ASBMR 2014 Annual Meeting
George R. Brown Convention Center
September 12-15, 2014

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The ASBMR 2014 Annual Meeting Evaluation will be accessible online starting Thursday, September 18. 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.asbmr2014.org. We strongly encourage and welcome all attendees to provide us with feedback on the meeting. Your input is very important to us.

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Registration desks will be open for new registrants and material pick-up in the George R. Brown Convention Center in Discovery Hall-Hall E during the following hours:

Thursday, September 11 . . . . . 7:00 am–6:00 pm
Friday, September 12 . . . . . 7:00 am–7:00 pm
Saturday, September 13 . . . . . 7:00 am–5:00 pm
Sunday, September 14 . . . . . 7:30 am–5:00 pm
Monday, September 15 . . . . . 7:30 am–4:00 pm

Discovery Hall Hours

Exhibits are located in the ASBMR Discovery Hall inside Hall E of the George R. Brown 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, September 12	5:30 pm–7:00 pm
Saturday, September 13	10:00 am–5:00 pm
Sunday, September 14	10:00 am–5:00 pm
Monday, September 15	10:00 am–3:00 pm

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The ASBMR Media Office will be in operation to facilitate press-related activities during the meeting. The Media Office will be located in Room 214 in the George R. Brown Convention Center.

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Thursday, September 11	2:00 pm–5:00 pm
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Saturday, September 13	8:00 am–5:30 pm
Sunday, September 14	8:00 am–6:00 pm
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October 9–12, 2015

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September 16–19, 2016

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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 (2014 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 2014 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 Duke CME and the American Society for Bone and Mineral Research (ASBMR). Duke CME is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Statement

Duke CME *designates this educational activity for a maximum of 29.5 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, September 18. *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.

Meeting Objectives

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

- Identify and discuss the most current and significant advances in biomedical and clinical research in bone and mineral metabolism and better understand the interrelationship among basic research, clinical research and patient care.
- Improve the 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 and apply new and enhanced strategies for the assessment, diagnosis and treatment of patients at risk for or with osteoporosis and improve the ability to treat and care for patients.

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 2014 Annual Meeting and the 2014 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 2014 Annual Meeting sessions, including the 2014 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 2014 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 2014 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 2014.

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 Discovery Hall-Hall E if any additional books are available. The Handout Booklet is available in PDF format, free of charge, on the ASBMR website.

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, September 12 . . . . . 5:30 pm–7:00 pm
Saturday, September 13. . . . . 8:00 am–6:00 pm
Sunday, September 14 . . . . . 8:00 am–6:00 pm
Monday, September 15 . . . . . 8:00 am–3:00 pm

Additionally, free public internet access is available in the George R. Brown Convention Center lobbies.

Wheelchairs

Scootaround is the preferred scooter and wheelchair rental service for the ASBMR 2014 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/rentals/a/asbmr.

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 Café**
- 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 Discovery Hall-Hall E of the George R. Brown Convention Center.

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 George R. Brown Convention Center and will last approximately 60 minutes.

Poster Session	Tour Start Time	Start Location
Poster Session I: Saturday, September 13	1:00 p.m.	ASBMR Networking Center
Poster Session II: Sunday, September 14	1:00 p.m.	ASBMR Networking Center
Poster Session III: Monday, September 15	1:00 p.m.	ASBMR Networking Center

NIH Lounge

Representatives from the U.S. National Institutes of Health (NIH) and the Center for Scientific Review (CSR) will be available in the NIH 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)

Young Investigator and New Member Lounge

All young investigator attendees are invited to drop by the Young Investigator and New Member 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 George R. Brown 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, September 11 . . . . . 7:30 am–5:00 pm
Friday, September 12 . . . . . 7:00 am–5:30 pm
Saturday, September 13. . . . . 7:00 am–6:00 pm
Sunday, September 14. . . . . 7:00 am–5:30 pm
Monday, September 15 . . . . . 7:00 am–3:30 pm

Speaker Lounge

The Speaker Lounge will be located in Room 330 in the George R. Brown 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 E in the George R. Brown 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 E of the George R. Brown 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, September 15 at 3:00 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, September 12 Welcome Reception/Plenary Poster Session			
3:00 pm–4:30 pm	5:30 pm–7:00 pm	5:30 pm–7:00 pm (Oral Posters, Plenary Posters & Young Investigator Award Posters ONLY)	Plenary Posters and Oral Posters **Do not dismantle** Young Investigator Award Posters move to designated area
Saturday, September 13 Poster Session I			
7:30 am–8:00 am	8:00 am–6:00 pm	12:30 p.m.–2:30 p.m. (Plenary Posters, Young Investigator Award Posters and Saturday Poster Presenters)	6:00 pm–6:30 pm Saturday Posters Plenary Posters
Sunday, September 14 Poster Session II			
7:30 am–8:00 am	8:00 am–6:00 pm	12:30 p.m.–2:30 p.m. (Sunday Poster Presenters)	6:00 pm–6:30 pm Sunday Posters
Monday, September 15 Poster Session III			
7:30 am–8:00 am	8:00 am–3:00 pm	12:30 p.m.–2:30 p.m. (Monday Poster Presenters)	3:00 pm–3:30 pm Monday Posters Young Investigator Award Posters

HOW THE PROGRAM WAS SELECTED

Organizing the ASBMR Annual Meeting is a massive undertaking. Preparations for the 2014 meeting in Houston, TX, began in early 2013, with the appointment of the Program Committee Co-Chairs, Eileen Shore, Ph.D. (basic), Stuart Ralston, M.D., FRCP (translational), and Ann Schwartz, Ph.D. (clinical). Since then, Eileen, Stuart, Ann and I have worked tirelessly for one year and a half to develop a scientific program that we are now proud to present to you.

One of the guiding principles followed by the Program Committee has been to emphasize the translation of basic discoveries to clinical research and patient care. This principle was the main motivation for having three Program Committee Co-Chairs – a slight departure from what has been done until this year. The advantages of having a collegial expertise that spans the whole spectrum of our society's range of activities are self-evident. If you have submitted an abstract this year, you may have noted several new categories, organized around three main groups, basic, translational and clinical. We have striven to ensure that each group have an approximately equal number of oral presentations (all selected based upon the merit of submitted abstracts), so that all three main components of the biomedical research process are appropriately represented.

Another fundamental principle in organizing the ASBMR Annual Meeting has been to keep it relevant to all constituencies of our Society. Indeed, a key element to the success of our meetings is participation of basic and clinical researchers, but also of practitioners interested in metabolic bone disorders. To this end, the Gerald D. Aurbach and Louis V. Avioli lectures which will be given by two outstanding colleagues, Dr. Ana Maria Cuervo on autophagy and aging, and Dr. Hiroshi Takayanagi, on the impact of osteoimmunology on the field, will present material that bench and bedside researchers and clinicians alike should find attractive and meaningful. Similarly, the topics and speakers of the two plenary symposia on Brittle Bone Diseases and on Next-Gen Therapies were chosen to provide updates in areas of rapid growth, high, broad-based impact, and with significant recent developments. Other Symposia will address the state-of-the-art in heterotopic ossification, muscle and bone, cellular and molecular mechanobiology, falls and fall related injuries, and bone and inflammation. Selection of these topics was not easy, as the Program Committee had to choose among a long list of worthy and exciting topics that emerged from internal discussions and suggestions from previous Program Co-Chairs, other Committees Chairs, past officers and ASBMR members. Ann, Eileen, Stuart and I reached out to as many members as possible for input about key topics and speakers for the featured symposia program. Indeed, it is very important that the Program Committee gauges the expectations and listens to the suggestions of the many constituencies of our Society. To facilitate this process, next year's Program Committee will be aided by a new Program Advisory Committee, which is already at work.

The most important component of the Annual Meeting is the abstract-driven program. This year, the deadline for abstract submission was a little earlier than in 2013 because of the earlier meeting dates, and we received close to 1,500 abstracts. The Program Committee decided to also accept late-breaking abstracts with a mid-June deadline, and additional 90 submissions were received. These have been integrated into the main program, a few in the oral sessions, and most in the poster program. Similar to last year, two concurrent Plenary Sessions showcasing the highest scoring abstracts (top 2.5% of all submitted abstracts) will be held each day except Friday, alternating among basic, translational and clinical sciences, so that every attendee will have the opportunity to listen to top-quality presentations that may be close to their interests, and also be exposed to a broader horizon of research activity. Based on feedback from previous attendees, the number of Concurrent Oral Sessions has been increased to four each day, thus offering a sufficiently broad but not overwhelming variety of topics and more efficient clustering of presentations. These sessions are also grouped according to basic, translational and clinical themes, and represent the upper 10–11%tile of submitted abstracts. Also based upon member feedback, there will be only three concurrent Oral Posters Sessions just before the Plenary Poster session on Friday evening. The goal is to showcase the highest ranking plenary posters through a brief oral presentation and ignite the ensuing discussion at the poster board. These posters will be among those featured in the Plenary Poster session on Friday evening. Plenary posters were selected based on scoring above the 25–26%tile, and will be also featured during other Poster Sessions, which as in the past will be unopposed to allow ample time for direct interaction at the poster boards, networking and mid-day refreshment.

Three Clinical Roundtables on the management of bone health in chronic kidney disease, premenopausal women, children, and other challenging situations, will feature a new interactive format with case presentations followed by a discussion with input from the audience. Concurrently, each day there will be Meet-the-Professor sessions on a variety of hot topics and emerging themes spanning the entire gamut from molecular biology to clinical outcomes.

As in the past, a lively Clinical Debate, this year focused on the practical value of bone turnover markers in the routine management of osteoporosis, will take place, with ECTS co-sponsorship. An interactive Clinical Evening will focus on how to personalize osteoporosis treatment, and will be paired with a Basic Evening, where experts will share their knowledge and experience on how to best apply mouse genetic models to skeletal biology. These evening sessions have been conceived with the idea of providing updates on emerging issues in osteoporosis management, and offer a learning opportunity in new and current technologies, respectively, in an informal and convivial atmosphere. Furthermore, a special session organized in collaboration with NASA will highlight research ongoing in the International Space Station (ISS) and Johnson Space Center. Attendees will be greeted by the astronauts on the ISS! Other events, including reports of task forces, Committee and Working Group sponsored initiatives will take place throughout the meeting, offering additional opportunities for learning and interacting.

In addition to the Annual Meeting, a number of pre-meeting symposia and other special events will take place in Houston. An ASBMR Symposium: The Effects of Diabetes and Disordered Energy Metabolism on Skeletal Health will address recent advances on how energy metabolism affects bone homeostasis, featuring experts from both fields. A workshop supported by the Rare Bone Disease Patient Network and the National Bone Health Alliance, and co-sponsored by the US Bone and Joint Initiative and ASBMR, will provide Mechanistic and Therapeutic Insights into Skeletal Biology learned from the study of Rare Bone Diseases. Now in its 8th year of existence, the very popular Endocrine Fellows Forum, sponsored by The Endocrine Fellows Foundation, will take place under John Bilezikian's leadership. Furthermore, the National Osteoporosis Foundation will be offering a Fracture Liaison Service Training Course to medical professionals.

ASBMR is pleased to be the "**home for bone**" in 2014, and to offer so many learning opportunities to bone scientists and to those outside the field. On behalf of the Program Committee, I am delighted to welcome you to the ASBMR 2014 Annual Meeting; I am confident that you will find it stimulating, energizing and enjoyable!

Roberto Civitelli, M.D.
ASBMR President

Friday, September 12, 2014

Day-At-A-Glance

Time/Event/Location **All locations in the George R. Brown Convention Center unless otherwise noted**

ASBMR REGISTRATION OPEN

7:00 am - 7:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

LOUIS V. AVIOLI LECTURE

PRESENTATION OF THE LOUIS V. AVIOLI AWARD, FREDERIC C. BARTTER AWARD AND PAULA STERN ACHIEVEMENT AWARD

8:00 am - 9:30 am **George R. Brown Convention Center**
General Assembly Theater

8:00 am **What Changes Has Osteoimmunology Brought About?**
Hiroshi Takayanagi, M.D., Ph.D.
The University of Tokyo, Japan
Disclosures: Hiroshi Takayanagi, None

NETWORKING BREAK

9:30 am - 10:00 am

PUBLICATIONS WORKSHOP: IMPROVE YOUR CHANCES OF GETTING PUBLISHED

9:30 am - 11:00 am **George R. Brown Convention Center**
Room 332AD

Meet with *JBMR*® Editor-in-Chief Dr. Juliet Compston at this year's Publications Workshop. You'll learn how to improve the quality of your journal manuscripts, what *JBMR*® is looking for and how to increase your chances of getting published. Wiley Senior Marketing Manager Larry Grodsky, Wiley Executive Editor Jinnie Kim, and Wiley Associate Editor Katie Simmons will also update you on maximizing visibility for your paper, navigating the submission process and timeline, and taking advantage of the latest technology. Whether you're a new author considering submitting a paper or a seasoned journal contributor, don't miss this unique opportunity to hear directly from and interact with *JBMR*®'s editor!

MEET-THE-PROFESSOR SESSIONS

10:00 am - 11:00 am **George R. Brown Convention Center**
Rooms 342A-351F

Meet-the-Professor Session: Fibrous Dysplasia
Room 342A
Michael Collins, M.D.
National Institutes of Health, USA
Disclosures: Michael Collins, None

Meet-the-Professor Session: How Long Should We Treat Osteoporosis?
Room 342B
This activity is supported by an educational grant from Merck & Co., Inc.
Dennis Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, Novartis 7; amgen 7; Eli Lilly 5; Merck 7

Meet-the-Professor Session: Exome Sequencing and How to Identify a Disease Gene
Room 351A

Catherine Brownstein, Ph.D., MPH
Boston Children's Hospital and Harvard Medical School, USA
Disclosures: Catherine Brownstein, None

Ingrid Holm, M.D., MPH
Boston Children's Hospital, USA
Disclosures: Ingrid Holm, None

Meet-the-Professor Session: Epigenetic Regulators
Room 351B

Jane Lian, Ph.D.
University of Vermont College of Medicine, USA
Disclosures: Jane Lian, None

Jonathan Gordon, Ph.D.
University of Vermont, USA
Disclosures: Jonathan Gordon, None

Meet-the-Professor Session: Using Human iPS Cells to Model Skeletal Diseases
Room 351C

Edward Hsiao, M.D., Ph.D.
University of California, San Francisco, USA
Disclosures: Edward Hsiao, None

Meet-the-Professor Session: Wnt Signaling in Bone
Room 351D

Michaela Kneissel, Ph.D.
Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Michaela Kneissel, None

Meet-the-Professor Session: Sarcopenia: Definition and Assessment
Room 351E

Robert McLean, DSc
Hebrew SeniorLife Institute for Aging Research and Harvard Medical School, USA
Disclosures: Robert McLean, None

Meet-the-Professor Session: Monoclonal Gammopathies and Bone Health
Room 351F

G. David Roodman, M.D., Ph.D.
Indiana University, USA
Disclosures: G. David Roodman, None

GRANT WRITING WORKSHOP: SELLING YOUR SCIENCE

Sponsored by the ASBMR Membership Engagement and Education Committee

10:00 am - 11:30 am **George R. Brown Convention Center**
Grand Ballroom A

A panel of experts made up of U.S. and international researchers will offer insights on how to write a research grant that will get you funded. Panelists will review three case studies and discuss how best to write the significance section of a grant. This session will feature ample time for interactive discussion between participants, panelists and designated small -group leaders. This is a can't-miss opportunity for researchers at any career stage who want to gain valuable insight into writing a significance section and getting their research funded.

Co-Chairs
Melissa Kacena, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Melissa Kacena, None

Stavroula Kousteni, Ph.D.
Columbia University Medical Center, USA
Disclosures: Stavroula Kousteni, None

Panelists
Suzanne Jan De Beur, M.D.
Johns Hopkins University, USA
Disclosures: Suzanne Jan De Beur, None

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

Joanna Price, DVM, Ph.D.
University of Bristol, United Kingdom
Disclosures: Joanna Price, None

HIGHLIGHTS OF THE ASBMR 2014 ANNUAL MEETING

10:00 am - 11:30 am **George R. Brown Convention Center**
Grand Ballroom A

This session is of interest to all health professionals, first-time meeting attendees, young investigators, individuals new to the field, nurses, clinical research study coordinators, physical therapists and 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 Overview**
Roland Baron, DDS, PhD
Harvard School of Medicine and of Dental Medicine, USA
Disclosures: Roland Baron, None

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

NETWORKING BREAK

11:00 am - 11:30 am

SYMPOSIUM - BONE AND INFLAMMATION

This activity is supported by an educational grant from Merck & Co., Inc.

11:30 am - 12:45 pm **George R. Brown Convention Center**
Grand Ballroom BC

Co-Chairs
Roberto Pacifici, M.D.
Emory University School of Medicine, USA
Disclosures: Roberto Pacifici, None

Mary Goldring, Ph.D.
Hospital for Special Surgery, USA
Disclosures: Mary Goldring, None

11:30 am **Pathophysiology of Inflammatory Bone Loss**
Georg Schett, M.D.
Universitatsklinikum Erlangen, Germany
Disclosures: Georg Schett, None

11:55 am **Treatment of RA to Prevent Bone Erosion: Are We Doing Enough?**
Ellen Gravallese, M.D.
University of Massachusetts Medical School, USA
Disclosures: Ellen Gravallese, Abbvie, Inc. 2; Merck 5; Lilly 2

12:20 pm **Novel Approaches for the Prevention and Treatment of Inflammatory Bone Loss**
Nancy Lane, M.D.
University of California, Davis Medical Center, USA
Disclosures: Nancy Lane, None

SYMPOSIUM - MUSCLE AND BONE

11:30 am - 12:45 pm **George R. Brown Convention Center**
General Assembly Theater

Co-Chairs
Mark Hamrick, Ph.D.
Georgia Health Sciences University, USA
Disclosures: Mark Hamrick, None

Lynda Bonewald, Ph.D.
University of Missouri - Kansas City, USA
Disclosures: Lynda Bonewald, None

11:30 am **Cancer Metastases to Bone: Regulation of Muscle Function by the Bone Microenvironment**
Theresa Guise, M.D.
Indiana University, USA
Disclosures: Theresa Guise, None

11:55 am **Is Mettl21c Gene Associated with Osteoporosis and Sarcopenia?**
Marco Brotto, BSN, MS, Ph.D
University of Missouri - Kansas City, USA
Disclosures: Marco Brotto, None

12:20 pm **Muscle, Fat and Bone in Health ABC: A Molecular Epidemiology Triangle**
Tamara Harris, M.D., M.S.
Intramural Research Program, National Institute on Aging, USA
Disclosures: Tamara Harris, None

NETWORKING BREAK

12:45 pm - 1:15 pm

CONCURRENT ORALS: ANGIOGENESIS AND BONE

1:15 pm - 2:30 pm **George R. Brown Convention Center**
Room 320

Moderators:
Thomas Clemens, Ph.D.
Johns Hopkins University, USA
Disclosures: Thomas Clemens, None

Laura Calvi, M.D.
University of Rochester School of Medicine, USA
Disclosures: Laura Calvi, None

1:15 pm 1001 **Osteoblastic Oxygen Sensing Prolyl Hydroxylases Regulate Bone Homeostasis by Controlling both Osteoclastogenesis and Angiogenesis**
Colleen Wu*[1], Erinn Rankin[1], Edward LaGory[1], Rebecca Andersen[1], Steven Rhodes[2], Tremika Wilson[3], Khalid Mohammad[4], Alesha Castillo[5], Theresa Guise[4], Ernestina Schipani[3], Amato Giaccia[1]. [1]Stanford University, USA, [2]Indiana University Medical School, USA, [3]University of Michigan, USA, [4]Indiana University, USA, [5]VA Palo Alto Health Care System, USA
Disclosures: Colleen Wu, None

1:30 pm 1002 **Vascular Smooth Muscle Cell LRP6 Inhibits Noncanonical Wnt Signaling and Arteriosclerotic Calcification In Diabetic LDLR-/- Mice**
Su-Li Cheng[1], Bindu Ramachandaran[1], Abraham Behrmann[1], Jian-su Shao[2], Karen Krchma[1], Megan Mead[1], Lawrence Brill[1], Bart Williams[3], Dwight Towler*[1]. [1]Sanford-Burnham Medical Research Institute, USA, [2]MD Anderson Cancer Center, USA, [3]Van Andel Research Institute, USA
Disclosures: Dwight Towler, None

1:45 pm 1003 **ASBMR 2014 Annual Meeting Young Investigator Award**
Direct Transformation of Chondrocytes to Bone and Vessel Cells in Patients with Osteoarthritis (OA)
Yan Jing*[1], Yinshi Ren[2], Baozhi Yuan[3], Joseph Borrelli[4], Yin Xiao[5], Ying Liu[2], Chuanju Liu[6], Ding Bai[7], Jian Feng[8]. [1]USA, [2]Texas A&M Baylor College of Dentistry, USA, [3]University of Wisconsin, USA, [4]Texas Health Physicians Group, Arlington, TX, USA, [5]Institute of Health & Biomedical Innovation, Queensland University of Technology, Brisbane, Australia, Australia, [6]New York University, USA, [7]State Key Laboratory of Oral Diseases (Sichuan University), Department of Orthodontics, West China Stomatology Hospital of Sichuan University, China, [8]Texas A&M Health Science Center, USA
Disclosures: Yan Jing, None

2:00 pm 1004 **Roles of Osteoblast-derived VEGF in Osteoblastic Differentiation and Bone Formation During Bone Repair**
Kai Hu*, Bjorn Olsen. Harvard School of Dental Medicine, USA
Disclosures: Kai Hu, None

2:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1005 **Erythropoietin reduces bone formation and stimulates bone resorption: new insights into endocrine regulation of bone remodeling**
Sahar Hiram-Bab*[1], Tamar Liron[2], Naamit Deshet-Unger[3], Avi Salamon[2], Moshe Mittelman[4], Max Gassmann[5], Kristin Franke[6], Martina Rauner[7], Ben Wielockx[8], Drorit Neumann[3], Yankel Gabet[9]. [1]Department of Cell & Developmental Biology, Sackler Faculty of Medicine, Tel Aviv University, Israel, [2]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel-Aviv University, Israel, [3]Department of Cell & Developmental Biology, Sackler Faculty of Medicine, Tel-Aviv University, Israel, [4]Department of Medicine, Tel Aviv Sourasky Medical Center, Sackler Faculty of Medicine, Tel-Aviv University, Israel, [5]Institute for Veterinary Physiology, Vetsuisse Faculty & Zurich Center for Integrative Human Physiology (ZIHP), University of Zurich, Switzerland, [6]Institute of Pathology, Technische Universität Dresden, Germany, [7]Medical Faculty of the TU Dresden, Germany, [8]Institute of Pathology, Dresden University of Technology, Germany, [9]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel
Disclosures: Sahar Hiram-Bab, None

CONCURRENT ORALS: BIOMECHANICS AND HORMONAL EFFECTS

1:15 pm - 2:30 pm **George R. Brown Convention Center**
Room 310

Moderators:
Matthew Silva, Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Matthew Silva, None

Joanna Price, D.V.M., Ph.D.
University of Bristol, United Kingdom
Disclosures: Joanna Price, None

1:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1006 **Loss of *Nf1* in Osteoprogenitors Affects Fracture Resistance at Multiple Levels of Bone Organization**
Mathilde Granke*[1], Jean de la Croix Ndong[2], Sasidhar Uppuganti[2], Guillaume Vignaux[2], Alexander Makowski[3], Daniel Perrien[1], Florent Elefteriou[2], Jeffry Nyman[1]. [1]Vanderbilt University Medical Center, USA, [2]Vanderbilt University, USA, [3]Department of Veterans Affairs, Vanderbilt University, USA
Disclosures: Mathilde Granke, None

1:30 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1007 **Mechanical Signals Improve Bone Quality Compromised by Type 2 Diabetes, Potentially by Enhancing the Bone Marrow Mesenchymal Stem Cell Population and its Paracrine Regulation of Bone-forming Osteoblasts**
M. Ete Chan*[1], Gregory Lee[1], Danielle Green[1], Benjamin Adler[1], Gabriel Pagnotti[1], Vihitaben Patel[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: M. Ete Chan, None

1:45 pm **N-cadherin Restrains Parathyroid Hormone (PTH) Activation of Lrp6/β-catenin Signaling**
1008 **and Its Bone Anabolic Action**
Leila Revollo*[1], Jacqueline Kading[2], Jiemin Li[2], Sung Yeop Jeong[2], Gabriel Mbalaviele[3], Roberto Civitelli[3]. [1]Washington University, Division of Bone & Mineral Diseases, USA, [2]Washington University, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Leila Revollo, None

2:00 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1009 **Androgens Reduce Skeletal Mechanoresponsiveness in Adult Male Mice**
Michaël Laurent*[1], Mieke Sinnesael[1], Ludo Deboel[1], Peter Delisser[2], Vanessa Dubois[1], Evelien Gielen[3], Lance Lanyon[4], Joanna Price[2], Geert Carmeliet[1], Frank Claessens[1], Dirk Vanderschueren[1]. [1]Katholieke Universiteit Leuven, Belgium, [2]University Of Bristol, United Kingdom, [3]University Hospitals Leuven, Belgium, [4]Royal Veterinary College, United Kingdom
Disclosures: Michaël Laurent, None

2:15 pm **Synovial insulin resistance is linked to osteoarthritis in type 2 diabetes**
1010 Sharon Ansboro*[1], Robert Maynard[2], Daisuke Hamada[2], Christopher Farnsworth[2], Robert Mooney[3], Michael Zuscik[4]. [1]The Center for Musculoskeletal Research, USA, [2]Center for Musculoskeletal Research, USA, [3]University of Rochester Medical Center, USA, [4]University of Rochester School of Medicine & Dentistry, USA
Disclosures: Sharon Ansboro, None

CONCURRENT ORALS: FALLS, FRAILTY AND FRACTURES

1:15 pm - 2:30 pm **George R. Brown Convention Center**
Grand Ballroom A

Moderators:
Peggy Cawthon, Ph.D., MPH
California Pacific Medical Center Research Institute, USA
Disclosures: Peggy Cawthon, None

Piet Geusens, M.D., Ph.D.
University Hasselt, Belgium
Disclosures: Piet Geusens, None

1:15 pm **Late-Breaking Abstract**
1011 **Phase 2 Randomized, Double Blind, Placebo Controlled Trial of Anti-Myostatin Antibody LY2495655 in Older Fallers With Low Muscle Strength**
Clemens Becker*[1], Stephen Lord[2], Stephanie Studenski[3], Stuart Warden[4], Roger Fielding[5], Christopher Recknor[6], Marc Hochberg[7], Serge Ferrari[8], Hubert Blain[9], Ellen Binder[10], Yves Rolland[11], Leijun Hu[12], Qasim Ahmad[12], Kelli Pacuch[12], Elisa Gomez[12], Olivier Benichou[13]. [1]Robert-Bosch-Krankenhaus, Germany, [2]NeuRA, UNSW, Australia, [3]University of Pittsburgh (at the time the work was done), USA, [4]Indiana University School of Health & Rehabilitation Sciences, USA, [5]Jean Mayer USDA HNRCA At Tufts University, USA, [6]United Osteoporosis Center, USA, [7]University of Maryland School of Medicine, USA, [8]Geneva University Hospital & Faculty of Medicine, Switzerland, [9]Montpellier University Hospital, University Montpellier 1, MacVia-LR, France, [10]Washington University School of Medicine, USA, [11]Gérontopôle de Toulouse, Centre Hospitalo-Universitaire de Toulouse (CHU Toulouse), France, [12]Eli Lilly & Company, USA, [13]Eli Lilly & Company, France
Disclosures: Clemens Becker, Eli Lilly & Company, 5

1:30 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1012 **Fall Risk Assessment Predicts Fall Related Osteoporotic and Hip Fracture in Older Women and Men**
Martin Nilsson*[1], Joel Eriksson[2], Anders Odén[3], Helena Johansson[4], Mattias Lorentzon[5]. [1]Centre for Bone & Arthritis Research At the Sahlgrenska Academy, Sweden, [2]Centre for Bone & Arthritis Research, Sweden, [3]Consulting Statistician, Sweden, [4]Geriatric Medicine, Department of Internal Medicine & Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Martin Nilsson, None

1:45 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1013 **The Influence of Exercise on the 3D distribution of Cortical and Trabecular Bone across the Proximal Femur: The HipHop Study**
Sarah Allison*[1], Kenneth Poole[2], Graham Treece[2], Andrew Gee[2], Carol Tonkin[2], Winston Rennie[3], Jonathan Folland[1], Greg Summers[4], Katherine Brooke-Wavell[1]. [1]Loughborough University, United Kingdom, [2]University of Cambridge, United Kingdom, [3]University Hospitals of Leicester, United Kingdom, [4]Derby Hospitals NHS Foundation Trust, United Kingdom
Disclosures: Sarah Allison, None

2:00 pm **Effects of Vitamin D and Multimodal Exercise on Prevention of Injurious Falls in Older Women**
1014 Kirsti Uusi-Rasi*[1], Radhika Patil[2], Saija Karinkanta[2], Kari Tokola[2], Pekka Kannus[2], Christel Lamberg-Allardt[3], Harri Sievanen[2]. [1]UKK Institute for Health Promotion Research, Finland, [2]The UKK Institute for Health Promotion Research, Finland, [3]University of Helsinki, Finland
Disclosures: Kirsti Uusi-Rasi, None

2:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1015 **Use of Hypnotics and SSRI is Associated with Increased Risk of a Fall-Related Injury, Osteoporotic Fracture and Hip Fracture in Older Women and Men**
Daniel Sundh*[1], Martin Nilsson[2], Joel Eriksson[3], Dan Mellstrom[4], Mattias Lorentzon[5]. [1]"institute of Medicine, Sahlgrenska Academy", Sweden, [2]Centre for Bone & Arthritis Research At the Sahlgrenska Academy, Sweden, [3]Centre for Bone & Arthritis Research, Sweden, [4]Sahlgrenska University Hospital, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Daniel Sundh, None

CONCURRENT ORALS: NEUROMUSCULAR REGULATION OF BONE

1:15 pm - 2:30 pm **George R. Brown Convention Center**
Grand Ballroom BC

Moderators:
Florent Elefteriou, Ph.D.
Vanderbilt University, USA
Disclosures: Florent Elefteriou, None

Dobrawa Napierala, Ph.D.
University of Alabama At Birmingham School of Dentistry, USA
Disclosures: Dobrawa Napierala, None

1:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1016 **Regulation of *Osteocalcin* expression and neuro-endocrine functions by HDAC4**
Arnaud Obri*[2], Munevver Makinistoglu[1], Gerard Karsenty[2]. [1]Columbia University, Medical Center, USA, [2]Columbia University, USA
Disclosures: Arnaud Obri, None

1:30 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1017 **Analysis of Osteocalcin's Cognitive Function in WT Mice and of its Signaling in Neurons**
Lori Khrimian*, Stylianos Kosmidis, Eric Kandel, Gerard Karsenty. Columbia University, USA
Disclosures: Lori Khrimian, None

1:45 pm **Defective Muscle-Bone Interplay Severely Impairs Bone Homeostasis in ALS Mice**
1018 Ke Zhu*[1], Jianxun Yi[2], Yajuan Xiao[2], Yumei Lai[1], Pingping Song[1], Wei Zheng[1], Hongli Jiao[1], Di Chen[1], Jingsong Zhou[2], Guozhi Xiao[1]. [1]Department of Biochemistry, Rush University Medical Center, USA, [2]Department of Molecular Biophysics & Physiology, Rush University Medical Center, USA
Disclosures: Ke Zhu, None

2:00 pm **PPARβ Deficiency Decreases Bone Formation Concomitantly to Increased Bone Marrow Fat**
1019 **Infiltration and Muscle Weakness**
Nicolas Bonnet*[1], He Fu[2], Beatrice Desvergne[2], Serge Ferrari[3]. [1]University Geneva Hospital (HUG), Switzerland, [2]Center for integrative Genomics, Faculty of Biology & Medicine, University of Lausanne, Switzerland, [3]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None

