Ozkan[2], Joseph Temple[1], Tieshi Li[1], Alessandra Esposito[1], Timothy Myers[3], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]Gulhane Military Academy, Dept. Orthopedics & Traumatology, Turkey, [3]University of North Carolina, USA

Disclosures: Lara Longobardi, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: CKD AND METABOLIC BONE DISEASE

MO0164 **A Randomized, Double-Blind, Placebo-Controlled study to evaluate the effects of Alendronate (ALN) on bone mineral density (BMD) and bone remodeling in perimenopausal women with low BMD**

Aliya Khan*[1], Sacha Dubois[2], Zohair Rahman[3], Christine Derzko[4]. [1]McMaster University, Canada, [2]LakeHead University, Canada, [3]McMaster, Canada, [4]St. Michael's Hospital, Canada

Disclosures: Aliya Khan, AMGEN, Merck, NPS, 2

MO0165 **Bone mineral density predicts fractures in men and women with chronic kidney disease**

Sarah West*[1], Charmaine Lok[2], Angela M. Cheung[3], Sophie Jamal[4]. [1]University of Toronto, Canada, [2]Toronto General Hospital, Canada, [3]University Health Network-University of Toronto, Canada, [4]The University of Toronto, Canada

Disclosures: Sarah West, None

MO0166 **Cortical and Trabecular Bone Mass are Severely Compromised in Rats with Renal Failure and Secondary Hyperparathyroidism**

Subburaman Mohan[1], Cheryl Sanchez-Kazi*[2]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]JLP VA Medical Center, USA

Disclosures: Cheryl Sanchez-Kazi, None

MO0167 **Two-year bisphosphonate treatment of renal osteodystrophy in a dialysis patient with chronic kidney disease**

Jerzy Przedlacki*[1], Kamilla Nawrot-Wawrzyniak[2], Andrzej Sawicki[3], Paul Roschger[4], Andrzej Dębiński[5], Monika Staszków[6], Ireneusz Nawrot[6], Joanna Matuszkiewicz-Rowińska[6], Klaus Klaushofer[7]. [1]Medical University of Warsaw, Poland, [2]Ludwig Boltzmann Institute of Osteology, Austria, [3]Synexus Poland, Poland, [4]L. Boltzmann Institute of Osteology, Austria, [5]Medical Centre Synexus, Poland, [6]Warsaw Medical University, Poland, [7]Hanusch Hospital, Ludwig Boftzmann Institute of Osteology, Austria

Disclosures: Jerzy Przedlacki, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: CONGENITAL AND GENETIC BONE DISEASES

MO0168 **An Unusual Discrepancy in Bone Density in a Case of Congenital Hypophosphatemic Rickets**

Aren Skolnick*[1], Stuart Weinerman[2], Dennis Carey[3]. [1]North Shore-LIJ Health System, USA, [2]Division of Endocrinology, USA, [3]Cohen Children's Medical Center of New York, USA

Disclosures: Aren Skolnick, None

MO0169 **Expansile Ankylosing Skeletal Disease: Phenotype Delineation and Identification of the *IFITM5* Mutation That Causes Osteogenesis Imperfecta, Type V**

Michael Whyte*[1], James Aronson[2], William McAlister[3], Robert Weinstein[4], Deborah Wenkert[5], Karen Clements[6], Alexander Pruitt[7], Gary S Gottesman[1], Katherine Madson[1], Horacio Plotkin[8], Steven Mumm[9]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]University of Arkansas for Medical Sciences at ArkansasChildren's Hospital, USA, [3]Mallinckrodt Institute of Radiology at St. Louis Children's Hospital, USA, [4]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [5]Amgen, Inc., USA, [6]Shriners Hospital for Children, USA, [7]Northwest Iowa BOne, Joint & Sports Surgeons, USA, [8]Genzyme, USA, [9]Washington University School of Medicine, USA

Disclosures: Michael Whyte, None

MO0170 **Osteopathia Striata with Cranial Sclerosis – A rare osteosclerotic bone disorder**

Mariana Marin*[1], Bridget Sinnott[2]. [1]UT Southwestern, USA, [2]UTSW Dallas, USA

Disclosures: Mariana Marin, None

MO0171 **Rapid Response to Denosumab in Fibrous Dysplasia of Bone: Report of Two Cases**
Kirtan Ganda*[1], Markus Seibel[2]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Kirtan Ganda, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: HYPERCALCEMIA OF MALIGNANCY

MO0172 **Prevalence of Hypercalcemia of Malignancy in the United States**
Victor Gastanaga*[1], Rajul Jain[1], Melissa Pirolli[2], David Quach[2], Jane Quigley[2], Scott Stryker[1], Alexander Liede[1]. [1]Amgen, USA, [2]IMS, USA
Disclosures: Victor Gastanaga, Amgen, 3

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: IDIOPATHIC HYPERCALCIURIA, NEPHROLITHIASIS

MO0173 **Increased Frequency of Renal Stones and Nephrocalcinosis in Heterozygous and Homozygous Carriers of Sequence Variations in SLC34A3/NPT2c**
Clemens Bergwitz*[1], Monica Reyes[2], Amita Sharma[2], Thomas Carpenter[3], Marco Janner[4], Andrew Biggin[5], Shamir Tuchman[6], H. Jorge Baluarte[7], Shoji Ichikawa[8], Craig Munns[5], Harald Jueppner[2]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Massachusetts General Hospital, USA, [3]Yale University School of Medicine, USA, [4]University Children's Hospital, Switzerland, [5]The Children's Hospital at Westmead, Australia, [6]Children's National Medical Center, USA, [7]The Children's Hospital of Philadelphia, USA, [8]Indiana University School of Medicine, USA
Disclosures: Clemens Bergwitz, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: OSTEOMALACIA/RICKETS

MO0174 **Quantifying Tissue Mineralization In Vivo for Diagnosing Osteomalacia**
Cherie Chiang*[1], Jeffrey Zajac[2], Yu Peng[3], Xiao-Fang Wang[4], Yohann Bala[5], Ali Ghasem-Zadeh[6], Roger Zebaze[6], Ego Seeman[6]. [1]Austin Health, Australia, [2]Austin Hospital, Australia, [3]Straxcorp, Australia, [4]University of Melbourne, Austin Health, Australia, [5]University of Melbourne, Dept. of Medicine, Australia, [6]Austin Health, University of Melbourne, Australia
Disclosures: Cherie Chiang, None

MO0175 **Skeletal Fluorosis Progression Revealed by the Analysis of Bone Biopsies. Case Report**
Louis-Georges Ste-Marie*[1], Natalie Dion[1], Delphine Farlay[2], Algis V. Jovaisas[3], Georges Boivin[4]. [1]CHUM, Canada, [2]INSERM, UMR1033; Université De Lyon, France, [3]University of Ottawa, Canada, [4]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Louis-Georges Ste-Marie, Eli Lilly, 2; Merck,5; Genzyme, 2; Eli Lilly,5; Novartis,5; Servier, 2; Warner Chilcott, 5; Amgen, 2; Novartis, 2; Amgen, 5; Servier, 5; Alliance for better bone health, 2

MO0176 **X-linked hypophosphatemia in adults and rheumatological manifestations: cross-sectional survey of the Bone Section of the French Society of Rheumatology SFR-OS.**
Rose Marie Javier*[1], Karine Briot[2], Martine Cohen-Solal[3], Bernard Cortet[4], Capucine Eloy[5], Michel Laroche[6], Pierre Lafforgue[7], Marie-Christine De Vernejoul[8]. [1]University Hospital, France, [2]Paris Descartes University, Cochin hospital, Rheumatology Hospital, France, [3]Centre Viggo Petersen, France, [4]Service de Rhumatologie, France, [5]University Hospital Lille, France, [6]University Hospital Toulouse, France, [7]Hôpital Sainte-Marguerite, France, [8]Fédération De Rhumatologie Et INSERM U606, France
Disclosures: Rose Marie Javier, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: PARATHYROID DISEASES

MO0177 **Changes in Bone Microarchitectural Texture Assessed by Trabecular Bone Score After Parathyroidectomy in Primary Hyperparathyroidism**
Barbara Silva*[1], Natalie Cusano[2], Chiyuan Zhang[3], Alice Abraham[3], Stephanie Boutroy[4], Wen-Wei Fan[1], Didier Hans[5], John Bilezikian[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]INSERM U1033 & Université de Lyon, France, [5]Lausanne University Hospital, Switzerland
Disclosures: Barbara Silva, None

MO0178 **Continuous Infusion of PTH is superior to PTH Injections in the Treatment of Severe Hypoparathyroid Neuromuscular Symptoms**
Erik Fink Eriksen*[1], Helen Dahl-Hansen[2], Lena Seland[1], Daysi Duarte-Sosa[1]. [1]Oslo University Hospital, Norway, [2]Norwegian hypoparathyroidism organisation, Norway
Disclosures: Erik Fink Eriksen, None

MO0179 **Effect of Long Term Stable Hypercalcemia on Kidney Function in the Elderly**
Sharon Lahiri, Tarlisha Eskridge, Manjari Devidi, Sudhaker Rao*. Henry Ford Hospital, USA
Disclosures: Sudhaker Rao, None

MO0180 **Increased Incidence of Primary Hyperparathyroidism in Rochester, Minnesota after 1997: An Update on the Changing Epidemiology of the Disease**
Marcio Griebeler*[1], Ann Kearns[2], Euijung Ryu[3], Matthew Hatchcock[3], L. Joseph Melton[2], Robert Wermers[2]. [1]Fellow, USA, [2]Mayo Clinic, USA, [3]Mayo Clinic Rochester, USA
Disclosures: Marcio Griebeler, None

MO0181 **Muscle Function and Quality of Life in Primary Hyperparathyroidism**
Lars Rolighed*[1], Anne Kristine Amstrup[1], Niels Frederik Breum Jakobsen[2], Tanja Sikjaer[3], Leif Mosekilde[1], Peer Christiansen[4], Lars Rejnmark[1]. [1]Aarhus University Hospital, Denmark, [2]Dept. of Endocrinology & Metabolisb MEA, Denmark, [3]Department of Medicine & Endocrinology, MEA Aarhus University Hospital, Denmark, [4]Dept. of Surgery P, Denmark
Disclosures: Lars Rolighed, None

MO0182 **Two-years effects of PTH (1-84) on bone microstructure in post-menopausal women with hypoparathyroidism**
Silvia Chiavistelli*[1], Barbara Silva[2], Mishaela Rubin[3], Natalie Cusano[4], Aline Costa[3], Chiyuan Zhang[3], James Sliney jr[2], Laura Beth Anderson[3], Didier Hans[5], John Bilezikian[4]. [1]Azienda Ospedaliera Pisana, Italy, [2]Columbia University Medical Center, USA, [3]Columbia University, USA, [4]Columbia University College of Physicians & Surgeons, USA, [5]Lausanne University Hospital, Switzerland
Disclosures: Silvia Chiavistelli, None

MO0183 **Vertebral Bone Marrow Fat Associated with Lower Bone Mass in Primary Hyperparathyroidism.**
Francisco Jose De Paula*[1], Maira Mendonça[2], Carlos Salmon[3], Marcello Nogueira-Barbosa[2]. [1]School of Medicine of Ribeirao Preto - USP, Brazil, [2]School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [3]University of Sao Paulo, Brazil
Disclosures: Francisco Jose De Paula, None

METABOLIC BONE DISEASE AND DISORDERS OF MINERAL METABOLISM: VASCULAR AND ECTOPIC CALCIFICATION

MO0184 **Impact of High Calcium Intake from Calcium Carbonate or Dairy on Cardiovascular Function and the Progression of Coronary Artery Disease in Ossabaw Miniature Swine**
Alyssa Phillips*[1], Mikaela McKenney[2], Martin Bahls[3], Sean Newcomer[4], Berdine Martin[5], William Van Alstine[6], Scott Radcliffe[7], Meryl Wastney[8], George Jackson[9], Michael Sturek[2], Connie Weaver[10]. [1]Purdue University, Department of Nutrition Science, USA, [2]Indiana University School of Medicine Department of Cellular & Integrative Physiology, USA, [3]Purdue University Department of Health & Kinesiology, USA, [4]California State University San Marcos Department of Kinesiology, USA, [5]Purdue University, USA, [6]Purdue University Department of Comparative Pathobiology, USA, [7]Purdue University Department of Animal Sciences, USA, [8]Metabolic Modeling Services, USA, [9]Purdue University Department of Physics, USA, [10]Purdue University, Dept of Nutrition Science, USA
Disclosures: Alyssa Phillips, None

MUSCLE AND BONE INTERACTIONS (BASIC): CELLULAR AND MOLECULAR MECHANISMS

MO0185 **Up-regulation of Osteocyte Markers by Muscle Secreted Factor(s) but Lack of any Effect on Osteoblast proliferation/differentiation**
Ning Zhao*[1], Matthew Prideaux[2], Marco Brotto[3], Leticia Brotto[4], Lynda Bonewald[3]. [1]univ of missouri kansas city, USA, [2]University of Missouri Kansas City, USA, [3]University of Missouri - Kansas City, USA, [4]School of Nursing, university of missouri kansas city, USA
Disclosures: Ning Zhao, None

MUSCLE AND BONE INTERACTIONS (BASIC): GENERAL

MO0186 **Exploring the Relationship between Changes in Bone Mineral Density, Lean Body Mass, and Hormones in Active, Adult Males with Osteopenia after a 12-month Exercise Intervention**
Melissa Carter*, John Thyfault, Tim Sinak, Peggy Nigh, Lynn Eaton, Jun Jiang, Pamela Hinton. University of Missouri, USA
Disclosures: Melissa Carter, None

MO0187 **From GWAS to cell-based studies in search of common pleiotropic pathways for bone-muscle crosstalk**
Jian Huang*[1], Chenglin Mo[2], Yi-Hsiang Hsu[3], Eduardo Abreu[4], Dauglas P kiel[5], Lynda Bonewald[6], Marco Brotto[6], David Karasik[7]. [1]University of missouri kansas city, USA, [2]University of Missouri-Kansas City, USA, [3]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [4]University of Missouri at Kansas City, USA, [5]Hebrew Senior Life, USA, [6]University of Missouri - Kansas City, USA, [7]Hebrew SeniorLife; Bar Ilan University, USA
Disclosures: Jian Huang, None

MO0188 **Muscle microstructure: a new point of view on osteoporosis-related muscle atrophy.**
Umberto Tarantino*[1], Monica Celi[2], Jacopo Baldi[1], Francesca Mastrangeli[1], Federico Maria Liuni[1], Giulia Di Pietro[3], Elena Gasbarra[1], Silvia Capuani[3]. [1]Università degli Studi di Roma Tor Vergata, Italy, [2]University of Rome Tor Vergata, Italy, [3]Università degli Studi di Roma "La Sapienza", Italy
Disclosures: Umberto Tarantino, None

MO0189 **Radiation Exposure Prevents Recovery of Cancellous Bone in Mouse Vertebrae following Partial Weightbearing**
Ray Boudreaux*[1], Katherine Elmer[1], Corinne Metzger[1], Brandon Macias[2], Matthew Allen[3], Leslie Braby[1], Harry Hogan[1], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]UC San Diego, USA, [3]Indiana University School of Medicine, USA
Disclosures: Ray Boudreaux, None

MO0190 **The Effect of a Single High Dose of Cholecalciferol on Oxidative Stress in Post-Menopausal Women: a Double Blind Randomized Study**
Marcia Regina Scalcon[1], Manuela Sangoi[2], Aline Cocco[3], Priscila Borges[3], Lucas Zottele[3], Karen Koff da Costa[3], Giovani Sartori[3], Jose Mainardi[4], Rafael Moresco[5], Melissa Premaor*[4]. [1]Pos-graduacao em Farmacologia - Universidade Federal de Santa Maria, Brazil, [2]Pos-graduacao em Farmacia - Universidade Federal de Santa Maria, Brazil, [3]Department of Clinical Medicine - Federal University of Santa Maria, Brazil, [4]Federal University of Santa Maria, Brazil, [5]Programa de Pós-Graduação em Farmacologia - Universidade Federal de Santa Maria, Brazil
Disclosures: Melissa Premaor, None

MUSCLE BIOLOGY (BASIC): GENERAL

MO0191 **A Novel Mouse Model of Heterotopic Ossification with Spinal Cord Injury**
Xuhui Liu*[1], Heejae Kang[2], Alexis Dang[1], Hubert Kim[1], Robert Nissenson[3], Bernard Halloran[4]. [1]University of California, San Francisco, USA, [2]San Francisco Veterans Affairs Medical Center, USA, [3]VA Medical Center & University of California, San Francisco, USA, [4]VA Medical Center (111N), USA
Disclosures: Xuhui Liu, None

MO0192 **Autocrine role of PGE_2 Signaling in Cell Cycle Regulation of C2C12 Myogenic Differentiation**
Chenglin Mo*[1], Lori Wetmore[2], Lynda Bonewald[3], Orisa Igwe[1], Marco Brotto[3]. [1]University of Missouri-Kansas City, USA, [2]William Jewell College, USA, [3]University of Missouri - Kansas City, USA
Disclosures: Chenglin Mo, None

MUSCLE BIOLOGY (CLINICAL): CLINICAL APPLICATION OF MUSCLE WASTING AND DISEASE

MO0193 **Distribution of reference values for components of sarcopenia among postmenopausal women – results from the OSTPRE study**

Samu Sjöblom*[1], Juha Suuronen[1], Toni Rikkonen[1], Risto Honkanen[1], Heikki Kröger[2], Joonas Sirola[3]. [1]University of Eastern Finland, Finland, [2]University of Eastern Finland & Kuopio University Hospital, Finland, [3]University of Eastern Finland / Kuopio, Finland

Disclosures: Samu Sjöblom, None

MUSCLE BIOLOGY (CLINICAL): GENERAL

MO0194 **Relationships between Leptin, Muscle Fat, and Muscle Strength in Healthy Children**

Richard Kremer*[1], Nicole Mueske[2], Arutyun Pogosyan[2], Patricia C. Aggabao[2], Jing Lian[1], Skorn Ponrartana[2], Vicente Gilsanz[2], Tishya Wren[2]. [1]McGill University, Royal Victoria Hospital, Canada, [2]Children's Hospital Los Angeles, USA

Disclosures: Richard Kremer, None

MUSCLE BIOLOGY (CLINICAL): THERAPEUTICS

MO0195 **The Effect of Vitamin D Supplementation on Physical Performance and Activity in non-Western Immigrants**

Mirjam Oosterwerff[1], Rosa Meijnen*[1], Natasja van Schoor[2], Dirk Knol[2], Mark Kramer[1], Mireille van Poppel[3], Paul Lips[4], Elisabeth Eekhoff[5]. [1]Department of Internal Medicine, Endocrine Section, VU University Medical Center, Netherlands, [2]Department of Epidemiology & Biostatistics, VU University Medical Center, Netherlands, [3]Department of Public & Occupational Health, EMGO Institute for Health & Care Research, VU University Medical Center, Netherlands, [4]VU University Medical Center, The Netherlands, [5]VU University Medical Center, Amsterdam, The Netherlands, The Netherlands

Disclosures: Rosa Meijnen, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

MO0196 **Wnt Signaling Regulates Osteoblast Growth through miR-27a**

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Disclosures: Bhaskar Roy, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

MO0197 **Adipogenic and osteogenic differentiation/conversion in 3D collagen gels as a model for osteoporosis research**

Solange Le Blanc*[1], Meike Simann[2], Norbert Schuetze[3], Tatjana Schilling[4]. [1]Universitat Wurzburg, Germany, [2]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [3]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [4]University of Wuerzburg, Germany

Disclosures: Solange Le Blanc, None

MO0198 **Analysis of Human *SOST* Gene Expression Using Large Minigenes Reveals the Potential for Multiple Enhancers**

Hillary St John*[1], Sydney Hansen[2], Nancy Benkusky[2], Mark Meyer[2], J. Pike[2]. [1]University of Wisconsin Madison, USA, [2]University of Wisconsin-Madison, USA

Disclosures: Hillary St John, None

MO0199 **Clopidogrel enhances periodontal repair through decreased inflammation**

Denise Spolidorio*[1], Joao Paulo Steffens[2], Carlos Rossa Junior[2], Dana Graves[3], Luís Carlos Spolidorio[2], Leila Coimbra[4]. [1]Araraquara Dental School, São Paulo State University-UNESP, Araraquara, Brazil, Brazil, [2]Araraquara Dental School, São Paulo State University-UNESP, Brazil, [3]University of Pennsylvania, School of Dental Medicine, USA, [4]University of São Paulo State, Brazil

Disclosures: Denise Spolidorio, None

MO0200 **Demineralized Bone Matrix Concurrently Induces Vascular Tissue Formation and Endochondral Bone Formation Adjacent to the Periosteum**
Beth Bragdon*[1], Sherif Aly[2], Anthony De Giacomo[2], Elise Morgan[3], Louis Gerstenfeld[2]. [1]Boston University School of Medicine Department of Orthopaedics, USA, [2]Boston University School of Medicine, USA, [3]Boston University, USA
Disclosures: Beth Bragdon, None

MO0201 **Enhanced bone healing with local delivery of a GSK3β inhibitor**
Masahiko Sato*[1], Nicoletta Bivi[2], Matthew Hamang[3], Lowell Gibson[2], Qing Qiang Zeng[2], Ricky Cain[3], Mary Adrian[3], Jonathan Lucchesi[3], Thomas Engler[2], Christian Clarke[2], Timothy Richardson[2], Yanfei Ma[4]. [1]Lilly Research Labs, USA, [2]Eli Lilly & Co., USA, [3]Musculoskeletal Research, Lilly Research Laboratories, USA, [4]Eli Lilly & Company, USA
Disclosures: Masahiko Sato, Eli Lilly and Co., 3

MO0202 **Frizzled-4 expression by the mature osteoblast is required for normal trabecular bone acquisition**
Ryan Riddle*[1], Julie Leslie[2], Jeremy Nathans[1], Thomas Clemens[2]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University, USA
Disclosures: Ryan Riddle, None

MO0203 **IGF-1 enhances osteoblastic function by stimulating oxidative phosphorylation: Insights from a spontaneous mutation in the *Irs1* gene**
Anyonya Guntur*[1], Victoria Demambro[1], Clifford Rosen[2]. [1]Maine medical center research institute, USA, [2]Maine Medical Center, USA
Disclosures: Anyonya Guntur, None

MO0204 **In vivo Microenvironment pH of biomaterials influence their performance in osteoporotic bone defect repair**
Wenlong Liu*[1], Haobo Pan[2], Ting Wang[1], Jianbin Wu[3], Jiang Chang[4], William Lu[1]. [1]The University of Hong Kong, Hong Kong, [2]Shenzhen Institutes of advanced technology, Chinese academy of sciences, China, [3]The University of Hong Kong Shenzhen Hospital, China, [4]Shanghai Insitute of Ceramics, Chinese Academy of Sciences, China
Disclosures: Wenlong Liu, None

MO0205 **Osteoblastic p38alpha MAPK Signaling Mediates Ovariectomy-Induced Bone Loss by Stimulating Interleukin-6 Expression**
Cyril Thouverey*, Joseph Caverzasio. Service of Bone Diseases - Dpt of Internal Medicine Specialties - University Hospital of Geneva, Switzerland
Disclosures: Cyril Thouverey, None

MO0206 **Protein Tyrosine Kinase 7 (PTK7): A Novel "Molecular Switch" Regulating Differentiation Fate of Human Skeletal (Mesenchymal) Stem Cells into Osteoblasts versus Adipocytes**
Abbas Jafari*[1], Majken S. Siersbæk[1], Kenneth Larsen[2], Matthias Dobbelstein[3], Moustapha Kassem[1]. [1]Odense University Hospital, Denmark, [2]Syddansk Universitet, Denmark, [3]Göttingen Center of Molecular Biosciences, Faculty of Medicine, University of Göttingen, Germany
Disclosures: Abbas Jafari, None

MO0207 **Role of Menin in Bone Development**
Ippei Kanazawa*[1], Lucie Canaff[2], Aarti Angrula[2], Jingjing Li[2], Monzur Murshed[2], Geoffrey Hendy[3]. [1]Shimane University Faculty of Medicine, Japan, [2]McGill University, Canada, [3]McGill University, Royal Victoria Hospital, Canada
Disclosures: Ippei Kanazawa, None

MO0208 **Syndecan-2 Controls the Fate of Osteoblast and Osteoclast Precursors Cells in the Bone Marrow and Modulates Wnt Signaling in Mice**
Rafik MANSOURI*[1], Caroline Marty[2], Pierre Marie[3], Dominique Modrowski[2]. [1]INSERM, France, [2]INSERM U606, France, [3]Inserm Unit 606 & University Paris Diderot, France
Disclosures: Rafik MANSOURI, None

MO0209 **Systemic Sclerostin Antibody Treatment Reduces Alveolar Bone Loss in Rice Rats with Active Periodontitis**
Jose Aguirre*[1], Donald Kimmel[2], Mohammed Akhter[3], Kathleen Neuville[1], Carley Trcalek[1], Alicia Leeper[1], Alyssa Williams[1], Mercedes Rivera[4], Lakshmyya Kesavalu[4], Hua Zhu (David) Ke[5], Min Liu[5], Thomas Wronski[1]. [1]University of Florida, USA, [2]Kimmel Consulting Services, USA, [3]Creighton University Osteoporosis Research Center, USA, [4]Department of Periodontology & Oral Biology, College of Dentistry, UF, USA, [5]Amgen Inc., USA
Disclosures: Jose Aguirre, Amgen Inc., 2

MO0210 **The HtrA1 and DDR2 pathway is activated during mechanical instability and impairs bone formation during Fracture Healing**
Paul Fanning*[1], Marie Walcott[1], Christopher Raskett[1], John Wixted[2], David Ayers[3]. [1]University of Massachusetts Medical School, USA, [2]University of Massachusetts, USA, [3]UMass Memorial Medical Center, USA
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MO0211 **The Role of TGR5 Receptor in Bile Acid-mediated Bone Metabolism**
Hyojung Park*[1], Jae-Yeon Yang[1], Sun Wook Cho[2], Jung Hee Kim[1], Seung Hye Kim[1], Mi Gyeong Jang[1], Sang Wan Kim[1], Mijung Yim[3], Chan Soo Shin[4]. [1]Seoul National University College of Medicine, South Korea, [2]National Medical Center, South Korea, [3]Sookmyung Women's University, South Korea, [4]Seoul National University College of Medicine, South Korea
Disclosures: Hyojung Park, None

MO0212 **TRIP-TRAP Interactions Control Spatial Coupling During Remodeling**
J. Edward Puzas*[1], Diana Metz-Estrella[2], Tzong Jen Sheu[1]. [1]University of Rochester School of Medicine, USA, [2]Hospital for Special Surgery, USA
Disclosures: J. Edward Puzas, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

MO0213 **A Novel Lipidoid-MicroRNA Conjugate Promotes Osteogenic Differentiation**
Lei Sui*[1], Leilei Zheng[1], Qianqian Han[1], Lan Zhang[1], Liming Yu[1], Qiaobing Xu[2], Qisheng Tu[1], Jake Jinkun Chen[1]. [1]Tufts University School of Dental Medicine, USA, [2]Tufts University, USA
Disclosures: Lei Sui, None

MO0214 **Alendronate Alters Single Cell Gene Expression of Cortical Osteoblast Lineage Cells in an Estrogen Deficiency Model of Bone Loss**
James Flynn*[1], Ryan Murphy[1], Steven Spusta[1], Clifford Rosen[2], Simon Melov[1]. [1]Buck Institute for Research on Aging, USA, [2]Maine Medical Center, USA
Disclosures: James Flynn, None

MO0215 **Endothelin Signaling Promotes Osteogenesis via Changes in the miRNA Environment which Induces IGF-1 and PGE2 while Derepressing Wnt Signaling**
Michael Johnson*[1], Jasmin Kristianto[2], Anne Gustavson[1], Kathryn Konicke[3], Baozhi Yuan[1], Robert Blank[1]. [1]University of Wisconsin, USA, [2]University of Wisconsin–Madison, USA, [3]University of Wisconsin-Madison, USA
Disclosures: Michael Johnson, None

MO0216 **Genome-wide changes in DNase-hypersensitivity during osteoblastogenesis reveal differential usage of DNA motifs: New perspectives in gene regulation**
Phillip Tai*[1], Hai Wu[2], Troy Whitfield[3], Jonathan Gordon[4], Andre Van Wijnen[5], Jane Lian[2], Gary Stein[6], Janet Stein[7]. [1]University of Vermont, College of Medicine, Department of Biochemistry, USA, [2]University of Vermont, USA, [3]Dept. of Biochemistry & Molecular Pharmacology, University of Massachusetts Medical School, USA, [4]University of Vermont, Department of Biochemistry, USA, [5]Mayo Clinic, USA, [6]University of Vermont, College of Medicine, USA, [7]University of Vermont Medical School, USA
Disclosures: Phillip Tai, None

MO0217 **Genomic Occupancy of Runx2 Combined with Global Expression Profiling Identifies Novel Mechanisms Regulating Osteoblastogenesis**
Hai Wu*[1], Troy Whitfield[2], Jonathan Gordon[3], Jason Dobson[4], Phillip Tai[5], Andre Van Wijnen[6], Janet Stein[7], Jane Lian[1], Gary Stein[8]. [1]University of Vermont, USA, [2]University of Massachusetts Medical School, USA, [3]University of Vermont, Department of Biochemistry, USA, [4]University of Massahusetts Medical School, USA, [5]University of Vermont, College of Medicine, Department of Biochemistry, USA, [6]Mayo Clinic, USA, [7]Universityof Vermont Medical School, USA, [8]University of Vermont, College of Medicine, USA
Disclosures: Hai Wu, None

MO0218 **Pin1-mediated conformational change of Runx2 is required for skeletal development**
WON JOON Yoon*[1], Rabia Islam[2], Woo Jin Kim[1], Young-Dan Cho[3], Toshihisa Komori[4], Gary Stein[5], Jane Lian[6], Je-Yong Choi[7], Hyun-Mo Ryoo[8]. [1]SEOUL NATIONAL UNIVERSITY, Rok, [2]School of Dentistry, Seoul National University, South Korea, [3]Seoul National University, South Korea, [4]Nagasaki University Graduate School of Biomedical Sciences, Japan, [5]University of Vermont, College of Medicine, USA, [6]University of Vermont, USA, [7]Kyungpook National University, School of Medicine, South Korea, [8]Seoul National University School of Dentistry, South Korea
Disclosures: WON JOON Yoon, None

MO0219 **Post-transcriptional Control of the Lineage Commitment Factor Runx2 During Mitotic Division of Osteoprogenitors via its MicroRNA Dependent 3' Untranslated Region**
Ozkan Aydemir[1], Hatem Elif Kamber[1], Rodrigo Grandy[2], Martin Montecino[3], Jennifer Westendorf[4], Jane Lian[2], Janet Stein[2], Gary Stein[5], Mario Galindo[6], Andre Van Wijnen*[4]. [1]University of Massachusetts Medical School, USA, [2]University of Vermont, USA, [3]Universidad de Concepcion, Chile, [4]Mayo Clinic, USA, [5]University of Vermont, College of Medicine, USA, [6]University of Chile, Chile
Disclosures: Andre Van Wijnen, None

MO0220 **Role of DGCR8 inactivation in immature osteoblast during bone formation**
Young-jin Choi*[1], Seon-Ae Jeon[1], Je-Yoel Cho[2]. [1]Seoul National University, South Korea, [2]College of Veterinary Medicine, Seoul National University, South Korea
Disclosures: Young-jin Choi, None

MO0221 **Rorβ, a Novel Regulator of Runx2, Modulates Bone Mass in Mice**
Kristy Nicks*[1], Daniel Fraser[1], Matthew Roforth[1], Sundeep Khosla[2], David Monroe[3]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Foundation, USA
Disclosures: Kristy Nicks, None

MO0222 **Smad8 is a novel type regulator of BMP signaling**
Sho Tsukamoto*[1], Satoshi Ohte[2], Mai Fujimoto[3], Takato Mizuta[4], Arei Miyamoto[5], Kenji Osawa[4], Shoichiro Kokabu[4], Eiko Murata[6], Eijiro Jimi[7], Takenobu Katagiri[3]. [1]Saitama Medical University RCGM, Japan, [2]Harvard School of Dental Medicine, USA, [3]Saitama Medical University Research Center for Genomic Medicine, Japan, [4]Saitama Medical University, Research Center for Genomic Medicine, Japan, [5]Saitama Medical University, Research Center for Genomic Medicine, Japan, [6]Saitama Medical University, Health & Medical Care, Japan, [7]Kyushu Dental College, Japan
Disclosures: Sho Tsukamoto, None

MO0223 **Withdrawn**

MO0224 **SUMOylated αNAC Potentiates Transcriptional Repression by FIAT**
Bahareh Hekmatnejad*[1], Omar Akhouayri[2], Rene St-Arnaud[3]. [1]Shriners Hospitals for Children - Canada, Canada, [2]Ibn Tofail Sciences Faculty, Morocco, [3]Shriners Hospital for Children & McGill University, Canada
Disclosures: Bahareh Hekmatnejad, None

MO0225 **The Endogenous Bmp2 Gene Is required for α-SMA Positive Bone Marrow Stromal Cells to Form Bone In Vivo and Osteoblast Differentiation In Vitro**
Stephen Harris*[1], Yong Cui[2], Marie Harris[1], Xiao-Dong Chen[1], Ivo Kalajzic[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]UTHSCSA, USA, [3]University of Connecticut Health Center, USA
Disclosures: Stephen Harris, None

MO0226 **Zinc finger protein 521 recruits the NuRD complex together with transglutaminases and regulates mesenchymal stem cell differentiation**
Ken-ichi Takeyama*[1], Harikiran Nistala[1], Steven Gygi[2], Bernard Boback[1], Francesca Gori[3], Roland Baron[4]. [1]Harvard school of dental medicine, USA, [2]Harvard Medical School, USA, [3]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [4]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Ken-ichi Takeyama, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

MO0227 **Activation of Hedgehog signaling by loss of Gαs causes heterotopic ossification**
Deepti Malhotra*[1], Jean Regard[2], Jelena Gvozdenovic-Jeremic[3], Min Chen[4], Lee Weinstein[5], Eileen Shore[6], Frederick Kaplan[7], Yingzi Yang[3]. [1]NHGRI, NIH, USA, [2]National Institutes of Health, USA, [3]NIH, USA, [4]NIDDK, USA, [5]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [6]University of Pennsylvania, USA, [7]University of Pennsylvania Hospital, USA
Disclosures: Deepti Malhotra, None

MO0228 **Blockade of Receptor Activated Gi Signaling in Osteoblasts Enhances the Anabolic Effect of PTH**
Liping Wang*[1], Dylan O'Carroll[2], Theresa Roth[2], Robert Nissenson[3]. [1]VA Medical Center, San Francisco, USA, [2]Endocrine Unit, VA Medical Center & Departments of Medicine & Physiology, University of California, USA, [3]VA Medical Center & University of California, San Francisco, USA
Disclosures: Liping Wang, None

MO0229 **Direct Actions of Adiponectin on Mature Osteoblasts May Contribute to Negative Regulation of Skeletal Homeostasis**
Marcia Abbott*[1], Dylan O'Carroll[2], Liping Wang[3], Theresa Roth[2], Robert Nissenson[4]. [1]University of California, San Francisco, USA, [2]Univeristy of California, San Francisco, USA, [3]VA Medical Center, San Francisco, USA, [4]VA Medical Center & University of California, San Francisco, USA
Disclosures: Marcia Abbott, None

MO0230 **Elucidating the Role of O-GlcNAcylation on RUNX2-Mediated Transcriptional Programs in Bone-Marrow Derived Mesenchymal Stem Cells**
Alexis Nagel*, Lauren Ball. Medical University of South Carolina, USA
Disclosures: Alexis Nagel, None

MO0231 **Osteolineage Jagged1 is a critical component of the PTH activated hematopoietic stem and progenitor cell niche.**
Rialnat Lawal*[1], Laura Calvi[2], Alexandra Goodman[3], Benjamin Frisch[3]. [1]University of Rochester Medical Center, USA, [2]University of Rochester School of Medicine, USA, [3]University of Rochester, USA
Disclosures: Rialnat Lawal, None

MO0232 **The Effects of OA Signaling Pathways on Osteoblast Differentiation and Migration**
Fayez Safadi[1], Gregory Sondag*[2], Omar Ali[1], Samir Abdelmagid[1]. [1]Northeast Ohio Medical University, USA, [2]Notheast Ohio Medical University, USA
Disclosures: Gregory Sondag, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

MO0233 **A comparative study of the bone regeneration capacity of human muscle derived stem cells and bone marrow mesenchymal stem cells**
Xueqin Gao*[1], Arvydas Usas[1], Ying Tang[1], Aiping Lu[1], Jian Tan[1], Johannes Schneppendahl[1], Nicholas Oyster[1], Bing Wang[1], James Cummins[1], Johnny Huard[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA
Disclosures: Xueqin Gao, None

MO0234 **Dexamethasone shifts bone marrow mesenchymal stem cell differentiation to favor adipocyte lineage over osteoblast lineage through C/EBPalpha promoter methylation mechanism**
Jiao Li*[1], Ning Zhang[2], Kerong Dai[3], Xiaoling Zhang[1]. [1]The Key Laboratory of Stem Cell Biology, Institute of Health Sciences, Shanghai Institutes for Biological Sciences (SIBS), Chinese Academy of Sciences (CAS) & Shanghai Jiao Tong University School of Medicine (SJTUSM), China, [2]The Key Laboratory of Stem Cell Biology, Institute of Health Sciences, Shanghai Institutes for Biological Sciences (SIBS), Chinese Academy of Sciences (CAS) & Shanghai Jiao Tong University School of Medicine (SJTUSM), China, [3]Shanghai Key Laboratory of Orthopaedic Implant, Department of Orthopaedic Surgery, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine (SJTUSM), China
Disclosures: Jiao Li, None

MO0235 **Differential Intracellular Processing Of Fluorescently-Labeled Bisphosphonate In Human Bone Mesenchymal Stem Cells**
Pinky Salat, Frank Stefano, Kathleen Boesze-Battaglia, Sunday Akintoye*. University of Pennsylvania School of Dental Medicine, USA
Disclosures: Sunday Akintoye, None

MO0236 **Differentiation Stage- and Cell Type-Specific Expression of Claudin Family Members During In Vitro Differentiation of Osteoblasts and Osteoclasts**
Fatima Alshbool*[1], Shin-Tai Chen[2], Subburaman Mohan[3]. [1]Loma Linda University, USA, [2]Jerry L. Pettis VA Medical Center, USA, [3]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Fatima Alshbool, None

MO0237 **Withdrawn**

MO0238 **Effects of Therapeutic Radiation on the Differentiation Potential of Human Embryonic Stem Cell Derived Mesenchymal Stem Cells**
Mohammad Islam*[1], Melissa Stemig[1], Yutaka Takahashi[2], Susanta Hui[2]. [1]University of Minnesota School of Dentistry, USA, [2]University of Minnesota, USA
Disclosures: Mohammad Islam, None

MO0239 **Identification of differentiation-stage specific molecular markers for the osteoblastic phenotype**
Natalie Twine*[1], Chi Pang[2], Li Chen[3], Marc Wilkins[2], Moustapha Kassem[4]. [1]University of New South Wales, Australia, [2]NSW Systems Biology Initiative, University of New South Wales, Australia, [3]Medical Biotechnology Center (MBC), Denmark, [4]Odense University Hospital, Denmark
Disclosures: Natalie Twine, None

MO0240 **Intravital imaging of osteogenesis and angiogenesis in repair and regeneration**
Xinping Zhang*[1], Chunlan Huang[1], Vincent Ness[1], Edward B Brown[2]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA
Disclosures: Xinping Zhang, None

MO0241 **Phenotypic and Functional Characterization of an Osterix-Cherry+ Bone Marrow Cell Population**
Sara Strecker*[1], Peter Maye[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA
Disclosures: Sara Strecker, None

MO0242 **Repeated Osteoblast Depletion Decreases Osteogenic Potential of Bone Marrow Stromal Cells in Mice**
Adeline Ng*[1], Gurpreet Baht[2], Marc Grynpas[3], Benjamin Alman[2]. [1]University of Toronto Samuel Lunenfeld Research Institute, Canada, [2]Program in Developmental & Stem Cell Biology, Hospital for Sick Children, Canada, [3]Samuel Lunenfeld Research Institute, of Mount Sinai Hospital, Canada
Disclosures: Adeline Ng, None

MO0243 **Sex and Genetic Factors Determine Bone Remodeling and Osteoblastogenesis**
Stefano Zanotti*[1], Ivo Kalajzic[2], Ernesto Canalis[1]. [1]St. Francis Hospital & Medical Center, USA, [2]University of Connecticut Health Center, USA
Disclosures: Stefano Zanotti, None

MO0244 **Study of Mesenchymal Stem Cells and Endothelial Progenitor Cells in Osteonecrosis of the Femoral Head**
Myrielle Mathieu[1], Delphine Spruyt[1], Sabrina Rigutto[1], Aude Ingels[1], Nadia Stricwant[1], Valentina Albarani[2], Joanne Rasschaert[3], Enrico Bastianelli[2], Valerie Gangji*[4]. [1]Université Libre de Bruxelles, Belgium, [2]Bone Therapeutics, Belgium, [3]Laboratory of Bone & Metabolic Biochemistry, Belgium, [4]Hôpital Erasme, Université Libre de Bruxelles, Belgium
Disclosures: Valerie Gangji, None

MO0245 **Withdrawn**

MO0246 **Visualization of Osteoblast-Derived Trabecular and Endosteal Bone Lining Cells**
Marc Wein*[1], Forest Lai[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]MGH, USA
Disclosures: Marc Wein, None

OSTEOBLASTS: STEROID/SERM EFFECTS

MO0247 **Novel Therapeutic Effects Of Endoxifen In Pre-Clinical Models Of Type 1 Osteoporosis**
Anne Gingery*[1], Malayannan Subramaniam[2], Kevin Pitel[2], Laurence Lindenmaier[3], James Ingle[4], Matthew Goetz[4], Russell Turner[3], Urszula Iwaniec[3], Thomas Spelsberg[2], John Hawse[4]. [1]Mayo Clinic School of Medicine, USA, [2]Mayo Clinic, USA, [3]Oregon State University, USA, [4]Mayo Clinic College of Medicine, USA
Disclosures: Anne Gingery, None

MO0248 **Prevention of Glucocorticoid Induced-apoptosis of Osteoblasts and Osteocytes by Protecting Against Endoplasmic Reticulum (ER) Stress.**
Amy Sato*, Lilian Plotkin, Teresita Bellido. Indiana University School of Medicine, USA
Disclosures: Amy Sato, None

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

MO0249 **Cathepsin K null mice exhibit altered frequency of hematopoietic precursors in the bone marrow and in the periphery**
Christian Jacome[1], Do Soung*[1], Maureen Pickarski[2], Le Thi Duong[3], Joseph Lorenzo[1], Hicham Drissi[1]. [1]University of Connecticut Health Center, USA, [2]Merck & Co., Inc., USA, [3]Merck Research Laboratories, USA
Disclosures: Do Soung, None

MO0250 **Withdrawn**

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

MO0251 **Absence of interleukin-22 interferes with the progression of periapical inflammation and bone loss related to endodontic infection**
Raquel Silva*[1], Katharina de Oliveira[2], Sandra Fukada[3], Andiara De Rossi[4], Lea Silva[2], Paulo Nelson-Filho[2]. [1]School of Dentistry of Ribeirao Preto - University of Sao Paulo, Brazil, [2]University of Sao Paulo - School of Dentistry of Ribeirao Preto, Brazil, [3]University of Sao Paulo -School of Pharmaceutical Sciences of Ribeirão Preto, Brazil, [4]Faculty of Dentistry of Ribeirão Preto, University of São Paulo, Bra
Disclosures: Raquel Silva, None

MO0252 **Comparative Analysis of Osteoclastic Gene Expression in Mucosal Tissues with Aging and Periodontitis in Nonhuman Primates**
Sudha Gudhimella[1], Sreenatha Kirakodu[1], Luis Orraca[2], Janis Gonzalez Martinez[3], Sarandeep Huja*[4], Jeffrey L Ebersole[1], Octavio A. Gonzalez[1]. [1]University of Kentucky, USA, [2]University of Puerto Rico, Puerto Rico, [3]Caribbean Primate Research Center, Puerto Rico, [4]Diplomate American Board of Orthodontics, USA
Disclosures: Sarandeep Huja, None

MO0253 **Expression of C-C chemokine ligands for osteoclastogenesisinduced by hyperocclusion.**
Takashi Tsutsumi*, Hiroshi Kajiya, Kazuko Goto, Yutaka Takahashi, Koji Okabe. Fukuoka Dental College, Japan
Disclosures: Takashi Tsutsumi, None

MO0254 **Autophagy Is Impaired in Osteoclasts from Osteopetrotic Mice with the V-ATPase a3 R740S Mutation**
Elena Bajenova[1], Noelle Ochotny[2], Celeste Owen[3], Irina Voronov*[2]. [1]Faculty of Dentistry, University of Toronto, Canada, [2]University of Toronto, Canada, [3]Centre for Modeling Human Disease, Samuel Lunenfeld Research Institute, Mt Sinai Hospital, Canada
Disclosures: Irina Voronov, None

MO0255 **Bisphenol A reduces differentiation and stimulates apoptosis of osteoclasts and osteoblasts**
Ho-Yeon Chung*[1], Kwan Hee Min[1], Kyoung Hee Choi[1], You Cheol Hwang[1], In-Kyung Jeong[1], Kyu Jeung Ahn[1], Hyoung-Moo Park[2]. [1]Kyung Hee University, South Korea, [2]Chung-Ang University, South Korea
Disclosures: Ho-Yeon Chung, None

MO0256 **C/EBPα Is a Novel Regulator in Osteoclast Lineage Commitment and Regulates Both Bone Resorption and Bone Formation Synchronously**
Guochun Zhu*[1], Wei Chen[2], Mengrui Wu[3], Joel Jules[2], Liang Hao[1], Yi-Ping Li[2]. [1]Department of Pathology, University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA, [3]The University of Alabama at Birmingham, USA
Disclosures: Guochun Zhu, None

MO0257 **CD97 Expression on Osteoclasts Enhances Osteoclastogenesis and Regulates Bone Mass**
Hee Yeun Won*[1], SeHwan MUN[2], Sun-Kyeong Lee[1]. [1]University of Connecticut Health Center, USA, [2]Department of Medicine, University of Connecticut Health Center, USA
Disclosures: Hee Yeun Won, None

MO0258 **Genome-wide Comprehensive Epigenetic Analysis Reveals that TGF-beta Works as an Essential Mediator for RANKL-induced Osteoclastogenesis Cooperating with c-FOS**
Yasunori Omata*[1], Tetsuro Yasui[1], Yuho Kadono[1], Takumi Matsumoto[1], Hironari Masuda[1], Jun Hirose[2], Naoto Tokuyama[1], Hisataka Yasuda[3], Yuuki Imai[4], Hiroyuki Aburatani[4], Kozo Nakamura[4], Sakae Tanaka[1]. [1]The University of Tokyo, Japan, [2]Research Hospital, The Institute of Medical Science, The University of Tokyo, Japan, [3]Oriental Yeast Company, Limited, Japan, [4]University of Tokyo, Japan
Disclosures: Yasunori Omata, None

MO0259 **Hydrogen Sulfide Inhibits Osteoclast Differentiation Through NRF2 Activation and Reduced ROS Signaling**
Francesco Grassi*[1], Laura Gambari[2], Cristina Manferdini[2], Andrea Facchini[2], Gina Lisignoli[2]. [1]Istituti Ortopedici Rizzoli, Italy, [2]Istituto Ortopedico Rizzoli, Italy
Disclosures: Francesco Grassi, None

MO0260 **OC Fusion: Regulation through Collagen and Mineral Contacts at the Marrow/Bone Interface?**
Kent Soe*[1], Thomas Andersen[2], Jean-Marie Delaisse[2]. [1]Vejle Hospital, University of Southern Denmark, Denmark, [2]Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Kent Soe, None

MO0261 **2013 ASBMR Young Investigator Award**
RBP-J imposes a requirement for ITAM-mediated co-stimulation of RANKL and TNF signaling during osteoclastogenesis
Susan Li*, Xiaoyu Hu, Lionel Ivashkiv, Baohong Zhao. Hospital for Special Surgery, USA
Disclosures: Susan Li, None

MO0262 **Specific Modulation of NEMO SUMOylation Regulates Osteoclastogenesis and Bone Resorption.**
Yousef Abu-Amer[1], Kyuhwan Shim*[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University school of medicine, USA
Disclosures: Kyuhwan Shim, None

MO0263 **Steap4 is Critical for Osteoclast Differentiation via Regulating Cellular Iron/ROS and CREB Activation**
Jian Zhou*[1], Shiqiao Ye[2], Toshifumi Fujiwara[3], Stavros Manolagas[2], Haibo Zhao[2]. [1]UAMS, USA, [2]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [3]Center for Osteoporosis & Metabolic Bone Diseases, University of Arkansas for Medical Sciences & the Central Arkansas Veterans Healthcare System, Little Rock, AR, USA
Disclosures: Jian Zhou, None

MO0264 **Withdrawn**

MO0265 **TMEM178 is a novel negative regulator of osteoclastogenesis and inflammatory bone loss via specific modulation of the RANKL- NFATc1 axis**
Corinne Decker*[1], Deborah Novack[2], Roberta Faccio[3]. [1]Washington University in St. Louis, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Corinne Decker, None

MO0266 **Zinc inhibits Osteoclast Differentiation by Suppression of Ca^{2+}-Calcineurin-NFATc1 Signaling Pathway**
Kwang Hwan Park*[1], Jae Hyuck Shim[2], Jin Woo Lee[1], Jae Myun Lee[1]. [1]Yonsei University College of Medicine, South Korea, [2]Weill Cornell Medical College, USA
Disclosures: Kwang Hwan Park, None

OSTEOCLASTS: INHIBITION OF RESORPTION

MO0267 **Effects of alendronate binding to bovine bone slices and smear layer removal on cultured mouse marrow-derived osteoclasts**
Vivian Bradaschia-Correa*[1], Giovanna Ribeiro-dos-Santos[2], Victor Arana-Chavez[2]. [1]Universidade de São Paulo, Brazil, [2]University of São Paulo - School of Dentistry, Brazil
Disclosures: Vivian Bradaschia-Correa, None

MO0268 **H_2O_2 Production in Osteoclast Mitochondria Promotes Bone Resorption and Mediates the Effects of Estrogen Deficiency**
Shoshana Bartell*[1], Li Han[1], Aaron Warren[1], Julie Crawford[1], Semahat Serra Ucer[2], Stavros Manolagas[1], Maria Jose Almeida[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Shoshana Bartell, None

MO0269 **Individual and Combining Effects of Anti-RANKL Monoclonal Antibody and Teriparatide in Ovariectomized Mice**
Naoto Tokuyama*[1], Hironari Masuda[1], Jun Hirose[2], Yasunori Omata[1], Yuho Kadono[1], YURIKO FURUYA[3], Hisataka Yasuda[4], Nobuyuki Udagawa[5], Hiroshi Takayanagi[6], Sakae Tanaka[1]. [1]The University of Tokyo, Japan, [2]Research Hospital, The Institute of Medical Science, The University of Tokyo, Japan, [3]ORIENTAL YEAST CO., LTD, Jpn, [4]Oriental Yeast Company, Limited, Japan, [5]Matsumoto Dental University, Japan, [6]The University of Tokyo, Department of Immunology, Japan
Disclosures: Naoto Tokuyama, None

MO0270 **Losartan increases bone mass by direct inhibition of osteoclasts: evidence from murine and human data**
Shan Chen*[1], Tarek Sibai[1], Nahid Rianon[2], Tao Yang[3], Jennifer Black[4], Elda Munivez[1], Terry Bertin[1], Brian Dawson[1], Yuqing Chen[1], Brendan Lee[5]. [1]Baylor College of Medicine, USA, [2]UTHealth The University of Texas Medical School at Houston, USA, [3]Van Andel Research Institute, USA, [4]Department of Pathology, Microbiology & Immunology, Vanderbilt University, USA, [5]Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Shan Chen, None

MO0271 **Pin1 regulates osteoclast fusion through the suppression of the master regulator of cell fusion DC-STAMP**
Rabia Islam*[1], Won-joon Yoon[2], Kyung-Mi Woo[2], Jeong-Hwa Baek[3], Hyun-Mo Ryoo[4]. [1]School of Dentistry, Seoul National University, South Korea, [2]Seoul National University, South Korea, [3]Seoul National University, School of Dentistry, South Korea, [4]Seoul National University School of Dentistry, South Korea
Disclosures: Rabia Islam, None

MO0272 **The Link module from Human TSG-6 is a Potent Inhibitor of Osteoclast-Mediated Bone Resorption; Towards a Novel Therapy for Osteoporosis**
Jennifer Thomson*, Caroline Milner, Anthony Day. University of Manchester, United Kingdom
Disclosures: Jennifer Thomson, None

MO0273 **Trapidil, a platelet-derived growth factor antagonist, prevents osteoclastogenesis by down-regulating Ca^{2+}-NFATc1 axis and suppressed bone loss in mice**
Sun-Don Kim*[1], Ha-Neui Kim[1], Zang Hee Lee[2]. [1]School of Dentistry, Seoul National University, South Korea, [2]Seoul National University School of Dentistry, South Korea
Disclosures: Sun-Don Kim, None

MO0274 **Vascularendothelial cells inhibit osteoclastogenesis by netrin 4 through DSCAM receptor**
YUICHIRO ENOKI*[1], Tsuyoshi Sato[1], Masahito Matsumoto[1], Shoichiro Kokabu[2], Masahiko Okubo[1], Takanori Iwata[3], Michihiko Usui[4], Toru Fukuda[5], Shu Takeda[6], Yuuki Imai[7], Shinya Tanaka[1], Hiromi Oda[1], Tatsuo Suda[8], Tetsuya Yoda[1]. [1]Saitama Medical University, Japan, [2]Harvard School of Dental Medicine, USA, [3]The Institute of Advanced Biomedical Engineering & Science, Japan, [4]Kyushu Dental College, Japan, [5]Keio University School of Medicine, Japan, [6]Tokyo Medical & Dental University, Dept. of Cellular Physiology, Jpn, [7]Ehime University, Japan, [8]Research Center for Genomic Medicine Saitama Medical School, Japan
Disclosures: YUICHIRO ENOKI, None

OSTEOCYTES: BONE MECHANICS

MO0275 **Age Effects on Bone Microarchitecture and Osteocyte Sensing of Skeletal Loading**
Teri Cline*[1], Matthew Stern[1], Mark Van Dyke[2], Christopher Bergman[3], Ying Liu[4], Amber Stern[1]. [1]University of Missouri - Kansas City, USA, [2]Virginia Tech, USA, [3]Wake Forest Institute for Regenerative Medicine, USA, [4]University of Missouri-Kansas City, USA
Disclosures: Teri Cline, None

MO0276 **Age Effects on the Macromechanical and Micromechanical Properties of Bone**
Craig Meers*[1], Mark Johnson[2], Ying Liu[1], Thomas Register[3], Amber Stern[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA, [3]Wake Forest School of Medicine, USA
Disclosures: Craig Meers, None

MO0277 **Feasibility Studies on In Situ Imaging-Based Quantification of the Density of Osteocyte Pericellular Matrix**
Xiaohan Lai*, Christopher Price, Liyun Wang. University of Delaware, USA
Disclosures: Xiaohan Lai, None

MO0278 **Sclerostin Directly Abrogates Mechanical Loading-Induced Bone Formation in an Ex Vivo Bovine Bone Model**
Masakazu Kogawa*, Kamarul Khalid, Asiri Wijenayaka, David Findlay, Gerald Atkins. University of Adelaide, Australia
Disclosures: Masakazu Kogawa, None

OSTEOCYTES: REGULATION OF BONE FORMATION

MO0279 **Dichotomy in osteocyte regulation of anabolic action of mechanical loading challenge and that of bone repletion after a low dietary calcium challenge**
Matilda Sheng*[1], Kin-Hing William Lau[2], Xiao-Dong Zhou[1], Denise Rodriguez[1], Adam Finck[1], David Baylink[1]. [1]Loma Linda University, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Matilda Sheng, None

MO0280 **Initial Activation of β-catenin Signaling in Osteocytes is Prostaglandin Dependent**
Nuria Lara*[1], Mohamed Kamel[2], Behzad Javaheri[3], Mark Johnson[4]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City, USA, [3]The Royal Veterinary College, United Kingdom, [4]University of Missouri, Kansas City Dental School, USA
Disclosures: Nuria Lara, None

MO0281 **MMP13-mediated osteocyte remodeling during glucocorticoid induced osteonecrosis**
Faith Hall-Glenn*[1], Aaron Fields[2], Ellen Liebenberg[1], Jeffery Lotz[1], Thomas Vail[1], Tamara Alliston[1]. [1]University of California, San Francisco, USA, [2]University of California San Francisco, USA
Disclosures: Faith Hall-Glenn, None

MO0282 **Strontium Ranelate accelerates MLOY4 osteocyte lineage wound healing**
Hechmi Toumi[1], Priscilla Aveline[2], Chloé Leduc[3], Eric Lespessailles*[4], Chantal Pichon[3], Claude Laurent Benhamou[5]. [1]EA 4708 I3MTO, France, [2]Centre Hospitalier Régional D'Orléans, France, [3]CBM Orléans, CNRS UPR4301, France, [4]Centre Hospitalier Regional, France, [5]CHR ORLEANS, France
Disclosures: Eric Lespessailles, None

OSTEOCYTES: REGULATION OF BONE RESORPTION

MO0283 **Deletion of Cx43 in osteocytic cells increases autophagy: a potential mechanism for accumulation of empty lacunae in mice lacking Cx43 in osteoblastic cells**
Rafael Pacheco Da Costa[1], Iraj Hassan*[2], Wonjin Kim[3], Rejane D Reginato[4], Teresita Bellido[5], Lilian Plotkin[5]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Dept. Anatomy & Cell Biology, USA, [3]College of medicine, Yonsei university, South Korea, [4]Department of Morphology & Genetics, Federal University of São Paulo, Brazil, [5]Indiana University School of Medicine, USA
Disclosures: Iraj Hassan, None

MO0284 **Kalirin: Novel Role in Osteocyte Function and Bone Cell Signaling**
Kornchanok Wayakanon*[1], Pierre Eleniste[1], Su Huang[1], Matthew Allen[2], Angela Bruzzaniti[1]. [1]Indiana University School of Dentistry, USA, [2]Indiana University School of Medicine, USA
Disclosures: Kornchanok Wayakanon, None

MO0285 **Sclerostin Exerts a Coordinated Pro-osteoclastogenic Effect via its Action in Osteocytes**
Asiri Wijenayaka*[1], Masakazu Kogawa[1], Lynda Bonewald[2], David Findlay[1], Gerald Atkins[1]. [1]University of Adelaide, Australia, [2]University of Missouri - Kansas City, USA
Disclosures: Asiri Wijenayaka, None

MO0286 **Tartrate-Resistant Acid Phosphatase (TRAP) Co-localize with Receptor Activator of NF-κ Ligand (RANKL) in Osteoblasts and Osteocytes: a Potential Role for TRAP in Regulation of Osteoclast Differentiation**
Lene Solberg*[1], Espen Stang[2], Sverre-Henning Brorson[2], Goran Andersson[3], Finn Reinholt[4]. [1]Institute & Department of Pathology, University of Oslo & Oslo University Ho, Norway, [2]University of Oslo & Oslo University Hospital, Norway, [3]Karolinska Institute, Sweden, [4]University of Oslo, Norway
Disclosures: Lene Solberg, None

MO0287 **The "unfolded protein response" stimulates RANKL production: a potential mechanistic link between osteocyte apoptosis and cortical porosity**
Robert Jilka*, Kanan Vyas, Michela Palmieri, Yu Liu, Charles O'Brien, Stavros Manolagas. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, None

OSTEOCYTES: REGULATION OF MINERALIZATION AND MINERAL ION HOMEOSTASIS

MO0288 **A Single PTH Administration Induces Bone Mineral Dissolution around Capillary Vessels Entrances at the Endosteal Surface.**
Nobuhito Nango*[1], Shogo Kubota[1], Wataru Yashiro[2], Atsushi Momose[3]. [1]Ratoc System Engineering Co., Ltd., Japan, [2]Institute of Multidisciplinary Reasearch for Advanced Materials, Tohoku University, Japan, [3]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan
Disclosures: Nobuhito Nango, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

MO0289 **Circulating Periostin: a novel serum marker of cortical bone structure in human**
Nicolas Bonnet*[1], Claire Durosier[2], Patrick Garnero[3], Serge Ferrari[4], Rene Rizzoli[5]. [1]University Geneva Hospital-Department of Internal Medecine Specialities, Switzerland, [2]Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, Switzerland, [3]INSERM Research Unit, France, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None

MO0290 **Vitamin D Status in Obesity: Evaluation of Free 25(OH)D**
Amy Evans*[1], Fatma Gossiel[1], Kim Naylor[2], Jennifer Walsh[3], Richard Eastell[3]. [1]Academic Unit of Bone Metabolism, University of Sheffield, United Kingdom, [2]The University of Sheffield, GBR, [3]University of Sheffield, United Kingdom
Disclosures: Amy Evans, None

OSTEOPOROSIS - ASSESSMENT: BONE IMAGING

MO0291 **A Comparison of Two Methods for Analyzing Change in Trabecular BMD from QCT Spine Scans over 2 Years of Treatment**
Dennis Black*, Lucy Wu, Lisa Palermo. University of California, San Francisco, USA
Disclosures: Dennis Black, None

MO0292 **Agreement of Distal Femur Bone Mineral Estimates From Two Different Procedures in Adults with Spinal Cord Injury**
Michael Porter*[1], Therese Johnston[2], Ralph Marino[3], Christopher Modlesky[4]. [1]Department of Kinesiology & Applied Physiology, University of Delaware, USA, [2]Department of Physical Therapy, Thomas Jefferson University, USA, [3]Department of Rehabilitation Medicine, Thomas Jefferson University, USA, [4]University of Delaware, USA
Disclosures: Michael Porter, None

MO0293 **Assessing Age, Sex, and Racial Differences in Cortical Porosity Requires Adjustment for Site-Specific Variation in the Selected Region of Interest**
Ali Ghasem-Zadeh*[1], Roger Zebaze[1], Ashild Bjornerem[2], Xiao-Fang Wang[3], Yohann Bala[4], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]University of Tromsø, Norway, [3]University of Melbourne, Austin Health, Australia, [4]University of Melbourne, Dept. of Medicine, Australia
Disclosures: Ali Ghasem-Zadeh, None

MO0294 **Associations between Birth Weight and Bone Microarchitecture in the Radius and Tibia of Older Adults from the Hertfordshire Cohort Study**
Mark Edwards*[1], Kate Ward[2], Camille Parsons[3], Jennifer Thompson[2], Ann Prentice[2], Elaine Dennison[3], Cyrus Cooper[3]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton., United Kingdom, [2]MRC Human Nutrition Research, United Kingdom, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom
Disclosures: Mark Edwards, None

MO0295 **Automated Scan Prescription For HR-pQCT: A Multi-Atlas Prospective Registration Approach**
Julio Carballido-Gamio*[1], Serena Bonaretti[2], Margaret Holets[3], Isra Saeed[2], Louise McCready[3], Sharmila Majumdar[2], Thomas F. Lang[2], Sundeep Khosla[3], Andrew J. Burghardt[2]. [1]University of California, San Francisco, USA, [2]Musculoskeletal & Quantitative Imaging Research Group, Department of Radiology & Biomedical Imaging, University of California, San Francisco, USA, [3]Division of Endocrinology, Metabolism & Nutrition, Department of Internal Medicine, College of Medicine, Mayo Clinic, USA
Disclosures: Julio Carballido-Gamio, None

MO0296 **Comparison of Incident Clinical Vertebral Fracture Identified Using Medicare Administrative Claims and from Self-report Confirmed by Medical Record Review**
Jie Zhang*[1], Elizabeth Delzell[1], Kristine Ensrud[2], John Schousboe[3], Brent Taylor[4], Misti Paudel[4], Cora Lewis[1], James Shikany[1], Peggy Cawthon[5], Jeffrey Curtis[1]. [1]University of Alabama at Birmingham, USA, [2]Minneapolis VA Medical Center / University of Minnesota, USA, [3]Park Nicollet Clinic, University of Minnesota, USA, [4]University of Minnesota, USA, [5]California Pacific Medical Center Research Institute, USA
Disclosures: Jie Zhang, Amgen and Genentech, 2

MO0297 **Detection of Incomplete Non-displaced Atypical Femur Fractures by Densitometer**
Angela M. Cheung*[1], Robert Bleakney[2], Harry Genant[3], Rowena Ridout[4], Heather McDonald-Blumer[5], Diana Yau[1], Lianne Tile[1], George Tomlinson[5]. [1]University Health Network, Canada, [2]Mount Sinai Hospital, Canada, [3]UCSF/Synarc, USA, [4]Toronto Western Hospital, Canada, [5]University of Toronto, Canada
Disclosures: Angela M. Cheung, Eli Lilly, 7; Merck, 2; Merck, 9; Eli Lilly, 2; Amgen, 2; Warner Chilcott, 5; Warner Chilcott, 7; Amgen, 7

MO0298 **Differences in Bone Geometry, Mass and Microarchitecture between Asian and Caucasian Young Men**
Anna Kepley*[1], Chiyuan Zhang[2], Bin Zhou[2], Donald McMahon[3], X Guo[2], Elizabeth Shane[3], Thomas Nickolas[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Anna Kepley, None

MO0299 **Fracture discrimination is improved by combiningMicro-architectural Texture analysis as assessed by H or TBS and Spine or hipBMD**
Jerome Touvier*[1], Renaud Winzenrieth[2], Helena Johansson[3], Hech Toumi[1], Jean-Paul Roux[4], Jean Chaintreuil[5], Didier Hans[6], Eric Lespessailles[7]. [1]EA4708 - I3MTO - Orleans University, France, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [3]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [4]INSERM, UMR 1033, Université de Lyon, France, [5]R&D department, D3A, France, [6]Lausanne University Hospital, Switzerland, [7]Centre Hospitalier Regional, France
Disclosures: Jerome Touvier, None

MO0300 **In Vivo Characterization of Cortical Bone at Distal Tibia Using Multi-Detector CT Imaging – Validation and Results of Application in Healthy Young Adults**
Cheng Li*, Dakai Jin, Elena Letuchy, Trudy Burns, Kathleen Janz, James Torner, Steven Levy, Punam K. Saha. University of Iowa, USA
Disclosures: Cheng Li, None

MO0301 **Precise 3D Localisation of Cortical Defects Associated with Subcapital, Trans-cervical and Trochanteric Hip Fractures in Life**
Kenneth Poole*[1], Graham Treece[1], Karen Blesic[1], Paul Mayhew[1], Thomas Turmezei[1], Fjola Johannesdottir[1], Madhavi Vindlacheruvu[1], Simon Donell[2], Jan Vaculik[3], Pavel Dungl[3], Martin Horak[4], Jan Stepan[5], Andrew Gee[1]. [1]University of Cambridge, United Kingdom, [2]University of East Anglia, United Kingdom, [3]Charles University Prague, Czech Republic, [4]Homolka Hospital, Czech Republic, [5]Charles University, Czech Republic
Disclosures: Kenneth Poole, Patent - GB0917524.1, 99

MO0302 **Reading Between the Lines of Bone Mineral Density: the Significance of Changes in BMD of Individual Lumbar Vertebrae.**
Sumiaki Okamoto*[1], Hitoshi Noguchi[2], Hiroyuki Suzuki[3], Akira Itabashi[4], Sumitada Okamoto[1]. [1]Okamoto Clinic SORF, Japan, [2]Noguchi Thyroid Clinic & Hospital Foundation, Japan, [3]Suzuki Orthodontic Office, Japan, [4]Saitama Center for Bone Research, Japan
Disclosures: Sumiaki Okamoto, None

MO0303 **Sensitivity, specificity and accuracy improvement by combining TBS and spine BMD: The Eastern European Study**
Jelena Vasic[1], T Petranova[2], Carmen Gabriela Barbu[3], Vladyslav Povoroznjuk[4], F Gojkovic[1], Renaud Winzenrieth*[5], Didier Hans[6], J Elez[1], V CulaficVojinovic[1], Catalina Poiana[3], R Rashkov[2], Aleksandar Dimic[7]. [1]Bone Diseases, Railway Healthcare Institute, Serbia, [2]Rheumatology Clinic, the Medical University, Bulgaria, [3]Department of Endocrinology, Carol Davila University of Medicine & Pharmacy, Romania, [4]Department of Clinical Physiology & Pathology of Locomotor Apparatus, Institute of Gerontology AMS, Ukraine, [5]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [6]Lausanne University Hospital, Switzerland, [7]Institute for Treatment & Rehabilitation "NiskaBanja", Serbia
Disclosures: Renaud Winzenrieth, None

MO0304 **Simplified Criteria for Selecting Patients for VFA Imaging**
Tamara Vokes*[1], John Schousboe[2], Harold Rosen[3]. [1]University of Chicago, USA, [2]Park Nicollet Clinic, University of Minnesota, USA, [3]Beth Israel Deaconess Medical Center, USA
Disclosures: Tamara Vokes, None

MO0305 **Trabecular Bone Score is Associated With Vertebral and Non Vertebral Fracture in Men - The STRAMBO Study**
Stephanie Boutroy*[1], Didier Hans[2], Renaud Winzenrieth[3], Roland Chapurlat[4], Pawel Szulc[5]. [1]INSERM U1033 & Université de Lyon, France, [2]Lausanne University Hospital, Switzerland, [3]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, [4]E. Herriot Hospital, France, [5]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France
Disclosures: Stephanie Boutroy, None

MO0306 **Trabecular Bone Score: A Tool for Identification of Severe Spinal Osteoporosis**
Kawtar Nassar[1], Simon Paternotte[1], Sami Kolta[1], Jacques Fechtenbaum[1], Christian Roux[1], Karine Briot*[2]. [1]Paris Descartes University, Cochin Hospital, Rheumatology Department, France, [2]Paris Descartes University, Cochin hospital, Rheumatology Hospital, France
Disclosures: Karine Briot, None

MO0307 **Using Body Composition Phantoms to Validate Performance of Dual Energy X-Ray Absorptiometry (DXA) instrument**
Colin Miller*[1], Hui Jing Yu[1], Blaine Horvath[1], Jessie Libber[2], Diane Krueger[3], Neil Binkley[3]. [1]BioClinica, Inc., USA, [2]University of Wisconsin-Madison, USA, [3]University of Wisconsin, Madison, USA
Disclosures: Colin Miller, None

OSTEOPOROSIS - EPIDEMIOLOGY: BONE MINERAL DENSITY

MO0308 **Alterations in Lean Mass Predict Development of Trabecular Bone Density and Cortical Bone Size in Young Adult Men**
ROBERT RUDANG*[1], Dan Mellstrom[2], Claes Ohlsson[3], Mattias Lorentzon[4]. [1]INSTITUTE OF MEDICINE, SAHLGRENSKA ACADEMY, Sweden, [2]Sahlgrenska University Hospital, Sweden, [3]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [4]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: ROBERT RUDANG, None

MO0309 **Association between Metabolic Syndrome and Bone Mineral Density in a Community-dwelling Older Women: the São Paulo Ageing & Health Study (SPAH)**
Luana Machado*[1], Diogo Domiciano[1], Jaqueline Lopes[2], Camille Figueiredo[1], Valéria Caparbo[1], Liliam Takayama[1], Rosa Pereira[2]. [1]University of São Paulo, Brazil, [2]Faculdade De Medicina Da Universidade De São Paulo, Brazil
Disclosures: Luana Machado, None

MO0310 **Bone Mineral Density (BMD), Vertebral Marrow Fat, and Markers of Metabolism in Older Men and Women: Results from the AGES-BMA study**
Trisha Hue*[1], Xiaojuan Li[1], Clifford Rosen[2], Vilmundur Gudnason[3], Sigurdur Sigurdsson[4], Kristin Siggeirsdottir[4], Gunnar Sigurdsson[5], Gudný Eiríksdóttir[4], Tamara Harris[6], Lisa Palermo[1], Thomas Lang[1], Ann Schwartz[1]. [1]University of California, San Francisco, USA, [2]Maine Medical Center, USA, [3]Icelandic Heart Association Research Institute, Iceland, [4]Icelandic Heart Association, Iceland, [5]Landspitali University Hospital, Iceland, [6]Intramural Research Program, National Institute on Aging, USA
Disclosures: Trisha Hue, None

MO0311 **The Effect of Bone-Active Medication Use on Bone Mineral Density Post-Hip Fracture**
Denise Orwig[1], Emma G. Sheldon*[2], Rasheeda Johnson[3], Marc Hochberg[2], William G. Hawkes[2]. [1]University of Maryland, Baltimore, USA, [2]University of Maryland School of Medicine, USA, [3]University of Maryland Baltimore, USA
Disclosures: Emma G. Sheldon, None

MO0312 **Hip fracture incidence is much higher in Hong Kong Chinese women than Beijing Chinese women despite higher bone density in Hong Kong women: Major implications for hip fracture prevention**
Rick Chung*[1], George Qin[2], Peng Cheng Ha[2], Edith Lau[1]. [1]Center for Clinical & Basic Research (CCBR) (Hong Kong), Hong Kong, [2]Center for Clinical & Basic Research (CCBR), China
Disclosures: Rick Chung, None

MO0313 **Increased Bone Loss is Associated with Post-Fracture Mortality**
Dana Bliuc*, Nguyen Nguyen, Tuan Nguyen, John Eisman, Jacqueline Center. Garvan Institute of Medical Research, Australia
Disclosures: Dana Bliuc, None

MO0314 **Ethnic Difference in Lumbar Spine TBS Between White, Black and Asian Women: Towards Explaining a Paradox?**
William Leslie*[1], Olivier Lamy[2], Didier Hans[3]. [1]University of Manitoba, Canada, [2]University Hospital, Switzerland, [3]Lausanne University Hospital, Switzerland
Disclosures: William Leslie, None

OSTEOPOROSIS - EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

MO0315 **Associations among Dietary Phosphorus Intake and Bone Turnover Markers in 37-to-47-year-old Caucasian Population - The PHOMI Study**
Suvi Itkonen*[1], Elisa Saarnio[1], Virpi Kemi[1], Heini Karp[1], Merja Kärkkäinen[1], Minna Pekkinen[2], Juha Risteli[3], Marja-Kaisa Koivula[4], Kaisa Ivaska[5], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [3]University of Oulu, Finland, [4]NordLab Oulu & Department of Clinical Chemistry, Institute of Diagnostics, University of Oulu, Finland, [5]University of Turku, Finland
Disclosures: Suvi Itkonen, None

MO0316 **Associations between Serum Concentrations of Vitamin B12, Folate and Iron, and Body Composition in Adults Aged ⩾ 45 years: An Analysis of NHANES 1999-2002**
Maryam Hamidi*[1], Jeevitha Srighanthan[2], Angela M. Cheung[3]. [1]University of Toronto/ University Health Network-TGH, Canada, [2]University Health Network, Canada, [3]University Health Network-University of Toronto, Canada
Disclosures: Maryam Hamidi, None

MO0317 **Dietary Fatty Acid Intake Does Not Interact with the Association between Tumor Necrosis Factor-α Soluble Receptors and Incident Hip Fracture in The Women's Health Initiative**
Steven Ing*[1], Tonya Orchard[1], Andrea Lacroix[2], Charles Kooperberg[2], Aaron Aragaki[2], Martha Belury[1], Bo Lu[1], Rebecca Jackson[1]. [1]The Ohio State University, USA, [2]Fred Hutchinson Cancer Research Center, USA
Disclosures: Steven Ing, None

MO0318 **Higher Dairy Intakes are Associated with Improved Bone Health in a Population-based Study - CaMos**
Claudie Berger*[1], Lisa Langsetmo[2], Susan I Barr[3], Jonathan Adachi[4], David Hanley[5], Jerilynn Prior[6], Christopher Kovacs[7], Elham Rahme[1], Stephanie Kaiser[8], Robert Josse[9], Alexandra Papaioannou[10], Nancy Kreiger[11], David Goltzman[1]. [1]McGill University, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]University of British-Columbia, Canada, [4]St. Joseph's Hospital, Canada, [5]University of Calgary, Canada, [6]University of British Columbia, Canada, [7]Memorial University of Newfoundland, Canada, [8]Dalhousie University, Canada, [9]St. Michael's Hospital, University of Toronto, Canada, [10]Hamilton Health Sciences, Canada, [11]University of Toronto, Canada
Disclosures: Claudie Berger, None

MO0319 **Prediction Model for Normal Vitamin D in Elderly Women**
Thomas Merlijn*[1], Petra Elders[2], Coen Netelenbos[3]. [1]VU University Medical Center, The Netherlands, [2]VU medical center, Netherlands, [3]VU Medical Center, The Netherlands
Disclosures: Thomas Merlijn, None

MO0320 **Vitamin D Levels and Calcium Supplementation One-Year Follow up in Osteopenic Patients in West Bohemia**
Vaclav Vyskocil*[1], Tomas Pavelka[2]. [1]Center for Metabolic Bone Diseases, Czech Republic, [2]Department of Orthopaedic Surgery, Czech Republic
Disclosures: Vaclav Vyskocil, None

OSTEOPOROSIS - EPIDEMIOLOGY: FRACTURE OUTCOME

MO0321 **Updated Non-hip to Hip Fracture Ratios in Canadian Men and Women with Potential Implications for FRAX Calibration: A Population Based Analysis**
William Leslie*[1], Lisa M Lix[1], Marina Yogendran[1], Anna Lam[1], Suzanne Morin[2], Colleen Metge[1], Sumit Majumdar[3]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada
Disclosures: William Leslie, None

MO0322 **Withdrawn**

MO0323 **Can we improve the reproducibility of vertebral fracture assessment (VFA) readings?An exploratory study based on the OsteoLaus Cohort**
Bérengère Aubry-Rozier*[1], Katia Iglesias[2], Marc-Antoine Krieg[1], Olivier Lamy[1], Bernard Burnand[2], Didier Hans[1]. [1]Center for Bone Diseases. Lausanne University Hospital, Switzerland, [2]Département de médecine sociale et préventive, Lausanne University Hospital, Switzerland
Disclosures: Bérengère Aubry-Rozier, None

MO0324 **Characteristics Influencing Quality of Life in Women 6 Months After Suffering a Fragility Fracture**
Claudia Beaudoin*[1], Sonia Jean[2], Louis Bessette[3], Louis-Georges Ste-Marie[4], Jacques P. Brown[5]. [1]Centre de recherche du CHU de Québec, Canada, [2]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [3]CHU de Quebec Research Centre, Canada, [4]CHUM, Canada, [5]CHU de Québec Research Centre, Canada
Disclosures: Claudia Beaudoin, None

MO0325 **Could Fracture Risk Assessment in Elderly Men Be Improved by Adiponectin? Mr Os Sweden**
Helena Johansson*[1], Anders Odén[2], Magnus Karlsson[3], Eugene McCloskey[4], John Kanis[5], Claes Ohlsson[6], Dan Mellström[7]. [1]WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK, Sweden, [2]WHO Collaborating Centre, University of Sheffield, United Kingdom, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]University of Sheffield, United Kingdom, [5]University of Sheffield, Belgium, [6]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [7]Centre for Bone & Arthritis Research (CBAR), Sahlgrenska Academy, University of Gothenburg, Sweden
Disclosures: Helena Johansson, None

MO0326 **Exome chip analysis for osteoporotic fracture: Results from the CaMos/ManMc consortium**
Hou-Feng Zheng*[1], Vincenzo Forgetta[1], William Leslie[2], David Goltzman[1], Alexandre Montpetit[1], Mark Lathrop[1], Brent Richards[1]. [1]McGill University, Canada, [2]University of Manitoba, Canada
Disclosures: Hou-Feng Zheng, None

MO0327 **In men, bone microarchitecture measured by high resolution pQCT improves fracture prediction - the prospective STRAMBO study**
Pawel Szulc*[1], Stephanie Boutroy[2], Roland Chapurlat[3]. [1]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [2]INSERM UMR 1033, Université de Lyon, France, [3]E. Herriot Hospital, France
Disclosures: Pawel Szulc, None

MO0328 **Long-Term Proton Pump Inhibitor Therapy: Large Effects on Falls and Fractures in Elderly Women**
Joshua Lewis*[1], Deka Barre[2], Kun Zhu[3], Jeff Hughes[2], Richard Prince[4]. [1]The University of Western Australia, Australia, [2]Curtin University, School of Pharmacy, Australia, [3]University of Western Australia, Sir Charles Gairdner Hospital, Australia, [4]Sir Charles Gairdner Hospital, Australia
Disclosures: Joshua Lewis, None

MO0329 **Mortality After a Hip Fracture in the United Kingdom: 2000 – 2011**
Corinne Klop*[1], Paco Welsing[2], Cyrus Cooper[3], Johannes Bijlsma[4], Hubert Leufkens[1], Frank de Vries[1]. [1]Utrecht Institute for Pharmaceutical Sciences, Division of Pharmacoepidemiology & Clinical Pharmacology, Utrecht University, Netherlands, [2]Julius Center for Health Sciences & Primary Care, University Medical Center, Netherlands, [3]University of Southampton, United Kingdom, [4]Department of Rheumatology & Clinical Immunology, University Medical Center, Netherlands
Disclosures: Corinne Klop, None

MO0330 **Obese Older Adults Have a Lower Adjusted Risk of Incident Hip Fracture**
Jennifer Lloyd*[1], Dawn Alley[1], William Hawkes[1], Marc Hochberg[2], Shari Waldstein[3], Denise Orwig[1]. [1]University of Maryland, Baltimore, USA, [2]University of Maryland School of Medicine, USA, [3]University of Maryland, Baltimore County, USA
Disclosures: Jennifer Lloyd, None

MO0331 **Outcomes of an Orthopaedic Post Fracture Bone Health Assessment Program**
Victoria Elliot-Gibson*[1], Earl Bogoch[2], Dorcas Beaton[3], Robert Josse[4]. [1]St. Michaels Hospital, Canada, [2]St. Michael's Hospital, Canada, [3]Keenan Research Centre, St Michael's Hospital, Canada, [4]St. Michael's Hospital, University of Toronto, Canada
Disclosures: Victoria Elliot-Gibson, None

MO0332 **Subsequent Fracture Risk and Mortality in the Glasgow Fracture Liaison Service: an 8-year Follow-Up Study**
Tineke Van Geel*[1], Dana Bliuc[2], Piet Geusens[3], Jacqueline Center[2], Geert-Jan Dinant[4], John Eisman[2], Joop Van Den Bergh[5], Alastair McLellan[6]. [1]Maastricht University, The Netherlands, [2]Garvan Institute of Medical Research, Australia, [3]University Hasselt, Belgium, [4]Maastricht University, Netherlands, [5]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, [6]Western Infirmary, United Kingdom
Disclosures: Tineke Van Geel, None

MO0333 **Withdrawn**

MO0334 **"Such terrible bone":weight-bearing orders following hip fracture surgery**
Leslie Carlin*[1], Kathryn Sibley[2], Pia Kontos[2], Susan Jaglal[1]. [1]University of Toronto, Canada, [2]Toronto Rehabilitation Institute, Canada
Disclosures: Leslie Carlin, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

MO0335 **A web repository and browser to search results of Genome-wide association studies (GWAS) for multiple musculoskeletal aging phenotypes**
Yi-Hsiang Hsu[1], Chia-Ho Cheng[2], Jason Rightmyer[2], Douglas Kiel[3], Joanne Murabito[4], David Karasik*[5]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]IFAR HSL, USA, [3]Hebrew SeniorLife, USA, [4]Boston University, USA, [5]Hebrew SeniorLife; Bar Ilan University, USA
Disclosures: David Karasik, None

MO0336 **Association of GC and CYP2R1 Genetic Variants and Serum Vitamin D Concentrations in Chinese Postmenopausal Women**

Weibo Xia*[1], Wen Xu[2], Jing Sun[3], Wenbo Wang[4], Xiran Wang[5], Yan Jiang[3], Wei Huang[6], Xin Zheng[7], Qiuping Wang[8], Yu Pei[9], Zhiwei Ning[10], Mei Li[3], Ou Wang[11], Xiaoping Xing[3], Ling Xu[12]. [1]Peking Union Medical College Hospital, Endocrinology Department, Peoples Republic of China, [2]Department of Endocrinology, Key Laboratory of Endocrinology, Ministry of Health, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, China, [3]Department of Endocrinology, Key Laboratory of Endocrinology, Ministry of Health, Peking Union Medical College Hospital, Chinese Academy of Medical Science, China, [4]Department Endocrinology, Peking University Shougang Hospital, Beijing 100144, China., China, [5]Department of Cadre Unit, General Hospital of the second Artillery Force, Beijing 100088, China, [6]Department of Endocrinology BeiJing Haidian Hospital, China, [7]Department of Endocrinology, China Rehabilitation Research Center., China, [8]Department of Endocrinology, Beijing Liangxiang Hospital, China, [9]Department of Geriatric Endocrinology, Chinese PLA General Hospital, China, [10]Department of Endocrinology, Beijing Chaoyang Hospital, China, [11]Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, Peoples Republic of China, [12]Department of Gynaecology & Obstetrics, Key Laboratory of Endocrinology, Ministry of Health, Peking Union Medical College Hospital, Chinese Academy of Medical Science, China

Disclosures: Weibo Xia, None

MO0337 **Gene by genome-wide interactions on femoral neck BMD in MrOS and SOF: a synergistic effect of polymorphisms in the alkaline phosphatase (*ALPL*) and lecithin retinol acyltransferase (*LRAT*) genes**

Carrie Nielson*[1], Priya Srikanth[1], Joseph Zmuda[2], Jian Shen[1], Robert Klein[3], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]Portland VA Medical Center, USA

Disclosures: Carrie Nielson, None

MO0338 **Genome-Wide Association Study Meta-Analysis Identifies the *SOAT1/AXDND1 Locus* To Be Associated With Hip and Forearm Fracture Risk**

Ulrika Pettersson-Kymmer*[1], Samuel Handelman[2], Joel Eriksson[3], Ulrica Bergstrom[4], Beatrice Melin[5], Carl Wibom[6], Liesbeth Vandenput[7], Preetha Rajaraman[8], Patricia Hartge[9], Stephen Chanock[10], Goran Hallmans[11], Andrea Lacroix[12], David Duggan[13], Charles Kopperberg[14], Aaron Aragaki[14], Maria Nethander[15], Andre Uitterlinden[16], Fernando Rivadeneira[17], Rebecca Jackson[18], Claes Ohlsson[19]. [1]Clinical Pharmacology, Sweden, [2]Mathematical Biosciences Institute, The Ohio State University, USA, [3]Centre for Bone & Arthritis Research, Sweden, [4]Umea University Hospital, Sweden, [5]Radiation Sciences, Oncology Umeå University, Sweden, [6]Radiation Sciences, Oncology, Umea University, Sweden, [7]University of Gothenburg, Sweden, [8]Center for Global Health, US National Cancer Institute, USA, [9]Division of Cancer Epidemiology & Genetics, National Cancer Institute, NCI, USA, [10]Division of Cancer Epidemiology & Genetics, National Cancer Institute, USA, [11]Public Health & Clinical Medicine, Umea University, Sweden, [12]Fred Hutchinson Cancer Research Center, USA, [13]Translational Genomics Research Institute, USA, [14]Public Health Sciences, Fred Hutchinson Cancer Research Center, USA, [15]Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden, [16]Rm Ee 575, Genetic Laboratory, The Netherlands, [17]Erasmus University Medical Center, The Netherlands, [18]The Ohio State University, USA, [19]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden

Disclosures: Ulrika Pettersson-Kymmer, None

MO0339 **Reduced Serum Osteocalcin Concentrations Are Associated with Type 2 Diabetes Mellitus and the Metabolic Syndrome Components in Postmenopausal Women: The Crosstalk between Bone and Energy Metabolism**

Rajib Bhattacharya*[1], Kamyar Asadipooya[2], Iraj Nabipour[3], Ali Movahed[3], Bagher Larijani[4], Mohammadreza Kalantarhormozi[3], Katayoun Vahdat[3], Samad Akbarzadeh[3], Maryam Farrokhnia[3], Majid Assadi[3], Roya Amirinejad[5], Afshar Bargahi[3], Zahra Sanjdideh[3]. [1]KU Medical Center, USA, [2]University of Kansas Medical Center, USA, [3]Bushehr University of Medical sciences, Iran, [4]Tehran University of Medical Sciences, Iran, [5]Bushehr Unversity of Medical Sciences, Iran

Disclosures: Rajib Bhattacharya, None

OSTEOPOROSIS - EPIDEMIOLOGY: LIFESTYLE

MO0340 **High cardiorespiratory fitness is associated with reduced risk of osteopenia and osteoporosis in women: Cooper Center Longitudinal Study**
Chwan-Li Shen*[1], Laura Defina[2], David Leonard[3], Benjamin Willis[2], Carolyn Barlow[2], Marjorie Jenkins[1], Barbara Pence[1], Yan Zhang[1], Ming-Chien Chyu[4], E. Michael Lewiecki[5]. [1]Texas Tech University Health Sciences Center, USA, [2]The Cooper Institute, USA, [3]UT Southwestern Medical Center, USA, [4]Texas Tech Univeristy, USA, [5]University of New Mexico School of Medicine, USA
Disclosures: Chwan-Li Shen, None

MO0341 **Impact of Lifestyle Factors on Fracture Risk in Older Patients with Cardiovascular Disease and Diabetes: A Prospective Cohort Study of 26,335 Individuals from 40 Countries**
Alexandra Papaioannou*[1], Alexandra Papaioannou[2], Salim Yusuf[3], Joshua Barzilay[4], Peggy Gao[2], Philip Joseph[3], Koon Teo[3], Andrew Mente[3]. [1]Hamilton Health Sciences, Canada, [2]Population Health Research Institute, Canada, [3]Population Health Research Institute, McMaster University & Hamilton Health Sciences, Canada, [4]Kaiser Permanente of Georgia & Emory University School of Medicine, USA
Disclosures: Alexandra Papaioannou, None

MO0342 **Measuring Compliance with Oral Bisphosphonates: Potential Impact of Days Supply Errors in Pharmacy Data**
Andrea Burden*[1], J. Micheal Paterson[2], Andrea Gruneir[3], Suzanne Cadarette[1]. [1]University of Toronto, Canada, [2]Institute for Clinical Evaluative Sciences, Canada, [3]Women's College Research Insititute, Canada
Disclosures: Andrea Burden, None

MO0343 **Undertreatment with Anti-osteoporosis Medications among Women Diagnosed with Osteoporosis in the United States Medicare Population**
Ethel Siris[1], Ankita Modi[2], Jingbo Yu*[3], Renee Arnold[4], Katalin Bognar[5]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Merck & Co., Inc., USA, [3]Merck & Co, Inc., USA, [4]IMS Health, USA, [5]Precision Health Economics, USA
Disclosures: Jingbo Yu, Merck & Co, Inc, 5

OSTEOPOROSIS - EPIDEMIOLOGY: RISK FACTORS

MO0344 **Differences In Osteocalcin Between Osteoporosis Patients In An Ambulatory Clinic Without Fracture And Hospitalized Trauma Patients With Fractures**
Matthew Hnatow*[1], Catherine Ambrose[2], Milan Sen[3], Nahid Rianon[4]. [1]Univeristy of Texas Health Science Center at Houston - Medical School, USA, [2]University of Texas Health Science Center at Houston, USA, [3]Univeristy of Texas Health Science Center at Houston, USA, [4]UTHealth The University of Texas Medical School at Houston, USA
Disclosures: Matthew Hnatow, None

MO0345 **Does a Hip Axis Length Assessment Alter the T-score Based Treatment Strategy**
Cesar Graf[1], Walter Rial[1], Marcelo Obai[1], Pedro Rial[1], Cesar Wouterlood[1], Cecilia Sprengel[1], Giorgina Cavello[1], Tom Sanchez*[2]. [1]ITEO SRL, Argentina, [2]Norland - A Cooper Surgical Company, USA
Disclosures: Tom Sanchez, None

MO0346 **Effect of Walking Difficulty on Bone Mass and Bone Turnover in Japanese People Aged 40 Years and Over**
Yasuyo Abe*, Kiyoshi Aoyagi, Kazuhiko Arima. Nagasaki University, Japan
Disclosures: Yasuyo Abe, None

MO0347 **Effects of Escitalopram on Biochemical Markers of Bone Turnover: A Randomized Controlled Trial**
Susan Diem*[1], Hadine Joffe[2], Joseph Larson[3], Katherine Guthrie[3], Joy Tsai[2], Andrea Lacroix[4], Kristine Ensrud[5], Benjamin Leder[6]. [1]University of Minnesota, USA, [2]Massachusetts General Hospital, USA, [3]Fred Hutcinson Cancer Research Center, USA, [4]Fred Hutchinson Cancer Research Center, USA, [5]Minneapolis VA Medical Center / University of Minnesota, USA, [6]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Susan Diem, None

MO0348 **Factors Associated with Osteoporosis Treatment Following Fragility Fracture**
Cynthia O'Malley*[1], Akhila Balasubramanian[1], Douglas Dirschl[2], Pei-Ran Ho[3], Joseph Lane[4], Laura Tosi[5]. [1]Amgen Inc., USA, [2]University of Chicago Medicine & Biological Sciences, USA, [3]Amgen, Inc, USA, [4]Hospital for Special Surgery, USA, [5]Children's National Medical Center, USA
Disclosures: Cynthia O'Malley, Amgen, Inc, 3; Amgen, Inc, 1

MO0349 **FRAX Calculator and Garvan Nomogram in Male Osteoporotic Population**
Wojciech Pluskiewicz*[1], Piotr Adamczyk[2], Edward Franek[3], Ewa Sewerynek[4], Piotr Leszczynski[5], Hanna Wichrowska[3], Luiza Napiórkowska[3], Michał Stuss[4], Aleksandra Ptaszek[4], Tomasz Kostyk[6], Krzysztof Golba[7], Wioleta Garbacz[8], Bogna Drozdzowska[9]. [1]Medical University of Silesia, Katowice, Poland, [2]Dept. & Clinic of Paediatrics, Medical University of Silesia, Katowice, Poland, Poland, [3]Dept. of Endocrinology, Medical Res. Centre, Polish Academy of Science, Warsaw, Poland, Poland, [4]Dept. of Endocrine Disorders & Bone Metabolism, Medical University, Lodz, Poland, Poland, [5]Dept. of Physiotherapy, Rheumatology & Rehabilitation, Medical University, Poznan, Poland, Poland, [6]Dept. of Rheumatology & Osteoporosis, Hospital J. Strusia, Poznan, Poland, Poland, [7]Dept. of Cardiology, Medical University of Silesia, Katowice, Poland, Poland, [8]Military hospital, Gliwice, Poland, Poland, [9]Dept. of Pathomorphology, Medical University of Silesia, Katowice, Poland, Poland
Disclosures: Wojciech Pluskiewicz, None

MO0350 **Incidence and characteristics of atypical femoral fractures**
Zeineb Mahjoub*[1], Sonia Jean[2], Jean-Thomas Leclerc[3], Jacques P. Brown[4], Dominic Boulet[3], Stephane Pelet[3], Charlotte Grondin[1], Jeannette Dumont[5], Etienne Belzile[1], Laetitia Michou[3]. [1]CHU de Québec, Canada, [2]INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC, Canada, [3]Université Laval, Canada, [4]CHU de Québec Research Centre, Canada, [5]Centre de recherche du CHU de Québec, Canada
Disclosures: Zeineb Mahjoub, Amgen, 5; Bristol-Myers-Squibb, 5; Bristol-Myers-Squibb, 2

MO0351 **Incidence of subtrochanteric and femoral shaft fractures in 3 French centers**
Thomas Funck-Brentano*[1], Agnes Ostertag[2], Francoise Debiais[3], Patrice Fardellone[4], Louis-Etienne Gayet[5], Patrice Mertl[6], Remy Nizard[5], Philippe Orcel[7], Martine Cohen-Solal[8]. [1]Department of rheumatology, hopital Lariboisiere, France, [2]INSERM U606, France, [3]Hopital Jean Bernard, France, [4]Service de rhumatologie, CHU Hôpital Nord, France, [5]department of orthopedic surgery, France, [6]deparment of orthopedic surgery, France, [7]University Paris Diderot, France, [8]Centre Viggo Petersen, France
Disclosures: Thomas Funck-Brentano, None

MO0352 **Increased fracture risk among women with diabetes mellitus is not mediated by increased falls risk or decreased functional status**
Richard Lee*[1], Cathleen Colon-Emeric[2]. [1]Duke University, USA, [2]Duke University Medical Center, USA
Disclosures: Richard Lee, None

MO0353 **Insulin-like Growth Factor Binding Protein 1 (IGFBP-1), FRAX and the prediction of hip fractures.**
Hans Lundin*[1], Maria Saaf[2], Lars-Erik Strender[3], Sven Nyren[4], Sven-Erik Johansson[3], Helena Salminen[5]. [1]Karolinska Institutet, Sweden, [2]Department for Molecular Medicine an Surgery, Karolinska Institutet, Sweden, [3]Centre for Family Medicine, Karolinska Institutet, Sweden, [4]Department of Molecular Medicine & Surgery, Karolinska Institutet, Sweden, [5]Karolinska Institutet, Sweden
Disclosures: Hans Lundin, None

MO0354 **Is lower income associated with an increased likelihood of qualification for treatment for osteoporosis in Canadian women?**
Sharon Brennan*[1], William Leslie[2], Lia Lix[3], Helena Johansson[4], Anders Oden[5], Eugene McCloskey[6], John Kanis[7]. [1]The University of Melbourne, Australia, [2]University of Manitoba, Canada, [3]Department of Community Health Sciences, University of Manitoba, Canada, [4]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [5]World Health Organization (WHO) Collaborating Centre, University of Sheffield, United Kingdom, [6]University of Sheffield, United Kingdom, [7]University of Sheffield, Belgium
Disclosures: Sharon Brennan, None

MO0355 **Racial/ethnic Differences in Bone Microarchitecture among Middle-aged and Elderly Men**
Andre Araujo*[1], Gretchen Chiu[1], Benedetta Bartali[1], Thomas Travison[2], Joseph Zmuda[3], Mary Bouxsein[4]. [1]New England Research Institutes, USA, [2]Brigham & Women's Hospital, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Beth Israel Deaconess Medical Center, USA
Disclosures: Andre Araujo, None

MO0356 **The Association between Higher Serum Ferritin Level and Lower Bone Mineral Density is Prominent in Women ⩾ 45 Years of Age (KNHANES 2008-2010)**
Beom-Jun Kim*[1], Seung Hun Lee[2], Jung-Min Koh[1], Ghi Su Kim[2], Seong Hee Ahn[3]. [1]Asan Medical Center, South Korea, [2]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]University of Ulsan, Asan Medical Center, South Korea
Disclosures: Beom-Jun Kim, None

MO0357 **The Effect of Anticholinergic Medications on Fracture Risk, Bone Mineral Density, and Falls over a Ten Year Period**
Lisa-Ann Fraser*[1], Jonathan Adachi[2], William Leslie[3], David Goltzman[4], Robert Josse[5], Stephanie Kaiser[6], Nancy Kreiger[7], Christopher Kovacs[8], Tassos Anastassiades[9], Alexandra Papaioannou[10]. [1]Western University, Canada, [2]St. Joseph's Hospital, Canada, [3]University of Manitoba, Canada, [4]McGill University, Canada, [5]St. Michael's Hospital, University of Toronto, Canada, [6]Dalhousie University, Canada, [7]Division of Epidemiology, Dalla Lana School of Public Health, Canada, [8]Memorial University of Newfoundland, Canada, [9]Queen's University, Canada, [10]Hamilton Health Sciences, Canada
Disclosures: Lisa-Ann Fraser, None

MO0358 **Which Patients with Ankle Fractures Are at Risk for Recurrent Fragility Fractures? Results from the OPTIMUS Initiative**
François Cabana[1], Nathalie Carrier[2], Marie-Claude Beaulieu[3], Michèle Beaulieu[4], Sophie Roux[5], Gilles Boire*[6]. [1]Division of Orthopaedics, Centre hospitalier universitaire de Sherbrooke, Canada, [2]Division of Rheumatology, Centre hospitalier universitaire de Sherbrooke, Canada, [3]Université de Sherbrooke, Canada, [4]Merck Canada Inc, Canada, [5]University of Sherbrooke, Canada, [6]Centre Hospitalier Universitaire De Sherbrooke, Canada
Disclosures: Gilles Boire, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MINERAL DENSITY

MO0359 **Bone Mineral Distribution in the Tibiae of Stroke Survivors During the First Year of Recovery: A pQCT Study**
Norma MacIntyre*[1], Arpita Parmar[1], Gregory Wohl[1], Brenda Brouwer[2]. [1]McMaster University, Canada, [2]Queen's University, Canada
Disclosures: Norma MacIntyre, None

MO0360 **Is Low Bone Mineral Density a Reason for Schmorl's Node?**
Sevinc Kulekcioglu*[1], Alp Cetin[2]. [1]Specialist of Physical Medicine & Rehabilitation Sevket Yilmaz Education & Research Hospital, Turkey, [2]Proffessor of Physical Medicine & Rehabilitaion, Hacettepe University Medical School, Turkey
Disclosures: Sevinc Kulekcioglu, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE REMODELING

MO0361 **Higher Serum Osteocalcin is Associated with Metabolic Syndrome Severity in Men from the MINOS Cohort**
Cyrille Confavreux*[1], Pawel Szulc[2], Romain Casey[3], Annie Varennes[4], Joelle Goudable[5], Roland Chapurlat[6]. [1]INSERM UMR1033 - Universite de Lyon, France, [2]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [3]OFSEP-Université de Lyon, France Hospices Civils de Lyon, France, [4]Université de Lyon, Central Biochemical Laboratory, Hospices Civils de Lyon, France, [5]INSERM U1060 – Université de Lyon, France, [6]E. Herriot Hospital, France
Disclosures: Cyrille Confavreux, None

MO0362 **Suppression of autophagy in Osx1-Cre-expressing cells causes low bone mass and spontaneous fractures in mice**
Marilina Piemontese*[1], Melda Onal[2], Yiying Wang[1], Jinhu Xiong[3], Priscilla Baltz[1], Rajamani Selvam[1], Stuart Berryhill[1], Li Han[3], Stavros Manolagas[3], Charles O'Brien[3]. [1]University of Arkansas for Medical Sciences, USA, [2]university of wisconsin, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Marilina Piemontese, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE STRUCTURE

MO0363 **Increased Cortical Porosity in Older Men with Fracture**
Mattias Lorentzon*[1], Daniel Sundh[2], Magnus Karlsson[3], Claes Ohlsson[4], Dan Mellstrom[5]. [1]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [2]Geriatric Medicine, Dept. of Internal Medicine & Clinical Nutrition, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden., Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [5]Sahlgrenska University Hospital, Sweden
Disclosures: Mattias Lorentzon, None

MO0364 **Loss of BromoDomain2 Function Leads to the Development of Sex-Linked Osteoporosis**
Elise Morgan[1], Beth Bragdon[2], Robert Burns[3], Patrick Diviney[3], Amelia Baker[3], Anna Belkina[3], Gerald Denis[3], Andre Van Wijnen[4], Jennifer Schlezinger[5], Louis Gerstenfeld*[3]. [1]Boston University, USA, [2]Boston University School of Medicine Department of Orthopaedics, USA, [3]Boston University School of Medicine, USA, [4]Mayo Clinic, USA, [5]Boston University, School of Public Health, USA
Disclosures: Louis Gerstenfeld, None

MO0365 **Trabecular Bone Loss is Underestimated in Postmenopausal Women. How to Improve the Assessment. The OFELY Study**
Rafaa Ellouz*[1], Roland Chapurlat[2], Elisabeth Sornay-Rendu[3], Pawel Szulc[4], Stephanie Boutroy[5]. [1]INSERM UMR 1033, Université de Lyon, France, [2]E. Herriot Hospital, France, [3]INSERM UMR1033, Université de Lyon, France, [4]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, [5]INSERM U1033 & Université de Lyon, France
Disclosures: Rafaa Ellouz, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: DIETARY FACTORS

MO0366 **Alternative Methods to Measure Fractional Intestinal Magnesium Absorption (FMA)**
Karen Hansen*[1], Andrea Nabak[1], Rachael Johnson[1], Martin Shafer[2], Steven Abrams[3]. [1]University of Wisconsin, USA, [2]Wisconsin State Lab of Hygiene, USA, [3]Baylor College of Medicine, USA
Disclosures: Karen Hansen, None

MO0367 **Definition and determinants of a normal reference range for 24-hour urine calcium for caucasian and african american women**
Prachi Jindal*[1], J. Christopher Gallagher[1], Munro Peacock[2], SRI HARSHA TELLA[3], Lynette Smith[4]. [1]Creighton university medical center, USA, [2]Indiana University Medical Center, USA, [3]Creighton University School of Medicine, USA, [4]University of nebraska medical center, USA
Disclosures: Prachi Jindal, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS

MO0368 **Importance of serum 25(OH)D2 levels as a risk factor for incident vertebral fractures in glucocorticoid-induced osteoporosis in Japan.**
Ikuko Tanaka*[1], Mari Ushikubo[2], Shigenori Tamaki[1], Harumi Kuda[2], Sayaka Kubo[2], Keisuke Izumi[2], Kumiko Akiya[2], Hisaji Oshima[2]. [1]NAGOYA Rheumatology Clinic, Japan, [2]Tokyo Medical Center, Japan
Disclosures: Ikuko Tanaka, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: MISCELLANEOUS

MO0369 **Bone Phenotype of Casp2-/- mice is Defined by Gender and Genetic Background**
Ramaswamy Sharma*[1], Difernando Vanegas[2], Clair Martin[2], Diane Horn[2], Roberto Fajardo[3], Sherry Werner[4], James Lechleiter[2], Brian Herman[5]. [1]University of Texas Health Sciences Center At San Antonio, USA, [2]University of Texas HSC at San Antonio, USA, [3]UT Health Science Center, San Antonio, USA, [4]Univesity of Texas HSC at San Antonio, USA, [5]UT HSC San Antonio, USA
Disclosures: Ramaswamy Sharma, None

MO0370 **Replicative senescence of circulating osteogenic cells in young men with perinatal HIV infection**
John Manavalan*[1], Stephen Arpadi[1], Jayesh Shah[1], Jannine Chan[1], Liana Greer[1], Marc D. Foca[1], Natalie M. Neu[1], David Bell[1], C.Amy Zhang[1], Stavroula Kousteni[2], Michael Yin[1]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA
Disclosures: John Manavalan, None

MO0371 **The Postprandial Response of Bone Turnover Markers in Patients with Inflammatory Bowel Diseases**
Maria Yavropoulou*[1], Ioannis Karatzoglou[2], Maria Pikilidou[3], George Germanidis[2], John Yovos[3]. [1]Aristotle University of Thessaloniki, Greece, [2]Department of Gastrenterology, AHEPA Univ. Hospital, Aristotle University of Thessaloniki, Greece, [3]Department of Endocrinology & Metabolism, AHEPA Univ. Hospital, Aristotle University of Thessaloniki, Greece
Disclosures: Maria Yavropoulou, None

OSTEOPOROSIS - TREATMENT (CLINICAL): ANABOLIC AGENTS, INCLUDING PTH, ANTI-SCLEROSTIN

MO0372 **Effectiveness of Teriparatide in the Treatment of Osteoporosis, Data from Real-World Clinical Practice**
George Tsoukas*[1], Philippe Tsoukas[2], George O. Tsoukas[3], Louise Ullyatt[3]. [1]McGill University Health Center, Can, [2]Department of Medicine, University College Dublin, Ireland, [3]Division of Endocrinology, McGill University Health Center, Canada
Disclosures: George Tsoukas, McGill University Health Center, 3

MO0373 **Effects of Recombinant Human Parathyroid Hormone on the Anabolic Window and Lower Extremity Stress Fracture Healing in Premenopausal Women: A Pilot Study**
Ellen Almirol*[1], Lisa Gao[1], Shelley Hurwitz[1], Bharti Khurana[1], Jennifer Baima[1], Eric Bluman[1], Christopher Chiodo[1], Meryl Leboff[2]. [1]Brigham & Women's Hospital, USA, [2]Brigham & Women's Hospital, Professor of Medicine, Harvard Medical School, USA
Disclosures: Ellen Almirol, None

MO0374 **Enhanced Bioavailability of a Nasal Formulation of Teriparatide with CriticalSorb™ Compared to a Subcutaneous Injection: A Non -invasive Approach for the Treatment of Osteoporosis**
Faron Jordan*[1], Gareth King[2], Allan Williams[3], Richard Pearson[4], Alan Perkins[4], Tahir Masud[5]. [1]Critical Pharmaceuticals Ltd, United Kingdom, [2]Critical Pharmaceuticals, United Kingdom, [3]University of Nottingham, Vanuatu, [4]University of Nottingham, United Kingdom, [5]Nottingham University Hospitals NHS Trust, United Kingdom
Disclosures: Faron Jordan, None

MO0375 **Higher Rates of Union in Older Patients with Type 2 and Type 3 Odontoid Fractures Treated with Teriparatide**
Debra Sietsema*[1], Michael Merrick[2], Casey Smith[2], Tan Chen[3], Scott Russo[4], Clifford Jones[1], James Stubbart[1]. [1]Orthopaedic Associates of Michigan; Michigan State University, USA, [2]Grand Rapids Medical Education Partners, USA, [3]Michigan State University, USA, [4]Orthopaedic associates of Michigan, USA
Disclosures: Debra Sietsema, Lilly USA, 8

MO0376 **Progression of Vertebral Compression Fractures during Anti-Osteoporotic Therapy: Bone Turnover Markers and Radiographic Evidences in the First Six Months**
Costantino Corradini*[1], Cesare Verdoia[2]. [1]State University of Milan, Italy, [2]Orthopaedic Clinic University of Milan, Italy
Disclosures: Costantino Corradini, None

OSTEOPOROSIS - TREATMENT (CLINICAL): ANTI-CATABOLIC, INCLUDING BISPHOSPHONATES, CATHEPSIN K INHIBITOR, ESTROGENS

MO0377 **Bisphosphonates and Alveolar Bone with Reference to Bone Mineral Density and Osteoporotic Fracture**

Takuo Fujita*[1], Yoshitomo Takaishi[2], Mutsumi Ohue[1], Takami Miki[3], Yoshio Fujii[4], Tsuyoshi Jotoku[5]. [1]Katsuragi Hospital, Japan, [2]Takaishi Dental Clinic, Japan, [3]Osaka City University Medical School, Japan, [4]Calcium Research Institute Kobe Branch, Japan, [5]Department of Orthopedic Surgery, Osaka Medical College, Japan

Disclosures: Takuo Fujita, None

MO0378 **Comparison of the Efficacy, Adverse Effects and Cost of Zoledronic Acid and Denosumab In the Treatment of Osteoporosis**

Kellen Sheedy*[1], Isabel Camara[2], Pauline Camacho[3]. [1]Loyola University Stritch School of Medicine, USA, [2]University of Notre Dame, USA, [3]Loyola University of Chicago, USA

Disclosures: Kellen Sheedy, None

MO0379 **Denosumab is here – do intravenous bisphosphonates still have a role?**

Rosaleen Lannon*[1], Michael O'Callaghan[2], Nessa Fallon[2], Miriam Casey[2], James Bernard Walsh[3]. [1]St James's Hospital, Ireland, [2]Bone Health Unit, St James's Hospital, Ireland, [3]Trinity College Dublin, The University of Dublin, Ireland

Disclosures: Rosaleen Lannon, None

MO0380 **Development of a Claims-based Algorithm to Identify Prolia Use in Medicare Data**

Nicole Wright*, Rui Chen, Tarun Arora, Huifeng Yun, Elizabeth Delzell, Jeffrey Curtis. University of Alabama at Birmingham, USA

Disclosures: Nicole Wright, Amgen, 2

MO0381 **DEVIDE-Study: DEnosumab Versus Intravenous Ibandronate – a 24 months retrospective head to head real life study - Study Design**