2:15 pm **Targeting RANK/RANKL as a novel treatment for muscle weaknesses and dystrophic conditions**
1020 Nicolas Dumont[1], Sébastien Dufresne[1], Patrice Bouchard[1], Éliane Lavergne[1], Charles Godbout[1], Antoine Boulanger-Piette[1], Sandrine-Aurélie Kake-Guena[2], Paul C. Pape[2], Renu Sarao[3], Josef M. Penninger[3], Jérôme Frenette*[4]. [1]Université Laval, Canada, [2]Université Sherbrooke, Canada, [3]IMBA, Austria, [4]Université Laval, Can
Disclosures: Jérôme Frenette, None

NETWORKING BREAK

2:30 pm - 3:00 pm

SYMPOSIUM - CELLULAR MECHANOBIOLOGY

2:45 pm - 4:00 pm **George R. Brown Convention Center**
Grand Ballroom BC

Co-Chairs
Tamara Alliston, Ph.D.
University of California, San Francisco, USA
Disclosures: Tamara Alliston, None

Alexander Robling, Ph.D.
Indiana University, USA
Disclosures: Alexander Robling, None

2:45 pm **The Impact of Mechanical Forces on the Forming Embryonic Skeleton: Uncovering Molecular Mechanisms In Vivo**
Paula Murphy, Ph.D.
Trinity College, Ireland
Disclosures: Paula Murphy, None

3:10 pm **Mechanoregulation of Stem Cell Differentiation**
Robert Mauck, Ph.D.
University of Pennsylvania, USA
Disclosures: Robert Mauck, None

3:35 pm **The Interplay Between Mechanobiology and Biomechanics in Primary Cilia**
Christopher Jacobs, Ph.D.
Columbia University, USA
Disclosures: Christopher Jacobs, None

ASBMR/ECTS CLINICAL DEBATE: BIOCHEMICAL MARKERS ARE OF PRACTICAL VALUE IN THE ROUTINE MANAGEMENT OF OSTEOPOROSIS

3:00 pm - 4:00 pm **George R. Brown Convention Center**
General Assembly Theater

Co-Chairs
Kristina Akesson, M.D., Ph.D.
Skåne University Hospital, Malmö, Sweden
Disclosures: Kristina Akesson, None

Bente Langdahl, M.D., DMSc
Aarhus University Hospital, Denmark
Disclosures: Bente Langdahl, None

For the Motion
William Fraser, M.D., FRCPath
University of East Anglia, United Kingdom
Disclosures: William Fraser, None

Against the Motion
Douglas Bauer, M.D.
University of California, San Francisco, USA
Disclosures: Douglas Bauer, None

NETWORKING BREAK

4:00 pm - 4:30 pm

Moderators:
Steven Goldring, M.D.
Hospital for Special Surgery, USA
Disclosures: Steven Goldring, None

Mone Zaidi, M.B.B.S., Ph.D.
Mount Sinai Medical Center, USA
Disclosures: Mone Zaidi, None

4:35 pm FR0363 **Heterozygosity for *TGFβR3* Alters Osteoblast and Osteoclast Differentiation and Signaling, Increases Peak Bone Mass, and Sensitizes Mice to OVX-Induced Bone Loss.**
Nicole Fleming[1], Vanessa Bray[2], James Butler[3], Tristan Fowler[4], Joey Barnett[5], Dana Gaddy[6], Erick Fleming[1], Jeffry Nyman[7], Rashmi Pandey[3], Daniel Perrien*[7]. [1]VUIIS, Vanderbilt University, USA, [2]Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, [3]Department of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, [4]Universität Wien, Aut, [5]Department of Pharmacology, Vanderbilt University, USA, [6]University of Arkansas for Medical Sciences, USA, [7]Vanderbilt University Medical Center, USA
Disclosures: Daniel Perrien, None

4:40 pm FR0269 **Sirtuin 1 Suppresses Mitochondrial ATP and Osteoclastogenesis via FoxO-Mediated Stimulation of Heme Oxygenase 1**
Ha-Neui Kim*[1], Shoshana Bartell[2], Li Han[2], Aaron Warren[3], Srividhya Iyer[2], Rafael de Cabo[4], 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]Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, [4]Translational Gerontology Branch, National Institute on Aging, National Institutes of Health, USA
Disclosures: Ha-Neui Kim, None

4:45 pm FR0367 **GILZ Protects TNF-alpha-induced Bone Loss in Mice**
Nianlan Yang*[1], Babak Baban[1], William Hill[2], Mark Hamrick[3], Carlos Isales[1], Xing-Ming Shi[1]. [1]Georgia Regents University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Health Sciences University, USA
Disclosures: Nianlan Yang, None

4:50 pm FR0087 **Chondrocyte-specific Deletion of *Sod2* Exacerbates Cartilage Degeneration Associated with Low Mitochondrial Membrane Potential in Mice**
Masato Koike*[1], Nojiri Hidetoshi[2], Yusuke Ozawa[3], Kenji Watanabe[3], Isao Masuda[3], Yuta Muramatsu[4], Haruka Kaneko[2], Daichi Morikawa[2], Keiji Kobayashi[3], Yoshitomo Saita[5], Takahisa Sasho[4], Takuji Shirasawa[6], Koutaro Yokote[7], Kazuo Kaneko[2], Takahiko Shimizu[3]. [1]Juntendo University, Japan, [2]Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, [3]Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, [4]Department of Orthopedics, Chiba University Graduate School of Medicine, Japan, [5]Department of Orthomedics, Juntendo University Graduate School of Medicine, Japan, [6]Department of Aging Control Medicine, Juntendo University Graduate School of Medicine, Japan, [7]Department of Clinical Cell Biology & Medicine Chiba University Graduate School of Medicine, Japan
Disclosures: Masato Koike, None

4:55 pm FR0200 **Elucidating Molecular Mechanisms leading to Post Traumatic Osteoarthritis in Sost KO Mice**
Jiun Chiun Chang*[1], Blaine Christiansen[2], Nicole Collette[3], Aimy Sebastian[1], Deepa Murugesh[4], SARAH HATSELL[5], Aris Economides[6], Craig Blanchette[4], Gabriela Loots[7]. [1]University of California, Merced, USA, [2]University of California - Davis Medical Center, USA, [3]Lawrence Livermore National Laboratory, USA, [4]Lawrence Livermore National Laboratories, USA, [5]REGENERON PHARMACEUTICALS, USA, [6]Regeneron Pharmaceuticals, Inc., USA, [7]Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Jiun Chiun Chang, None

5:00 pm FR0068 **Roquin Is A Novel Regulator of Bone Homeostasis**
Bay Sie Lim*, Euphemie Landao, Shek Man (Jacky) Chim, Jennifer Tickner, Nathan Pavlos, Jiake Xu. University of Western Australia, Australia
Disclosures: Bay Sie Lim, None

5:05 pm FR0199 **Elevated TGF-β in Subchondral Bone Causes Joint Degeneration of Rheumatoid Arthritis and Osteoarthris**
Xin Xu*[1], Liwei Zheng[2], Qin Bian[3], Xuedong Zhou[4], Xu Cao[5]. [1]Johns Hopkins University, Medical Institute, USA, [2]West China School of Stomatology, Sichuan University, Peoples Republic of China, [3]USA, [4]West China School of Stomatology, Sichuan University, China, [5]Johns Hopkins University, USA
Disclosures: Xin Xu, None

5:10 pm FR0103 **Protein Phosphatase 5 (PP5) regulates both energy metabolism and bone mass by reciprocal regulation of PPARγ and Runx2 activities**
Lance Stechschulte*[1], Chunxi Ge[2], Piotr Czernik[3], Edwin Sanchez[1], Renny Franceschi[4], Beata Lecka-Czernik[3]. [1]University of Toledo Health Science Campus, USA, [2]Pom Univ of Michigan School of Dentistry, USA, [3]University of Toledo College of Medicine, USA, [4]University of Michigan, USA
Disclosures: Lance Stechschulte, None

5:15 pm FR0135 **Strong Correlation Between BMD Associated Transcripts in Postmenopausal Iliac Bone Biopsies and DNA Methylation Levels at Specific CpGs**
Sjur Reppe*[1], Runa M. Grimholt[1], Robert Lyle[1], Ole K. Olstad[1], Vigdis T. Gautvik[2], Kaare M. Gautvik[3]. [1]Oslo University Hospital, Ullevaal, Norway, [2]University of Oslo, IMB, Norway, [3]Oslo University Hospital, Oslo Deacon Hospital, University of Oslo, Norway
Disclosures: Sjur Reppe, None

5:20 pm FR0071 **A Novel Sequestosome-1 / p622 ZZ Domain Inhibitor Blocks TNFα Induced Suppression of OBL Differentiation in MM**
Rebecca Silbermann*[1], Jumpei Teramachi[1], Khalid Mohammad[1], Wei Zhao[1], Dan Zhou[1], Peng Yang[2], Julie L. Eiseman[2], Xiang-Qun Xie[2], G. David Roodman[1], Noriyoshi Kurihara[1]. [1]Indiana University, USA, [2]University of Pittsburgh, USA
Disclosures: Rebecca Silbermann, None

ORAL POSTER PRESENTATIONS: CLINICAL

4:30 pm - 5:30 pm **George R. Brown Convention Center**
Grand Ballroom BC

Moderators:
Michael McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Michael McClung, None

Deborah Sellmeyer, M.D.
The Johns Hopkins Bayview Medical Center, USA
Disclosures: Deborah Sellmeyer, None

4:35 pm FR0284 **Are Biochemical Markers of Bone Turnover Representative of Bone Turnover Assessed with Histomorphometry? An Analysis in a Sample of 370 Postmenopausal Women with Osteoporosis**
Pascale Chavassieux*[1], Nathalie Portero-Muzy[1], Jean-Paul Roux[2], Patrick Garnero[3], Roland Chapurlat[4]. [1]INSERM UMR1033, Université De Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM Research Unit, France, [4]E. Herriot Hospital, France
Disclosures: Pascale Chavassieux, None

4:40 pm FR0455 **ASBMR 2014 Annual Meeting Young Investigator Award**
Simple Functional Tests Predict Hip Fracture and Mortality in Postmenopausal Women: A 15 – Year Follow-Up
Toni Rikkonen*[1], Kenneth Poole[2], Joonas Sirola[3], Reijo Sund[4], Risto Honkanen[5], Heikki Kroger[6]. [1]Finland, [2]University of Cambridge, United Kingdom, [3]University of Eastern Finland / Kuopio, Finland, [4]University of Helsinki, Finland, [5]University of Eastern Finland, Finland, [6]Kuopio University Hospital, Finland
Disclosures: Toni Rikkonen, None

4:45 pm FR0391 **Percentage of Women Achieving Non-osteoporotic BMD T-scores at the Spine and Hip Over 8 Years of Denosumab Treatment**

S Ferrari*[1], C Libanati[2], CJF Lin[2], S Adami[3], JP Brown[4], F Cosman[5], C Czerwiński[6], LH de Gregório[7], J Malouf[8], J-Y Reginster[9], NS Daizadeh[2], A Wang[2], RB Wagman[2], EM Lewiecki[10], S Cummings[11]. [1]Geneva University Hospital, Switzerland, [2]Amgen Inc., USA, [3]University of Verona, Italy, [4]Laval University & CHU de Québec Research Centre, Canada, [5]Helen Hayes Hospital, USA, [6]Krakow Medical Center, Poland, [7]CCBR, Brazil, [8]Universitat Autònoma de Barcelona, Spain, [9]University of Liège, Belgium, [10]New Mexico Clinical Research & Osteoporosis Center, USA, [11]San Francisco Coordinating Center, CPMC Research Institute, & UCSF, USA

Disclosures: S Ferrari, Amgen, MSD, Eli Lilly, GSK, Bioiberica, 5; Amgen, MSD, 2

4:50 pm FR0398 **Zoledronic Acid in Frail Elders to Strengthen Bone: Three Year Results from ZEST Trial**

Susan Greenspan*[1], Mary Anne Ferchak[1], Subashan Perera[1], Dave Nace[1], Neil Resnick[2]. [1]University of Pittsburgh, USA, [2]Univeristy of Pittsburgh, USA

Disclosures: Susan Greenspan, Eli Lilly, Amgen, 2

4:55 pm FR0338 **Visceral Adipose Tissue is Associated with Better Trabecular Density and Architecture but Increased Cortical Porosity: The Framingham Osteoporosis Study**

Douglas Kiel*[1], Kerry Broe[2], Adrienne Cupples[3], Serkalem Demissie[3], Caroline Fox[4], Marian Hannan[5], Yi-Hsiang Hsu[6], David Karasik[7], Ching-Ti Liu[3], Robert McLean[8], Ching-An Meng[9], Elizabeth (Lisa) Samelson[10], Xiaochun Zhang[9], Mary Bouxsein[11]. [1]Hebrew SeniorLife, USA, [2]Institute for Aging Research, Hebrew SeniorLife, USA, [3]Boston University School of Public Health, USA, [4]National Institutes of Health, USA, [5]HSL Institute for Aging Research & Harvard Medical School, USA, [6]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [7]Hebrew SeniorLife; Bar Ilan University, USA, [8]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [9]Institute for Aging Research, Hebrew SeniorLife, USA, [10]Hebrew SeniorLife, Harvard Medical School, USA, [11]Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Disclosures: Douglas Kiel, Novartis,5; Amgen,5; Amgen, 2; Merck Sharp & Dohme, 2; Kluwer Wolter, 7; Eli Lilly, 2; Springer Publishing, 7; Merck Sharp & Dohme, 5

5:00 pm FR0060 **The Longitudinal Relationship Between Visceral Fat and Bone Development: The Iowa Bone Development Study**

Natalie Glass*[1], James Torner[1], Elena Letuchy[1], Trudy Burns[1], Kathleen Janz[1], Janet Schlechte[2], Julie Eichenberger Gilmore[1], Steven Levy[1]. [1]University of Iowa, USA, [2]University of Iowa Hospital, USA

Disclosures: Natalie Glass, None

5:05 pm FR0057 **Determining Peak Bone Mineral Density in 16 to 24 year olds: A Longitudinal HR-pQCT Study**

Lauren Burt*, Sarah Manske, Jenn Bhatla, David Hanley, Steven Boyd. University of Calgary, Canada

Disclosures: Lauren Burt, None

5:10 pm FR0451 **Novel Mass Spectrometry Measurements of Circulating Myostatin Levels in Relation to Sarcopenia, Lean Mass and Bone Parameters in Women and Men**

Joshua Farr*[1], Patrick Vanderboom[1], H. Robert Bergen[1], Sundeep Khosla[2], Nathan LeBrasseur[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Joshua Farr, None

5:15 pm FR0155 **Pro-Resorptive Therapy for Heterotopic Ossification**

Song Xue*[1], Roberto Fajardo[2], Kevin McHugh[1]. [1]University of Florida, USA, [2]UT Health Science Center, San Antonio, USA

Disclosures: Song Xue, None

5:20 pm FR0435 **Enzyme-Replacement Therapy in Life-Threatening Hypophosphatasia: The 3-Year Experience with Asfotase Alfa**

Michael Whyte*[1], Jill H. Simmons[2], Richard E. Lutz[3], Scott Moseley[4], Agustin Melian[4], Tatjana Odrljin[4], Nicholas Bishop[5]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Vanderbilt Children's Hospital, USA, [3]Nebraska Medical Center, USA, [4]Alexion Pharmaceuticals Inc, USA, [5]University of Sheffield, Academic Unit of Child Health, United Kingdom

Disclosures: Michael Whyte, Alexion Pharmaceuticals Inc, 5; Alexion Pharmaceuticals Inc, 2

Moderators:
Steven Teitelbaum, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Steven Teitelbaum, None

Ernestina Schipani, M.D., Ph.D.
University of Michigan, USA
Disclosures: Ernestina Schipani, None

4:35 pm FR0266 **Orphan Nuclear Receptor Nur77 Decreases Osteoclast Differentiation by Promoting NFATc1 Degradation via Ubiquitin E3 Ligase Cbl-b**
Xiaoxiao Li*[1], Wei Wei[2], HoangDinh Huynh[2], Yihong Wan[3]. [1]USA, [2]UT southwestern, USA, [3]University of Texas Southwestern Medical Center, USA
Disclosures: Xiaoxiao Li, None

4:40 pm FR0254 **Snx10-Dependent Osteoclastic Activity and Gastric Acidification is Required for Bone and Calcium Homeostasis**
Liang Ye*[1], Leslie Morse[2], Li Zhang[3], Hajime Sasaki[3], Jason Mills[4], Greg Sibbel[4], Ariane Zamarioli[5], Ricardo Battaglino[3]. [1]The Forsyth Institute & Harvard School of Dental Medicine, USA, [2]Harvard Medical School, USA, [3]The Forsyth Institute, USA, [4]Washington University School of Medicine, USA, [5]University of Sao Paulo, Brazil
Disclosures: Liang Ye, None

4:45 pm FR0256 **Targeting Cathepsin K to Attenuate Toll-Like Receptor (TLR) Signaling Inhibits Rheumatoid Arthritis and Periodontitis and Reveals the Critical Function of Cathepsin K in Osteoimmunology**
Liang Hao*, Wei Chen, Yi-Ping Li. University of Alabama at Birmingham, USA
Disclosures: Liang Hao, None

4:50 pm FR0233 **Unique Distal Enhancers Linked to the Mouse *Tnfsf11* Gene Direct Tissue-Specific Expression and Inflammation induced Regulation of RANKL Expression**
Melda Onal*[1], Hillary St John[2], Allison Danielson[3], Charles O'Brien[4], J. Pike[2]. [1]university of wisconsin, USA, [2]University of Wisconsin-Madison, USA, [3]undergraduate student, USA, [4]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Melda Onal, None

4:55 pm FR0468 **Dissociation of Cortical and Trabecular Bone Parameters in Mice with Conditional Deletion of Solute Carrier Family 4 (Anion Exchanger), Member 2 (SLC4A2) in Mesenchymal Cells**
William O'Brien*[1], Julia Charles[2], Kelly Tsang[1], Kenichi Nagano[3], Gary Shull[4], Roland Baron[5], Antonios Aliprantis[1]. [1]Brigham & Women's Hospital, USA, [2]Brigham & Women's Hospital & Harvard School of Medicine, USA, [3]Harvard School of Dental Medicine, USA, [4]University of Cincinnati College of Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: William O'Brien, None

5:00 pm FR0184 **Is MMP-13 the Critical Mediator for the Effects of HDAC4 Deletion in Mice?**
Teruyo Nakatani*[1], Tiiffany Chen[2], Shoshana Yakar[3], Nicola Partridge[4]. [1]New York University College of Dentistry, USA, USA, [2]New York University, USA, [3]New York University College of Dentistry, David B. Kriser Dental Center, USA, [4]New York University College of Dentistry, USA
Disclosures: Teruyo Nakatani, None

5:05 pm FR0478 **Znf9 Plays an Indispensable Role in Skeletal Development by Upregulating the Expression of Indian Hedgehog (Ihh) and Multiple Limb Development Regulator Genes**
Yun Lu*[1], Guiqian Chen[2], Wei Chen[2], Guochun Zhu[3], Yi-Ping Li[2]. [1]USA, [2]University of Alabama at Birmingham, USA, [3]The University of Alabama at Birmingham, USA
Disclosures: Yun Lu, None

5:10 pm **Deletion of Rorβ, a Novel Regulator of Osteoblast Function, Slows Trabecular Bone Loss**
FR0212 **During Aging in Mice**
Qian Xing[1], Kristy Nicks[1], Joshua Farr[1], Daniel Fraser[1], Sundeep Khosla[2], David Monroe*[3]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Foundation, USA
Disclosures: David Monroe, None

5:15 pm ***In Vivo*Maintenance of Cortical Bone Mass is Dependent on Estrogen Receptor Alpha Binding**
FR0217 **to Estrogen Response Elements in Mouse Osteoblasts**
Kristy Nicks*[1], Daniel Fraser[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

5:20 pm **Osteocyte Microvesicles in Cell-Cell Communication in Bone**
FR0282 Kun Wang*, Andrew Keightley, Patricia Veno, Vladimir Dusevich, LeAnn Tiede-Lewis, Lynda Bonewald, Sarah Dallas. University of Missouri - Kansas City, USA
Disclosures: Kun Wang, None

DISCOVERY HALL OPEN

5:30 pm - 7:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

YOUNG INVESTIGATOR AND NEW MEMBER RECEPTION

Sponsored by the ASBMR Membership Engagement Committee and Young Investigator Subcommittee

5:30 pm - 7:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

The ASBMR Membership Engagement Committee and Young Investigator Subcommittee members will be in attendance for this meet-and-greet networking event. The reception has been organized to promote interactions among young 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 Plenary Poster Session in the Young Investigator Lounge in the ASBMR Networking Center in the Discovery Hall.

DIVERSITY IN BONE AND MINERAL RESEARCH RECEPTION

Sponsored by the ASBMR Membership Engagement Committee and Diversity in Bone and Mineral Research Subcommittee

5:30 pm - 7:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

This reception provides attendees the opportunity to meet other attendees and ASBMR leadership, including the ASBMR Diversity in Bone and Mineral Research Subcommittee, creating an environment of interaction. The reception will be held concurrently with the Welcome Reception and Plenary Poster Session in the Young Investigator Lounge in the ASBMR Networking Center in the Discovery Hall.

WELCOME RECEPTION & PLENARY POSTER SESSION

5:30 pm - 7:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

Attendees are invited to meet and mingle during our wine and cheese welcome reception and plenary poster session in the ASBMR Discovery Hall.

FR0002 **Sclerostin and FGF-23 Protein Expression in Bone of Patients with Chronic Kidney Disease**
Florence Lima*[1], Valentin David[2], Hanna Mawad[1], Hartmut Malluche[3]. [1]University of Kentucky, USA, [2]University of Miami, Miller School of Medicine, USA, [3]University of Kentucky Medical Center, USA
Disclosures: Florence Lima, None

FR0003 **ASBMR 2014 Annual Meeting Young Investigator Award**
Gfi1 Inhibits Osteoblast Differentiation in Multiple Myeloma by Inducing Epigenetic Repression of *Runx2* in Bone Marrow Stromal Cells
Juraj Adamik*[1], Quanhong Sun[1], G. David Roodman[2], Deborah Galson[1]. [1]University of Pittsburgh, USA, [2]Indiana University, USA
Disclosures: Juraj Adamik, None

FR0007 **Atypical Femoral Fractures: Radiographic and Histomorphometric Features in 19 Patients**
Aliya Khan*[1], Angela M. Cheung[2], Osama Ahmed Khan[1], Mohammed Zohair Rahman[1], Ken Pritzker[3], Brian Lentle[4]. [1]McMaster University, Canada, [2]University Health Network-University of Toronto, Canada, [3]University of Toronto, Canada, [4]University of British Columbia, Canada
Disclosures: Aliya Khan, Merck, NPS, Amgen, 2

FR0010 **A Novel *VCP* Mutation in a Patient with Paget's Disease of Bone without Myopathy and Neurological Involvement.**
Omar Albagha*[1], Ranganath Lakshminarayan[2], Stuart Ralston[1]. [1]University of Edinburgh, United Kingdom, [2]University of Liverpool, United Kingdom
Disclosures: Omar Albagha, None

FR0012 **NFAM1 Modulates Calcineurin-NFATc1 Signaling during Osteoclast Differentiation in Paget's Disease of Bone**
Yuvaraj Sambandam*[1], Kumaran Sundaram[2], Takamitsu Saigusa[1], Sudhaker Rao[3], William Ries[1], Sakamuri Reddy[2]. [1]Medical University of South Carolina, USA, [2]Charles P. Darby Children's Research Institute, USA, [3]Henry Ford Hospital, USA
Disclosures: Yuvaraj Sambandam, None

FR0013 **Long-Term Effect of Recombinant Human Parathyroid Hormone, rhPTH(1-84), on Skeletal Dynamics in Patients With Hypoparathyroidism: One-Year Data From the Open-Label RACE Study**
Bart L. Clarke*[1], Michael Mannstadt[2], Dolores M. Shoback[3], Tamara J. Vokes[4], Mark L. Warren[5], Michael A. Levine[6], Hjalmar Lagast[7], John P. Bilezikian[8]. [1]Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, & Nutrition, USA, [2]Massachusetts General Hospital & Harvard Medical School, USA, [3]SF Department of Veterans Affairs Medical Center, University of California, USA, [4]University of Chicago Medicine, USA, [5]Endocrinology & Metabolism, Physicians East, USA, [6]Children's Hospital of Philadelphia, USA, [7]NPS Pharmaceuticals, Inc, USA, [8]College of Physicians & Surgeons, Columbia University, USA
Disclosures: Bart L. Clarke, NPS Pharmaceuticals, Inc., 2

FR0014 **Low Vitamin D Levels in Primary Hyperparathyroidism Affect Cortical Bone Density and Porosity but not Estimated Bone Stiffness**
Marcella Walker*[1], Kyle Nishiyama[1], Elaine Cong[2], James Lee[3], Anna Kepley[1], Chiyuan Zhang[1], X Guo[1], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Columbia Presbyterian Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

FR0015 **PTH(1-84) Treatment is Safe and Effective in Hypoparathyroidism for Six Years**
Mishaela Rubin*[1], Natalie Cusano[2], Laura Beth Anderson[1], Dinaz Irani[3], James Sliney[1], Elizabeth Levy[1], Wen-wei Fan[1], Donald McMahon[2], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University Medical Center, USA
Disclosures: Mishaela Rubin, NPS Pharmaceuticals, 2

FR0016 **ASBMR 2014 Annual Meeting Young Investigator Award**
Skeletal Microstructure Continues to Improve Markedly Two Years After Parathyroidectomy in Primary Hyperparathyroidism
Natalie Cusano*[1], Chiyuan Zhang[2], Wen-Wei Fan[1], Aline Costa[2], Elizabeth Levy[1], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA
Disclosures: Natalie Cusano, None

FR0020 **Accurate Quantification of Bone Fragility Requires Inclusion of Pores of all Sizes**
Afrodite Zendeli*[1], Yohann Bala[2], Mariana Kersh[3], Ali Ghasem-Zadeh[4], Ego Seeman[4], Roger Zebaze[4]. [1]Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, [2]University of Melbourne, Dept. of Medicine, Australia, [3]Department of Mechanical Engineering, Melbourne School of Engineering, University of Melbourne, Australia, Australia, [4]Austin Health, University of Melbourne, Australia
Disclosures: Afrodite Zendeli, None

FR0026 **ASBMR 2014 Annual Meeting Young Investigator Award**
Consequences of Acute Estrogen Deficiency on Bone Quality and Biology and the Effects of Low Intensity Vibrations for Mitigating Bone Loss
Divya Krishnamoorthy*[1], Clinton Rubin[2], Danielle Frechette[3]. [1]SUNY Stony Brook University, USA, [2]State University of New York at Stony Brook, USA, [3]Stony Brook University, USA
Disclosures: Divya Krishnamoorthy, None

FR0027 **ASBMR 2014 Annual Meeting Young Investigator Award**
Cortical Tissue from Postmenopausal Women with Atypical Fractures Shows Reduced Heterogeneity in Nanomechanical Properties
Ashley Lloyd*, Eve Donnelly. Cornell University, USA
Disclosures: Ashley Lloyd, None

FR0036 **ASBMR 2014 Annual Meeting Young Investigator Award**
Sequential Impact Loading and Zoledronic Acid Pre-Treatments Protect Against Disuse-Induced Bone Strength Loss in the Rat Femoral Neck
Ray Boudreaux*, Jessica Brezicha, Scott Lenfest, Anand Narayanan, Susan Bloomfield, Harry Hogan. Texas A&M University, USA
Disclosures: Ray Boudreaux, None

FR0042 **ASBMR 2014 Annual Meeting Young Investigator Award**
Microdamage Formation In Osteocalcin and Osteopontin Deficient Mice
Stacyann Morgan*[1], Ondrej Nikel[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

FR0046 **Lack of Adaptive Bone Response to Increased Mechanical Loading in a Mouse Model of Reduced Peripheral Sensory Nerve Function**
Mollie Heffner*[1], Blaine Christiansen[2]. [1]UC Davis Medical Center, USA, [2]University of California - Davis Medical Center, USA
Disclosures: Mollie Heffner, None

FR0048 **A School-based Seven Year Exercise Intervention Program in 6-9 Year Old Children Improve Skeletal Traits without Increasing the Fracture Risk – A Population-Based Prospective Controlled Study in 3534 Children**
Jesper Fritz*[1], Magnus Karlsson[2], Bjorn Rosengren[2], Magnus Dencker[2], Caroline Karlsson[2]. [1]Sweden, [2]Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Jesper Fritz, None

FR0051 **Effects of History of Amenorrhea on Marrow Adiposity, Cortical Bone Mass and Distribution in Retired Elite Gymnasts**
Rachel Duckham*[1], Timo Rantalainen[2], Gaele Ducher[3], Prisca Eser[3], Robin Daly[4]. [1]Deakin University, Aus, [2]University of Jyväskylä, Finland, [3]Deakin University, Australia, [4]Centre for Physical Activity & Nutrition Research, Deakin University, Australia
Disclosures: Rachel Duckham, None

FR0054 **Increased Physical Activity during Growth Improves Muscular Development without Affecting Fracture Risk – a Four-Year Prospective Controlled Exercise Intervention Study in 2 525 Children**
Marcus Coster*[1], Jesper Fritz[1], Magnus Dencker[2], Susanna Stenevi-Lundgren[2], Jan-Ake Nilsson[2], Bjorn Rosengren[2], Magnus Karlsson[2]. [1]Sweden, [2]Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Marcus Coster, None

FR0055 **Novel "3-6" Infant DXA Scanning and Analysis Protocols to Isolate Movement and Other Artifacts**
John Shepherd*[1], Bo Fan[1], Cassidy Powers[2], Lynda Stranix-Chibanda[3], Mary Glenn Fowler[4], Linda Dimeglio[5], Cynthia Mukwasi[6], Kathy George[7], George K Siberry[8]. [1]University of California, San Francisco, USA, [2]UCSF, USA, [3]Department of Paediatrics & Child Health College of Health Sciences University of Zimbabwe, Zimbabwe, [4]Makerere University(MU)-Johns Hopkins University(JHU) Research Collaboration, Uganda, [5]Indiana University School of Medicine, USA, [6]University of Zimbabwe, Zimbabwe, [7]FHI 360, USA, [8]NICHD/NIH, USA
Disclosures: John Shepherd, None

FR0057 **Determining Peak Bone Mineral Density in 16 to 24 year olds: A Longitudinal HR-pQCT Study**
Lauren Burt*, Sarah Manske, Jenn Bhatla, David Hanley, Steven Boyd. University of Calgary, Canada
Disclosures: Lauren Burt, None

FR0058 **Does up to Three Years of Exposure to Recreational Gymnastics Between 4 and 12 Years of Age Influence Bone Strength Development at the Radius and Tibia?**
Marta Erlandson*[1], Stefan Jackowski[1], Rita Gruodyte-Raciene[2], Saija Kontulainen[1], Adam Baxter-Jones[1]. [1]University of Saskatchewan, Canada, [2]Lithuanian Sports University, Lithuania
Disclosures: Marta Erlandson, None

FR0059 **The Association of Child Bone Measures Across Ages with Parent Bone Measures**
Steven Levy*[1], Elena Letuchy[2], Julie Eichenberger Gilmore[3], Kathleen Janz[1], Trudy Burns[4], James Torner[5]. [1]University of Iowa, USA, [2]Univ. of Iowa Dept. of Epidemiology, USA, [3]Univ. of Iowa College of Medicine, USA, [4]Univ of Iowa College of Epidemiology, USA, [5]Univ. of Iowa Department of Epidemiology, USA
Disclosures: Steven Levy, None

FR0060 **The Longitudinal Relationship Between Visceral Fat and Bone Development: The Iowa Bone Development Study**
Natalie Glass*[1], James Torner[1], Elena Letuchy[1], Trudy Burns[1], Kathleen Janz[1], Janet Schlechte[2], Julie Eichenberger Gilmore[1], Steven Levy[1]. [1]University of Iowa, USA, [2]University of Iowa Hospital, USA
Disclosures: Natalie Glass, None

FR0063 **CCL3 Demonstrates Sexually Dimorphic Regulation of Skeletal Homeostasis and the Hematopoietic Stem Cell Pool in the Bone Marrow**
Benjamin Frisch*[1], Alexandra Goodman[1], Mary Georger[1], Michael Becker[1], Laura Calvi[2]. [1]University of Rochester School of Medicine & Dentistry, USA, [2]University of Rochester School of Medicine, USA
Disclosures: Benjamin Frisch, None