Astrid Fahrleitner-Pammer*[1], Christian Muschitz[2], Heinrich Resch[3], Doris Wagner[4], Karin Amrein[5], Stefan Pilz[6], Andreas Tomaschitz[6], Thomas Pieber[6], Hans Dimai[7]. [1]Medical University Graz, Austria, [2]St. Vincent's Hospital, Austria, [3]Medical University Vienna, Austria, [4]Department for Transplantation, Medical University Graz, Austria, [5]Medical University Graz, Department for Internal Medicine, Austria, [6]Medical University Graz, Department of Internal Medicine, Austria, [7]Medical University of Graz, Austria

Disclosures: Astrid Fahrleitner-Pammer, None

MO0382 **Evaluation of odanacatib in subjects with hepatic insufficiency**

Stefan Zajic[1], Michelle Trucksis[2], Graig Garrett[2], Anish Mehta[2], Patrice Auger[3], Nancy Wang[3], Daria Stypinski[3], Anne Hohnstein[3], Megan Kozisek[3], Bruce DeGroot[3], Gautam Baheti[4], Cindy Dempsey[3], Richard A. Preston[5], Aubrey Stoch*[6]. [1]Merck Research Laboratories, USA, [2]Merck Sharp & Dohme Corp., USA, [3]Celerion, USA, [4]Parexel, USA, [5]University of Miami, USA, [6]Merck Sharp & Dohme, USA

Disclosures: Aubrey Stoch, Merck, 3

MO0383 **Intravenous Ibandronate Increases Femoral and Vertebral Strength Measured by Finite Element Analysis in Male Patients with Idiopathic Osteoporosis and Fragility Fractures**

Christian Muschitz*[1], Dieter Pahr[2], Michael Kinzl[2], Benoit Luiser[2], Afrodite Zendeli[3], Roland Kocijan[4], Judith Haschka[4], Wolfgang Schima[5], Heinrich Resch[6]. [1]St. Vincent's Hospital, Austria, [2]Institute of Lightweight Design & Structural Biomechanics University of Thechnology, Austria, [3]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [4]St. Vincent Hospital Vienna, Austria, [5]Institute of Radiology - St. Vincent Hospital, Austria, [6]Medical University Vienna, Austria

Disclosures: Christian Muschitz, None

MO0384 **Lycopene Supplementation Improved the Response of Postmenopausal Women With Osteoporosis to Alendronate Therapy: A 12-Month Follow-Up Study**
Mohammed-Salleh Ardawi*[1], Mohammed Qari[2], Abdulrahim Rouzi[1], Sharifa Al-Sibiani[3], Nawal Al-Senani[3], Bader Mustafa[4]. [1]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia, [2]Center of Excellence for Osteoporosis Research & Department of Haematology & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [3]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [4]Center of Excellence for Osteoporosis Research, King Abdulaziz University, Saudi Arabia
Disclosures: Mohammed-Salleh Ardawi, None

MO0385 **Randomized Trials Show Greater Bone Mineral Density Increase on Estrogen plus Progestin Versus Estrogen Alone—progestin effect on bone formation?**
Jerilynn Prior*, Shirin Kalyan. University of British Columbia, Canada
Disclosures: Jerilynn Prior, None

MO0386 **Results of Secondary Fracture Prevention Program in Patients with Severe Osteoporosis in Rambam Health Care Campus**
Sophia Ish-Shalom*[1], Elena Segal[1], Marina Nodelman[2], Marina Hefetz-Kustanovich[1], Doron Norman[1]. [1]Rambam Health Care Campus, Israel, [2]Western Galilee Hospital, Israel
Disclosures: Sophia Ish-Shalom, None

MO0387 **Risedronate Improves Proximal Femur Bone Mineral Density and Geometry Parameters Over 5 Years in Patients with Osteoporosis or Osteopenia and Clinical Risk Factors of Fractures: A Practice-Based Observational Study**
Masayuki Takakuwa[1], Jun Iwamoto*[2]. [1]Takakuwa Orthopedic Nagayama Clinic, Japan, [2]Keio University School of Medicine, Japan
Disclosures: Jun Iwamoto, None

MO0388 **The change of serum osteocalcin is not associated with the changes of insulin secretion or resistance in osteoporotic patients treated with bisphosphonate**
Deog-Yoon Kim*[1], Seong-Hun Hong[2], Jin Kyung Hwang[2], You-Cheol Hwang[2], In-Kyung Jeong[2], Kyu Jeong Ahn[2], Ho-Yeon Chung[3]. [1]Kyung Hee University Hospital, South Korea, [2]Kyung Hee University School of Medicine, South Korea, [3]Kyung Hee University, South Korea
Disclosures: Deog-Yoon Kim, None

MO0389 **The Effect of Calcitonin Therapy on Postoperative Rehabilitation in Patients with Femoral Neck/Trochanteric Fractures**
Tetsuo Nakano*[1], Shinya Tanaka[2]. [1]Tamana Central Hospital, Japan, [2]Saitama Medical University, Japan
Disclosures: Tetsuo Nakano, None

MO0390 **The Effects of Intravenous Aminobisphosphonates on Carotid Atherosclerosis could Be Influenced by the Changes in FGF23 Serum Levels**
Stefano Gonnelli*, Carla Caffarelli, Loredana Tanzilli, Maria Dea Tomai Pitinca, Alice Cadirni, Barbara Lucani, Maria Beatrice Franci, Ranuccio Nuti. University of Siena, Italy
Disclosures: Stefano Gonnelli, None

MO0391 **The Occurrence of Renal Insufficiency and Hypocalcemia after Zoledronic Acid Infusion**
Laurae Hicks*[1], Pauline Camacho[2]. [1]Loyola University, USA, [2]Loyola University of Chicago, USA
Disclosures: Laurae Hicks, None

MO0392 **Vitamin D Repletion in Korean Postmenopausal Women with Osteoporosis**
Yoon-Sok Chung*[1], Han-Jin Oh[2], Il Hyung Park[3], In-Ju Kim[4], Jung-Min Koh[5], Moo-Il Kang[6], Sung-Kil Lim[7], Yong-Ki Min[8], Yil-Seob Lee[9], Barbara Kravitz[10], Brian Waterhouse[10], Lorraine Fitzpatrick[10], Antonio Nino[10]. [1]Ajou University School of Medicine, South Korea, [2]Cheil General Hospital, Kwandong University, South Korea, [3]Kyungpook National University Hospital, South Korea, [4]Pusan National University Hospital, South Korea, [5]Asan Medical Center, South Korea, [6]Seoul St. Mary's Hospital, South Korea, [7]Yonsei University College of Medicine, South Korea, [8]Samsung Medical Center, South Korea, [9]GlaxosmithKline Pharmaceuticals, South Korea, [10]GlaxosmithKline Pharmaceuticals, USA
Disclosures: Yoon-Sok Chung, None

OSTEOPOROSIS - TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

MO0393 **In Patients with Different Forms of Osteoporosis Excellent Adherence to 6-Monthly Denosumab Injections Can be Achieved by Positive Feedback Based on 6 and 12 Months BMD Increases and Rare Adverse Events**
Johann D. Ringe*, Parvis Farahmand. West German Osteoporosis Center (WOC), Klinikum Leverkusen, University of Cologne, Germany
Disclosures: Johann D. Ringe, None

MO0394 **Long-term (up to 5 years) persistence with different anti-osteoporosis medications in Catalonia (Spain): a population-based cohort study**
Cristina Carbonell*[1], Aina Pages-Castella[2], Pilar Estrada[2], Xavier Nogues[3], Adolfo Diez-Perez[4], Daniel Prieto-alhambra[5]. [1]Facultat de Medicina Universitat de Barcelona, Spain, [2]GREMPAL Research Group (USR Barcelona), IDIAP Jordi Gol, Universitat Autònoma de Barcelona, Spain, [3]Institut Municipal D'Investigació Mèdica, Spain, [4]Autonomous University of Barcelona, Spain, [5]University of Oxford, United Kingdom
Disclosures: Cristina Carbonell, None

MO0395 **Predictors of Medication Use in Australian Men and Women Following a Low Trauma Fracture**
Kerrie Sanders*[1], Julie Abimanyi-Ochom[2], Jennifer Watts[3], Catherine Shore-Lorenti[4], Geoffrey Nicholson[5], Amanda Stuart[6], Yu Zhang[7], Ego Seeman[8], Sandra Iuliano-Burns[8], Richard Prince[9], Lynn March[10], Marita Cross[10], Tania Winzenberg[11], LL Laslett[12], Gustavo Duque[13], Peter Ebeling[14], Fredrik Borgstrom[15]. [1]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [2]Deakin University, Australia, [3]Health Economics, Deakin University, Australia, [4]The University of Melbourne, Department of Medicine, NorthWest Academic Centre, Australia, [5]The University of Queensland, Australia, [6]Deakin University, Barwon Health, Australia, [7]Department of Medicine, The University of Melbourne, Australia, [8]Austin Health, University of Melbourne, Australia, [9]Sir Charles Gairdner Hospital, Australia, [10]Royal North Shore Hospital, University of Sydney, Australia, [11]Menzies Research Institute Tasmania, Australia, [12]Menzies Research Institute Tasmania, Musculoskeletal Unit, Australia, [13]Ageing Bone Research Program, University of Sydney, Australia, [14]The University of Melbourne, Australia, [15]Karolinska Institutet, Medical Management Centre, Sweden
Disclosures: Kerrie Sanders, MSD; Sanofi-Aventis, 8

MO0396 **Treatment of Osteoporosis at an Academic Center in a Major Metropolitan Area**
Lance Freeman*[1], Phillip Orlander[1], Nahid Rianon[2]. [1]University of Texas Houston Health Science Center, Medical School, USA, [2]UTHealth The University of Texas Medical School at Houston, USA
Disclosures: Lance Freeman, None

OSTEOPOROSIS - TREATMENT (CLINICAL): DIET, VITAMIN D AND METABOLITES

MO0397 **Dietary Calcium versus Calcium Supplementation on Vascular and Bone Health in Postmenopausal Women; Preliminary Results of a Pilot Study**
Rouba Hadad[1], Hope Weiler[2], Michelle Wall[3], Stella S Daskalopoulou[1], David Goltzman[4], Suzanne Morin*[4]. [1]McGill University, Canada, [2]McGill University, USA, [3]McGill University Health Center Research Institute, Canada, [4]McGill University, Canada
Disclosures: Suzanne Morin, None

MO0398 **Uptake of Evidence-based Osteoporosis Practices in Canadian Long-term Care (LTC)**
Courtney Kennedy*[1], George Ioannidis[1], Lehana Thabane[1], Denis O'Donnell[2], Lora Giangregorio[3], Jonathan Adachi[4], Alexandra Papaioannou[5]. [1]McMaster University, Canada, [2]Medical Pharmacies Limited, Canada, [3]University of Waterloo, Canada, [4]St. Joseph's Hospital, Canada, [5]Hamilton Health Sciences, Canada
Disclosures: Courtney Kennedy, None

OSTEOPOROSIS - TREATMENT (CLINICAL): HEALTH ECONOMICS

MO0399 **Significant Reduction of Osteoporosis Fracture-related Hospitalization Rate Due to an Intensified, Multimodal Treatment - Results from the Integrated Health Care Network Osteoporosis North Rhine / Germany**
Christopher Niedhart*[1], Anne Preising[2], Christoph Eichhorn[3]. [1]Germany, [2]AOK Northrhine, Germany, [3]Practice, Germany
Disclosures: Christopher Niedhart, None

OSTEOPOROSIS - TREATMENT (CLINICAL): OTHER AGENTS

MO0400 **Nasal Salmon Calcitonin prevents bone microstructure alterations in early postmenopausal women**
Rene Rizzoli*[1], Anne Sigaud[2], Moise Azria[3], Francois Herrmann[2]. [1]University Hospital, Switzerland, [2]Geneva University Hospitals, Switzerland, [3]Novartis Pharma AG, Switzerland
Disclosures: Rene Rizzoli, None

MO0401 **Retrospective study of the nephrotoxicity of Pamidronate in CKD**
Wael Taha, Basel Taha*, Ali Achira. Wayne State University, USA
Disclosures: Basel Taha, None

MO0402 **Strontium Ranelate Effect on Bone Mineral Density is Modified by Previous Bisphosphonate Treatment**
Lucas Ricardo Brun[1], Ana María Galich[2], Laura Maffei[3], Valeria Premrou[4], Eduardo Vega*[5], Helena Salerni[6], Marcelo Alfredo Sarli[7], Pablo Costanzo[6], Paula Rey[7], María Silvia Larroude[8], María Susana Moggia[9], María Lorena Brance[10], Ariel Sánchez[11]. [1]Laboratorio de Biología Ósea. Facultad de Ciencias Médicas. Universidad Nacional de Rosario., Argentina, [2]Servicio de Endocrinología del Hospital Italiano de Buenos Aires., Argentina, [3]Consultorios Associados De Endocrinologia, Argentina, [4]Consultorios Asociados de Endocrinología Dra. Laura Maffei., Argentina, [5]CESAN, Buenos Aires. Instituto de la Mujer, Campana, Argentina, [6]Consultorios de Investigación Clínica Endocrinológica y del Metabolismo Óseo (CICEMO)., Argentina, [7]Instituto de Investigaciones Metabólicas, Dr. Zanchetta., Argentina, [8]Hospital César Milstein, Argentina, [9]Centro Tiempo, Argentina, [10]Consultorios de Reumatología, Argentina, [11]Centro de Endocrinología., Argentina
Disclosures: Eduardo Vega, None

OSTEOPOROSIS - TREATMENT (CLINICAL): QUALITY OF LIFE

MO0403 **Responsiveness of the Japanese Osteoporosis Quality of Life Questionnaire to Raloxifene Treatment in Women with Postmenopausal Osteoporosis**
Kousei Yoh[1], Etsuro Hamaya*[2], Masanori Taketsuna[3], Hisashi Urushihara[4], Kiyoshi Tanaka[5]. [1]Department of Orthopedic Surgery, Sasayama Medical Center, Hyogo College of Medicine, Japan, [2]Eli Lilly, Japan, [3]Eli Lilly Japan K.K., Japan, [4]Eli Lilly Japan K.K.and Ethics Committee, Graduate School & Faculty of Medicine, Kyoto University, Japan, [5]Kyoto Women's University, Japan
Disclosures: Etsuro Hamaya, None

MO0404 **The National Bone Health Alliance: An Instrumental Force in Improving the Nation's Bone Health Through Partnership**
David Lee*. National Bone Health Alliance, USA
Disclosures: David Lee, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANABOLIC AGENTS, INCLUDING PTH, ANTI-SCLEROSTIN

MO0405 **Development of a Novel Prostaglandin EP4 Agonist Which Stimulates Local Bone Formation *in vivo***

Jim O'Malley*[1], Adam Uzieblo[2], Bradlee Germain[2], Andrei Kornilov[2], Joseph Colombo[2], James Kramer[2], Gregory Endres[2], Stephen Barrett[2], Thomas Owen[3]. [1]Myometrics, LLC, USA, [2]Cayman Chemical Company, Inc., USA, [3]Ramapo College of New Jersey, USA

Disclosures: Jim O'Malley, Myometrics, LLC, 4

MO0406 **Effects of anti-resorptive agents on ovariectomised (OVX) rat cortical bone: Raman spectroscopy and multivariate analyses**

Xiaomei Yao*[1], Wei Yao[2], Xinyan Bai[1], Amber Stern[3], Mark Johnson[4], Yong Wang[1], Nancy Lane[2]. [1]University of Missouri-Kansas City, USA, [2]University of California, Davis Medical Center, USA, [3]University of Missouri - Kansas City, USA, [4]University of Missouri, Kansas City Dental School, USA

Disclosures: Xiaomei Yao, None

MO0407 **Endothelial Cell Removal Completely Eliminates Vasodilation of Bone Arteries to PTHrP While Slight Vasodilation Remains in Response to PTH 1-34**

Rhonda Prisby*[1], Ashley Bice[2]. [1]University of Delaware, USA, [2]University of Delaware, Department of Kinesiology & Applied Physiology, USA

Disclosures: Rhonda Prisby, None

MO0408 **Fixation Stiffness Modulates the Efficacy of Sclerostin-Neutralizing Antibody Treatment during Bone Healing**

Bettina Kruck*[1], Georg Duda[1], Sophie Damerow[1], Florian Wichlas[1], Serafim Tsitsilonis[1], Bettina Willie[2]. [1]Charité – Universitätsmedizin Berlin, Germany, [2]Charité-Universitätsmedizin Berlin, Germany

Disclosures: Bettina Kruck, None

MO0409 **LLP2A-Ale Directs Mesenchymal Stem Cells to Bone to Reverse Bone Loss in Ovariectomized Rats**

Wei Yao*[1], Li Jiang[2], Evan Yu-An Lay[2], Weiwei Dai[3], Sarah Amugongo[4], Nancy Lane[1]. [1]University of California, Davis Medical Center, USA, [2]UC Davis Medical Center, USA, [3]Shriner's Hospital for Children, USA, [4]University of California, Davis, USA

Disclosures: Wei Yao, None

MO0410 **Nmp4/CIZ-knockout Mice Are Hyperresponsive to Anabolic Agonists But Susceptible to Ovariectomy-induced Bone Loss**

Paul Childress, Marta Alvarez, Joseph Bidwell*. Indiana University School of Medicine, USA

Disclosures: Joseph Bidwell, None

MO0411 **Sclerostin Antibody Prevented Severe Bone Loss in Ovariectomized Rats with Concurrent Mechanical Unloading**

Dongye Zhang*[1], Minyi Hu[1], Liangjun Lin[2], Xiaodong Li[3], Hua Zhu (David) Ke[4], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA, [3]Amgen, Inc., USA, [4]Amgen Inc., USA

Disclosures: Dongye Zhang, None

MO0412 **Simvastatin Prodrug Promotes Bone Fracture Repair in a Closed Fracture Mouse Model**

Yijia Zhang*[1], Zhenshan Jia[1], Hongjiang Yuan[1], Ke Ren[1], Aaron Daluiski[2], Edward Fehringer[1], Steven Goldring[2], Dong Wang[1]. [1]University of Nebraska Medical Center, USA, [2]Hospital for Special Surgery, USA

Disclosures: Yijia Zhang, None

MO0413 **Subcutaneous and Intravenous Single Dose Pharmacokinetics of PTH(1-34) and PTH-CBD, a Long-Acting Parathyroid Hormone Analog, in Sprague Dawley Rats**

Tulasi Ponnapakkam*[1], Ranjitha Katikaneni[2], Robert Stratford[3], Joshua Sakon[4], Robert Gensure[5]. [1]Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA, [2]Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, [3]Xavier University, USA, [4]University of Arkansas, USA, [5]Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA

Disclosures: Tulasi Ponnapakkam, BiologicsMD, 1

OSTEOPOROSIS - TREATMENT (PRECLINICAL): ANTI-CATABOLIC, INCLUDING BISPHOSPHONATES, CATHEPSIN K INHIBITOR, ESTROGENS

MO0414 ***In vivo*** **assessment of skeletal biomechanical properties reveals beneficial effects of combination anti-remodeling drug treatment**

Jason Organ*[1], Maxime Gallant[1], Mohammad Aref[1], Joseph Wallace[2], David Burr[1], Christopher Newman[1], Drew Brown[1], Matthew Allen[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University Purdue University Indianapolis (IUPUI), USA

Disclosures: Jason Organ, None

MO0415 **Can Bisphosphonates extend Life Span? Effects on Stem Cell survival, DNA Repair and Tissue Regeneration.**

Juhi Misra*[1], Sindhu T Mohanty[2], Sanjeev Madan[3], James A Fernandes[3], Frank H Ebetino[4], Henry Roehl[5], R Graham Russell[6], Ilaria Bellantuono[1]. [1]Mellanby Centre for Bone Research; CIMA, The MRC-Arthritis Research UK Centre for Integrated research into Musculoskeletal Ageing, Dept. of Human Metabolism Medical School, University of Sheffield, United Kingdom, [2]Mellanby Centre for Bone Research, Dept. of Human Metabolism, Medical School, University of Sheffield, United Kingdom, [3]Department of Paediatric Orthopaedic & Trauma Surgery, Sheffield Childrens Hospital, United Kingdom, [4]Structural Genomics Consortium, University of Oxford, United Kingdom, [5]Dept. of Biomedical Science, MRC Centre for Developmental & Biomedical Genetics, University of Sheffield, United Kingdom, [6]University of Oxford, United Kingdom

Disclosures: Juhi Misra, None

MO0416 **Intermittent Minodronic Acid Treatment with Sufficient Bone Resorption Inhibition Prevents Reduction in Bone Mass and Strength in Ovariectomized Rats with Established Osteopenia Comparable with Daily Treatment**

Makoto Tanaka*[1], Aishi Kimoto[2], Masamichi Mori[2], Kazutoshi Nozaki[3], Shinji Fukushima[2], Hiroshi Mori[1], Tsutomu Shiroya[4], Toshitaka Nakamura[5]. [1]ONO Pharmaceutical Co., Ltd., Japan, [2]Pharmacology Research Laboratories, Drug Discovery Research, Astellas Pharma Inc., Japan, [3]Medical Affairs, Astellas Pharma Inc., Japan, [4]Discovery Research Laboratories, Ono Pharmaceutical Co., Ltd., Japan, [5]University of Occupational & Environmental Health, Japan

Disclosures: Makoto Tanaka, ONO Pharmaceutical Co., Ltd., 3

MO0417 **Periprosthetic Bone Response to Mechanical Loading with Administration of an Anti-Catabolic Agent, Osteoprotegerin (OPG)**

James Sutherland*[1], Hayden-William Courtland[1], Chad Ishmael[2], Joseph Choi[1], Kirsten Stoner[1], Alex Sarkisian[2], Joe Nguyen[1], Marjolein Van Der Meulen[3], F. Patrick Ross[1], Mathias Bostrom[1]. [1]Hospital for Special Surgery, USA, [2]Weill Cornell Medical College, USA, [3]Cornell University, USA

Disclosures: James Sutherland, None

MO0418 **Switching from Alendronate to RANKL Blockade alters Bone Properties after 14 Weeks of Therapy in the *oimloim* Mouse**

Josephine Marino*[1], Nancy Pleshko[2], Steve Doty[1], Erin Carter[1], Adele Boskey[1], Cathleen Raggio[1]. [1]Hospital for Special Surgery, USA, [2]Temple University, USA

Disclosures: Josephine Marino, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): CALCIUM AND DIETARY FACTORS

MO0419 **Probiotics Protect Mice from Ovariectomy Induced Bone-Loss**

Klara Sjogren*[1], Cecilia Engdahl[2], Frida Fåk[3], Annica Andersson[4], Sara Windahl[2], Helen Farman[5], Sofia Moverare Skrtic[6], Ulrika Islander[7], Claes Ohlsson[6]. [1]Centre for Bone & Arthritis Research, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Applied Nutrition & Food Chemistry, Department of Food Technology, Engineering & Nutrition, Lund University, Sweden, [4]Centre for Bone & Arthritis Research, Institute of Medicin, Sahlgrenska Academy at University of Gothenburg, Sweden, [5]University of Gothenburg, Sweden, [6]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [7]Centre for Bone & Arthritis Research, Institute of Medicin, Sahlgrenska Academy at University of Gothenburg, Sweden

Disclosures: Klara Sjogren, None

MO0420 **The Efficacy of Dried Plum's Bioactive Components in Reversing Bone Loss**
Jennifer Graef*, Elizabeth Rendina, Pitipa Chongwatpol, McKale Davis, Sandra Peterson, Stephen Clarke, Edralin Lucas, Brenda Smith. Oklahoma State University, USA
Disclosures: Jennifer Graef, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): DIET, VITAMIN D AND METABOLITES

MO0421 **Long-Term Effect of Diet on the Ovariectomy Response in the Rat Model of Osteoporosis**
Aurore Varela*[1], Elisabeth Lesage[2], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Chales River Laboritories, Canada
Disclosures: Aurore Varela, None

OSTEOPOROSIS - TREATMENT (PRECLINICAL): OTHER AGENTS

MO0422 ***L. reuteri*** **treatment suppresses osteoclast activity and bone loss in ovariectomized mice**
Laura McCabe*, Narayanan Parameswaran, Regina Irwin, Darin Quach, Laura Schaefer, Jing Zhang, Taehyung Lee, Robert Britton. Michigan State University, USA
Disclosures: Laura McCabe, None

MO0423 **Brief Daily Low Intensity Vibrations (LIV) Promote Osteoblast Activity in an Estrogen-Deficient Murine Model of Osteoporosis**
Divya Krishnamoorthy*[1], Danielle Frechette[2], Benjamin Adler[2], M. Ete Chan[2], Clinton Rubin[3]. [1]SUNY Stony Brook University, USA, [2]Stony Brook University, USA, [3]State University of New York at Stony Brook, USA
Disclosures: Divya Krishnamoorthy, None

MO0424 **Effects of anti-diabetic drugs alone or in combination with risedronate on bone mass and architecture in Goto-Kakizaki rats, a spontaneous non-obese model of type 2 diabetes**
Tetsuo Yano*[1], Mei Yamada[1], Makoto Shiozaki[2], Daisuke Inoue[3]. [1]Ajinomoto Pharmaceuticals Co., LTD, Japan, [2]Ajinomoto Pharmaceuticals, Japan, [3]Teikyo University Chiba Medical Center, Japan
Disclosures: Tetsuo Yano, Ajinomoto Pharmaceuticals, 3

MO0425 **Low-intensity pulsed ultrasound lessons therapeutically bone loss on overiacteomized mice**
Yoshitsugu Kojima*[1], Hiroki Yazawa[1], Takayuki Watanabe[1], Kazuki Terada[2], Nobuo Izumo[2], Yoshihiro Nishimura[3]. [1]Nippon Sigmax Co., Ltd, Japan, [2]Yokohama College of Pharmacy, Japan, [3]Nippon Sigmax Co., Ltd., Japan
Disclosures: Yoshitsugu Kojima, None

MO0426 **Molecular Basis of the Dual Effects of Thiazolidinediones (TZDs) on Osteoclastogenesis**
Dongfeng Zhao*[1], Zhenqi Shi[2], Amy Warriner[3], Xu Feng[3], Yongjun Wang[4]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama, USA, [3]University of Alabama At Birmingham, USA, [4]Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China
Disclosures: Dongfeng Zhao, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA, ETC.

MO0427 **Analysis of BMD, Hip Geometry and Trabecular Bone Score in Relation to Body Composition and Biochemical Markers in Adult Females with Severe Anorexia Nervosa**
Judith Haschka*[1], Janina Patsch[2], Roland Kocijan[1], Didier Hans[3], Christian Muschitz[4], Afrodite Zendeli[5], Christina Bittighofer[1], Angela Trubrich[6], Julia Wild[1], Peter Weiss[7], Heinrich Resch[8]. [1]St. Vincent Hospital Vienna, Austria, [2]Medical University of Vienna, Austria, [3]Lausanne University Hospital, Switzerland, [4]St. Vincent's Hospital, Austria, [5]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [6]BHS, Austria, [7]St. Vincent Hospital, Austria, [8]Medical University Vienna, Austria
Disclosures: Judith Haschka, None

MO0428 **A Model for Assessment of Vitamin D_3 Deficiency & Implementation of Vitamin D_3 Regimen in a Skilled Nursing Facility**

F. Michael Gloth*[1], Jennifer Coates[2], Kim Adams[3], Elizabeth Hidlebaugh[4]. [1]John Hopkins University School of Medicine, USA, [2]Moorings Park Healthy Living, Inc, USA, [3]The Chateau at Moorings Park, USA, [4]Hope College, USA

Disclosures: F. Michael Gloth, None

MO0429 **Bone Material Strength by Microindentation in Patients Initiating Glucocorticoids and Effect of Treatments**

Elisa Torres-Del-Pliego[1], Leonardo Mellibovsky[2], Xavier Nogues[3], Robert Guerri Fernandez[4], Laia Vilaplana[2], Fernando Mellibovsky[5], Daniel Prieto-alhambra[6], Adolfo Diez-Perez*[7]. [1]Internal Medicine Department, Hospital del Mar, Barcelona, Spain, [2]Servicio de Medicina Interna. Hospital del Mar, Spain, [3]Institut Municipal D'Investigació Mèdica, Spain, [4]Fundacio IMIM, Spain, [5]Engineer. Universidad Politecnica de Cataluña, Spain, [6]University of Oxford, United Kingdom, [7]Autonomous University of Barcelona, Spain

Disclosures: Adolfo Diez-Perez, None

MO0430 **Bone Microarchitecture in Young Adults with Cystic Fibrosis: Differential Mechanisms of Fragility in Weight Bearing and Non-Weight Bearing Bone**

Melissa Putman*[1], Nicholas Derrico[2], Leonard Sicilian[3], Ahmet Uluer[4], Allen Lapey[5], Catherine Gordon[6], Mary Bouxsein[7], Joel Finkelstein[8]. [1]Massachusetts General Hospital, Children's Hospital Boston, USA, [2]Endocrine Unit, Massachusetts General Hospital, USA, [3]Pulmonary & Critical Care Medicine, Massachusetts General Hospital, USA, [4]Division of Pulmonary & Respiratory Diseases, Boston Children's Hospital, USA, [5]Pediatric Pulmonary Medicine Massachusetts General Hospital for Children, USA, [6]Hasbro Children's Hospital & Brown University, USA, [7]Beth Israel Deaconess Medical Center, USA, [8]Massachusetts General Hospital, USA

Disclosures: Melissa Putman, None

MO0431 **CTX as an early prediction on bone loss in women on aromatase inhibitors: the B-ABLE cohort study**

Elisa Torres-Del-Pliego[1], Daniel Prieto-alhambra[2], Sonia Servitja[3], Raquel Soriano-Tomas[4], Iria González-Maeso[3], Natalia Garcia-Giralt[5], Maria Rodríguez-Sanz[6], Adolfo Diez-Perez[7], Ignacio Tusquets[3], Xavier Nogues*[8]. [1]Internal Medicine Department, Hospital del Mar, Barcelona, Spain, [2]University of Oxford, United Kingdom, [3]Medical Oncology Department, Parc de Salut Mar, Spain, [4]Internal Medicine Department, Parc de Salut Mar, Spain, [5]IMIM, Spain, [6]URFOA-IMIM Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF), Instituto de Salud Carlos III FEDER, Spain, [7]Autonomous University of Barcelona, Spain, [8]Institut Municipal D'Investigació Mèdica, Spain

Disclosures: Xavier Nogues, None

MO0432 **Decreased exercise capacity negatively affects bone mass in patients with acute decompensated heart failure**

Yumie Rhee*[1], Jong-Chan Youn[2], Seok-Min Kang[2]. [1]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea, [2]Division of Cardiology, Severance Cardiovascular Hospital, Yonsei University College of Medicine, South Korea

Disclosures: Yumie Rhee, None

MO0433 **Determination of the Role Autophagy on Bone Metabolism and Structure during the Initiation and Progression of Type 2 Diabetes**

Elizabeth Rendina*[1], Jennifer Graef[1], McKale Davis[1], Jeffrey Gimble[2], Stephen Clarke[1], Edralin Lucas[1], Brenda Smith[1]. [1]Oklahoma State University, USA, [2]Pennington Biomedical Research Center, USA

Disclosures: Elizabeth Rendina, None

MO0434 **Does The Choice Of Surgical Technique Affect Bone Turnover Changes After Bariatric Surgery?**
Kaisa Ivaska*[1], Minna Soinio[2], Jarna Hannukainen[3], Pauliina Salminen[4], Pirjo Nuutila[2], Riku Kiviranta[5]. [1]University of Turku, Finland, [2]Department of Medicine, University of Turku & Turku PET Centre, Finland, [3]Turku PET Centre, Finland, [4]Department of Surgery, Turku University Hospital, Finland, [5]Department of Medical Biochemistry & Genetics & Department of Medicine, University of Turku, Finland
Disclosures: Kaisa Ivaska, None

MO0435 **Lean Mass And Not Fat Mass Is Associated With Measures Of Better Bone Health In Type 2 Diabetes Mellitus**
Indira Maisnam*[1], Deep Dutta[2], Anubhav Thukral[2], Rajesh Jain[2], Satinath Mukhopadhyay[2], Subhankar Chowdhury[2]. [1]IPGMER & SSKM Hospital, India, [2]IPGMER, India
Disclosures: Indira Maisnam, None

MO0436 **Low Bone Density and Fractures Associated with Cannabis Use – A Population Based Prospective Study**
Antonia Sophocleous*[1], James McKenzie[1], Roy Robertson[2], Stuart H Ralston[1]. [1]Rheumatic Disease Unit, Centre for Molecular Medicine, Institute of Genetics & Molecular Medicine, University of Edinburgh, United Kingdom, [2]Centre for Population Health Sciences, University of Edinburgh, United Kingdom
Disclosures: Antonia Sophocleous, None

MO0437 **Study of Very Long Term (> 25 years) L-Thyroxine Suppressive Therapy in Postmenopausal Women With Differentiated Thyroid Cancer: Effect on Bone Mineral Density and Bone Turnover Markers**
María Luísa de Mingo Domínguez*[1], Guillermo Martinez Diaz-Guerra[2], Sonsoles Guadalix Iglesias[1], Gonzalo Allo Miguel[1], Mercedes Aramendi[1], Federico Hawkins[3]. [1]University Hospital 12 De Octubre, Spain, [2]University Hospital 12 Octubre, Spain, [3]Hospital Universitario, Spain
Disclosures: María Luísa de Mingo Domínguez, None

MO0438 **The Association of Serum Osteocalcin with Glucose Control, Pancreatic Function and Insulin Resistance in Type Two Chinese Diabetes Patients**
Hui Sheng*[1], Xuefei Rui[2], Chunping Pan[2], Junlei Su[2], Chenyu Zhan[2], Shen Qu[3]. [1]Shanghai, Fudan University, Peoples Republic of China, [2]Department of Endocrinology & Metabolism, Shanghai Tenth People's Hospital, Tongji University School of Medicine, China, [3]Tongji University School of Medicine, Peoples Republic of China
Disclosures: Hui Sheng, None

MO0439 **Trabecular Bone Assessment in Type 2 Diabetes Mellitus**
Mishaela Rubin*[1], Ankit Shah[1], Chiyuan Zhang[1], Serge Cremers[1], Elzbieta Dworakowski[1], Laura Beth Anderson[1], Didier Hans[2], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Lausanne University Hospital, Switzerland
Disclosures: Mishaela Rubin, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

MO0440 **Severe alterations in cortical and trabecular bone microarchitecture in lung transplant recipients**
Alexander Valentinitsch*, Lukas Fischer, Matthew DiFranco, Claudia Schueller-Weidekamm, Franz Kainberger, Georg Langs, Janina Patsch. Medical University of Vienna, Austria
Disclosures: Alexander Valentinitsch, None

PAGET'S DISEASE: GENERAL

MO0441 **Vitamin D Supplementation Decreases The Occurrence Of Acute Phase Response Following Intravenous Bisphosphonate Treatment In Paget's Disease Of Bone**
Daniela Merlotti*[1], Luigi Gennari[1], Beatrice Franci[2], Barbara Lucani[3], Stella Campagna[3], Laura Cresti[3], Konstantinos Stolakis[3], Stefano Rotatori[3], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]Dept. Medicine Surgery & Neurosciences, University of Siena, Italy, [3]Dept. Medicine Surgery & Neurosciences University of Siena, Italy
Disclosures: Daniela Merlotti, None

MO0442 **Zoledronic Acid (ZA) Therapy in the Treatment of Patients with Paget's Disease of Bone (PD) Resistant to Prior Bisphosphonate Therapy or with an Unsustained Response of One Year or Less**
Joseph Tucci*. Boston University School of Medicine, USA
Disclosures: Joseph Tucci, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

MO0443 **Dexamethasone Affects GR and GILZ Expression in Mesenchymal Stem Cells from Osteonecrosis Patients**
Azeb Haile[1], Dongqing Wang[1], Aaron Johnson[2], Robert Pivec[3], Michael Mont[3], Lynne Jones*[4]. [1]Johns Hopkins University, USA, [2]University of Maryland, USA, [3]Sinai Hospital of Baltimore, USA, [4]Johns Hopkins University School of Medicine, USA
Disclosures: Lynne Jones, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

MO0444 **Estrogen-mimicking isoflavone Genistein prevents the bone loss due to hypoxia in a rat model of Obstructive Sleep Apnea-Hypopnea Syndrome**
Lige Song*[1], Yun Zhou[2], Xiao Liang[3]. [1]Tongji Hospital, Tongji University School of Medicine, Peoples Republic of China, [2]Dept.of Endocrinology, Tongji Hospital, Tongji University School of Medicine, China, [3]School of Basic Medical Sciences, Fudan University, China
Disclosures: Lige Song, None

MO0445 **Sex Steroid Hormones and Kyphosis in Older Men: The Osteoporotic Fractures in Men (MrOS) Study**
Deborah Kado*[1], Mei-Hua Huang[2], Corinne McDaniels-Davidson[3], Gail Laughlin[4], Jane Cauley[5], Eric Orwoll[6], Nancy Lane[7], Marcia Stefanick[8], Elizabeth Barrett-Connor[1], Peggy Cawthon[9]. [1]University of California, San Diego, USA, [2]UCLA School of Medicine, USA, [3]SDSU/UCSD Joint Doctoral Program in Public Health (Epidemiology), USA, [4]UCSD, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]Oregon Health & Science University, USA, [7]University of California, Davis Medical Center, USA, [8]Stanford University, USA, [9]California Pacific Medical Center Research Institute, USA
Disclosures: Deborah Kado, None

MO0446 **The bone sparing effects of 2-methoxyestradiol are mediated via estrogen receptor alpha**
Anna-Lena Eriksson*[1], Anna Wilhelmson[2], Johan Bourghardt-Fagman[2], Åsa Tivesten[2], Claes Ohlsson[3]. [1]University of Gothenburg, Sweden, [2]Wallenberg Laboratory for Cardiovascular Research at the Sahlgrenska Academy, Sweden, [3]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Anna-Lena Eriksson, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

MO0447 **Dietary vitamin D is reflected in a dose-response manner in circulating 25-hydroxyvitamin D and its C-3 alpha epimer as well as the 24,25 dihydroxyvitamin D metabolite in adult Sprague-Dawley rats**
Christina Bianchini*[1], Hope Weiler[2]. [1]McGill University, Canada, [2]McGill University, USA
Disclosures: Christina Bianchini, None

MO0448 **Ethnic and racial disparities in innate and adaptive immunity following vitamin D supplementation**
Philip Liu*[1], Rachel Reyes[2], Andy Hur[3], Brandon Rafison[2], John Adams[4], Robert Modlin[2], Peter Joyce[2]. [1]Univeristy of California, Los Angeles, USA, [2]UCLA, USA, [3]Andy Hur, USA, [4]University of California, Los Angeles, USA
Disclosures: Philip Liu, None

MO0449 **Expression of Cardiovascular System-Related Genes in Vitamin D Receptor Knockout Mice**
Toshio Okano*, Naoko Tsugawa. Kobe Pharmaceutical University, Japan
Disclosures: Toshio Okano, None

MO0450 **Higher levels of $25(OH)D_2$ and $1,25(OH)_2D_2$ are associated with lower levels of $25(OH)D_3$ and $1,25(OH)_2D_3$ in older men**
Christine Swanson*[1], Carrie Nielson[1], Smriti Shrestha[1], Steven Cummings[2], Elizabeth Barrett-Connor[3], Ivo Jans[4], Steven Boonen[5], Roger Bouillon[6], Dirk Vanderschueren[7], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]San Francisco Coordinating Center, USA, [3]University of California, San Diego, USA, [4]KU Leuven Labs, Belgium, [5]Center for Metabolic Bone Disease & Division of Geriatric Medicine, Bel, [6]Katholieke Universiteit Leuven, Belgium, [7]Catholic University of Leuven, Belgium
Disclosures: Christine Swanson, None

MO0451 **Inhibition of Methicillin-resistant Staphylococcus aureus (MRSA)-induced cytokines mRNA synthesis in human bone marrow derived mesenchymal stem cells (hMSCs) by 1,25-dihydroxyvitamin D3**
Aparna Maiti*[1], William Jiranek[2]. [1]Virginia Commonwealth University, USA, [2]Department of Orthopaedic Surgery, Virginia Commonwealth University School of Medicine, USA
Disclosures: Aparna Maiti, None

MO0452 **Local production of 1,25-dihdydroxyvitamin D3 in breast tumors of the pYMT mouse model regulates lipid metabolism as determined by imaging mass spectrometry and gene array analysis**
Ami Grunbaum*[1], Jiarong Li[1], Richard Kremer[2], Pierre Chaurand[3]. [1]McGill University, Canada, [2]McGill University, Royal Victoria Hospital, Canada, [3]University of Montreal, Canada
Disclosures: Ami Grunbaum, None

MO0453 **Local Synthesis of 1,25D Promotes Osteocyte Maturation**
Andrew Turner*[1], Maarten Hanrath[2], Gerald Atkins[3], Paul Anderson[4], Howard Morris[5]. [1]Musculoskeletal Biology Research, Chemical Pathology, SA Pathology, Australia, [2]University of Utrecht, Netherlands, [3]University of Adelaide, Australia, [4]Musculoskeletal Biology Research, University of South Australia, Australia, [5]SA Pathology, Australia
Disclosures: Andrew Turner, None

MO0454 **Lower Vitamin D Status is More Common among Saudi Adults with Type 1 Diabetes Mellitus than Non-Diabetics**
Nasser Al-Daghri*. King Saud University, Saudi Arabia
Disclosures: Nasser Al-Daghri, None

MO0455 **The Effect of Vitamin D Supplementation on Metabolic Phenotypes in Thais with Prediabetes**
Hataikarn Nimitphong*, Rattanapan Samittarucksa, Sunee Saetung, Nuttapimon Bhirommuang, Laor Chailurkit, Boonsong Ongphiphadhanakul. Medicine department, Ramathibodi hospital, Mahidol university, Thailand
Disclosures: Hataikarn Nimitphong, None

MO0456 **The vitamin D receptor is required for activation of the canonical Wnt and Hedgehog signaling pathways in keratinocytes**
Thomas Lisse*[1], Hilary Luderer[1], Francesca Gori[2], Marie Demay[3]. [1]Massachusetts General Hospital, USA, [2]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Thomas Lisse, None

MO0457 **Vitamin D and Interferon beta Cooperate to Suppress Inflammatory Cytokines and to Ameliorate Disease Severity in Experimental Autoimmune Encephalomyelitis, the Murine Model of Multiple Sclerosis**
Tanushree Samanta*[1], Robert Axtell[2], Sneha Joshi[1], Puneet Dhawan[3], Cheng Sun[1], Lawrence Steinman[2], Sylvia Christakos[1]. [1]University of Medicine & Dentistry & New Jersey - New Jersey Medical School, USA, [2]Stanford School of Medicine, Stanford University, USA, [3]UMDNJ-New Jersey Medical School, USA
Disclosures: Tanushree Samanta, None

TUMORS AND BONE: BREAST AND PROSTATE

MO0458 **A Novel Factor Derived From Resorbing Bone *In Vitro* Potently Stimulates C-Fos Expression In Breast Cancer Cells**
Jane Dillon*[1], Peter Wilson[1], Alison Gartland[2], Robert Hipskind[3], James Gallagher[1]. [1]University of Liverpool, United Kingdom, [2]The Mellanby Centre for Bone Research, The University of Sheffield, United Kingdom, [3]Institut de Génétique Moléculaire de Montpellier, France
Disclosures: Jane Dillon, None

MO0459 **Development of a 3D In Vitro Co-Culture System to Model Bone Metastatic Prostate Cancer**
Eliza Fong*[1], Olyver Yau[1], Nora Navone[2], Xinqiao Jia[3], Daniel Harrington[1], Mary Farach-Carson[1]. [1]Rice University, USA, [2]The University of Texas MD Anderson Cancer Center, USA, [3]University of Delaware, USA
Disclosures: Eliza Fong, None

MO0460 **Ectopic expression of twist-1 in breast cancer cells promotes bone metastasis formation**
Martine Croset[1], Delphine Goehrig[1], Stephane Ansieau[2], Alain Puisieux[2], Philippe A.R. Clezardin*[3]. [1]INSERM, UMR1033, France, [2]INSERM, UMR 1052, France, [3]INSERM & University of Lyon, France
Disclosures: Philippe A.R. Clezardin, None

MO0461 **Estrogen Depletion by Ovariectomy or Aromatase Inhibitors Increase Breast Cancer Bone Metastases in Female Nude Mice**
Ahmed Harhash*[1], Wende Kozlow[2], Chris McKenna[3], Holly Davis[3], Maria Niewolna[4], Khalid Mohammad[4], Theresa Guise[4]. [1]Indiana University- School of Medicine, USA, [2]University of Virginia, USA, [3]University of Virgina, USA, [4]Indiana University, USA
Disclosures: Ahmed Harhash, None

MO0462 **Integrin αvβ3 and CD44 Pathways support osteoclastogenesis via a Runx2/Smad 5/Receptor Activator of NF-κB Ligand signaling axis in metastatic prostate cancer (PC3) cells**
Aditi Gupta*[1], Meenakshi Chellaiah[2]. [1]University of Maryland, Baltimore, USA, [2]University of MarylandDental School, USA
Disclosures: Aditi Gupta, None

MO0463 **Osteocytes promote prostate cancer bone growth**
Joseph Sottnik*, Honglia Zhang, Evan Keller. University of Michigan, USA
Disclosures: Joseph Sottnik, None

TUMORS AND BONE: GENERAL

MO0464 **Association of QCT bone mineral density and bone structure with vertebral fractures in patients with multiple myeloma**
Jan Borggrefe*[1], Sarah Giravent[2], Asmus Wulff[3], Jaime Peña[2], Felix Thomsen[2], Martin Heller[3], Claus-C Glueer[4]. [1]Institut und Poliklinik für Diagnostische Radiologie, Uniklinik Köln, Germany, [2]Christian-Albrechts-Universtät zu Kiel, Germany, [3]UK-SH Campus Kiel, Germany, [4]Christian Albrechts Universitaet zu Kiel, Germany
Disclosures: Jan Borggrefe, None

MO0465 **Cells of the Osteoblast lineage Hinder Acute Leukemia Progression in Murine Models: therapeutic implications**
Maria Krevvata*[1], Barbara Silva[1], J. Sanil Manavalan[1], Aris Economides[2], Julie Teruya-Feldstein[3], Govind Bhagat[4], Ellin Berman[3], Stavroula Kousteni[1]. [1]Columbia University Medical Center, USA, [2]Regeneron Pharmaceuticals, Inc., USA, [3]Memorial Sloan-Kettering Cancer Center, USA, [4]Coumbia University Medical Center, USA
Disclosures: Maria Krevvata, None

MO0466 **Increased Expression of TAF12 in Myeloma Cells and the Bone Microenvironment Enhances Tumor Cell Growth and Osteoclast Formation**
Noriyoshi Kurihara[1], Jumpei Teramachi[2], Yukiko Kitagawa*[1], John Chirgwin[1], G. David Roodman[1]. [1]Indiana University, USA, [2]The University of Tokushima, USA
Disclosures: Yukiko Kitagawa, None

MO0467 **Multiple Myeloma Cells Suppress Osteoblastogenesis by Upregulating Gfi1 via Activation of the ER Stress Transducer IRE1α**
Feng-Ming Wang*[1], Hong-Jiao Ouyang[2], Deborah Galson[3], G. David Roodman[1]. [1]Indiana University, USA, [2]University of Pittsburgh, USA, [3]University of Pittsburgh School of Medicine, USA
Disclosures: Feng-Ming Wang, None

MO0468 **Osteoclasts from Multiple Myeloma Patients Are Highly Angiogenic**
Rebecca Silbermann*[1], Dan Zhou[1], Wei Zhao[1], Courtney Tate[2], Wayne Blosser[2], Lisa Wyss[3], Louis Stancato[2], G. David Roodman[4]. [1]Indiana University School of Medicine, USA, [2]Eli Lilly & Company, USA, [3]Advanced Testing Laboratories, USA, [4]Indiana University, USA
Disclosures: Rebecca Silbermann, None

MO0469 **Suppression of Osteoblastogenesis in Human MSCs Co-cultured with Human Multiple Myeloma Cells**
Wei Zhang*[1], James Peterson[1], Moustapha Kassem[2], Matthew Drake[3]. [1]Mayo Clinic, USA, [2]Odense University Hospital, Denmark, [3]College of Medicine, Mayo Clinic, USA
Disclosures: Wei Zhang, None

MO0470 **2013 ASBMR Young Investigator Award**
Tumor-initiating Stem Cells are Regulated by α-CaMKII-induced VEGF in Human Osteosarcoma
Paul Daft*[1], Joan Cadillac[2], Majd Zayzafoon[2]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Paul Daft, None

LATE-BREAKING POSTERS III

12:00 pm - 2:00 pm **Baltimore Convention Center**
Discovery Hall-Hall C

LB-MO01 **T-type Voltage Sensitive Calcium Channel (T-VSCC) Is a Key Player in Load-Induced Bone Mechanotransduction and a Novel Target for Osteoarthritis Treatment**
Padma Srinivasan*[1], Andris Kronbergs[2], Christopher Price[1], Liyun Wang[1], Randall Duncan[1], Catherine Kirn-Safran[1]. [1]University of Delaware, USA, [2]IU School of Medicine, USA
Disclosures: Padma Srinivasan, None

LB-MO02 **Maturity-Sensitivity of Physical Activity on Skeletal Growth: A 15-year Mixed-Longitudinal Analysis**
Brittney Bernardoni*[1], Tamara Scerpella[2], Jodi Dowthwaite[3], Quefeng Li[2], Sijian Wang[2]. [1]USA, [2]University of Wisconsin, USA, [3]SUNY Upstate Medical University; Syracuse University, USA
Disclosures: Brittney Bernardoni, None

LB-MO03 **Could casein kinase-2 interacting protein-1 (CKIP-1) be postulated as a molecular target for promoting aged fracture repair in females?**
Jin Liu*[1], Baosheng Guo[1], Yixin He[1], Lei Dang[1], Xiaohua Pan[2], Lingqiang Zhang[3], Aiping Lu[1], Ge Zhang[1]. [1]Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong SAR, China, Hong kong, [2]Jinan University & Hong Kong Baptist University Joint Laboratory of Innovative Drug Development, Institute of Biomedicine (Guangzhou); Department of Orthopedics in Second Hospital of Medical College (Shenzhen), Jinan University, China, China, [3]Beijing Institute of Radiation Medicine, State Key Laboratory of Proteomics, Beijing Proteome Research Center, Beijing, China, China
Disclosures: Jin Liu, None

LB-MO04 The interaction of force and repetition on bone and cartilage in an operant rat model of work-related musculoskeletal disorders
Vicky Massicotte*[1], Steven Popoff[2], Sean Gallagher[3], Jeffrey Driban[4], Ann Barr-Gillespie[5], Mary Barbe[2]. [1]Temple University, USA, [2]Temple University School of Medicine, USA, [3]Auburn University, USA, [4]Tufts Medical Center, USA, [5]Pacific University, USA
Disclosures: Vicky Massicotte, None

LB-MO05 Disuse sufficient to cause bone loss increases osteocytes' expression of sclerostin but has no effect on osteocyte RANKL
Peter Delisser*[1], Lee Meakin[1], Gabriel Galea[2], Lance Lanyon[3], Larry Suva[4], Joanna Price[2]. [1]University Of Bristol, GBR, [2]University of Bristol, United Kingdom, [3]Royal Veterinary College, United Kingdom, [4]University of Arkansas for Medical Sciences, USA
Disclosures: Peter Delisser, None

LB-MO06 Relationship between cortical bone porosity and mechanical properties in children with osteogenesis imperfecta : a preliminary study
Wafa Skalli*[1], Dominique Saletti[2], Clayton Adam[2], Vasiliki Vardakastani[2], Jean-Marc Allain[3], Pierre Mary[4]. [1]Arts et Metiers ParisTech, Fra, [2]Arts et Métiers ParisTech, France, [3]Ecole Polytechnique, France, [4]Hôpital Armand Trousseau, France
Disclosures: Wafa Skalli, None

LB-MO07 Cortical Porosity in Perimenopausal Female Patients with Fragility Fractures
Heinrich Resch*[1], Teresa Stanek[2], Janina Patsch[3], Afrodite Zendeli[4], Judith Haschka[5], Roland Kocijan[6], Christian Muschitz[7]. [1]Medical University Vienna, Austria, [2]The Vinforce Study Group KH Barmherzige Schwestern Vienna, Austria, [3]Medical University of Vienna, Austria, [4]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Austria, [5]St. Vincent Hospital Vienna, Austria, [6]St. Vincent Hospital Vienna, Aut, [7]St. Vincent's Hospital, Austria
Disclosures: Heinrich Resch, None

LB-MO08 XBP1S, a BMP2-inducible transcription factor, Accelerates Endochondral Bone Growth by activating GEP Growth Factor
Fengjin Guo*[1], Xiaofeng Han[2], Peng Zhang[2], Zhangyuan Xiong[2], Meiling Li[2], Fei Xia[2]. [1]Chongqing Medical University, Peoples republic of china, [2]Chongqing Medical University, China
Disclosures: Fengjin Guo, None

LB-MO09 Effects of Dynamic Hydraulic Flow Loading on Articular Cartilage Alteration against Functional Disuse
Sarah Moy*[1], Yi-Xian Qin[2], Minyi Hu[3]. [1]USA, [2]State University of New York at Stony Brook, USA, [3]Stony Brook University, USA
Disclosures: Sarah Moy, None

LB-MO10 Role of Parathyroid Function and Phosphate Regulation in a Patient with Tumor-Induced Osteomalacia (TIO)
Daniel Cadena*[1], Zinnia San Juan[2], Alan Burshell[3]. [1]USA, [2]Subinvestigator, USA, [3]Ochsner Clinic Foundation, USA
Disclosures: Daniel Cadena, None

LB-MO11 *Asxl1* Plays an Important Role in Bone Remodeling by Regulating both Osteoblasto- and Osteoclasto-genesis Through Histone Modification
Feng-Chun Yang, Peng Zhang*. Indiana University, USA
Disclosures: Peng Zhang, None

LB-MO13 Type 2 receptor-level competition between BMP and Activin ligands regulates postnatal bone mass
Jonathan Lowery*, Giuseppe Intini, Laura Gamer, Karen Cox, Vicki Rosen. Harvard School of Dental Medicine, USA
Disclosures: Jonathan Lowery, None

LB-MO15 Inflammation and Bone in Early Pubertal Black and White Children
Paige Berger*[1], Emma Laing[1], Stuart Warden[2], Kathleen Hill Gallant[3], Dorothy Hausman[1], Ralph Tripp[1], George McCabe[3], Connie Weaver[4], Munro Peacock[5], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Indiana University, USA, [3]Purdue University, USA, [4]Purdue University, Dept of Nutrition Science, USA, [5]Indiana University Medical Center, USA
Disclosures: Paige Berger, None

LB-MO16 Mutations in the *SLCO2A1* gene and primary hypertrophic osteoarthropathy: a clinical and biochemical characterization
Zeng Zhang*[1], Zhen-Lin Zhang[2]. [1], [2]Shanghai Jiao Tong University Affiliated Sixth People's Hospital, China
Disclosures: Zeng Zhang, None

LB-MO17 Circulating α-Klotho Levels Are Inversely Correlated to FGF-23 in TumourInduced Osteomalacia
Paul Zeun*[1], Jonathan Tang[2], Christopher Washbourne[3], Isabelle Piec[1], Emily Fisher[4], William Fraser[3]. [1]Dr., United Kingdom, [2]University of East Anglia, Norwich, UK, United Kingdom, [3]University of East Anglia, United Kingdom, [4]Miss, United Kingdom
Disclosures: Paul Zeun, None

LB-MO18 Retinaldehyde (Rald) Increases Bone Mass by Repressing PPARγ, Increasing BMP2, and Stimulating Brown- like Adipogenesis: Implications for Treating Obesity and Osteoporosis
Shriram Nallamshetty*[1], Phuong Le[2], Hong Wang[1], Jorge Plutzky[1], Clifford Rosen[3]. [1]Brigham & Women's Hospital, USA, [2]Maine Medical Center Research Institute, USA, [3]Maine Medical Center, USA
Disclosures: Shriram Nallamshetty, None

LB-MO19 Ras Signaling Increases the Number of Osteoprogenitor Cells leading to Increased Bone Mass
Garyfallia Papaioannou*[1], Noriaki Ono[1], Simona Nedelcu[2], Jacqueline A Lees[2], Henry Kronenberg[1], Tatsuya Kobayashi[1]. [1]Massachusetts General Hospital, USA, [2]Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, USA
Disclosures: Garyfallia Papaioannou, None

LB-MO20 Effects of Calcium-independent Phospholipase A_2 on Differentiation and Activity of Cortical Bone derived Osteoblasts
Bill Hancock*[1], Jason Ashley[2], Gregory Clines[2], Sasanka Ramanadham[3]. [1]University of Alabama, USA, [2]University of Alabama at Birmingham, USA, [3]Univeristy of Alabama at Birmingham, USA
Disclosures: Bill Hancock, None

LB-MO21 Post–Alendronate DXA Monitoring Strategy Based on 5-year Changes in BMD
Brian Mcnabb*[1], Eric Vittinghoff[1], Richard Eastell[2], Ann Schwartz[1], Douglas Bauer[1], Kristine Ensrud[3], Elizabeth Barrett-Connor[4], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]University of Sheffield, United Kingdom, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University of California, San Diego, USA
Disclosures: Brian Mcnabb, DocMatter, 1

LB-MO22 The 2nd Generation of HR-pQCT: Progresses in Bone Microstructure Assessment with 61μm Voxel Size *In Vivo* Scans
Nicolas Vilayphiou*, Stefan Hämmerle, Bruno Koller. Scanco Medical AG, Switzerland
Disclosures: Nicolas Vilayphiou, Scanco Medical AG, 3

LB-MO23 Adherence to Oral Bisphosphonates and the Risk of Subtrochanteric or Diaphyseal Femur Fractures among US Medicare Beneficiaries with Part D Coverage
John Wang*[1], Michael Ward[2], Timothy Bhattacharyya[2], Leighton Chan[3]. [1]Intramural Research Program, NIAMS/NIH, USA, [2]Intramural Research Program, NIAMS, NIH, USA, [3]Rehabilitation Med Dept, Clinical Center, NIH, USA
Disclosures: John Wang, None

LB-MO24 A Frailty Index Predicts 10-Year Fracture Risk: Longitudinal Data from the Canadian Multicentre Osteoporosis Study (CaMos)
Courtney Kennedy*[1], George Ioannidis[1], Lehana Thabane[1], Kenneth Rockwood[2], Jonathan Adachi[3], Susan Kirkland[2], Laura Pickard[1], Alexandra Papaioannou[4]. [1]McMaster University, Canada, [2]Dalhousie University, Canada, [3]St. Joseph's Hospital, Canada, [4]Hamilton Health Sciences, Canada
Disclosures: Courtney Kennedy, None

LB-MO25 Mouse models of telomere dysfunction phenocopy skeletal changes found in human age-related osteoporosis
Tracy Brennan*[1], Robert Pignolo[2], Kurt Hankenson[2]. [1]University of Pennsylvania School of Medicine, USA, [2]University of Pennsylvania, USA
Disclosures: Tracy Brennan, None

LB-MO26 Eight Years of Denosumab Treatment in Postmenopausal Women With Osteoporosis: Results From the First Five Years of the FREEDOM Extension
Socrates Papapoulos*[1], Kurt Lippuner[2], Christian Roux[3], Jesse Hall[4], David Kendler[5], E. Michael Lewiecki[6], Maria Luisa Brandi[7], Edward Czerwiński[8], Edward Franek[9], Péter Lakatos[10], Carlos Mautalen[11], Salvatore Minisola[12], Jean Yves Reginster[13], Soren Jensen[14], Nadia Daizadeh[4], Andrea Wang[4], Michelle Geller[4], Rachel B. Wagman[4], Henry G. Bone[15]. [1]Leiden University Medical Center, The netherlands, [2]Bern University Hospital, Switzerland, [3]Paris Descartes University, France, [4]Amgen Inc., USA, [5]University of British Columbia, Vancouver, Canada, [6]New Mexico Clinical Research & Osteoporosis Center, USA, [7]University of Florence, Italy, [8]Krakow Medical Center, Poland, [9]Central Clinical Hospital MSWiA, Poland, [10]Semmelweis University, Hungary, [11]Centro de Osteopatias Medicas, Argentina, [12]Sapienza University, Italy, [13]University of Liège, Belgium, [14]CCBR, Denmark, [15]Michigan Bone & Mineral Clinic, USA
Disclosures: Socrates Papapoulos, Amgen Inc., Merck & Co., GSK, 7; Merck & Co., Novartis, 99; Amgen Inc., Merck & Co., GSK, Axsome, Gador, 5

LB-MO27 BPS804, an anti-sclerostin monoclonal antibody, improves disease biomarkers and markers of bone formation in patients with adult-onset hypophosphatasia (HPP)
Lothar Seefried*[1], Jasmin Baumann[2], Sarah Hemsley[3], Shou-Ih Hu[4], Christine Halleux[3], Beate Kiese[5], Yue Huang[3], Steven Golieb[6], Simon Chivers[3], Marie-Anne Valentin[3], Babul Borah[4], Michaela Kneissel[7], Franz Jakob[8], Uwe Junker[3]. [1]Orthopedic Center for Musculoskeletal Research, Experimental & Clinical Osteology, Orthopedic Department, University of Würzburg, Germany, [2]Orthopedic Center for Musculoskeletal Research, Experimental & Clinical Osteology Orthopedic Department, University of Würzburg, Germany, [3]Novartis Institutes for BioMedical Research, Switzerland, [4]Novartis Institutes for BioMedical Research Inc., USA, [5]Novartis Pharma AG, Switzerland, [6]Novartis Pharmaceuticals Corporation, USA, [7]Novartis Institutes for Biomedical Research, Che, [8]Orthopedic Center for Musculoskeletal Research, Experimental & Clinical Osteology, Orthopedic Department, University of Würzburg, Brettreichstraße 11, D-97074 Wuerzburg, Germany
Disclosures: Lothar Seefried, None

LB-MO28 Comparison of Atypical Femoral Fracture Patients on Long term Bisphosphonates with Controls matched for age and duration of bisphosphonate therapy
Deeksha Mehta*[1], Nazia Shamsuddin[1], Zehava S. Rosenberg[1], Renata L. Vieira[1], Nirmal C. Tejwani[1], Kenneth A. Egol[1], james S. Babb[1], Valerie Peck[2]. [1]NYU Langone Medical center, USA, [2]NYU School of Medicine, USA
Disclosures: Deeksha Mehta, None

LB-MO29 BA058, a Novel Human PTHrP Analog: Reverses Ovariectomy-Induced Bone Loss and Strength at the Lumbar Spine in Aged Cynomolgus Monkeys
Nancy Doyle[1], Aurore Varela[1], Susan Y. Smith[1], Robert Guldberg[2], Gary Hattersley*[3]. [1]Charles River Laboratories, Canada, [2]Georgia Institute of Technology, USA, [3]Radius, USA
Disclosures: Gary Hattersley, None

LB-MO30 Continuous modeling-based bone formation: a novel mechanism that could explain the sustained increases in hip bone mineral density (BMD) with denosumab treatment
Michael Ominsky[1], Cesar Libanati[1], Rogely Waite Boyce[2], Paul Kostenuik[1], Roland Baron[3], Rachel Wagman[4], David Dempster*[5]. [1]Amgen Inc., USA, [2]Amgen Inc, USA, [3]Harvard School of Medicine & of Dental Medicine, USA, [4]Amgen, Incorporated, USA, [5]Columbia University, USA
Disclosures: David Dempster, Amgen, 1; Amgen, 3

LB-MO31 Co-treatment with *Fructus Ligustri Lucidi* and *Puerariae Radix* offsets their independent actions on bone/mineral metabolism in OVX rats
XL Dong [1], SS Cao [2], QG Gao [2], Haotian Feng*[3], Man-Sau Wong[4], Denney liya[5]. [1]Department of Applied Biology & Chemical Technology, The Hong Kong Polytechnic University, China, [2]The Hong Kong Polytechnic University, China, [3]Nestle Research Center Beijing, , [4]1Department of Applied Biology & Chemical Technology, The Hong Kong Polytechnic University, China, [5]Nestlé Research Centre, Switzerland
Disclosures: Haotian Feng, None

LB-MO32 Effect of Aromatase Inhibition on Bone Density and Bone Turnover in Healthy Postmenopausal Women: Results of the International Breast cancer Intervention Study II (IBIS-II)
Richard Eastell*[1], Ivana Sestak[2], Fatma Gossiel[1], Rajesh Patel[3], Glen Blake[4], Robert Coleman[1], Anthony Howell[5], Mitch Dowsett[6], John Forbes[7], Shalini Singh[2], Jack Cuzick[2]. [1]University of Sheffield, United Kingdom, [2]Queen Mary University, United Kingdom, [3]Imperial College London, United Kingdom, [4]King's College London, United Kingdom, [5]Paterson Institute for Cancer Research, United Kingdom, [6]Institute of Cancer Research, United Kingdom, [7]University of Newcastle, Australia
Disclosures: Richard Eastell, Aventis, 2; Astrazeneca, 2

LB-MO33 NFAM1 Signaling Modulates Osteoclast Differentiation in Paget 's Disease of Bone
Yuvaraj Sambandam*[1], Kumaran Sundaram[2], Sakamuri Reddy[2]. [1]Medical University of South Carolina, USA, [2]Charles P. Darby Children's Research Institute, USA
Disclosures: Yuvaraj Sambandam, None

LB-MO34 *CYP2R1* Gene Polymorphisms Are Associated With Variability In 25-Hydroxy Vitamin D Levels In The Elderly
Asma Arabi*[1], Nathalie Khoueiry-Zgheib[2], Rami Mahfouz[3], Zainab Awada[2], Maya Rahme[4], Karim Firikh[4], Ghada El Hajj Fuleihan[4]. [1]Internal Medicine, American University of Beirut, Lebanon, [2]Department of Pharmacology & Toxicology, American University of Beirut, Lebanon, [3]Department of Pathology & Laboratory Medicine, American University of Beirut, Lebanon, [4]Calcium Metabolism & Osteoporosis Program, American University of Beirut, Lebanon
Disclosures: Asma Arabi, None

LB-MO35 Control of Breast Cancer Growth and Dissemination By the Skeleton
Claire-Sophie Devignes*[1], Audrey Brenot[2], Amy-Jo Casbon[3], Audrey Devillers[1], Ying Yu[3], Zena Werb[3], Sylvain Provot[1]. [1]INSERM, France, [2]Washington University School of Medicine, USA, [3]UCSF, USA
Disclosures: Claire-Sophie Devignes, None

CLINICAL ROUNDTABLE/CASE CONFERENCE - MONITORING TREATMENT RESPONSE IN OSTEOPOROSIS

1:00 pm - 2:00 pm **Baltimore Convention Center**
Room 314-317

Chair
Kristine Ensrud, M.D., MPH
Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Kristine Ensrud, Merck Sharpe & Dohme 5

1:00 pm **Bone Markers**
Nicola Peel, D.M., FRCP
Sheffield Teaching Hospitals, United Kingdom
Disclosures: Nicola Peel, None

1:30 pm **Bone Density**
Nelson Watts, M.D.
Mercy Health Osteoporosis and Bone Health Services, USA
Disclosures: Nelson Watts, Amgen, Lilly, Novartis, Warner Chilcott 7; Merck, NPS 2; Abbott, Amgen, Bristol-Myers Squibb, Endo, Imagepace, Johnson & Johnson, Lilly, Medpace, Merck, Nitto Denko, Noven, Novo Nordisk, Pfizer/Wyeth, Quark 5; OsteoDynamics, co-founder, stockholder and director 1

PLENARY SYMPOSIUM - UP AND COMING TREATMENTS FOR BONE DISEASE

Supported by educational grants from Lilly USA, LLC and Merck & Co., Inc.

2:00 pm - 3:15 pm **Baltimore Convention Center**
Hall A

Co-Chairs
Michael Econs, M.D.
Indiana University School of Medicine, USA
Disclosures: Michael Econs, None

John Eisman, MBBS, Ph.D.
Garvan Institute of Medical Research, Australia
Disclosures: John Eisman, Eli Lilly 5; sanofi-Aventis 6; Merck Sharp & Dohme 6; Novartis 6; Amgen 5; Servier 5

2:00 pm **Hypophosphatasia: Bone-Targeted Enzyme-Replacement Therapy**
Michael Whyte, M.D.
Shriners Hospital for Children-Saint Louis, USA
Disclosures: Michael Whyte, Alexion Pharmaceuticals, Cheshire, CT 5; Alexion Pharmaceuticals, Cheshire, CT 2

2:25 pm **Prospects for FGF-23 Antibody Therapy**
Seiji Fukumoto, M.D., Ph.D.
University of Tokyo Hospital, Japan
Disclosures: Seiji Fukumoto, Kyowa Hakko Kirion 5

2:50 pm **Osteoporosis, Cathepsin K Enzyme Inhibition**
Bente Langdahl, M.D., DMSc
Aarhus University Hospital, Dnk
Disclosures: Bente Langdahl, Amgen 6; Amgen 2; Merck Sharp & Dohme 6; Merck, Sharp & Dohme 2; Eli Lilly 6; Eli Lilly 2

Moderators:
Dennis Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, None

Jeri Nieves, Ph.D.
Columbia University and Helen Hayes Hospital, USA
Disclosures: Jeri Nieves, None

3:30 pm 1095 **Lower Limb Geometrical Parameters in the Pathogenesis of Bisphosphonate- Associated Atypical Femur Fractures**
Suzanne Morin*[1], Benoit Godbout[2], Michelle Wall[3], Laetitia Michou[4], Andrew Karaplis[1], Etienne Belzile[5], Louis-Georges Ste-Marie[6], Thomas Moser[7], Jacques deGuise[8], Jacques P. Brown[9]. [1]McGill University, Canada, [2]Centre de Recherche du Centre Hospitalier de l'Université de Montreal, Canada, [3]McGill University Health Center Research Institute, Canada, [4]Université Laval, Canada, [5]Laval University, Canada, [6]CHUM, Canada, [7]Université de Montreal, Canada, [8]Centre de Recherche du Centre Hospitalier Université Montreal, Canada, [9]CHU de Québec Research Centre, Canada
Disclosures: Suzanne Morin, Merck, 5; Novartis, 5; Eli Lily, 5; Amgen, 8; Amgen, 2; Novartis, 8; Amgen, 5

3:45 pm 1096 **Early Diagnosis of Atypical Femoral Fracture Using DXA by Extending Femur Length**
Malachi McKenna*[1], Susan van der Kamp[2], Eric Heffernan[2]. [1]St. Michael's Hospital, Ireland, [2]St. Vincent's University Hospital, Ireland
Disclosures: Malachi McKenna, None

4:00 pm 1097 **Pamidronate Treatment of Pediatric Burns Attenuates Muscle Breakdown**
Elisabet Borsheim[1], David Herndon[1], Matthew Cotter[1], Gordon Klein*[2]. [1]University of Texas Medical Branch & Shriners Burns Hospital, USA, [2]University of Texas Medical Branch, USA
Disclosures: Gordon Klein, None

4:15 pm 1098 **Incidence of Vitamin D Toxicity: A Population-Based Study in Olmsted County, Minnesota**
Daniel Dudenkov*[1], Barbara Yawn[2], Sara Oberhelman[1], Philip Fischer[1], Ravinder Singh[1], Steven Cha[1], Julie Maxson[1], Stephanie Quigg[1], Tom Thacher[1], Tom Thacher[1]. [1]Mayo Clinic, USA, [2]Olmsted Medical Center, USA
Disclosures: Daniel Dudenkov, None

4:30 pm 1099 **Bone Turnover Markers and Prediction of Fracture in a 15-year Follow-Up Study of Elderly Women**
Kaisa Ivaska*[1], Fiona McGuigan[2], Karl Obrant[3], Paul Gerdhem[4], Kristina Akesson[5]. [1]University of Turku, Finland, [2]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [3]University Hospital, Sweden, [4]Karolinska Institutet, Sweden, [5]Skåne University Hospital, Malmö, Sweden
Disclosures: Kaisa Ivaska, None

4:45 pm 1100 **2013 ASBMR Young Investigator Award**
Neonatal Enzyme Replacement Therapy Improves Cervical Spine Bone Architecture and Mineralization in Mucopolysaccharidosis I Dogs
Lachlan Smith*[1], Joseph Chiaro[1], Patricia O'Donnell[1], Eileen Shore[1], Neil Malhotra[1], Dawn Elliott[2], Katherine Ponder[3], Mark Haskins[1]. [1]University of Pennsylvania, USA, [2]University of Delaware, USA, [3]Washington University in St Louis, USA
Disclosures: Lachlan Smith, None

CONCURRENT ORALS - BONE DEVELOPMENT

3:30 pm - 5:00 pm **Baltimore Convention Center**

Room 318-323

Moderators:
Masahiro Iwamoto, Ph.D., D.D.S.
Children's Hospital of Philadelphia, USA
Disclosures: Masahiro Iwamoto, None

Yingzi Yang, Ph.D.
National Institutes of Health, USA
Disclosures: Yingzi Yang, None

3:30 pm **2013 ASBMR Young Investigator Award**
1101 **The Transcriptional Cofactor Jab1 is Essential for Mouse Limb Development**
Lindsay Bashur*, Dongxing Chen, Bojian Liang, Zhijun Chen, Shunichi Murakami, Guang Zhou. Case Western Reserve University, USA
Disclosures: Lindsay Bashur, None

3:45 pm **TAK1 Regulates SOX9 Expression and is Essential for Postnatal Development of the Growth**
1102 **Plate and Articular Cartilages**
Jennifer Jonason[1], Lin Gao*[1], Tzong-Jen Sheu[1], Yufeng Dong[1], Michael Zuscik[2], Edward Schwarz[1], Matthew Hilton[3], Regis O'Keefe[1]. [1]UNIVERSITY OF ROCHESTER, USA, [2]University of Rochester School of Medicine & Dentistry, USA, [3]University of Rochester Medical Center, USA
Disclosures: Lin Gao, None

4:00 pm ***Hox* genes, critical regulators of embryonic skeletal development, are required for adult**
1103 **fracture healing**
Danielle Rux*[1], Ilea Swinehart[1], Aleesa Schlientz[1], Kenneth Kozloff[2], Steven Goldstein[3], Deneen Wellik[4]. [1]University of Michigan, USA, [2]University of Michigan Department of Orthopaedic Surgery, USA, [3]University of Michigan Orthopaedic Research Lab, USA, [4]University of Michigan Medical Center, USA
Disclosures: Danielle Rux, None

4:15 pm **Cells Expressing Type 2 Collagen Are Self-renewing Multipotent Mesenchymal Progenitors**
1104 **during Postnatal Bone Development**
Noriaki Ono*, Wanida Ono, Henry Kronenberg. Massachusetts General Hospital, USA
Disclosures: Noriaki Ono, None

4:30 pm **Progenitor-Derived VEGFA Regulates the Fate and Population Dynamics of Osteoblast**
1105 **Precursor Cells in Bone Development and Maintenance**
Agnes Berendsen*[1], Bjorn Olsen[2]. [1]Ph.D., USA, [2]Harvard School of Dental Medicine, USA
Disclosures: Agnes Berendsen, None

4:45 pm **2013 ASBMR Young Investigator Award**
1106 **Wnt5a and Wnt5b in osteoblastic niche differentially regulate HSC maintenance and differentiation**
Jingjing Cao*[1], Yong Wan[1], Zhengju Yao[1], Xizhi Guo[2]. [1]Bio-X Institutes, Shanghai Jiao Tong University, Shanghai, China, [2]Bio-X Institutes, Shanghai Jiao Tong University, China
Disclosures: Jingjing Cao, None

Moderators:
Jon Tobias, M.D., MRCP
Avon Orthopaedic Centre, United Kingdom
Disclosures: Jon Tobias, None

Mary Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, USA
Disclosures: Mary Bouxsein, None

3:30 pm 1107 **Prediction of vertebral fracture by Trabecular Bone Score in elderly women of The Rotterdam Study**
Biljana Atanasovska*[1], Ling Oei[2], Carolina Medina-Gomez[3], Natalia Campos[1], Karol Estrada[4], Albert Hofman[5], Berengere Aubry-rozier[6], Carola Zillikens[7], Andre Uitterlinden[8], Edwin Oei[9], Didier Hans[6], Fernando Rivadeneira[10]. [1]Erasmus MC, The Netherlands, [2]Erasmus University Medical Center, The Netherlands, [3]Erasmus Medical Center, The Netherlands, [4]Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, [5]Department of Epidemiology, Erasmus Medical Center, Netherlands, [6]Lausanne University Hospital, Switzerland, [7]Department of Internal Medicine, Department of Epidemiology, Netherlands, [8]Rm Ee 575, Genetic Laboratory, The Netherlands, [9]Department of Radiology, Netherlands, [10]Erasmus University Medical Center, The Netherlands
Disclosures: Biljana Atanasovska, None

3:45 pm 1108 **2013 ASBMR Young Investigator Award**
Assessment of Vertebral Fractures in Patients Older than 50 Years with a Recent Non Vertebral Fracture Before and After Introduction of Systematic Vertebral Fracture Assessment (VFA)
Sandrine Bours*[1], Piet Geusens[2], Willem Lems[3], Robert Van der Velde[4], Tineke Van Geel[5], Joop Van Den Bergh[6]. [1]Maastricht University Medical Centre, The Netherlands, [2]University Hasselt, Belgium, [3]Vrije Universiteit Medical Centre, The Netherlands, [4]Viecuri MC, Netherlands, [5]Maastricht University, The Netherlands, [6]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands
Disclosures: Sandrine Bours, None

4:00 pm 1109 **Differentiating Osteoporotic Vertebral Fractures from Scheuermann's Disease using Different Radiological Assessment Methods for Osteoporotic Vertebral Fractures: The Rotterdam Study**
Ling Oei*[1], Stephan Breda[2], Guirong Jiang[3], Salih El Saddy[2], Ater Makurthou[4], Felisia Ly[4], Martha Castano-Betancourt[5], Albert Hofman[2], Erwin Waarsing[2], Dennis Black[6], John Schousboe[7], Frank van Rooij[2], Joyce Van Meurs[5], Andre Uitterlinden[8], Maria Zillikens[4], Fernando Rivadeneira[5], Edwin Oei[2]. [1]Erasmus University Medical Center, The Netherlands, [2]Erasmus MC, Netherlands, [3]University of Sheffield, United Kingdom, [4]Erasmus MC, The Netherlands, [5]Erasmus University Medical Center, The Netherlands, [6]University of California, San Francisco, USA, [7]Park Nicollet Clinic, University of Minnesota, USA, [8]Rm Ee 575, Genetic Laboratory, The Netherlands
Disclosures: Ling Oei, None

4:15 pm 1110 **Incidence of and Risk Factors for Clinical Fractures in Patients with Systemic Lupus Erythematosus and Matched Controls: a Population-based Study in the United Kingdom**
Irene Bultink*[1], Nicholas Harvey[2], Arief Lalmohamed[3], Cyrus Cooper[4], Willem Lems[5], Tjeerd Van Staa[6], Frank De Vries[7]. [1]VU University Medical Center, The Netherlands, [2]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [3]Division of Pharmacoepidemiology & Clinical Pharmacology, Utrecht University, Netherlands, [4]University of Southampton, United Kingdom, [5]Vrije Universiteit Medical Centre, The Netherlands, [6]Clinical Practice Research Datalink, United Kingdom, [7]Pharmacoepidemiology & Clinical Pharmacology, Utrecht University, Netherlands
Disclosures: Irene Bultink, None

4:30 pm **2013 ASBMR Young Investigator Award**

1111 **β-adrenergic Receptor Antagonists and Fracture Risk: A Meta-analysis of Selectivity, Dose, Gender and Site-specific Effects**

Konstantinos Toulis*[1], Karla Hemming[2], Stavros Stergianos[3], Krishnarajah Nirantharakumar[2], John Bilezikian[4]. [1]ARISTOTLE UNIVERSITY OF THESSALONIKI, Greece, [2]Department of Public Health, Epidemiology & Biostatistics, University of Birmingham, Birmingham, UK, United Kingdom, [3]Department of Internal Medicine, Sundsvall Hospital, Sweden, [4]Columbia University College of Physicians & Surgeons, USA

Disclosures: Konstantinos Toulis, None

4:45 pm **Aging Alters Bone-Fat Reciprocity and MPC Engraftment In Vivo**

1112 Lakshman Singh, Elizabeth Russell, Jung-Hoon Kim, Qijun Chen, Frederick Johnson, Robert Pignolo*. University of Pennsylvania, USA

Disclosures: Robert Pignolo, None

CONCURRENT ORALS - THERAPEUTIC IMPACT: EARLY STAGES

3:30 pm - 5:00 pm **Baltimore Convention Center**

Room 314-317

Moderators:

Vicki Rosen, Ph.D.
Harvard School of Dental Medicine, USA
Disclosures: Vicki Rosen, None

Guozhi Xiao, M.D., Ph.D.
Rush University Medical Center, USA
Disclosures: Guozhi Xiao, None

3:30 pm **2013 ASBMR Young Investigator Award**

1113 **Alleviation of Radiotherapy-Induced Bone Loss by Parathyroid Hormone Treatment is Associated with Improved DNA Repair in Osteoblasts**

Abhishek Chandra*[1], Tiao Lin[1], Ji Zhu[2], Beom Huh[1], Allison Altman[1], Sarah Hagan[1], Keith Cengel[1], Xiaowei Liu[1], Ling Qin[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania, School of Medicine, USA

Disclosures: Abhishek Chandra, None

3:45 pm **2013 ASBMR Young Investigator Award**

1114 **Manipulation of RANK monomer assembly as a novel anti-resorptive strategy**

Julia Warren*[1], Christopher Nelson[2], Lawrence Yu[2], Daved Fremont[2], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA

Disclosures: Julia Warren, None

4:00 pm **WNT16 is a Novel Osteoblast-Derived Paracrine Regulator of Osteoclastogenesis, Cortical**

1115 **Bone Mass and Fracture Susceptibility**

Sofia Moverare Skrtic*[1], Petra Henning[2], Anna Börjesson[2], Klara Sjögren[2], Sara Windahl[3], Hanna Isaksson[4], Emma Eriksson[5], Farasat Zaman[6], Lars Sävendahl[7], Ulf Lerner[8], Claes Ohlsson[1]. [1]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [2]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [3]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [4]Division of Solid Mechanics, & Department of Orthopedics, Lund University, Lund, Sweden, [5]Karolinska Institutet, Sweden, [6]Karolinskia Institute, Sweden, [7]Department of Women's & Children's Health, Karolinska Institutet, Pediatric Endocrinology Unit, Stockholm, Sweden, [8]University of Umea, Sweden

Disclosures: Sofia Moverare Skrtic, None

4:15 pm **Treatment With Anti-sclerostin Antibody Restores Endosteal Osteoblasts in Osteocyte-**
1116 **specific Gsα-KO Mice**
Keertik Fulzele*[1], Christopher Dedic[2], Xiaolong Liu[2], Paola Divieti Pajevic[3]. [1]Massachusetts General Hospital; Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Keertik Fulzele, None

4:30 pm **2013 ASBMR Young Investigator Award**
1117 **GATA4 Regulates Bone Mineralization Via Estrogen Receptor-Dependent and -Independent Pathways**
Alejandro Garcia*[1], Miriam Guemes[2], Stephanie Runke[2], Diana Rigueur[2], Gustavo Miranda-Carboni[2], Karen Lyons[3], Susan Krum[2]. [1]Univ. of California, Los Angeles, USA, [2]UCLA, USA, [3]University of California, Los Angeles, USA
Disclosures: Alejandro Garcia, None

4:45 pm **Glucocorticoids Stimulate Osteocyte Autophagy in Mice but Suppression of Autophagy in**
1118 **Osteocytes does not Accentuate their Negative Impact on the Skeleton**
Marilina Piemontese*[1], Melda Onal[2], Jinhu Xiong[3], Yiying Wang[1], Rajamani Selvam[1], Stuart Berryhill[4], Li Han[3], Erin Hogan[1], Robert Weinstein[3], Stavros Manolagas[3], Charles O'Brien[3]. [1]University of Arkansas for Medical Sciences, USA, [2]university of wisconsin, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [4]University of Arknasas for Medical Sciences, USA
Disclosures: Marilina Piemontese, None

CLOSING RECEPTION: A TASTE OF HOUSTON

5:00 pm - 6:00 pm **Baltimore Convention Center**
Outdoor Terrace, Level 300

EXHIBITS

We encourage you to visit the ASBMR Discovery Hall to learn about the newest bone and mineral related products and services, talk to experts about advancements in the bone and mineral field and thank our supporters for their participation. The company descriptions below were provided by each exhibiting company and do not represent an endorsement by ASBMR of any company, product or service.

Exhibit Hall Hours

Friday, October 4, 2013 . . . . . 5:45 p.m. – 7:00 p.m.

Saturday, October 5, 2013 . . . . . 10:00 a.m. – 5:00 p.m.

Sunday, October 6, 2013 . . . . . 10:00 a.m. – 5:00 p.m.

Monday, October 7, 2013 . . . . . 10:00 a.m. – 2:30 p.m.

New Products and Services

So much to see, so little time? We hear that. ASBMR makes it easier to see what's new, marking booths featuring new content with an NP logo in the program book, onsite signage and at the actual booth. Additionally, as you learn about the latest products and services offered by our exhibitors, get your raffle card signed for a daily chance to win an iPad!

Active Life Scientific, Inc.
Booth: 413
Santa Barbara, CA, USA
Active Life Scientific, Inc. develops and markets translational tools that measure the contribution of material properties to whole bone strength. The flagship product, BioDent, is particularly well-suited for measuring bone samples where local, geometry-independent, non-destructive, small-scale, in-vivo attributes are valued.

Alexion Pharmaceuticals
Cheshire, CT, USA
Booth: 305
Alexion is focused on serving patients with severe and ultra-rare disorders through life-transforming therapies. We developed and market a treatment for ultra-rare disorders caused by chronic uncontrolled complement activation, and are developing other product candidates, including asfotase alfa, an enzyme replacement therapy for hypophosphatasia (HPP), a severe multisystem metabolic disorder. Website: http://www.alxn.com

ALPCO
Salem, NH, USA
Booth: 212
Founded in 1991 as a distributor of immunoassay based products for the North American life science markets, ALPCO has become a premier channel representing over 60 collaborating partners globally. We recently expanded our offering to include applications for Chemiluminescence, HPLC, LC-MS/MS, purified antibodies, recombinant proteins and flow cytometry reagents.

American Society for Nutrition
Bethesda, MD, USA
Booth: 435
The American Society for Nutrition is the premier research society dedicated to bringing together the world's top researchers and clinicians to advance our knowledge and application of nutrition science. Established in 1928, ASN is the authoritative voice on nutrition, and publisher of the top peer-reviewed journals in nutrition and dietetics.

Amgen
Thousand Oaks, CA, USA
Booth: 400
Amgen, a biotechnology pioneer, discovers, develops, and delivers innovative human therapeutics. Our medicines help millions of patients in the fight against cancer, kidney disease, rheumatoid arthritis, bone disease, and other serious illnesses. With a deep and broad pipeline of potential new medicines, we continue to advance science to serve patients.

Atlantic Bone Screen
Cedex, France
Booth: 232

Biomedica Medizinprodukte GmbH & Co KG
Vienna, AUSTRIA
Booth: 339
Biomedica provides ELISA kits for the quantitative determination of *Sclerostin*, DKK-1, Osteoprotegerin, sRANKL and Cathepsin K. Kits are fully validated for use with human serum and plasma samples for clinical research. Visit our booth # 339 to get your voucher with special discounts on our *new DKK-1 Daytest ELISA*. (www.bmgrp.com)

BIOQUANT Image Analysis Corporation
Nashville, TN, USA
Booth: 201
BIOQUANT Image Analysis Corporation provides image analysis software, imaging hardware, and contract services for bone biology. BIOQUANT OSTEO software provides powerful and easy to learn analysis tools backed by personalized training, video tutorials, and ongoing technical support. BIOQUANT OSTEOIMAGER digital pathology scanners and BIOQUANT SCAN microscope upgrade kits image up to 8 sections or 96 well plates in brightfield, multi-channel fluorescence, and polarized light. BIOQUANT Research Services provides resin histology, slide scanning, and histomorphometry services.

BioVendor Laboratorni medicina a.s.
Brno, South Moravia, CZECH REPUBLIC
Booth: 239
BioVendor specializes in developing cutting-edge markers of clinical importance. Human and animal ELISA kits, proteins and antibodies in research areas: Energy Metabolism/Obesity, Bone and Cartilage Metabolism, Muscle Metabolism, Lipid Metabolism, Cardiovascular Disease, Pulmonary Disease Markers, Infection and Inflammation, Neural Tissue Damage, Oncology, Renal Disease, etc.

Bose Corporation
Eden Prairie, MN, USA
Booth: 407
The ElectroForce Systems Division of Bose Corporation is a leading supplier of mechanical testing instruments to research institutions, medical device manufacturers and engineering companies worldwide. Proprietary linear motor technology in Bose® mechanical testing instruments provides exceptional performance in systems for characterization and stimulation of orthopaedic, dental and tissue engineered materials.

Bruker BioSpin Corp.
Billerica, MA, USA
Booth: 317
Offering the largest range of Preclinical Imaging systems, Bruker is committed to supporting the scientific community with high-end instruments dedicated to disease research, translational science and Molecular Imaging. Our high end micro-CT analysis systems feature an unparalleled combination of image resolution, size of image field and acquisition speed.

Canadian Institutes of Health Research - Institute of Musculoskeletal Health and Arthritis
Ottaw, Ontario, CANADA
Booth: 438
The Institute of Musculoskeletal Health and Arthritis (IMHA) supports research to enhance active living, mobility and movement, and oral health; and addresses causes, prevention, screening, diagnosis, treatment, support systems, and palliation for a wide range of conditions related to bones, joints, muscles, connective tissue, skin and teeth.

Charles River
Wilmington, MA, USA
Booth: 211
Charles River, Montreal is an established center of excellence in the field of bone research. For more than 18 years we have been offering scientific expertise and services to evaluate the safety and efficacy of musculoskeletal drugs. Integrated services include bone densitometry, radiography, histomorphometry, biomechanics, micro-CT and biomarker evaluations.

Clinical Endocrinology News
Parsippany, NJ, USA
Booth: 119

Clinical Endocrinology News is an independent newspaper that provides the practicing endocrinologist with timely and relevant news and commentary about clinical developments in the field and about the impact of health care policy on the specialty and the physician's practice.

DIAsource ImmunoAssays S.A.
Louvain La, BELGIUM
Booth: 417

Elsevier
New York, NY, USA
Booth: 418
Visit booth # 418 to explore Elsevier's high impact bone journals and books. Sample journals such as *Bone* are available. Browse our latest quality publications on display, including *Osteoporosis, 4th Edition*, *Basic and Applied Bone Biology* and *Osteogenesis Imperfecta*. From research to reference works, you can find cutting-edge results at Elsevier!

EMD Millipore Corporation
Billerica, MA, USA
Booth: 321
EMD Millipore is the Life Science division of Merck KGaA of Germany, supporting research, development and production of biotech and pharmaceutical drug therapies. We support cellular analysis, pathway elucidation and functional genomics with the most relevant multiplex assays, complete range of instruments and software for analyzing bone metabolism biomarkers.

The Endocrine Society
Chevy Chase, MD, USA
Booth: 425
Founded in 1916, The Endocrine Society is the world's oldest, largest, and most active organization devoted to research on hormones and the clinical practice of endocrinology. More than 16,000 scientist and clinicians worldwide consider The Endocrine Society their professional home. Learn more at endocrine.org.

European Calcified Tissue Society
Bristol, Avon, UNITED KINGDOM
Booth: 439
The European Calcified Tissue Society (ECTS) is the major organization in Europe for researchers and clinicians working in calcified tissues and related fields. It aims to promote excellence in research into calcified tissues within Europe, and ensure the findings are disseminated to enable benefit to patients with metabolic bone disease.

Everidis Health Sciences
St. Louis, MO, USA
Booth: 310
Everidis is an innovative health sciences company focused on developing unique approaches to address nutritional and metabolic deficiencies. We strive to translate peer-reviewed research on health and nutrition into products that are safe, therapeutic and healthful. We are committed to improving patient quality of life.

FASEB MARC Program
Bethesda, MD, USA
Booth: 333
FASEB MARC Program provides a variety of activities to support the training of students, postdoctorates, faculty and scientists from underrepresented groups who are engaged in the biomedical and behavioral sciences research training. We offer travel awards for scientific meetings and research conferences. We also sponsor Career Development Programs including grantsmanship training seminars.

Faxitron
Tucson, AZ, USA
Booth: 216
Faxitron is the world's largest and only fully vertically integrated, dedicated cabinet x-ray company. With an installed base of over 6,500 systems in medical facilities and scientific and industrial research laboratories around the globe, Faxitron is the pioneer and industry standard in cabinet x-ray systems for specimen radiography, research, and NDT applications.

Hologic
Bedford, MA, USA
Booth: 302

Hologic, the pioneer of X-ray based bone densitometry introduces the Horizon™ DXA System. Horizon is designed to assess three major health concerns: osteoporosis, obesity and cardiovascular risk. Horizon features the latest innovations, including the NEW Atypical Femur Fracture Assessment, a technique to assess a serious side effect of bisphosphonate therapy.

Immundiagnostik AG
Bensheim, Hessen, GERMANY
Booth: 406
Immundiagnostik is an internationally active diagnostics company that develops and produces innovative immunoassays and other analytical methods for clinical routine and life science research. We provide effective tools for prevention, differential diagnosis and therapy monitoring in the areas of disorders of the skeletal system, oxidative stress, gastroenterology and cardiovascular diseases.

Immunodiagnostic Systems (IDS)
Scottsdale, AZ, USA
Booth: 416
For over 30 years, researchers and clinicians alike have turned to IDS for the specialty testing products and support they need to generate results that they can trust. IDS manufactures and supplies specialty manual and fully automated immunoassays, for research, medical and pharmaceutical applications worldwide. In addition to being renowned for the Vitamin D Tests, 25-OH and 1,25 (OH)2 Vitamin D, our comprehensive range in the areas of bone, cartilage, growth and hypertension has helped researchers and physician document the clinical validity of these specialty markers. Visit IDS at booth #416.

Immutopics International
San Clemente, CA, USA
Booth: 210
ELISA test kits for FGF-23, several forms of PTH, Osteocalcin, Calcitonin and related peptides are developed and manufactured by Immutopics. The company specializes in innovative assays for assessing calcium and phosphate regulation. Since 1989, it has been a leading source of immunoassay kits for pre-clinical studies of bone and mineral disorders in human, rat, mouse and other mammalian models.

International Bone & Mineral Society
Chicago, IL, USA
Booth: 431
IBMS is the leading network of researchers, clinicians, companies and societies dedicated to promoting bone health through the generation and dissemination of knowledge of basic biology and clinical science of the skeleton and mineral metabolism. In partnership with NPG, IBMS BoneKEy is an online global community for bone health.

International Society for Clinical Densitometry
Middleton, CT, USA
Booth: 432

Kubtec Digital X-ray
Milford, CT, USA
Booth: 335
High resolution digital small animal x-ray imaging systems with BMD software, automated x-ray acquisition, stainless steel interior, 5X geometric magnification, and portals for anesthesia and monitoring devices. Options include resolution capabilities under 5 microns and high resolution optical camera and light package. Available in a range of cabinet and detector sizes.

Lilly USA, LLC.
Indianapolis, IN, USA
Booth: 311
Lilly, a leading innovation-driven corporation is developing a growing portfolio of pharmaceutical products by applying the latest research from its own worldwide laboratories and from collaborations with eminent scientific organizations. Headquartered in Indianapolis, Ind., Lilly provides answers–through medicines and information–for some of the world's most urgent medical needs.

Lone Oak Medical Technologies
Doylestown, PA, USA
Booth: 205
The American Bone Health Society states that 70% of post-menopausal women in the US are not tested for low bone mass. Lone Oak Medical Technologies has introduced the accudxa2 BMD peripheral screening device to alleviate this crisis. Stop by booth 205, see the lightweight, easy to operate and quick results it produces.

medimaps group
Geneva, SWITZERLAND
Booth: 306
TBS is an easy access to bone microarchitecture. 1 click away from BMD examination, TBS brings the microarchitectural dimension for a better osteoporosis management.

Medtronic
Memphis, TN, USA
Booth: 117
At Medtronic, we're committed to *Innovating for life* by pushing the boundaries of medical technology and changing the way the world treats chronic disease. To do that, we're thinking beyond products and beyond the status quo - to continually find more ways to help people live better, longer.

Merck
North Wales, PA, USA
Booth: 101
Today's Merck is a global healthcare leader working to help the world be well. Merck is known as MSD outside the United States and Canada. Through our prescription medicines, vaccines, biologic therapies, and consumer care and animal health products, we work with customers and operate in more than 140 countries to deliver innovative health solutions. We also demonstrate our commitment to increasing access to healthcare through far-reaching policies, programs and partnerships that donate and deliver our products to the people who need them. For more information, visit www.merck.com.

Micro Photonics, Inc. 

Allentown, PA, USA
Booth: 319
Micro Photonics, and partners Bruker MicroCT and Kubtec, are leading the advancement in MicroCT and X-ray instruments for biomaterials and life science research with a focus on bone morphology and BMD. Be sure to stop by our booth to inquire about our laboratory contract services as well.

Mindways Software, Inc.
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Booth: 111
MindwaysCT provides physicians worldwide with systems that enable low dose CT bone mineral density (BMD) measurement. QCT spine measurements are made only in the trabecular bone to give exceptional sensitivity to early changes, while QCT hip measurements produce WHO compatible T-Scores and BMD measurements for use in FRAX®.

Mission Pharmacal Company
San Antonio, TX, USA
Booth: 401

National Bone Health Alliance (NBHA)
Washington, DC
Booth: 440
NBHA is a 56 member public-private partnership (including ASBMR) working to enhance America's bone health. Among its signature initiatives is Fracture Prevention CENTRAL, which provides tools to those interested in implementing a post-fracture prevention and care coordination program in their institution and the 2Million2Many osteoporosis education campaign.

NIH Osteoporosis & Related Bone Diseases ~ NRC
Bethesda, MD, USA
Booth 441
The NIH Osteoporosis and Related Bone Diseases ~ National Resource Center provides patients, health professionals, and the public with an important link to resources and information on metabolic bone diseases.

Orthometrix, Inc.
White Plains, NY, USA
Booth: 404
Galileo/VibraFlex series are patented vibration systems designed to improve muscle strength, power, mobility through improved neuromuscular coordination. Since stronger muscles mean stronger bones, our pQCT technology is valuable in monitoring such improvements. XCTs are bone diagnostic and monitoring devices making three-dimensional assessments of cortical and trabecular bone in one evaluation.

OsteoMetrics, Inc.
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Booth: 301
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Booth: 403
PharmaLegacy is a preclinical specialty CRO that has strong track records in services to worldwide companies committing R & D in therapeutics for Bone Safety/ Metabolism/Orthopaedics and Tissue Engineering, besides Immune Diseases/Inflammation and Tumor. We provide quality, timely and cost saving execution for experiments under GLP operation and AAALAC certification.

Quidel Corporation – Specialty Products
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Booth: 207
Quidel's Specialty Products Group develops, manufactures and markets unique diagnostic and research ELISA assays and related reagents with applications in bone health and collagen metabolism.

R&D Systems, Inc.
Minneapolis, MN, USA
Booth: 234
R&D Systems offers high quality tools for bone and mineral research, including bioactive recombinant proteins and high performance antibodies against cell type-specific markers, cytokines, and transcription factors. In addition, we provide specialized media and kits for the expansion, characterization, and osteogenic, adipogenic, and chondrogenic differentiation of mesenchymal stem/ stromal cells. We can be reached at 612-379-2956, www.RnDSystems.com or info@RnDSystems.com.

Rare Bone Network
Stamford, CT, USA
Booth: 433
The Rare Bone Disease Patient Network is a coalition of patient advocacy organizations that address rare bone diseases. The organizations provide support and information to patients and family members, collaborate with physicians and scientists to advance the understanding and management of rare bone diseases and advocate for expanded research.

Ratoc System Engineering Co., Ltd.
Tokyo, JAPAN
Booth: 411
Performing bone analysis with 3D analysis software, TRI/3D-BON. This software separates trabecular and cortical bone and measures 3D morphometry, BMD, and bone strength using DICOM files and CT images. These results will assist with diagnosis of osteoporosis progress.

Research Diets, Inc.
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Research Diets, Inc. formulates and produces purified OpenSource Diets® for laboratory animals. Custom diets shipped in 5–7 days. The BioDAQ® Food and Liquid Intake Monitor features spill-reducing hoppers, mounts to home cage, records the time, duration, amount of each meal automatically. Automated gate is programmable by time or amount consumed.

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As a global leader in diagnostics and pharmaceuticals, Roche is focused on helping patients live longer, healthier lives. We are leading the way in developing research tools, tests and customized treatments that enable personalized healthcare solutions, tailored to the needs of unique groups of patients. For more information, visit www.roche-diagnostics.us.

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Zurich, SWITZERLAND
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Scanco Medical (www.microCT.com) is the leading global provider of μCT, VivaCT and XtremeCT (HR-pQCT) scanners. Scanco also provides contract based scanning services for non-destructive scanning applications. The range of scanners offers capabilities of obtaining 3-dimensional images under 1 micron resolution capability with density calibration, short scan times, low radiation dose and high-throughput (built-in carousel). All Scanco Medical systems come with a complete suite of image analyses, 3D visualization and image/data archiving solutions. All systems come with world-wide warranty and support coverage. Contact us for your no-obligation demo.

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Springer is a leading international scientific, technical and medical publisher, with more than 2,000 journals & 7,000 new books per year. Currently more than 50,000 eBooks are available at springerlink.com. Our publications include Journal of Bone & Mineral Metabolism, Osteoporosis International, Calcified Tissue International, and Clinical Orthopaedics & Related Research.

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Our vision is to be a profitable, fast-growing, specialty pharmaceutical company focused on serious, and often life-threatening, diseases. By building upon our extensive experience and our commitment to change, we plan to be a leading voice in the specialty pharmaceutical market. And through our actions, we hope to be respected for the way we conduct our business and, most importantly, for meeting the needs of our patients today and tomorrow.

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Hoboken, NJ, USA
Booth: 218
As ASBMR's chosen publisher, Wiley is proud to announce the publication of the 8th edition of the society's field-leading resource, Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism. Stop by booth #218 to browse a copy, save 20% on your order, request free digital journal samples of JBMR, and more. For more information visit www.wiley.com.

A

A Cabral, W. SU0133
Aalto, V. SA0140, MO0140
Aarnisalo, P. SA0202
Aaron, B. SU0250
Aart, A. SU0019
Abali, S. SA0122
Abbott, M. MO0229
Abboud Werner, S. L. 1089
Abdel-Ghani, M. SA0194
Abdel-Mageed, A. SA0461
Abdelmagid, S. M. SA0211, MO0232
Abe, H. SA0373
Abe, M. SA0465, SU0460, MO0033
Abe, Y. MO0346
Abimanyi-Ochom, J. MO0395
Abou-Khalil, R. 1008, SU0185
Abraham, A. SU0073, MO0177
Abrahamsen, B. SA0323, SU0347, SU0347
Abrahamson, M. SA0354
Abrams, S. A. SU0123, MO0366
Abreu, E. MO0187
Abu-Amer, Y. SU0233, MO0262
Abula, K. SU0085
Aburatani, H. SU0254, SU0255, MO0258
Academia, E. MO0158
Acerbo, A. SU0060
Achiou, Z. SU0409, SU0409
Achira, A. MO0401
Ackert-Bicknell, C. L. SA0140, SA0264, SU0217, MO0140, MO0142
Acton, A. MO0115
Acton, D. MO0115
Adachi, J. 1017
Adachi, J. D. 1049, 1080, SA0331, SA0357, SA0384, SA0397, SU0315, SU0329, SU0340, SU0394, MO0318, MO0357, MO0398
Adamczyk, P. MO0349
Adami, S. 1049, SA0331, SA0357
Adamik, J. SU0274
Adams, A. Lynn FR0342, SA0342
Adams, D. J. 1060, FR0244, SU0080
Adams, J. 1062, FR0425, SA0160
Adams, J. S. 1024, MO0448
Adams, K. MO0428
Adams, S. L. MO0108
Adamsone, I. SU0311
Adapala, N. 1042
Addison, W. N. SU0244, SU0244
Adinolfi, E. SU0203
Adler, B. J. 1012, 1071, SA0424, SU0463, MO0423
Adler, R. A. SU0307
Adrian, M. SA0405, MO0201
Afsari, F. MO0093
Aftring, P. SA0389
Agarwal, S. MO0060
Aggabao, P. MO0194
Agharazii, M. SU0183
Aghdasi, B. MO0152
Agis, H. SU0205
Agodoa, I. SA0431, SU0307
Aguila, H. L. 1042
Aguirre, J. Ignacio SU0413, MO0209
Aguirre, L. MO0021
Ahmad, M. SA0442
Ahmed, L. FR0365, SA0365
Ahmed, M. SA0362
Ahmed, S. SA0206, SU0158
Ahn, K. SA0244, MO0255, MO0388
Ahn, S. SA0358, SU0350, MO0356
Aiba, A. SU0086
Aizawa, R. SU0086
Aizawa, T. SA0355
Akbar, D. SA0362
Akbarzadeh, S. MO0339
Akel, N. S. FR0457, SA0262
Akesson, K. E. 1099, FR0356, SU0132, SU0328
Akhouayri, O. MO0224
Akhter, M. SA0041, MO0209
Akintoye, S. O. MO0235
Akira, S. SA0241
Akiya, K. SU0385, MO0368
Akiyama, H. 1093
Akiyoshi, K. SA0135
Akkiraju, H. SA0143, SU0005
Akram, M. MO0068
Akyuz, G. SU0437
Al Ghanim, N. SU0401
Al-Daghri, N. MO0454
Al-Dujaili, H. SU0283
Al-Senani, N. SU0359, MO0384
Al-Shaik, A. SA0362
Al-Sibiani, S. SU0359, MO0384
Alam, I. SU0142
Alam, J. 1020, 1023
Alamillos, F. SU0462
Alarcon, C. MO0085
Albarani, V. MO0244
Albert, C. SU0039
Albertsson-Wikland, K. MO0028
Albisinni, U. SA0293
Alcorn, H. SA0390
Alemanni, M. SU0395
Alén, M. MO0022
Alessi, C. SA0343
Alexander, K. A. 1078
Alexander, S. 1036
Alexiou, P. SU0266
Alford, A. I. SA0218, SU0096
Algulin, J. SU0303
Ali, A. SA0246
Ali, O. SA0336, MO0232
Alibhai, S. FR0196
Aliprantis, A. 1087
Alkhouli, M. SU0142
Allaire, B. FR0011, MO0055
Allan, C. FR0187
Allen, B. FR0457
Allen, M. R. SA0258, SU0365, MO0189, MO0284, MO0414
Allen, S. SU0402
Alley, D. MO0330
Allin, S. SA0300, SU0297

Index

Allison, D. SA0009
Alliston, T. N. MO0281
Allo Miguel, G. MO0437
Alm, J. SU0238
Almaguer-Flores, A. SA0238
Alman, B. FR0242, MO0242
Almeida, M. S. 1013, 1074, FR0243, SA0446, MO0268
Almirol, E. MO0373
Alnammary, M. MO0101
Aloia, J. F. SU0123
Alon, U. S. SA0128
Alshbool, F. Zakariya MO0236
Alsousi, A. SA0001
Altman, A. R. 1113, SU0405, SU0406, MO0049
Alvarenga, J. SU0035
Alvarez, G. K. SA0062
Alvarez, J. SU0004
Alvarez, M. MO0410
Alves, S. SA0282
Aly, S. MO0200
Amachi, R. SA0465, SU0460
Amano, A. SU0219
Amano, H. SA0250
Amano, K. MO0084
Ambrisko, T. SA0455
Ambrose, C. G. MO0344
Ambrosius, W. 1027
Amelon, R. SA0295
Amend, S. Rebecca MO0264
Amin, N. SA0140, MO0140
Amin, S. 1084, SA0028, MO0027
Amirinejad, R. MO0339
Amling, M. MO0136
Ammann, P. SA0075
Amoui, M. SU0268
Amrein, K. MO0381
Amri, E. SU0362
Amstrup, A. MO0181
Amugongo, S. Kigamwa SU0408, MO0409
An, H. MO0108
Anan, Y. SU0338
Anastasopoulou, C. SU0174
Anastassiades, T. P. MO0357
Andersen, T. Levin MO0260
Anderson, D. MO0108
Anderson, D. Earl FR0011, SA0011, MO0055
Anderson, F. SA0357
Anderson, I. MO0111
Anderson, L. FR0179, SA0172, SU0179, MO0182, MO0439
Anderson, P. Hamill SA0450, SU0449, MO0453
Andersson, A. MO0419
Andersson, B. MO0028
Andersson, G. MO0286
Andresen, J. MO0114
Andresen, R. SU0357
Andrews, E. SU0372
Andrukhova, O. FR0455, SA0455, SU0116
Ang, L. SA0312
Angrula, A. MO0207
Anolik, J. SU0021
Anselmetti, G. SA0402
Ansieau, S. MO0460
Antolic, A. MO0128
Aoki, K. SU0057
Aonuma, H. SA0418
Aoyagi, K. MO0346
Apalset, E. SA0291, SA0315
Appel, L. SU0397
Aragaki, A. SA0140, MO0140, MO0317, MO0338
Aramendi, M. MO0437
Arana-Chavez, V. E. MO0267
Araujo, A. B. SA0352, MO0355
Arbit, E. FR0378
Ardawi, M. SA0362, SU0359, MO0384
Aref, M. MO0414
Arendt-Nielsen, L. MO0015
Arentsen, L. SA0297, SA0427, SU0402
Arima, K. MO0346
Arita, S. SA0294, SU0376, SU0379, SU0382
Arlt, M. SU0425
Armamento-Villareal, R. MO0021
Armas, L. A.G. SU0043
Armbruster, F. P. MO0106
Arnold, A. SA0140, SU0464, MO0140
Arnold, C. SU0295
Arnold, P. SA0060
Arnold, R. MO0343
Aro, H. T. SU0238
Aronson, J. MO0169
Arora, T. MO0380
Arounleut, P. 1011, MO0008
Arpadi, S. MO0070, MO0370
Arts, J. SA0319
Arya, A. SA0177
Asada, N. SA0241
Asadipooya, K. MO0339
Asashima, M. SU0084
Asatrian, G. 1024, 1086
Ashe, M. C. SU0399
Ashmore, J. MO0093
Ashraf, A. SU0004
Ashton, P. MO0093
Asou, Y. FR0094, SA0210, SU0094, SU0284
Aspelund, T. SA0140, SA0324, SA0330, MO0140
Aspenberg, P. 1079
Assadi, M. MO0339
Åström, E. MO0133
Asuncion, F. J. SU0134
Atanasovska, B. 1107, MO0140
Atay, Z. SA0122
Atkins, G. J. SA0450, SU0261, MO0278, MO0285, MO0453
Atkinson, E. SA0028, MO0027
Atteberry, K. SA0278
Atti, E. SA0410, SU0099, MO0152
Auais, M. SU0332
Aubin, J. E. SA0111, SA0112, SU0110, SU0136
Aubraye, D. SA0340, SU0316

Aubry-Rozier, B. 1107, SA0296, SA0322, SU0294, MO0323
Aucott, L. SU0317
Audet, M. SU0440
Auger, P. SA0390, MO0382
Auron, P. E. SU0274
Ausk, B. J. FR0187
Austin, M. 1022, SA0399
Aveline, P. MO0282
Axtell, R. MO0457
Aya, K. MO0113
Aydemir, O. MO0219
Ayers, D. C SA0093, SU0007, SU0020, SU0145, MO0210
Azria, M. MO0400
Azzano, P. SA0303