FR0064 **Fibrillin-1 Regulates Marrow Stem Cell Lineage Commitment and Differentiation**
Silvia Smaldone*[1], Francesco Ramirez[2]. [1]USA, [2]Icahn School of Medicine at Mount Sinia, USA
Disclosures: Silvia Smaldone, None

FR0065 **BMP-2 Exerts a Tight Control of CXCL12 Cellular, Temporal and Spatial Expression that is Essential in Fracture Repair**

Helen Willcockson*[1], Timothy Myers[1], Lara Longobardi[2], Ping Ye[2], Tieshi Li[2], Joseph Temple[1], Alessandra Esposito[1], Billie Moats-Staats[3], Anna Spagnoli[2]. [1]University of North Carolina, USA, [2]University of North Carolina at Chapel Hill, USA, [3]University of North Carolina- Chapel Hill, USA

Disclosures: Helen Willcockson, None

FR0066 **Bone Marrow Adipocytes are Distinct from White or Brown Adipocytes**

Mark Horowitz*[1], Ryan Berry[2], Rose Webb[2], Tracy Nelson[2], Yougen Xi[2], Casey R. Doucette[3], Jackie A Fretz[2], Chris D. Church[2], Clifford J. Rosen[3], Matthew S. Rodeheffer[2]. [1]Yale University School of Medicine, USA, [2]Yale School of Medicine, USA, [3]Maine Medical Center Research Institute, USA

Disclosures: Mark Horowitz, None

FR0067 **Elucidating the Osteoimmunology of Critical Defects with Longitudinal Intravital Microscopy in the Murine Cranial Window Model**

Longze Zhang*[1], Jason Inzana[2], Hani Awad[3], Regis J. O'Keefe[4], Xinping Zhang[3], Edward Schwarz[1]. [1]University of Rochester, USA, [2]USA, [3]University of Rochester Medical Center, USA, [4]University of Rohester, USA

Disclosures: Longze Zhang, None

FR0068 **Roquin Is A Novel Regulator of Bone Homeostasis**

Bay Sie Lim*, Euphemie Landao, Shek Man (Jacky) Chim, Jennifer Tickner, Nathan Pavlos, Jiake Xu. University of Western Australia, Australia

Disclosures: Bay Sie Lim, None

FR0069 **Specificity Protein-1 Mediated SDF-1/CXCL12 Synthesis is Inhibited by Cbl-PI3K Interaction in Bone Marrow Reticular Cells**

Naga Suresh Adapala[1], Vanessa Piccullio[2], Hector Aguila[2], Joseph Lorenzo[2], Archana Sanjay*[3]. [1]Texas Scottish Rite Hospital for Children, USA, [2]University of Connecticut Health Center, USA, [3]UCHC, USA

Disclosures: Archana Sanjay, None

FR0070 **CTLA4-Ig Protects Against PTH Induced Bone Loss by Inhibiting T Cell Production of TNFα**

Abdul Malik*[1], Jerid Robinson[2], Jau-Yi Li[1], Michael Reott[1], Jonathan Adams[2], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory University, USA

Disclosures: Abdul Malik, None

FR0071 **A Novel Sequestosome-1 / p622 ZZ Domain Inhibitor Blocks TNFα Induced Suppression of OBL Differentiation in MM**

Rebecca Silbermann*[1], Jumpei Teramachi[1], Khalid Mohammad[1], Wei Zhao[1], Dan Zhou[1], Peng Yang[2], Julie L. Eiseman[2], Xiang-Qun Xie[2], G. David Roodman[1], Noriyoshi Kurihara[1]. [1]Indiana University, USA, [2]University of Pittsburgh, USA

Disclosures: Rebecca Silbermann, None

FR0072 **Alternatively Activated Monocyte and Macrophage Efferocytosis Support Prostate Cancer Skeletal Metastasis**

Jacqueline Jones*[1], Fabiana Soki[2], Hernan Roca[1], Stefanie Thiele[3], Yusuke Shiozawa[1], Yugang Wang[1], Todd Morgan[1], Lorenz Hofbauer[3], Kenneth Pienta[4], Laurie McCauley[2]. [1]University of Michigan, USA, [2]University of Michigan School of dentistry, USA, [3]Dresden University Medical Center, Germany, [4]John Hopkins University, USA

Disclosures: Jacqueline Jones, None

FR0073 **Critical Role of Pim-2 in NF-κB-mediated Suppression of Osteoblastogenesis and Stimulation of Osteoclastogenesis: Therapeutic Impact of Pim Inhibition on Myeloma Bone Disease.**

Jumpei Teramachi*[1], Masahiro Hiasa[2], Asuka Oda[3], Ryota Amachi[3], Takeshi Harada[3], Shingen Nakamura[3], Kumiko Kagawa[3], Hirokazu Miki[3], Shiro Fujii[3], Keiichiro Watanabe[4], Itsuro Endo[5], Toshio Matsumoto[5], Masahiro Abe[6]. [1]The University of Tokushima, Japan, [2]Indiana University School of Medicine, USA, [3]Department of Medicine & Bioregulatory Sciences, Institute of Health Biosciences, The University of Tokushima Graduate School, Japan, [4]Tokushima University Hospital, Japan, [5]University of Tokushima Graduate School of Medical Sciences, Japan, [6]University of Tokushima, Japan

Disclosures: Jumpei Teramachi, None

FR0075 **Ubiquitin-Specific Peptidase 45 (USP45), A Family Member of De-Ubiquitinating Enzyme, Controls Epithelial-Mesenchymal Transition of Breast Cancer in Bone**
Yuki Nagata*[1], Soichi Tanaka[2], Kenji Hata[3], Masahiro Hiasa[4], Riko Nishimura[3], Toshiyuki Yoneda[4]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Osaka University, Japan, [3]Osaka University Graduate School of Dentistry, Japan, [4]Indiana University School of Medicine, USA
Disclosures: Yuki Nagata, None

FR0077 **Targeting Dickkopf-Related Protein 1 (Dkk1) Reduces Extraskeletal Tumor Growth by Novel Immunomodulatory Effects**
Lucia D'Amico*[1], Ali Zamani[2], Aude-Helene CAPIETTO[1], Roberta Faccio[3]. [1]Washington University School of Medicine, USA, [2]Department of Orthopedics, Washington University, St. Louis, Missouri, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Lucia D'Amico, None

FR0078 **The Unexpected Role of Hemoglobin Beta (HBB) in Breast Cancer**
Nadia Rucci*[1], Mattia Capulli[1], Luca Ventura[2], Patrizia Sanità[1], Simona Delle Monache[1], Adriano Angelucci[1], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]San Salvatore Hospital, Italy
Disclosures: Nadia Rucci, None

FR0079 **CXCL14, An Inhibitor of CXCL12/CXCR4 Signaling, Is Upregulated in Prostate Cancer Bone Metastasis**
Alexander Dowell[1], Katrina Clines[2], Colm Morrissey[3], Shi Wei[1], Gregory Clines*[2]. [1]University of Alabama at Birmingham, USA, [2]University of Michigan, USA, [3]University of Washington, USA
Disclosures: Gregory Clines, None

FR0080 **Lysyl Oxidase Promotes Survival and Outgrowth of Colon Cancer Cells in the Bone Marrow, Enabling Bone Metastasis Formation**
Caroline Reynaud*[1], Laura Ferreras[2], Delphine Goerhig[2], Marie Brevet[3], Philippe A.R. Clezardin[4]. [1]INSERM Unité 1033, UFR de Médecine Lyon-Est (domaine Laënnec), Fra, [2]INSERM U1033, France, [3]Hospices Civils de Lyon, France, [4]INSERM & University of Lyon, France
Disclosures: Caroline Reynaud, None

FR0081 **Tumour-derived alkaline phosphatase promotes Epithelial-Mesenchymal Transition (EMT) and cell survival in bone metastatic prostate cancer; regulation by miR-373**
Srinivasa Rao*, Ann Snaith, Patrick Kratschmer, Freddie Hamdy, Claire Edwards. University of Oxford, United Kingdom
Disclosures: Srinivasa Rao, None

FR0084 **Integrin Alpha5beta1 is a Potential Therapeutic Target to Treat Experimental Breast Cancer Bone Metastasis**
Francesco Pantano[1], Martine Croset[2], Keltouma Driouch[3], Edith Bonnelye[4], Michele Iuliani[1], Marco Fioramonti[1], Daniele santini[1], Giuseppe Tonini[5], Philippe A.R. Clezardin*[6]. [1]Medical Oncology Division, University Campus-Bio-Medico, Italy, [2]INSERM Research Unit U1033, University of Lyon1, France, [3]Institute Curie, France, [4]Faculte de Medecine RTH Laennec, France, [5]Medical Oncology Division, University Campus-Bio-Medico, France, [6]INSERM & University of Lyon, France
Disclosures: Philippe A.R. Clezardin, None

FR0085 **Roundabout Receptors Mediate Breast Cancer Bone Metastasis Formation and Progression**
Lise CLEMENT-DEMANGE*[1], Bénédicte Eckel[2], Vincent Gonin[2], Delphine Goehrig[2], Chantal Diaz-Latoud[2], Philippe A.R. Clezardin[3]. [1]France, [2]INSERM U1033, France, [3]INSERM & University of Lyon, France
Disclosures: Lise CLEMENT-DEMANGE, None

FR0087 **Chondrocyte-specific Deletion of *Sod2* Exacerbates Cartilage Degeneration Associated with Low Mitochondrial Membrane Potential in Mice**

Masato Koike*[1], Nojiri Hidetoshi[2], Yusuke Ozawa[3], Kenji Watanabe[3], Isao Masuda[3], Yuta Muramatsu[4], Haruka Kaneko[2], Daichi Morikawa[2], Keiji Kobayashi[3], Yoshitomo Saita[5], Takahisa Sasho[4], Takuji Shirasawa[6], Koutaro Yokote[7], Kazuo Kaneko[2], Takahiko Shimizu[3]. [1]Juntendo University, Japan, [2]Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, [3]Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, [4]Department of Orthopedics, Chiba University Graduate School of Medicine, Japan, [5]Department of Orthomedics, Juntendo University Graduate School of Medicine, Japan, [6]Department of Aging Control Medicine, Juntendo University Graduate School of Medicine, Japan, [7]Department of Clinical Cell Biology & Medicine Chiba University Graduate School of Medicine, Japan

Disclosures: Masato Koike, None

FR0088 **HIF-1α is Essential for Articular Cartilage Homeostasis Through Induction of Anabolic Factors and Suppression of Catabolic Factors**

Keita Okada*[1], Song Ho Chang[1], Yoko Hosaka[2], Hiroshi Kobayashi[3], Shurei Sugita[4], Haruhiko Akiyama[5], Ung-Il Chung[6], Hiroshi Kawaguchi[7], Taku Saito[2]. [1]The University of Tokyo, Japan, [2]University of Tokyo, Graduate School of Medicine, Japan, [3]The University of Tokyo Hospital, Japan, [4]Japan, [5]Gifu University, Japan, [6]University of Tokyo Schools of Engineering & Medicine, Japan, [7]JCHO Tokyo Shinjuku Medical Center, Japan

Disclosures: Keita Okada, None

FR0089 ***PTHrP* is a Candidate Marker of Slowly Replicating "Resting" Chondrocytes in the Postnatal Growth Plate Cartilage**

Noriaki Ono*, Wanida Ono, Henry Kronenberg. Massachusetts General Hospital, USA

Disclosures: Noriaki Ono, None

FR0090 **Ablation of CypA Leads to Impaired Chondrogenesis by Inhibiting NF-κB-Sox9 Pathway**

Mian Guo*[1], Jia Shen[2], Jinny Kwak[2], Xinli Zhang[2], Aaron James[3], Kevork Khadarian[2], Kang Ting[2], Chia Soo[4], Robert Chiu[5]. [1]Dental & Craniofacial Research Institute & Division of Oral Biology, School of Dentistry, University of California, Los Angeles; Department of Neurosurgery, the Second Affiliated Hospital of Harbin Medical University, USA, [2]Dental & Craniofacial Research Institute & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, USA, [3]Department of Pathology & Laboratory Medicine, David Geffen School of Medicine, University of California, Los Angeles, USA, [4]Division of Plastic & Reconstructive Surgery, School of Medicine, University of California, Los Angeles; Department of Orthopedic Surgery, School of Medicine, University of California, Los Angeles, USA, [5]Dental & Craniofacial Research Institute & Division of Oral Biology, School of Dentistry, University of California, Los Angeles; Jonsson Comprehensive Cancer Center & Division of Surgical Oncology, University of California, Los Angeles, USA

Disclosures: Mian Guo, None

FR0092 **Notch Inhibits Chondrogenic Differentiation of Mesenchymal Progenitor cells by Targeting Twist1**

Martin Chang*[1], Ye Tian[2], Edward Schwarz[3], Matthew Hilton[4], Yufeng Dong[3]. [1]University of Rochester Medical Center, USA, [2]Shengjing Hospital, China Medical University, China, [3]University of Rochester, USA, [4]Duke University Musculoskeletal Research Center, USA

Disclosures: Martin Chang, None

FR0095 **Smad2/3 Mediated TGFbeta Signaling Controls Postnatal Chondrocyte Proliferation and Differentiation by Inhibiting *Ihh* Transcription**

Weiguang Wang*[1], Karen Lyons[1], Teni Anbarchian[2]. [1]University of California, Los Angeles, USA, [2]University California Los Angeles, USA

Disclosures: Weiguang Wang, None

FR0097 **The novel transcription factor Zinc Finger Homeobox 4 (Zfhx4) is critical to late stage of endochondral ossification.**

Eriko Nakamura*[1], Kenji Hata[1], Maokoto Wakabayashi[2], Yoshiaki Yura[1], Toshiyuki Yoneda[3], Riko Nishimura[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Asahi Kasei Pharma, Japan, [3]Indiana University School of Medicine, USA

Disclosures: Eriko Nakamura, None

FR0098 **The Transcription Factor Foxc1 Regulates Chondrocyte Hypertrophy in a Synergistic cooperation with Runx2**

Michiko Yoshida*[1], Kenji Hata[1], Sachiko Iseki[2], Teruko Takano-Yamamoto[3], Riko Nishimura[1], Toshiyuki Yoneda[4]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Tohoku University Graduate School of Dentistry, Japan, [4]Indiana University School of Medicine, USA

Disclosures: Michiko Yoshida, None

FR0099 **Absence of Cx37 Leads to Bone Matrix Modifications in Mice: a Potential Explanation for Why Reduced Cortical Thickness is not Followed by Decreased Mechanical Strength**

Rafael Pacheco Da Costa*[1], Eduardo Katchburian[2], Hannan Davis[3], Lilian Plotkin[3], Rejane Reginato[4]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Federal University of São Paulo, Brazil, [3]Indiana University School of Medicine, USA, [4]Unifesp - Federal University of São Paulo, Brazil

Disclosures: Rafael Pacheco Da Costa, None

FR0102 **ASXL2 Regulates Skeletal, Glucose and Lipid Homeostasis**

Nidhi Rohatgi*[1], Takashi Izawa[2], Tomohiro Fukunaga[3], Qun-Tian Wang[4], Matthew Silva[3], Michael Gardner[5], Michael McDaniel[6], Clay Semenkovich[5], Wei Zou[3], Steven Teitelbaum[3]. [1]Washington University in St. Louis, USA, [2]University of Tokushima Grad Sch, Japan, [3]Washington University in St. Louis School of Medicine, USA, [4]UIC Biological Sciences, USA, [5]Washington University School of Medicine, USA, [6]Washington Univerity School of Medicine, USA

Disclosures: Nidhi Rohatgi, None

FR0103 **Protein Phosphatase 5 (PP5) regulates both energy metabolism and bone mass by reciprocal regulation of PPARγ and Runx2 activities**

Lance Stechschulte*[1], Chunxi Ge[2], Piotr Czernik[3], Edwin Sanchez[1], Renny Franceschi[4], Beata Lecka-Czernik[3]. [1]University of Toledo Health Science Campus, USA, [2]Pom Univ of Michigan School of Dentistry, USA, [3]University of Toledo College of Medicine, USA, [4]University of Michigan, USA

Disclosures: Lance Stechschulte, None

FR0104 **Gsα-deficient osteoblasts and osteocytes induce beige adipogenesis and a lean phenotype via interactions with skeletal muscle**

Keertik Fulzele*[1], Vaibhav Saini[2], Padrig Tuck[3], Xiaolong Liu[3], Christopher Dedic[3], Jenna Garr[3], Vladimir Zoubine[3], Pankaj Shah[3], Evan Rosen[4], Paola Divieti Pajevic[5]. [1]Massachusetts General Hospital; Harvard Medical School, USA, [2]MGH, Harvard Medical School, USA, [3]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, USA, [4]Division Of Endocrinology, Diabetes, & Metabolism, Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [5]Massachusetts General Hospital & Harvard Medical School, USA

Disclosures: Keertik Fulzele, None

FR0107 **Systematic integration of computational approaches and validation experiments reveals functionality beyond GWAS signals and identifies *ADCY5* as having genetic pleiotropy for Bone Mineral Density and Type 2 Diabetes**

Melina Claussnitzer*[1], Luke D Ward[2], Xing Chen[3], David Karasik[4], Adrienne L Cupples[5], Hans Hauner[6], Douglas Kiel[7], Manolis Kellis[2], Yi-Hsiang Hsu[8]. [1]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [2]Computer Science & Artificial Intelligence Laboratory, Massachusetts Institute of Technology (MIT), USA, [3]Harvard University, USA, [4]Hebrew SeniorLife; Bar Ilan University, USA, [5]Department of Biostatistics, Boston University School of Public Health, USA, [6]Else Kröner-Fresenius-Zentrum for Nutritional Medicine, Technical University Munich, Germany, [7]Hebrew SeniorLife, USA, [8]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA

Disclosures: Melina Claussnitzer, None

FR0108 **The Transient Receptor Potential Channel M8 (TRPM8) Regulates Mesenchymal Stromal Cell Lineage Allocation, Cortical Expansion and the Skeletal Response to Acute Cold Exposure in Mice**

Katherine Motyl*[1], Phuong Le[1], Daniel Brooks[2], Casey Doucette[1], Mary Bouxsein[3], Clifford Rosen[4]. [1]Maine Medical Center Research Institute, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [4]Maine Medical Center, USA

Disclosures: Katherine Motyl, None

FR0109 **Effect of Prolonged Caloric Restriction on Bone Metabolism and Bone Mineral Density in Non-obese Younger Adults**

Dennis Villareal*[1], Lugi Fontana[2], Sai Krupa Das[3], Leanne Redman[4], Steven Smith[5], Edward Saltzman[3], Connie Bales[6], James Rochon[7], Carl Pieper[8], Megan Huang[9], Michael Lewis[10], Ann V Schwartz[11]. [1]University of New Mexico School of Medicine, USA, [2]Washington University School of Medicine, USA, [3]Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, USA, [4]Pennington Biomedical Research Center, USA, [5]Florida Hospital & Sanford Burnham Medical Research Institute, USA, [6]Duke Universtiy School of Medicine, USA, [7]Rho Federal Systems, USA, [8]Duke University School of Medicine, USA, [9]Duke Clinical Research Institute, USA, [10]University of Vermont College of Medicine, USA, [11]University of California San Francisco, USA

Disclosures: Dennis Villareal, None

FR0113 **Sclerostin is associated with metabolic syndrome in older men from the MINOS cohort**

Cyrille Confavreux*[1], Pawel Szulc[2], Olivier Borel[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]INSERM U1033 - Université de Lyon, France, [4]Laboratoire Central de Biochimie, Hospices Civils de Lyon, France, [5]INSERM UMR1060 - Université de Lyon, Hospices Civils de Lyon, France, [6]E. Herriot Hospital, France

Disclosures: Cyrille Confavreux, None

FR0114 **The relationships between bone-derived proteins, osteocalcin and sclerostin, and atherosclerosis in subjects with coronary artery bypass grafting**

Kyoung Min Kim*[1], Soo Lim[2], Jae Hoon Moon[2], A Ram Hong[2], Hak Chul Jang[2], Sung Hee Choi[2]. [1]Seoul National University Bundang Hospitatl, South Korea, [2]seoul national university bundang hospital, South Korea

Disclosures: Kyoung Min Kim, None

FR0116 **Phosphate Set Point Defect in *Dmp1* Knockout Mice**

Shoji Ichikawa*[1], Rita Gerard-O'Riley[1], Amie Gray[1], Dena Acton[1], Jian Feng[2], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Texas A&M Health Science Center, USA

Disclosures: Shoji Ichikawa, None

FR0118 **SNORD116, a Non-translated, Imprinted Central Regulator of Bone Mass: Possible Role in Skeletal Abnormalities in Prader-Willi Syndrome.**

Ee-Cheng Khor[1], Bruce Fanashawe[2], Yue Qi[3], Peter Croucher[1], Herbert Herzog[3], Paul Baldock*[4]. [1]Osteoporosis & Bone Biology Division, Garvan Institute of Medical Research, Australia, [2]Osteoporosis & Boen Biology Division, Garvan Institute of Medical Resaerch, Australia, [3]Neuroscience Division, Garvan Institute of Medical Research, Australia, [4]Garvan Institute of Medical Research, Australia

Disclosures: Paul Baldock, None

FR0119 **The anti-osteoanabolic function of Sost is blunted in mice carrying the high bone mass mutation of Lrp5**

Timur Yorgan*[1], Stephanie Boerms[2], Peggy Benisch[3], Franz Jakob[4], Michael Amling[5], Thorsten Schinke[6]. [1]University of Hamburg, University Medical Center Hamburg-Eppendorf, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [3]University of Wuerzburg, Germany, [4]Orthopedic Center for Musculoskeletal Research, University of Wuerzburg, Germany, [5]University Medical Center Hamburg-Eppendorf, Germany, [6]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany

Disclosures: Timur Yorgan, None

FR0120 **The Effects of Activin Receptor Type IIB Fusion Protein (ActRIIB-Fc) on Hindlimb Skeletal Muscles and Femoral Properties of Osteogenesis Imperfecta Model (*oim*) Mouse**

Young Jeong*[1], Marybeth Brown[1], R. Scott Pearsall[2], Charlotte Phillips[3]. [1]University of Missouri, USA, [2]Acceleron Pharma, USA, [3]University of Missouri-Columbia, USA

Disclosures: Young Jeong, None

FR0121 **THE F508DEL-CFTR MUTATION INHIBITS OSTEOBLAST DIFFERENTIATION AND FUNCTION THROUGH CONSTITUTIVE ACTIVATION OF NF-kB SIGNALING**

Carole Le Henaff*, Rafik Mansouri, Dominique Modrowski, Pierre J. Marie. UMR-1132 Inserm, Paris, France & b Université Paris Diderot, Sorbonne Paris Cité, France

Disclosures: Carole Le Henaff, None

FR0122 **WNT1 is one of the major WNT ligands regulating bone homeostasis**

Kyu Sang Joeng*[1], Yi-Chien Lee[1], Ming-Ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Annie Mary Abraham[2], Hao Ding[2], Xiaohong Bi[3], Catherine Ambrose[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]University of Texas Health Science Center at Houston, USA, [3]University of Texas Health Science Center at Houst, USA

Disclosures: Kyu Sang Joeng, Amgen provided Scl-Ab for this study, 99

FR0124 **Discovery of Novel Models of Bone Disease using an Unbiased High-Throughput Phenotyping Screen of Transgenic Mice**

Douglas Adams[1], Renata Rydzik[1], Li Chen[1], Seung-Hyun Hong[2], Dana Godfrey[3], Xi Jiang[1], Zhihua Wu[1], Vilmaris Diaz-Doran[1], Caibin Zhang[1], Dong-Guk Shin[2], David Rowe[1], Cheryl Ackert-Bicknell*[4]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut, USA, [3]The Jackson Laboratory, USA, [4]University of Rochester, USA

Disclosures: Cheryl Ackert-Bicknell, None

FR0128 **Novel Causes of Bone Dysplasias Identified through Whole Exome Sequencing**

Emily Farrow*[1], Serdar Ceylaner[2], Zafer Bicakci[3], Ergun Cetinkaya[4], Melanie Patterson[1], Lisa Krivohlavek[1], Margaret Gibson[1], Katie Barger[1], Carol Saunders[1], Neil Miller[1], Neil Mardis[1], Stephen Kingsmore[1]. [1]Children's Mercy Hospital, USA, [2]Intergen Genetics Diagnosis & Research Centre, Turkey, [3]Pediatrics, Kafkas University, Turkey, [4]Pediatrics of Endomer, Turkey

Disclosures: Emily Farrow, None

FR0132 **Tissue Non-specific Alkaline Phosphatase Enzyme Therapy Prevents Abnormal Craniofacial Endochondral and Intramembraneous Bone Development in the *Alpl*$^{-/-}$ Mouse Model of Infantile Hypophosphatasia**

Jin Liu[1], Hwa Kyung Nam[1], Cassandra Campbell[1], Kellen Da Silva Gasque[2], Jose Luis Millan[2], Nan Hatch*[1]. [1]University of Michigan, USA, [2]Sanford-Burnham Medical Research Institute, USA

Disclosures: Nan Hatch, None

FR0133 **A number of novel loci are implicated for height and bone density determination through integration of ESR1 DNA occupancy and SNP association data**

Matthew Johnson*[1], Perry Evans[2], Mahdi Sarmady[2], Kurt Hankenson[3], Andrew Wells[4], Struan Grant[5]. [1]Children's Hospital of Philadelphia, USA, [2]The Children's Hospital of Philadelphia, USA, [3]University of Pennsylvania, USA, [4]Children's Hospital of Philadelphia, USA, [5]Children's Hospital of Philadelphia / University of Pennsylvania, USA

Disclosures: Matthew Johnson, None

FR0135 **Strong Correlation Between BMD Associated Transcripts in Postmenopausal Iliac Bone Biopsies and DNA Methylation Levels at Specific CpGs**

Sjur Reppe*[1], Runa M. Grimholt[1], Robert Lyle[1], Ole K. Olstad[1], Vigdis T. Gautvik[2], Kaare M. Gautvik[3]. [1]Oslo University Hospital, Ullevaal, Norway, [2]University of Oslo, IMB, Norway, [3]Oslo University Hospital, Oslo Deacon Hospital, University of Oslo, Norway

Disclosures: Sjur Reppe, None

FR0137 **FGF23 Neutralizing Antibody Improves Bone Phenotype of HMWFGF2 Isoforms Transgenic Mice**

Liping Xiao*[1], Collin Homer-Bouthiette[1], Erxia Du[1], Marja Marie Hurley[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA

Disclosures: Liping Xiao, None

FR0139 **Role of XLαs in phosphate and vitamin D metabolism during early postnatal development**
Qing He*[1], Cumhur Aydin[2], Braden Corbin[3], Regina Goetz[4], Moosa Mohammadi[4], Antonius Plagge[5], Murat Bastepe[3]. [1]Endocrine Unit, Department of Medicine, Massachusetts General Hospital & Harvard Medical School, USA, [2]Gulhane School of Medicine, Ankara, TURKEY, Turkey, [3]Massachusetts General Hospital, Harvard Medical School, USA, [4]Department of Biochemistry & Molecular Pharmacology, New York University School of Medicine, USA, [5]Department of Cellular & Molecular Physiology, Institute of Translational Medicine, University of Liverpool, United Kingdom
Disclosures: Qing He, None

FR0140 **Effect of a Calcilytic Compound in Autosomal Dominant Hypocalcemia Model Mice**
Bingzi Dong*[1], Itsuro Endo[1], Takeshi Kondo[2], Yukiyo Ohnishi[2], Masahiro Abe[2], Seiji Fukumoto[3], Tomoka Hasegawa[4], Norio Amizuka[5], Shin-ichi Aizawa[6], Toshio Matsumoto[1]. [1]University of Tokushima Graduate School of Medical Sciences, Japan, [2]University of Tokushima, Japan, [3]University of Tokyo Hospital, Japan, [4]Hokkaido University, Japan, [5]Hokkaido University School of Dentistry, Japan, [6]RINKEN Center for developmental biology, Japan
Disclosures: Bingzi Dong, None

FR0143 **Regulation of PTH-induced Bone Loss: A Role for Monocyte Chemoattractant Protein-1**
Jawed Siddiqui*[1], Joshua Johnson[1], Joseph Tamasi[2], Nicola Partridge[3]. [1]New York University, USA, [2]Bristol-Myers Squibb, USA, [3]New York University College of Dentistry, USA
Disclosures: Jawed Siddiqui, None

FR0153 **Role of Interleukin-32 Gamma in Bone Formation in Ankylosing Spondylitis**
Chang Keun Lee*[1], Eun-Ju Lee[2], Eun-Jin Lee[3], Seokchan Hong[2], Bin Yoo[2], Tae-Hwan Kim[4], Soo-Hyun Kim[5], Eun-Ju Chang[3], Yong-Gil Kim[2]. [1]University of Ulsan College of Medicine, South Korea, [2]Department of Rheumatology, University of Ulsan College of Medicine, Asan Medical Center, South Korea, [3]Department of Biomedical Sciences, Cell Dysfunction Research Center & BMIT, University of Ulsan College of Medicine, Asan Medical Center, South Korea, [4]Hanyang University Hospital for Rheumatic Diseases, South Korea, [5]Department of Biomedical Science & Technology, Konkuk University, South Korea
Disclosures: Chang Keun Lee, None

FR0155 **Pro-Resorptive Therapy for Heterotopic Ossification**
Song Xue*[1], Roberto Fajardo[2], Kevin McHugh[1]. [1]University of Florida, USA, [2]UT Health Science Center, San Antonio, USA
Disclosures: Song Xue, None

FR0156 **Role of *sarA* in osteomyelitis pathogenesis in UAMS-1 and LAC clinical strains of *Staphylococcus aureus***
Dana Gaddy*, Nisreen Akel, Karen Beenken, Mark Smeltzer, Larry Suva. University of Arkansas for Medical Sciences, USA
Disclosures: Dana Gaddy, None

FR0159 **Sparsely ionizing radiation exacerbates the effects of rat hindlimb suspension on the musculoskeletal system**
Nisreen Akel*, Robert Griffin, Howard Hendrickson, Parimal Chowdhury, Maxim Dobretsov, Larry Suva, Dana Gaddy. University of Arkansas for Medical Sciences, USA
Disclosures: Nisreen Akel, None

FR0160 **Tensile Force Induces Vascular Formation during the Ealy Biomechanical Response of Cranial Sutures via ROCK2, CTGF, and ERK1/2 Dependent Mechanisms**
Nobuo Takeshita*[1], Masakazu Hasegawa[2], Kiyo Sasaki[2], Daisuke Seki[2], Shunrou Miyashita[2], Ikuko Takano[2], Yuuki Miyajima[2], Teruko Takano-Yamamoto[1]. [1]Tohoku University, Japan, [2]Division of Orthodontics & Dentofacial Orthopedics, Department of Oral Health & Development, Tohoku University Graduate School of Dentistry, Japan
Disclosures: Nobuo Takeshita, None

FR0165 **ASBMR 2014 Annual Meeting Young Investigator Award**
Mechanotransduction from Dendritic Processes to Cell Body of Osteocytes through the Functional Interplay of Integrin Activation, PI3K Signaling and Connexin Hemichannels
Manuel Riquelme*[1], Nidhi Batra[2], Jean Jiang[3]. [1]University of Texas Science Center, San Antonio, USA, [2]University of Texas Health Science Center at San Antonio (UTHSCSA), USA, [3]University of Texas Health Science Center at San Antonio, USA
Disclosures: Manuel Riquelme, None

FR0166 **MiR-103a: a novel mechano-sensitive microRNA inhibits bone formation through targeting Runx2**
Bin Zuo*[1], JunFeng Zhu[1], Jiao Li[2], XiaoDong Chen[1], Xiaoling Zhang[3]. [1]Department of Orthopedic Surgery, Xinhua Hospital, Shanghai JiaoTong 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]Institute of Health Sciences, Peoples Republic of China
Disclosures: Bin Zuo, None

FR0167 **Osteoblast mechanoresponse: the role of Lipocalin 2**
Mattia Capulli*[1], Sara Gemini Piperni[1], Patrick Lau[2], Petra Frings-Meuthen[2], Martina Heer[3], Anna Teti[1], Nadia Rucci[1]. [1]University of L'Aquila, Italy, [2]German Aerospace Center (DLR), Germany, [3]PROFIL - Institute for Metabolic Research GmbH, Germany
Disclosures: Mattia Capulli, None

FR0170 **PDGF Secreted by TRAP$^+$ Preosteoclasts Induces Angiogenesis for Bone Formation**
Hui Xie*[1], Zhuang Cui[2], Long Wang[2], Lingling Xian[3], Zhuying Xia[4], Yin Hu[4], Changjun Li[2], Liang Xie[2], Janet Crane[5], Mei Wan[3], Gehua Zhen[6], Tao Qiu[3], Weizhong Chang[5], Maureen Pickarski[7], Le Duong[8], Xu Cao[5]. [1]Johns Hopkins Medical Institution, USA, [2]Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, USA, [3]Johns Hopkins University School of Medicine, USA, [4]Institute of Endocrinology & Metabolism, Second Xiangya Hospital of Central South University, China, [5]Johns Hopkins University, USA, [6]The Johns Hopkins Hospital, USA, [7]Merck & Co., Inc., USA, [8]Merck Research Laboratories, USA
Disclosures: Hui Xie, None

FR0171 **Role of the STING cytosolic DNA sensor pathway in bone remodeling**
Rebecca Baum*[1], Shruti Sharma[1], Yukiko Maeda[1], Catherine Manning[1], Jason Organ[2], David Burr[2], Ann Rothstein[1], Kate Fitzgerald[1], Ellen Gravallese[1]. [1]University of Massachusetts Medical School, USA, [2]Indiana University School of Medicine, USA
Disclosures: Rebecca Baum, None

FR0174 **ASBMR 2014 Annual Meeting Young Investigator Award**
TIEG suppresses SOST expression and mediates the skeletal response to sclerostin antibody therapy
Anne Gingery*[1], Kevin S. Pitel[2], Gino W. Gaddini[3], Xiaodong Li[4], Hua Zhu Ke[5], Russell T. Turner[3], Nalini M. Rajamannan[6], Urszula T. Iwaniec[3], Thomas C. Spelsberg[2], Malayannan Subramaniam[2], John R. Hawse[7]. [1]Mayo Clinic School of Medicine, USA, [2]Mayo Clinic, USA, [3]Oregon State University, USA, [4]Amgen, Inc., USA, [5]Amgen, USA, [6]Mayo Clinic, Rochester MN, USA, [7]Mayo Clinic College of Medicine, USA
Disclosures: Anne Gingery, None

FR0176 **ASBMR 2014 Annual Meeting Young Investigator Award**
CHIP Is a Critical Regulator of Bone Remodeling
Shan Li*, Wanqing Xie, Guozhi Xiao, Di Chen. Rush University Medical Center, USA
Disclosures: Shan Li, None

FR0184 **Is MMP-13 the critical mediator for the effects of HDAC4 deletion in mice?**
Teruyo Nakatani*[1], Tiiffany Chen[2], Shoshana Yakar[3], Nicola Partridge[4]. [1]New York University College of Dentistry, USA, USA, [2]New York University, USA, [3]New York University College of Dentistry, David B. Kriser Dental Center, USA, [4]New York University College of Dentistry, USA
Disclosures: Teruyo Nakatani, None

FR0191 **A Selective Androgen Receptor Modulator that favorably affects the bone muscle interface**
Venkatesh Krishnan*[1], Henry Bryant[1], Yanfei Ma[1], Charles Benson[2], Prabhakar Jadhav[2], Judith Henck[2], Nita Patel[2], Heather Bullock[2], Alan Chiang[1], Timothy Waterhouse[2], Masahiko Sato[3], George Zeng[2], Benjamin Yaden[2], Pamela Shetler[2]. [1]Eli Lilly & Company, USA, [2]Lilly Research laboratories, USA, [3]Indiana University School of Medicine, USA
Disclosures: Venkatesh Krishnan, Eli Lilly & Company, 3

FR0192 **Activation of Prostaglandin E_2 EP4 signaling promotes primary myoblast proliferation via regulation of cell cycle progression and MyoD expression**
Chenglin Mo*[1], Lori Wetmore[2], Julian Vallejo[3], Leticia Brotto[3], Lynda Bonewald[4], Marco Brotto[4]. [1]University of Missouri-Kansas City, USA, [2]William Jewell College, USA, [3]Muscle Biology Research Group, School of Nursing & Health Studies, University of Missouri-Kansas City, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Chenglin Mo, None

FR0193 **Establishment and characterization of a novel Tet-Off embryonic stem cell lines carrying ALK2**
Mai Fujimoto*[1], Satoshi Ohte[2], Masashi Shin[2], Katsumi Yoneyama[3], Kenji Osawa[2], Sho Tsukamoto[2], Arei Miyamoto[4], Takato Mizuta[2], Shoichiro Kokabu[2], Akihiko Okuda[2], Naoto Suda[5], Takenobu Katagiri[2]. [1]Saitama Medical University Research Center for Genomic Medicine, Jpn, [2]Saitama Medical University Research Center for Genomic Medicine, Japan, [3]Saitama Medical Univercity Reserch Center fo Genomic Medicine, Japan, [4]Saitama Medical University, Research Center for Genomic Medicine, Japan, [5]Meikai University School of Dentistry, Japan
Disclosures: Mai Fujimoto, None

FR0194 **The Age-Associated Rise in miRNAs from Muscle Target SDF-1 and Musculoskeletal Regulatory Genes is Reversed with Caloric Restriction and Leptin**
Sudharsan Periyasamy-Thandavan[1], Samuel Herberg[2], Phonepasong Arounleut[3], Sunil Upadhyay[4], Galina Kondrikova[4], Amy Dukes[4], Colleen Davis[4], Maribeth Johnson[4], Xing-Ming Shi[4], Carlos Isales[4], Mark Hamrick[5], William Hill*[6]. [1]Georgia Regents University & Charlie Norwood VAMC, USA, [2]Case Western Reserve University, USA, [3]Georgia Regents University (formally Georgia Health Sciences University), USA, [4]Georgia Regents University, USA, [5]Georgia Health Sciences University, USA, [6]Georgia Regents University & Charlie Norwood VAMC, USA
Disclosures: William Hill, None

FR0195 **The Effects of Combined Use of Glucocorticoids and Bisphosphonates on Musculoskeletal System in a Mouse Model of Duchenne Muscular Dystrophy**
Jane Mitchell[1], Sung-Hee Yoon*[1], Jinghan Chen[2], Ariana delaCruz[1], Kim Sugamori[2], Marc Grynpas[3]. [1]University of Toronto, Canada, [2]Univeristy of Toronto, Canada, [3]Lunenfeld-Tanenbaum Research Institute of Mount Sinai Hospital, Canada
Disclosures: Sung-Hee Yoon, None

FR0196 **Effects of eldecalcitol on body weight, bone mineral density and skeletal muscle in glucocorticoid-treated rats**
Hayato Kinoshita*[1], Naohisa Miyakoshi[2], Michio Hongo[2], Yuji Kasukawa[2], Koji Nozaka[2], Yoichi Shimada[3]. [1]Akita University, Japan, [2]Akita University Graduate School of Medicine, Japan, [3]Akita University Graduate School of Medicine Department of Orthopedics Surgery, Japan
Disclosures: Hayato Kinoshita, None

FR0197 **Mediation of SDF-1/CXCR4 signaling in aged skeletal muscle by the adipokine leptin.**
Samuel Herberg*[1], Sudharsan Periyasamy-Thandavan[2], Phonepasong Arounleut[3], Sunil Upadhyay[4], Amy Dukes[4], Colleen Davis[4], Galina Kondrikova[4], Maribeth Johnson[4], Carlos Isales[4], William Hill[5], Mark Hamrick[6]. [1]Case Western Reserve University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Regents University (formally Georgia Health Sciences University), USA, [4]Georgia Regents University, USA, [5]Georgia Regents University & Charlie Norwood VAMC, USA, [6]Georgia Health Sciences University, USA
Disclosures: Samuel Herberg, None

FR0199 **Elevated TGF-β in Subchondral Bone Causes Joint Degeneration of Rheumatoid Arthritis and Osteoarthris**

Xin Xu*[1], Liwei Zheng[2], Qin Bian[3], Xuedong Zhou[4], Xu Cao[5]. [1]Johns Hopkins University, Medical Institute, USA, [2]West China School of Stomatology, Sichuan University, Peoples Republic of China, [3]USA, [4]West China School of Stomatology, Sichuan University, China, [5]Johns Hopkins University, USA

Disclosures: Xin Xu, None

FR0200 **Elucidating Molecular Mechanisms leading to Post Traumatic Osteoarthritis in Sost KO Mice**

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Disclosures: Jiun Chiun Chang, None

FR0201 **Genetic Inhibition of FGFR1 in Cartilage at Adult stage Attenuates the Degeneration of Articular Cartilage in FGFR3 disruption mice**

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Disclosures: Yangli Xie, None

FR0202 **3D Bone Microarchitectural Assessment in the Human Knee by Second Generation HR-pQCT – A New Tool for Early Osteoarthritis Detection?**

Sarah Manske*, Ying Zhu, Britta Jorgenson, Steven Boyd. University of Calgary, Canada

Disclosures: Sarah Manske, None

FR0207 **The influence of osteophytes on femoral neck microcracks in osteoarthritis**

Gustavo Davi Rabelo[1], Jean-Paul Roux*[2], Nathalie Portero-Muzy[1], Stephanie Boutroy[3], Roland Chapurlat[4], Pascale Chavassieux[1]. [1]INSERM UMR1033, Université de Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM U1033 & Université de Lyon, France, [4]E. Herriot Hospital, France

Disclosures: Jean-Paul Roux, None

FR0209 **Nuclear Factor of Activated T-Cells (Nfatc)2 Inhibits Osteoblast Function and Causes Osteopenia**

Stefano Zanotti*[1], Ernesto Canalis[2]. [1]St. Francis Hospital & Medical Center, USA, [2]University of Connecticut Health Center, USA

Disclosures: Stefano Zanotti, None

FR0210 **Cannabinoid CB1 Receptor in Sympathetic Nerves Regulates Bone Mass**

Saif Deis*[1], Natalya Kogan[1], Lital Goldfine[1], Raj Kamal Srivastava[2], Saja Baraghithy[1], Esther Shohami[1], Beat Lutz[2], Itai Bab[3]. [1]Hebrew University of Jerusalem, Israel, [2]Johannes Gutenberg University, Germany, [3]The Hebrew University, Israel

Disclosures: Saif Deis, None

FR0211 **Cyclooxygenase 2 deficiency impaired the bone regeneration capacity of muscle derived stem cells via cell autonomous and non-autonomous mechanisms**

Xueqin Gao*[1], Arvydas Usas[1], Aiping Lu[1], Ying Tang[1], Minakashi Poddar[1], Adam Kozemchak[1], James Cummins[1], Johnny Huard[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA

Disclosures: Xueqin Gao, None

FR0212 **Deletion of Rorβ, a Novel Regulator of Osteoblast Function, Slows Trabecular Bone Loss During Aging in Mice**

Qian Xing[1], Kristy Nicks[1], Joshua Farr[1], Daniel Fraser[1], Sundeep Khosla[2], David Monroe*[3]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Foundation, USA

Disclosures: David Monroe, None

FR0214 **miR-874-3p expressed during weaning phase positively regulates skeletal mass and plays an important role in primary osteoporosis**
Priyanka Kushwaha*[1], Vikram Khedgikar[2], Jyoti Gautam[2], Anirudha Karvande[2], Nasser Ahmed[2], Deepika Mishra[3], Prabodh Kumar Trivedi[3], Ritu Trivedi[2]. [1]Central Drug Research -CSIR, India, [2]CSIR-CDRI, India, [3]CSIR-NBRI, India
Disclosures: Priyanka Kushwaha, None

FR0217 ***In Vivo*Maintenance of Cortical Bone Mass is Dependent on Estrogen Receptor Alpha Binding to Estrogen Response Elements in Mouse Osteoblasts**
Kristy Nicks*[1], Daniel Fraser[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

FR0225 **HDAC4 integrates PTH and sympathetic signaling in osteoblasts to regulate *Rankl* expression and osteoclasts differentiation**
Arnaud Obri*, Munevver Parla Makinistoglu, Gerard Karsenty. Columbia University, USA
Disclosures: Arnaud Obri, None

FR0226 **Knockout of Nuclear HMWFGF2 Isoforms in Mice Modulates Bone and Phosphate Homeostasis**
Collin Homer-Bouthiette*[1], Marja Marie Hurley[2], Liping Xiao[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
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FR0229 **Regulation of Bone Mass by Lrp4 and Secreted Wnt Antagonists**
Youngwook Ahn*[1], Jesús Fuentes-Antrás[1], Mark Dallas[2], Mark Johnson[2], Robb Krumlauf[1]. [1]Stowers Institute for Medical Research, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Youngwook Ahn, None

FR0233 **Unique Distal Enhancers Linked to the Mouse *Tnfsf11* Gene Direct Tissue-Specific Expression and Inflammation induced Regulation of RANKL Expression**
Melda Onal*[1], Hillary St John[2], Allison Danielson[3], Charles O'Brien[4], J. Pike[2]. [1]university of wisconsin, USA, [2]University of Wisconsin-Madison, USA, [3]undergraduate student, USA, [4]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Melda Onal, None

FR0234 **Cbfβ promotes osteoblast lineage commitment and regulates the fate of mesenchymal stem cells by suppressing the expression of key adipocyte regulators and activating Wnt/β-catenin pathway *in vivo* and *in vitro***
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
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FR0235 **Bone lining cells are a major source of osteoblasts during bone remodeling**
igor Matic*, Brya Matthews, Ivo Kalajzic. University of Connecticut Health Center, USA
Disclosures: igor Matic, None

FR0236 **Chondrocytes Are a Major Source of Osteoblasts in Endochondral Bones *in Vivo***
Xin Zhou*[1], Stephen Henry[2], Benoit de Crombrugghe[3], Klaus von der mark[4], Henry adams[5]. [1]MD Anderson Cancer Center, USA, [2]University of Texas MD Anderson, USA, [3]UT MD Andrson cancer center, USA, [4]University of Erlangen-Nuremberg, Germany, [5]UT MD Anderson, USA
Disclosures: Xin Zhou, None

FR0237 **EP1 Deletion Enhances Mitochondrial Activity in Mesenchymal Stem Cell and Promotes Osteogenicity**
Marina Feigenson*[1], Jennifer Jonason[2], Alayna Loiselle[2], Roman Eliseev[2], Regis O'Keefe[2]. [1]USA, [2]University of Rochester, USA
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FR0238 **ER Stress Signaling Molecule IRE1α Regulates Bone Develpment and Confers Genetic Risk for Human Osteoporosis**
Shankar Revu*[1], Kai Liu[2], Fengming Wang[1], Konstantinos Verdelis[1], Mariana Bezamat[1], Alexandre Vieira[1], Hong-Jiao Ouyang[1]. [1]University of Pittsburgh, USA, [2]USA
Disclosures: Shankar Revu, None

FR0241 **Circulating Microvesicles from Elderly Donors impact on Osteogenic Differentiation of Mesenchymal Stem Cells**
Sylvia Weilner[1], Elisabeth Schraml[1], Matthias Wieser[2], Paul Messner[3], Andrea Maier[4], Heinz Redl[5], Peter Pietschmann[6], Matthias Hackl[7], Regina Grillari-Voglauer[2], Johannes Grillari*[8]. [1]Department of Biotechnology, University of Natural Resources & Life Sciences Vienna, Austria, [2]Evercyte GmbH, Austria, [3]Department of Nanobiotechnology, University of Natural Resources & Life Sciences Vienna, Austria, [4]Department of Gerontology & Geriatrics, Leiden University Medical Center, Leiden, Austria, [5]Ludwig Boltzmann Institute for Experimental & Clinical Traumatology, AUVA Research Center, Austria, [6]Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, [7]TAmiRNA GmbH, Austria, [8]University of Natural Resources & Life Sciences Vienna, Austria
Disclosures: Johannes Grillari, Evercyte GmbH, 3

FR0245 **iPS cell derived Endothelial Cells in Fibrodysplasia Ossificans Progressiva**
Emilie Barruet*[1], Wint Lwin[1], Marcela Morales[1], Ashley Urrutia[1], Hannah Kim[1], Christina Theodoris[2], Mark P. White[3], Deepak Srivastava[4], Edward Hsiao[1]. [1]University of California, San Francisco, USA, [2]Gladstone Institute of Cardiovascular Disease, USA, [3]Gladstone Institute of Cardiovascular Disease, San Francisco, CA, USA, [4]Gladstone Institutes, USA
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FR0246 **Neural Origin of Osteoblasts during Heterotopic Ossification**
ZaWaunyka Lazard*, Elizabeth Salisbury, Eric Beal II, Elizabeth Olmsted-Davis, Alan Davis. Baylor College of Medicine, USA
Disclosures: ZaWaunyka Lazard, None

FR0251 **Choline Kinase Beta is an Important Regulator of Bone Homeostasis**
Jennifer Tickner*[1], Jasreen Kular[1], Nathan Pavlos[1], Tamara Abel[2], BaySie Lim[1], Ming Hao Zheng[1], Jiake Xu[1]. [1]University of Western Australia, Australia, [2]Centre for Microscopy, Characterisation & Analysis, University of Western Australia, Australia
Disclosures: Jennifer Tickner, None

FR0252 **Genetic Activation of *Nlrp3* Reveals NLRP3 Inflammasome Role in Osteoclast Activity**
Chao Qu*[1], Samer Abu-Amer[2], Sheri Bonar[2], Jacqueline Kading[1], Yousef Abu-Amer[3], Roberto Civitelli[3], Gabriel Mbalaviele[3]. [1]Washington University in St Louis, USA, [2]Washington University in St. Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Chao Qu, None

FR0253 **Osteoclast ruffled border formation and bone resorption require Plekhm1-regulated lysosomal secretion**
Toshifumi Fujiwara*[1], Jian Zhou[2], Shiqiao Ye[1], Stavros Manolagas[1], Haibo Zhao[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]UAMS, USA
Disclosures: Toshifumi Fujiwara, None

FR0254 **Snx10-dependent osteoclastic activity and gastric acidification is required for bone and calcium homeostasis**
Liang Ye*[1], Leslie Morse[2], Li Zhang[3], Hajime Sasaki[3], Jason Mills[4], Greg Sibbel[4], Ariane Zamarioli[5], Ricardo Battaglino[3]. [1]The Forsyth Institute & Harvard School of Dental Medicine, USA, [2]Harvard Medical School, USA, [3]The Forsyth Institute, USA, [4]Washington University School of Medicine, USA, [5]University of Sao Paulo, Brazil
Disclosures: Liang Ye, None

FR0255 **Specific Ostm1 ablation in the hematopoietic mature osteoclast induce severe osteopetrosis**
Jean Vacher*[1], Monica Pata[2]. [1]Institut De Recherches Cliniques De Montréal, Canada, [2]IRCM, Canada
Disclosures: Jean Vacher, None

FR0256 **Targeting Cathepsin K to attenuate Toll-Like Receptor (TLR) signaling inhibits rheumatoid arthritis and periodontitis and reveals the critical function of Cathepsin K in osteoimmunology**
Liang Hao*, Wei Chen, Yi-Ping Li. University of Alabama at Birmingham, USA
Disclosures: Liang Hao, None

FR0257 **TRAP-Positive Multinucleated Cell Independent Bone Resorption in a Mouse Model of Inflammatory Bone Disease**
Mizuho Kittaka*[1], Tomoyuki Mukai[2], Teruhito Yoshitaka[3], Yasuyoshi Ueki[4]. [1]University of Missouri-Kansas City, School of Dentistry, USA, [2]University of Missouri - Kansas City, USA, [3]University Missouri-Kansas City, School of Dentistry, USA, [4]University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Mizuho Kittaka, None

FR0258 **Cytosolic Calcium Flickers Orchestrate Steering during Osteoclast Migration**
Benjamin Wheal*[1], S. Jeffrey Dixon[2], Stephen M. Sims[2]. [1]The University of Western Ontario, Can, [2]The University of Western Ontario, Canada
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FR0259 **mTORC1 Activity in Osteoclasts is Regulated by Lysosomal pH**
Luciene Carraro-Lacroix[1], YIngwei Hu[2], Celeste Owen[3], Irina Voronov*[4]. [1]Faculty of Dentistry, University of Toronto, Canada, [2]Institute of Dental Medicine, Qilu Hospital, Shandong University, China, [3]Centre for Modeling Human Disease, Samuel Lunenfeld Research Institute, Mt Sinai Hospital, Canada, [4]University of Toronto, Canada
Disclosures: Irina Voronov, None

FR0260 **CHMP5 Is a Novel Risk Factor of Paget's Disease of Bone Regulating the NF-kB Pathway in Osteoclasts**
Jae Hyuck Shim*[1], Kwang Hwan Park[2], Matthew Greenblatt[3]. [1]Weill Cornell Medical College, USA, [2]Yonsei University College of Medicine, USA, [3]Weill Cornell Medical College/Brigham & Women's Hospital, USA
Disclosures: Jae Hyuck Shim, None

FR0261 ***β-catenin*deletion in Ctsk-expressing cells decreases bone mass**
Paula Ruiz[1], Marta Martin-Millan[2], Shoshana Bartell[3], Maria Jose Almeida[3], Marian Ros[4], Jesús Gonzalez-Macias*[5]. [1]Fundación Instituto de Investigación Marqués de Valdecilla, Spain, [2]University of Cantabria, IDIVAL, HUMV, Spain, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [4]Instituto de Biomedicina y Biotecnología de Cantabria, Spain, [5]University of Cantabria, HUMV, IDIVAL, RETICEF., Spain
Disclosures: Jesús Gonzalez-Macias, None

FR0264 **Deletion of Wnt Receptors Lrp5 and Lrp6 or ß-catenin in osteoclast precursors differentially affects skeletal development**
Megan Weivoda*[1], Ming Ruan[1], Christine Hachfeld[1], Larry Pederson[1], Rachel Davey[2], Jeffrey Zajac[3], Yasuhiro Kobayashi[4], Bart Williams[5], Sundeep Khosla[6], Jennifer Westendorf[1], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]University of Melbourne, Australia, [3]Austin Hospital, Australia, [4]Japan, [5]Van Andel Research Institute, USA, [6]Mayo Clinic College of Medicine, USA
Disclosures: Megan Weivoda, None

FR0265 **Inhibition of a cholesterol regulator, Srebp2, prevents bone loss induced by RANKL**
Kazuki Inoue*, Yuuki Imai. Ehime University, Japan
Disclosures: Kazuki Inoue, None

FR0266 **Orphan Nuclear Receptor Nur77 Decreases Osteoclast Differentiation by Promoting NFATc1 Degradation via Ubiquitin E3 Ligase Cbl-b**
Xiaoxiao Li*[1], Wei Wei[2], HoangDinh Huynh[2], Yihong Wan[3]. [1]USA, [2]UT southwestern, USA, [3]University of Texas Southwestern Medical Center, USA
Disclosures: Xiaoxiao Li, None

FR0269 **Sirtuin 1 suppresses mitochondrial ATP and osteoclastogenesis via FoxO-mediated stimulation of Heme oxygenase 1**

Ha-Neui Kim*[1], Shoshana Bartell[2], Li Han[2], Aaron Warren[3], Srividhya Iyer[2], Rafael de Cabo[4], 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]Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, [4]Translational Gerontology Branch, National Institute on Aging, National Institutes of Health, USA

Disclosures: Ha-Neui Kim, None

FR0275 **Osteocyte Lacunar Density is Breed Related in Mice**

Brett Rosauer[1], Mohammed Akhter*[2], Donald Kimmel[3], Joan Lappe[2], Robert Recker[1]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA, [3]Kimmel Consulting Services, USA

Disclosures: Mohammed Akhter, None

FR0276 **Osteocytes Produce Interferon-β as a Negative Regulator of Osteoclastogenesis**

Takuya Sato*, Chiyomi Hayashida, Junta Ito, Mai Nakayachi, Yoko Ohyama, Yoshiyuki Hakeda. Meikai University School of Dentistry, Japan

Disclosures: Takuya Sato, None

FR0277 **Parathyroid Hormone (PTH) Downregulates Notch2 Signaling in Osteocytes**

Stefano Zanotti*[1], Ernesto Canalis[2]. [1]St. Francis Hospital & Medical Center, USA, [2]University of Connecticut Health Center, USA

Disclosures: Stefano Zanotti, None

FR0281 **Isolation of a hematopoietic cell-free preparation of highly purified DMP1-GFP+ osteocytes using fluorescence activated cell sorting (FACS)**

Ling Yeong Chia[1], Nicole Walsh[2], T. John Martin[3], Natalie Sims*[4]. [1]Department of Bone Cell Biology & Disease, Australia, [2]St Vincent's Institute of Medical Research, Australia, [3]St. Vincent's Institute of Medical Research, Australia, [4]St. Vincent's Institute of Medical Research, Australia

Disclosures: Natalie Sims, None

FR0282 **Osteocyte Microvesicles in Cell-Cell Communication in Bone**

Kun Wang*, Andrew Keightley, Patricia Veno, Vladimir Dusevich, LeAnn Tiede-Lewis, Lynda Bonewald, Sarah Dallas. University of Missouri - Kansas City, USA

Disclosures: Kun Wang, None

FR0283 **Osteocytes directly communicate with sensory neuronal cells via cell-cell networks that are modulated under an acidic microenvironment**

Masahiro Hiasa*[1], Yuki Nagata[2], Jesus Delgado-Calle[1], Yohance M Allette[2], Matthew S Ripsch[2], Teresita Bellido[1], G. David Roodman[2], Fletcher A White[2], Toshiyuki Yoneda[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA

Disclosures: Masahiro Hiasa, None

FR0284 **Are Biochemical Markers of Bone Turnover Representative of Bone Turnover Assessed with Histomorphometry? An Analysis in a Sample of 370 Postmenopausal Women with Osteoporosis**

Pascale Chavassieux*[1], Nathalie Portero-Muzy[1], Jean-Paul Roux[2], Patrick Garnero[3], Roland Chapurlat[4]. [1]INSERM UMR1033, Université De Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM Research Unit, France, [4]E. Herriot Hospital, France

Disclosures: Pascale Chavassieux, None

FR0285 **Circulating Periostin: a Determinant of Cortical Bone Structure Heritability**

Nicolas Bonnet*[1], Claire Durosier[2], Emmanuel Biver[2], Thierry Chevalley[3], Rene Rizzoli[4], Serge Ferrari[5]. [1]University Geneva Hospital (HUG), Switzerland, [2]Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, Switzerland, [3]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [4]Geneva University Hospitals & Faculty of Medicine, Switzerland, [5]Geneva University Hospital & Faculty of Medicine, Switzerland

Disclosures: Nicolas Bonnet, None

FR0286 **Automatic QCT quantification of the proximal femur: vBMD, bone volume, cortical bone thickness and finite element modeling**

Julio Carballido-Gamio*[1], Serana Bonaretti[1], Isra Saeed[1], Roy Harnish[1], Robert Recker[2], Andrew Burghardt[1], Joyce Keyak[3], Tamara Harris[4], Sundeep Khosla[5], Thomas Lang[1]. [1]University of California, San Francisco, USA, [2]Creighton University, USA, [3]Department of Radiological Sciences, University of California, Irvine, USA, [4]Intramural Research Program, National Institute on Aging, USA, [5]Mayo Clinic College of Medicine, USA

Disclosures: Julio Carballido-Gamio, None

FR0288 **Cortical Bone Water in Renal Transplant Patients**

Wenli Sun*[1], Mary Leonard[2], Hamidreza Saligheh Rad[3], Chamith Rajapakse[4], Felix Werner Wehrli[5]. [1]University of Pennsylvania, USA, [2]Stanford School of Medicine, USA, [3]Osteoporosis Research Center, Endocrinology & Metabolism Research Institute.Tehran University of Medical Sciences, Iran, [4]University of Pennsylvania School of Medicine, USA, [5]University of Pennsylvania Medical Center, USA

Disclosures: Wenli Sun, None

FR0289 **Impact of lumbar syndesmophyte on bone heath as assessed by Bone density (BMD) and Bone Texture (TBS) in men with axial spondyloarthritis**

Berengere Aubry-rozier*[1], Laura Wildberger[1], Vladimira Boiadjieva[2], Didier Hans[1], Nikolay Stoilov[2], Mariana Ivanova[2], Rumen Stoilov[2], Rasho Rashkov[2]. [1]Lausanne University Hospital, Switzerland, [2]Clinic of Rheumatology, University Hospital "St. Iv. Rilski", Bulgaria

Disclosures: Berengere Aubry-rozier, None

FR0290 **ASBMR 2014 Annual Meeting Young Investigator Award**
Microindentation in vivo captures elements of bone fragility independently of BMD

Natasha Appelman-dijkstra*[1], Frank Malgo[2], Socrates Papapoulos[1], Neveen Hamdy[1]. [1]Leiden University Medical Center, The Netherlands, [2]Leiden University Medical Center, Netherlands

Disclosures: Natasha Appelman-dijkstra, None

FR0291 **Multi-modality in vivo Imaging Identifies Marrow and Vasculature within Pathological Cortical Porosity**

Robin Parrish*[1], Julien Rivoire[2], Misung Han[2], Anne Schafer[3], Thomas Link[4], Roland Krug[2], Galateia Kazakia[4]. [1]UC Berkeley, USA, [2]UC San Francisco, USA, [3]University of California, San Francisco & the San Francisco VA Medical Center, USA, [4]University of California, San Francisco, USA

Disclosures: Robin Parrish, None

FR0294 **Clinical aspect of patients with and without vertebral fractures presenting at a fracture liaison service**

Sandrine Bours*[1], Tineke Van Geel[2], Joop Van Den Bergh[3], Sabine Landewe[4], Debby Vosse[5], Piet Geusens[6]. [1]Maastricht University Medical Centre, The Netherlands, [2]Maastricht University, The Netherlands, [3]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, [4]Department of Internal Medicine, subdivision of Endocrinology, Maastricht University Medical Centre, Netherlands, [5]Department of Internal Medicine, subdivision of Rheumatology, Maastricht University Medical Centre, Netherlands, [6]University Hasselt, Belgium

Disclosures: Sandrine Bours, None

FR0299 **Clinical Performance of an Updated Version of Trabecular Bone Score in Men and Women: The Manitoba BMD Cohort**

William Leslie*[1], Renaud Winzenrieth[2], Sumit Majumdar[3], Lisa Lix[1], Didier Hans[4]. [1]University of Manitoba, Canada, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [3]University of Alberta, Canada, [4]Lausanne University Hospital, Switzerland

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FR0301 **Impaired trabecular bone microarchitecture improves after one year on gluten-free diet. A prospective HRp-QCT study in women with celiac disease.**

Maria Belen Zanchetta*[1], vanesa longobardi[2], Florencia Costa[2], julio cesar bai[2]. [1]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [2]md, Argentina

Disclosures: Maria Belen Zanchetta, None

FR0309 **Endochrondral ossification, mesenchymal stem cell and Wnt pathway specific loci predict differential skeletal effects in High Bone Mass**

Celia Gregson[1], John Kemp[2], Mhairi Marshall[3], Graeme Clarke[3], George Davey Smith[2], Matthew Brown[4], Emma Duncan[5], Jon Tobias*[6]. [1]University of Bristol, United Kingdom, [2]MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, [3]University of Queensland Diamantina Institute, Australia, [4]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [5]Royal Brisbane & Women's Hospital, Australia, [6]Musculoskeletal Research Unit, University of Bristol, United Kingdom

Disclosures: Jon Tobias, None

FR0310 **Changes in Bone Mineral Density and Trabecular Bone Score (TBS) as Indicators of On-Treatment Antifracture Effect: The Manitoba BMD Cohort**

William Leslie*[1], Sumit Majumdar[2], Suzanne Morin[3], Lisa Lix[1], Didier Hans[4]. [1]University of Manitoba, Canada, [2]University of Alberta, Canada, [3]McGill University, Canada, [4]Lausanne University Hospital, Switzerland

Disclosures: William Leslie, None

FR0312 **Identification of Novel Serum Peptides and Proteins That Are Associated with Hip Bone Loss in Older Men**

Jian Shen*[1], Jodi Lapidus[1], Aaron Baraff[1], Christine Lee[1], Arie Baratt[1], Shannon McWeeney[1], Vladislav Petyuk[2], Douglas Bauer[3], Nancy Lane[4], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]Pacific Northwest National Laboratory, USA, [3]University of California, San Francisco, USA, [4]University of California, Davis Medical Center, USA