B

Baba, K. SU0086
Babey, M. SA0158, MO0158
Bacci, B. SU0456
Bächinger, H. 1036
Bach-Gansmo, F. Linnea SU0286
Badger, T. SA0098, SU0002
Badilatti, S. SU0051
Badr, M. SA0001
Badv, M. SA0047
Bae, C. SA0244
Bae, H. SU0140
Bae, Y. SA0467, SU0138
Baek, J. SA0102, SA0147, SA0235, SA0240, SU0287, MO0271
Baek, K. SA0102, SU0287
Baek, S. SU0140
Baek, W. SU0220
Baerts, L. MO0045
Baheti, G. MO0382
Bahls, M. MO0184
Bahrenberg, G. SU0234
Baht, G. FR0242, SA0242, MO0242
Bai, J. SU0165
Bai, X. MO0406
Baik, A. SA0276
Baile, C. A. SA0069
Baim, S. SA0320
Baima, J. MO0373
Bain, S. FR0187
Baird, J. SU0031
Bajaj, D. SA0052
Bajenova, E. MO0254
Baker, A. Rachel Haas SU0135, MO0364
Baker, J. SU0212
Baker, T. MO0089
Bakiri, L. SA0080
Bala, Y. FR0305, FR0364, SA0305, SU0029, MO0069, MO0174, MO0293
Balasubramanian, A. MO0348
Baldi, J. MO0188
Balistreri, L. SA0293
Ball, D. 1041
Ball, L. MO0230
Ball, L. E. SU0121
Baltz, P. 1009, MO0362
Baluarte, H. MO0173
Banerjee, M. SU0162
Banerji, M. 1027
Bang, H. MO0073
Baniwal, S. K. SU0442
Banti, C. SA0174
Banu, J. SU0419
Barbosa, A. G. S. SU0360, MO0071
Barbour, K. E. 1083
Barbu, C. MO0303
Bare, S. MO0042
Bareither, M. MO0075
Barest, G. SA0039
Bargahi, A. MO0339
Baricich, A. SU0383
Barkema, D. SA0435
Barlow, C. MO0340
Barlow, D. SA0370
Barnard, K. SU0392
Barnes, A. MO0136
Barnett, B. SA0268
Baron, J. SA0084, SA0086
Baron, K. SU0407
Baron, R. 1043, 1057, 1077, SU0214, SU0244, MO0105, MO0125, MO0159, MO0226, MO0250
Barr, S. SU0315, MO0318
Barratt, K. SA0450
Barre, D. MO0328
Barrett, S. SU0239, MO0405
Barrett-Connor, E. L. 1001, SA0193, SU0321, SU0343, SU0364, MO0445, MO0450
Barros, N. MT MO0109, MO0116
Barruet, E. MO0138
Barsony, J. SU0450
Bartali, B. SA0352, MO0355
Bartell, S. M. 1013, 1074, FR0243, SA0446, MO0268, MO0268
Bartelt, A. SU0216
Barton, S. SA0030
Baruch, Y. SU0438
Baruffaldi, F. SA0293
Barzilay, J. MO0341
Baschant, U. SA0442, MO0018
Bashur, L. Ann 1101, SA0466
Basil, K. SA0093
Basta Pljakic, J. FR0275
Basta-Plajkic, J. SU0285
Bastepe, M. SA0122
Bastianelli, E. MO0244
Bateman, T. A. SU0163, MO0058, MO0078
Bauer, A. SA0076
Bauer, C. SA0049
Bauer, D. 1027
Bauer, D. C. 1001, SU0321
Baum, T. SU0066
Bauman, W. SA0411
Baumeister, J. SA0412
Baxter-Jones, A. D.G. SU0295
Bay-Jensen, A. SA0020, MO0015
Bayani, G. 1086
Bayet, J. SA0303

Bayindir, O. SU0437
Baylink, D. J. MO0237, MO0279
Bea, J. SA0009
Beamer, W. G. SA0264, SU0217
Beasley, J. Michele FR0313, SA0313
Beaton, D. E. SA0394, MO0331
Beattie, K. A. SU0340
Beaudoin, C. SA0325, SU0440, MO0324
Beaulieu, M. SU0393, MO0358, MO0358
Beauvais, C. SA0340, SU0316
Bebbington, N. SU0034
Bebova-Mala, P. MO0124
Bédard, D. SU0260
Behera, A. SA0177
Behets, G. MO0045
Beier, E. FR0162
Beier, F. SA0016, MO0081
Beil, T. SU0216
Beilby, J. SU0290
Beleggia, F. MO0136
Belfast, M. SA0415
Belkina, A. SU0135, MO0364
Bell, D. MO0070, MO0370
Bellahcene, A. FR0458
Bellamy, N. SU0329
Bellantuono, I. MO0415
Bellido, T. M. 1055, FR0285, SA0258, SA0259, SU0125, MO0248, MO0283
Bello, N. SU0455
Beltrami, M. SA0077
Belury, M. MO0317
Belzile, E. 1095, MO0350
Belzile, Á. SA0332
Bemben, D. A. SU0431
Bemben, M. G. SU0431
Ben Yahia, H. SU0362
Ben-Awadh, A. SU0125
Benaitreau, D. SA0408
Bengs, B. SA0018
Benhamou, C. SA0408, SU0362, SU0409, MO0282
Benkusky, N. SA0213, MO0198
Benoist-Lasselin, C. MO0090
Benson, C. 1023
Berendsen, A. SU0200
Berendsen, A. Desiree 1105
Berger, C. SA0329, SU0315, MO0318
Bergeson, S. SA0422
Bergman, C. MO0275
Bergmann, J. SU0435
Bergstrom, I. SU0046
Bergstrom, U. MO0338
Bergwitz, C. MO0173
Berkaw, M. SU0121
Berman, E. 1005, MO0465
Bermeo, S. 1070, SU0243
Bernard, J. SA0402, MO0094
Bernhardt, R. SU0410
Bernoulli, J. MO0013
Berry, R. 1046
Berry, S. SU0318
Berryhill, S. 1118, SU0443, MO0362
Bertin, T. 1036, SU0109, SU0134, MO0270
Berzaczy, G. FR0299
Besio, R. MO0126
Bessette, L. SA0325, SA0332, MO0324
Bessudo, A. SA0169
Beullens, I. SU0259
Bevilacqua, M. T. SU0395
Bhadada, S. SA0177
Bhagat, G. 1005, MO0465
Bhattacharya, A. SA0068, SU0422
Bhattacharya, P. SU0059
Bhattacharya, R. K. MO0339
Bhattacharyya, M. H. SU0402
Bhirommuang, N. MO0455
Bi, L. SU0065, MO0054
Bi, X. SU0458
Bialek, P. 1011
Bian, Q. SA0423
Bianchini, C. MO0447
Bianco, P. SA0036
Bice, A. FR0181, MO0407
Bicho, M. SU0360
Bidwell, J. P. MO0410
Bigelow, E. SA0055
Biggin, A. MO0173
Bijlsma, J. MO0329
Bikle, D. 1033
Bikle, D. D. SA0156, SA0158, SU0157, MO0156, MO0158
Bikorimana, E. SA0116
Bilezikian, J. FR0175, SA0175
Bilezikian, J. P. 1111, FR0179, SA0172, SU0073, SU0175, SU0178, SU0179, SU0180, SU0181, MO0177, MO0182
Billiar, T. SU0160, SU0161
Billington, C. SU0252
Bindels, R. SU0209
Binder, N. FR0253
Binkley, N. 1020, SA0290, SU0306, SU0352, SU0373, MO0006, MO0307
Biosse Duplan, M. MO0090
Birch, H. SA0019
Birkbak, M. SA0079
Birkedal, H. SA0079, SU0286
Birkhold, A. Isabell SA0059, SU0047
Bis, J. SA0140, MO0140
Bischoff, D. SU0153
Bishop, K. A. SU0227
Bishop, N. SU0031
Bisogni, M. SA0077
Bisson, M. SU0272
Bittighofer, C. MO0427
Bivi, N. MO0201
Bjornerem, A. SA0365, MO0293
Björk, J. SA0323
Black, A. J. SU0317
Black, D. M. 1109, SA0298, SA0389, SA0389, SU0319, SU0320, SU0321, MO0291
Black, J. MO0270
Blackburn, M. SA0098, SU0002
Blackwell, T. SA0193, SU0321
Blair, H. C. SA0170, SU0124
Blanchette, C. SA0089
Blangero, J. SA0336

Blangy, A. MO0104
Blank, R. D. 1007, SA0062, SA0171, SA0336, MO0215
Blattert, T. SA0402
Blauth, M. SU0240
Blazek, A. MO0060
Bleakney, R. 1080, SU0329, MO0297
Bleau, A. SU0465
Blesic, K. MO0301
Blissett, A. SU0131
Bliuc, D. SA0309, MO0313, MO0332
Bliziotes, M. SA0354
Blocher, N. SU0174
Block, T. SU0081
Blode, H. MO0030
Blomhoff, R. SA0315
Blomquist, G. SA0166
Bloom, J. SA0428
Bloomfield, S. A. MO0040, MO0047, MO0189
Blosser, W. MO0468
Bluman, E. MO0373
Boadle, R. SU0196
Boback, B. MO0105, MO0226
Bobyn, J. MO0130
Bockman, R. S. SA0375, SA0375
Boden, S. FR0153
Bodur, H. SA0385
Boesze-Battaglia, K. MO0235
Boggild, M. FR0196, FR0196, SA0195
Bognar, K. MO0343
Bogoch, E. 1080, SA0394, SU0329, SU0393, MO0331
Boire, G. SU0393, MO0358
Boivin, G. SU0043, MO0048, MO0175
Boland, R. L. SA0191
Bolarinwa, S. SA0258
Bollag, W. SA0237, MO0004
Bolognese, M. 1018, 1022, SU0400
Bolognese, M. A. 1020
Bonar, S. 1072
Bonaretti, S. MO0065, MO0295
Bonds, D. 1027
Bone, H. 1018
Bonewald, L. F. FR0280, SA0001, SA0186, SA0270, SU0065, SU0104, SU0190, MO0054, MO0114, MO0185, MO0187, MO0192, MO0285
Bonfa, E. SU0035, SU0351
Bonjour, J. 1064
Bonnelye, E. FR0458
Bonnet, N. FR0264, SA0046, SU0056, MO0289, MO0289
Bonneterre, J. SU0375
Bonnick, S. L. 1018
Bonomo, R. MO0160
Bonor, J. SA0143
Boonen, S. 1022, 1049, SA0331, SA0357, SA0389, SA0400, SU0059, SU0400, MO0450
Boot, C. SA0429
Borák, L. SU0057
Borchardt, G. SU0373
Borderie, D. SA0178
Borges, P. MO0190
Borggrefe, J. MO0464
Borgstrom, F. MO0395
Börjesson, A. 1115
Borke, J. SA0105
Borra, V. M. SA0168
Borsari, S. SA0174
Borsheim, E. 1097
Boskey, A. L. MO0042, MO0418
Bostrom, M. SA0061, SA0371, MO0417
Böttiger, D. SU0381
Bouaziz, W. 1068
Boudot, C. MO0112
Boudreaux, R. MO0189
Bouët, G. SU0110
Bouillon, R. MO0450
Bouleftour, W. SA0111, SA0111, SU0110
Boulet, D. MO0350
Bouman, A. SU0058
Bourghardt-Fagman, J. MO0446
Bours, S. 1108, SA0319
Boutroy, S. 1081, SA0172, SA0303, SU0073, MO0177, MO0305, MO0327, MO0365
Bouxsein, M. L. FR0011, FR0066, FR0372, SA0044, SA0051, SA0337, SA0352, SU0199, SU0339, SU0433, MO0032, MO0053, MO0055, MO0058, MO0355, MO0430
Bowen, C. SA0143
Bowman, L. SA0060
Bowman, L. C. MO0058
Boyan, B. D. FR0444, SA0238, SA0449
Boyce, A. Marie SA0036
Boyce, B. F. SU0021, SU0237, MO0020
Boyce, R. 1069, SU0412
Boyd, S. K. 1063, 1082, SA0076, SA0301
Boyle, A. SA0140, MO0140
Braby, L. MO0189
Brackee, G. SA0422
Bradaschia-Correa, V. MO0267
Bradica, G. SA0063
Bradley, E. W. SA0085, SU0090, MO0088
Braeken, A. SU0059
Bragdon, B. C. SA0143, SU0135, MO0200, MO0364
Brain, J. MO0134
Brance, M. MO0402
Brandi, M. SA0208, SU0173, SU0197
Braun, A. SA0169
Bravenboer, N. SA0281, SA0452
Bravo Martin, A. SU0043
Bravo, C. SA0040
Brazeau, D. SA0370
Brazier, M. MO0112
Brecks, C. 1072
Breda, S. 1109, SA0140, MO0140
Bredbenner, T. L. MO0038
Breer, S. MO0136
Breggia, A. C. SA0186
Breheny, K. SU0404
Breiden, M. SU0234
Breitton, K. MO0049
Brennan, H. SA0249
Brennan, S. SA0115

Index

Brennan, S. Lee SA0321, SU0355, MO0354
Breuil, V. SU0362
Bridges, D. SA0048
Briggs, T. SA0019
Brillante, B. SA0036
Brink, P. SA0319
Briot, K. MO0176, MO0306
Brismar, T. SU0300, SU0303
Britton, R. MO0422
Britton, S. SA0218, MO0128
Brix, B. SA0122
Brix, T. SU0347
Broadus, A. E. MO0123
Brochin, E. SU0015
Brodt, M. FR0025, SU0278, MO0264
Broe, K. E. SU0339
Broeckel, U. 1007, SA0336
Broege, A. SU0252
Bromage, T. G. SA0061, SA0279
Brommage, R. SA0065, SA0132, MO0051
Bromme, D. SA0247, SU0248
Brooks, C. SU0196
Brooks, D. FR0066, SA0044, SU0199
Brooks, P. SA0219
Brorson, S. MO0286
Brose, N. SU0184
Brosh, T. MO0099
Brotto, L. SA0186, MO0185
Brotto, M. SA0001, SA0186, SA0464, SU0190, MO0185, MO0187, MO0192
Broun, E. MO0070
Brouwer, B. MO0359
Brown, A. SU0200
Brown, D. SA0258, MO0414
Brown, E. SA0395, MO0240
Brown, J. 1018, 1020, 1022, 1095, SA0325, SA0332, SA0384, SU0439, SU0440, MO0324, MO0350
Brown, K. SA0297, SU0009
Brown, M. SA0057, SA0137, SA0140, SU0036, MO0140
Brown, T. SU0104
Brüel, A. SA0263, SU0286
Bruesewitz, M. MO0065
Brufsky, A. 1050
Brum, P. MO0092
Brun, L. MO0402
Brunetti, G. SA0153
Bruno, A. FR0011, MO0055
Brutus, J. SA0189
Bruzzaniti, A. SA0258, SU0206, MO0284
Bryant, H. U. SA0405
Bucci-Rechtweg, C. SA0389
Buchebner, D. FR0356, SA0356
Bucki-Smith, G. SA0321
Buckley, K. SA0019
Bucovsky, M. FR0432, SA0430
Budnik-Zawilska, M. Barbara SU0441
Budoff, M. SA0337
Buehring, B. SU0373, MO0006
Buffat, H. SA0382, SU0072
Buie, H. R. SA0301
Bullock, W. SA0278
Bultink, I. E.M. 1110
Bunger, L. 1041
Bunker, C. MO0132
Bunta, A. D. SA0307, SU0391
Buntich, S. SU0412
Buo, A. SU0231
Burden, A. M. MO0342
Burge, R. SA0326, SU0404
Burgers, T. SA0126, SU0212
Burghardt, A. SU0066, MO0295
Burghardt, A. J. MO0065
Burghardt, I. SA0232
Burk, D. SA0341
Burnand, B. SU0393, MO0323
Burnett-Bowie, S. M. 1019, FR0372
Burns, R. SU0135, MO0364
Burns, T. SA0032, SA0033, SA0295, MO0300
Burr, D. B. MO0414
Burrage, L. SU0138
Burshtien, G. FR0378
Burt, L. A. 1082
Burt-Pichat, B. MO0048
Bushinsky, D. A. SU0118
Butler, L. SA0312
Buttazzoni, C. MO0025
Button, B. SA0126
Butun, B. SA0385
Butz, K. SA0043
Byrnes, E. SU0290
Byun, D. SU0308
Byun, S. SA0358

C

Cabahug, P. FR0283, SA0283
Cabana, F. SU0393, MO0358
Cabinakova, M. SU0432
Cabral, W. A. SU0131
Cadarette, S. M. SU0377, MO0342
Cadillac, J. MO0470
Cadirni, A. MO0390
Caeiro, J. SA0045, SU0070, MO0057
Caffarelli, C. MO0390
Cai, W. SA0107
Cain, C. Joseph SU0127
Cain, R. SA0405, MO0201
Caird, M. SU0038
Calabrese, G. MO0142
Calarge, C. SA0295
Caldwell, K. SU0006
Callaci, J. J. SU0042
Callon, K. SU0265, MO0111
Callréus, M. SU0132
Calvi, L. M. FR0155, SA0160, MO0231
Calvo, A. SU0465
Calvo, N. MO0121
Camacho, P. M. MO0378, MO0391
Camara, I. MO0378
Camargo, M. SU0398
Camirand, A. 1061, SA0447, SA0456
Camp, K. MO0040
Campagna, S. SA0077, SA0441, MO0441

Campbell, G. SU0394
Campbell, G. M. SU0410, MO0066
Campeau, P. 1006
Campeau, P. M. SU0138
Campos, N. 1107, SU0323
Canaff, L. SU0187, MO0207
Canalis, E. 1060, 1075, SU0281, SU0281, MO0243
Candela, M. SA0021, SA0110
Cann, C. E. SU0009
Cannonier, S. FR0461
Cantley, L. SA0021
Cantrill, L. SU0198
Cao, H. SA0198
Cao, J. 1106
Cao, J. J. SA0034, SA0411
Cao, K. SU0165
Cao, L. 1047
Cao, X. SA0269, SU0119, SU0159, MO0017
Caparbo, V. SU0351, SU0421, MO0309
Capietto, A. 1058
Capozza, R. SU0076
Capuani, S. MO0188
Caraco, Y. FR0378
Carballido-Gamio, J. FR0190, SU0298, MO0295
Carbone, C. SA0153
Carbonell, C. MO0394
Carda, S. SU0383
Cardew, S. 1080, SU0329
Cardozo, C. Pratt SA0411
Carey, D. E. MO0168
Carlin, L. SA0300, SU0297, MO0334
Carlson, K. SU0055
Carlson, M. SU0001, MO0002
Carlsten, H. FR0443
Carmeliet, G. J.V. FR0245, SU0147, SU0259
Carmeliet, P. FR0245
Carmona, A. MO0116
Carnevale, V. SU0120
Carossino, A. SU0197
Carpenter, D. SU0044, SU0066, MO0046
Carpenter, T. O. 1048, SU0169, MO0173
Carpentier, A. SA0451
Carpentier, V. SU0071
Carpio, L. SA0085, SU0090
Carr, D. SU0352
Carr, J. SA0337
Carrelli, A. Lisa SA0430
Carrier, N. MO0358
Carroll, D. SU0339
Carter, E. MO0418
Carter, M. MO0186
Cary, R. FR0407
Casazza, K. SA0027, SU0004
Case, N. D. SA0053, SU0064
Casey, M. MO0379
Casey, R. MO0361
Casey, V. FR0012
Cass, T. SA0118
Castano-Betancourt, M. 1109
Castañeda, S. MO0057
Castronovo, V. FR0458
Casu, C. SU0152
Catlin, L. MO0089
Cauley, J. A. 1003, 1083, SA0140, SA0193, SA0298, SA0389, SU0319, SU0320, SU0321, SU0327, SU0341, SU0343, MO0140, MO0445
Causarano, A. SA0077
Cavanagh, P. R. FR0190
Cavello, G. MO0345
Caverzasio, J. MO0205
Cawthon, P. M. 1001, 1003, SA0193, SA0344, SU0320, SU0321, SU0325, SU0327, MO0296, MO0333, MO0445
Cawthorn, W. SU0155
Ceccarelli, F. SA0293
Cejka, D. FR0299
Celi, M. SA0345, MO0188
Cengel, K. 1113
Center, J. R. FR0379, SA0309, SA0351, SU0330, MO0313, MO0322, MO0332
Cerjak, D. SA0336
Cerullo, V. SU0022
Cetani, F. FR0174, SA0174
Cetin, A. MO0360
Cha, S. 1098
Chailurkit, L. MO0455
Chaintreuil, J. MO0299
Chakkalakal, S. Anandan MO0145
Chalabi, Y. SA0329
Chalhoub, D. 1003
Challa, S. SU0325
Chambon, P. FR0443
Champ, R. MO0051
Champion, K. SU0435
Chan, J. MO0370
Chan, M. 1012, 1071, SA0424, SU0463, MO0019, MO0064, MO0322, MO0423
Chandler, D. SA0395
Chandra, A. 1113, SA0016, SU0151, SU0405, SU0406
Chang, F. SU0208
Chang, J. 1080, SA0089, SA0089, SA0358, SU0329, MO0204
Chang, L. 1024
Chang, W. 1033, SA0269, SU0131, MO0156
Chanock, S. MO0338
Chappel, J. 1088
Chapurlat, R. 1081, SA0416, SU0400
Chapurlat, R. D. 1049, SA0303, SA0331, SA0357, MO0069, MO0305, MO0327, MO0361, MO0365
Charles, J. F. 1087
Chasman, D. SA0140, MO0140
Chatani, M. SU0258
Chatham, L. SU0044, MO0046
Chau, M. SA0084, MO0079
Chaudhri, R. Ali FR0444, SA0444
Chaurand, P. MO0452
Chaux, R. 1030
Chavassieux, P. M. SA0416
Chavez, M. MO0137
Che, X. SU0091
Checa, S. SA0059, SU0047
Chechik, O. MO0099

Chee, A. MO0108
Chellaiah, M. A. SU0270, MO0462
Chen, A. SA0267, SU0030
Chen, C. SA0295, SU0202
Chen, C. Mengmeng SA0415, SU0417
Chen, D. 1101, SA0198, SA0379, MO0016, MO0018
Chen, F. Huey SU0136
Chen, H. 1027, MO0105, MO0223
Chen, I. SA0129, SA0231, SU0128
Chen, J. SA0098, SA0161, SA0185, SA0200, SA0217, SA0260, SA0422, SU0002, SU0087, SU0149, SU0213, MO0213, MO0245
Chen, J. C. 1015
Chen, L. SA0326, MO0003, MO0239
Chen, M. FR0162, SA0202, MO0227
Chen, P. SU0202
Chen, Q. 1112
Chen, R. MO0380
Chen, S. SU0107, SU0268, MO0236, MO0270
Chen, T. 1033, SA0434, MO0375
Chen, W. 1092, SA0274, MO0256
Chen, X. SA0142, SA0338, SU0081, SU0235, MO0225
Chen, Y. 1036, SA0127, SA0326, SA0354, SU0109, SU0134, MO0270
Chen, Z. 1101, SA0006, SA0009, SA0073, SA0100, SA0354, SU0013
Cheng, C. 1067, MO0335
Cheng, H. SA0410
Cheng, J. SA0038, SA0185, MO0245
Cheng, S. SU0230, SU0262, MO0085
Cheng, T. SU0198
Cheng, Z. 1033, SA0158, MO0156
Chengprapakorn, W. SA0159
Cheriet, S. SA0302
Chernoff, J. SA0401
Chetan, B. FR0157, SA0157
Cheung, A. 1080, FR0163, FR0196, SA0195, SA0384, SA0399, SU0329, SU0399, SU0401, MO0069, MO0165, MO0297, MO0297, MO0316
Cheung, F. SA0038
Cheung, S. SA0086
Chevalley, T. 1064
Chhea, T. 1029
Chi, C. MO0134
Chiang, A. 1023
Chiang, C. Ying MO0174
Chiarantin, G. MO0116
Chiaro, J. 1100
Chiavacci, R. SU0026
Chiavistelli, S. MO0182
Chiba, Y. SA0150
Childress, P. MO0410
Chilibeck, P. SU0295
Chim, S. SA0091
Chiodo, C. MO0373
Chirgwin, J. M. SU0457, MO0466
Chisi, J. SA0279
Chitayat, D. SU0133
Chittur, S. SA0186
Chiu, C. SA0063
Chiu, G. SA0352, MO0355
Cho, D. SA0212
Cho, E. SA0228, SU0113, SU0350
Cho, G. SU0091
Cho, H. MO0080
Cho, J. SU0184, SU0184, MO0139, MO0220
Cho, S. 1035, SA0236, MO0211
Cho, Y. SA0235, SA0240, MO0218
Choe, H. MO0160
Choi, H. SU0226, SU0228, SU0245, SU0356, SU0356
Choi, J. SU0091, SU0184, SU0341, MO0086, MO0218, MO0417
Choi, K. SA0140, SU0217, MO0140, MO0255
Choi, S. SA0308, SU0195
Choi, Y. SU0139, MO0139, MO0220
Chongwatpol, P. MO0420
Chou, W. SA0335
Choudhary, S. 1060
Chowdhury, S. MO0435
Christakos, S. SU0453, MO0457
Christiansen, B. SA0089
Christiansen, C. MO0015
Christiansen, P. SU0182, MO0181
Chu, Y. SA0225, MO0132
Chubb, R. FR0202, SA0202
Chubb, S. SU0290
Chun, R. F. SA0159, SA0344
Chung, C. 1024, 1086
Chung, D. SA0212
Chung, H. MO0255, MO0388
Chung, J. SA0212
Chung, M. SA0212
Chung, R. SA0091, MO0312
Chung, S. SU0308
Chung, U. 1093, SA0222, MO0141
Chung, W. SA0134
Chung, Y. SA0386, MO0392
Church, C. 1046
Churchill, G. SU0217
Chutkan, N. SA0002, SA0237, MO0004, MO0151
Chyu, M. MO0340
Cianferotti, L. SA0208, SU0173
Cicek, M. FR0271
Cilli, M. SA0180
Cinelli, P. SU0234
Cipriani, C. SA0180, SU0120
Cisari, C. SU0383
Civitelli, R. 1072, FR0226, SA0197, SA0216, SU0278, SU0336
Clark, G. SA0140, MO0140
Clark, R. SA0245, SU0163
Clarke, B. L. SA0173, SA0175
Clarke, C. MO0201
Clarke, S. MO0420, MO0433
Clarke-Harris, R. SA0030
Claussnitzer, M. SA0142
Clegg, D. FR0445
Clemens, T. L. 1044, SA0034, MO0202
Clementelli, C. SA0180

Clements, K. MO0169
Clemmons, D. MO0157
Clezardin, P. FR0458, MO0460
Clifford, H. SA0194
Climer, L. 1034
Cline, T. MO0275
Clines, G. A. SA0134
Clines, K. SA0134
Clinkenbeard, E. FR0118, FR0120, SA0118
Cloetens, P. SA0287
Coates, J. MO0428
Cocco, A. MO0190
Cockell, S. MO0095
Cohen, A. 1021, SA0366, SU0277, SU0428
Cohen, R. 1027
Cohen-Solal, M. 1068, MO0176, MO0351
Cohn, D. 1006
Coimbra, L. MO0199
Cointry, G. SU0076
Colaianni, G. MO0155
Cole, J. H. SA0218
Cole, W. 1006
Cole, Z. SU0031
Coleman, R. SA0020, SA0266
Collet, C. SU0435
Collette, N. SA0089, MO0097
Collier, L. SA0411
Collin-Osdoby, P. A. FR0025, FR0025
Collins, J. MO0129
Collins, M. T. SA0036
Colnot, C. 1008, SU0185
Colombo, J. SU0239, MO0405
Colon, I. FR0432
Colon-Emeric, C. S. SU0392, MO0352
Colt, E. MO0068
Colucci, S. SA0153, MO0155
Combalia, A. SA0196
Come, D. 1068
Compston, J. E. 1049, SA0331, SA0357
Confavreux, C. B. MO0361
Cong, E. Alice SA0182, SU0177
Conlon, C. FR0066, SA0044, MO0032
Conraads, V. SA0099
Cook, C. SU0192, MO0159
Cool, S. M. SA0234
Cooper, C. 1049, 1110, SA0030, SA0323, SA0331, SA0357, SU0031, SU0302, MO0294, MO0329
Cooper, G. Mel SU0160, SU0161
Cooper, P. SU0031
Corcelli, M. MO0155
Cordover, D. 1069
Corey, E. SA0460
Cormier, C. SA0029, SA0178, SU0028
Corn, D. MO0160
Cornish, J. SU0265, MO0111
Corona-Rivera, J. SU0138
Corpe, R. SA0002, MO0151
Corradini, C. MO0376
Correa, P. Silveira SA0181, SU0168
Correa-De-Araujo, R. SU0016
Corriveau, H. SU0393
Corsi Romanelli, M. SU0156
Cortet, B. SA0340, SU0375, MO0176
Cosman, F. FR0371, SA0371, SA0389
Costa, A. G. SA0357, SU0175, SU0277, MO0182
Costa-Guda, J. SU0464
Costanzo, P. MO0402
Costello, P. SA0030
Cote, G. J. SA0114
Cotter, M. 1097
Couchman, L. SA0120
Coucke, P. J. SA0137
Couladouros, E. SU0266
Court, C. SA0402
Courtland, H. SA0061, MO0417
Cox, C. SA0068
Cox, G. MO0081
Coxon, F. SU0264
Crabtree, N. Jane SU0034
Cram, P. SA0403, SU0345
Crandall, C. J. SA0290, SU0352
Crane, J. SA0269, SU0119, SU0159
Crane, N. J. MO0076
Craven, C. FR0196
Crawford, J. 1013, 1074, FR0243, SA0446, MO0268
Crawford, R. SU0292
Cray, J. John SU0101
Cregor, M. 1055, FR0285, SA0258
Cremers, S. 1021, 1051, FR0180, SU0175, SU0277, MO0439
Crenshaw, A. SU0325
Cres, G. MO0104
Crespo, M. SU0430
Cresti, L. SA0077, SA0441, MO0441
Crilly, R. G. SU0394
Crimeen-Irwin, B. FR0126, SA0251
Crist, J. SU0006
Critchlow, C. FR0342
Crockett, K. SU0295
Croset, M. MO0460, MO0460
Cross, M. MO0395
Crotti, T. N. SA0266
Crowford, K. SA0211
Cui, L. SU0341
Cui, R. MO0039
Cui, S. SA0003
Cui, Y. SU0165, MO0225
Cui, Z. SA0269, SA0326
Culaficvojinovic, V. MO0303
Culbert, A. L. MO0145
Culbertson, C. SU0118
Culemann, S. SA0442
Cullen, D. M. SA0062
Cumbee Iv, J. SA0105
Cummings, S. R. 1001, SA0140, SA0193, SA0298, SA0389, SU0320, SU0343, MO0140, MO0450
Cummins, J. MO0233
Cundawan, W. SU0257
Cundy, T. SA0141, MO0129
Cupples, A. SA0335
Cupples, L. 1067, SA0140, SA0142, SA0337, SU0015, SU0318, SU0339, MO0140

Cureton, A. SU0163, MO0058
Curione, M. SA0180
Curkovic, I. SA0382
Curry, C. 1006
Curtis, J. R. SA0344, SA0348, SU0307, SU0310, SU0321, SU0344, MO0296, MO0380
Cusano, N. E. FR0179, SA0172, SA0179, SU0178, SU0179, SU0180, SU0181, MO0177, MO0182
Cuscito, C. MO0155
Cusick, T. E. SU0415, SU0417
Cvikl, B. SU0205
Czerwinski, S. SA0336

D

Da Costa, K. MO0190
Da Silva, L. SA0282
Dacquin, R. FR0264
Dadwal, U. FR0461
Daft, P. Glenn MO0470, MO0470
Dagda, R. SA0422
Dagenais, P. SU0393
Dahl, N. SA0257
Dahl-Hansen, H. MO0178
Dai, K. MO0234
Dai, Q. 1062, SU0081
Dai, W. SU0408, SU0408, MO0409
Dai, Z. SA0312
Daizadeh, N. 1017
Dakin, P. 1018, SA0400
Dall'ara, E. SU0067
Dallas, M. 1013, SA0186, MO0059
Dallas, S. L. 1016, FR0280, SU0280
Daluiski, A. MO0412
Daly, R. M. FR0195, FR0195, SA0451
Dam, T. SA0344
Damaj, G. SU0436
Damerow, S. MO0408
Damiani, F. SU0168
Danforth, J. SA0041
Dang, A. MO0191
Daniel, D. MO0114
Danielson, K. SU0381
Danks, J. A. SU0456
Dao, D. SA0096
Daragon, A. SA0302
Darbon, A. 1054
Darnay, B. G. SU0273
Das, V. SU0229
Daskalopoulou, S. MO0397
Datta, H. Kumar MO0095, MO0100
Datta, N. SU0229
Daubs, M. SU0099, MO0152
Daukste, I. SU0311
Davenport, D. SA0166
Davey, R. A. SA0450
Davidson, P. SA0126
Davies, J. SU0424
Davies, L. SA0030
Davis, C. MO0034
Davis, H. MO0461
Davis, M. MO0420, MO0433
D'Avola, G. SA0343
Dawson, B. 1036, SA0127, SU0022, SU0134, MO0270
Dawson, J. SA0149
Dawson-Hughes, B. SU0344
Day, A. MO0272
De Bakker, C. SU0405
De Cabo, R. FR0243
De Crombrugghe, B. SU0220
De Giacomo, A. SU0106, MO0200
De Jong, J. J.A. SA0319
De Kort, W. SA0429
De La Piedra, C. SA0045, MO0041
De Long, N. SA0047
De Lucia, F. SA0180
De Meester, I. MO0045
De Mingo Domínguez, M. MO0437
De Oliveira, K. MO0251
De Paolis Kaluza, M. MO0055
De Paula, F. MO0183
De Rosa, A. MO0058
De Rossi, A. SA0282, MO0251
De Souza, M. SA0426
De Vernejoul, M. SU0435, MO0176
De Vries, F. 1110, MO0329
De Vries, T. J. SU0264
Dean Ferrer, A. SU0462
Deardorff, M. SA0037
Debiais, F. SU0316, MO0351
Dębiński, A. MO0167
Debono, M. SU0367
Dechow, P. C. FR0288
Decker, C. MO0265, MO0265
Decrombrugghe, B. SU0215, MO0223
Dederich, D. SU0100
Dedic, C. 1116, SA0286
Deere, K. MO0029
Defina, L. MO0340
Degenhart, G. SU0048
Degroot, B. MO0382
Deguise, J. 1095
Dehghan, A. SU0323
Dehghani, F. SU0198
Dekoven, M. SU0337
Del Rio, L. SA0029, SU0028
Dela Cruz, A. FR0230, SA0230
Delaisse, J. MO0260
Delany, A. M. SA0113, SA0255
Deleon, X. MO0021
Delgado-Calle, J. FR0285, SA0285, SU0125, SU0279
Deliard, S. SU0026, SU0095
Dell, R. FR0342
Dellabadia, m. SU0180
Dellatore, P. SA0349
Deloose, A. 1034
Deluisi, C. SA0153
Delzell, E. MO0296, MO0380
Demambro, V. E. MO0157, MO0203
Demaray, S. 1028
Demay, M. SA0090, SU0083, SU0106, MO0456
Demer, L. L. SA0410

Demertzis, J. SU0130
Demes, B. SU0055
Demissie, S. FR0011
Dempsey, C. MO0382
Dempster, D. SU0400
Dempster, D. W. 1020, SA0371, SU0180, SU0277
Den Heijer, M. SA0281, SA0429, SU0305
Dencker, M. MO0026
Deng, F. SA0368
Deng, H. SA0334, SA0338, SA0368, SA0461, SU0141
Deng, L. SA0204
Denis, G. SU0135, MO0364
Dennison, E. SU0031, SU0302, MO0294
Denny, W. SU0265
Densmore, M. MO0084
D'Erasmo, E. SA0343
Derrico, N. FR0372, SU0433, MO0430
Derzko, C. M. MO0164
Desai, P. SA0209
Desailloud, R. SU0436
Desouza, M. MO0040
Devaney, J. SA0194
Devidi, M. MO0179
Devlin, M. J. MO0032, MO0032
D'Haese, P. C. MO0045
Dhaliwal, R. SA0304, SU0167, SU0123
Dharmapatni, A. SA0266
Dhawan, P. SU0453, MO0457
Di Benedetto, A. MO0155
Di Gregorio, S. SU0028
Di Matteo, L. SA0343
Di Munno, O. SA0343
Di Pietro, G. MO0188
Di Rocco, A. FR0192, SA0192
Di Rocco, F. MO0090
Diallo, M. SA0051
Diao, T. SU0418
Diarra, D. FR0299
Díaz-Curiel, M. MO0041
Dibble, H. SA0115
Diem, S. J. MO0347
Diemer, K. SU0336
Dietz, A. SA0234
Diez-Perez, A. 1049, SA0331, SA0347, SA0357, SU0069, SU0430, SU0434, MO0394, MO0429, MO0431
Difranco, M. SA0072, MO0440
Digirolamo, D. SU0192
Digregorio, S. SA0029
Dillon, J. MO0458
Dimai, H. Peter MO0381
Dimic, A. MO0303
Dimori, M. MO0126
Dinant, G. MO0332
Dincer, G. SA0385
Ding, K. SA0034, SA0237, MO0004
Ding, Y. SA0204
Dion, N. MO0175
Dirschl, D. SU0391, MO0348
Dishowitz, M. MO0052
Dittmer, A. SA0013
Divieti Pajevic, P. 1059, 1116, SA0125, SA0286
Diviney, P. MO0364
Dixon, S. SA0184, SA0219, SU0249
D'Mello, S. SA0148
Do Carmo, I. SU0360, MO0071
Dobbelstein, M. MO0206
Dobbins, A. SA0321
Dobie, R. SA0206, SU0158
Dobson, J. MO0217
Dogra, S. SA0030
Doi, T. SU0338
Dole, N. FR0113, SA0113
Dolkart, O. MO0099
Doll, H. SU0404
Dolovich, L. SA0397, SU0394
Domae, E. SU0223
Domiciano, D. SU0351, MO0309
Don-Wauchope, A. SA0050
Donahue, H. J. SA0187, SU0201
Donahue, L. B. 1040, SA0264, SU0050
Donell, S. MO0301
Dong, C. SA0276
Dong, G. MO0149
Dong, Y. 1102, SA0092
Dongmei, N. SA0311
Donnelly, N. SU0454
Dopkin, d. MO0052
Dore, N. SA0397
Dorfer, S. SU0291
Doroudi, M. SA0449
Doschak, M. R. MO0081
Dotterweich, J. SU0467
Doty, S. SU0152, MO0418
Douard, V. SA0052
Doucette, C. 1046, SU0199, SU0426
Douni, E. FR0264, SU0266
Dovjak, P. SU0291
Dowell, A. Edward SA0460
Downs, L. SU0402
Dowthwaite, J. N. SU0304, MO0031
Doyle, N. FR0409, SA0409, MO0036
Drago, L. SU0156
Drake, M. T. 1028, FR0010, SA0203, SU0429, MO0469
Dray, M. MO0129
Drezner, M. K. FR0288, SA0171
Drissi, H. MO0012, MO0249
Droscha, C. SU0212
Drozdzowska, B. MO0349
Druchok, C. SA0050
Drueke, T. MO0112
D'Souza, R. SA0108
Du, X. MO0003
Duan, X. SA0268
Duarte-Sosa, D. MO0178
Duboeuf, F. 1081, MO0048
Dubois, S. MO0164
Dubreuil, M. SA0196
Duda, G. SA0059, SU0047, MO0408
Dudakovic, A. SA0234
Dudenkov, D. 1098
Dudzek, C. SU0293

Duffy, D. SA0043
Dufour, A. SU0017
Dufour, R. SA0074
Duggan, D. MO0338
Dumont, J. SU0440, MO0350
Duncan, E. L. SA0137, SA0140, SU0036, MO0140
Duncan, R. L. SA0143
Duncker, S. V. MO0106
Dunford, J. E. SA0268
Dungl, P. MO0301
Dunstan, C. R. SA0453
Duong, L. SA0041, SA0269, SA0415, SU0415, SU0417, MO0249
Duque, G. 1070, SU0196, SU0243, MO0010, MO0395
Durbin, R. SA0333
Durosier, C. MO0289
Duryee, M. SA0049
Dusad, A. SA0049
Dusevich, V. FR0280
Dutra, E. SU0128
Dutta, D. MO0435
Duvall, S. SU0307
Duvina, M. SA0208
Dwivedi, A. SA0068
Dworakowski, E. 1051, FR0180, SU0175, MO0439
Dwyer, D. SU0411
Dyer, T. SA0336
Dyment, N. SU0080
Dyson, J. MO0093
Dzerovych, N. SA0296

E

Eastell, R. 1052, SA0389, SU0362, SU0367, MO0290
Eaton, C. SA0006, SA0313
Eaton, L. MO0186
Ebeling, P. R. SA0012, SA0451, SU0011, SU0290, MO0010, MO0074, MO0395
Eberli, U. SU0072
Ebersole, J. MO0252
Ebetino, F. SA0268, SA0268, MO0415
Ebina, T. SA0355
Ebner, H. SU0240
Eckstein, F. SU0048
Eckstrom, E. SA0354
Economides, A. N. SU0085, MO0097, MO0465
Econs, M. J. FR0120, SA0116, SU0142, MO0115
Edenberg, H. SU0142
Edenius, C. SU0381
Edmonds, S. SU0345
Edwards, B. J. SA0307, SU0391
Edwards, M. Hiley SU0302, MO0294
Edwards, W. Brent SA0435, SU0075
Eekhoff, E. M.W. MO0195
Egli, R. SU0097
Egsgaard, L. MO0015
Egund, L. SU0328
Ehrmann, M. SU0234
Eichenberger Gilmore, J. SA0032, SA0033
Eichenberger-Gilmore, J. SA0295
Eichhorn, C. MO0399
Eick, D. SU0065
Eick, J. MO0054
Einhorn, T. A. SU0106
Eiriksdottir, G. SU0335
Eiríksdóttir, G. MO0310
Eisman, J. A. FR0379, SA0309, SA0350, SA0351, SU0330, MO0313, MO0322, MO0332
El Mansouri, F. SU0088, SU0089
El Refaey, M. Mahmoud SA0237, MO0004
El Saddy, S. 1109
El-Bialy, T. SU0100
Elangovan, S. SA0148
Elders, P. MO0319
Elders, P. Jeannette Marion SU0305
Eldevik, P. SA0365
Elefteriou, F. SA0133, MO0035
Eleniste, P. SU0206, MO0284
Elez, J. MO0303
Eliopoulos, E. SU0266
Ellerbrock, E. SA0060
Elliot-Gibson, V. SA0394, MO0331
Elliott, D. 1100
Ellman, R. FR0066, SA0044, SA0044, MO0058
Ellouz, R. MO0365
Elmer, K. MO0189
Eloy, C. MO0176
Elsalanty, M. 1011, SA0145, SU0101, MO0004
Elster, E. MO0076
Emohare, O. SA0013
Emori, H. SA0250
Emoto, M. SA0151
Endo, I. SA0465, SU0460
Endo, K. SA0419, SU0414, SU0420
Endres, G. MO0405
Endres, G. W. SU0239
Engdahl, C. FR0443, MO0419
Engelke, K. 1022, SA0292, SA0400, SU0067
Englbrecht, M. SA0136, MO0011
Engler, T. MO0201
Enneman, A. SA0140, MO0140
Enoki, Y. SA0078, SU0261, MO0274
Enomoto, M. SA0210
Enomoto-Iwamoto, M. SA0016, SA0021, SA0110
Ensrud, K. E. 1001, 1003, 1083, SA0193, SA0298, SU0319, SU0320, SU0321, SU0327, SU0343, MO0296, MO0333, MO0347
Entezami, P. 1035
Erben, R. G. SA0165, SA0455, SU0116, MO0030
Eren, B. SU0437
Erez, A. SU0022
Erfani, S. SU0172
Erhan, B. SA0385
Eriksen, E. SA0291, SA0365, MO0178
Eriksson, A. E. MO0446

Eriksson, E. E. 1115
Eriksson, J. SA0140, SU0325, MO0029, MO0140, MO0338
Erlandson, M. C. FR0196, SA0195
Ernst, M. SU0072
Esen, E. SA0201
Eshleman, A. SA0354
Eskehave, T. MO0015
Eskiyurt, N. SA0385
Esko, T. SA0140, MO0140
Eskridge, T. MO0179
Esposito, A. 1094, MO0077, MO0163
Esposito, T. SA0441
Essalmani, R. MO0109
Estrada, K. 1067, 1107, SA0026, SA0140, SU0334, MO0140
Estrada, P. MO0394
Euller Ziegler, L. SA0340
Euller-Ziegler, L. SU0362
Evangelou, E. SA0140, MO0140
Evans, A. Lynn MO0290
Evans, D. SA0140, SA0333, SU0325, MO0029, MO0140
Everts, V. SU0264
Eyre, D. SU0131
Eyre, D. R. 1036
Ezura, Y. SA0123, SA0227, SA0229, SU0084, MO0083, MO0091, MO0118

F

Facchini, A. MO0259
Faccio, R. 1058, SA0272, MO0265
Fadhil, I. 1061, SA0456
Fagan, D. SA0402
Fagerlund, K. M. MO0013
Fahlgren, A. SA0061
Fahmi, H. SU0088, SU0089
Fahrleitner-Pammer, A. SA0377, SA0392, SA0438, MO0381
Faillace, M. E. 1038, SA0055
Faivre, L. SU0138
Fajardo, R. J. 1089, MO0369
Fåk, F. MO0419
Fakhoury, J. SU0032
Falcinelli, C. SA0293
Fallon, N. MO0379
Fan, C. FR0404, SA0091, SU0092
Fan, J. SA0198
Fan, W. FR0179, SU0178, SU0179, SU0181, MO0177
Fang, F. FR0211, FR0211
Fang, Y. SA0167
Fanning, P. SA0093
Fanning, P. Joseph SU0007, SU0020, MO0210
Fansi, A. SU0393
Fanti, E. SA0208
Farach-Carson, M. C. MO0459
Farahmand, P. MO0393
Farber, C. R. MO0142
Fardellone, P. SU0316, SU0436, MO0112, MO0351
Farina, N. SU0020
Farlay, D. SU0043, MO0048, MO0175
Farman, H. FR0443, FR0445, SA0445, MO0419
Farquharson, C. 1041, SA0206, SU0158, MO0131
Farr, J. Nicholas 1084, SA0028, SU0429, MO0027
Farrauto, L. SA0397
Farrokhnia, M. MO0339
Farthing, J. SU0295
Faugere, M. SA0166
Fayez, S. SA0211
Fazeli, P. K. SU0155
Fazzalari, N. SU0071
Fazzari, m. SU0123
Fealey, D. SU0032
Fechtenbaum, J. MO0306
Fehringer, E. MO0412
Fei, Y. SA0221
Feldman, S. SU0076
Feldstein, A. C. SU0310
Feldstein, J. 1005
Felsenberg, D. MO0069
Feng, J. Q. FR0288, SU0082
Feng, X. SA0265, MO0426
Fenzl, K. H. SA0438
Feola, M. SA0345
Ferchak, M. 1025
Ferguson, S. SU0032
Ferguson, V. Lea SU0163, MO0058
Fernandes, A. SA0181
Fernandes, G. SU0421
Fernandes, G. Jerome SU0419
Fernandes, J. MO0415
Fernandez, S. SU0435
Ferrari, S. 1017
Ferrari, S. Livio 1064, FR0264, SA0046, SU0056, MO0289
Ferraris, R. SA0052
Ferraz-De-Souza, B. SA0181, SU0168
Ferreira, A. SA0057
Ferreira, I. 1018
Ferretti, J. Luis SU0076
Ferris, D. FR0432
Ferron, M. 1041, SU0189
Feudjo Tepie, M. SA0392
Fidler, E. MO0006
Fields, A. MO0053, MO0281
Figueiredo, C. SU0351, SU0421, MO0309
Filaire, E. SA0340
Filiatrault, J. SU0393
Filion, M. SA0420, SU0260
Filion, T. SU0145
Filippi, A. SU0032
Filteau, G. MO0333
Finch, J. FR0121
Finch, L. SU0332
Finck, A. MO0279
Findlay, D. M. SU0261, MO0278, MO0285
Fine, J. MO0333
Fink, H. A. SU0320, SU0321
Finkelstein, J. S. SU0433, MO0430

Finnes, T. SA0291
Finzel, S. MO0011
Fiore, C. E. SA0343
Fischer, C. SU0283
Fischer, L. SA0071, SA0072, MO0440
Fischer, P. 1098
Fishbaugher, J. SA0295
Fisher, P. SA0397
Fitzgerald, G. 1049
Fitzgerald, K. SA0264
Fitzpatrick, L. A. SA0386, MO0392
Flahive, J. SA0331
Fleet, J. C. SU0447
Flicker, L. SU0290
Floor, M. SU0137
Flores, C. SA0263, SU0126
Flowers, S. SU0224
Flynn, J. MO0214
Flynn-Evans, E. SA0360
Foca, M. MO0070, MO0370
Föger-Samwald, U. SU0291
Foley, K. 1019, FR0372
Follet, H. 1054
Fong, C. SA0156, SU0157, MO0158
Fong, E. MO0459
Fong, F. SA0158
Fong, Y. SU0466
Fontas, E. SU0362
Forgetta, V. MO0326
Foroud, T. SU0142
Forsberg, J. MO0076
Forsmo, S. SA0350
Fossi, C. SU0173
Foster, B. Lee SA0112, MO0110, MO0119
Foster, P. SA0348
Fournier, P. G. SA0453, SU0457
Fowler, T. W. SA0262
Fox, E. J. SU0354
Fradet, A. FR0458, SA0458
Franceschetti, T. SA0255
Franceschi, R. T. SA0130, SU0222
Franci, B. SA0077, SA0441, MO0441
Franci, M. MO0390
Franco, O. SU0323
Franek, E. MO0349
Frank, A. William FR0363, SU0014
Frankel, L. SA0394
Franklin, J. SA0395
Fransen, H. SA0402
Fransen, P. SA0402
Fraser, D. 1090, MO0221
Fraser, L. MO0357
Fraser, W. MO0029
Fraser, W. D. SA0439, SU0317
Frassetto, L. FR0190
Frateloreto, R. SU0120
Fratzl, P. SA0054
Frazier, W. MO0264
Frechette, D. 1012, MO0423
Freeman, L. MO0396
Freilich Dds, M. SA0433
Fremont, D. 1114
Frenkel, B. SU0442
Fretz, J. A. 1046
Freundorfer, M. SA0025
Fridman, V. SU0455
Friedlander, G. SU0391
Friedman, P. A. SA0170
Frikha-Benayed, D. SU0285
Frisch, B. MO0231
Fritton, J. Christopher SA0052
Froelich, J. SU0402
Frost, S. A. FR0379, FR0379, SU0330, MO0322
Frye, J. SU0159
Fu, M. SU0244
Fu, Q. SA0204
Fuerst, T. SA0400
Fujii, S. SA0465, SU0460
Fujii, T. SA0414, SU0416
Fujii, Y. MO0377
Fujiki, K. SU0057
Fujimoto, M. MO0135, MO0222
Fujino, Y. SU0288
Fujita, K. 1028, 1090, FR0010, SA0203
Fujita, T. SA0294, SU0254, MO0377
Fujita, Y. SU0333
Fujiwara, T. MO0263
Fukada, S. MO0251
Fukawa, T. SA0261
Fukuda, A. SU0261
Fukuda, F. SU0376, SU0379, SU0382
Fukuda, T. FR0210, SA0210, MO0274
Fukui, C. SA0241
Fukumoto, S. SA0150, SU0218
Fukunaga, M. SA0376, SU0388
Fukunaga, T. FR0248, SA0248
Fukushima, S. MO0416
Fulzele, K. 1116, SA0286
Fulzele, S. SA0002
Fumoto, T. SA0207
Funck-Brentano, T. 1068, MO0351
Furia, M. SA0041
Furuya, Y. MO0269

G

G. Kellgren, T. SA0257
Gabel, L. SU0024, SU0033
Gabet, Y. MO0099
Gaboury, I. SU0393
Gaddy, D. FR0457, SA0262
Gagel, R. F. SA0114
Gagnon, C. SA0451
Gagnon, E. SU0439
Gagné, M. SA0332
Gajic-Veljanoski, O. SA0384
Gales, B. SU0221
Galich, A. MO0402
Galietta, L. SA0115
Galili, N. 1005
Galimi, F. SA0149
Galindo, M. MO0219
Galior, K. Delfina SA0053
Galitzer, H. FR0378, SA0378

Gallagher, J. SU0366, SU0370, SU0451, MO0367
Gallagher, J. A. MO0458
Gallagher, K. SU0155
Gallant, M. A. MO0414
Galli, G. SU0173, SU0197
Galliera, E. SU0156
Galson, D. Lynn SA0198, SU0274, MO0467
Gamache, P. SA0332
Gambari, L. MO0259
Gamer, L. MO0143
Ganda, K. FR0391, SA0391, SU0331, SU0331, MO0171
Gandolini, G. SA0343, SU0395
Gangji, V. MO0244
Gannon, F. H. SU0022
Gao, L. 1102, SU0172, MO0373
Gao, P. MO0341
Gao, X. SU0207, MO0144, MO0233
Gao, Y. SU0063
Garbacz, W. MO0349
Garcia, A. Jose 1117, SA0159
Garcia, M. SA0140, SA0337, MO0140
Garcia-Fontana, B. SA0369
Garcia-Giralt, N. SU0069, SU0434, MO0431
Garcia-Martin, A. SA0369
García-Velasco, P. SA0310
Gardenghi, S. SU0152
Gardiner, B. SA0137
Gardiner, E. M. FR0187
Gardinier, J. D. 1004
Gardner, M. SU0336
Garg, A. SA0437
Garg, G. SU0132
Garimella, R. SA0464
Garnero, P. MO0289
Garr, J. Lauren FR0125, SA0125
Garratt, E. SA0030
Garrett, G. MO0382
Garrigós, L. SU0434
Gartland, A. SU0203, MO0458
Gary, M. FR0153
Gasbarra, E. SA0345, MO0188
Gasparri, G. SA0174
Gastanaga, V. MO0172
Gatti, D. SU0217
Gatto, S. SA0343
Gauthier, C. SA0223
Gauthier-Bastien, A. SU0183
Gautvik, K. SA0140, MO0095, MO0100, MO0134, MO0140
Gautvik, V. MO0095, MO0100
Gayet, L. MO0351
Ge, C. SA0130, SU0222, SU0222
Ge, Y. SU0165
Geczi, K. SA0141
Gee, A. FR0374, SA0056, SU0296, MO0301
Gehlbach, S. H. 1049, SA0331, SA0357
Genant, H. 1022, SA0400, SA0400
Genant, H. K. MO0297
Gendarme, S. SA0340
Genelin, K. SU0240
Genever, P. MO0093
Gennari, L. SA0077, SA0343, SA0441, MO0441
Gensure, R. C. SA0121, MO0413
Gentili, C. MO0121
Gerard-O'riley, R. SA0109
Gerbaix, M. SA0046
Gerdhem, P. 1099, FR0356, SU0132
Germain, B. SU0239, MO0405
Germanidis, G. MO0371
Gerrity, M. SA0354
Gerstenfeld, L. C. SU0106, SU0135, MO0200, MO0364
Geusens, P. 1108, SA0319, MO0332
Geyer, B. SU0467
Ghasem-Zadeh, A. 1065, FR0364, SA0305, SU0029, MO0069, MO0174, MO0293
Ghebre, R. SU0402
Ghelani, P. 1018
Ghosh, C. SA0304
Ghosh-Choudhury, N. SA0199
Giaccia, A. SA0109
Giampietro, P. P. 1007
Gianfrancesco, F. SA0441
Giangregorio, L. FR0196
Giangregorio, L. M. SU0394, SU0399, MO0398
Gibbs, L. SU0030
Gibbs, R. 1006, SU0138
Gibson, J. MO0012
Gibson, L. MO0201
Gifre, L. SU0363
Gigante, I. SA0153
Gignac, M. SA0394
Gikas, P. SA0019
Gilbert, J. SU0160, SU0161
Gilbert, L. SA0220
Gilbert, S. R. SU0154
Giller, M. SA0403, SU0345
Gilligan, J. P. SA0401
Gillis, J. SA0344
Gilsanz, V. SU0026, MO0024, MO0194
Gilsenan, A. SU0372
Gimble, J. M. MO0153, MO0433
Giner, M. SA0233, SU0070
Gineyts, E. SA0416
Gingery, A. SA0224, MO0247
Ginter, T. SU0307
Ginther, J. P. SA0341
Giravent, S. MO0066, MO0464
Gjesdal, C. SA0315
Glanz, S. SU0234
Glass, I. SA0168
Glass, N. SA0032
Gleason, A. SA0049
Glezerman, I. SA0169
Glorie, L. MO0045
Gloth, F. MO0428
Glowacki, J. SA0005, SU0172
Gluckman, P. SA0030
Glueer, C. SA0292, SU0410, MO0066, MO0464
Gnudi, S. SA0293
Goda, S. SU0223