Disclosures: Jian Shen, None

FR0316 **Association of Incident Radiographic Vertebral Fracture with Back Pain Symptoms in Older Men: the Osteoporotic Fractures in Men (MrOS) Study**

Howard Fink*[1], Lynn Marshall[2], Jian Shen[2], Steven Cummings[3], Peggy Cawthon[4], Kristine Ensrud[5], Rena Singleton[6], Jane Cauley[7], Elizabeth Barrett-Connor[8], Nancy Lane[9], Deborah Kado[8], John Schousboe[10]. [1]GRECC, Minneapolis VA Medical Center, USA, [2]Oregon Health & Science University, USA, [3]San Francisco Coordinating Center, USA, [4]California Pacific Medical Center Research Institute, USA, [5]University of Minnesota & Minneapolis VA Health Care System, USA, [6]University of Minnesota, USA, [7]University of Pittsburgh Graduate School of Public Health, USA, [8]University of California, San Diego, USA, [9]University of California, Davis Medical Center, USA, [10]Park Nicollet Clinic, University of Minnesota, USA

Disclosures: Howard Fink, None

FR0317 **Atypical femoral fractures: Sensitivity and specificity of radiographic characteristics**

Annette Adams*[1], Fei Xue[2], Jean Chantra[1], Richard Dell[3], Susan Ott[4], Stuart Silverman[5], Joseph Giaconi[6], Cathy Critchlow[7]. [1]Kaiser Permanente Southern California, USA, [2]Amgen, Inc., USA, [3]Kaiser, USA, [4]University of Washington Medical Center, USA, [5]Cedars-Sinai/UCLA, USA, [6]Cedars Sinai Medical Center, USA, [7]Amgen Inc., USA

Disclosures: Annette Adams, Amgen, Inc., 2

FR0318 **Back Pain Is Associated with Increased Risk of Recurrent Falls Among Older US Women**

Lynn Marshall*[1], Stephanie Harrison[2], Peggy Cawthon[3], Deborah Kado[4], Una Makris[5], Richard Deyo[1], Hans Carslon[1], Michael Nevitt[6]. [1]Oregon Health & Science University, 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 Texas Southwestern Medical Center, USA, [6]University of California San Francisco, USA

Disclosures: Lynn Marshall, None

FR0320 **Fractures Increasing in Oldest Age Groups Despite Decreasing Fracture Rates: A Population-based Study**

Susan Jaglal*[1], Gillian Hawker[1], Cathy Cameron[2], Ruth Croxford[3]. [1]University of Toronto, Canada, [2]Women's College Research Institute, Canada, [3]Institute for Clinical Evaluative Sciences, Canada

Disclosures: Susan Jaglal, None

FR0323 **Incidence and Worsening of Vertebral Fracture, Disc Height Narrowing, and Facet Joint Osteoarthritis Evaluated by Computed Tomography: The Framingham Study**

Mohamed Jarraya*[1], Yanhua Zhou[2], L Adrienne Cupples[2], Ali Guermazi[1], Ching-An Meng[3], Elana Borchin[3], Douglas Kiel[3], Mary Bouxsein[4], Elizabeth (Lisa) Samelson[5]. [1]Boston University School of Medicine, USA, [2]Boston University School of Public Health, USA, [3]Hebrew SeniorLife, USA, [4]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [5]Hebrew SeniorLife, Harvard Medical School, USA

Disclosures: Mohamed Jarraya, None

FR0329 **Serum Bioavailable Estradiol Adds Information Beyond FRAX® for Hip Fracture Reclassification in Elderly Swedish Men – MrOS Sweden**

Liesbeth Vandenput[1], Maria Nilsson[2], Maria Nethander[3], Joel Eriksson[4], Osten Ljunggren[5], Andreas Kindmark[5], Mattias Lorentzon[6], Helena Johansson[7], Jodi Lapidus[8], Ying Wang[8], Eric Orwoll[8], Magnus Karlsson[9], Dan Mellstrom[10], Claes Ohlsson*[11]. [1]University of Gothenburg, Sweden, [2]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [3]Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Centre for Bone & Arthritis Research, Sweden, [5]Uppsala University Hospital, Sweden, [6]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [7]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, [8]Oregon Health & Science University, USA, [9]Skåne University Hospital Malmö, Lund University, Sweden, [10]Sahlgrenska University Hospital, Sweden, [11]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden

Disclosures: Claes Ohlsson, None

FR0332 **Associations of 25OHD and 1,25(OH)$_2$D with BMD, BMD Loss and Fracture**

Christine Swanson*[1], Priya Srikanth[2], Christine Lee[1], Steven Cummings[3], Ivo Jans[4], Jane Cauley[5], Roger Bouillon[6], Dirk Vanderschueren[6], Eric Orwoll[1], Carrie Nielson[1]. [1]Oregon Health & Science University, USA, [2]Department of Public Health & Preventive Medicine, Oregon Health & Science University, USA, [3]San Francisco Coordinating Center, USA, [4]Laboratory of Diagnostic Medicine, KU Leuven, University of Leuven, Belgium, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]Katholieke Universiteit Leuven, Belgium

Disclosures: Christine Swanson, None

FR0338 **Visceral Adipose Tissue is Associated with Better Trabecular Density and Architecture but Increased Cortical Porosity: The Framingham Osteoporosis Study**

Douglas Kiel*[1], Kerry Broe[2], Adrienne Cupples[3], Serkalem Demissie[3], Caroline Fox[4], Marian Hannan[5], Yi-Hsiang Hsu[6], David Karasik[7], Ching-Ti Liu[3], Robert McLean[8], Ching-An Meng[9], Elizabeth (Lisa) Samelson[10], Xiaochun Zhang[9], Mary Bouxsein[11]. [1]Hebrew SeniorLife, USA, [2]Institute for Aging Research, Hebrew SeniorLife, USA, [3]Boston University School of Public Health, USA, [4]National Institutes of Health, USA, [5]HSL Institute for Aging Research & Harvard Medical School, USA, [6]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [7]Hebrew SeniorLife; Bar Ilan University, USA, [8]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [9]Institute for Aging Research, Hebrew SeniorLife, USA, [10]Hebrew SeniorLife, Harvard Medical School, USA, [11]Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Disclosures: Douglas Kiel, Novartis,5; Amgen,5; Amgen, 2; Merck Sharp & Dohme, 2; Kluwer Wolter, 7; Eli Lilly, 2; Springer Publishing, 7; Merck Sharp & Dohme, 5

FR0339 **How Long Does the Therapeutic Window of Opportunity Persist After a Fragility Fracture?**

François Cabana[1], Marie-Claude Beaulieu[2], Nathalie Carrier[1], Sophie Roux[3], Gilles Boire*[1]. [1]Centre hospitalier universitaire de Sherbrooke, Canada, [2]Université de Sherbrooke, Canada, [3]University of Sherbrooke, Canada

Disclosures: Gilles Boire, None

FR0343 **Validation of ICD-9 Codes or Self-report for Osteoporotic Fractures in Women Aged 45-60**

Susan Ott*[1], Rebecca Hubbard[2], Belinda Operskalski[2], Do Peterson[2], Kelly Hansen[2], Andrea Lacroix[3], Delia Scholes[4]. [1]University of Washington Medical Center, USA, [2]Group Health Research Institute, USA, [3]Fred Hutchinson Cancer Research Center, USA, [4]Group Health Cooperative, Group Health Research Institute, USA

Disclosures: Susan Ott, None

FR0344 **Where the ball was dropped. Why do patients fall off Secondary Fracture Prevention Programs?**
Manju Chandran*, Xiao Feng Huang, Matthew Tan. Osteoporosis & Bone Metabolism Unit, Singapore General Hospital, Singapore
Disclosures: Manju Chandran, None

FR0345 **Individual Characteristics that Predict Higher Health Care Costs After Hip Fracture**
John Schousboe*[1], Misti Paudel[2], Brent Taylor[3], Allyson Kats[4], Beth Virnig[5], Bryan Dowd[5], Kristine Ensrud[6]. [1]Park Nicollet Clinic, University of Minnesota, USA, [2]Division of Epidemiology University of Minnesota, USA, [3]University of Minnesota, USA, [4]Chronic Disease Research Group, USA, [5]Division of Health Policy & Management, University of Minnesota, USA, [6]University of Minnesota & Minneapolis VA Health Care System, USA
Disclosures: John Schousboe, None

FR0347 **A longitudinal analysis of the impact of very low energy diets on bone mineral density**
Palak Choksi*[1], Amy Rothberg[1], Andrew Kraftson[1], Nicole Miller[1], Katherine Zurales[1], Charles Burant[1], Catherine Van Poznak[2], Mark Peterson[1]. [1]University of Michigan, USA, [2]University of Michigan Comprehensive Cancer Center, USA
Disclosures: Palak Choksi, None

FR0352 **High Vitamin D is Associated with Low Fasting Insulin in Non-diabetic Men**
Anna Nilsson*[1], Ewa Waern[1], Mattias Lorentzon[2], Magnus Karlsson[3], Claes Ohlsson[4], Dan Mellstrom[1]. [1]Sahlgrenska University Hospital, Sweden, [2]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Anna Nilsson, None

FR0354 **Sex-specific effects of PTH, total 25OHD, and free 25OHD on femoral neck BMD**
Lisa Langsetmo*[1], Claudie Berger[2], Brent Richards[3], Christopher Kovacs[4], William Leslie[5], David Hanley[6], Jonathan Adachi[7], Jerilynn Prior[8], Suzanne Morin[3], K. Shawn Davison[9], Stephanie Kaiser[10], Robert Josse[11], David Goltzman[3]. [1]Canadian Multicenter Osteoporosis Study, Canada, [2]CaMos, McGill University, Canada, [3]McGill University, Canada, [4]Memorial University of Newfoundland, Canada, [5]University of Manitoba, Canada, [6]University of Calgary, Canada, [7]St. Joseph's Hospital, Canada, [8]University of British Columbia, Canada, [9]University of Victoria, Canada, [10]Dalhousie University, Canada, [11]St. Michael's Hospital, University of Toronto, Canada
Disclosures: Lisa Langsetmo, None

FR0357 **Bone Anabolic Effect in Ovariectomized Mice by low-dose RANKL Mediated by FoxP3^{+} CD8 T-Cells.**
Reggie Aurora*[1], Zachary Buchwald[2], Chang Yang[3], Suman Nellore[2], Elena Sashkova[2], Deborah Novack[4], Richard Di Paolo[2]. [1]Saint Louis University University, USA, [2]Saint Louis University School of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA, [4]Washington University in St. Louis School of Medicine, USA
Disclosures: Reggie Aurora, None

FR0358 **Hyperlipidemia-induced Loss of Bone Mass is Caused by Decreased Bone Formation and is Associated with an Inflammatory Response in the Marrow: Evidence from the ApoE$^{-/-}$ Mouse Model of Atherosclerosis**
Yu Liu*, Annick DeLoose, Kanan Vyas, Michela Palmieri, Amanda Hunt, Robert Weinstein, Charles O'Brien, Stavros Manolagas, Robert Jilka. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Yu Liu, None

FR0359 **Eldecalcitol, a new-generation vitamin D_3analog, increases trabecular bone via "minimodeling" in ovariectomizedcynomolgus monkeys.**
Tomoka Hasegawa*[1], Saito Mitsuru[2], Doyle Nancy[3], Chouinard Luc[3], Smith Susan[3], Yamamoto Tomomaya[1], Oda Kimimitsu[4], Saito Hitoshi[5], Amizuka Norio[1]. [1]Hokkaido University, Japan, [2]Jikei University School of Medicine, Japan, [3]Charles River Laboratories, Canada, [4]Niigata University, Japan, [5]Chugai Pharmaceutical Co., Ltd., Japan
Disclosures: Tomoka Hasegawa, None

FR0360 **Pregnancy and Lactation Bone Loss Cause Long-Lasting Structural Deterioration of the Maternal Skeleton that Accumulates over Multiple Reproductive Cycles**
Chantal De Bakker*, Allison Altman, Connie Li, Wei-Ju Tseng, Xiaowei Liu. University of Pennsylvania, USA
Disclosures: Chantal De Bakker, None

FR0361 **Chronic Stress Induces Bone Loss via Glucocorticoid Signaling in Osteoblasts**
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Disclosures: Holger Henneicke, None

FR0362 **Deletion of TRAF3 Specifically in Mesenchymal Progenitor Cells Results in Age-related OsteoporosisThrough Effects on both Osteoblasts and Osteoclasts**
Jinbo Li*[1], Zhenqiang Yao[2], Yan Xiu[3], Xiaoxiang Yin[3], Lianping Xing[2], Brendan Boyce[3]. [1]USA, [2]University of Rochester, USA, [3]University of Rochester Medical Center, USA
Disclosures: Jinbo Li, None

FR0363 **Heterozygosity for *TGFβR3* Alters Osteoblast and Osteoclast Differentiation and Signaling, Increases Peak Bone Mass, and Sensitizes Mice to OVX-Induced Bone Loss.**
Nicole Fleming[1], Vanessa Bray[2], James Butler[3], Tristan Fowler[4], Joey Barnett[5], Dana Gaddy[6], Erick Fleming[1], Jeffry Nyman[7], Rashmi Pandey[3], Daniel Perrien*[7]. [1]VUIIS, Vanderbilt University, USA, [2]Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, [3]Department of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, [4]Universität Wien, Aut, [5]Department of Pharmacology, Vanderbilt University, USA, [6]University of Arkansas for Medical Sciences, USA, [7]Vanderbilt University Medical Center, USA
Disclosures: Daniel Perrien, None

FR0364 **High Cortico -Trabecular Junctional Zone Porosity and Reduced Trabecular Density in Persons with Stress Fractures**
Afrodite Zendeli*[1], Christian Muschitz[2], Minh Bui[3], Lukas Fischer[4], Wolfgang Schima[5], Fritz Lomoschitz[6], Norbert Laimer[7], Ali Ghasem-Zadeh[8], Roger Zebaze[8], Ego Seeman[8]. [1]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Australia, [2]St. Vincent's Hospital, Austria, [3]Centre for Epidemiology & Biostatistics, Melbourne School of Population & Global Health, University of Melbourne, Australia, Australia, [4]Computational Imaging Research Lab, Department of Biomedical Imaging & Image-guided Therapy, Medical University of Vienna, Austria, Austria, [5]Department of Diagnostic & Interventional Radiology - St. Vincent Hospital Vienna, Austria, Austria, [6]Department of Diagnostic & Interventional Radiology - St. Vincent Hospital Vienna, Austria, Austria, [7]Medical Department II - St. Vincent Hospital Vienna - The VINFORCE Study Group, Austria, Austria, [8]Austin Health, University of Melbourne, Australia
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FR0365 **Pulsatile delivery of parathyroid hormone from an implantable device promotes bone regeneration in vivo**
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Disclosures: Ming Dang, None

FR0366 **Site-specific Effects of Spaceflight on Cancellous Bone Architecture in Ovariectomized Rats with Established Osteopenia**
Jessica Keune*, Dawn Olson, Urszula T. Iwaniec, Russell T. Turner. Oregon State University, USA
Disclosures: Jessica Keune, None

FR0367 **GILZ Protects TNF-alpha-induced Bone Loss in Mice**
Nianlan Yang*[1], Babak Baban[1], William Hill[2], Mark Hamrick[3], Carlos Isales[1], Xing-Ming Shi[1]. [1]Georgia Regents University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Health Sciences University, USA
Disclosures: Nianlan Yang, None

FR0368 **Kinin receptor B1 and B2 knockout are resistant to the bone losing effects of glucocorticoid treatment**
Charlles Castro[1], Marina Eloi*[1], Daniela Horvath[1], João Carlos Ortega[1], João Bosco Pesquero[1], Vera Szejnfeld[2]. [1]Universidade Federal de São Paulo, Brazil, [2]UNIFESF/EPM, Brazil
Disclosures: Marina Eloi, None

FR0369 **Vascular Defects Detected by Micro-MRI in the Femoral Head of Glucocorticoid Treated Mice: A Potential Early Diagnostic Predictor of Osteonecrosis**
Robert Weinstein*[1], Erin A. Hogan[1], Marilina Piemontese[2], Jinhu Xiong[1], Charles A O'Brien[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Robert Weinstein, None

FR0370 **Estradiol: Endocrine or Autocrine Regulator of Bone? Insights from Mass Spectrometry in Male Mouse Models**
Michaël Laurent*[1], Ivo Jans[2], Marco Blokland[3], Frederike van Tricht[3], Saskia Sterk[3], Leen Antonio[1], Brigitte Decallonne[1], Geert Carmeliet[1], Geoffrey Hammond[4], Frank Claessens[1], Dirk Vanderschueren[1]. [1]Katholieke Universiteit Leuven, Belgium, [2]University Hospitals Leuven, Belgium, [3]RIKILT, Wageningen UR, Netherlands, [4]University of British Columbia, Canada
Disclosures: Michaël Laurent, None

FR0371 **H_2O_2 generation in osteoclast mitochondria is indispensible for endocortical, but not cancellous, bone resorption in estrogen or androgen deficiency**
Shoshana Bartell*[1], Li Han[1], Aaron Warren[1], Julie Crawford[1], Semahat Serra Ucer[2], Srividhya Iyer[1], Maria Jose Almeida[1], Stavros Manolagas[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

FR0373 **Bone Mineral Density Changes Among Women Initiating Proton Pump Inhibitors or H2 Receptor Antagonists: Results from the SWAN Bone Study**
Daniel Solomon*[1], Susan Diem[2], Kristine Ruppert[3], YinJuan Lian[3], Chih-Chin Liu[4], Alyssa Wohlfarht[4], Gail Greendale[5], Joel Finkelstein[6]. [1]Harvard Medical School, USA, [2]University of Minnesota, USA, [3]University of Pittsburgh, USA, [4]Brigham & Women's Hospital, USA, [5]University of California, Los Angeles, USA, [6]Massachusetts General Hospital, USA
Disclosures: Daniel Solomon, Amgen, 2; Lilly, 2

FR0375 **Risedronate Prevents Anastrozole-Induced Bone Loss In The IBIS-II Prevention Trial**
Ivana Sestak*[1], Shalini Singh[2], Jack Cuzick[3], Glen Blake[4], Rajesh Patel[5], Rob Coleman[6], Mitch Dowsett[7], John F. Forbes[8], Anthony Howell[9], Richard Eastell[10]. [1]Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University London, United Kingdom, [2]Centre for Cancer Prevention, United Kingdom, [3]Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London, United Kingdom, [4]King's College London, United Kingdom, [5]Imperial College London, United Kingdom, [6]Department of Oncology, Cancer Clinical Trials Centre, Academic Unit of Clinical Oncology, United Kingdom, [7]Royal Marsden Hospital, United Kingdom, [8]University of Newcastle, Calvary Mater Hospital, Australia, [9]Paterson Institute for Cancer Research, United Kingdom, [10]University of Sheffield, United Kingdom
Disclosures: Ivana Sestak, None

FR0377 **Acute Skeletal Effects of PTH in Combination with Denosumab or Alendronate**
Joy Tsai*[1], Hang Lee[2], Yuli Zhu[3], Katelyn Foley[3], Sherri-Ann Burnett-Bowie[1], Robert Neer[1], Benjamin Leder[4]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital, Biostatistics Center, USA, [3]Massachusetts General Hospital, Endocrine Unit, USA, [4]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Joy Tsai, None

FR0379 **Responder Analysis of the Effects of Abaloparatide and Teriparatide on Bone Mineral Density in Postmenopausal Women With Osteoporosis**

Benjamin Leder*[1], Kathleen Banks[2], Louis O'Dea[2], C.R. Lyttle[2], John Yates[3], Gary Hattersley[2]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Radius, USA, [3]Radius Health, USA

Disclosures: Benjamin Leder, Merck, 5; Radius, 5; Lilly, 5; Amgen, 5

FR0380 **Romosozumab Significantly Improves Vertebral Cortical Bone Mass and Structure Compared With Teriparatide: HR-QCT Analyses of Randomized Controlled Trial Results in Postmenopausal Women with Low BMD**

T Damm*[1], C Libanati[2], J Peña[1], G Campbell[1], R Barkmann[1], DA Hanley[3], S Goemaere[4], MA Bolognese[5], C Recknor[6], C Mautalen[7], YC Yang[2], CC Glüer[1]. [1]Christian-Albrechts-Universität zu Kiel, Germany, [2]Amgen Inc., USA, [3]University of Calgary, Canada, [4]Ghent University Hospital, Belgium, [5]Bethesda Health Research Center, USA, [6]United Osteoporosis Centers, USA, [7]Centro de Osteopatias Medicas, Argentina

Disclosures: T Damm, Amgen, 2

FR0383 **Atypical subtrochanteric fracture is a rare phenomenon in osteoporotic patients treated with bisphosphonates**

Christian Muschitz*[1], Hans Peter Dimai[2], Roland Kocijan[3], Heinrich Resch[4], Peter Pietschmann[5], Martina Kostic[6], Alexandra Kaider[7], Michael Szivak[8], Matthias Schilling[9], Heinrich W. Thaler[10]. [1]St. Vincent's Hospital, Austria, [2]Medical University of Graz – Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, [3]St. Vincent Hospital Vienna, Austria, [4]Medical University Vienna, Austria, [5]Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, [6]St. Vincent Hospital – Medical Department II - Academic Teaching Hospital of Medical University of Vienna, Austria, [7]Center for Medical Statistics, Informatics & Intelligent Systems, Medical University of Vienna, Austria, [8]Austrian Trauma Insurance Agency (AUVA), Austria, [9]Institute for Medical Radiology, Diagnostics, Intervention; Clinical Center of Lower Austria, Austria, [10]Trauma Center Meidling, Austria

Disclosures: Christian Muschitz, None

FR0384 **Withdrawn**

FR0387 **Evaluation of Invasive Oral Procedures and Events in Women With Postmenopausal Osteoporosis Treated With Denosumab: Results From the Pivotal Phase 3 Fracture Study Extension**

Nelson B. Watts*[1], John T. Grbic[2], Michael McClung[3], Socrates Papapoulos[4], David Kendler[5], Christence S. Teglbjaerg[6], Lawrence O'Connor[7], Rachel B. Wagman[7], Eric Ng[7], Nadia S. Daizadeh[7], Pei-Ran Ho[7]. [1]Mercy Health, USA, [2]Columbia University, USA, [3]Oregon Osteoporosis Center, USA, [4]Leiden University Medical Center, Netherlands, [5]University of British Columbia, Canada, [6]CCBR, Denmark, [7]Amgen Inc., USA

Disclosures: Nelson B. Watts, OsteoDynamics, co-founder, stockholder and director, 1; Merck, NPS, 2; AbbVie, Amarin, Amgen, Bristol-Meyers Squibb, Corcept, Endo, Imagepace, Janssen, Lilly, Merck, Novartis, Noven, Pfizer/Wyeth, Radius, sanofi-aventis, 5

FR0388 **Findings from Denosumab (Prolia®) Post-marketing Safety Surveillance for Atypical Femoral Fracture, Osteonecrosis of the Jaw, Severe Symptomatic Hypocalcemia, and Anaphylaxis**

M Geller[1], RB Wagman*[1], PR Ho[1], S Siddhanti[1], C Stehman-Breen[1], NB Watts[2], S Papapoulos[3]. [1]Amgen Inc., USA, [2]Mercy Health Osteoporosis & Bone Health Services, USA, [3]Leiden University Medical Center, Netherlands

Disclosures: RB Wagman, Amgen, 1; Amgen, 3

FR0391 **Percentage of Women Achieving Non-osteoporotic BMD T-scores at the Spine and Hip Over 8 Years of Denosumab Treatment**

S Ferrari*[1], C Libanati[2], CJF Lin[2], S Adami[3], JP Brown[4], F Cosman[5], C Czerwiński[6], LH de Gregório[7], J Malouf[8], J-Y Reginster[9], NS Daizadeh[2], A Wang[2], RB Wagman[2], EM Lewiecki[10], S Cummings[11]. [1]Geneva University Hospital, Switzerland, [2]Amgen Inc., USA, [3]University of Verona, Italy, [4]Laval University & CHU de Québec Research Centre, Canada, [5]Helen Hayes Hospital, USA, [6]Krakow Medical Center, Poland, [7]CCBR, Brazil, [8]Universitat Autònoma de Barcelona, Spain, [9]University of Liège, Belgium, [10]New Mexico Clinical Research & Osteoporosis Center, USA, [11]San Francisco Coordinating Center, CPMC Research Institute, & UCSF, USA

Disclosures: S Ferrari, Amgen, MSD, Eli Lilly, GSK, Bioiberica, 5; Amgen, MSD, 2

FR0396 **The Extent of Symmetry on Images of Bilateral Atypical Femoral Fractures**

Linda Probyn*[1], Angela M. Cheung[2], Jonathan Adachi[3], Leon Lenchik[4], Aliya Khan[5], Earl Bogoch[6], Robert Josse[7], Catherine Lang[8], R Bleakney[9]. [1]University of Toronto, Sunnybrook Health SC, Dept. Medical Imaging, Canada, [2]University Health Network-University of Toronto, Canada, [3]St. Joseph's Hospital, Canada, [4]Wake Forest University, USA, [5]McMaster University, Canada, [6]St. Michael's Hospital, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]University of Toronto, Canada, [9]Mount Sinai Hospital, Canada

Disclosures: Linda Probyn, None

FR0397 **Virtual Twin Estimates: Continued New Vertebral and Nonvertebral Anti-Fracture Efficacy Through 8 Years of Treatment With Denosumab**

SR Cummings*[1], E Vittinghoff[2], NS Daizadeh[3], M Austin[3], A Wang[3], RB Wagman[3]. [1]San Francisco Coordinating Center, CPMC Research Institute, USA, [2]University of California San Francisco, USA, [3]Amgen Inc., USA

Disclosures: SR Cummings, Amgen, Lilly, Merck, 5

FR0398 **Zoledronic Acid in Frail Elders to Strengthen Bone: Three Year Results from ZEST Trial**

Susan Greenspan*[1], Mary Anne Ferchak[1], Subashan Perera[1], Dave Nace[1], Neil Resnick[2]. [1]University of Pittsburgh, USA, [2]Univeristy of Pittsburgh, USA

Disclosures: Susan Greenspan, Eli Lilly, Amgen, 2

FR0405 **Teriparatide Accelerates Healing of Bisphosphonate-Associated Atypical Femoral Fractures in Patients with Osteoporosis**

Naohisa Miyakoshi*[1], Toshiaki Aizawa[2], Satoshi Sasaki[3], Shigeru Ando[4], Shigeto Maekawa[5], Hiroshi Aonuma[1], Hiroyuki Tsuchie[6], Hiroshi Sasaki[7], Yuji Kasukawa[1], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Northern Akita Municipal Hospital, Japan, [3]Higashinaruse National Health Insurance Clinic, Japan, [4]Yamamoto-Kumiai General Hospital, Japan, [5]Ogachi Central Hospital, Japan, [6]Nakadori General Hospital, Japan, [7]Akita University School of Medicine, Japan

Disclosures: Naohisa Miyakoshi, None

FR0408 **A novel approach to inhibit bone resorption: ectosite inhibitors against cathepsin K**

Preety Panwar*[1], Kent Soe[2], Haoran Cui[3], Xin Du[4], Jean-Marie Delaisse[5], Dieter Bromme[6]. [1]University of British Columbia, Canada, [2]Vejle Hospital, University of Southern Denmark, Denmark, [3]Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, [4]Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, [5]Vejle Hospital, IRS, University of Southern Denmark, Denmark, [6]The University of British Columbia, Canada

Disclosures: Preety Panwar, None

FR0410 **Effects of Odanacatib on Bone Structure and Quality in Postmenopausal Women with Osteoporosis: Results from the Phase III Long-Term Odanacatib Fracture Trial (LOFT)**

Robert Recker*[1], David Dempster[2], Tobias de Villiers[3], Bente Langdahl[4], Paul Miller[5], Ivo Valter[6], Cristiano AF Zerbini[7], Dosinda Cohn[8], Steven Doleckyj[8], Le Duong[9], Boyd Scott[8], Nadia Verbruggen[10], Arthur Santora[11]. [1]Creighton University, USA, [2]Columbia University, USA, [3]Stellenbosch University, South Africa, [4]Aarhus University Hospital, Denmark, [5]Colorado Center for Bone Research, USA, [6]CCBR, Estonia, [7]Centro Paulista de Investigações Clínicas, Brazil, [8]Merck & Co., Inc., USA, [9]Merck Research Laboratories, USA, [10]MSD Europe Inc., Belgium, [11]Merck & Co. Inc., USA

Disclosures: Robert Recker, Merck, 2; Amgen, 2; Lilly, 5; Lilly, 2; Merck, 5

FR0411 **Inhibition NF-κB Signaling Pathway by Partial Ablation of the P65 Subunit Leads to Improved Bone Quality without Interfering with Bone Healing**

Hongshuai Li*[1], Aiping Lu[1], Nicholas Oyster[1], Ying Tang[1], Bing Wang[1], Johnny Huard[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA

Disclosures: Hongshuai Li, None

FR0414 **Bone Properties in Type 2 Diabetes are Associated with the Advanced Glycation Endproduct Pentosidine**

Dorothy Fink*[1], Jessica Furst[2], Chiyuan Zhang[3], Laura Beth Anderson[3], Hongfeng Jiang[4], Serge Cremers[3], Kyle Nishiyama[3], Hua Zhou[5], David Dempster[3], Atharva Poundarik[6], Shonni Silverberg[3], Deepak Vashishth[7], Mishaela Rubin[3]. [1]NYP-Columbia, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]Columbia University College of Physician & Surgeons, USA, [5]Helen Hayes Hospital, USA, [6]Rensselaer Polytechnic University, USA, [7]Rensselaer Polytechnic Institute, USA

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FR0415 **Effect of Teriparatide in Patients with Osteoporosis and Type 2 Diabetes Mellitus**

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Disclosures: Ann Schwartz, Merck, 5

FR0416 **Predictors of Mortality Subsequent to A Fracture in Diabetes Mellitus Patients**

Jakob Linde*[1], Søren Gregersen[1], Peter Vestergaard[2]. [1]Aarhus University Hospital, Denmark, [2]Aalborg University Hospital, Denmark

Disclosures: Jakob Linde, None

FR0417 **The Risk of Hip Fracture Is Increased in Subjects with Late-Onset Autoimmune Diabetes (LADA): Results from the HUNT Study**

Hanne Gulseth*[1], Lisa Forsen[2], Mari Hoff[3], Arnulf Langhammer[4], Siri Forsmo[5], Berit Schei[6], Kristian Midthjell[4], Haakon E. Meyer[2]. [1]MD PHD, Norway, [2]Norwegian Institute of Public Health/University of Oslo, Norway, [3]Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, [4]HUNT Research Centre, Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, [5]Norwegian University of Science & Technology, Norway, [6]Women's Health, Department of Community Medicine, Norwegian University of Science & Technology/Department of Obstetrics & Gynaecology St. Olavs Hospital Trondheim University Hospital, Norway

Disclosures: Hanne Gulseth, None

FR0418 **Type 1 Diabetes Mellitus Effects on Bone: Results of Histomorphometric Analysis**

Laura Armas*, Robert Recker. Creighton University, USA

Disclosures: Laura Armas, None

FR0419 **Type 2 Diabetics with and without Fragility Fractures show characteristic Differences in their Serum MicroRNA Profiles that may be used for Fracture Risk Prediction**

Ursula Heilmeier*[1], Matthias Hackl[2], Susanna Skalicky[2], Janina Patsch[3], Thomas Baum[4], Andrew Burghardt[5], Ann Schwartz[5], Johannes Grillari[6], Thomas Link[5]. [1]University of California San Francisco, USA, [2]TAmiRNA GmbH, Austria, [3]Medical University of Vienna, Austria, [4]Klinikum rechts der Isar, TU Muenchen, Germany, [5]University of California, San Francisco, USA, [6]University of Natural Resources & Life Sciences Vienna, Austria

Disclosures: Ursula Heilmeier, None

FR0420 **HR-pQCT Detects Abnormal Cortical and Trabecular Bone Density and Structure in Young Adults with Cystic Fibrosis**

Kyle Nishiyama*[1], Anna Kepley[1], Fernando Rosete[1], Claire Keating[1], Emily DiMango[1], Elizabeth Shane[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA

Disclosures: Kyle Nishiyama, None

FR0429 **IGF Signaling in Periosteal Cells Plays a Crucial Role in Callus Formation and Bone Fracture Repair**