Godbout, B. 1095
Godfrey, D. SU0217, MO0142
Godfrey, K. SA0030, SU0031
Godinez Puig, V. SA0307
Goehrig, D. MO0460
Goel, S. SU0224
Goemaere, S. 1022, SU0400
Goetz, M. MO0247
Goff, H. SA0069
Goh, B. SU0192
Going, S. SA0006, SU0013
Gojkovic, F. MO0303
Golba, K. MO0349
Gold, D. T. SU0404
Goldberg, H. A. SA0112
Goldring, S. MO0412
Goldring, S. R. FR0253, SU0273
Goldstein, S. A. 1103
Goltzman, D. SA0103, SA0329, SU0003, SU0315, MO0122, MO0318, MO0326, MO0357, MO0397
Gong, J. SU0202
Gonnelli, S. SA0343, MO0390
Gonzalez, O. MO0252
Gonzalez-Macias, J. SU0361
Gonzalez-Roca, E. SU0130
González-Cantalapiedra, A. SA0045
González-Macías, J. SA0310
González-Maeso, I. MO0431
Gonçalves, A. SU0360, MO0071
Goodman, A. FR0155, MO0231
Goodman, K. FR0439, SA0439
Goodship, A. SA0019, SU0046
Gopalakrishnan, R. SU0250, SU0252
Gordish-Dressman, H. SA0194
Gordon, C. M. MO0430
Gordon, J. A.R. SA0214, MO0216, MO0217
Gori, F. 1043, 1057, 1077, SA0090, SU0244, MO0105, MO0125, MO0226, MO0250, MO0456
Gorin, Y. 1089
Gorski, J. P. FR0186, SA0186
Goseki-Sone, M. SU0448
Gosselin, S. SU0393
Gossiel, F. 1052, SU0367, MO0290
Goto, K. MO0253
Goto-T, K. SA0261
Gottesman, G. SA0024, SU0170, MO0169
Goudable, J. MO0361
Goulet, J. SU0391
Gourlay, M. L. MO0333
Gouveia De Oliveira, A. SU0360
Gouveia, C. H. MO0092
Gower, B. SU0004
Goyal, R. 1024
Gozzini, A. SU0173
Grabowska, U. B. SU0381
Gradishar, W. SA0307
Graef, J. SA0422, MO0420, MO0433
Graeff, C. MO0066
Graf, C. MO0345
Graf, D. SU0085, SU0147
Graf, K. SA0218
Grafe, I. 1036, SU0134
Grammens, G. SU0402
Grandy, R. MO0219
Granito, R. SA0111, SU0110
Granke, M. SU0053, MO0044
Grano, M. SA0153, MO0155
Grant, A. Simone SA0006, SU0013
Grant, S. F.A. SU0026, SU0095
Grassi, F. MO0259
Grasso, D. FR0066, SA0044
Grauer, A. 1022, SU0411
Gravallese, E. M. SU0007, SU0020
Graves, D. T. MO0101, MO0149, MO0199
Gray, A. FR0120, SA0116, MO0115
Grayson, W. SU0192, MO0153
Grcevic, D. FR0244
Greco, N. SA0035
Green, D. Elyse 1071, SA0424
Greendale, G. A. SA0290, SU0352
Greenfield, E. M. SA0100, SU0235, MO0160
Greenslade, K. SA0406
Greenspan, S. L. 1025, 1049, 1050, SA0331, SA0357
Greer, L. MO0370
Gregson, C. L. FR0366
Grewal, R. SU0340
Grey, A. SU0265
Griebeler, M. L. MO0180
Grimnes, G. SA0315
Grimston, S. K. SA0197, SU0278, SU0278
Grol, M. W. SA0219
Grondin, C. MO0350
Gross, T. S. FR0187
Grosso, M. SA0061
Grover, M. 1006
Gruber, R. SU0205
Gruenwald, K. MO0126
Grunbaum, A. M. MO0452
Grundberg, E. SA0140, MO0140
Gruneir, A. MO0342
Gryka, A. SU0317
Grynpas, M. D. SA0230, SU0136, MO0242
Guadalix Iglesias, S. MO0437
Guanabens, N. SA0196, SU0130
Guar, T. SA0093
Guay-Bélanger, S. SU0439
Guañabens, N. SU0363
Gucalp, R. SA0169
Gude, K. MO0030
Gudhimella, S. MO0252
Gudmundsson, E. SA0324, SA0330
Gudnason, V. SA0140, MO0140
Gudnason, V. G. SA0324, SA0330, SA0337, SU0335, MO0310
Guede, D. SA0045, SU0070, MO0057
Guelar-Grinberg, A. SU0069
Guelcher, S. A. FR0461
Guemes, M. 1117
Guengerich, Z. 1038
Guerri Fernandez, R. SU0069, MO0429
Güerri-Fernández, R. SU0430
Guglielmi, G. SA0070
Guillemin, G. 1070

Guise, T. A. SA0453, SU0191, SU0457, MO0461
Gulati, R. SA0121
Gunaratnam, K. 1070, SU0196
Gunaydin, R. SA0385
Gundberg, C. M. SU0054
Günther, K. SU0410
Guntur, A. R. MO0157, MO0203
Guo, D. MO0034
Guo, F. MO0087
Guo, J. SA0246
Guo, M. MO0043, MO0043
Guo, X. 1106
Guo, X. Edward 1021, 1051, SA0276, SU0068, SU0428, MO0056, MO0070, MO0298
Guo, Y. SU0236
Gupta, A. MO0462
Gupta, S. SA0189
Gupta, V. SA0018, SU0092
Guse, K. SU0022
Gustavson, A. MO0215
Guth-Gundel, S. SA0149
Guthrie, K. MO0347
Guzzo, R. MO0012
Gvozdenovic-Jeremic, J. MO0227
Gygi, S. MO0226

H

Ha, J. SA0256
Ha, P. MO0312
Ha, Y. SU0356
Haan, E. SU0138
Hachfeld, C. FR0271
Hadad, R. MO0397
Hadadi, A. FR0444
Hadji, P. SA0392
Hadjiargyrou, M. SA0097, SU0143
Haemmig, R. SU0427
Hagan, S. 1113
Hagino, H. SA0376, SA0381, SU0386, SU0388
Hagiwara, Y. FR0244, SA0129, SU0080
Hagman, J. SU0214
Hahn, M. MO0035
Hahn, T. SU0099
Hahner, L. FR0445
Haile, A. MO0443
Hakeda, Y. SA0284, MO0161
Häkkinen, A. SA0015, SA0017
Hakonarson, H. SA0037, SU0026
Haleem, A. SA0097
Hall, J. 1018, SU0400
Hall-Glenn, F. MO0281
Halleen, J. M. MO0013
Hallmans, G. MO0338
Halloran, B. P. FR0246, MO0191
Halperin, D. 1086
Hamang, M. SA0405, MO0120, MO0201
Hamann, C. SU0410, SU0410
Hamaya, E. SU0403, MO0403
Hamedi-Sangsari, A. SU0030
Hamidi, M. Sarah MO0316
Hamilton, B. 1027
Hammond, J. SA0184
Hamrick, M. W. 1011, SA0002, SA0034, SA0145, SA0237, MO0004, MO0008, MO0151
Han, B. SU0113
Han, C. SU0411
Han, L. 1013, 1074, 1118, FR0243, SA0446, MO0268, MO0362
Han, M. SU0091, MO0086
Han, Q. SA0200, SA0217, SU0149, MO0213
Han, S. SA0205, SU0091, MO0086
Han, X. FR0288, MO0087
Handelman, S. MO0338
Haney, E. M. SA0354
Hangartner, T. N. MO0024, MO0024
Hankenson, K. D. SU0095, MO0052
Hanks, L. Jane SA0027, SU0004
Hanley, D. Arthur 1020, 1082, SA0076, SU0315, MO0318
Hannah, W. MO0078
Hannan, M. SU0017
Hannan, M. T. FR0012, SA0008, SU0318, SU0339
Hannukainen, J. MO0434
Hanrath, M. MO0453
Hans, D. 1107, SA0068, SA0070, SA0074, SA0136, SA0164, SA0172, SA0296, SA0318, SA0322, SA0399, SU0073, SU0179, SU0294, SU0301, MO0071, MO0177, MO0182, MO0299, MO0303, MO0305, MO0314, MO0323, MO0427, MO0439
Hansen, G. SA0132
Hansen, K. E. MO0366
Hansen, S. MO0198
Hansen, T. SA0138
Hansma, P. K. SA0048, MO0050, MO0067
Hanson, A. MO0058
Hanson, M. SA0030
Hao, L. MO0256
Hao, Y. SA0379
Hao, Z. SA0129
Hara, Y. SU0094
Harada, K. SA0104, SA0123
Harada, N. SA0454
Harada, T. SA0465, SU0460
Haraikawa, M. SU0448
Hardcastle, A. SU0317
Hardcastle, S. Ann FR0366, FR0366
Harhash, A. SU0191, MO0461
Harnish, R. FR0190, SU0066
Harrington, D. MO0459
Harris, A. 1060
Harris, D. SU0372
Harris, G. SU0039
Harris, J. MO0038
Harris, M. A. 1089, MO0225
Harris, S. E. 1089, MO0225
Harris, T. SA0140, SA0337, SU0335, MO0140, MO0310
Harrison, S. L. 1001
Hars, M. SA0023

Harsloef, T. SA0138
Hart, T. SU0137
Hartge, P. MO0338
Harutyunyan, K. SA0127
Harvey, A. SA0405
Harvey, N. C. 1110, SA0030, SU0031
Haschka, J. SA0071, SA0136, SA0377, MO0383, MO0427
Hasegawa, K. MO0113
Hasegawa, M. SU0164
Hasenohorlova, K. MO0124
Hashimoto, J. SA0381, SU0010, SU0386
Hashimoto, Y. SA0135
Haskins, M. 1100
Hassan, I. SA0258, SA0259, MO0283
Hassan, M. Q. MO0196
Hassenbein, S. SU0354
Hata, K. FR0083, SU0459
Hatchcock, M. MO0180
Hattersley, G. SA0409
Hauge, E. M. SA0263
Hausman, B. SU0235
Hausman, D. MO0023
Havasi, V. SA0134
Havill, L. MO0038
Hawker, G. A. SA0300, SA0394, SU0297
Hawkes, W. SU0313, MO0311, MO0330
Hawkins, F. G. MO0437
Hawse, J. R. SA0224, MO0247
Hay, E. 1068
Hayashida, C. SA0284, MO0161
Hayata, T. SA0123, SA0227, SA0229, SU0084, MO0083, MO0091
Haycraft, C. J. MO0137
Hayes, A. SA0012, SU0189
Haÿ, E. 1032
Haynes, D. SA0266
He, L. SA0379
He, X. SA0087, SU0150, SU0178
He, Z. SU0242
Hebert, C. SU0211
Hedge, A. FR0117
Heeren, J. SU0216
Hefetz-Kustanovich, M. SU0438, MO0386
Heffernan, E. 1096
Hegedüs, L. SU0347
Heggeness, M. H. SU0022
Heickendorff, L. SU0182
Heier, A. SA0149
Heijboer, A. SA0281
Heilmeier, U. Renate SU0066, SU0066
Heine, M. SU0216
Heinemann, A. SA0292
Heino, T. J. 1006
Heinonen, A. O. SA0015, SA0017, SU0399, MO0022
Hekmatnejad, B. MO0224
Heller, M. MO0464
Hemming, K. 1111
Henderson, J. SU0136
Hendy, G. N. SU0187, MO0207
Henning, P. 1115, FR0443, SA0257, SA0443
Henriksen, K. SA0020, SA0263, SU0126
Henry, S. Philip SA0114
Henry-Desailly, I. SU0436
Heppe, D. 1085, SA0026
Heraud, A. SA0074
Herberg, S. SA0145
Herman, B. SU0253, MO0369
Hernandez, C. J. SU0058
Hernández, J. SA0310, SU0361
Herndon, D. 1097
Herrera, L. SA0140, MO0140
Herrero-Beaumont, G. MO0057
Herrmann, F. SA0023, MO0400
Herrmann, K. SA0435
Herrmann, M. MO0010
Hesker, P. SA0272
Hesse, B. SA0287
Hesse, E. SA0234, SA0286
Hewison, M. SA0159, SA0344
Heymann, D. MO0078
Hiasa, M. SA0465, SU0460, MO0033
Hibbs, M. SU0217
Hibbs, M. A. SA0140, MO0140
Hicks, L. MO0391
Hidlebaugh, E. MO0428
Hien, A. SU0150
Higano, C. SA0460
Higginbotham, S. SA0360
Higgins, L. SU0172
Hikita, A. SU0204, MO0082
Hill Gallant, K. M. MO0023
Hill, D. MO0058
Hill, W. D. 1011, SA0002, SA0145, SA0237, MO0004, MO0008, MO0151
Hillier, T. A. 1083, SU0327
Hillman, E. SA0276
Hilton, M. J. 1102, FR0081, SA0092, SA0095, SA0096, SU0021
Himes, E. MO0120
Hinson, J. SA0002, MO0151
Hinton, P. MO0186
Hipskind, R. MO0458
Hirai, H. SU0164
Hirata, M. 1093, FR0459, SU0423, MO0141, MO0148
Hiremath, M. SA0119, MO0089
Hirose, J. MO0258, MO0269
Hisatake, K. SU0261
Hitora, T. FR0388
Hiyama, S. SU0445
Hnatow, M. MO0344
Ho, H. 1033, FR0162, SA0162, MO0156
Ho, P. 1018, FR0126, SA0251, MO0348
Hoac, B. MO0109, MO0116
Hoak, D. FR0081, SA0096
Hochberg, M. C. 1083, SU0313, SU0325, MO0311, MO0330
Hodsman, A. B. SA0437, SU0340
Hoegh, H. MO0015
Hoenderop, J. SU0209
Hoey, D. 1015
Hofbauer, L. C. SU0410
Hoff, A. O. SA0114
Hoffman, A. SA0193

Hoffman, H. 1072
Hoffmann, C. FR0212
Hoffmann, M. SA0126
Hoffseth, K. SA0048, MO0050
Hofman, A. 1067, 1085, 1107, 1109, SA0026, SA0140, SU0323, MO0140
Hofmann, S. SU0425
Hofstetter, W. SU0097
Hogan, E. 1118, SU0443
Hogan, H. A. MO0047, MO0189
Hogan, M. SU0339
Hohman, E. SA0417
Hohnstein, A. SA0390, MO0382
Høiseth, A. 1065
Hojo, H. SA0222
Hokugo, A. SA0146
Holbrook, J. SA0030, SA0307
Holdsworth, G. SA0406
Holets, M. MO0295
Holloway, A. SA0047, SA0050
Holm, E. SA0112
Holm, I. Adele MO0037
Holroyd, C. SU0031
Holst, J. SA0138
Holvik, K. FR0315, SA0291, SA0315, SA0350
Holz, J. SA0412
Homan, E. 1036
Homan, E. Paige SU0109, SU0134
Homer-Bouthiette, C. SU0001, MO0002, MO0147
Honda, M. SA0294
Hondke, S. SU0112
Hong, L. SA0148
Hong, S. MO0388
Hong, W. SA0379
Hongo, M. SA0355, SA0396, SU0008, SU0324, MO0005
Hongslo Vala, C. SU0346
Honkanen, R. J. SA0007, SA0183, SA0353, SU0078, SU0326, MO0193
Hooven, F. H. SA0357
Horak, M. MO0301
Horn, D. 1089, MO0369
Hornick, D. SA0295
Horowitz, M. C. 1046, SA0053, SU0155, SU0426
Horvath, B. MO0307
Hoshinaga, K. SU0164
Hosoi, T. SU0448
Hosseini, Z. SA0047
Houle, Y. SA0371
House, B. SA0068
Houseknecht, K. SA0370
Howie, N. SA0145, MO0004
Howles, S. SU0115
Hoy, C. L. SU0024
Hoy, R. SA0040
Hruska, K. A. SA0167
Hsiao, E. MO0138
Hsiao, E. C. SU0127
Hsieh, P. SA0073
Hsu, C. MO0098
Hsu, S. FR0162
Hsu, W. 1056, FR0162, MO0088
Hsu, Y. 1067, SA0140, SA0142, SA0335, SA0337, MO0134, MO0134, MO0140, MO0187, MO0335
Hu, B. SA0061, SA0279
Hu, C. SA0009, SA0073, SU0013
Hu, H. 1080, SU0329
Hu, M. SA0169, SU0061, MO0411
Hu, X. MO0261
Hu, Z. SA0379
Huang, C. MO0240
Huang, H. SA0256, SA0368
Huang, J. 1047, SA0186, SA0231, SA0245, SA0423, SU0190, MO0003, MO0187
Huang, L. SU0239
Huang, M. SU0364, MO0445
Huang, S. SA0114, SU0206, MO0284
Huang, W. SA0375, MO0336
Huang, Y. SA0313
Huard, J. SA0035, SU0207, MO0144, MO0233
Huber, G. SU0410
Huber, M. SU0137
Hue, T. F. SA0389, MO0310
Hueber, A. MO0011
Huebner, J. SA0020
Huegel, J. SA0110
Huesa, C. 1041, SA0206, MO0131
Huffman, K. SA0020
Huffman, N. SA0186
Hughes, J. MO0328
Hughes, M. FR0271
Huh, B. 1113, SU0405, SU0406, MO0049
Huh, J. SU0023
Hui, S. MO0115
Hui, S. K. SA0297, SA0427, SU0402, MO0238
Huja, S. S. MO0252
Humphrey, J. 1048, SU0169
Humphrey, M. SU0269
Hunter, G. SA0112
Hunter, M. SA0002, MO0004
Huntley, R. SU0250, SU0252
Hur, A. MO0448
Hurchla, M. Anne MO0264
Hurley, M. SU0001, MO0002, MO0147
Hurwitz, S. MO0373
Huskey, M. SA0141, SU0336
Hussein, A. I. SA0039
Hutton, D. SU0192, MO0153
Hwang, H. SA0102, SU0287
Hwang, J. MO0388
Hwang, Y. MO0255, MO0388
Hyldstrup, L. SU0400
Hynes, R. SA0021
Hyzy, S. SA0238, SA0449

I

Iatridis, J. SA0107
Ichikawa, S. FR0120, FR0120, SA0116, SU0142, MO0173

Idelevich, A. 1043, MO0125
Iglesias, K. MO0323
Igwe, O. MO0192
Ii, H. SA0184
Iida, K. SU0103
Ijiro, K. SA0042
Ikeda, K. 1073, SA0207, SU0255, SU0276
Ikeda, S. SA0066, SA0454, SU0376, SU0379, SU0382
Ikegami, S. SU0380
Ikeo, T. SA0294, SU0223
Ikeuchi, T. SA0150, SU0218
Iki, M. SA0311, SU0333
Ikuro, S. SU0378
Ilich, J. MO0007
Iliuta, I. SU0183
Illien-Junger, S. SA0107
Im, H. SA0198, MO0016
Imai, Y. MO0258, MO0274
Imamura, K. SU0093
Imamura, T. SU0204, MO0082
Imel, E. A. 1048, SU0169, MO0115
Inaba, M. SA0151
Inada, M. FR0459, SU0423, MO0148
Inderjeeth, C. A. MO0001
Indo, Y. SU0255
Ing, S. Wai MO0317
Ingels, A. MO0244
Ingle, J. MO0247
Inglis, J. MO0007
Inman, R. SU0401
Inoue, D. SA0421, MO0424
Inoue, M. SU0085
Inoue, S. MO0009
Inskip, H. SA0030
Insogna, K. L. 1048, SA0169, SA0169, SU0169, SU0289, MO0004
Inui, K. SU0353
Invernizzi, M. SU0383
Ioannidis, G. SA0329, SA0397, SU0340, SU0394, MO0398
Ioannidis, J. SA0140, MO0140
Iolascon, G. SA0343
Irani, D. SA0172
Irie, Y. SU0288
Irwin, R. MO0422
Isaacson, J. SA0464
Isaia, G. SA0343
Isakova, T. 1027, SU0166
Isaksson, H. 1115
Isales, C. M. 1011, SA0002, SA0034, SA0145, SA0237, MO0004, MO0008, MO0151
Iseki, S. FR0083
Ish-Shalom, S. SU0438, MO0386
Ishida, S. SA0154, SU0037
Ishidou, Y. SU0093
Ishii, M. SU0267
Ishijima, M. SA0380
Ishikawa, M. SA0100
Ishikawa, T. SU0258
Ishikawa, Y. 1036
Ishimaru, N. MO0033
Ishmael, C. MO0417
Isikawa, Y. SA0355
Islam, M. Saiful MO0238
Islam, R. MO0218, MO0271
Islander, U. MO0419
Itabashi, A. MO0302
Itkonen, S. SA0139, SU0314, MO0315
Ito, H. SA0210
Ito, J. SA0284, MO0161
Ito, M. 1073, SA0066, SA0207, SA0376, SA0381, SU0276, SU0386
Ito, T. 1048, SA0042, SU0169, SU0338
Itoh, M. SU0164
Itoh, S. 1093, MO0141
Ituarte, F. SA0018
Iuliano-Burns, S. FR0364, SA0305, SU0029, MO0395
Ivan, M. SA0118
Ivashkiv, L. SA0254, SU0263, MO0261
Ivaska, K. K. 1099, FR0356, SU0314, MO0315, MO0434
Iversen, H. 1026
Ivey, K. 1002
Iwai, S. SA0250
Iwamoto, J. SU0390, MO0387
Iwamoto, M. FR0192, SA0106, SU0218
Iwamoto, Y. SU0384
Iwaniec, U. T. SU0251, MO0247
Iwata, K. FR0388, SA0388, SA0413
Iwata, M. SU0094
Iwata, T. MO0274
Iyer, S. 1013, 1074, FR0243, SA0243, SA0446
Iyer, S. Prakash 1051, 1063
Izaka, T. MO0127, MO0127
Izawa, N. SU0254
Izumi, K. SU0385, MO0368
Izumo, N. MO0425

J

Jaccard, A. SA0169
Jacenko, O. SA0110
Jackson, G. SU0402, MO0184
Jackson, M. 1029
Jackson, R. D. SA0140, SA0313, MO0140, MO0317, MO0338
Jacobs, C. R. 1015
Jacobs, S. SA0412
Jacome, C. Eduardo MO0249
Jacques, R. SU0429
Jacquot, J. 1032
Jaddoe, V. 1085, SA0026
Jafari, A. MO0206
Jaglal, S. B. SA0300, SU0297, MO0334
Jähn, K. SA0270
Jaimungal, S. SU0171
Jain, R. SA0169, SU0394, SU0399, MO0172, MO0435
Jakob, F. SU0467, MO0146
Jakobsdottir, J. SA0337
Jakobsen, N. MO0181
Jamal, S. A. 1080, SA0398, MO0165

James, A. 1024, 1086
James, R. SA0336
James, S. MO0093
Jameson, J. Robert SU0039
Jang, H. SA0308, SU0195
Jang, M. SA0236, MO0211
Jang, S. SU0356
Janner, M. MO0173
Jannot, M. 1030
Janos, B. 1020
Jans, I. MO0450
Jansen, I. SU0264
Jansen, M. SU0407
Jansson, J. FR0445
Jansz, N. MO0014
Janz, K. F. SA0032, SA0033, SA0295, MO0300
Jarrahy, R. SA0146
Jasim, S. SU0158
Jasiuk, I. SA0058
Jastrzebski, S. SU0256
Jaundzeikare, S. SU0311
Javaheri, B. MO0280
Javaid, K. SU0031
Javed, A. MO0223
Javier, R. MO0176
Je, S. SU0108
Jean, S. SA0325, SA0332, SA0451, SU0393, MO0324, MO0350
Jeans, G. SA0268
Jenkins, M. MO0340
Jensen, E. D. SU0250, SU0252
Jeon, S. MO0139, MO0220
Jeong, B. SU0228
Jeong, I. MO0255, MO0388
Jeong, J. SU0091
Jeong, S. 1072
Jeong, Y. SA0057
Jepsen, K. J. 1038, SA0055, SU0052
Jeray, K. SU0391
Jerling, M. SU0381
Jernigan, A. SU0422
Jerums, G. SU0189
Jeter-Jones, S. MO0051
Jia, X. MO0153, MO0459
Jia, Z. MO0412
Jiang, C. MO0039
Jiang, G. 1109
Jiang, H. SU0149
Jiang, J. SA0018, SA0245, SU0092, MO0186
Jiang, J. X. 1089, FR0277, SA0277, SU0253, SU0275
Jiang, L. SU0408, MO0409
Jiang, M. 1036, 1056, SA0127, SU0109, SU0134
Jiang, P. SA0073
Jiang, X. SA0129, SA0231, SU0080
Jiang, Y. MO0336
Jiao, H. SA0198
Jilka, R. L. 1013, 1034, MO0287
Jimi, E. MO0222
Jin, D. SA0295, MO0300
Jin, J. SU0003
Jin, W. SA0127
Jindal, P. SU0366, SU0370, MO0367
Jing, J. SU0082, SU0082
Jing, Y. FR0288
Jiranek, W. MO0451
Joakimsen, R. SA0365
Joby, J. SA0406
Joeng, K. 1006, SA0127, SA0201
Joffe, H. MO0347
Johannesdottir, F. MO0301
Johansson, B. SU0346
Johansson, H. 1066, FR0327, SA0317, SA0318, SA0346, SU0355, MO0299, MO0325, MO0354
Johansson, S. MO0353
John, S. SU0191
Johnson, A. MO0443
Johnson, B. MO0075
Johnson, F. 1112
Johnson, G. SA0148
Johnson, J. SU0239
Johnson, K. SA0313
Johnson, M. SA0237, SU0095
Johnson, M. Gilbert SA0062, SA0171, MO0215
Johnson, M. L. 1013, SU0282, MO0059, MO0276, MO0280, MO0406
Johnson, N. MO0144
Johnson, R. MO0311, MO0366
Johnson, R. W. 1091, FR0249, SA0202, SA0249, SU0186
Johnson, S. SA0314
Johnston, J. FR0363, MO0072
Johnston, T. MO0292
Jonason, J. Harrell 1102, FR0081, FR0096, SA0081, SA0096
Jones, C. B. SA0126, SA0434, SU0391, MO0375
Jones, G. SA0012, SU0451
Jones, L. C. MO0443
Jongwattapapisan, P. SU0209
Jonsson, B. SA0324, SA0330
Joo, H. SU0299
Joo, K. SU0299
Jordan, F. MO0374
Jorgensen, N. Rye 1026, SU0241
Jørgensen, H. SU0347
Jørgensen, K. SA0079
Jorgenson, B. SA0301
Joseph, D. SU0191
Joseph, G. SU0066
Joseph, P. MO0341
Joshi, S. MO0457
Josse, R. G. 1027, 1080, SA0195, SA0329, SA0384, SU0315, SU0329, SU0394, MO0318, MO0331, MO0357
Jotoku, T. MO0377
Jovaisas, A. MO0175
Joyce, P. MO0448
Juarez, P. SU0457
Judex, S. 1040, SA0189, SA0283, SU0050, SU0055, SU0062, MO0047, MO0063, MO0064

Jueppner, H. SU0115, SU0221, MO0173
Jukema, J. SA0140, MO0140
Jules, J. 1092, MO0256
Jung, J. SA0003
Jung, K. SU0299
Jung, M. SU0245
Jung, Y. SU0091, MO0086
Jurdic, P. FR0264
Jurvelin, J. SU0312
Juslin, L. SU0314
Juurlink, D. SU0377
Juwayeyi, Y. SA0279

K

Kaci, I. FR0463, SA0463
Kaci, N. MO0090
Kadari, S. SA0053
Kado, D. M. 1003, SA0193, SA0298, SU0320, SU0321, SU0364, MO0445
Kadono, Y. MO0258, MO0269
Kadowaki, E. SA0311, SU0333
Kadoyama, Y. SU0445
Kagamimori, S. SA0311
Kagawa, K. SA0465
Kagawa, T. SA0454
Kagawa, Y. SA0311
Kahan, A. SA0178
Kahn, B. 1044
Kahonen, M. SA0140, MO0140
Kähönen, M. MO0029
Kaider, A. SA0071
Kainberger, F. SA0072, MO0440
Kaiser, S. M. SA0329, SU0315, MO0318, MO0357
Kaji, H. SA0155, SU0187
Kajiwara, M. SA0042
Kajiya, H. SA0261, MO0253
Kakoi, H. SU0093
Kakutani, Y. SA0151
Kalajzic, I. FR0244, SA0276, MO0225, MO0243
Kalantarhormozi, M. MO0339
Kalinowski, J. SU0256
Kalkwarf, H. J. SU0026, MO0024
Kallikorm, R. SU0019
Kälvesten, J. SU0300, SU0303
Kalyan, S. MO0385
Kamada, A. SA0294, SU0223
Kamalakar, A. FR0457, SA0262
Kamanda-Kosseh, M. FR0180
Kamber, H. MO0219
Kamel, M. A. MO0280
Kamel, S. SU0436, MO0112
Kamijo, R. SU0086
Kamimura, M. SU0380
Kamiya, N. SU0082
Kamiya, Y. SU0087
Kammerer, C. M. SA0140, MO0132, MO0140
Kan, M. SA0076
Kanazawa, I. SA0101, SU0187, MO0207
Kanazawa, K. SA0042
Kaneko, K. SA0229, SA0380, SU0276, SU0284
Kaneps, D. SU0311
Kanezashi, A. SU0378
Kang, C. SU0350
Kang, H. MO0191
Kang, M. M. SA0386, MO0392
Kang, S. MO0432
Kanis, J. A. 1066, FR0327, SA0317, SA0318, SA0346, SU0346, SU0355, MO0325, MO0354
Kanke, K. SA0222
Kannus, P. SA0339
Kantarci, A. SA0004
Kantner, I. MO0030
Kantovitz, K. SA0112, MO0119
Kanzaki, S. SA0080
Kapahi, P. MO0158
Kapfenberger, A. SU0291
Kapinas, K. SA0113
Kaplan, F. S. MO0103, MO0227
Kaplan, R. SA0006
Kapral, M. SU0329
Kaptoge, S. K. SA0140, MO0140
Karampinos, D. SU0298
Karande, P. SU0041
Karaplis, A. C. 1061, 1095, MO0122
Karasevska, T. SA0296
Karasik, D. 1067, SA0140, SA0142, SA0335, SA0337, MO0134, MO0140, MO0187, MO0335
Karatzoglou, I. MO0371
Karim, L. SA0051, MO0032
Karinkanta, S. SA0339
Karjalainen, J. Petri SU0312
Karkkainen, M. SA0139
Kärkkäinen, M. SU0314, MO0315
Karlamangla, A. S. SA0290, SU0352
Karlsson, M. K. 1053, FR0022, SA0346, SU0012, SU0325, SU0346, SU0368, MO0025, MO0026, MO0325, MO0363
Karp, H. SA0139, SU0314, MO0315
Karsdal, M. A. SA0020, SA0263, SU0126, MO0015
Karsenty, G. 1041, SU0189
Kasperk, C. H. SA0402
Kassem, M. MO0206, MO0239, MO0469
Kasuga, T. SU0079
Kasukawa, Y. SA0355, SA0373, SA0396, SA0418, SU0049, SU0324, MO0005
Katagiri, T. MO0135, MO0143, MO0222
Kataoka, S. SA0054
Katayama, S. SU0261
Katayama, Y. SA0241
Katchburian, E. SA0259
Katikaneni, R. SA0121, MO0413
Kato, H. SU0210, SU0380
Kato, N. SU0378
Kato, S. SA0454
Kaufman, J. SU0391
Kaufman, J. J. SA0306
Kaufman, S. 1069
Kaufmann, M. SU0451
Kaur, H. SU0100

Kaur, S. 1078
Kautiainen, H. SA0015, SA0017
Kawabe, H. SU0184
Kawaguchi, H. 1093, MO0141
Kawaguchi, T. SU0103
Kawai, M. 1045, SA0289, MO0117
Kawai, S. SU0219
Kawakami, T. 1048, SU0169
Kawalilak, C. E. FR0363, MO0072
Kawamura, I. SU0093
Kawamura, Y. SU0448
Kawano, H. SA0241
Kawano, Y. FR0241, SA0241
Kawao, N. SA0155
Kawasaki, M. SA0227, SA0229, MO0091
Kayserili, H. MO0136
Kaze, I. SU0311
Kazmers, N. MO0061
Ke, H. SA0411, SU0134, SU0411, MO0209, MO0411
Kearns, A. SA0399
Kearns, A. E. MO0180
Keaveny, T. SA0400
Keaveny, T. M. 1023, MO0053
Kedlaya, R. 1059
Keen, R. W. SA0019
Keller, A. SU0112, SU0467
Keller, E. T. MO0463
Keller, H. SU0399
Kellerman, O. MO0096
Kellier, N. SU0372
Kelly, A. SU0026
Kelly, J. J. SA0304
Kelly, K. SA0194
Kelly, M. SA0036
Kelly, O. MO0007
Kemi, V. SA0139, SU0314, MO0315
Kemp, J. MO0029, MO0029
Kemp, P. SA0115
Kendler, D. 1065, SA0400, SU0400
Kendler, D. L. 1020
Kennedy, B. MO0158
Kennedy, C. C. SA0397, SU0394, MO0398
Kennedy, O. 1010, FR0275, SA0275
Kenney, L. SA0366
Kent, J. SA0336
Kepley, A. Lisa SA0366, SU0177, SU0309, SU0428, MO0298
Kerns, J. SA0019, SU0046
Kersh, M. MO0074
Kesavalu, L. MO0209
Kesavan, C. 1014, FR0157, SA0065, MO0150
Kessler, C. SA0113, SA0255
Keupp, K. MO0136
Keyak, J. Helene FR0190, SU0030, SU0066
Khadarian, K. 1024, 1086
Khaksarfard, K. SU0101
Khalid, K. MO0278
Khan, A. 1080, FR0163, SA0163, SU0329, MO0164
Khan, O. FR0163
Khattab, H. MOHAMED SA0144
Khaw, K. SA0140, MO0140
Khoo, B. SU0009
Khosla, S. 1028, 1084, 1090, FR0010, SA0028, SA0203, SA0270, MO0027, MO0065, MO0221, MO0295
Khurana, B. MO0373
Khurana, S. FR0245
Kiang, J. SU0365
Kidgell, D. FR0195
Kiefer, J. SA0126
Kiel, D. SU0017, MO0187
Kiel, D. P. 1067, FR0011, FR0012, SA0008, SA0140, SA0142, SA0335, SA0337, SU0015, SU0318, SU0339, MO0055, MO0134, MO0140, MO0335
Kiernan, J. J. SU0424
Kikuta, J. SU0267
Kilts, T. SU0200
Kilway, K. SU0065
Kilway, K. V. MO0054
Kim, B. SA0358, SU0114, SU0350, MO0356
Kim, C. SU0026, SU0358, MO0080
Kim, D. MO0388
Kim, E. SU0226
Kim, G. SA0358, SU0091, SU0350, MO0086, MO0356
Kim, H. 1013, 1074, FR0246, SA0256, SA0256, SU0114, SU0139, SU0245, SU0358, MO0138, MO0191, MO0273
Kim, H. K. SA0215
Kim, I. SA0386, MO0392
Kim, J. 1024, 1112, SA0010, SA0236, SA0236, SA0244, SA0367, SU0023, SU0074, SU0139, SU0139, SU0195, SU0220, MO0111, MO0211
Kim, K. SA0010, SA0308, SU0023, SU0023, SU0074, SU0195, SU0358
Kim, S. 1058, SA0188, SA0236, SA0236, SA0308, SA0367, SU0139, SU0350, SU0350, MO0073, MO0080, MO0211, MO0211, MO0273
Kim, S. Ann SA0398
Kim, T. SA0244, SU0308, SU0350, SU0350
Kim, W. SU0125, MO0218, MO0283
Kim, Y. 1035, SU0220
Kimmel, D. B. SA0041, SU0413, MO0209
Kimoto, A. 1045, MO0416
Kimura, A. SA0210
Kimura-Suda, H. SA0042
Kindler, J. Michael SA0069
Kindmark, A. SU0098, MO0133
King, G. MO0374
King, K. B. SU0163
Kinoshita, H. SU0049, SU0324
Kinoshita, S. MO0117
Kinzl, M. SU0067, MO0383
Kirakodu, S. MO0252
Kirby, B. SU0117
Kirby, H. SA0406
Kirkpatrick, L. SA0132
Kirmani, S. 1028, FR0010, SA0028, SA0203, MO0027
Kırnap, M. SA0385

Kirn-Safran, C. 1039
Kiroyan, J. MO0237
Kishikawa, Y. SU0371
Kishimoto, H. SA0376
Kissebah, A. SA0336
Kitagawa, Y. FR0440, MO0466
Kiviranta, I. SA0015, SA0017
Kiviranta, R. 1006, 1077, SU0214, MO0434
Kiyomatsu, H. MO0082
Klar, J. SA0257
Klassen, L. SA0049
Klaushofer, K. SU0232, MO0167
Klausner, M. 1048, SU0169
Klawitter, M. SU0240
Klein, G. L. 1097
Klein, R. F. MO0337
Klibanski, A. SU0155
Klimecki, W. SA0009, SU0013
Klimentidis, Y. SA0009
Klop, C. MO0329, MO0329
Knapik, D. MO0060
Kneissel, M. SA0149, SU0166
Knight, C. MO0093
Knobel, H. SU0069
Knol, D. MO0195
Knoll, J. SA0442
Ko, S. SU0287
Kobayashi, H. 1093, MO0141
Kobayashi, K. SU0284, SU0284, SU0378
Kobayashi, S. SA0042
Kobayashi, Y. SA0135, SU0210
Koch, K. SA0064
Koch, L. SA0218
Kocijan, R. SA0071, SA0136, SA0377, MO0011, MO0383, MO0427
Kodani, N. MO0113
Kode, A. 1005
Koehne, T. SU0216
Koga, D. FR0094, SU0094
Kogawa, M. SU0261, MO0278, MO0285
Kogo, M. SA0289, MO0084
Koh, A. 1035
Koh, J. SA0358, SA0386, SU0114, SU0228, SU0350, MO0356, MO0392
Koh, W. SA0312
Kohn, A. SA0092
Kohn, D. H. 1004
Kohrt, W. M. SU0044
Koide, H. SA0252
Koike, M. SU0284
Koike, T. SU0353
Koike, Y. SA0054
Koinuma, T. 1045
Koivula, M. MO0315
Koivumaa-Honkanen, H. SA0353
Koizumi, M. SA0427
Kojima, Y. MO0425
Kokabu, S. SA0078, MO0135, MO0143, MO0222, MO0274
Koller, D. SU0142
Kolta, S. SU0362, MO0306
Komatsu, D. E. SA0097, SU0032, SU0143
Komiya, S. SU0093
Komori, T. SU0218, MO0218
Kondo, Y. MO0113
Konicke, K. MO0215
Kontopidis, G. SU0266
Kontos, P. MO0334
Kontulainen, S. A. FR0363, SA0363, SU0014, SU0295, MO0072
Kooperberg, C. MO0317
Koopman, R. SA0429
Kopperberg, C. MO0338
Korhonen, M. MO0022
Kornak, U. MO0136
Kornilov, A. SU0239, MO0405
Koromila, T. SU0442
Kostenuik, P. J. FR0025, SA0046, SU0056
Kostyk, T. MO0349
Kotowicz, M. A. SA0321, SU0322
Kouda, K. SU0333
Koumakis, E. SA0178
Kousteni, S. 1005, MO0370, MO0465
Kovacs, C. S. SU0117, SU0315, MO0318, MO0357
Kover, K. SU0104
Koyama, E. SA0110
Koyama, H. SA0151
Kozai, K. SU0288
Kozai, M. SA0454
Kozhemyakina, E. SA0082
Kozisek, M. MO0382
Kozloff, K. M. 1103, SA0218, SU0038
Kozlow, W. M. MO0461
Krahn, M. SU0377
Krakow, D. 1006, SU0109
Kram, V. SU0200, MO0110
Kramer, I. SA0149, SU0166
Kramer, J. SU0239, MO0405
Kramer, M. MO0195
Kramsky, R. SU0438
Krastins, B. SA0120
Kraus, V. SA0020
Krause, D. SA0401
Krause, M. SA0292
Kravitz, B. G. SA0386, MO0392
Krege, J. 1023
Kreiger, N. SU0315, MO0318, MO0357
Kremer, R. 1061, FR0456, SA0447, SA0456, MO0194, MO0452
Krevvata, M. MO0465, MO0465
Kriebitzsch, C. SU0259
Krieg, M. SA0322, MO0323
Krieger, N. S. SU0118
Kringen, M. MO0100
Krishna, A. FR0404
Krishnamoorthy, D. 1012, MO0423
Krishnan, V. SA0405
Kristianto, J. MO0215
Kriström, B. MO0028
Kritz-Silverstein, D. SU0364
Kroger, H. 1006, SA0183, SA0353, SU0078, SU0312, SU0326
Kröger, H. SA0007, MO0193
Krohn, K. SU0372
Kroin, J. MO0016

Kroll, T. SA0442
Kronenberg, H. M. 1104, SA0082, SA0202, MO0159, MO0246
Krönke, G. SA0442
Kruck, B. MO0408
Krueger, D. C. SU0306, SU0373, MO0006, MO0307
Krug, R. SU0298
Kruithof, C. SA0026
Krum, S. A. 1117
Kruse, M. SA0431
Krust, A. FR0443
Ku, S. SU0139
Kubala, A. SU0160, SU0161
Kubo, S. SU0385, MO0368
Kuboki, T. SA0144
Kubota, S. MO0288
Kubota, T. SU0157
Kubota, Y. SA0080
Kuchler, U. SU0205
Kuda, H. SU0385, MO0368
Kudlacek, S. SU0291
Kudo, A. SU0258
Kuebler, W. SA0455
Kuhn, G. SA0064, SU0051
Kuhn, V. SU0048
Kuhstoss, S. SA0405
Kuipers, A. MO0132
Kujala, U. SA0015, SA0017
Kulekcioglu, S. MO0360
Kuliwaba, J. SU0071
Kull, M. SU0019
Kumar, A. FR0181, FR0271
Kumar, J. SU0132
Kung, A. WC SA0140, MO0140
Kuno, M. MO0118
Kuran, B. SA0385
Kurihara, N. FR0440, SA0440, MO0466
Kuroshima, S. 1031
Kurumatani, N. SU0333
Kushner, H. SA0036
Kutilek, S. MO0124
Kuwahara, M. SA0042
Kuzynski, M. MO0096
Kvasha, S. SA0234
Kwaasi, A. SA0268
Kwaczala, A. SU0055, MO0047
Kweon, S. SU0341
Kwon, A. SA0102, SU0287
Kwon, R. Y. FR0187
Kwon, S. SU0299
Kwon, T. SU0220
Kyker-Snowman, K. SU0118

L

La Colla, A. SA0191
Laaksonen, M. MO0029
Laberge, G. SU0272
Labrecque, N. MO0162
Lacroix, A. Z. 1049, SA0313, SA0331, SA0357, MO0317, MO0338, MO0347
Lacy-Hulbert, A. SU0276
Ladier, D. SA0283
Lafage-Proust, M. 1030, SA0111, SU0110
Lafforgue, P. MO0176
Lafleur, J. SU0307
Laforest, S. SU0393
Lagari, V. SA0320
Lagast, H. SA0173, SA0175
Lagerquist, M. K. FR0443, FR0445
Lahiri, S. MO0179
Lahm, T. SA0118
Lai, A. SU0298
Lai, D. SU0142
Lai, E. MO0058
Lai, F. SA0082, MO0246
Lai, X. SU0188, MO0277
Lai, Y. SA0198
Laine, C. 1006
Laine, J. SU0214
Laine, T. 1006
Laing, E. M. SA0069, MO0023
Lakatos, P. SA0389
Lalmohamed, A. 1110
Lam, A. MO0321
Lam, T. SA0038
Lamberg-Allardt, C. J E SA0139, SA0339, SU0314, MO0315
Lambers, F. Mariet SA0064, SU0058
Lammentausta, E. SA0015, SA0017
Lamothe, B. SU0273
Lamy, O. SA0318, MO0314, MO0323
Lamy, O. Jean Robert SA0322
Lan, S. SU0151
Lane, D. SU0457
Lane, J. M. SA0209, MO0348
Lane, N. E. SA0193, SU0408, MO0406, MO0409, MO0445
Lane, S. SA0321
Lang, C. SA0187
Lang, T. MO0295
Lang, T. F. FR0190, FR0432, SA0190, SA0337, SU0066, SU0335, MO0065, MO0310
Langdahl, B. SU0400
Langdahl, B. L. SA0138
Langer, M. SA0287
Langs, G. SA0072, MO0440
Langsetmo, L. SA0329, SU0315, MO0318
Lannon, R. MO0379
Lanske, B. SA0165, SU0117, MO0084
Lapey, A. MO0430
Lapidus, J. SA0344, SA0354
Lappe, J. M. 1021, SA0366, SU0026, SU0277, MO0024
Laprade, J. SU0399
Lara, N. SU0282, MO0280
Largo, R. MO0057
Largura, H. SU0206
Larijani, B. MO0339
Lariviere, R. SU0183
Laroche, M. MO0069, MO0176
Larroude, M. MO0402
Larsen, K. Hauberg MO0206
Larson, J. SA0313, MO0347
Larsson, T. SU0381

Larue, A. C. SA0105
Laserna, C. MO0151
Laslett, L. SA0012, MO0395
Lassar, A. SA0082
Lathrop, M. MO0326
Latourelle, J. SA0337
Latronico, A. SU0168
Lau, A. SU0329
Lau, A. G. MO0058, MO0078
Lau, E. MO0312
Lau, K. SU0268, MO0237, MO0279
Laufenberg, L. SA0187
Laughlin, G. SU0364, MO0445
Laulund, A. SU0347
Laurent, M. SU0059
Laurin, J. SA0420, SU0260
Lausch, E. MO0136
Lawal, R. AdeBisi MO0231
Laxman, N. SU0098
Lay, E. SU0408, MO0409
Lazarenko, O. SA0098, SU0002
Lazaretti Castro, M. SU0398
Le Blanc, S. MO0146, MO0197
Le Henaff, C. 1032
Le, C. SU0402
Le, K. SU0208
Le, L. SU0280
Le, P. MO0157
Learman, B. SU0155
Leblanc, E. SA0006
Leblanc, K. SA0093
Leboff, M. SU0172
Leboff, M. S. MO0373
Leboulleux, S. SA0169
Lecanda, F. SU0465
Lechleiter, J. MO0369
Leclerc, J. MO0350
Leder, B. Z. 1019, FR0372, MO0347
Ledonio, C. SA0013
Leduc, C. MO0282
Lee, A. SA0091
Lee, B. 1006, 1036, SA0127, SA0467, SU0022, SU0109, SU0134, SU0138, MO0270
Lee, B. S. SU0271, MO0060
Lee, C. G. SA0193
Lee, D. SU0108, SU0193, MO0404
Lee, E. SU0358, MO0080, MO0086
Lee, H. 1019, FR0372, SA0147, SU0308
Lee, J. SU0175, SU0177, SU0184, SU0358, MO0139, MO0266, MO0266
Lee, K. SA0038, MO0098
Lee, M. SU0226, SU0226
Lee, R. H. SU0392, MO0352
Lee, S. FR0190, FR0448, SA0010, SA0255, SA0358, SA0358, SA0448, SU0074, SU0226, SU0256, SU0298, SU0338, SU0350, SU0350, MO0257, MO0356
Lee, T. SA0240, MO0422
Lee, Y. SA0386, SU0220, SU0356, MO0392
Lee, Z. SA0256, MO0160, MO0273
Leeming, D. J. SA0020
Leeper, A. MO0209
Legeai-Mallet, L. MO0090
Legrand, K. SA0340
Lehesjoki, A. 1006
Lehtimäki, T. SA0140, MO0029, MO0140
Lei, S. SA0338
Leib, E. S. SA0074, SA0164, SU0301, SU0301
Leikin, S. SA0131, SU0131
Leinonen, V. SU0078
Leitzel, K. FR0457
Lekprasert, P. SU0174
Lember, M. SU0019
Lembersky, B. 1050
Lems, W. F. 1108, 1110
Lemus, M. SA0420, SU0260
Lenane, Z. SA0172, SU0175, SU0179
Lenk, G. SU0138
Lennox, J. SA0361
Lentle, B. FR0163
Leo, N. SA0194
Leo, P. SA0137, SA0140, MO0140
Leonard, D. MO0340
Leonard, M. B. SU0171, SU0193
Lerner, U. H. 1115, SA0257
Lesage, E. SU0412, SU0444, MO0421
Leslie, J. Marie 1044, MO0202
Leslie, W. D. 1066, SA0067, SA0317, SA0318, SA0437, SU0294, SU0342, SU0355, MO0314, MO0321, MO0326, MO0354, MO0357
Lespessailles, E. SA0303, SA0340, SA0408, SU0316, SU0409, MO0282, MO0299
Leszczynski, P. MO0349
Letuchy, E. SA0032, SA0033, SA0295, MO0300
Leufkens, H. MO0329
Leung, P. SA0389
Levchuk, A. SU0051
Levi, M. SU0163
Levine, M. A. SA0037
Levine, S. MO0038
Levinger, I. SU0189, MO0010
Levy, S. SU0154
Levy, S. M. SA0032, SA0033, SA0295, MO0300
Levy-Weil, F. SA0340, SU0316
Lewiecki, E. 1017, 1020, SU0400, MO0340
Lewis, C. E MO0296
Lewis, G. SU0201
Lewis, J. Richard 1002, SU0009, SU0334, MO0328
Lewis, R. D. SA0069, MO0023
Li, A. 1033, SA0146, MO0156
Li, B. SA0130, SU0222
Li, C. SA0269, SA0295, SU0092, SU0119, MO0300
Li, D. SA0037
Li, F. SA0239
Li, G. SA0140, MO0140
Li, H. SA0035, SU0222, MO0144

Li, J. 1061, 1062, FR0160, FR0425, FR0447, SA0160, SA0334, SA0338, SA0411, SA0425, SA0447, SU0446, SU0446, MO0016, MO0120, MO0155, MO0207, MO0234, MO0452
Li, M. SU0026, MO0336
Li, S. SA0198, MO0261, MO0261
Li, T. 1094, SA0359, MO0077, MO0163
Li, W. 1070, SA0063, SU0243
Li, X. SA0234, SA0411, SU0236, SU0236, SU0411, MO0310, MO0411
Li, Y. 1092, SA0016, SA0215, SA0274, SU0237, MO0256
Li, Z. 1044, FR0404, MO0081
Lian, J. MO0194
Lian, J. B. SA0093, SA0214, SU0007, SU0020, MO0088, MO0216, MO0217, MO0218, MO0219
Liang, B. 1101
Liang, N. 1033, MO0156
Liang, X. MO0444
Liang, Y. 1047
Liao, E. SA0269, SA0379, SU0202
Liao, J. SA0130
Liapis, H. FR0121
Libanati, C. 1022, 1065, SA0399, SA0400
Libber, J. SU0306, SU0373, MO0006, MO0307
Lichtler, A. SA0222, SA0231
Lie, W. SU0162
Liebenberg, E. MO0281
Liede, A. MO0172
Liepouri, F. SU0266
Lietman, C. 1036, SU0109, SU0134
Lieu, S. 1008, SU0185
Lifang, H. MO0062
Lillycrop, K. SA0030
Lim, B. MO0001
Lim, C. 1070
Lim, E. SA0254, SU0263
Lim, J. SU0195
Lim, K. SU0091
Lim, M. SU0299
Lim, S. SA0010, SA0308, SA0386, SU0023, SU0074, SU0195, SU0226, MO0392
Lima, F. MO0040
Lima, G. SU0035
Lin, C. SA0399
Lin, H. 1068, SA0379
Lin, J. SU0265
Lin, L. SU0063, MO0411
Lin, M. FR0162
Lin, S. FR0288
Lin, T. 1113
Lin, Y. M. SU0025
Lin, Z. SU0244
Lin, x. SU0189
Lindahl, K. Marie MO0133
Lindenmaier, L. MO0247
Lindhout, E. SU0454
Lindsay, R. 1020, 1049, SA0331, SA0371
Lindström, E. SU0381
Lindtner, R. SU0240
Link, T. M. FR0299, SU0066
Linossier, M. SA0111, SU0110
Liphardt, A. SA0076
Lipof, J. SA0194
Lippuner, K. SA0382, SU0072, SU0427
Lips, P. T. SA0281, SA0429, SA0452, MO0195
Lipton, A. FR0457
Liron, T. MO0099
Lisignoli, G. MO0259
Lisse, T. MO0456
Little, D. SU0198, MO0130
Liu, C. 1067, SA0014, SA0140, SA0335, SA0337, SA0390, SU0082, SU0283, MO0140, MO0154
Liu, D. SU0033
Liu, E. S. SA0090, SU0083
Liu, F. FR0211
Liu, G. SU0073
Liu, H. MO0122
Liu, J. SA0132, SU0165, SU0178, MO0051
Liu, L. SA0170
Liu, M. FR0288, MO0209
Liu, P. MO0448
Liu, S. SA0152, SA0423
Liu, W. MO0204
Liu, X. 1039, 1057, 1116, FR0246, SA0125, SA0286, SU0387, MO0191
Liu, X. Sherry 1113, SU0405, SU0406, MO0049
Liu, Y. FR0288, SA0014, SA0140, SA0186, SA0295, SA0334, SA0334, SA0368, SA0368, SU0082, SU0141, MO0039, MO0140, MO0275, MO0276, MO0287
Liu, Z. SA0095
Liu, y. MO0087
Liuni, F. MO0188
Livingston, E. SU0163, MO0058, MO0078
Lix, L. SA0317, SU0355, MO0321, MO0354
Ljunggren, O. SA0346, SU0012, MO0133
Lloyd, J. MO0330
Lloyd, S. SA0187, SA0187, SU0201
Lockley, S. SA0360
Loewe, C. FR0299
Loeys, B. SA0137
Lofthus, C. SA0291
Lohfeld, L. SU0394
Loiselle, A. SU0201
Lok, C. MO0165
Lomoschitz, F. SA0071
Long, C. SU0269
Long, F. FR0081, SA0201, SU0233, MO0061
Long, J. SU0171
Long, R. SU0157
Longobardi, L. 1094, MO0077, MO0163
Loots, G. G. SA0089, MO0097
Lopes, A. SU0435
Lopes, J. Barros SU0351, SU0421, MO0309
Lopez, B. MO0110
Lopez, M. SA0120
Lorbergs, A. L. SU0194