Ping Ye*[1], Timothy Myers[2], Alessandra Esposito[3], Joseph Temple[3], Tieshi Li[1], Helen Willcockson[2], Billie Moats-Staats[4], Lara Longobardi[1], Anna Spagnoli[1]. [1]University of North Carolina at Chapel HIll, USA, [2]University of North Carolina, USA, [3]The University of North Carolina at Chapel Hill, USA, [4]University of North Carolina- Chapel Hill, USA

Disclosures: Ping Ye, None

FR0433 **RANKL Inhibition in the Pathogenesis and Treatment of Fibrous Dysplasia**
Andrea Burke*[1], Howard Wang[2], Jeffrey Tsai[3], Nisan Bhattacharyya[4], Alison Boyce[5], Rachel Gafni[1], Andrea Estrada[1], Alfredo Molinolo[4], Pamela Robey[6], Michael Collins[1]. [1]National Institutes of Health, USA, [2]University of Maryland, USA, [3]SUNY Buffalo, USA, [4]NIH, USA, [5]Children's National Medical Center, USA, [6]National Institute of Dental & Craniofacial Research, USA
Disclosures: Andrea Burke, None

FR0434 **Adult Hypophosphatasia: Clinical Presentation and Diagnostic Findings**
Lothar Seefried*[1], Franca Genest[1], Christine Hofmann[2], Sebastian v. d. Assen[1], Maximilian Rudert[1], Franz Jakob[1]. [1]Orthopedic Center for Musculoskeletal Research, Germany, [2]University Childrens Hospital, Germany
Disclosures: Lothar Seefried, None

FR0435 **Enzyme-Replacement Therapy in Life-Threatening Hypophosphatasia: The 3-Year Experience with Asfotase Alfa**
Michael Whyte*[1], Jill H. Simmons[2], Richard E. Lutz[3], Scott Moseley[4], Agustin Melian[4], Tatjana Odrljin[4], Nicholas Bishop[5]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Vanderbilt Children's Hospital, USA, [3]Nebraska Medical Center, USA, [4]Alexion Pharmaceuticals Inc, USA, [5]University of Sheffield, Academic Unit of Child Health, United Kingdom
Disclosures: Michael Whyte, Alexion Pharmaceuticals Inc, 5; Alexion Pharmaceuticals Inc, 2

FR0436 **Hypophosphatasia: Clinical Nosology In Childhood Validated From 25 Years Experience With 174 Pediatric Patients**
Michael Whyte*[1], Fan Zhang[1], William McAlister[2], Deborah Wenkert[3], Karen Mack[1], Marci Benigno[1], Stephen P. Coburn[4], Susan Wagy[1], Donna M. Griffin[1], Karen Erickson[4], Steven Mumm[5]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Department of Pediatric Radiology, Mallinckrodt Institute of Radiology at St. Louis Children's Hospital, Washington University School of Medicine, USA, [3]Amgen, Inc., USA, [4]Department of Chemistry, Indiana University – Perdue University, USA, [5]Washington University School of Medicine, USA
Disclosures: Michael Whyte, Enobia Pharma Montreal Canada, 5; Enobia Pharma Montreal Canada, 2; Alexion Pharmaceuticals Cheshire CT, USA, 5; Alexion Pharmaceuticals Cheshire CT, USA, 2

FR0437 **Unrecognized Mild Hypophosphatasia in Adults**
Leyre Riancho-Zarrabeitia[1], Mayte García-Unzueta[2], Juan Gomez-Gerique[2], Jose Riancho*[3]. [1]Hospital U.M.Valdecilla, Spain, [2]Hospital U.M. Valdecilla, Spain, [3]University of Cantabria, Spain
Disclosures: Jose Riancho, None

FR0438 **Efficiency of whole exome sequencing for determining genetic origins of hypophosphatemic rickets patients without identified PHEX mutations**
Catherine Brownstein*[1], Matthew Bainbridge[2], Meghan Towne[3], Nicholas Marinakis[3], Pankaj Agarwal[3], Alan Beggs[3], David Margulies[3], Gang-Qing Yao[4], Karl Insogna[4], Thomas Carpenter[4]. [1]Boston Children's Hospital & Harvard Medical School, USA, [2]Codified Genomics, USA, [3]Boston Children's Hospital, USA, [4]Yale University School of Medicine, USA
Disclosures: Catherine Brownstein, None

FR0442 **Loss of ERK1 and ERK2 in osteochondro progenitor cells causes metachondromatosis by enhancing chondrogenesis**
Zhijun Chen*[1], Susan X. Yue[2], Guang Zhou[1], Edward Greenfield[1], Shunichi Murakami[1]. [1]Case Western Reserve University, USA, [2]Department of Orthopaedics, Case Western Reserve University, USA
Disclosures: Zhijun Chen, None

FR0448 **Increased Peripheral Vascular Flow and Aortic Stiffness are Associated with Higher Lean Mass but Lower Muscle Quality in Middle-Aged and Older Adults: the Framingham Heart Study**

Shivani Sahni*[1], Na Wang[2], Alyssa Dufour[3], Douglas Kiel[3], Emelia Benjamin[4], Joanne Murabito[5], Joseph Vita[6], Marian Hannan[7], Paul Jacques[8], Robert McLean[9], Roger Fielding[10], Vasan Ramachandran[11], Gary Mitchell[12], Naomi Hamburg[6]. [1]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [2]Boston University School of Public Health, USA, [3]Hebrew SeniorLife, USA, [4]Framingham Heart Study, Boston University School of Public Health, Boston University School of Medicine, USA, [5]Framingham Heart Study & Boston University School of Medicine, USA, [6]Boston University School of Medicine, USA, [7]HSL Institute for Aging Research & Harvard Medical School, USA, [8]Jean Mayer USDA HNRCA, Tufts University, USA, [9]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [10]Jean Mayer USDA HNRCA At Tufts University, USA, [11]Framingham Heart Study, Boston University School of Medicine, USA, [12]Cardiovascular Engineering, Inc., USA

Disclosures: Shivani Sahni, Unrestricted research grants from General Mills Bell Institute of Health and Nutrition, 2

FR0449 **Long-term bisphosphonate users have relatively lower skeletal muscle mass around the femur with increased serum pentosidine concentrations**

Shigeharu Uchiyama*[1], Shota Ikegami[2], Keijiro Mukaiyama[2], Yukio Nakamura[3], Mikio Kamimura[4], Hiroyuki Kato[2]. [1]Shinshu University, School of Medicine, Japan, [2]Department of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [3]Dept of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [4]Kamimura Clinic, Japan

Disclosures: Shigeharu Uchiyama, None

FR0451 **Novel Mass Spectrometry Measurements of Circulating Myostatin Levels in Relation to Sarcopenia, Lean Mass and Bone Parameters in Women and Men**

Joshua Farr*[1], Patrick Vanderboom[1], H. Robert Bergen[1], Sundeep Khosla[2], Nathan LeBrasseur[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Joshua Farr, None

FR0453 **Relationship of Muscle Function and Mass with the Health Assessment Questionnaire**

Bjoern Buehring*[1], Sheeva Marvdashti[2], Christina C Lemon[2], Kaitlin R Chambers[2], Erin Johnson[2], Karen Hansen[3]. [1]University of Wisconsin, Madison, USA, [2]Department of Medicine, University of Wisconsin School of Medicine & Public Health, USA, [3]University of Wisconsin, USA

Disclosures: Bjoern Buehring, None

FR0455 **ASBMR 2014 Annual Meeting Young Investigator Award**
Simple Functional Tests Predict Hip Fracture and Mortality in Postmenopausal Women; A 15 – Year Follow-Up

Toni Rikkonen*[1], Kenneth Poole[2], Joonas Sirola[3], Reijo Sund[4], Risto Honkanen[5], Heikki Kroger[6]. [1]Finland, [2]University of Cambridge, United Kingdom, [3]University of Eastern Finland / Kuopio, Finland, [4]University of Helsinki, Finland, [5]University of Eastern Finland, Finland, [6]Kuopio University Hospital, Finland

Disclosures: Toni Rikkonen, None

FR0456 **The effect of acute exercise on undercarboxylated osteocalcin and insulin sensitivity in obese men**

Itamar Levinger*[1], George Jerums[2], Nigel Stepto[3], Lewan Parker[3], Fabio Serpiello[3], Glenn McConell[3], Mitchell Anderson[3], David Hare[2], Elizabeth Byrnes[4], Peter Ebeling[5], Ego Seeman[6]. [1]Victoria University, Australia, [2]Austin Health, Australia, [3]Institute of Sport, Exercise & Active Living (ISEAL), Victoria University, Australia, [4]PathWest QEII Medical Centre, Australia, [5]Department of Medicine, School of Clinical Sciences, Monash University, Australia, [6]Austin Health, University of Melbourne, Australia

Disclosures: Itamar Levinger, None

FR0461 **Hdac3 regulates osteoblastic glucocorticoid and lipid metabolism during aging**

Meghan McGee-Lawrence*[1], Lomeli Carpio[1], Ryan Schulze[1], Mark McNiven[1], Sundeep Khosla[2], Merry Jo Oursler[1], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Meghan McGee-Lawrence, None

FR0462 **Loss of Progranulin Increases Bone Mass in Adult Mice in a Gender Dependent Manner**
Liping Wang*[1], Theresa M. Roth[2], Thi A. Nguyen[3], Ping Zhou[3], Jiasheng Zhang[4], Mary Nakamura[5], Eric J. Huang[6], Robert V. Farese Jr.[7], Robert Nissenson[8]. [1]VA Medical Center, San Francisco, USA, [2]Endocrine Unit, VA Medical Center, USA, [3]Gladstone Institute of Cardiovascular Disease, USA, [4]Pathology, University of California, USA, [5]University of California, San Francisco/San Francisco VA Medical Center, USA, [6]Pathology, University of California / Pathology Service, VA Medical Center, USA, [7]Gladstone Institute of Cardiovascular Disease / Medicine & Biochemistry & Biophysics, University of California, USA, [8]VA Medical Center & University of California, San Francisco, USA
Disclosures: Liping Wang, None

FR0463 **Nox2-dependent ROS signaling protects against skeletal ageing**
Jin-Ran Chen*[1], Oxana P. Lazarenko[2], Kelly Mercer[3], Michael L. Blackburn[3], Thomas M. Badger[3], Martin J. J. Ronis[4]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]Arkansas Children's Nutrition Center & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [3]Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [4]Arkansas Children's Nutrition Center, USA
Disclosures: Jin-Ran Chen, None

FR0465 **Hip Fracture And Sarcopenia: A Model Of Osteoporosis-Related Muscle failure**
Umberto Tarantino*[1], Jacopo Baldi[2], Eleonora Piccirilli[2], Maurizio Feola[2], Cecilia Rao[2], Elena Gasbarra[2]. [1]Università degli Studi di Roma Tor Vergata, Italy, [2]Università degli Studi di Roma "Tor Vergata", Italy
Disclosures: Umberto Tarantino, None

FR0467 ***Asxl1*loss alters histone methylation status, leading to skeletal deficits**
Feng-Chun Yang*[1], Peng Zhang[2], Zhaomin Li[1], Yongzheng He[1], Lihn Nguyen[1], Jiapeng Wang[1], Khalid S. Mohammad[1], Theresa A. Guise[1], Mingjiang Xu[3]. [1]Indiana University, USA, [2]Indiana Univeristy, USA, [3]Indiana University School of Medicine, USA
Disclosures: Feng-Chun Yang, None

FR0468 **Dissociation of cortical and trabecular bone parameters in mice with conditional deletion of Solute carrier family 4 (anion exchanger), member 2 (SLC4A2) in mesenchymal cells**
William O'Brien*[1], Julia Charles[2], Kelly Tsang[1], Kenichi Nagano[3], Gary Shull[4], Roland Baron[5], Antonios Aliprantis[1]. [1]Brigham & Women's Hospital, USA, [2]Brigham & Women's Hospital & Harvard School of Medicine, USA, [3]Harvard School of Dental Medicine, USA, [4]University of Cincinnati College of Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: William O'Brien, None

FR0469 ***Dullard/Ctdnep1* regulates endochondral ossification via suppression of 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

FR0470 **ASBMR 2014 Annual Meeting Young Investigator Award**
Challenging the dogma of BMP canonical signaling in the absence of Smad4
Diana Rigueur*[1], Karen Lyons[2]. [1]Graduate Student, USA, [2]University of California, Los Angeles, USA
Disclosures: Diana Rigueur, None

FR0471 **Contrasting Skeletal and Molecular Phenotypes in Mice Lacking Prolyl Hydroxylase Domain-containing Protein 2 (PHD2) Gene in Chondrocytes Versus Osteoblasts**
Shaohong Cheng*[1], Weirong Xing[2], Sheila Pourteymoor[3], Subburaman Mohan[4], Jan Schulte[3], Bo Liu[3]. [1]VA Loma Linda Health Care Systems, USA, [2]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [3]Musculoskeletal Disease Center, Jerry L Pettis VA Medical Center, USA, [4]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Shaohong Cheng, None

FR0474 **RECQL4 regulates p53 function *in vivo* during skeletogenesis**
Linchao Lu*[1], Karine Harutyunyan[2], Weidong Jin[1], Jianhong Wu[1], Tao Yang[3], Yuqing Chen[1], Kyu Sang Joeng[1], Yangjin Bae[1], Jianning Tao[1], Brian Dawson[1], Ming-Ming Jiang[1], Brendan Lee[1], Lisa Wang[1]. [1]Baylor College of Medicine, USA, [2]University of Texas M. D. Anderson Cancer Center, USA, [3]Van Andel Research Institute, USA
Disclosures: Linchao Lu, None

FR0476 **The homeoboxgene *DLX4* promotes generation of human induced pluripotent stem cells.**
Naritaka Tamaoki*[1], Kazutoshi Takahashi[2], Hitomi Aoki[3], Kazuki Iida[1], Tomoko Kawaguchi[1], Daijirou Hatakeyama[1], Masatoshi Inden[4], Naoyuki Chosa[5], Akira Ishisaki[5], Takahiro Kunisada[3], Toshiyuki Shibata[1], Naoki Goshima[6], Shinya Yamanaka[2], Ken-Ichi Tezuka[7]. [1]Department of Oral & Maxillofacial Science, Gifu University Graduate School of Medicine, Japan, [2]Center for iPS Cell Research & Application, Japan, [3]Department of Tissue & Organ Development, Gifu University Graduate School of Medicine, Japan, [4]Laboratory of Medical Therapeutics & Molecular Therapeutics, Gifu Pharmaceutical Universit, Japan, [5]Division of Cellular Biosignal Sciences, Department of Biochemistry, Iwate Medical University, Japan, [6]Biomedicinal Information Research Center, National Institute of Advanced Industrial Science & Technology, Japan, [7]Gifu University Graduate School of Medicine, Japan
Disclosures: Naritaka Tamaoki, None

FR0478 **Znf9 plays an indispensable role in skeletal development by upregulating the expression of Indian hedgehog (Ihh) and multiple limb development regulator genes**
Yun Lu*[1], Guiqian Chen[2], Wei Chen[2], Guochun Zhu[3], Yi-Ping Li[2]. [1]USA, [2]University of Alabama at Birmingham, USA, [3]The University of Alabama at Birmingham, USA
Disclosures: Yun Lu, None

DISCOVERY HALL QUIZ SHOW

6:00 pm - 6:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

Young Investigators are invited to participate in the 2nd Annual ASBMR Discovery Hall Quiz Show. This fast paced trivia game will tes your knowledge of bone science and ASBMR history, and will feature cash prizes for all who play. Moderated by Larry Suva, this is a fun event for participants and spectators.

YOUNG INVESTIGATOR AND DIVERSE MEMBER NETWORKING HOUR

Sponsored by the ASBMR Membership Engagement Committee, Diversity in Bone and Mineral Research Subcommittee and Young Investigator Subcommittee

7:15 pm - 8:00 pm **Hilton Americas - Room 230**

Young Investigators and diverse members who wish to continue building connections with peers in a fun and informal setting are invited to attend this event, which will precede the speed networking event.

PEDIATRIC BONE AND MINERAL WORKING GROUP

Supported by educational grants from Ultragenyx Pharmaceutical and Alexion Pharmaceuticals, Inc.

7:15 pm - 9:30 pm **George R. Brown Convention Center**
Room 332E

7:15 pm **Dinner**

7:40 pm **Opening Remarks**

7:45 pm **Obesity: Bad to the Bone?**
Scott Going, Ph.D.
University of Arizona, USA

8:15 pm **Assessment of Adverse Events Associated with Zoledronic Acid Use in Children and Young Adults with Metabolic and Genetic Bone Disease**
Sobenna George, M.D.
The Children's Hospital of Philadelphia, USA

8:30 pm **Effect of Adiposity and Trabecular Bone Microarchitecture on Vibration Transmission in the Lower Limb of Children with Spastic CP**
Harshvardhan Singh, M.S., PT
University of Delaware, USA

8:45 pm **A Novel Splice-mutation in *PLS3*Causes X-linked Early-onset Low-turnover Osteoporosis**
Outi Makitie, M.D., Ph.D.
University of Helsinki, Finland

9:00 pm **Fractures in Perinatally HIV-infected versus HIV-exposed Uninfected Children and Youth**
Linda DiMeglio, M.D.
Indiana University School of Medicine, USA

9:15 pm **Closing Remarks**

MUSCLE AND BONE WORKING GROUP

7:30 pm - 9:30 pm **George R. Brown Convention Center**
Room 332D

7:30 pm **Use of CT Image Analysis to Quantify Fat Infiltration in Muscle and Bone**
Gustavo Duque, M.D., Ph.D.
University of Sydney, Australia

7:55 pm **Automated Classification of Fat Compartments within Muscle on MR Images**
Alexander Valentinisch, Ph.D.
Technische Universität München, Germany

8:20 pm **Novel Approaches to Assessment of Microarchitectural Bone Changes**
Matthew DiFranco, Ph.D.
Medical University of Vienna, Austria

8:45 pm **Open Floor Discussion on Select Topics: How to Define Muscle? Do We Ignore the Fascia on CT Images? What Do We Call Fat in These Different Locations? How Can We Study Tendons and Insertion Sites? How to Quantify Arterial Calcification?**
Andy Kin On Wong, HBSc, McMaster University, Canada
James (J.D.) Johnston, Ph.D., University of Saskatchewan, Canada

9:10 pm **Open Floor Discussion of Submitted Questions**
Participants are invited to submit images querying quantification methods and identifying features to Andrew Frank (andrew.frank@usask.ca)
Andy Kin On Wong, HBSc, McMaster University, Canada
James (J.D.) Johnston, Ph.D., University of Saskatchewan, Canada

BONE TURNOVER MARKERS WORKING GROUP

Emerging Bone Turnover Markers and Ongoing Efforts to Improve Currently Available Assays
Supported by: Roche Diagnostics, IDS, and TECOmedical AG

7:30 pm - 9:30 pm **George R. Brown Convention Center**
Room 342B

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

7:35 pm **Sclerostin**
Matthew Drake, M.D., Ph.D.
Mayo Clinic College of Medicine, USA

8:05 pm **FGF23: Marker of Disease or Pathogenic Factor**
Michael Econs, M.D.
Indiana University School of Medicine, USA

8:45 pm **Improving Clinical BTM Measurements: Experience with Beta-CTx and PINP**
Howard Morris, Ph.D.
SA Pathology, Australia

9:25 pm **Closing Statements**

A light dinner will precede the program.

SPEED NETWORKING EVENT

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

8:00 pm - 10:00 pm **Hilton Americas - Ballroom of the Americas A**

The annual Speed Networking Event provides you with a networking experience like no other. You will have an opportunity to meet more than 10 researchers and, in short networking conversations, learn about them and introduce yourself. Come prepared with a two-minute introduction that "sells" who you are and what you do, and don't forget your business cards! This is an opportunity to learn networking skills and meet members in all career stages and across various scientific specialties. A reception will follow the event.

Saturday, September 13, 2014

Day-At-A-Glance

Time/Event/Location **All locations in the George R. Brown Convention Center unless otherwise noted**

ASBMR NETWORKING BREAKFAST

Sponsored by the ASBMR Membership Engagement Committee

6:45 am - 8:00 am **George R. Brown Convention Center**
Grand Ballroom A

New Investigators, new ASBMR members and young and diverse investigators are invited to join ASBMR leadership, senior investigators and NIH Representatives for an informal networking breakfast. Attendees will have the opportunity to network with senior investigators at tables assigned by research topic. Breakfast will be provided. Sign up to attend when you register for the meeting.

ASBMR REGISTRATION OPEN

7:00 am - 5:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

GERALD D. AURBACH LECTURE

PRESENTATION OF THE WILLIAM F. NEUMAN AWARD, LAWRENCE G. RAISZ AWARD AND SHIRLEY HOHL SERVICE AWARD

8:00 am - 9:30 am **George R. Brown Convention Center**
General Assembly Theater

8:00 am **Selective Autophagy: Cleaning and Fueling at the Old Trash Can**
Ana Maria Cuervo, M.D., Ph.D.
Albert Einstein College of Medicine, USA
Disclosures: Ana Maria Cuervo, None

POSTERS OPEN

8:00 am - 6:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

DISCOVERY HALL OPEN

9:30 am - 4:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

COFFEE BREAK

9:30 am - 10:00 am **George R. Brown Convention Center**
Discovery Hall-Hall E

PLENARY ORALS: BASIC BONE BIOLOGY 1

10:00 am - 11:30 am **George R. Brown Convention Center**

Grand Ballroom BC

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

Ivo Kalajzic, M.D., Ph.D.
University of Connecticut Health Center, USA
Disclosures: Ivo Kalajzic, None

10:00 am **ASBMR 2014 Felix Bronner Young Investigator Award**
1021 **Sarcopenia and Increased Body Fat in Sclerostin Deficient Mice**
Andrew Krause*, Toni Speacht, Peter Govey, Yue Zhang, Jennifer Steiner, Charles Lang, Henry Donahue. Penn State College of Medicine, USA
Disclosures: Andrew Krause, None

10:15 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1022 **HDAC5 Controls MEF2C-Driven Sclerostin Production by Osteocytes**
Marc Wein*[1], Jordan Spatz[2], Shigeki Nishimori[1], John Doench[3], David Root[3], Daniel Brooks[4], Mary Bouxsein[5], Paola Divieti Pajevic[6], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [3]Broad Institute, USA, [4]Beth Israel Deaconess Medical Center, USA, [5]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [6]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Marc Wein, None

10:30 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1023 **Ift80 balances canonical and non-canonical hedgehog signaling pathways during osteoblast differentiation and bone development**
Xue Yuan*[1], Shuying Yang[2]. [1]University At Buffalo, USA, [2]State University of New York At Buffalo, USA
Disclosures: Xue Yuan, None

10:45 am **A subset of mesenchymal stem/progenitor cells responds to stress and constitutes a major**
1024 **source of new osteoblasts during fracture repair *in vivo***
Dongsu Park*[1], Joel A. Spencer[2], Charles P. Lin[2], David T. Scadden[3]. [1]Baylor College of Medicine, USA, [2]Wellman Center for Photomedicine & Center for Systems Biology, Massachusetts General Hospital, USA, [3]Center for Regenerative Medicine, Massachusetts General Hospital, Harvard Stem Cell Institute, USA
Disclosures: Dongsu Park, None

11:00 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1025 **Diacylglycerol kinase ζ (DGKζ) is a critical regulator of bone homeostasis by modulating c-FOS levels in osteoclasts**
Ali Zamani*[1], Pamela Hesker[2], Justus Katungi[3], Roberta Faccio[2]. [1]Department of Orthopedics, Washington University, St. Louis, Missouri, USA, [2]Washington University in St Louis School of Medicine, USA, [3]Washington University in St.Louis-Orthopaedic Surgery Department, USA
Disclosures: Ali Zamani, None

11:15 am **FoxO1 inhibits bone mass accrual through its expression in neurons of the locus coeruleus.**
1026 Daisuke Kajimura*, Gerard Karsenty. Columbia University, USA
Disclosures: Daisuke Kajimura, None

Moderators:
Emma Duncan, M.D., Ph.D.
Royal Brisbane & Women's Hospital, Australia
Disclosures: Emma Duncan, None

Clifford Rosen, M.D.
Maine Medical Center, USA
Disclosures: Clifford Rosen, None

10:00 am 1027 **Rare Protein-Coding Variants Are Associated with Osteoporotic Fracture: An Exome-Chip Analysis of 44,130 Adult Caucasians in CHARGE and GEFOS Consortia**

Yi-Hsiang Hsu*[1], Karol Estrada[2], Paul Leo[3], Alexander Teumer[4], Ching-Ti Liu[5], Emma Duncan[6], HouFeng Zheng[7], Ryan Minster[8], Leo-Pekka Lyytikäinen[9], Najaf Amin[10], Ruben Pengelly[11], Raquel Cruz Guerrero[12], Janja Marc[13], Carrie Nielson[14], Laura Yerges-Armstrong[15], Melina Claussnitzer[16], Ling Oei[17], NM van Schoor[18], Carolina Medina-Gomez[19], Yanhua Zhou[20], Chao-Ho Cheng[21], Yongmei Liu[22], Uwe Völker[4], Mika Kahonen[23], Cyrus Cooper[24], Andre Uitterlinden[25], Anke Hannemann[26], David Karasik[27], Simona Mencej-Bedrac[28], Jose Antonio Riancho Moral[29], John Holloway[11], Terho Lehtimäki[9], Rebecca Jackson[30], L Adrienne Cupples[5], Tamara Harris[31], Henri Wallaschofski[32], Fernando Rivadeneira[33], Brent Richards[34], Daniel Chasman[35], Matthew Brown[36], Douglas Kiel[37]. [1]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [2]Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, [3]University of Queensland Diamantina Institute, Brisbane, Australia, Australia, [4]Interfaculty Institute for Genetics & Functional Genomics, University of Greifswald, Germany, [5]Biostatistics Dept. Boston University, USA, [6]Royal Brisbane & Women's Hospital, Australia, [7]Departments of Medicine, Human Genetics, Epidemiology & Biostatistics, McGill University, Canada, [8]Department of Human Genetics & Epidemiology, Graduate School of Public Health, University of Pittsburgh, USA, [9]Department of Clinical Chemistry, Fimlab Laboratories, Finland, [10]Department of Epidemiology, Erasmus Medical Center, Netherlands, [11]Human Genetics & Genomic Medicine, University of Southampton Faculty of Medicine, United Kingdom, [12]University of Santiago de Compostela, Spain, [13]Division of Clinical Biochemistry, University of Ljubljana, Slovenia, [14]Oregon Health & Science University, USA, [15]University of Maryland School of Medicine, USA, [16]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [17]Erasmus University Medical Center, The Netherlands, [18]Department of Epidemiology & Biostatistics, the EMGO Institute of Health & Care Research, Netherlands, [19]Erasmus Medical Center, The Netherlands, [20]Boston University, USA, [21]Hebrew SeniorLife Institute for Aging Research, USA, [22]Center for Human Genetics, Division of Public Health Sciences, Wake Forest School of Medicine, USA, [23]Department of Clinical Physiology, University of Tampere School of Medicine, Finland, [24]University of Southampton, United Kingdom, [25]Rm Ee 575, Genetic Laboratory, The Netherlands, [26]Institute of Clinical Chemistry & Laboratory Medicine, University Medicine, Germany, [27]Hebrew SeniorLife; Bar Ilan University, USA, [28]Faculty of Pharmacy, University of Ljubljana, Slovenia, [29]Hospital U.M. Valdecilla-IFIMAV, University of Cantabria, Spain, [30]The Ohio State University, USA, [31]Intramural Research Program, National Institute on Aging, USA, [32]Institute of Clinical Chemistry & Laboratory Medicine, Institute for Community Medicine, University Medicine Greifswald, University of Greifswald, Germany, [33]Erasmus University Medical Center, The Netherlands, [34]McGill University, Canada, [35]Brigham & Women's Hospital & Harvard Medical School, USA, [36]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [37]Hebrew SeniorLife, USA
Disclosures: Yi-Hsiang Hsu, None

10:15 am 1028 **Osteoblast-specific Overexpression of Human WNT16 Increases both Cortical and Trabecular Bone Density and Improves Bone Structure in Mice**
Imranul Alam*, Mohammed Alkhouli, Rita O'Riley, Weston Wright, Dena Acton, Amie Gray, Michael Econs. Indiana University School of Medicine, USA
Disclosures: Imranul Alam, None

10:30 am 1029 **Gut Microbiota Plays a Pivotal Role in the Bone Loss Induced by Sex Steroid Deficiency**
Jau-Yi Li*[1], Benoit Chassaing[2], Michael Reott[1], Jonathan Adams[1], M. Neale Weitzmann[1], Andrew Gewirtz[2], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Center for Inflammation, Immunity & Infection, Georgia State University, USA
Disclosures: Jau-Yi Li, None

10:45 am 1030 **ASBMR 2014 Annual Meeting Young Investigator Award**
Blood-circulating microRNAs are indicative of Fractures at the Femoral Neck in post-menopausal Women
Matthias Hackl*[1], Susanna Skalicky[1], Sylvia Weilner[2], Peter Dovjak[3], Peter Pietschmann[4], Johannes Grillari[2]. [1]TAmiRNA GmbH, Austria, [2]Department of Biotechnology, University of Natural Resources & Life Sciences Vienna, Austria, [3]Salzkammergut-Klinikum Bad Ischl, Gmunden, Vöcklabruck, Austria, [4]Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria
Disclosures: Matthias Hackl, TAmiRNA GmbH, 4

11:00 am 1031 **Wnt-Lrp5 signaling regulates fatty acid metabolism in the osteoblast**
Julie Frey[1], Zhu Li[1], Jessica Ellis[1], Charles Farber[2], Susan Aja[1], Michael Wolfgang[1], Thomas Clemens[3], Ryan Riddle*[1]. [1]Johns Hopkins University School of Medicine, USA, [2]University of Virginia, USA, [3]Johns Hopkins University, USA
Disclosures: Ryan Riddle, None

11:15 am 1032 **The $GABA_BR1$ Modulates Skeletal Actions of Chronic Hyperparathyroidism by Controlling PTH Secretion and Ca^{2+}-responsiveness of The Parathyroid Glands**
Hanson Ho[1], Jenna Hwong[1], Alfred Li[1], Christian Santa Maria[1], Zhiqiang Cheng[1], Amanda Herberger[1], Chia-Ling Tu[1], Jean-Pierre Vilardaga[2], Wenhan Chang*[1]. [1]Endocrine Research Unit, Department of Veterans Affairs Medical Center, University of California San Francisco, USA, [2]University of Pittsburgh, School of Medicine, USA
Disclosures: Wenhan Chang, None

MEET-THE-PROFESSOR SESSIONS

11:30 am - 12:30 pm **George R. Brown Convention Center**
Rooms 351A-351F

Meet-the-Professor Session: Bone Cells and Energy Metabolism
Room 351A
Fanxin Long, Ph.D.
Washington University School of Medicine, USA
Disclosures: Fanxin Long, None

Meet-the-Professor Session: Connexins, Cadherins, and Cell-to-Cell Signaling in Bone
Room 351B
Teresita Bellido, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Teresita Bellido, None

Pierre Marie, Ph.D.
Inserm Unit 606 and University Paris Diderot, France
Disclosures: Pierre Marie, None

Meet-the-Professor Session: Diet and the Microbiome
Room 351C
Connie Weaver, Ph.D.
Purdue University, USA
Disclosures: Connie Weaver, Friesland Foods, Tate & Lyle 2

Meet-the-Professor Session: Osteopetrosis
Room 351D

Uwe Kornak, M.D., Ph.D.
Charité-Universitaetsmedizin Berlin, Germany
Disclosures: Uwe Kornak, None

Meet-the-Professor Session: Strong Risk Factors for Hip Fracture for Clinicians
Room 351E

This activity is supported by an educational grant from Merck & Co., Inc.
Steven Cummings, M.D.
San Francisco Coordinating Center, USA
Disclosures: Steven Cummings, Radius 11; Merck 11; Amgen 5; Eli Lilly 5

Meet-the-Professor Session: Bone Health in HIV
Room 351F

Michael Yin, M.D.
Columbia University, USA
Disclosures: Michael Yin, Gilead 2

CLINICAL ROUNDTABLE - MANAGEMENT OF PREMENOPAUSAL WOMEN WITH LOW BONE DENSITY

This activity is supported by an educational grant from Lilly

11:30 am - 12:30 pm **George R. Brown Convention Center**
Grand Ballroom A

Chair
Sundeep Khosla, M.D.
Mayo Clinic College of Medicine, USA
Disclosures: Sundeep Khosla, None

Speakers
Karen Miller, M.D.
Massachusetts General Hospital, USA
Disclosures: Karen Miller, None

Elizabeth Shane, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Elizabeth Shane, Eli Lilly 2

BREAKING THROUGH: CLOSING THE GAP IN SECONDARY FRACTURE PREVENTION

11:30 am - 12:30 pm **George R. Brown Convention Center**
Room 320

Co-Chairs
John Eisman, MBBS, Ph.D.
Garvan Institute of Medical Research, Australia
Disclosures: John Eisman, None

Ethel Siris, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Ethel Siris, None

11:30 am **Implementation of Fracture Liaison Services: International Experience**
Paul Mitchell
University of Derby, United Kingdom
Disclosures: Paul Mitchell, None

12:00 pm Implementation of Fracture Liaison Services: Progress in the United States
David Lee
National Bone Health Alliance, USA
Disclosures: David Lee, None

TO MARS AND BEYOND - HOW WILL WE PRESERVE THE MUSCULOSKELETAL SYSTEM IN LONG-TERM SPACE FLIGHTS?