Lorentzon, M. 1053, FR0022, SA0140, SU0012, SU0346, SU0368, MO0029, MO0140, MO0308, MO0363, MO0363
Lorenzo, J. 1042, SU0256, MO0249
Lorimer, M. SA0266
Losee, J. SU0160, SU0161
Lotinun, S. MO0159
Lotz, J. MO0281
Lou, S. SA0063
Loucks, A. B. SA0060
Louis, L. MO0032
Lowery, J. Wayne MO0143
Lu, A. SU0207, MO0233
Lu, B. MO0317
Lu, J. 1006, FR0410, SA0410, SU0138
Lu, L. SA0127
Lu, Q. SU0006, MO0094
Lu, W. W. MO0204
Lu, X. SU0018
Lu, Y. 1016, SA0107, SA0108, MO0059
Lu, Z. SA0451, SU0081
Luangkittikong, S. SU0389
Luben, R. SA0140, MO0140
Lublinsky, S. SU0050
Lubyanaya, D. SU0030
Lucani, B. SA0077, SA0441, MO0390, MO0441
Lucas, E. A. MO0420, MO0433
Lucchesi, J. SA0405, MO0120, MO0201
Luco, A. 1061, SA0447
Luderer, H. MO0456
Luginbuehl, R. SU0097
Lui, J. SA0084, SA0086
Lui, L. L. 1083, SU0327, SU0343
Luiser, B. MO0383
Luken, J. SA0429
Lundin, H. MO0353
Lundy, M. W. SA0268
Luo, G. SA0306, SU0235
Luo, X. SU0202
Luttrell, L. Michael SU0121
Lutz, M. SU0048
Luyten, F. SU0147
Ly, F. 1109
Lyles, K. W. SU0392
Lyons, K. M. 1117
Lyytikäinen, L. MO0029
Lévesque, L. SU0377
López-Peña, M. SA0045
Lönnerholm, T. SA0257
Lüthen, F. SA0232

M

M Barnes, A. SU0133
Ma, C. SA0210, MO0223
Ma, J. 1092
Ma, N. MO0037
Ma, Y. SU0117, MO0035, MO0035
Ma, Y. L. SA0405, SA0405, MO0120, MO0201
Maatta, M. SU0024
Mac-Way, F. SU0183
Macaulay, W. B. SU0391
Macdermid, J. SU0340
Macdonald, B. SU0150
Macdonald, H. 1082, SA0188, SU0024, SU0033
Macdonald, H. M. SU0317
Macdonald-Clarke, C. SA0031
Macdougald, O. SU0155, SU0426
Macdouglad, O. 1046
Machado, L. Gerheim SU0351, MO0309
Macias, B. Richard MO0189
Macintyre, N. J. SU0194, SU0399, MO0359
Maclennan, G. SA0439
Macrae, V. 1041, SA0206, SU0158
Madan, S. MO0415
Madson, K. L. FR0024, SA0024, MO0169
Maeda, A. SU0200
Maeda, S. SU0093
Maeda, Y. SU0007, SU0020, SU0164
Maekawa, K. SA0144
Mael, A. SA0213
Maennicke, N. SA0287
Maes, J. SU0375
Maffei, L. MO0402
Magar, Y. SA0340
Magnier, J. SU0435
Magnusson, P. MO0028
Mahadevan-Jansen, A. SU0053, SU0458
Mahalingam, C. SU0229
Mahjoub, Z. MO0350
Main, R. P. SA0043, SA0278
Mainardi, J. MO0190
Maisnam, I. MO0435
Maiti, A. MO0451
Majeska, R. J. SA0283, SU0285
Majumdar, S. MO0295
Majumdar, S. R. 1066, SA0067, SA0317, SU0342, MO0321
Mak, Q. SA0038
Makareeva, E. SA0131, SU0131
Makhijani, N. S. SU0153
Maki, K. SU0086
Makitie, O. 1006, SA0139
Makizako, H. SU0338
Makowski, A. FR0462, SA0133, SU0053, MO0044
Makurthou, A. 1109
Malaval, L. 1030, SA0111, SU0110
Malavolta, N. SA0343
Maleitzke, T. MO0018
Malhotra, D. MO0227
Malhotra, N. 1100
Mallinson, R. SA0426
Mallmin, H. E. SU0098
Malluche, H. H. SA0166
Malmgren, B. MO0133
Maman, E. MO0099
Mamdani, M. SU0377
Mamoto, K. SU0353
Man, Z. SA0389
Manabe, T. FR0388, SA0413
Manavalan, J. MO0465
Manavalan, J. Sanil MO0370

Manavalan, S. 1005
Mandair, G. S. MO0042
Manferdini, C. MO0259
Mangano, K. M. FR0012, FR0012, SA0008
Mangiavini, L. FR0109, SA0109
Manini, T. SA0006
Manley, Jr., E. SU0096
Mannstadt, M. SA0175, SU0115
Manolagas, S. C. 1009, 1013, 1034, 1074, 1118, FR0243, SA0446, SU0443, MO0263, MO0268, MO0287, MO0362
Manske, S. L. FR0189, SA0189
Mansky, K. C. SU0250, SU0252
Mansouri, R. FR0463, MO0208
Manzl, C. SU0240
Mao, H. SU0165
Mao, X. SA0423
Maranti, A. SU0266
Marazzi, M. SU0156
Marbury, T. SA0390
March, L. 1049, SA0331, SA0357, MO0395
Marcia, A. FR0246
Marcinkiewicz, E. MO0109
Marcocci, C. SA0174
Marcucio, R. S. 1008, SU0185
Marengi, D. SA0125
Margolis, K. 1027
Maria, C. MO0156
Marian, S. SU0422
Maridas, D. SU0227
Marie, P. 1032
Marie, P. J. FR0463, MO0208
Marin, M. MO0170
Marini, J. SU0131
Marini, J. C. FR0025, SU0038, SU0133, MO0136
Marino, J. MO0418
Marino, R. MO0292
Markova, D. MO0108
Markovic, M. SA0455
Marks, A. R. SU0191
Marks, E. SU0176
Marolleau, J. SU0436
Marr, S. SU0394
Marshall, A. SU0265
Marshall, L. M. SA0344, SU0320
Marshall, M. SA0137
Marshall, S. MO0160
Martelli, F. SA0208
Martelli, M. SA0208
Martelli, S. MO0074
Martens, M. SU0454
Marterer, C. SA0071
Marthi, M. SU0264
Martin, A. SU0442
Martin, B. R. SA0031, MO0023, MO0184
Martin, C. MO0369
Martin, M. MO0121
Martin, R. SA0181, SU0168
Martin, T. 1091, FR0126, SA0249, SA0251, SU0186
Martinet, W. SA0099
Martinez Diaz-Guerra, G. MO0437
Martinez, J. MO0252
Martinez-Canarias, S. SU0465
Martinez-Laguna, D. SA0347
Martini, G. SA0343
Martinon, A. SA0303
Marty, C. 1032, 1068, MO0208
Martín-Fernández, M. SA0045, MO0041
Martínez, J. SA0310, SU0361
Maruyama, T. 1056, FR0459
Mary, A. MO0112
Mas, S. SA0002
Mascarenhas, M. G. SU0360, MO0071
Mashiba, T. FR0388, SA0413
Masi, L. SU0173, SU0197
Masica, D. SU0372
Mason, J. SA0126
Mason-Savas, A. SA0093
Massy, Z. MO0112
Mastaglia, S. SU0455
Mastrangeli, F. MO0188
Masud, T. MO0374
Masuda, H. MO0258, MO0269
Masuda, M. SU0144
Mathieu, M. MO0244
Matousek, P. SA0019
Matsui, T. SA0241
Matsukura, Y. SU0085
Matsumoto, C. FR0459, SU0423, MO0148
Matsumoto, H. SU0376, SU0379, SU0382
Matsumoto, M. SU0261, MO0274
Matsumoto, T. SA0465, SU0388, SU0460, MO0033, MO0258
Matsumura, S. SU0236
Matsuo, K. SA0080
Matsuo, O. SA0155
Matsuoka, K. 1073
Matsushita, Y. FR0104, SA0104
Matsuyama, K. SU0093
Matthews, B. FR0244, FR0244
Mattocks, M. SA0230
Matuszkiewicz-Rowińska, J. MO0167
Matzelle, M. M. SU0007
Mau, L. SU0327
Maurer, P. SA0287
Mautalen, C. 1022
Mavilia, C. SU0197
Mavros, P. SA0328
Mawatari, T. SU0384
Maxson, J. 1098
Maye, P. MO0241
Mayer, G. SU0454
Mayer, L. SA0366
Mayer, R. SA0370
Mayhew, P. M. MO0301
Mayo, N. SU0332
Mazur, A. SA0268
Mbalaviele, G. 1072, FR0226, SA0216
Mbimba, T. SA0211
Mcalister, W. SU0170, MO0169
Mcandrew, C. SU0336
Mcandrews, K. 1055, FR0285, SU0125
Mcaninch, E. SA0320
Mccabe, G. SA0031, MO0023

Mccabe, L. SA0031, MO0023
Mccabe, L. R. MO0422
Mccarthy, I. SA0019
Mccartney-Francis, N. SU0200
Mccaul, K. SU0290
Mccauley, L. K. 1031, 1035
Mccloskey, E. V. 1066, FR0327, SA0317, SA0318, SA0327, SA0346, SU0355, MO0325, MO0354
Mcclung, M. 1065, SA0400
Mcclung, M. R. SA0074
Mcconell, G. SU0189
Mcconnell, M. 1092
Mccorquodale, T. MO0010
Mccready, L. 1028, 1084, FR0010, SA0028, SA0203, SU0429, MO0027, MO0295
Mcdaniel, G. SA0020
Mcdaniel, M. MO0127
Mcdaniels-Davidson, C. SU0364, MO0445
Mcdonald-Blumer, H. 1080, SU0329, MO0297
Mcelwee, J. SA0041
Mcgee-Lawrence, M. E. 1090, SA0085, MO0088
Mcgeough, M. 1072
Mcgill, S. SU0399
Mcgregor, N. 1091, SA0249
Mcgregor, U. I. 1028, 1090, FR0010
Mcguigan, F. 1099, FR0356, SU0132, SU0328
Mcguire, A. SA0412
Mchugh, K. P. SU0273
Mcinerney-Leo, A. SA0137, SU0036
Mckay, H. A. SA0188, SU0024, SU0033
Mckee, M. D. MO0109, MO0116
Mckenna, C. SU0264, MO0461
Mckenna, M. J. 1096
Mckenna, R. SU0457
Mckenney, M. MO0184
Mckenzie, J. MO0436
Mckenzie, J. A. MO0061
Mckiernan, F. E. SU0137
Mckoy, J. SA0307
Mclean, R. R. FR0012, SA0008, SU0017, SU0318, SU0339
Mclellan, A. R. MO0332
Mcleod, K. SA0314
Mcmahon, A. SA0087
Mcmahon, D. J. 1051, FR0180, FR0432, SU0073, SU0177, SU0180, SU0309, MO0298
Mcmanus, S. R. SU0272
Mcmichael, B. K. SU0271
Mcmurchie, H. SU0034
Mcnagny, K. FR0271
Mcnulty, M. SU0045
Mcweeney, S. SU0325
Medina-Gomez, C. 1067, 1085, 1107, SA0026, SA0140, MO0140
Medne, A. SU0311
Meers, C. MO0276
Mehrotra, M. SA0105
Mehta, A. SA0390, MO0382
Meijnen, R. MO0195
Meisler, M. SU0138
Melin, B. MO0338
Mellibovsky, F. MO0429
Mellibovsky, L. SU0069, SU0430, SU0434, MO0429
Mellor, L. MO0089
Mellstrom, D. 1053, FR0022, FR0404, SA0404, SU0012, SU0346, SU0368, MO0308, MO0363
Mellström, D. SA0346, SU0325, MO0325
Melov, S. MO0214
Melton, L. 1084, SA0028, MO0027, MO0180
Menard, J. SA0302
Ménard, A. 1082
Mendonça, M. MO0183
Menendez, A. SA0156, SA0158, SU0157
Meng, C. SU0339
Meng, S. SA0260, SU0213
Mensah, K. SU0273
Mentaverri, R. MO0112
Mente, A. MO0341
Mercer, K. SU0002
Merceron, C. SA0109
Merkel, A. FR0461, FR0462
Merlijn, T. SU0305, MO0319
Merlotti, D. SA0077, SA0343, SA0441, MO0441
Merlusca, L. SU0436
Merrick, M. SA0434, MO0375
Mertl, P. MO0351
Mertz, E. SU0131
Messner, D. SA0348
Metge, C. MO0321
Metspalu, A. SA0140, MO0140
Metz-Estrella, D. SU0273, MO0212
Metzger, C. MO0040, MO0189
Metzger, M. SA0322
Meyer, H. FR0350, SA0291, SA0315, SA0350
Meyer, L. Adriana SA0062
Meyer, M. B. SA0213, MO0198
Meyer, U. SA0319
Miao, D. SA0103, SU0003, SU0446, MO0122
Miccoli, P. SA0174
Michaelsson, K. SA0315, MO0140
Michigami, T. 1045, SA0289, MO0117, MO0129
Michou, L. 1095, SU0439, SU0440, MO0350
Mick, E. SU0020
Miclau, T. 1008, SU0185
Mihailov, E. SA0140, MO0140
Mikhail, M. B. SU0123
Miki, H. SA0465, SU0460
Miki, T. SA0294, MO0377
Mikulec, K. MO0130
Mikuls, T. SA0049
Mikuni-Takagaki, Y. SA0289
Milandri, L. SA0293
Milanesi, L. SA0191
Miles, J. SA0019
Miljkovic, I. SA0344, MO0132
Millan, J. 1029, 1041, MO0096, MO0131

Miller, A. MO0094
Miller, B. SU0065, MO0054
Miller, C. G. MO0307
Miller, F. SU0027
Miller, J. SA0223, SU0155
Miller, L. M. SU0060
Miller, P. 1017
Miller, P. D. 1020, SU0400
Miller-Martinez, D. SA0290
Milley, K. SU0456
Milner, C. MO0272
Min, J. SA0333
Min, K. MO0255
Min, Y. SA0386, MO0392
Minagawa, K. SA0241
Minami, Y. SU0210
Minamizaki, T. SU0288
Minamizato, T. SA0104
Minenko, A. SU0402
Minisola, G. SA0343
Minisola, S. SA0180, SU0120
Minster, R. SA0140, MO0140
Miranda, C. SA0233, SU0070
Miranda, M. SA0233
Miranda-Carboni, G. 1117
Mirando, A. SA0092, SA0095
Mirel, D. SU0325
Mirigian, L. SA0131
Mirsaidi, A. SU0097, SU0234, SU0425
Mischinger, H. SA0438
Mishra, V. SU0176
Misiorowski, W. SA0169
Misra, J. MO0415
Missoum, S. SA0073
Mistry, J. SU0162
Mitchell, J. SA0230
Mitlak, B. 1023
Miura, H. MO0082
Miura, M. SU0333
Miyagawa, K. 1045, SA0289
Miyakoshi, N. SA0355, SA0373, SA0396, SA0418, SU0008, SU0049, SU0324, MO0005
Miyamoto, A. MO0135, MO0222
Miyatake, K. SU0085
Miyaura, C. FR0459, SU0423, MO0148
Miyazaki, M. SU0144
Miyazaki, S. SU0144
Mizunuma, H. SA0381, SU0386
Mizuta, T. MO0135, MO0222
Mizutani, Y. SU0008
Mo, C. SA0001, SA0186, SU0190, MO0187, MO0192
Moayyeri, A. SA0140, MO0140
Mobley, C. MO0096
Modi, A. SA0328, SA0393, SU0337, MO0343
Modlesky, C. M. SA0069, SU0027, MO0292
Modlin, R. MO0448
Modrowski, D. FR0463, MO0208
Moeller, G. SA0392
Moermans, K. FR0245
Moes, C. SA0149
Mogensen, B. SA0324, SA0330
Moggia, M. MO0402
Mogun, H. SA0395
Mohamed, F. 1004
Mohammad, K. S. SA0453, SU0191, SU0457, MO0461
Mohan, S. 1014, FR0157, SA0065, SU0230, SU0262, SU0369, MO0085, MO0150, MO0166, MO0236
Mohanty, S. MO0415
Mohiuddin, R. SU0422
Möller, I. SU0130
Moloney, R. SA0348
Momose, A. SA0080, MO0288
Monahan, P. MO0078
Monegal, A. SA0196, SU0363
Mongelli, T. SA0153
Moniz, C. SA0120
Monk, B. SA0115
Monroe, D. G. 1028, 1090, FR0010, SA0203, MO0221
Mont, M. MO0443
Montecino, M. A SA0234, MO0219
Montgomery, S. SU0099
Montgomery, S. R. MO0152
Monton, K. SA0211
Montoya, M. SA0233, SU0070
Montpetit, A. MO0326
Moon, R. SU0031
Mooney, M. SU0325
Moore, A. SA0406
Moore, E. MO0153
Mora, M. SU0138
Moraitis, A. SA0420
Moraitis, A. Nectaria SU0260
Morales-Santana, S. SA0369
Moran, E. SU0224
Moran, M. SU0045
Morandi, L. SU0138
Morante, M. SU0279
Moravits, D. MO0038
Moreau, A. MO0131
Morello, R. MO0126
Moreno, L. SU0136
Moresco, R. MO0190
Morgan, E. SA0039, SU0106, SU0135, MO0200, MO0364
Morgan, R. SA0013
Morgan, S. SU0054
Mori, G. SA0153
Mori, H. SA0465, SU0155, MO0416
Mori, M. MO0416
Morikawa, D. SU0284
Morin, S. Nicole 1066, 1080, 1095, SA0317, SA0332, SU0329, SU0332, SU0342, SU0394, MO0321, MO0397
Morishima, T. MO0113
Morissette, J. SU0439
Morita, Y. SA0154
Moritz, N. SU0238
Moriwaki, S. SU0349
Moriya, S. SA0227, SA0229
Moriyama, K. SA0135
Morko, J. MO0013

Index

Morlock, M. SU0410
Morris, E. MO0069
Morris, H. A. FR0450, SA0450, SU0449, MO0453
Morris, M. D. MO0042
Morrissey, C. SA0460
Mortlock, D. P. SU0102, SU0146
Morton, N. 1041
Mortreux, M. SU0185
Moscatelli, I. SA0263, SU0126
Mosekilde, L. SA0176, SU0182, MO0181
Moseley, K. SU0397
Moser, E. SA0176
Moser, T. 1095
Moses, A. M. SA0304, SU0167
Mosialou, I. 1005
Mossman, E. SA0074
Motyl, K. SA0370, SU0199, SU0227
Movahed, A. MO0339
Moverare Skrtic, S. E. 1115, MO0419
Mueske, N. MO0194
Mukai, T. FR0154, SA0154, SU0037
Mukane, M. SA0316
Mukherjee, S. 1005
Mukhopadhyay, S. MO0435
Müller, B. SU0216
Müller, H. SU0205
Muller, R. SU0180
Müller, R. SA0064, SU0019, SU0051, SU0277, SU0425, MO0067
Müller, T. SU0048
Muller, W. SA0447
Mulpuri, K. SU0024
Mulrooney, B. SU0027
Multanen, J. SA0015, SA0017
Mumm, S. SA0141, SU0130, SU0336, MO0169
Mun, S. SU0256, MO0257
Munce, S. SU0297
Munce, S. Elizabeth Patricia SA0300
Mundlos, S. MO0136
Muneta, T. SU0085
Munivez, E. 1036, SU0109, SU0134, MO0270
Munnich, A. MO0090
Munns, C. F.J. MO0173
Munoz-Torres, M. SA0369
Murabito, J. SU0017, MO0335
Murakami, S. 1101, SA0100, SU0235
Murakoshi, M. SA0054
Murali, S. SU0116
Muraoka, R. SA0387, SU0384
Murata, E. MO0222
Muratore, M. SA0343
Murphy, C. SA0031, SU0198
Murphy, R. MO0214
Murphy, S. SU0391
Murra, I. SA0279
Murray, D. SA0217, SU0149
Murray, R. SA0030
Murray, S. SU0030
Murshed, M. 1061, MO0081, MO0207
Murthy, S. SU0457
Muscariello, R. SA0441
Muschitz, C. SA0071, SA0136, SA0377, SA0377, MO0381, MO0383, MO0427
Musculoskeletal Working Group, SA0009
Museyko, O. SA0292, SU0067
Musson, D. MO0111
Mustafa, B. SU0359, MO0384
Mutabaruka, M. MO0162, MO0162
Muthusamy, K. MO0150
Mutyaba, P. MO0052
Muxí, Á. SU0363
Myers, R. SA0337
Myers, S. 1023
Myers, T. 1094, MO0077, MO0163

N

Na, S. SA0228, SU0113
Nabak, A. MO0366
Nabipour, I. MO0339
Nace, D. 1025
Nadeau, J. SA0055
Nadeau, L. SU0332
Naegeli, A. SU0404
Nagamani, S. MO0150
Nagano, H. SA0252
Nagano, K. 1057, 1077
Nagao, M. SA0380
Nagaoka, Y. SA0261
Nagashia, M. SU0376
Nagashima, M. SU0379, SU0382
Nagatomo, K. MO0110
Nagel, A. MO0230
Naik, N. 1033
Nakagawa, K. SU0225
Nakahashi, O. SA0454
Nakajima, M. SA0294
Nakamoto, T. MO0091
Nakamura, K. MO0258
Nakamura, S. SA0465, SU0460
Nakamura, T. SA0066, SA0150, SA0376, SA0381, SU0218, SU0386, SU0388, MO0416
Nakano, M. SU0374
Nakano, T. SA0376, SA0381, SU0386, SU0388, MO0389
Nakatani, T. SA0221
Nakayachi, M. SA0284, MO0161
Nakayama, A. SA0252
Nakayama, M. 1045, SU0086
Nakchbandi, I. A. FR0212, SU0111
Nalls, M. SA0337
Nam, H. SU0341
Nam, J. MO0060
Nam, S. MO0080
Namba, N. 1045
Nan, D. SA0310
Nandakumar, K. SA0335
Nanes, M. S. SA0220
Nango, N. SA0080, MO0288
Naot, D. SA0141, MO0111
Napierala, D. MO0096
Napiórkowska, L. MO0349
Napoli, N. SU0319

Nardone, B. SA0307
Nardone, V. SU0173, SU0197
Narisawa, S. MO0131
Narumiya, S. SA0241
Naruse, M. SA0150, SU0218
Nash, L. SU0394
Nash, M. SA0149
Nasiri, A. MO0123
Nassar, K. MO0306, MO0306
Nasuto, M. SA0070
Natasja Stæhr Gudmann, K. SA0263, SU0126
Nathans, J. MO0202
Natoli, R. SU0042
Nauer, R. SU0042
Nauman, E. SA0043
Navarro Valverde, C. SU0462
Navone, N. MO0459
Nawathe, S. MO0053
Nawrot, I. MO0167
Nawrot-Wawrzyniak, K. MO0167
Naylor, K. FR0437, SA0437
Naylor, K. E. MO0290
Naylor, P. SA0188
Ndong, J. SA0133
Nebbaki, S. SU0088
Neer, R. M. 1019, FR0372
Neff, L. MO0250
Neises, A. MO0237
Nelson Filho, P. SA0282
Nelson, C. 1114
Nelson, D. SA0170
Nelson, J. MO0070
Nelson, R. SU0307
Nelson, T. 1046
Nelson-Filho, P. MO0251
Nemere, I. SU0452
Nesbit, M. SU0115
Ness, V. MO0240
Nestlerode, C. MO0132
Netelenbos, C. 1049, SA0331, SA0357, SU0305, MO0319
Nethander, M. MO0338
Nettlefold, L. SA0188, SU0024
Neu, N. MO0070, MO0370
Neuhouser, M. SA0313
Neumann, H. SA0232
Neuville, K. SU0413, MO0209
Neves, R. MO0116
Nevitt, M. SA0193, SA0298, SA0344
Newcomer, S. MO0184
Newell-Price, J. SU0367
Newman, C. MO0414
Newton, A. SA0027
Ng, A. SU0429, MO0242
Ng, B. SA0038
Ngo, T. MO0098
Nguyen, D. SA0424, MO0019
Nguyen, J. SA0061, MO0417
Nguyen, K. SU0224
Nguyen, N. Dinh FR0379, SA0309, SA0351, SU0330, MO0313
Nguyen, T. SA0403
Nguyen, T. V. FR0379, SA0309, SA0351, SU0330, MO0313, MO0322
Nicholas, J. SA0009, SU0013
Nicholls, A. MO0038
Nichols, F. SA0245
Nicholson, G. C. SU0011, MO0010, MO0395
Nickolas, T. L. 1051, 1063, FR0180, SA0072, SU0277, SU0309, SU0428, MO0298
Nicks, K. M. 1090, MO0221
Nicolella, D. P. MO0038
Niebur, G. L. SA0043
Niedhart, C. MO0399
Nielsen, C. SU0303
Nielsen, E. SA0375
Nielson, C. M. 1066, SA0067, SA0140, SA0337, SA0344, SU0325, SU0342, MO0140, MO0337, MO0450
Niemeier, A. C. SU0216
Nieminen, M. SA0015, SA0017
Nieminen-Pihala, V. 1006, SU0214
Nieves, J. W. SA0357, SA0371
Niewolna, M. SU0457, MO0461
Nigh, P. MO0186
Nigil Haroon, N. SU0401
Niida, S. SU0349
Nikkel, L. 1051, 1063
Nikolova, S. SU0176
Nilsson, A. G. SU0368
Nilsson, J. SU0012, MO0026
Nilsson, M. 1053, FR0022, SA0022
Nilsson, O. SA0084, SU0098, MO0079
Nimitphong, H. MO0455
Ning, G. SU0178
Ning, X. SU0155
Ning, Z. MO0336
Nino, A. SA0386, MO0392
Nirantharakumar, K. 1111
Nishi, T. SA0373
Nishida, K. SA0154
Nishikawa, T. SU0001, MO0002
Nishimori, S. SA0082, SA0082
Nishimura, I. SA0159
Nishimura, R. FR0083, SU0459, MO0084
Nishimura, Y. MO0425
Nishinakamura, R. SU0084
Nishino, J. SA0289
Nishiyama, K. K. 1021, 1051, 1063, SU0181, SU0428, MO0070
Nissenson, R. A. FR0246, MO0191, MO0228, MO0229
Nistala, H. MO0105, MO0226
Niti, A. FR0264
Niu, Q. 1069, SU0411
Niu, T. SA0338
Nixon, A. SU0404
Niyibizi, C. SA0239
Nizard, R. MO0351
Nocciolino, L. SU0076
Nociti, F. MO0110, MO0119
Nociti, Jr., F. SA0112
Noda, M. SA0123, SA0227, SA0229, SU0084, MO0083, MO0091, MO0118

Index

Nodelman, M. SU0438, MO0386
Noguchi, H. MO0302
Nogueira-Barbosa, M. MO0183
Nogues, X. SA0347, SU0069, SU0430, SU0434, MO0394, MO0429, MO0431
Nohe, A. SA0143, SU0005
Nojiri, H. SU0284
Nolan, B. SA0055
Noll, A. MO0106
Nollet, E. SA0099
Nomura, S. SU0254
Nordström, P. MO0140
Norman, D. MO0386
Norman, P. SU0290
Norrell, K. SA0194
Norris, J. FR0226, SA0197
Noseworthy, M. SU0194
Notomi, T. SA0123, SA0227, SA0229, MO0083, MO0091, MO0118
Notsu, M. SA0101
Novack, D. V. 1058, 1072, FR0273, FR0407, MO0265
Nozaka, K. SA0355, SU0049, SU0324
Nozaki, K. MO0416
Ntani, G. SU0031
Ntzani, E. SA0140, MO0140
Nuti, N. SA0208
Nuti, R. SA0077, SA0343, SA0441, MO0390, MO0441
Nuutila, P. MO0434
Nybo, M. SU0347
Nyman, J. S. FR0462, SA0133, SA0462, SU0053, SU0458, MO0035, MO0044
Nyren, S. MO0353

O

O'brien, C. A. 1009, 1013, 1034, 1074, 1118, SA0446, SA0448, MO0287, MO0362
O'callaghan, M. MO0379
O'carroll, D. FR0246, MO0228, MO0229
O'connell, S. SA0093
O'connor, G. SU0015
O'donnell, D. MO0398
O'donnell, P. 1100
O'keefe, R. J. 1102, FR0081, SA0092, SA0096
O'leary, M. MO0158
O'malley, C. 1017, MO0348, MO0348
O'malley, J. SU0239, MO0405
Obai, M. MO0345
Oberfield, S. E. SU0026, MO0024
Oberhelman, S. 1098
Obrant, K. J. 1099
Obungu, V. SA0405
Ochi, H. FR0094, SA0210, SU0094
Ochietietti, B. SA0447
Ochietti, B. 1061, SA0456
Ochotny, N. MO0254
Oda, H. MO0274
Oden, A. 1066, SA0317, SU0355, MO0354, SA0318
Odén, A. FR0327, SA0346, SU0346, MO0325
Oei, E. 1107, 1109, SA0140, SU0323, MO0140
Oei, L. 1067, 1107, 1109, SA0026, SA0140, SU0323, SU0323, MO0140
Oetgen, M. SU0137
Ofotokun, I. SA0361
Ogawa, M. SA0105
Ogawa, N. SA0101
Oguchi, K. SA0250
Oh, H. SA0386, MO0392
Ohashi, Y. SU0388
Ohata, Y. 1045
Ohba, S. SA0087, SA0222
Ohlsson, C. 1053, 1115, FR0022, FR0443, FR0445, SA0140, SA0346, SU0012, SU0325, SU0346, SU0368, MO0029, MO0140, MO0308, MO0325, MO0338, MO0363, MO0419, MO0446
Ohnishi, H. SA0066
Ohte, S. MO0135, MO0222
Ohuchi, K. SU0049, SU0324
Ohue, M. MO0377
Ohya, K. SU0057
Oida, Y. SA0144
Oikonomidou, P. SU0152
Okabe, K. SA0261, MO0253
Okada, F. SU0407
Okada, K. SA0155
Okada, M. SU0288
Okamoto, F. SA0261
Okamoto, M. SU0210
Okamoto, N. SU0333
Okamoto, S. MO0302, MO0302
Okano, H. SA0210
Okano, T. SU0079, SU0225, SU0353, SU0448, MO0449
Okawa, A. FR0094, SA0210, SU0094
Okayasu, M. SA0284, MO0161
Okazaki, H. SA0151
Okazaki, K. SA0101
Okazaki, R. SA0387
Okazaki, Y. SU0261, SU0376, SU0379, SU0382
O'Keefe, R. SA0095
Okiji, F. SU0267
Okimoto, N. SU0376, SU0379, SU0382
Okubo, M. SA0078, MO0274
Okumoto, K. SA0155
Oldknow, K. Jade 1041
Olender, S. FR0432
Olivares-Navarrete, R. SA0238
Oliver, C. FR0153
Oliveri, B. SU0455
Olivier, M. SA0336
Olivos, N. SU0125
Olli, K. SA0143
Ollikainen, L. SU0326
Olmos, J. M. SA0310, SU0361
Olsen, B. Reino 1105
Olson, E. SA0082
Olstad, O. MO0095, MO0100

Olszynski, W. FR0363, SU0014, MO0072
Omata, Y. MO0258, MO0269
Ominsky, M. 1069, SA0046, SU0056, SU0412
Ominsky, M. S. SA0408, SU0038, SU0060, SU0134, SU0409
Omura, K. SA0227
Onal, M. 1009, 1118, MO0362
Ongphiphadhanakul, B. MO0455
Ono, K. SA0133
Ono, M. SA0144, SA0150
Ono, N. 1104
Ono, W. 1104
Oosterwerff, M. MO0195
Oostlander, A. SA0281
Opiteck, G. SA0041
Oranger, A. SA0153
Orcel, P. MO0351
Orchard, T. MO0317
Organ, J. MO0414
Orlander, P. MO0396
Ormsbee, M. MO0007
Orraca, L. MO0252
Ortega, A. SU0163, MO0058
Ortiz Mph, D. SA0433
Ortiz-Rubio, P. MO0037
Orwig, D. L. SU0313, MO0311, MO0330
Orwoll, E. S. 1001, 1003, 1066, SA0067, SA0140, SA0193, SA0298, SA0337, SA0344, SA0354, SA0431, SU0320, SU0321, SU0325, SU0342, SU0343, MO0140, MO0333, MO0337, MO0445, MO0450
Osawa, K. MO0135, MO0222
Osdoby, P. A. FR0025
Oshima, H. SU0385, MO0368
Oshima, Y. SU0204, MO0082
Osinski, A. SA0092
Ostertag, A. SU0435, MO0351
Ouchi, Y. MO0009
Oursler, M. FR0271, SA0270
Outman, R. C. SU0310
Ouyang, H. MO0467
Ouyang, Z. SA0100
Owen, C. MO0254
Owen, T. A. SU0239, MO0405
Oxford, J. RT SA0119, MO0089
Oyajobi, B. O. SA0461
Oyster, N. MO0233
Oz, O. K. SA0246
Ozawa, Y. SU0284
Ozcivici, E. 1040
Ozkan, H. MO0163
Ozono, K. 1045, SA0289, MO0117

P

Pabisch, S. SA0054
Paccou, J. SU0436, MO0112
Pacheco Da Costa, R. FR0258, FR0259, SA0258, SA0259, SU0125, MO0283
Pacheco, J. SA0307
Pacicca, D. M. SU0104
Pacifici, M. FR0192, SA0106, SA0110
Pacifici, R. 1062, FR0425, SA0160
Pacios, S. MO0101, MO0149
Padgett, L. SU0142, MO0115
Page, J. FR0461, FR0461
Pagé, M. SA0420, SU0260
Pages-Castella, A. MO0394
Paggiosi, M. 1052, SU0367
Pagnotti, G. M. SA0053, SA0424, SU0463
Pahr, D. MO0383
Pahr, D. Heinz SU0067
Paietta, R. MO0058
Paigen, B. SU0217
Palermo, L. MO0291, MO0310
Pallu, S. Arnaud SA0408, SU0409
Palmieri, M. MO0287
Palmini, G. SU0173, SU0197
Pamon, T. MO0019
Pan, C. MO0438
Pan, H. MO0204
Pan, W. SU0025
Panaia-Ferrari, P. SU0362
Pandy, M. MO0074
Pang, C. MO0239
Panton, L. MO0007
Panwar, P. SU0247
Panyasantisuk, J. SU0067
Papaioannou, A. 1080, SA0397, SU0315, SU0329, SU0340, SU0394, SU0399, MO0318, MO0341, MO0341, MO0357, MO0398
Papaioannou, N. SA0392
Papakyriakou, T. SU0266
Papaneophytou, C. SU0266
Papasian, C. SU0141
Papotti, M. SA0174
Parameswaran, N. MO0422
Pardi, E. SA0174
Pares, A. SA0196
Parhami, F. SA0146, SU0099, MO0152
Parimi, N. SU0320
Park, C. SU0356
Park, E. SU0091
Park, H. SA0102, SA0236, SA0244, SA0244, SU0287, SU0338, MO0086, MO0211, MO0255
Park, I. SA0386, MO0073, MO0392
Park, J. SU0308
Park, K. 1086, SU0023, SU0220, MO0266
Park, M. MO0151
Park, N. SU0091
Park, O. SA0205
Park, S. 1035, SU0113, SU0220
Park, W. SU0299
Park-Min, K. SA0254, SU0263
Parker, A. SA0019
Parlee, S. SU0155
Parmar, A. MO0359
Parsons, C. SU0302, MO0294
Parthan, A. FR0431, SA0431
Parthiban, B. SA0105
Partridge, N. C. SA0221, SU0242
Pasco, J. A. SA0321, SU0322, MO0140
Pascual-Santos, J. SU0430
Pass, C. SU0158

Paszty, C. MO0058
Pata, M. MO0162
Pate, K. SU0044
Patel, M. MO0119
Patel, P. SA0218
Patel, S. SA0370
Patel, T. FR0025
Patel, V. SA0424
Paternoster, L. MO0029
Paternotte, S. MO0306
Paterson, J. MO0342
Patrick, A. MO0132
Patsch, J. FR0299, SA0299
Patsch, J. M. FR0180, FR0180, SA0072, SA0136, SU0066, MO0427, MO0440
Pauchard, Y. 1063
Paudel, M. SU0327, MO0296
Paul, E. SA0187, SU0201, SU0354
Paulhamus, D. SU0026
Paulson, C. 1092
Paupitz, J. SU0035
Pavelka, T. MO0320
Pavlina, I. SU0311
Pavlos, N. J. SU0257
Peacock, M. 1048, 1055, SU0125, SU0142, SU0169, SU0451, MO0023, MO0115, MO0367
Pearson, M. SU0392
Pearson, R. MO0374
Pearson, S. FR0391
Pedersen, O. SA0138
Pederson, L. FR0271
Pei, F. SU0387
Pei, Y. SU0141, MO0336
Pekkinen, M. 1006
Pekkinen, M. H. SA0139, SU0314, MO0315
Pelaez, M. SA0145
Pelet, S. MO0350
Pelizzo, M. SA0174
Pellicelli, M. SA0223
Peña, J. MO0464
Pence, B. MO0340
Pendrys Dds Phd, D. SA0433
Penel, G. SU0375
Peng, S. MO0062
Peng, Y. SA0204, SA0379, SA0411, MO0174
Peng, Z. MO0013
Pennelli, G. SA0174
Pennypacker, B. L. SA0041, SA0415, SU0292, SU0417
Pepe, J. SA0180, SU0120
Perdivara, I. SU0131
Pereira, C. 1008, SU0185
Pereira, R. C. SU0221
Pereira, R. M R SU0035, SU0351, SU0421, MO0309
Perera, S. 1025, 1050
Pereverzev, A. SA0219
Perez, R. SA0464
Perez-Cano, R. SU0070
Pérez-Cano, R. SA0233
Pérez-Sáez, M. SU0430
Pérez-Temprano, R. SA0233, SU0070
Peris, P. SA0196, SU0130, SU0363
Periyasamy-Thandavan, S. SA0002, MO0151
Perkins, A. MO0374
Permuy, M. SA0045
Pernis, A. FR0253
Perrien, D. S. SA0133, SU0458
Perryn, E. D. 1016
Persson, A. SU0300
Perwad, F. FR0119
Peters, K. SU0319, SU0320
Petersen, K. MO0015
Petersen, S. SU0241
Peterson, J. 1028, FR0010, SA0203, MO0469
Peterson, S. MO0420
Petranova, T. MO0303
Petrigliano, F. SA0018
Petruželka, L. SU0432
Petryk, A. SU0252
Pettersson-Kymmer, U. C. MO0338
Pettit, A. R. 1078
Peyrin, F. SA0287
Pfeilschifter, J. 1049, SA0331, SA0357
Pham Quang Hai, A. SU0375
Pham, H. SA0351
Pham, L. SU0252
Phan, K. SU0099
Philbrick, K. A. SU0251
Philemon, C. 1010
Philip, A. FR0275
Phillips, A. MO0184
Phillips, C. L. SA0057
Pi Sunyer, X. MO0068
Pialat, J. 1054, SA0303
Piao, J. FR0094, SA0094
Pichon, C. MO0282
Pickard, L. E. SU0394
Pickarski, M. SA0269, MO0249
Pickart, M. 1007
Picke, A. SU0410
Pieber, T. MO0381
Piemonte, S. SA0180, SU0120
Piemontese, M. 1009, 1118, MO0362
Pienta, K. 1035
Pierre, M. SA0416
Pietschmann, P. SU0291
Pignolo, R. 1112, MO0103
Pike, J. Wesley SA0213, SA0448, MO0198
Pikilidou, M. MO0371
Pilbeam, C. C. 1060
Pilz, S. MO0381
Pinkerton, A. 1029
Pinnow, E. SU0200
Pirolli, M. MO0172
Pirotta, S. FR0195
Pitel, K. SA0224, MO0247
Pivec, R. MO0443
Pivonka, P. MO0074
Pleshko, N. MO0418
Ploeg, H. SA0062
Plotkin, H. MO0169
Plotkin, L. I. 1055, FR0285, SA0258, SA0259, SU0125, MO0248, MO0283
Ploubidou, A. SA0442

Pluskiewicz, W. MO0349
Pogosyan, A. MO0194
Poiana, C. MO0303
Poivret, D. SA0340, SU0316
Poliard, A. M. MO0096
Polkowski, G. MO0012
Pollock, N. K. SA0069, MO0034
Polly, D. SA0013
Pols, H. A.P. SA0140, MO0140
Polyzos, S. SA0141
Ponder, K. 1100
Pongkitwitoon, S. MO0063, MO0064
Ponnapakkam, T. P. SA0121, MO0413
Ponnazhagan, S. SU0154
Ponrartana, S. MO0194
Poole, J. SA0049
Poole, K. ES FR0374, SA0056, SU0296, MO0301, MO0301
Pop, C. SA0349
Popp, A. W. SA0382, SU0072
Popp, P. SA0382
Portale, A. A. FR0119
Portell, E. SU0363
Porter, M. MO0292
Portero-Muzy, N. SA0416
Portier, H. SU0409
Potter, B. MO0076
Potter, D. SU0402
Poulton, I. SA0202, SA0249
Poundarik, A. A. SU0054
Pourteymoor, S. SU0230
Pourteymour, S. MO0085
Povoroznjuk, V. MO0303
Povoroznyuk, V. SA0296
Powell, D. SA0132
Prasad, A. SA0435
Pregizer, S. SU0146
Preising, A. MO0399
Premaor, M. O. MO0190
Premrou, V. MO0402
Prentice, A. SU0302, MO0294
Prentice, R. 1002, SA0313
Preston, R. MO0382
Přibylová, J. SU0432
Price, C. 1039, SU0018, SU0188, MO0277
Prideaux, M. FR0280, SA0270, MO0185
Prieto-Alhambra, D. SA0347, SU0069, SU0430, SU0434, MO0394, MO0429, MO0431
Prince, R. L. 1002, SU0009, SU0334, MO0328, MO0395
Prinjha, R. SU0263
Prinz, C. SA0232
Prior, J. C. SA0329, SU0315, MO0318, MO0385
Prisby, R. D. FR0181, FR0181, MO0407
Pritchard, Z. FR0407, SA0407
Pritzker, K. FR0163
Proctor, A. SU0039, MO0021
Pronsato, L. SA0191
Pruitt, A. MO0169
Pruitt, T. MO0058
Przedlacki, J. MO0167
Psaty, B. SA0140, MO0140
Ptaszek, A. MO0349
Puhalla, S. 1050
Puisieux, A. MO0460
Purdue, E. SU0273
Putman, M. SU0433, MO0430
Puzas, J. FR0162, MO0212

Q

Qadir, A. SA0102, SU0287
Qari, M. SA0362, SU0359, MO0384
Qian, A. MO0062
Qin, C. SA0108
Qin, G. MO0312
Qin, L. 1113, SA0016, SA0038, SU0107, SU0151, SU0405, SU0406
Qin, W. SA0411, SA0411
Qin, Y. SU0061, SU0063, MO0411
Qiu, C. SA0338
Qiu, T. SU0159
Qu, L. SU0026
Qu, S. MO0039, MO0438
Quabili, T. 1039
Quach, D. MO0172, MO0422
Quang, J. 1087
Quarles, L. 1047
Quesada Gómez, J. SU0462
Quigg, S. 1098
Quigley, J. MO0172
Quilliam, S. SA0115
Quinonez, D. SA0184
Qureshi, S. SA0107

R

Raajimakers, M. MO0159
Race, D. SA0188, SU0024
Rackohn, T. MO0098
Radcliff, A. SA0171
Radcliffe, S. MO0184
Raddadi, R. SA0362
Rademaker, A. SA0307
Radziunas, I. SA0398
Rafison, B. MO0448
Raggatt, L. J. 1078
Raggio, C. 1007, MO0418
Ragolia, l. SU0123
Rahbarnia, A. SA0071
Rahman, M. Mizanur SU0422
Rahman, Z. FR0163, MO0164
Rahme, E. SU0315, MO0318
Raimann, A. SU0083
Raimo, O. SA0180
Raitakari, O. SA0140, MO0029, MO0140
Rajamannan, N. M. SA0224
Rajan, F. SU0293
Rajaraman, P. MO0338
Rajoanah, S. 1041
Rak, M. SU0137
Rakian, R. SU0081
Ralston, S. MO0436

Ralston, S. H. SA0439
Ramaswamy, G. MO0103
Ramcharan, M. 1038
Ramirez, F. MO0107
Ramneedi, B. SU0282
Randall, C. SA0048, MO0050, MO0067
Randall, S. SU0344
Ranganathan, L. SU0176
Rantalainen, T. MO0022
Rao, C. SA0345
Rao, S. SA0177
Rao, S. D. 1020, MO0179
Raphel, L. SU0246
Rasa, I. SA0316, SU0311
Rasali, D. SA0314
Rasch, A. MO0130
Rashid, H. H. MO0223
Rashkov, R. MO0303
Raskett, C. SU0020, MO0210
Raskova, M. SU0432
Rasmussen, K. 1007
Rasschaert, J. MO0244
Rat, A. SA0340, SU0316
Rathinam, C. 1005
Rauch, A. SA0442
Rauch, F. SU0077
Raum, K. SA0287
Rauma, P. Hannele SA0353
Rauner, M. SU0410
Raza, A. 1005
Razi, H. SA0059, SU0047
Razmpour, R. SA0211
Reason, M. MO0149
Rech, J. MO0011
Recidoro, A. FR0187, FR0187
Recker, R. R. 1020, 1021, SA0041, SA0366, SU0043, SU0277, MO0042
Recknor, C. 1018, 1022, SA0400
Recknor, C. P. 1020
Redden, D. SU0310, SU0344
Reddy, S. V. SU0461
Redrado, M. SU0465
Reeve, J. SA0140, MO0140
Regan, E. Anne SU0044
Regan, J. SA0201
Regan, K. SU0058
Regard, J. MO0227
Reginato, R. SA0258, SA0259, MO0283
Reginster, J. 1017
Register, T. Costin MO0276
Reich, A. SU0133
Reichenberger, E. J. SA0129, SA0231, SU0037, SU0128
Reid, D. M. SU0317
Reid, I. R. SA0389, SU0265
Reina, P. SU0076
Reinhardt, T. SA0447
Reinholdt, L. SA0264
Reinholt, F. P. MO0286
Reisine Phd, S. SA0433
Rejnmark, L. 1002, SA0138, SA0176, SU0182, MO0181
Relaix, F. 1008, SU0185
Ren, H. SU0165
Ren, J. SU0310
Ren, K. MO0412
Ren, Y. FR0288, SA0288
Rendina, D. SA0441
Rendina, E. MO0420, MO0433
Rengasamy, D.d.s., K. SA0433
Rentas, V. SA0194
Reott, M. Andrew 1062
Reppe, S. SA0140, MO0095, MO0100, MO0134, MO0140
Resch, H. SA0071, SA0136, SA0377, MO0381, MO0383, MO0427
Resnick, N. 1025
Resutek, L. SU0018
Rettew, A. MO0160
Reutter, H. SU0138
Revollo, L. Denise FR0226, SA0226
Rey, P. MO0402
Reyes, M. MO0173
Reyes, P. C. SU0447, SU0447
Reyes, R. MO0448
Reyes-García, R. SA0369
Rhee, Y. SA0010, SU0023, SU0074, SU0358, MO0432
Riad, J. SU0027
Rial, P. MO0345
Rial, W. MO0345
Riancho, J. A. SU0279
Rianon, N. J. MO0270, MO0344, MO0396
Ribatti, D. SA0153
Ribeiro-Dos-Santos, G. MO0267
Ribom, E. SU0012
Riccardi, D. SA0115
Ricci, W. SU0336
Richards, B. SA0140, SA0333, MO0140, MO0326
Richards, P. James SU0234, SU0240, SU0425
Richards, R. SU0072
Richardson, D. SU0125
Richardson, T. MO0201
Richter, J. SA0263, SU0126
Ridderstråle, M. FR0356
Riddle, R. C. 1044, MO0202
Ridker, P. SA0140, MO0140
Ridout, R. 1080, SU0329, MO0297
Riekkinen, O. SU0312
Ries, W. L. SU0461
Riesen, S. SA0455
Rietbergen, B. Van SA0319
Riggs, M. SU0407
Rightmyer, J. MO0335
Rigueur, D. 1117
Rigutto, S. MO0244
Rikkonen, T. SA0007, SU0078, MO0193
Riley, E. Melissa SA0448
Riminucci, M. SA0036
Rimnac, C. SU0058
Ringe, J. SU0396, MO0393
Rinotas, V. FR0264, FR0264, SU0266
Rissanen, J. P. MO0013
Risteli, J. MO0315

Ritchlin, C. MO0020
Ritter, C. FR0121
Rittweger, J. FR0366, SU0076
Rivadeneira, F. 1067, 1085, 1107, 1109, SA0026, SA0140, SU0323, SU0334, MO0140, MO0338
Rivella, S. SU0152
Rivera, M. MO0209
Rivera, N. SA0140, MO0140
Rizzoli, R. 1064, SA0023, SA0075, MO0069, MO0289, MO0400
Robbins, J. A. SA0140, MO0140
Robertson, R. MO0436
Robey, P. Gehron SA0036
Robins, D. 1023
Robinson, B. SU0310
Robinson, L. J. SA0170
Robinson, M. K. SA0406, SA0406
Robinson, S. SA0120
Roblin, D. SA0403, SU0310
Robling, A. G. 1059, SU0457
Rocha, G. SA0405
Rocha, O. SU0398
Rocha-Braz, M. SA0181
Roche, B. 1030, SA0111
Rochette, M. SU0393
Rodeheffer, M. 1046
Rodrigues, M. MO0092
Rodriguez, D. MO0279
Rodriguez-Sanz, M. SU0434
Rodrigus, I. SA0099
Rodríguez Sanz, M. SU0069
Rodríguez-Sanz, M. MO0431
Roehl, H. MO0415
Roforth, M. 1028, FR0010, FR0010, SA0203, MO0221
Rogers, A. SU0115
Rohatgi, N. MO0127
Roimisher, C. SA0371
Rolighed, L. SA0176, SU0182, MO0181
Romagnoli, C. SA0208, SU0173, SU0197
Romagnoli, E. SA0180, SU0120
Romaine, A. SA0053
Roman-Blas, J. MO0057
Roman-Garcia, P. SU0246
Romano, M. FR0179, SU0178, SU0179, SU0181
Romas, E. MO0014
Romberger, D. SA0049
Romero-Suarez, S. SU0190
Ronda, A. SA0191
Ronis, M. SA0098, SU0002
Roodman, G. FR0440, SU0459, MO0466, MO0467, MO0468
Roof, A. FR0187
Root, S. 1042
Roper, H. SU0034
Rosales, A. SU0310
Roschger, P. MO0167
Rose, L. SA0140, MO0140
Rosen, C. J. 1046, SA0186, SA0370, SA0427, SU0155, SU0199, SU0227, SU0277, SU0426, MO0032, MO0157, MO0203, MO0214, MO0310
Rosen, H. N. SA0298, SU0015, MO0304
Rosen, S. SA0307
Rosen, V. SA0216, SU0085, SU0105, MO0143
Rosenbaum, A. SA0306
Rosenbaum, P. SU0304, MO0031
Rosenfeld, S. SA0306
Rosengren, B. E. SA0323, SA0346, SU0012, SU0346, MO0025, MO0026
Rosenkranz, A. SA0438
Ross, F. FR0253, SA0061, SA0253, SU0273, MO0417
Ross, R. SA0148, SA0152, SU0060, SU0060, SU0367
Rossa Jr, C. SA0004
Rossa Junior, C. MO0199
Rossi, M. SA0282
Rossini, M. 1049, SA0331, SA0357
Roston, R. 1033, MO0156
Rotatori, S. SA0077, SA0343, MO0441
Roth, T. FR0246, MO0228, MO0229
Rothe, L. FR0025
Rothman, J. SA0175
Roudier, M. FR0460, SA0460
Rousiere, M. SA0340
Roux, C. 1018, 1049, SA0331, SA0357, SU0362, MO0306
Roux, J. MO0299
Roux, S. SU0272, MO0358
Rouzi, A. SA0362, SU0359, MO0384
Rowe, D. W. SA0231, SU0080, MO0120
Rowe, G. C. 1043, MO0125
Rowe, P. Stanley FR0117, SA0464
Rowland, B. FR0462
Rowse, J. MO0004
Roy, A. SU0433
Roy, B. MO0196
Rozas-Moreno, P. SA0369
Ruan, M. FR0271, SA0270
Ruan, Z. SU0022
Ruano, M. SU0092
Ruark, R. SA0002, MO0151
Rubin, C. SU0098, MO0133
Rubin, C. T. 1012, 1071, SA0053, SA0424, SU0062, SU0463, MO0019, MO0423
Rubin, J. SA0053, SA0213, SU0062, SU0064, SU0235
Rubin, M. R. FR0179, SA0172, SU0179, SU0180, MO0182, MO0439
Rudang, R. MO0308
Ruff, V. 1020
Ruffoni, D. SU0051
Rugge, M. SA0174
Rui, X. MO0438
Ruiz Masera, J. SU0462
Ruiz, S. SA0310, SU0361
Ruiz-Gaspa, S. SA0196
Ruiz-Gaspà, S. SU0363
Rumack, K. MO0081

Rumpler, M. SU0232
Runke, S. 1117
Ruppe, M. 1048, SU0169
Ruppender, N. FR0461
Rush, D. SA0437
Russell, E. 1112
Russell, R. G. SA0268, MO0415
Russo De Boland, A. MO0121
Russo, S. SA0434, MO0375
Rutkowski, T. SA0092
Rux, D. 1103, SU0102
Ryan, J. SA0450
Ryan, J. William SU0449
Ryan, S. SU0456
Rychly, J. SA0232
Ryden, P. SA0257
Rydzik, R. 1060
Ryoo, H. SA0147, SA0235, SA0240, SU0140, MO0218, MO0271
Ryu, E. MO0180
Ryu, K. SA0250

S

S Bae, A. SU0133
S. Siersbæk, M. MO0206
Saaf, M. MO0353
Saag, K. G. 1049, SA0331, SA0348, SA0357, SA0403, SU0310, SU0344, SU0345
Saarnio, E. M. SA0139, SU0314, MO0315
Sabbagh, Y. SA0052
Sabharwal, T. SA0402
Sabido, O. SA0111
Sachdeva, N. SA0177
Sada, A. SA0241
Sadao, M. FR0094
Saeed, I. FR0190, FR0432, MO0065, MO0295
Saetung, S. MO0455
Saez, B. MO0159
Safadi, F. F. MO0232
Safdar, A. MO0128
Safford, M. SU0310
Saha, P. SA0295, MO0300
Sahni, S. FR0012, SA0008
Saikia, U. SA0177
Saini, V. SA0125, SA0286
Saita, Y. FR0380, SA0380, SU0284
Saito, H. 1057, 1077, SA0286, SU0267
Saito, K. SA0396
Saito, M. SA0066
Saito, N. SU0210
Saito, T. 1093, SA0222, MO0141
Sajjan, S. G. SA0328
Sakai, A. SA0066, SU0376, SU0379, SU0382
Sakai, S. SU0267, SU0414, SU0420
Sakamoto, K. SA0104
Sakamoto, N. SA0042
Sakon, J. SA0121, MO0413
Sakurai, H. SU0079
Sakurai, K. SU0288
Salat, P. MO0235
Salazar, V. S. SA0216, SU0105
Salcito, L. SU0156
Sale, J. SA0394
Salem, A. SA0148
Salemi, J. SU0038
Salerni, H. MO0402
Salminen, H. S. MO0353
Salminen, P. MO0434
Salmon, C. MO0183
Salo, S. SU0078
Salomonsson, S. FR0404
Salusky, I. B. SU0221
Samadfam, R. SA0412, SA0412, SU0415, SU0417, SU0444, MO0036
Samanta, T. MO0457
Samaraweera, M. SU0117
Sambandam, Y. SU0461
Sambe, T. SA0250
Samelson, E. J. FR0299, SA0337, SU0015, SU0339, MO0055
Sames, C. MO0031
Samittarucksa, R. MO0455
Sampath, K. T. 1036
Sanchez, T. V. SU0293, MO0345
Sánchez, A. MO0402
Sanchez-Kazi, C. MO0166
Sánchez-Sánchez, M. MO0041
Sandberg, O. 1079
Sanders, J. SA0173
Sanders, K. M. SA0012, SU0011, SU0322, MO0010, MO0395
Sanderson, P. MO0095, MO0100
Sandström, P. SA0257
Sangadala, S. FR0153
Sangoi, M. MO0190
Sanjay, A. 1042
Sanjdideh, Z. MO0339
Sankar, U. FR0407
Sankaran, J. SU0050
Santana Coimbra, L. SA0004
Santora, A. SA0379
Sañudo, C. SU0279
Saponaro, F. SA0174
Sarfati, E. SA0178
Sarkisian, A. MO0417
Sarli, M. MO0402
Sartori, G. MO0190
Sarıdogan, M. SA0385
Sasaki, H. SU0164
Sasaki, M. SA0261
Sasaki, Y. SA0135
Sato, A. Yoshiko FR0285, MO0248
Sato, K. 1043, MO0125, MO0125
Sato, M. SA0241, SA0405, MO0120, MO0201
Sato, T. SA0078, SA0210, SA0284, SU0261, MO0143, MO0161, MO0274
Sato, Y. SA0311, SU0333
Sävendahl, L. 1115
Savoriti, C. SA0180
Sawamura, R. SU0407
Sawamura, T. MO0161
Sawant, A. SU0154
Sawicki, A. Z. SA0383, MO0167