11:30 am - 12:30 pm **George R. Brown Convention Center**
Room 310

Co-Chairs
Robert Gagel, M.D.
University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Robert Gagel, None

Jean Sibonga, Ph.D.
NASA Johnson Space Center, USA
Disclosures: Jean Sibonga, None

11:30 am Greeting from the Astronauts Currently on the ISS

11:35 am Opportunities for Space-based Research
Julie Robinson, Ph.D.
NASA Johnson Space Center, USA
Disclosures: Julie Robinson, None

11:45 am Challenges in Assessing Bone Loss and Fracture Risk in Space Flights
Eric Orwoll, M.D.
Oregon Health and Science University, USA
Disclosures: Eric Orwoll, None

11:55 am Probabilistic Fracture Risk Assessment
Jerry Myers, Ph.D.
NASA John H. Glenn Research Center, USA
Disclosures: Jerry Myers, None

12:05 pm Experience of ASBMR Investigators with Active Space-based Research Programs: Working with NASA
Thomas Lang, Ph.D.
University of California, San Francisco, USA
Disclosures: Thomas Lang, None

12:10 pm Experience of ASBMR Investigators with Active Space-based Research Programs: Working With Industry
Mary Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Mary Bouxsein, None

12:15 pm Experience of ASBMR Investigators with Active Space-based Research Programs: Working With NIH
Paola Divieti Pajevic, M.D., Ph.D.
Massachusetts General Hospital and Harvard Medical School, USA
Disclosures: Paola Divieti Pajevic, None

12:20 pm Wrap-up and Discussion

ADULT METABOLIC BONE DISORDERS: CHRONIC KIDNEY DISEASE – METABOLIC BONE DISORDER

SA0001 In Postmenopausal Women with Stage 3 CKD, Fractures are Associated with Abnormalities in Both Trabecular and Cortical Bone

Emily Stein*[1], Kyle Nishiyama[2], Thomas Nickolas[1], Stephanie Sutter[3], Donald McMahon[1], X Guo[2], Elizabeth Shane[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA

Disclosures: Emily Stein, None

SA0002 Sclerostin and FGF-23 Protein Expression in Bone of Patients with Chronic Kidney Disease

Florence Lima*[1], Valentin David[2], Hanna Mawad[1], Hartmut Malluche[3]. [1]University of Kentucky, USA, [2]University of Miami, Miller School of Medicine, USA, [3]University of Kentucky Medical Center, USA

Disclosures: Florence Lima, None

ADULT METABOLIC BONE DISORDERS: HEMATOLOGIC MALIGNANCIES AND BONE

SA0003 ASBMR 2014 Annual Meeting Young Investigator Award
Gfi1 Inhibits Osteoblast Differentiation in Multiple Myeloma by Inducing Epigenetic Repression of *Runx2* in Bone Marrow Stromal Cells

Juraj Adamik*[1], Quanhong Sun[1], G. David Roodman[2], Deborah Galson[1]. [1]University of Pittsburgh, USA, [2]Indiana University, USA

Disclosures: Juraj Adamik, None

ADULT METABOLIC BONE DISORDERS: OSTEOMALACIA AND VITAMIN D DEFICIENCY

SA0004 Assessment of C3-Epi-25-Hydroxyvitamin D concentration in adult serum: LC-MS/MS determination using [$^2H_3$] 3-epi-25OHD$_3$ internal standard and NIST traceable commercial 3-epi-25OHD calibrators.

Jonathan Tang*[1], Christopher Washbourne[2], Isabelle Piec[3], William Fraser[2]. [1]University of East Anglia, Norwich, UK, United Kingdom, [2]University of East Anglia, United Kingdom, [3]BioAnalytical Facility, University of East Anglia, United Kingdom

Disclosures: Jonathan Tang, None

SA0005 Vitamin D and Calcium Supplement Diminish Bone Pain and Improves Self-Rated Health in Pre-menopausal Vitamin D Deficient Patients

Darshana Durup*[1], Peter Schwarz[2], Lona Christrup[1], Bent Lind[3], Anne-Marie Heegaard[4]. [1]Department of Drug Design & Pharmacology, Faculty of Health & Medical Sciences, University of Copenhagen, Denmark, [2]Glostrup Hospital, Denmark, [3]The Elective Laboratory of the Capital Region, Denmark, [4]Faculty of Health & Medical Sciences, University of Copenhagen, Denmark

Disclosures: Darshana Durup, None

ADULT METABOLIC BONE DISORDERS: OSTEONECROSIS

SA0006 Is Strontium Ranelate a Therapeutic Option to Treat CRPS?

Manfred Herold*[1], Malgorzata Brunner-Palka[2]. [1]Innsbruck Medical University, Austria, [2]physician, Austria

Disclosures: Manfred Herold, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

SA0007 Atypical Femoral Fractures: Radiographic and Histomorphometric Features in 19 Patients

Aliya Khan*[1], Angela M. Cheung[2], Osama Ahmed Khan[1], Mohammed Zohair Rahman[1], Ken Pritzker[3], Brian Lentle[4]. [1]McMaster University, Canada, [2]University Health Network-University of Toronto, Canada, [3]University of Toronto, Canada, [4]University of British Columbia, Canada

Disclosures: Aliya Khan, Merck, NPS, Amgen, 2

SA0008 EVALUATION OF SERUM SCLEROSTIN IN POSTMENOPAUSAL WOMEN WITH TYPE 2 DIABETES MELLITUS

Larissa Pimentel*[1], Francisco Bandeira[2], Sirley Vasconcelos[3], Luiz Griz[4], Vanessa Machado[5]. [1]Brazil, [2]University of Pernambuco, Brazil, [3]Hospital Agamenon Magalhães - Recife, Brazil, [4]Endocrinology & diabetes Uinit of Agamenon Magalhães Hospital, University of Pernambuco, Recife-PE-Brasil, Brazil, [5]Endocrinology & Diabetes Unit of Agamenon Magalhães, Brazil

Disclosures: Larissa Pimentel, None

SA0009 Progressive diffuse osteosclerosis in systemic lupus erythematosus

Nuria Guanabens*[1], Steven Mumm[2], Laia Gifre[3], Silvia Ruiz-Gaspà[4], Michael P. Whyte[5]. [1]Universitat De Barcelona, Spain, [2]Washington University School of Medicine, USA, [3]Hospital Clinic Barcelona, Spain, [4]CIBERehd. IDIBAPS, Spain, [5]Shriners Hospital for Children-Saint Louis, USA

Disclosures: Nuria Guanabens, None

ADULT METABOLIC BONE DISORDERS: PAGET'S DISEASE

SA0010 A Novel *VCP* Mutation in a Patient with Paget's Disease of Bone without Myopathy and Neurological Involvement.

Omar Albagha*[1], Ranganath Lakshminarayan[2], Stuart Ralston[1]. [1]University of Edinburgh, United Kingdom, [2]University of Liverpool, United Kingdom

Disclosures: Omar Albagha, None

SA0011 Gene-gene Interactions in Paget's Disease of Bone

Sabrina Guay-Bélanger*[1], David Simonyan[2], Edith Gagnon[2], Jean Morissette[2], Jacques P. Brown[2], Laetitia Michou[3]. [1]Centre de recherche du CHU de Québec-CHUL, Canada, [2]CHU de Québec Research Centre, Canada, [3]Université Laval, Canada

Disclosures: Sabrina Guay-Bélanger, None

SA0012 NFAM1 Modulates Calcineurin-NFATc1 Signaling during Osteoclast Differentiation in Paget's Disease of Bone

Yuvaraj Sambandam*[1], Kumaran Sundaram[2], Takamitsu Saigusa[1], Sudhaker Rao[3], William Ries[1], Sakamuri Reddy[2]. [1]Medical University of South Carolina, USA, [2]Charles P. Darby Children's Research Institute, USA, [3]Henry Ford Hospital, USA

Disclosures: Yuvaraj Sambandam, None

ADULT METABOLIC BONE DISORDERS: PARATHYROID DISORDERS

SA0013 Long-Term Effect of Recombinant Human Parathyroid Hormone, rhPTH(1-84), on Skeletal Dynamics in Patients With Hypoparathyroidism: One-Year Data From the Open-Label RACE Study

Bart L. Clarke*[1], Michael Mannstadt[2], Dolores M. Shoback[3], Tamara J. Vokes[4], Mark L. Warren[5], Michael A. Levine[6], Hjalmar Lagast[7], John P. Bilezikian[8]. [1]Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, & Nutrition, USA, [2]Massachusetts General Hospital & Harvard Medical School, USA, [3]SF Department of Veterans Affairs Medical Center, University of California, USA, [4]University of Chicago Medicine, USA, [5]Endocrinology & Metabolism, Physicians East, USA, [6]Children's Hospital of Philadelphia, USA, [7]NPS Pharmaceuticals, Inc, USA, [8]College of Physicians & Surgeons, Columbia University, USA

Disclosures: Bart L. Clarke, NPS Pharmaceuticals, Inc., 2

SA0014 **Low Vitamin D Levels in Primary Hyperparathyroidism Affect Cortical Bone Density and Porosity but not Estimated Bone Stiffness**
Marcella Walker*[1], Kyle Nishiyama[1], Elaine Cong[2], James Lee[3], Anna Kepley[1], Chiyuan Zhang[1], X Guo[1], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Columbia Presbyterian Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Marcella Walker, None

SA0015 **PTH(1-84) Treatment is Safe and Effective in Hypoparathyroidism for Six Years**
Mishaela Rubin*[1], Natalie Cusano[2], Laura Beth Anderson[1], Dinaz Irani[3], James Sliney[1], Elizabeth Levy[1], Wen-wei Fan[1], Donald McMahon[2], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University Medical Center, USA
Disclosures: Mishaela Rubin, NPS Pharmaceuticals, 2

SA0016 **ASBMR 2014 Annual Meeting Young Investigator Award**
Skeletal Microstructure Continues to Improve Markedly Two Years After Parathyroidectomy in Primary Hyperparathyroidism
Natalie Cusano*[1], Chiyuan Zhang[2], Wen-Wei Fan[1], Aline Costa[2], Elizabeth Levy[1], John Bilezikian[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA
Disclosures: Natalie Cusano, None

SA0017 **Vitamin D Deficiency is Less Common in Mild Primary Hyperparathyroidism**
Elaine Cong*[1], Marcella Walker[2], Anna Kepley[2], Chiyuan Zhang[2], Donald McMahon[3], Shonni Silverberg[2]. [1]Columbia Presbyterian Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Elaine Cong, None

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SA0018 **A Novel Model to Predict Bone Mineral Density (BMD) in Cerebral Palsy (CP) Patients**
Abdulhafez Selim*[1], Abeer Hegazy[2]. [1]Center for Chronic Disorders of Aging, PCOM, USA, [2]Agoza Rehabilitation Center, Egypt
Disclosures: Abdulhafez Selim, None

SA0019 **Accuracy of MRTA Measurements of Ulna Bending Stiffness and Strength in Cadaveric Human Arms**
Lyn Bowman*, Emily R. Ellerbrock, Gabrielle C. Hausfeld, Margeaux J. Dennis, Timothy D. Law, Jr., John R. Cotton, Anne B. Loucks. Ohio University, USA
Disclosures: Lyn Bowman, None

SA0020 **Accurate Quantification of Bone Fragility Requires Inclusion of Pores of all Sizes**
Afrodite Zendeli*[1], Yohann Bala[2], Mariana Kersh[3], Ali Ghasem-Zadeh[4], Ego Seeman[4], Roger Zebaze[4]. [1]Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, [2]University of Melbourne, Dept. of Medicine, Australia, [3]Department of Mechanical Engineering, Melbourne School of Engineering, University of Melbourne, Australia, Australia, [4]Austin Health, University of Melbourne, Australia
Disclosures: Afrodite Zendeli, None

SA0021 **Age-related changes in bone biomechanical parameters in African ancestry men**
Pallavi Jonnalagadda*[1], Ryan Cvejkus[2], Joseph Zmuda[3], Clareann Bunker[2], Yahtyng Sheu[3], Alan Patrick[4], Christopher Gordon[5], Victor Wheeler[4]. [1]Pitt Public Health, University of Pittsburgh, USA, [2]University of Pittsburgh, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Tobago Health Studies Office, Trinidad & tobago, [5]McMaster University, Canada
Disclosures: Pallavi Jonnalagadda, None

SA0022 **An Exploratory Study on Bone Densitometric and Micro-Architectural Changes During Distal Radius Fracture Healing: the Fractured vs. the Non-Fractured Region**

Joost De Jong*[1], Paul Willems[2], Jacobus Arts[2], Sandrine Bours[3], Peter Brink[4], Piet Geusens[5], Bert van Rietbergen[6], Joop van den Bergh[7]. [1]Maastricht University Medical Center, The Netherlands, [2]Department of Orthopaedics & CAPRHI, Maastricht University Medical Center, Netherlands, [3]Department of Internal Medicine, Maastricht University Medical Center, Netherlands, [4]Department of Surgery, Maastricht University Medical Center, Netherlands, [5]Department of Internal Medicine & CAPHRI, Maastricht University Medical Center, Netherlands, [6]Faculty of Biomedical Engineering, Eindhoven University of Technology, Netherlands, [7]Department of Internal Medicine & NUTRIM, VieCuri Venlo & Maastricht University Medical Center, Netherlands

Disclosures: Joost De Jong, None

SA0023 **Atlas-based Correlation of Local Trabecular Directionality and Deformation with Serum Markers of Bone Turnover in Lung Transplant Recipients in a Longitudinal Setting**

Lukas Fischer[1], Alexander Valentinitsch[2], Thomas Gross[3], Daniela Kienzl[1], Claudia Schueller-Weidekamm[1], Franz Kainberger[1], Janina Patsch[1], Georg Langs[1], Matthew DiFranco*[1]. [1]Medical University of Vienna, Austria, [2]Klinikum rechts der Isar, Technische Universität München, Germany, [3]Technical University of Vienna, Austria

Disclosures: Matthew DiFranco, None

SA0024 **Can bone quality markers predict nonunion?**

Koji Nozaka*[1], Naohisa Miyakoshi[1], Michio Hongo[1], Yuji Kasukawa[1], Hiroshi Aonuma[1], Hiroyuki Tsuchie[2], Kentaro Ohuchi[1], Hayato Kinoshita[3], Chie Sato[4], Masashi Fujii[4], Yoichi Shimada[4]. [1]Akita University Graduate School of Medicine, Japan, [2]Nakadori General Hospital, Japan, [3]Akita University, Japan, [4]Dept.of Orthopedic Surgery, Akita University Graduate School of Medicine, Japan

Disclosures: Koji Nozaka, None

SA0025 **Characterization of Bone Quality in Rat Femur Performed Combination Therapy with PTH_{1-34} and Vitamin K_2Using FTIR Imaging**

Teppei Ito*[1], Tomohiro Shimizu[2], Masahiro Todoh[3], Masahiko Takahata[4], Hiromi Kimura-Suda[1]. [1]Chitose Institute of Science & Technology, Japan, [2]Department of Orthopedic Surgery, School of Medicine, Hokkaido University, Japan, [3]Division of Human Mechanical Systems & Design, Faculty of Engineering, Hok kaido University, Japan, [4]Hokkaido University, School of Medicine, Japan

Disclosures: Teppei Ito, None

SA0026 **ASBMR 2014 Annual Meeting Young Investigator Award**
Consequences of acute estrogen deficiency on bone quality and biology and the effects of Low Intensity Vibrations for mitigating bone loss

Divya Krishnamoorthy*[1], Clinton Rubin[2], Danielle Frechette[3]. [1]SUNY Stony Brook University, USA, [2]State University of New York at Stony Brook, USA, [3]Stony Brook University, USA

Disclosures: Divya Krishnamoorthy, None

SA0027 **ASBMR 2014 Annual Meeting Young Investigator Award**
Cortical Tissue from Postmenopausal Women with Atypical Fractures Shows Reduced Heterogeneity in Nanomechanical Properties

Ashley Lloyd*, Eve Donnelly. Cornell University, USA

Disclosures: Ashley Lloyd, None

SA0028 **Discriminants of Prevalent Fragility Fractures in Chronic Spinal Cord Injury**

William Edwards*[1], Narina Simonian[2], Karen Troy[3], Thomas Schnitzer[2]. [1]University of Calgary, Canada, [2]Northwestern University, USA, [3]Worcester Polytechnic Institute, USA

Disclosures: William Edwards, None

SA0029 **Effect of Variations in Tissue-Level Ductility on Femoral Strength**

Shashank Nawathe*[1], Nasim Barzanian[2], Mary Bouxsein[3], Tony Keaveny[2]. [1]University Of California at Berkeley, USA, [2]University of California, Berkeley, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Disclosures: Shashank Nawathe, None

SA0030 **Glycation alters material properties of diabetic mice at multiple length scales**
Atharva Poundarik*[1], Grazyna Sroga[2], Mishaela Rubin[3], Deepak Vashishth[2]. [1]Rensselaer Polytechnic University, USA, [2]Rensselaer Polytechnic Institute, USA, [3]Columbia University, USA
Disclosures: Atharva Poundarik, None

SA0031 **MRI-derived porosity index provides quantitative insight into cortical pore architecture**
Mahdieh Bashoor-Zadeh*[1], Chamith Rajapakse[2], Cheng Li[3], Wenli Sun[1], Mona Al Mukaddam[1], Alexander Wright[1], Felix Werner Wehrli[4]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Health System, USA, [4]University of Pennsylvania Medical Center, USA
Disclosures: Mahdieh Bashoor-Zadeh, None

SA0032 **Nanomechanical Behavior of Extrafibrillar Matrix in Bone**
Xiaodu Wang*[1], Liqiang Lin[2], Xiaowei Zeng[2], Haoran Xu[2], Anne Sheldrake[3], Jean Jiang[4]. [1]UTSA, USA, [2]Mechanical Engineering, UTSA, USA, [3]Biomedical Engineering, UTSA, USA, [4]University of Texas Health Science Center at San Antonio, USA
Disclosures: Xiaodu Wang, None

BIOMECHANICS AND BONE QUALITY: DISUSE OSTEOPOROSIS – ANIMAL MODELS

SA0033 **Comparing Proximal Tibia Bone Stiffness and Structural Efficiency in Spaceflight and Hind Limb Unloading with a Sclerostin Antibody Countermeasure**
Taylor Comte*[1], Anthony Lau[2], Eric Livingston[3], Rachel Ellman[4], Jordan Spatz[5], Louis Stodieck[6], Mary Bouxsein[7], Virginia Ferguson[6], Ted Bateman[8]. [1]UNC Chapel Hill, USA, [2]University of North Carolina at Chapel Hill, USA, [3]Department of Biomedical Engineering, University of North Carolina, USA, [4]Beth Israel Deaconess Medical Center, USA, [5]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [6]University of Colorado, USA, [7]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [8]Univesity of North Carolina, USA
Disclosures: Taylor Comte, None

SA0034 **Differential Patterns of Bone Loss in the Femur and Vertebra of CD44$^{-/-}$ Mice during Hindlimb Unloading**
Jeyantt Srinivas Sankaran*[1], Sherin Kuriakose[1], Weidong Zhang[2], Leah Rae Donahue[3], Stefan Judex[1]. [1]Stony Brook University, USA, [2]The Jackson Laboratory, USA, [3]Jackson Laboratory, USA
Disclosures: Jeyantt Srinivas Sankaran, None

SA0035 **Remodeling of Distribution of Elastic Modulus Gradients as Predictors of Early Stage Osteopenia**
KARTIKEY GROVER*[1], Minyi Hu[1], Liangjun Lin[2], Jesse Muir[1], Yi-Xian Qin[2]. [1]STONY BROOK UNIVERSITY, USA, [2]State University of New York at Stony Brook, USA
Disclosures: KARTIKEY GROVER, None

SA0036 **ASBMR 2014 Annual Meeting Young Investigator Award**
Sequential Impact Loading and Zoledronic Acid Pre-Treatments Protect Against Disuse-Induced Bone Strength Loss in the Rat Femoral Neck
Jessica Brezicha*, Ray Boudreaux, Scott Lenfest, Anand Narayanan, Susan Bloomfield, Harry Hogan. Texas A&M University, USA
Disclosures: Jessica Brezicha, None

BIOMECHANICS AND BONE QUALITY: GENERAL

SA0037 **Bone quality after filling of the maxillary sinus with a bioactive glass**
Brigitte Burt-Pichat*[1], Sebastien Rizzo[1], Julie Hemar[2], Laurent Venet[3], Thierry Sauvigne[3], Estelle Franca[4], Georges Boivin[5]. [1]INSERM UMR 1033, Université de Lyon, France, [2]Université de Lyon, France, [3]Centre Hospitalier Lyon Sud, France, [4]Noraker, France, [5]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Brigitte Burt-Pichat, None

SA0038 **Combinatorial cassettes, a high-throughout approach for the assessment of bone formation *in vivo***

Luis Fernandez De Castro*[1], Subdhadip Bodhak[2], Sergei Kuznetsov[3], Tina Kilts[3], Marian Young[4], Sheng Lin-Gibson[2], Carl Simon[2], Pamela Robey[5]. [1]NIDCR (NIH), Spain, [2]NIST, USA, [3]NIH, USA, [4]National Institutes of Health, USA, [5]National Institute of Dental & Craniofacial Research, USA

Disclosures: Luis Fernandez De Castro, None

SA0039 **Genetic regulation of skeletal robustness**

Lauren Smith*[1], Erin M.R. Bigelow[2], Bonnie T. Nolan[2], Meghan Faillace[3], Joseph H. Nadeau[4], Karl Jepsen[5]. [1]University of Michigan Health System, USA, [2]Department of Orthopaedic Surgery, The University of Michigan, USA, [3]GE Inspection Technologies, USA, [4]Pacific Northwest Research Institute, USA, [5]University of Michigan, USA

Disclosures: Lauren Smith, None

SA0040 **Kinetics of Maillard Reaction in Mineralized Human Bone**

Grazyna Sroga*, Alankrita Siddula, Deepak Vashishth. Rensselaer Polytechnic Institute, USA

Disclosures: Grazyna Sroga, None

SA0041 **Mandibular reconstructed bone quality after filling of defects with dental bone substitutes in beagles**

Sebastien Rizzo*[1], Augusto André Baptista[2], Brigitte Burt-Pichat[1], Capucine Rondot[3], Antoine Alves[4], Catherine Wittmann[3], Christian Gagnieu[5], Patricia Forest[3], Georges Boivin[6], Jean-Pierre Bernard[7]. [1]INSERM UMR 1033, Université de Lyon, France, [2]Faculté d'Odontologie, Université de Lorraine, France, [3]Biom'up, France, [4]NAMSA, France, [5]MATEIS, INSA de Lyon, Université Claude Bernard Lyon1, France, [6]INSERM, UMR1033 ; Universite De Lyon, France, [7]Faculté de Médecine, Division de Stomatologie Chirurgie Orale et Radiologie Dentaire et Maxillofaciale, Université de Genève, Switzerland

Disclosures: Sebastien Rizzo, None

SA0042 **ASBMR 2014 Annual Meeting Young Investigator Award**
Microdamage Formation In Osteocalcin and Osteopontin Deficient Mice

Stacyann Morgan*[1], Ondrej Nikel[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

SA0043 **Tissue Mineral Density Dependent Mechanical Properties of Individual Trabecula Plates and Rods Do Not Differ in Anatomic Directions but Individual Trabecular Directions**

Eric Yu*, Ji Wang, Bin Zhou, X Guo. Columbia University, USA

Disclosures: Eric Yu, None

SA0044 **Using Atomic Force Microscopy and Nanoindentation to Characterize Matrix Integrity of Mineralized Bone from Perlecan/HSPG2 Hypomorphic Mice**

Jerahme Martinez*[1], Ben Morgan[2], Lewis Francis[3], Mary Farach-Carson[1], Liyun Wang[4], Ashutosh Parajuli[5]. [1]Rice University, USA, [2]College of Medicine Swansea University, United Kingdom, [3]College of Medicine Swansea University, Uzbekistan, [4]University of Delaware, USA, [5]University of Delaware College of Engineering, USA

Disclosures: Jerahme Martinez, None

BIOMECHANICS AND BONE QUALITY: MECHANICAL LOADING EFFECTS IN INTACT ANIMALS

SA0045 **Insulinogenic sucrose+amino acids mixture ingestion immediately after resistance exercise has an anabolic effect on bone compared with non-insulinogenic fructose+amino acids mixture in growing rats**

Takuya Notomi*[1], Ikuaki Karasaki[2], Yuichi Okazaki[3], Nobukazu Okimoto[4], Yushi Kato[2], Kiyoshi Ohura[5], Masaki Noda[6], Toshitaka Nakamura[7], Masashige Suzuki[2]. [1]GCOE, Tokyo Medical & Dental University, Japan, [2]University of Tsukuba, Japan, [3]University of Occupational & Environmental Health, Japan, [4]Okimoto Clinic, Japan, [5]Department of Pharmacology, Osaka Dental University, Japan, [6]Tokyo Medical & Dental University, Japan, [7]National Center for Global Health & Medicine, Japan

Disclosures: Takuya Notomi, None

SA0046 **Lack of Adaptive Bone Response to Increased Mechanical Loading in a Mouse Model of Reduced Peripheral Sensory Nerve Function**
Mollie Heffner*[1], Blaine Christiansen[2]. [1]UC Davis Medical Center, USA, [2]University of California - Davis Medical Center, USA
Disclosures: Mollie Heffner, None

SA0047 **Spaceflight Compromises the Bending Strength of Murine Spinal Segments**
Britta Berg-Johansen*[1], Alan Hargens[2], Jeffrey Lotz[1]. [1]University of California, San Francisco, USA, [2]University of California, San Diego, USA
Disclosures: Britta Berg-Johansen, None

BIOMECHANICS AND PHYSICAL ACTIVITY: PHYSICAL ACTIVITY AND EXERCISE

SA0048 **A School-based Seven Year Exercise Intervention Program in 6-9 Year Old Children Improve Skeletal Traits without Increasing the Fracture Risk – A Population-Based Prospective Controlled Study in 3534 Children**
Jesper Fritz*[1], Magnus Karlsson[2], Bjorn Rosengren[2], Magnus Dencker[2], Caroline Karlsson[2]. [1]Sweden, [2]Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Jesper Fritz, None

SA0049 **A study on the effect factors on BMD of affected femur neck in patients with hemiplegia**
Yun Kyung Jeon*, Young Beom Shin, Myung Jun Shin, Chang Jae Hyeok. Pusan National University Hospital, South Korea
Disclosures: Yun Kyung Jeon, None

SA0050 **Bone mineral density in osteopenic men is increased afte resistance training or plyometric exercise**
Pam Hinton*, John Thyfault, Peggy Nigh, Melissa Carter, Nantian Lin, Jun Jiang. University of Missouri, USA
Disclosures: Pam Hinton, None

SA0051 **Effects of History of Amenorrhea on Marrow Adiposity, Cortical Bone Mass and Distribution in Retired Elite Gymnasts**
Rachel Duckham*[1], Timo Rantalainen[2], Gaele Ducher[3], Prisca Eser[3], Robin Daly[4]. [1]Deakin University, Aus, [2]University of Jyväskylä, Finland, [3]Deakin University, Australia, [4]Centre for Physical Activity & Nutrition Research, Deakin University, Australia
Disclosures: Rachel Duckham, None

SA0052 **Fracture History in Oligo-amenorrheic Athletes, Eumenorrheic Athletes, and Non-athletes: Correlations with Bone Density and Microarchitecture**
Kathryn Ackerman*[1], Natalia Cano Sokoloff[2], Giovana Maffazioli[3], Vibha Singhal[4], Meghan Slattery[2], Hannah Clarke[2], Nicholas Derrico[5], Madhusmita Misra[6]. [1]Division of Sports Medicine, Department of Orthopedics, Boston Children's Hospital & Harvard Medical School & Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, [2]Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, [3]Neuroendocrine Unit, Massachusetts General Hospital & Medical School, USA, [4]Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School & Pediatric Endocrine Unit, Massachusetts General Hospital for Children & Harvard Medical School, USA, [5]Endocrine Unit, Department of Medicine, Massachusetts General Hospital, USA, [6]Neuroendocrine Unit, Massachusetts General Hospital & Pediatric Endocrine Unit, Massachusetts General Hospital for Children, Harvard Medical School, USA
Disclosures: Kathryn Ackerman, None

SA0053 **High Vitamin D and Physical Activity Status in Community-Dwelling Older Adults: Associations with Body Composition and Muscle Function Changes Over Five Years**
David Scott[1], Peter Ebeling*[2], Kerrie Sanders[3], Dawn Aitken[4], Tania Winzenberg[5], Graeme Jones[6]. [1]The University of Melbourne, Australia, [2]Department of Medicine, School of Clinical Sciences, Monash University, Australia, [3]NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, [4]Menzies Research Institute, University of Tasmania, Australia, [5]Menzies Research Institute Tasmania, Australia, [6]Menzies Research Institute, Australia
Disclosures: Peter Ebeling, None

SA0054 **Increased Physical Activity during Growth Improves Muscular Development without Affecting Fracture Risk – a Four-Year Prospective Controlled Exercise Intervention Study in 2 525 Children**

Marcus Coster*[1], Jesper Fritz[1], Magnus Dencker[2], Susanna Stenevi-Lundgren[2], Jan-Ake Nilsson[2], Bjorn Rosengren[2], Magnus Karlsson[2]. [1]Sweden, [2]Skåne University Hospital Malmö, Lund University, Sweden

Disclosures: Marcus Coster, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: ASSESSMENT OF BONE DISEASE IN CHILDREN

SA0055 **Novel "3-6" infant DXA scanning and analysis protocols to isolate movement and other artifacts**

John Shepherd*[1], Bo Fan[1], Cassidy Powers[2], Lynda Stranix-Chibanda[3], Mary Glenn Fowler[4], Linda Dimeglio[5], Cynthia Mukwasi[6], Kathy George[7], George K Siberry[8]. [1]University of California, San Francisco, USA, [2]UCSF, USA, [3]Department of Paediatrics & Child Health College of Health Sciences University of Zimbabwe, Zimbabwe, [4]Makerere University(MU)-Johns Hopkins University(JHU) Research Collaboration, Uganda, [5]Indiana University School of Medicine, USA, [6]University of Zimbabwe, Zimbabwe, [7]FHI 360, USA, [8]NICHD/NIH, USA

Disclosures: John Shepherd, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE DEVELOPMENT AND BONE MASS ACCRUAL

SA0056 **Withdrawn**

SA0057 **Determining Peak Bone Mineral Density in 16 to 24 year olds: A Longitudinal HR-pQCT Study**

Lauren Burt*, Sarah Manske, Jenn Bhatla, David Hanley, Steven Boyd. University of Calgary, Canada

Disclosures: Lauren Burt, None

SA0058 **Does up to three years of exposure to recreational gymnastics between 4 and 12 years of age influence bone strength development at the radius and tibia?**

Marta Erlandson*[1], Stefan Jackowski[1], Rita Gruodyte-Raciene[2], Saija Kontulainen[1], Adam Baxter-Jones[1]. [1]University of Saskatchewan, Canada, [2]Lithuanian Sports University, Lithuania