Sawka, A. SU0394
Sawyer, R. SA0450
Sayers, A. MO0029
Scadden, D. MO0159
Scalcon, M. MO0190
Scanzello, C. MO0108
Scerpella, T. A. SU0304, MO0031
Schacht, E. SU0396
Schaefer, L. MO0422
Schaffer, A. FR0391
Schaffler, M. B. 1010, FR0275, SA0283, SU0285
Schatz, B. FR0253
Schei, B. SA0315
Scheller, E. L. SU0155, SU0426
Scher, J. 1080, SU0329
Schett, G. SA0136, MO0011
Schiferl, D. J. SA0426
Schilcher, J. 1079
Schileo, E. SA0293
Schilling, T. MO0146, MO0197
Schils, F. SA0402
Schima, W. SA0071, SA0377, MO0383
Schindeler, A. SU0198, MO0130
Schinke, T. P. SU0216, MO0136
Schipani, E. 1072, SA0109
Schipilow, J. SA0076
Schlecht, S. SU0052, SU0052
Schlegelmilch, K. SU0112, SU0467, MO0106
Schlesinger, P. SA0170
Schlezinger, J. SU0135, MO0364
Schlientz, A. 1103, SU0102
Schlieve, C. MO0138
Schlussel, Y. SA0349
Schnall, A. 1027
Schneider, P. MO0067
Schneppendahl, J. SU0207, MO0233
Schnitzer, T. J. SA0435, SU0075
Schober, H. SU0357
Schoen, P. SA0412
Schoenau, E. MO0136
Schott, A. SA0303
Schousboe, J. T. 1109, SA0298, SU0320, SU0321, SU0327, MO0296, MO0304, MO0333
Schramm, U. SA0149
Schreuders-Koedam, M. SU0209
Schrof, S. SA0287
Schrooten, J. SU0147
Schueller-Weidekamm, C. MO0440
Schuetze, N. SU0467, MO0106, MO0146, MO0197
Schulte, F. SA0064, SU0051
Schultze, A. MO0044
Schuman, T. SU0065, MO0054
Schupfner, R. SA0402
Schütze, N. SU0112
Schwab, L. SU0032
Schwalenberg, T. SU0293
Schwartz, A. V. 1027, SU0066, MO0310
Schwartz, P. FR0378
Schwartz, Z. FR0444, SA0238, SA0449
Schwarz, E. M. 1102
Schwarz, P. 1026, SU0241
Scillitani, A. SA0070, SU0120
Scott, D. Stephen SA0012, SU0011, MO0010
Scott, T. SU0099, MO0152
Sebald, W. SA0144
Sebastian, A. SU0397
Seeman, E. 1065, FR0364, SA0305, SU0029, SU0189, MO0069, MO0174, MO0293, MO0395
Seeman, T. SA0290, SU0352
Segal, E. SU0438, MO0386
Segawa, T. SA0373, SA0418, SU0049
Séguin, C. SA0184
Segula, D. SU0176
Seguro, L. SU0035
Seibel, M. J. FR0391, SA0442, SA0453, SU0331, MO0018, MO0171
Seidah, N. SA0186, MO0109
Sekiguchi-Ueda, S. SU0164
Sekiya, I. SU0085, MO0083
Seland, L. MO0178
Selby, P. L. SA0439
Selim, A. Abdulwahed SU0122, SU0148
Sellier, P. SU0435
Sellmeyer, D. 1027
Sellmeyer, D. E. FR0428, SA0428, SU0397
Selvam, R. 1009, 1118, MO0362
Semenkovich, C. MO0127
Semler, O. MO0136
Sen, B. SA0053, SU0062, SU0064
Sen, M. MO0344
Sen, S. Sankar SA0393
Sena, K. SA0152, SU0045
Senn, C. SA0382, SU0427
Senn, R. SA0382
Sens, C. FR0212, SU0111
Seo, Y. SU0140
Sepici, V. SA0385
Seref-Ferlengez, Z. 1010
Serizawa, K. SA0419
Servitja, S. MO0431
Servitja-Tormo, S. SU0434
Setters, A. SA0058
Seu, S. MO0073
Sevgi, S. SA0385
Sewerynek, E. MO0349
Seymour, A. SA0121
Sgariglia, F. SA0110, SA0110
Shaber, A. SU0273
Shafer Dmd, D. SA0433
Shafer, M. MO0366
Shah, A. MO0439
Shah, J. MO0070, MO0370
Shaker, Z. SU0250
Shakir, S. SU0160, SU0161
Shalhoub, V. SA0165
Sham, P. SA0140, MO0140
Shane, E. 1021, 1051, 1063, FR0180, FR0432, SA0306, SA0366, SA0399, SA0430, SU0068, SU0277, SU0309, SU0428, MO0070, MO0298
Shankar, K. SA0098
Shapiro, J. R. SU0129

Index

Shapses, S. SA0349
Sharkey, L. SA0427
Sharma, A. MO0173
Sharma, R. MO0369
Sharma, S. SU0229
Shaw, M. SU0160, SU0161
Shaw, N. J. SU0034
Sheedy, K. MO0378
Sheen, C. 1029
Shefa, N. SA0119
Sheldon, E. MO0311
Shen, C. SA0422, MO0098, MO0340
Shen, H. SA0338
Shen, J. 1024, SA0067, SA0140, SU0325, MO0016, MO0140, MO0337
Shen, S. SU0092
Shen, W. SA0366
Shen, Z. SA0423, SU0165
Sheng, H. MO0438
Sheng, M. H. SU0268, MO0279
Shepherd, J. A. SU0026, MO0024
Sher, R. MO0081
Sherk, V. D. SU0044, SU0431, MO0046
Sheth, A. SA0361
Sheu, T. 1102, FR0081, FR0162, SA0096, MO0212
Shi, S. FR0162
Shi, X. 1011, SA0002, SA0034, SA0237, MO0004, MO0008
Shi, Z. MO0426
Shibata, M. SU0164
Shibata, S. SA0210
Shibayama, T. SU0407
Shieh, A. SA0290, SU0123
Shigdel, R. SA0365
Shih, D. SA0410
Shikany, J. 1001, SA0344, MO0296
Shim, D. SA0018
Shim, J. SU0152, MO0266
Shim, K. MO0262
Shim, V. MO0111
Shimada, H. SU0338
Shimada, Y. SA0355, SA0373, SA0396, SA0418, SU0008, SU0049, MO0005
Shimba, S. MO0117
Shimizu, E. SA0221
Shimizu, M. SU0414
Shimizu, T. SU0284, SU0407
Shimoda, K. SA0080
Shin, C. SA0236, SA0308, SU0195, SU0356, MO0211
Shin, H. SA0240
Shin, M. SU0341
Shingler, S. SU0404
Shinkawa, S. SA0144
Shinohara, N. SU0093
Shioi, A. SA0151
Shiozaki, M. SA0421, MO0424
Shipp, K. M. SU0399
Shirakawa, J. SA0227, SA0229
Shiraki, M. SA0376, SU0388, MO0009
Shirazaki, M. SU0267
Shirazi-Fard, Y. MO0047
Shiroya, T. MO0416
Shively, J. SU0208
Shledon, E. SU0313
Shoback, D. 1033, SA0175
Shoghi, K. 1037
Shoji, T. SA0151
Shore, E. M. 1100, MO0103, MO0145, MO0227
Shore-Lorenti, C. SA0451, MO0395
Short, D. MO0024
Shrestha, A. SU0337
Shrestha, S. MO0450
Shukla, R. SA0068
Shults, J. SU0193
Shultz, K. L. SA0264, SU0217, MO0142
Shultz, L. SA0264
Shum, L. SU0163
Sibai, T. MO0270
Sibley, K. MO0334
Sibonga, J. FR0190
Sicilian, L. MO0430
Siclari, V. A. SU0151
Siddiqi, M. SA0402
Siebuhr, A. MO0015
Sietsema, D. SU0391
Sietsema, D. L. SA0126, SA0434, MO0375
Sievänen, H. SA0339, SU0314, MO0029
Siffert, R. SA0306
Sigaud, A. MO0400
Siggeirsdottir, K. SA0140, SA0324, SA0330, SA0337, SU0335, MO0140, MO0310
Sigurdsson, G. SA0324, SA0330, MO0310
Sigurdsson, S. MO0310
Sikaris, K. SA0451
Sikjaer, T. SA0176, SU0182, MO0181
Silbermann, R. MO0468
Silswal, N. MO0114
Silva, B. Campolina Carvalho FR0172, FR0179, SA0172, SU0073, SU0179, SU0181, MO0177, MO0182, MO0465
Silva, J. SA0093
Silva, L. MO0251
Silva, M. 1037, 1076, FR0025, SU0278, MO0061, MO0092, MO0264
Silva, R. Assed Bezerra SA0282, MO0251
Silver, B. SU0178
Silverberg, S. J. SA0182, SA0430, SU0177, MO0439
Silverman, S. L. 1049, SA0331, SA0357, SA0431, SU0404
Simann, M. MO0146, MO0197
Simmons, D. 1027
Simões, V. SU0360, MO0071
Simon, B. SU0155
Simoneau, G. SU0435
Simonelli, C. SA0074
Simonian, N. SA0435
Simonsen, O. MO0015
Simpson, C. A. SU0289
Simpson, S. SU0367
Sims, N. A. 1091, FR0126, SA0202, SA0249, SA0251, SU0186, MO0014
Sims, S. SA0219, SU0249

Sinak, T. MO0186
Sinder, B. SU0038
Singh, H. SU0027
Singh, L. 1112
Singh, R. 1098
Singhellakis, P. SA0141
Sinha, K. M. SU0215, MO0223
Sinha, P. SA0202
Sinnott, B. P. MO0170
Sipos, A. 1023
Siris, E. S. 1049, SA0331, SA0357, SA0393, SU0337, MO0343
Sirola, J. SA0007, SU0078, MO0193
Sitte, I. SU0240
Sivabalasundaram, V. SA0398
Siwila-Sackman, E. 1019
Sjogren, K. MO0419
Sjöblom, S. SA0007, MO0193
Sjögren, K. 1115
Skalli, W. 1054
Skidmore, C. SU0394
Skinner, R. 1013
Skolnick, A. MO0168
Skwirz, A. MO0031
Slatkovska, L. FR0196
Slatopolsky, E. FR0121, FR0121
Slavic, S. SA0455
Sliney Jr, J. FR0179, SA0172, SU0179, MO0182
Sliney, J. SU0180
Smaldone, S. MO0107
Smerdel-Ramoya, A. 1075
Smith, A. SA0337, SU0335
Smith, B. J. SA0422, MO0420, MO0433
Smith, C. SA0434, MO0058, MO0375
Smith, E. L. SA0062
Smith, J. FR0155, FR0155, SU0365
Smith, L. 1100, SA0055, SU0366, MO0367
Smith, M. SA0266, SA0307
Smith, S. SA0409, SA0412, SU0412, SU0444, MO0036, MO0421
Smith, W. SA0390
Snetselaar, L. SA0313
Snyder, M. SA0140, MO0140
Soe, K. MO0260
Soenjaya, Y. SA0112
Søgaard, A. SA0350
Sogabe, N. SU0448
Sohl, E. SA0281
Soinio, M. MO0434
Soki, F. Naomi 1035
Solberg, L. Bergendal MO0286
Solomon, D. H. SA0395
Somayajula, S. SU0292
Somerman, M. SA0112
Somerman, M. J. MO0110, MO0119
Somjen, D. MO0099
Sommer, R. SU0051
Son, J. SA0106
Son, Y. MO0080
Sondag, G. MO0232
Sone, T. SA0376
Song, F. MO0156
Song, J. SU0145
Song, L. MO0444
Song, N. SA0239
Song, Y. SU0442
Sonoyama, W. SA0144
Soo, C. 1024, 1086, SA0018, SU0092, MO0098
Sood, A. 1027
Sophocleous, A. MO0436
Soranzo, N. SA0333
Sordet, C. SU0316
Soriano-Tomas, R. MO0431
Sornay-Rendu, E. 1081, MO0365
Soto, I. 1069
Sottnik, J. L. MO0463
Souberbielle, J. SA0178
Soung, D. Yu MO0249
Southmayd, E. SA0426
Sowa, H. SU0374
Spadaro, J. A. SA0304
Spagnoli, A. 1094, MO0077, MO0163
Spath, S. Stanislaw SA0084, MO0079
Spatz, J. FR0066, SA0044, MO0058
Spector, T. SA0140
Spector, T. D. MO0140
Spelsberg, T. C. SA0224, MO0247
Spence, M. SA0464
Spevak, L. MO0042
Spicer, D. MO0012
Spitzer, S. SU0232
Spolidorio, D. Palomari MO0199
Spolidorio, L. SA0004, MO0199
Sprengel, C. MO0345
Sprouse, C. FR0194, SA0194
Spruyt, D. MO0244
Spusta, S. MO0214
Srighanthan, J. SA0384, SU0401, MO0316
Srikanth, P. SA0140, SA0337, SU0325, MO0140, MO0337
Srinivasan, S. FR0187
Srivastava, D. MO0138
Sroga, G. SU0041, MO0102
St John, H. MO0198
St-Arnaud, R. SA0223, SA0447, MO0224
St. Hilaire, M. SA0360
Stadelmann, V. SU0072
Staines, K. SU0158
Stains, J. P. SU0211, SU0231
Stalvey, M. SA0134
Stancato, L. MO0468
Standal, T. 1091
Stanford, C. M. SA0148
Stanford, W. L. SU0424
Stang, E. MO0286
Starbuck, M. SA0114
Starczak, Y. SA0450
Staszków, M. MO0167
Stattin, E. SA0257
Ste-Marie, L. 1095, SA0325, MO0175, MO0324
Stecher, D. SU0455
Steck, R. 1078
Stecksen-Blicks, C. SA0257

Steenackers, E. SA0168
Stefanick, M. 1003, SA0193, SU0320, MO0445
Stefano, F. MO0235
Stefansson, K. SA0140, MO0140
Steffens, J. SA0004, MO0199
Stegen, S. FR0245, FR0245, SU0147
Stein Merkin, S. SU0352
Stein, E. Margaret FR0430, SA0306, SA0430, SU0068, SU0277, SU0428
Stein, G. S. SA0093, SA0214, SA0234, SU0020, MO0216, MO0217, MO0218, MO0219
Stein, J. SA0093, SA0214, MO0216, MO0217, MO0219
Stein, S. SA0436
Steiner, M. MO0136
Steinhoff, A. SA0076
Steinman, L. MO0457
Stemig, M. MO0238
Stencel, Z. SA0406
Stepan, J. J. MO0301
Stephan, M. 1007
Stergianos, S. 1111
Sterling, J. A. FR0461, FR0462, SU0458
Stern, A. Rath MO0275, MO0276, MO0406
Stern, J. SA0006
Stern, M. M. MO0275
Stern, P. H. SA0307
Steve Fan, C. SA0328
Stewart, S. SA0428
Stiffel, V. SU0268
Stiles, M. 1027
Stoch, A. SA0390, SA0390, MO0382
Stockmans, I. SU0147
Stoddard, A. 1007
Stodieck, L. MO0058
Stolakis, K. SA0077, MO0441
Stolina, M. FR0025, SU0411
Stolk, L. SA0140, SU0323, MO0140
Stoll, D. SA0322
Stolshek, B. SU0307
Stone, J. SA0390
Stoner, K. SA0061, MO0417
Stoner, S. MO0018
Stover, M. SA0231
Strahm, L. Jane SU0427
Stratford, R. MO0413
Strazzullo, P. SA0441
Strecker, S. MO0241
Streeper, T. FR0190
Streeten, E. A. SA0436, SU0171
Streicher, J. SA0370
Strender, L. MO0353
Stricwant, N. MO0244
Striker, G. SA0107
Strongilos, A. SU0266
Stroud, J. SU0394
Stryker, S. MO0172
Stuart, A. SU0011, MO0010, MO0395
Stubbart, J. SA0434, MO0375
Stubbs, J. MO0114
Stuible, M. SU0260
Sturek, M. MO0184
Sturmlechner, I. SU0232
Stuss, M. MO0349
Styner, M. SA0053, SA0053, SA0053, SU0062, SU0064
Stypinski, D. SA0390, MO0382
Styrkarsdottir, U. MO0140
Styrkársdóttir, U. SA0140
Su, A. SU0274
Su, G. SA0389
Su, J. MO0438
Su, Y. SA0091, SA0237
Subramaniam, M. SA0224, MO0247
Süß, D. SA0136
Sud, S. 1035
Suda, N. MO0135, MO0161
Suda, T. SU0261, MO0274
Sueblinvong, T. SU0402
Sugama, K. SA0144
Sugamori, K. SA0230
Sugano, S. SA0252
Sugatani, T. SA0167
Sugimoto, M. SU0414
Sugimoto, T. FR0376, SA0101, SA0376, SU0187, SU0348
Sugioka, Y. SU0353
Sugishita, T. SA0294
Suh, D. SA0121
Suhara, Y. SU0225
Suhonen, H. SA0287
Sui, L. MO0213
Sukumar, D. SA0349
Sule, G. 1036
Sullivan, L. MO0058
Sum, M. SU0336
Sumner, D. SA0152, SU0045, SU0060
Sumner, R. SA0148
Sun, B. SU0165, SU0289
Sun, C. MO0457
Sun, J. MO0078, MO0336
Sun, L. SU0178, MO0155
Sun, N. FR0165, SA0165
Sun, S. SU0264
Sun, W. SA0103, MO0122
Sunamura, S. SA0210
Sund, R. SU0326
Sund, S. 1007
Sundaram, K. SU0461
Sundh, D. 1053, SU0368, MO0363
Sundh, V. SU0346
Suominen, H. MO0022
Susan-Resiga, D. MO0109
Susin, C. SA0145
Sutherland, J. SA0061
Sutherland, J. P. MO0417
Sutter, S. SU0428, SU0428
Suuronen, J. SA0007, MO0193
Suva, L. J. FR0457, SA0262, SA0457, SU0457
Suy, P. MO0048
Suzuki, A. SU0099, SU0164, MO0152
Suzuki, D. SU0086
Suzuki, H. MO0302

Suzuki, N. SU0057
Suzuki, T. SU0338
Suzuki, W. SU0086
Suzuki, Y. SA0252
Swain, F. FR0457
Swanson, C. MO0450
Swarnkar, G. SU0233
Sweetser, D. 1007
Swift, J. M. SU0365
Swift, S. N. MO0040
Swinehart, I. 1103, SU0102
Swinkels, L. SU0454
Swiontkowski, M. SU0391
Switzer, J. A. SA0013
Swolin-Eide, D. MO0028
Syapin, P. SA0422
Syberg, S. SU0241
Syed, K. 1080, SU0329
Szabo, E. FR0196, SA0195
Szulc, P. MO0305, MO0327, MO0361, MO0365

T

Tachikawa, K. 1045, SA0289, MO0129
Tada, M. SU0353
Taddei, F. SA0293
Tadinada, A. SU0128
Tadrous, M. SU0377
Tagawa, M. SU0094
Taha, B. MO0401
Taha, W. MO0401
Tahimic, C. SA0158, SU0157, MO0158
Tai, P. SA0214, MO0216, MO0217
Takada, I. SA0080
Takada, Y. SA0080
Takahashi, N. SU0210
Takahashi, Y. SA0427, MO0238, MO0253
Takaishi, Y. SA0294, MO0377
Takaiwa, M. MO0113
Takakuwa, M. MO0387
Takano-Yamamoto, T. FR0083
Takaoka, K. SU0388
Takata, S. SA0088
Takayama, L. SU0035, SU0351, SU0421, MO0309
Takayanagi, H. MO0269
Takeda, E. SA0454
Takeda, M. SU0184
Takeda, S. FR0094, SA0210, SA0419, SU0086, SU0414, SU0420, MO0274
Takeda, Y. SA0080
Takei, Y. SU0288
Takeshima, M. SA0373
Takeshita, S. 1073, SA0207, SU0255
Taketani, Y. SA0454
Taketo, M. 1055
Taketsuna, M. SU0403, MO0403
Takeuchi, Y. SA0066
Takeyama, K. SA0454, MO0105, MO0226
Takyar, F. FR0126, FR0126
Takyar, F. Miralireza SA0251
Tamaki, J. SA0311, SU0333
Tamaki, S. SU0385, MO0368
Tamaoki, N. SU0103
Tamma, R. MO0155
Tamura, I. SU0223
Tamura, Y. SA0155
Tan, H. MO0058
Tan, J. MO0233
Tan, L. SA0338
Tan, M. SA0389
Tan, V. SA0188
Tanabe, N. SU0249
Tanabe, R. SU0448
Tanaka, E. SA0465, SU0460
Tanaka, H. SA0066, MO0113
Tanaka, I. SU0385, MO0368
Tanaka, K. SA0101, SU0187, SU0349, SU0403, MO0403
Tanaka, M. MO0416
Tanaka, S. SA0054, SU0254, SU0349, SU0459, MO0258, MO0269, MO0274, MO0389
Tanaka, T. SA0252
Tanaka, Y. FR0414, SA0414, SU0416
Tang, C. SU0466
Tang, D. SA0359
Tang, H. SA0379
Tang, J. SA0393, SU0149
Tang, Y. SA0035, SA0217, SA0260, SU0207, MO0233
Tanini, A. SA0208, SU0173, SU0197
Tanzilli, L. MO0390
Tao, B. SU0178
Tao, J. SA0467
Tao, S. SA0126
Tarantino, U. SA0345, MO0188
Tarkkonen, K. 1006, SU0214
Tarnopolsky, M. MO0128
Tashiro, Y. SA0419
Tate, C. MO0468
Tatro, J. MO0160
Tatsuno, I. SA0252
Tawfik, O. SA0464
Taxel Md, P. SA0433
Taylor, B. C. SU0327, MO0296
Taylor, D. SA0120
Taylor, K. 1020
Tebé, C. SA0347
Teguh, D. MO0001
Teh, A. SA0030
Teich, J. SU0106
Teitelbaum, S. L. 1088, 1114, SA0248, MO0127
Teixeira, M. MO0092
Teklemariam, M. FR0153
Tell, G. SA0291, SA0315, SA0350
Tella, S. SU0370, MO0367
Tellgren-Roth, C. SU0098
Tembe, W. SA0126
Tempesta, V. SA0345
Temple, J. 1094, MO0077, MO0163
Teo, J. FR0364
Teo, K. MO0341
Terada, K. MO0425

Terajima, M. SU0131
Teramachi, J. FR0440, MO0466
Teruya-Feldstein, J. MO0465
Teshima, K. SU0376, SU0379, SU0382
Tetradis, S. SU0099
Tezuka, K. SU0103
Thabane, L. SU0394, MO0398
Thacher, T. D. 1098, 1098
Thakker, R. V. SU0115
Thaler, R. SU0232
Thanos, P. SU0032
the GEFOS consortium SA0140
Theleman, C. SU0006
Theodoris, C. MO0138
Theosmy, E. MO0145
Theriault, D. SU0393
Thevenot, C. SA0340, SU0316
Thiagarajan, G. SU0282, MO0059
Thiele, G. SA0049
Thiele, S. SA0122
Thomas, C. SA0089, SU0041
Thomas, M. SA0111, SU0110
Thomas, T. SA0399, SA0399
Thomas, T. P. MO0069
Thompson, J. SU0302, MO0294
Thompson, P. SA0009, SU0013
Thompson, W. Roy SA0053, SU0062, SU0064
Thomsen, F. MO0464
Thomsen, J. Skovhus SA0263, SU0286
Thomson, C. SA0006
Thomson, J. MO0272
Thorleifsson, G. SA0140, MO0140
Thornhill, T. SU0172
Thorsteinsdottir, U. SA0140, MO0140
Thouverey, C. MO0205
Thudium, C. Schneider FR0263, SA0263, SU0126
Thukral, A. MO0435
Thyfault, J. MO0186
Tiaden, A. SU0240
Tiaden, A. Nicki SU0234
Tian, F. 1092
Tian, H. SU0099, MO0152
Tian, Q. SA0014, SA0334, MO0154
Tica, S. SA0307
Tickner, J. SU0257
Tile, L. 1080, SU0329, MO0297
Timney, E. SA0321
Timpson, N. SA0333
Tinati, T. SU0031
Ting, K. 1024, 1086, SA0018, SU0092, MO0098
Tinker, L. SA0006, SA0313
Tintut, Y. SA0410
Titanji, K. SA0361
Titus, F. FR0153
Tivesten, Á. MO0446
Tobias, J. FR0366, MO0029
Tobinai, M. SA0381, SU0386
Todo, T. SU0258
Tokola, K. SA0339
Tokuyama, N. MO0258, MO0269, MO0269
Tomai Pitinca, M. MO0390
Tomaschitz, A. MO0381
Tombran-Tink, J. SA0239
Tomer, K. SU0131
Tomlinson, G. FR0196, SA0384, SU0329, MO0297
Tomlinson, R. 1037, 1076
Tommasini, S. M. MO0123
Tonelli, P. SA0208
Toni, A. SA0293
Tonini, G. SA0169
Tonkin, B. MO0014
Tonna, S. John FR0126, SA0251
Tontonoz, P. 1086
Torekov, S. SA0138
Torner, J. SA0032, SA0033, SA0295, SU0357, MO0300
Torregrossa, L. SA0174
Torrekens, S. FR0245
Torres Del Pliego, E. SU0069
Torres-Del-Pliego, E. SU0430, SU0434, MO0429, MO0431
Törring, O. 1017
Tosi, D. SA0169
Tosi, L. L. SA0194, SU0137, SU0391, MO0348
Touaitahuata, H. MO0104
Touchberry, C. MO0114
Toulis, K. 1111
Toumi, H. SA0408, SU0409, MO0282, MO0299
Touvier, J. MO0299
Towne, B. SA0336
Töyräs, J. SU0312
Tran, A. MO0110, MO0119
Tran, D. SA0018
Tranah, G. SA0140, SU0325, MO0140
Travert, C. 1054
Travison, T. SA0352, MO0355
Trcalek, C. SU0413, MO0209
Treece, G. Michael FR0374, SA0056, SU0296, MO0301
Tremblay, G. B. SA0420, SU0260
Trent, J. SA0126
Tribble, M. SU0405
Triffitt, J. T. SA0268
Trivedi, T. FR0453, SA0453
Troiano, N. 1046
Trombetti, A. FR0023, SA0023
Trompet, S. SA0140, MO0140
Trout, H. SU0435
Troy, K. L. SA0435, SU0075, MO0075
Trubrich, A. MO0427
Trucksis, M. MO0382
True, L. SA0460
Truy, E. MO0048
Tsai, J. 1019, FR0372, SA0372, MO0347
Tsai, T. SA0063
Tsang, K. 1087
Tsangari, H. SA0450, SU0071
Tsaousis, N. SU0296
Tseng, H. SA0115
Tseng, W. 1039, SU0405, SU0406, MO0049

Tsilidis, K. SA0140, MO0140
Tsiliouka, K. SU0266
Tsitsilonis, S. MO0408
Tsoukas, G. MO0372, MO0372
Tsoukas, P. MO0372
Tsuboi, H. SU0010
Tsuchie, H. SA0373, SA0418, SU0324
Tsugawa, N. SU0079, SU0448, MO0449
Tsuji, K. FR0094, SU0085
Tsujimoto, M. SU0374
Tsukamoto, S. MO0135, MO0222
Tsurukami, H. SU0376, SU0379, SU0382
Tsutsumi, T. SA0261, MO0253
Tsutsumimoto, K. SU0338
Tu, C. 1033, MO0156
Tu, J. MO0018
Tu, Q. SA0161, SA0185, SA0200, SA0217, SA0260, SU0149, SU0213, MO0213, MO0245
Tu, X. 1055, FR0285, SA0259, SU0125, SU0125
Tucci, J. R. MO0442
Tuchman, S. MO0173
Tucker, C. SU0137
Tuckermann, J. SA0442, MO0018
Tudpor, K. SU0209
Tumber, N. SU0221
Tuomainen, T. SA0183
Tuppurainen, M. Tiina SA0007, SA0183, SA0353
Turan, S. SA0122
Turcotte, Á. SU0260
Turmezei, T. SA0056, MO0301
Turner, A. SA0450
Turner, A. Grant MO0453
Turner, R. T. SU0251, MO0247
Turnpenny, P. SU0138
Tusquets, I. SU0434, MO0431
Tuthill, A. SA0189, SA0283
Twine, N. A. MO0239

U

Ucer, S. 1013, FR0446, SA0446, MO0268
Uchibe, K. FR0192, SA0106, SA0106
Uchida, T. SU0445
Uchiyama, S. SU0380
Udagawa, N. SU0210, MO0269
Ueda, K. SA0294
Uede, T. SA0241
Uehara, S. SU0210
Ueki, Y. SA0154, SU0037
Uematsu, S. SA0241
Uemura, K. SU0338
Uenishi, K. SU0164
Ugurlu, H. SA0385
Uihlein, A. Vogel 1019, FR0372
Uitterlinden, A. G. 1067, 1107, 1109, SA0026, SA0140, SU0323, SU0334, MO0140, MO0338
Ullyatt, L. MO0372
Uluckan, O. MO0264
Uludag, H. SU0100
Uluer, A. MO0430
Ung, R. SU0183
Unnanuntana, A. SU0389
Unnikrishnan, G. SA0039
Upadhyay, S. 1011, MO0008, MO0151
Uppuganti, S. SU0053, MO0044
Urano, T. MO0009
Urbin, S. MO0097
Uribe, F. SU0128
Urrutia, A. MO0138
Ursu, D. SU0436
Urushihara, H. SU0403, MO0403
Usas, A. MO0233
Ushikubo, M. SU0385, MO0368
Usui, M. MO0274
Utreja, A. SU0128
Uusi-Rasi, K. A. SA0339
Uzer, G. SA0053, SU0062, SU0064, MO0064
Uzieblo, A. SU0239, MO0405

V

Vääräniemi, J. MO0013
Vacher, J. MO0162
Vaculik, J. MO0301
Vahdat, K. MO0339
Vail, T. MO0281
Vainio, P. SU0078
Valentinitsch, A. SA0072, MO0440
Vallejo, J. SA0001, SA0464
Valtchev, P. SU0198
Van Alstine, W. MO0184
Van Craenenbroeck, E. SA0099
Van Dam, R. SA0312
Van De Peppel, J. SA0140, MO0140
Van Den Bergh, J. 1018, 1108, SA0319, MO0332
Van Den Burg, P. SA0429
Van Der Eerden, B. Cornelis Jeroen SU0209
Van Der Flier, A. SA0021
Van Der Horst, M. SU0394
Van Der Kamp, S. 1096
Van Der Leije, C. SU0209
Van Der Meijden, K. SA0452
Van Der Meulen, M. C.H. SA0061, MO0417
Van Der Velde, N. SA0140, MO0140
Van Der Velde, R. 1108
Van Duijn, C. SA0140, MO0140
Van Dyke, M. MO0275
Van Dyke, T. SA0004
Van Essen, H. W. SA0281
Van Gastel, N. FR0245, SU0147
Van Geel, T. 1108, SA0319, MO0332
Van Hoof, V. O. SA0099
Van Hul, E. SA0168
Van Hul, W. SA0141, SA0168
Van Laer, L. SA0137
Van Leeuwen, J. SU0209
Van Leeuwen, J. P. SA0140, SA0234, MO0140
Van Lenthe, H. SU0059
Van Londen, G. 1050
Van Looveren, R. SU0147
Van Meurs, J. MO0140

Van Meurs, J. BJ 1109, SA0140, SU0323
Van Poppel, M. MO0195
Van Remmen, H. SU0422
Van Rietbergen, B. 1064
Van Rooij, F. 1109
Van Roy, M. SA0412
Van Schoor, N. SA0429, MO0195
Van Staa, T. 1110
Van Vliet, M. FR0066, FR0066, SA0044, MO0032
Van Wijnen, A. J. SA0093, SA0214, SA0234, MO0088, MO0216, MO0217, MO0219, MO0364
Van't Hof, R. SA0206
Van, G. 1069
Vance, D. MO0081
Vanden Bossche, A. SA0111, SU0110
Vanden-Bossche, A. 1030
Vandenput, L. 1053, SU0325, MO0029, MO0338
Vanderby, R. SA0063
Vanderschueren, D. SU0059, MO0450
Vanegas, D. MO0369
Vanhoutan, J. 1046
Vanhouten, J. N. SU0289
Varacallo, M. SU0354
Varela, A. SA0409, SU0412, MO0036, MO0421
Varennes, A. MO0361
Varga, F. SU0232
Varga, P. SA0287
Varrenti, M. SA0180
Värri, M. SA0183
Varshney, S. SA0177
Vasconsuelo, A. SA0191
Vashishth, D. SA0040, SU0041, SU0054, MO0102
Vasic, J. MO0303
Vasikaran, S. SU0290
Vassena, C. SU0156
Vatturi, S. SU0117
Vazquez, M. SU0070
Vázquez, M. SA0233
Vega, E. MO0402
Veilleux, L. SU0077
Velasco, O. 1024, 1086
Veno, P. A. 1016, FR0280, SA0280, SU0280
Verbalis, J. SU0450
Verdoia, C. MO0376
Verfaillie, C. FR0245
Verhulst, A. MO0045
Verlinden, L. SU0259
Vermeer, J. SU0264
Vernon-Smith, A. SA0140, MO0140
Verstuyf, A. SU0259
Vesco, K. SA0354
Vesper, K. SA0238
Vessella, R. SA0460
Vestergaard, P. 1026, SU0182
Vetsch, J. SU0425
Viau, E. SA0420, SU0260
Viceconti, M. SA0293
Vico, L. 1030, SA0111, SU0110
Victor, D. SU0253
Vidal, C. 1070, SU0196, SU0243
Vidal, J. SU0363
Vieillard, M. SU0375
Viggeswarapu, M. FR0153, FR0153
Viikari, J. SA0140, MO0029, MO0140
Vijayaraghavan, S. SA0189
Vilaca, T. SU0398
Vilaplana Marz, L. SU0069
Vilaplana, L. SU0430, MO0429
Vilardaga, J. SA0124, SU0157
Vilayphiou, N. 1054, FR0299, SA0195
Villar-Garcia, J. SU0069
Villareal, D. T. MO0021
Vincent, C. SA0091
Vindlacheruvu, M. MO0301
Violitzi, F. SU0266
Virdi, A. SU0045
Virdi, A. S. SA0152
Visscher, P. SA0140, MO0140
Visser, R. SA0281
Vittecoq, O. SA0302
Vittinghoff, E. 1027
Vivanco, J. SA0062
Vives, V. MO0104
Vlassara, H. SA0107
Vogel, P. SA0132
Vogiatzi, M. G. SU0152
Voight, B. SU0026
Vokes, T. J. SA0175, SA0298, MO0304
Volante, M. SA0174
Von Au, A. SU0111
Von Rechenberg, B. SU0240
Voor, M. FR0407
Voronov, I. MO0254
Vrahnas, C. FR0126
Vrielink, H. SA0429
Vrints, C. SA0099
Vujevich, K. 1050
Vulto-Van Silfhout, A. SU0138
Vundavalli, M. 1005
Vunnava, A. SA0361
Vyas, K. 1034, MO0287
Vyas, P. SA0209
Vyskocil, V. MO0320

W

Waarsing, E. 1109
Wacker, M. MO0114
Wada, S. SU0261
Wadey, R. SA0115
Wadhwa, S. SU0087
Wagermaier, W. SA0054
Wagman, R. 1017, 1018, SU0400
Wagner, D. SA0438, MO0381
Wagner, E. SA0080
Wakabayashi, N. SU0057
Wakahashi, K. SA0241
Walcott, M. SA0093, MO0210
Waldstein, S. MO0330
Walker, E. SU0186

Walker, M. D. SA0182, SA0430, SU0073, SU0177
Wall, M. 1095, MO0397
Wallace, I. SU0055
Wallace, J. Michael MO0414
Wallace, S. SA0027
Walsh, J. MO0379
Walsh, J. S. 1052, MO0290
Walsh, N. C. MO0014
Walter, K. SA0333
Wan, M. SA0269, SU0119
Wan, Q. SA0228, SU0113
Wan, Y. 1106
Wang, A. 1017, 1065, SA0400, SU0450
Wang, B. SA0035, SU0124, SU0207, MO0233
Wang, D. SU0160, SU0161, MO0412, MO0443
Wang, F. MO0467
Wang, J. 1021, FR0342, SA0359, SA0379, SU0006, SU0068, SU0099, SU0293, MO0049, MO0056, MO0070, MO0094, MO0152
Wang, L. 1039, FR0244, FR0246, FR0246, SA0127, SA0231, SA0379, SA0467, SU0018, SU0188, SU0283, MO0110, MO0119, MO0145, MO0228, MO0229, MO0277
Wang, M. MO0043, MO0123
Wang, N. FR0378, SA0390, SU0165, MO0382
Wang, O. MO0336
Wang, Q. FR0364, SA0305, SU0003, SU0029, SU0203, SU0446, MO0336
Wang, R. SA0103, SU0003, MO0122
Wang, S. SA0108, SU0148
Wang, T. SA0158, MO0204
Wang, W. MO0336
Wang, X. FR0364, SA0305, SA0349, SA0364, SU0029, SU0107, SU0163, MO0174, MO0293, MO0336
Wang, Y. 1009, 1118, FR0156, SA0156, SA0158, SA0245, SA0265, SA0276, SA0423, SU0157, MO0144, MO0149, MO0156, MO0158, MO0362, MO0406, MO0426
Wang, Z. SA0130
Waning, D. SU0191
Warburton, D. SA0115
Ward, K. A. FR0366, SU0302, MO0294
Wareham, N. SA0140, MO0140
Wark, J. D. SU0399
Warlow, P. SU0354
Warmington, K. SU0411, MO0058
Warraich, S. SA0184
Warren, A. 1013, 1074, FR0243, SA0446, MO0268
Warren, J. T. 1114
Warriner, A. SA0344, SA0348, SU0310, MO0426
Washam, C. FR0457
Washington, L. SA0464
Wassel, C. SA0337
Wastney, M. E. MO0184
Watanabe, K. FR0459, FR0465, SA0465, SU0460, MO0148
Watanabe, M. SU0445
Watanabe, T. MO0425
Waterhouse, B. SA0386, MO0392
Watkins, M. P. 1072, SA0197, SU0278
Watt, H. SU0369, MO0085
Watts, J. MO0395
Watts, N. B. 1049, SA0068, SA0331, SA0357
Wayakanon, K. SU0206, MO0284
Weaver, C. M. SA0031, SA0417, SU0397, MO0023, MO0184
Weber, D. SA0037
Weber, F. SU0234
Weber, M. FR0299
Weber, N. SU0177
Weber, T. J. 1048, SU0169
Webster, F. SA0394
Wechalekar, M. SA0266
Weedon, H. SA0266
Wehbi, V. L. SA0124
Wei, B. SA0379
Wei, F. SA0379
Wei, R. SU0453
Wei, Y. SU0165
Weigel, J. SA0366
Weigt, C. SA0064, SU0051
Weilbaecher, K. N. MO0264
Weiler, H. A. SA0025, MO0397, MO0447
Weiler, R. SU0065, MO0054
Wein, M. SA0082, MO0246
Weinberg, A. MO0160
Weinberg, S. SU0101
Weinerman, S. MO0168
Weinkamer, R. SA0054, SA0059
Weinstein, L. S. SA0202, MO0227
Weinstein, R. S. 1013, 1034, 1118, SU0443, MO0169
Weintraub, G. MO0152
Weis, M. 1036, SU0131
Weiss, P. MO0427
Weitzmann, M. 1062, FR0425, SA0160, SA0361
Weivoda, M. FR0270, FR0271, SA0270, SA0271
Wellik, D. M. 1103, SU0102
Wells, A. SU0095
Wells, G. FR0401, SA0401
Welsing, P. MO0329
Wenkert, D. MO0169
Wergedal, J. E. 1014, FR0157, SA0065, MO0085
Werkgartner, G. SA0438
Wermers, R. A. MO0180
Werner, S. MO0369
Wesseling-Perry, K. SU0166, SU0221
Wessman, M. 1006
West, D. SA0307
West, J. SA0137
West, M. SA0137
West, S. L. MO0165
West, W. SA0049
Westendorf, J. J. 1090, SA0085, SA0234, SU0090, MO0088, MO0219
Wetmore, L. SA0001, MO0192

Wetzsteon, R. J. SU0193
Wharf-Higgins, J. SA0188
Wheal, B. SU0249
Wheeler, V. MO0132
Whisner, C. Marie SA0031
White, J. SU0186
White, K. E. FR0120, SA0118
White, M. MO0138
Whitehead, J. SU0053, MO0044
Whitfield, T. SA0214, MO0216, MO0217
Whitmarsh, T. FR0374, SA0374
Whyte, M. SA0141, SU0170
Whyte, M. P. SA0024, SU0130, SU0336, MO0169
Wibom, C. MO0338
Wichlas, F. MO0408
Wichrowska, H. MO0349
Wiebe, E. MO0018
Wientroub, S. SA0036
Wiesner, S. SU0112
Wijenayaka, A. MO0278, MO0285
Wikesjö, U. SA0145
Wilczek, M. SU0303
Wild, J. MO0427
Wilhelmson, A. MO0446
Wilk, A. SA0328
Wilkins, M. MO0239
Wilkinson, W. SA0115
Willems, P. SA0319
Williams, A. MO0209, MO0374
Williams, B. O. SA0126, SU0212
Williams, E. SA0052
Williams, G. SU0121
Williams, L. J. SA0353
Williams, N. I. SA0426
Williams, V. 1038
Williamson, J. 1027
Willie, B. M. SA0059, SU0047, MO0408
Willis, B. MO0340
Willner, D. SA0140, MO0140
Wilmot, B. SU0325
Wilson, P. MO0458
Wilson, S. G. SA0140, SA0333, MO0140
Wilson, T. SA0109
Wilt, T. MO0333
Wimer, H. SA0112
Windahl, S. H. 1115, FR0443, FR0445, SU0046, MO0419
Windle, J. J. FR0440
Windolf, M. SU0072
Winer, K. K. MO0024
Winkelmann, C. SU0292
Winters, T. MO0096
Winzenberg, T. M. MO0395
Winzenrieth, R. SA0029, SA0070, SA0074, SA0164, SA0311, SU0028, SU0301, MO0299, MO0303, MO0305
Witt-Enderby, P. Ann SA0360
Witter, R. SA0390
Wittig-Blaich, S. SA0442
Wixted, J. MO0210
Wohl, G. SA0047, SA0050, MO0128, MO0359
Wolinsky, F. SA0403
Wollnik, B. MO0136
Won, H. MO0257
Won, Y. MO0073
Wong, C. SU0251
Wong, G. 1044
Wong, J. SA0030
Wong, L. SU0377
Wong, M. SU0418
Woo, K. SA0147, SA0235, SA0240, MO0271
Wood, A. SU0317
Wooddell, M. 1048
Woodson, G. C. 1020
Wordsworth, P. SA0137
Working Group, U. SU0031
Woudenberg-Vrenken, T. SU0209
Wouterlood, C. MO0345
Wren, T. A.L. MO0194
Wright, D. SA0013
Wright, J. SU0013
Wright, L. SU0191
Wright, N. C. SA0348, SA0403, SU0013, SU0344, SU0345, MO0380
Wronski, T. J. SU0413, MO0209
Wu, A. 1078
Wu, B. MO0098
Wu, G. SA0009, MO0081
Wu, H. SA0214, MO0216, MO0217
Wu, J. SA0103, SA0103, SA0127, MO0204
Wu, J. Y. SA0202, MO0159
Wu, L. SU0063, MO0060, MO0291
Wu, M. 1092, FR0274, SA0274, MO0256
Wu, Y. SA0204, SU0149
Wuerfel, C. FR0212, FR0212, SU0111
Wulff, A. MO0464
Wullschleger, M. 1078
Wurmser, M. SU0185
Wyatt, B. MO0004
Wyman, A. 1049, SA0357
Wyss, L. MO0468

X

Xia, W. SA0003, MO0336
Xian, C. J. SA0091, SA0427
Xian, L. SA0269, SU0159
Xiao, G. SA0198, MO0016
Xiao, L. SU0001, MO0002, MO0147
Xiao, Q. SU0162
Xiao, S. SA0140, MO0140
Xiao, W. MO0101, MO0149
Xiao, Z. 1047
Xie, H. SA0269, SA0269, SU0119
Xie, L. MO0097
Xie, S. FR0445
Xie, X. SU0107
Xie, Y. MO0003
Xie, Z. SA0053, SU0062, SU0064
Xin, X. SA0231
Xing, C. SU0165
Xing, L. SU0021, SU0237, MO0020
Xing, Q. SU0119
Xing, W. SU0230, SU0262, MO0085

Xing, X. MO0336
Xiong, J. 1009, 1118, SU0442, MO0362
Xiong, L. SA0003
Xiong, S. SA0003
Xiong, W. SA0003, MO0051
Xiu, Y. MO0020
Xu, C. SA0210
Xu, F. SU0224
Xu, H. SA0002
Xu, J. SA0091, SA0126, SU0257, MO0001, MO0004
Xu, L. MO0336
Xu, M. SU0087
Xu, Q. SU0450, MO0213
Xu, R. SA0210
Xu, W. MO0003, MO0336
Xu, X. SU0165
Xuan, D. SA0161, SA0200
Xue, D. SU0292
Xue, F. FR0342
Xue, S. SU0273
Xuei, X. SU0142

Y

Ya Han, C. FR0025
Yadav, M. C. 1041, MO0096, MO0131, MO0131
Yadav, V. SA0140, SU0246, MO0140
Yagi, M. SA0427
Yamada, A. SU0086, SU0218
Yamada, J. SU0085
Yamada, M. SA0421, MO0424
Yamada, T. SA0123, SA0227
Yamagami, Y. FR0388
Yamaguchi, A. SA0104
Yamaguchi, D. T SU0153
Yamaguchi, T. SA0054, SA0101, SU0348
Yamaguchi, Y. SA0110
Yamamoto, H. 1045, SA0454
Yamamoto, M. SU0086, SU0348
Yamamoto, T. FR0388, SA0413
Yamana, K. 1077, SU0214
Yamashita, J. 1031
Yamashita, T. SU0210
Yamato, H. SA0042
Yamauchi, M. SU0131, SU0348
Yamazaki, M. 1045, SA0289
Yan, W. SU0236
Yang, C. 1072, FR0273
Yang, D. FR0211
Yang, F. 1008, SA0359, SU0185
Yang, H. SA0043, SA0048, SU0244, MO0050, MO0053
Yang, J. SA0140, SA0236, MO0140, MO0211
Yang, K. MO0073
Yang, M. SA0204
Yang, N. SA0034
Yang, T. 1036, SA0127, SU0109, SU0134, MO0043, MO0270
Yang, W. MO0062
Yang, Y. 1022, SU0400, MO0227
Yang, Z. SA0423, SU0152
Yano, M. SA0155
Yano, S. SU0348
Yano, T. SA0421, MO0424
Yao, W. SU0408, MO0406, MO0409
Yao, X. MO0406
Yao, Z. 1106, SU0021, SU0237, SU0237
Yashiro, W. MO0288
Yasuda, H. SU0215, MO0258, MO0269
Yasui, T. MO0258
Yaszemski, M. J. SA0234
Yau, D. MO0297
Yau, O. MO0459
Yavropoulou, M. P. MO0371
Yawn, B. 1098
Yazawa, H. MO0425
Ye, S. MO0263
Yeap, B. SU0290
Yeasted, R. SA0435
Yee, C. MO0097
Yee, D. SA0427, SU0402
Yen, S. SU0064
Yerges-Armstrong, L. M. SA0225
Yilgor Huri, P. SU0192
Yilmaz, T. SU0216
Yim, M. MO0211
Yin, M. T. FR0432, MO0070, MO0370
Ying, W. SA0169
Yoda, T. SA0078, SU0261, MO0143, MO0274
Yogendran, M. MO0321
Yogo, K. SA0419
Yoh, K. SU0403, MO0403
Yokota, H. SA0228, SA0267, SU0113
Yokote, K. SA0252
Yokouchi, M. SU0093
Yokoyama, S. FR0459, SA0459, MO0148
Yoneda, T. FR0083, SU0459, MO0084
Yoneshima, H. SA0311
Yoon, W. SA0235, SA0240, MO0218, MO0271
Yoshida, D. SU0338
Yoshida, M. FR0083, SA0083
Yoshida, T. SA0252
Yoshikawa, Y. SU0223
Yoshiko, Y. SU0288
Yoshioka, H. SU0288
Yoshioka, T. SU0376, SU0379, SU0382
Yoshitaka, T. SA0154, SU0037
Yoshizaki, M. SA0135
You, L. SU0283
You, m. MO0156
Youm, Y. SU0358
Youn, J. MO0432
Young, M. F. SU0200, MO0110
Young, P. 1021, FR0432, SA0306, SA0366, SA0430, SA0432, SU0177
Yovos, J. MO0371
Yu, B. SA0169, SA0269, SU0119
Yu, E. MO0056
Yu, E. W. SU0433
Yu, F. SA0038
Yu, H. SU0369, MO0307

Yu, J. SU0101, SU0337, MO0343
Yu, L. 1114, SA0200, SA0260, SU0213, MO0065, MO0213
Yu, S. SA0225, MO0132
Yu, V. MO0159
Yu, X. SU0165
Yu, Y. SU0185
Yuan, B. FR0288, SA0171, MO0215
Yuan, H. SU0236, MO0412
Yuan, J. SA0312
Yuan, Q. SA0165
Yuan, R. SU0217
Yue, X. SA0100
Yuen, E. MO0040
Yuen, T. MO0155
Yum, S. SA0244
Yun, C. SA0205
Yun, H. MO0380
Yun, Y. SU0358
Yura, A. SU0333
Yurimoto, H. SA0042
Yustein, J. SA0467
Yusuf, R. MO0159
Yusuf, S. MO0341
Yuzawa, Y. SU0164

Z

Zabel, B. MO0136
Zagorevski, D. SU0041
Zaidi, M. MO0155
Zajac, J. D. MO0174
Zajdel, M. MO0031
Zajic, S. SA0390, MO0382
Zallone, A. M. SA0153, MO0155
Zaman, F. 1115
Zamani, A. FR0272, SA0272
Zanchetta, J. 1065, SA0399, MO0069
Zandueta, C. SU0465
Zankl, A. SA0137, SU0036
Zannettino, A. SA0266
Zanotti, S. 1075, SU0281, MO0243
Zapalowski, C. 1017, SA0400
Zappitelli, T. SU0136
Zaslavsky, O. SA0006
Zayzafoon, M. MO0470
Zeana, C. FR0432
Zebaze, R. 1065, FR0364, SA0305, SA0365, SU0029, MO0069, MO0174, MO0293
Zehe, V. SU0112
Zehr, J. FR0445
Zein-Sabatto, A. SU0053, MO0044
Zeitz, U. SA0455, SU0116
Zelca, S. SU0311
Zelenchuk, L. FR0117, SA0117
Zemel, B. SU0026, SU0193, MO0024
Zendeli, A. SA0071, SA0136, SA0377, MO0383, MO0427
Zeng, H. SA0467
Zeng, M. SU0165
Zeng, Q. SA0405, MO0201
Zeng, R. FR0273, SA0273
Zenger, S. MO0250
Zerfas, P. SA0112
Zernicke, R. F. SA0218
Zha, X. SU0165
Zhan, C. MO0438
Zhan, S. SA0231
Zhang, B. SU0165
Zhang, C. 1051, FR0179, FR0180, FR0432, SA0172, SA0182, SA0215, SA0366, SA0430, SU0073, SU0175, SU0177, SU0181, SU0309, MO0070, MO0177, MO0182, MO0298, MO0370, MO0439
Zhang, D. MO0103, MO0411
Zhang, E. SA0392
Zhang, F. SA0024
Zhang, H. SU0021, MO0463
Zhang, J. SA0098, SA0185, SA0185, SA0334, SA0338, SU0002, SU0040, SU0165, SU0165, SU0321, MO0043, MO0245, MO0296, MO0422
Zhang, K. SU0233
Zhang, L. SA0200, SA0217, SA0260, SA0334, SA0368, SU0141, SU0213, MO0213
Zhang, M. FR0119, FR0119, SU0006, MO0043, MO0094
Zhang, N. MO0234
Zhang, P. SA0228, SA0267
Zhang, R. SA0461, SA0461
Zhang, S. FR0121
Zhang, W. 1040, SU0050, SU0429, MO0469
Zhang, X. 1024, 1048, 1086, SA0008, SA0016, SU0092, SU0150, SU0169, SU0169, SU0189, SU0339, MO0098, MO0234, MO0237, MO0240
Zhang, Y. 1024, FR0162, SA0096, SA0187, SA0225, SA0336, SU0322, SU0402, SU0418, SU0452, MO0018, MO0098, MO0108, MO0132, MO0340, MO0395, MO0412
Zhang, Z. SA0379, SU0081, SU0208
Zhang, s. SA0165
Zhang, z. SA0359
Zhao, B. MO0261
Zhao, D. SA0265, MO0426
Zhao, G. SA0130, SU0222, MO0049
Zhao, H. 1074, SU0178, MO0263
Zhao, L. SU0159, SU0178
Zhao, M. SA0461
Zhao, N. MO0185
Zhao, W. MO0468
Zhao, X. SA0198, SU0143
Zhao, Y. SA0326, SA0368, SA0423, MO0154
Zhao, Z. SA0198
Zhen, G. SA0269, MO0017
Zhendong, Z. MO0056
Zheng, H. SA0140, SA0359, MO0140, MO0326
Zheng, J. SA0034
Zheng, L. SU0107, SU0213, MO0213
Zheng, M. SU0257
Zheng, X. MO0336
Zheng, Y. SA0453
Zheng, Z. MO0098
Zhong, Q. SA0237, MO0004
Zhong, Z. SU0082

Zhou, B. 1051, SU0068, SU0428, MO0056, MO0070, MO0298
Zhou, D. MO0468
Zhou, F. SA0091
Zhou, G. 1101, SA0466, SU0235
Zhou, H. 1020, SA0371, SA0442, SA0453, SU0180, SU0277, MO0018
Zhou, J. SU0407, MO0263
Zhou, S. SA0005, SU0172, MO0003
Zhou, X. SA0091, SU0215, MO0279
Zhou, Y. 1067, SA0334, SA0338, SU0015, SU0018, SU0092, MO0444
Zhou, x. SU0082
Zhu, E. SU0083
Zhu, F. SU0095, MO0052
Zhu, G. 1092, MO0256, MO0256
Zhu, H. SA0359, MO0034
Zhu, J. 1113, SA0016, SU0151, SU0153
Zhu, K. SA0198, MO0328
Zhu, M. SU0289
Zhu, Q. SA0245
Zhu, Y. 1019, FR0211, FR0372
Ziarko, K. SA0031
Zigomalis, A. SA0097
Zikan, V. SU0432
Zillikens, C. 1067, 1107, SU0323
Zillikens, M. Carola 1109, SA0140, MO0140
Zimovjanova, M. SU0432
Zirngibl, R. A. SU0136
Zismann, V. SA0126
Zmuda, J. M. SA0140, SA0225, SA0337, SA0352, SU0325, MO0132, MO0140, MO0337, MO0355
Zonefrati, R. SA0208, SU0173, SU0197
Zorsky, P. SA0169
Zottele, L. MO0190
Zou, H. SA0165
Zou, W. 1088, SA0248, MO0127
Zulliger, M. FR0299
Zuscik, M. J. 1102, SA0092, SA0095
Zwahlen, A. SU0180, SU0277
Zylstra-Diegel, C. SU0212
Zysset, P. K. SU0067