Disclosures: Marta Erlandson, None

SA0059 **The Association of Child Bone Measures Across Ages with Parent Bone Measures**

Steven Levy*[1], Elena Letuchy[2], Julie Eichenberger Gilmore[3], Kathleen Janz[1], Trudy Burns[4], James Torner[5]. [1]University of Iowa, USA, [2]Univ. of Iowa Dept. of Epidemiology, USA, [3]Univ. of Iowa College of Medicine, USA, [4]Univ of Iowa College of Epidemiology, USA, [5]Univ. of Iowa Department of Epidemiology, USA

Disclosures: Steven Levy, None

SA0060 **The Longitudinal Relationship Between Visceral Fat and Bone Development: The Iowa Bone Development Study**

Natalie Glass*[1], James Torner[1], Elena Letuchy[1], Trudy Burns[1], Kathleen Janz[1], Janet Schlechte[2], Julie Eichenberger Gilmore[1], Steven Levy[1]. [1]University of Iowa, USA, [2]University of Iowa Hospital, USA

Disclosures: Natalie Glass, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE LOSS IN PEDIATRICS

SA0061 ***WNT16* genetic variation in fracture-prone children**

Minna Pekkinen*[1], Sara Mäkitie[2], Suvi Vallius[2], Mervi Mäyränpää[3], Outi Mäkitie[4]. [1]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [2]Folkhälsan Research Center, Biomedicum Helsinki, Finland, [3]Children's Hospital, Helsinki University Central Hospital & University of Helsinki, Finland, [4]Folkhälsan Research Center, Biomedicum Helsinki, Department of Molecular Medicine & Surgery, Karolinska Institutet, Stockholm, Sweden, Department of Clinical Genetics, Karolinska University Hospital, Stockholm, Sweden, Finland

Disclosures: Minna Pekkinen, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: EFFECTS OF BONE ACTIVE DRUGS IN CHILDREN

SA0062 Effect of Long-Term Intravenous Bisphosphonate Treatment in Children with Osteogenesis Imperfecta

Telma Palomo De Oliveira*[1], Francis Glorieux[2], Frank Rauch[3]. [1]UNIFESP Sao Paulo, Shriners Hospital for Children, McGill University, Canada, Brazil, [2]Shriners Hospital for Children & McGill University, Canada, [3]Shriners Hospital for Children, Montreal, Canada

Disclosures: Telma Palomo De Oliveira, None

BONE MARROW MICROENVIRONMENT AND NICHES: STEM CELL NICHES

SA0063 CCL3 demonstrates sexually dimorphic regulation of skeletal homeostasis and the hematopoietic stem cell pool in the bone marrow

Benjamin Frisch*[1], Alexandra Goodman[1], Mary Georger[1], Michael Becker[1], Laura Calvi[2]. [1]University of Rochester School of Medicine & Dentistry, USA, [2]University of Rochester School of Medicine, USA

Disclosures: Benjamin Frisch, None

SA0064 Fibrillin-1 Regulates Marrow Stem Cell Lineage Commitment and Differentiation

Silvia Smaldone*[1], Francesco Ramirez[2]. [1]USA, [2]Icahn School of Medicine at Mount Sinia, USA

Disclosures: Silvia Smaldone, None

BONE MARROW MICROENVIRONMENT AND NICHES: GENERAL

SA0065 BMP-2 Exerts a Tight Control of CXCL12 Cellular, Temporal and Spatial Expression that is Essential in Fracture Repair

Helen Willcockson*[1], Timothy Myers[1], Lara Longobardi[2], Ping Ye[2], Tieshi Li[2], Joseph Temple[1], Alessandra Esposito[1], Billie Moats-Staats[3], Anna Spagnoli[2]. [1]University of North Carolina, USA, [2]University of North Carolina at Chapel Hill, USA, [3]University of North Carolina- Chapel Hill, USA

Disclosures: Helen Willcockson, None

SA0066 Bone Marrow Adipocytes are Distinct from White or Brown Adipocytes

Mark Horowitz*[1], Ryan Berry[2], Rose Webb[2], Tracy Nelson[2], Yougen Xi[2], Casey R. Doucette[3], Jackie A Fretz[2], Chris D. Church[2], Clifford J. Rosen[3], Matthew S. Rodeheffer[2]. [1]Yale University School of Medicine, USA, [2]Yale School of Medicine, USA, [3]Maine Medical Center Research Institute, USA

Disclosures: Mark Horowitz, None

SA0067 Elucidating the Osteoimmunology of Critical Defects with Longitudinal Intravital Microscopy in the Murine Cranial Window Model

Longze Zhang*[1], Jason Inzana[2], Hani Awad[3], Regis J. O'Keefe[4], Xinping Zhang[3], Edward Schwarz[1]. [1]University of Rochester, USA, [2]USA, [3]University of Rochester Medical Center, USA, [4]University of Rohester, USA

Disclosures: Longze Zhang, None

SA0068 Roquin Is A Novel Regulator of Bone Homeostasis

Bay Sie Lim*, Euphemie Landao, Shek Man (Jacky) Chim, Jennifer Tickner, Nathan Pavlos, Jiake Xu. University of Western Australia, Australia

Disclosures: Bay Sie Lim, None

SA0069 Specificity protein-1 mediated SDF-1/CXCL12 synthesis is inhibited by Cbl-PI3K interaction in bone marrow reticular cells

Naga Suresh Adapala[1], Vanessa Piccullio[2], Hector Aguila[2], Joseph Lorenzo[2], Archana Sanjay*[3]. [1]Texas Scottish Rite Hospital for Children, USA, [2]University of Connecticut Health Center, USA, [3]UCHC, USA

Disclosures: Archana Sanjay, None

BONE MARROW MICROENVIRONMENT AND NICHES: OSTEOIMMUNOLOGY

SA0070 CTLA4-Ig Protects Against PTH Induced Bone Loss by Inhibiting T Cell Production of TNFα

Abdul Malik*[1], Jerid Robinson[2], Jau-Yi Li[1], Michael Reott[1], Jonathan Adams[2], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory University, USA

Disclosures: Abdul Malik, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

SA0071 A Novel Sequestosome-1 / p622 ZZ Domain Inhibitor Blocks TNFα Induced Suppression of OBL Differentiation in MM

Rebecca Silbermann*[1], Jumpei Teramachi[1], Khalid Mohammad[1], Wei Zhao[1], Dan Zhou[1], Peng Yang[2], Julie L. Eiseman[2], Xiang-Qun Xie[2], G. David Roodman[1], Noriyoshi Kurihara[1]. [1]Indiana University, USA, [2]University of Pittsburgh, USA

Disclosures: Rebecca Silbermann, None

SA0072 Alternatively Activated Monocyte and Macrophage Efferocytosis Support Prostate Cancer Skeletal Metastasis

Jacqueline Jones*[1], Fabiana Soki[2], Hernan Roca[1], Stefanie Thiele[3], Yusuke Shiozawa[1], Yugang Wang[1], Todd Morgan[1], Lorenz Hofbauer[4], Kenneth Pienta[5], Laurie McCauley[2]. [1]University of Michigan, USA, [2]University of Michigan School of dentistry, USA, [3]Dresden University Medical Center, Germany, [4]Dresden University Medical Center, Germany, [5]John Hopkins University, USA

Disclosures: Jacqueline Jones, None

SA0073 Critical role of Pim-2 in NF-κB-mediated suppression of osteoblastogenesis and stimulation of osteoclastogenesis: Therapeutic impact of Pim inhibition on myeloma bone disease.

Jumpei Teramachi*[1], Masahiro Hiasa[2], Asuka Oda[3], Ryota Amachi[3], Takeshi Harada[3], Shingen Nakamura[3], Kumiko Kagawa[3], Hirokazu Miki[3], Shiro Fujii[3], Keiichiro Watanabe[4], Itsuro Endo[5], Toshio Matsumoto[5], Masahiro Abe[6]. [1]The University of Tokushima, Japan, [2]Indiana University School of Medicine, USA, [3]Department of Medicine & Bioregulatory Sciences, Institute of Health Biosciences, The University of Tokushima Graduate School, Japan, [4]Tokushima University Hospital, Japan, [5]University of Tokushima Graduate School of Medical Sciences, Japan, [6]University of Tokushima, Japan

Disclosures: Jumpei Teramachi, None

SA0074 Letrozole and Ovariectomy Cause Bone Loss, Muscle Weakness and Increased Breast Cancer Bone Metastases in Mice

Laura Wright*[1], Ahmed Harhash[1], David Waning[2], 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

SA0075 Ubiquitin-specific peptidase 45 (USP45), a family member of de-ubiquitinating enzyme, controls epithelial-mesenchymal transition of breast cancer in bone

Yuki Nagata*[1], Soichi Tanaka[2], Kenji Hata[3], Masahiro Hiasa[4], Riko Nishimura[3], Toshiyuki Yoneda[4]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Osaka University, Japan, [3]Osaka University Graduate School of Dentistry, Japan, [4]Indiana University School of Medicine, USA

Disclosures: Yuki Nagata, None

SA0076 VEGF/HGF Inhibitor Cabozantinib Decreases RANKL Expression in Osteoblastic Cells and Inhibits Osteoclastogenesis and PTHrP-Stimulated Bone Resorption

Paula Stern*[1], Keith Alvares[2]. [1]Northwestern University Feinberg School of Medicine Department of Molecular Phar, USA, [2]Northwestern University, USA

Disclosures: Paula Stern, Exelixis, 2

BONE TUMORS AND METASTASIS: GENERAL

SA0077 Targeting Dickkopf-related protein 1 (Dkk1) reduces extraskeletal tumor growth by novel immunomodulatory effects

Lucia D'Amico*[1], Ali Zamani[2], Aude-Helene CAPIETTO[1], Roberta Faccio[3]. [1]Washington University School of Medicine, USA, [2]Department of Orthopedics, Washington University, St. Louis, Missouri, USA, [3]Washington University in St Louis School of Medicine, USA

Disclosures: Lucia D'Amico, None

SA0078 The unexpected role of Hemoglobin beta (HBB) in breast cancer

Nadia Rucci*[1], Mattia Capulli[1], Luca Ventura[2], Patrizia Sanità[1], Simona Delle Monache[1], Adriano Angelucci[1], Anna Teti[1]. [1]University of L'Aquila, Italy, [2]San Salvatore Hospital, Italy

Disclosures: Nadia Rucci, None

BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

SA0079 CXCL14, an inhibitor of CXCL12/CXCR4 signaling, is upregulated in prostate cancer bone metastasis

Alexander Dowell[1], Katrina Clines[2], Colm Morrissey[3], Shi Wei[1], Gregory Clines*[2]. [1]University of Alabama at Birmingham, USA, [2]University of Michigan, USA, [3]University of Washington, USA

Disclosures: Gregory Clines, None

SA0080 Lysyl oxidase promotes survival and outgrowth of colon cancer cells in the bone marrow, enabling bone metastasis formation

Caroline Reynaud*[1], Laura Ferreras[2], Delphine Goerhig[2], Marie Brevet[3], Philippe A.R. Clezardin[4]. [1]INSERM Unité 1033, UFR de Médecine Lyon-Est (domaine Laënnec), Fra, [2]INSERM U1033, France, [3]Hospices Civils de Lyon, France, [4]INSERM & University of Lyon, France

Disclosures: Caroline Reynaud, None

SA0081 Tumour-derived alkaline phosphatase promotes Epithelial-Mesenchymal Transition (EMT) and cell survival in bone metastatic prostate cancer; regulation by miR-373

Srinivasa Rao*, Ann Snaith, Patrick Kratschmer, Freddie Hamdy, Claire Edwards. University of Oxford, United Kingdom

Disclosures: Srinivasa Rao, None

BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

SA0082 Withdrawn

SA0083 Estrogen-related receptor alpha confers Methotrexate resistance via attenuation of *reactive oxygen species* production and p53 apoptosis pathway in osteosarcoma U2OS cells

Peng Chen*[1], Haibin Wang[2], Zhijian Duan[3], June X Zou[3], Hongwu Chen[3], Wei He[2], Junjian Wang[3]. [1]First School of Clinical Medicine, Guangzhou University of Chinese Medicine/Cancer center, University of California at Davis, USA, [2]First Affiliated Hospital of Guangzhou University of Chinese Medicine, China, [3]Cancer center, University of California at Davis, USA

Disclosures: Peng Chen, None

SA0084 Integrin Alpha5beta1 is a Potential Therapeutic Target to Treat Experimental Breast Cancer Bone Metastasis

Francesco Pantano[1], Martine Croset[2], Keltouma Driouch[3], Edith Bonnelye[4], Michele Iuliani[1], Marco Fioramonti[1], Daniele santini[1], Giuseppe Tonini[5], Philippe A.R. Clezardin*[6]. [1]Medical Oncology Division, University Campus-Bio-Medico, Italy, [2]INSERM Research Unit U1033, University of Lyon1, France, [3]Institute Curie, France, [4]Faculte de Medecine RTH Laennec, France, [5]Medical Oncology Division, University Campus-Bio-Medico, France, [6]INSERM & University of Lyon, France

Disclosures: Philippe A.R. Clezardin, None

SA0085 Roundabout receptors mediate breast cancer bone metastasis formation and progression

Lise CLEMENT-DEMANGE*[1], Bénédicte Eckel[2], Vincent Gonin[2], Delphine Goehrig[2], Chantal Diaz-Latoud[2], Philippe A.R. Clezardin[3]. [1]France, [2]INSERM U1033, France, [3]INSERM & University of Lyon, France

Disclosures: Lise CLEMENT-DEMANGE, None

SA0086 **Zinc Finger Protein 521 regulates retinoblastoma protein-dependent cell-cycle progression: Potential implications for osteosarcoma.**
Harikiran Nistala*[1], Coco Roening[2], Serhan Zenger[3], Ken-ichi Takeyama[3], Francesca Gori[4], Roland Baron[5]. [1]Harvard University, USA, [2]Massachusetts College of Pharmacy & Health Sciences, USA, [3]Harvard School of Dental Medicine, USA, [4]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Harikiran Nistala, None

CHONDROCYTES: ARTICULAR CARTILAGE

SA0087 **Chondrocyte-specific Deletion of *Sod2* Exacerbates Cartilage Degeneration Associated with Low Mitochondrial Membrane Potential in Mice**
Masato Koike*[1], Nojiri Hidetoshi[2], Yusuke Ozawa[3], Kenji Watanabe[3], Isao Masuda[3], Yuta Muramatsu[4], Haruka Kaneko[2], Daichi Morikawa[2], Keiji Kobayashi[3], Yoshitomo Saita[5], Takahisa Sasho[4], Takuji Shirasawa[6], Koutaro Yokote[7], Kazuo Kaneko[2], Takahiko Shimizu[3]. [1]Juntendo University, Japan, [2]Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, [3]Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, [4]Department of Orthopedics, Chiba University Graduate School of Medicine, Japan, [5]Department of Orthomedics, Juntendo University Graduate School of Medicine, Japan, [6]Department of Aging Control Medicine, Juntendo University Graduate School of Medicine, Japan, [7]Department of Clinical Cell Biology & Medicine Chiba University Graduate School of Medicine, Japan
Disclosures: Masato Koike, None

SA0088 **HIF-1α is essential for articular cartilage homeostasis through induction of anabolic factors and suppression of catabolic factors**
Keita Okada*[1], Song Ho Chang[1], Yoko Hosaka[2], Hiroshi Kobayashi[3], Shurei Sugita[4], Haruhiko Akiyama[5], Ung-Il Chung[6], Hiroshi Kawaguchi[7], Taku Saito[2]. [1]The University of Tokyo, Japan, [2]University of Tokyo, Graduate School of Medicine, Japan, [3]The University of Tokyo Hospital, Japan, [4]Japan, [5]Gifu University, Japan, [6]University of Tokyo Schools of Engineering & Medicine, Japan, [7]JCHO Tokyo Shinjuku Medical Center, Japan
Disclosures: Keita Okada, None

CHONDROCYTES: ORIGIN, DIFFERENTIATION, APOPTOSIS

SA0089 ***PTHrP* is a candidate marker of slowly replicating "resting" chondrocytes in the postnatal growth plate cartilage**
Noriaki Ono*, Wanida Ono, Henry Kronenberg. Massachusetts General Hospital, USA
Disclosures: Noriaki Ono, None

SA0090 **Ablation of CypA Leads to Impaired Chondrogenesis by Inhibiting NF-κB-Sox9 Pathway**
Mian Guo*[1], Jia Shen[2], Jinny Kwak[2], Xinli Zhang[2], Aaron James[3], Kevork Khadarian[2], Kang Ting[2], Chia Soo[4], Robert Chiu[5]. [1]Dental & Craniofacial Research Institute & Division of Oral Biology, School of Dentistry, University of California, Los Angeles; Department of Neurosurgery, the Second Affiliated Hospital of Harbin Medical University, USA, [2]Dental & Craniofacial Research Institute & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, USA, [3]Department of Pathology & Laboratory Medicine, David Geffen School of Medicine, University of California, Los Angeles, USA, [4]Division of Plastic & Reconstructive Surgery, School of Medicine, University of California, Los Angeles; Department of Orthopedic Surgery, School of Medicine, University of California, Los Angeles, USA, [5]Dental & Craniofacial Research Institute & Division of Oral Biology, School of Dentistry, University of California, Los Angeles; Jonsson Comprehensive Cancer Center & Division of Surgical Oncology, University of California, Los Angeles, USA
Disclosures: Mian Guo, None

SA0091 **Natural Large-scale Regeneration of Rib Cartilage in a Mouse Model**
Marissa Srour*, Kent Yamaguchi, Jennifer Fogel, Aaron Montgomery, Aaron Misakian, Stephanie Lam, Daniel Lakeland, Francesca Mariani. University of Southern California, USA
Disclosures: Marissa Srour, None

SA0092 **Notch Inhibits Chondrogenic Differentiation of Mesenchymal Progenitor cells by Targeting Twist1**
Martin Chang*[1], Ye Tian[2], Edward Schwarz[3], Matthew Hilton[4], Yufeng Dong[3]. [1]University of Rochester Medical Center, USA, [2]Shengjing Hospital, China Medical University, China, [3]University of Rochester, USA, [4]Duke University Musculoskeletal Research Center, USA
Disclosures: Martin Chang, None

CHONDROCYTES: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SA0093 **A Time Course of FoxO Transcription Factor Activation in a Binge Model of Alcohol-Induced Deficient Bone Fracture Repair**
Philip Roper*[1], John Callaci[2]. [1]Loyola University Medical Center, USA, [2]Loyola University of Chicago, USA
Disclosures: Philip Roper, None

SA0094 **Histone Deacetylase 7 Suppresses Chondrocyte Proliferation and β-Catenin Activity during Endochondral Ossification**
Elizabeth Bradley*[1], Lomeli Carpio[1], Eric Olson[2], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of Texas Southwestern Medical Center, USA
Disclosures: Elizabeth Bradley, None

SA0095 **Smad2/3 Mediated TGFbeta Signaling Controls Postnatal Chondrocyte Proliferation and Differentiation by Inhibiting *Ihh* Transcription**
Weiguang Wang*[1], Karen Lyons[1], Teni Anbarchian[2]. [1]University of California, Los Angeles, USA, [2]University California Los Angeles, USA
Disclosures: Weiguang Wang, None

SA0096 **The Notch target genes, *Hes1*and *Hes5*, regulate chondrogenesis and chondrocyte maturation by modulating *Sox9* expression**
Timothy Rutkowski*[1], Anat Kohn[2], Anthony Mirando[3], Deepika Sharma[2], Ryoichiro Kageyama[4], Michael Zuscik[5], Matthew Hilton[6]. [1]University of Rochester, USA, [2]Graduate Student, USA, [3]Lab Manager, USA, [4]Collaborator, Japan, [5]University of Rochester School of Medicine & Dentistry, USA, [6]Duke University Musculoskeletal Research Center, USA
Disclosures: Timothy Rutkowski, None

SA0097 **The novel transcription factor Zinc Finger Homeobox 4 (Zfhx4) is critical to late stage of endochondral ossification.**
Eriko Nakamura*[1], Kenji Hata[1], Maokoto Wakabayashi[2], Yoshiaki Yura[1], Toshiyuki Yoneda[3], Riko Nishimura[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Asahi Kasei Pharma, Japan, [3]Indiana University School of Medicine, USA
Disclosures: Eriko Nakamura, None

SA0098 **The transcription factor Foxc1 regulates chondrocyte hypertrophy in a synergistic cooperation with Runx2**
Michiko Yoshida*[1], Kenji Hata[1], Sachiko Iseki[2], Teruko Takano-Yamamoto[3], Riko Nishimura[1], Toshiyuki Yoneda[4]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Tohoku University Graduate School of Dentistry, Japan, [4]Indiana University School of Medicine, USA
Disclosures: Michiko Yoshida, None

CONNECTIVE TISSUE MATRIX: GENERAL

SA0099 **Absence of Cx37 leads to bone matrix modifications in mice: a potential explanation for why reduced cortical thickness is not followed by decreased mechanical strength**
Rafael Pacheco Da Costa*[1], Eduardo Katchburian[2], Hannan Davis[3], Lilian Plotkin[3], Rejane Reginato[4]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Federal University of São Paulo, Brazil, [3]Indiana University School of Medicine, USA, [4]Unifesp - Federal University of São Paulo, Brazil
Disclosures: Rafael Pacheco Da Costa, None

SA0100 **Withdrawn**

CONNECTIVE TISSUE MATRIX: NON-COLLAGEN MATRIX PROTEINS

SA0101 Thrombospondin-2 contributes to whole bone mechanical properties through its effects on collagen fibrillogenesis, lysyl oxidase activity and mineralization

Eugene Manley, Jr.*[1], Joseph Perosky[1], Basma Khoury[1], Kenneth Kozloff[2], Andrea Alford[1]. [1]University of Michigan, USA, [2]University of Michigan Department of Orthopaedic Surgery, USA

Disclosures: Eugene Manley, Jr., None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

SA0102 ASXL2 Regulates Skeletal, Glucose and Lipid Homeostasis

Nidhi Rohatgi*[1], Takashi Izawa[2], Tomohiro Fukunaga[3], Qun-Tian Wang[4], Matthew Silva[3], Michael Gardner[5], Michael McDaniel[6], Clay Semenkovich[5], Wei Zou[3], Steven Teitelbaum[3]. [1]Washington University in St. Louis, USA, [2]University of Tokushima Grad Sch, Japan, [3]Washington University in St. Louis School of Medicine, USA, [4]UIC Biological Sciences, USA, [5]Washington University School of Medicine, USA, [6]Washington Univerity School of Medicine, USA

Disclosures: Nidhi Rohatgi, None

SA0103 Protein Phosphatase 5 (PP5) regulates both energy metabolism and bone mass by reciprocal regulation of PPARγ and Runx2 activities

Lance Stechschulte*[1], Chunxi Ge[2], Piotr Czernik[3], Edwin Sanchez[1], Renny Franceschi[4], Beata Lecka-Czernik[3]. [1]University of Toledo Health Science Campus, USA, [2]Pom Univ of Michigan School of Dentistry, USA, [3]University of Toledo College of Medicine, USA, [4]University of Michigan, USA

Disclosures: Lance Stechschulte, None

ENERGY METABOLISM AND BONE: FAT AND BONE

SA0104 Gsα-deficient osteoblasts and osteocytes induce beige adipogenesis and a lean phenotype via interactions with skeletal muscle

Keertik Fulzele*[1], Vaibhav Saini[2], Padrig Tuck[3], Xiaolong Liu[3], Christopher Dedic[3], Jenna Garr[3], Vladimir Zoubine[3], Pankaj Shah[3], Evan Rosen[4], Paola Divieti Pajevic[5]. [1]Massachusetts General Hospital; Harvard Medical School, USA, [2]MGH, Harvard Medical School, USA, [3]Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, USA, [4]Division Of Endocrinology, Diabetes, & Metabolism, Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [5]Massachusetts General Hospital & Harvard Medical School, USA

Disclosures: Keertik Fulzele, None

SA0105 Lipoprotein lipase links systemic lipid transport to bone matrix and bone marrow fatty acid composition

Alexander Bartelt[1], Till Koehne[1], Till Koehne[1], Reimer Rudolph[2], Brigitte Mueller[1], Joerg Heeren[1], Ludger Scheja[3], Andreas Niemeier*[1]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]Heinrich Pette Institut Hamburg, Germany, [3]UKE Hamburg, Germany

Disclosures: Andreas Niemeier, None

SA0106 Osteocalcin and Markers of the Metabolic Syndrome in Overweight Children within the IDEFICS Study

Bojan Tubic*[1], Per Magnusson[2], Staffan Mårild[3], Monica Leu[4], Verena Schwetz[5], Isabelle Sioen[6], Diana Herrmann[7], Barbara Obermayer-Pietsch[8], Lauren Lissner[4], Diana Swolin-Eide[9]. [1]Gothenburg University, Sweden, [2]Linkoping University, Sweden, Sweden, [3]Department of Pediatrics, The Queen Silvia Children's Hospital, Sweden, [4]Department of Public Health & Community Medicine, University of Gothenburg, Sweden, [5]Division of Endocrinology & Metabolism, University of Graz, Austria, [6]Department of Public Health, Ghent University, Belgium, [7]Leibniz Institute for Prevention Research & Epidemiology, Bremen, Germany, [8]Medical University Graz, Austria, [9]Queen Silvia Children's Hospital, Sweden

Disclosures: Bojan Tubic, None

SA0107 **Systematic integration of computational approaches and validation experiments reveals functionality beyond GWAS signals and identifies *ADCY5* as having genetic pleiotropy for Bone Mineral Density and Type 2 Diabetes**

Melina Claussnitzer*[1], Luke D Ward[2], Xing Chen[3], David Karasik[4], Adrienne L Cupples[5], Hans Hauner[6], Douglas Kiel[7], Manolis Kellis[2], Yi-Hsiang Hsu[8]. [1]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [2]Computer Science & Artificial Intelligence Laboratory, Massachusetts Institute of Technology (MIT), USA, [3]Harvard University, USA, [4]Hebrew SeniorLife; Bar Ilan University, USA, [5]Department of Biostatistics, Boston University School of Public Health, USA, [6]Else Kröner-Fresenius-Zentrum for Nutritional Medicine, Technical University Munich, Germany, [7]Hebrew SeniorLife, USA, [8]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA

Disclosures: Melina Claussnitzer, None

SA0108 **The Transient Receptor Potential Channel M8 (TRPM8) Regulates Mesenchymal Stromal Cell Lineage Allocation, Cortical Expansion and the Skeletal Response to Acute Cold Exposure in Mice**

Katherine Motyl*[1], Phuong Le[1], Daniel Brooks[2], Casey Doucette[1], Mary Bouxsein[3], Clifford Rosen[4]. [1]Maine Medical Center Research Institute, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [4]Maine Medical Center, USA

Disclosures: Katherine Motyl, None

ENERGY METABOLISM AND BONE: GENERAL

SA0109 **Effect of Prolonged Caloric Restriction on Bone Metabolism and Bone Mineral Density in Non-obese Younger Adults**

Dennis Villareal*[1], Lugi Fontana[2], Sai Krupa Das[3], Leanne Redman[4], Steven Smith[5], Edward Saltzman[3], Connie Bales[6], James Rochon[7], Carl Pieper[8], Megan Huang[9], Michael Lewis[10], Ann V Schwartz[11]. [1]University of New Mexico School of Medicine, USA, [2]Washington University School of Medicine, USA, [3]Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, USA, [4]Pennington Biomedical Research Center, USA, [5]Florida Hospital & Sanford Burnham Medical Research Institute, USA, [6]Duke Universtiy School of Medicine, USA, [7]Rho Federal Systems, USA, [8]Duke University School of Medicine, USA, [9]Duke Clinical Research Institute, USA, [10]University of Vermont College of Medicine, USA, [11]University of California San Francisco, USA

Disclosures: Dennis Villareal, None

SA0110 **Involvement of Sclerostin and FGF23 on Cardiovascular Disease in Men with or without type 2 Diabetes**

Daniela Merlotti*[1], Luigi Gennari[1], Domenico Rendina[2], Konstantinos Stolakis[3], Claudio Corallo[3], Riccardo Muscariello[2], Stefano Rotatori[3], Maria Beatrice Franci[3], Barbara Lucani[3], Stefano Gonnelli[1], Nicola Giordano[3], Piero Tanganelli[4], Carlo Setacci[3], Pasquale Strazzullo[2], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]Department of Clinical & Experimental Medicine, Federico II University, Italy, [3]Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, [4]Department of Medical biotechnologies, University of Siena, Italy

Disclosures: Daniela Merlotti, None

SA0111 **Low Osteocalcin Levels are associated with Bone Marrow Transplant, more than Insulin Resistance, in Adult Survivors of Childhood Cancer**

Christopher White*[1], Jan Walker[2], Richard Cohn[3], Kristen Neville[2]. [1]Prince of Wales Hospital, Australia, [2]Sydney Children's Hospital Randwick, Australia, [3]Sydney Chidlren's Hospital Randwick, Australia

Disclosures: Christopher White, None

SA0112 **Mechanisms of Mitochondrial Remodeling in Bone loss during Hyperhomocysteinemia: A therapeutic aspect of Hydrogen Sulfide**

Anuradha Kalani*[1], Pradip K Kamat[2], Neetu Tyagi[3]. [1]PhD, USA, [2]Univeristy of Louisville, USA, [3]USA

Disclosures: Anuradha Kalani, None

SA0113 **Sclerostin is associated with metabolic syndrome in older men from the MINOS cohort**
Cyrille Confavreux*[1], Pawel Szulc[2], Olivier Borel[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]INSERM U1033 - Université de Lyon, France, [4]Laboratoire Central de Biochimie, Hospices Civils de Lyon, France, [5]INSERM UMR1060 - Université de Lyon, Hospices Civils de Lyon, France, [6]E. Herriot Hospital, France
Disclosures: Cyrille Confavreux, None

SA0114 **The relationships between bone-derived proteins, osteocalcin and sclerostin, and atherosclerosis in subjects with coronary artery bypass grafting**
Kyoung Min Kim*[1], Soo Lim[2], Jae Hoon Moon[2], A Ram Hong[2], Hak Chul Jang[2], Sung Hee Choi[2]. [1]Seoul National University Bundang Hospitatl, South Korea, [2]seoul national university bundang hospital, South Korea
Disclosures: Kyoung Min Kim, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: ANIMAL MODELS

SA0115 **Phosphate and calcium phenotype of GLUT2-/- mice, an animal model for Fanconi-Bickel-Syndrome**
Ruiye Bi*[1], Wenping Zhao[1], Hiroko Segawa[2], Bernard Thorens[3], Michael Mannstadt[4]. [1]Massachusetts general hospital, USA, [2]University of Tokushima Graduate School, Japan, [3]University of Lausanne, Switzerland, [4]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Ruiye Bi, None

SA0116 **Phosphate Set Point Defect in *Dmp1* Knockout Mice**
Shoji Ichikawa*[1], Rita Gerard-O'Riley[1], Amie Gray[1], Dena Acton[1], Jian Feng[2], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Texas A&M Health Science Center, USA
Disclosures: Shoji Ichikawa, None

SA0117 **Raman Micro-spectroscopic Analyses of Compositional Heterogeneity in Osteogenesis Imperfecta Mouse Bone**
Xiaomei Yao*[1], Charlotte Phillips[2], Yong Wang[1]. [1]University of Missouri-Kansas City, USA, [2]University of Missouri-Columbia, USA
Disclosures: Xiaomei Yao, None

SA0118 **SNORD116, a Non-translated, Imprinted Central Regulator of Bone Mass: Possible Role in Skeletal Abnormalities in Prader-Willi Syndrome.**
Ee-Cheng Khor[1], Bruce Fanashawe[2], Yue Qi[3], Peter Croucher[1], Herbert Herzog[3], Paul Baldock*[4]. [1]Osteoporosis & Bone Biology Division, Garvan Institute of Medical Research, Australia, [2]Osteoporosis & Boen Biology Division, Garvan Institute of Medical Resaerch, Australia, [3]Neuroscience Division, Garvan Institute of Medical Research, Australia, [4]Garvan Institute of Medical Research, Australia
Disclosures: Paul Baldock, None

SA0119 **The anti-osteoanabolic function of Sost is blunted in mice carrying the high bone mass mutation of Lrp5**
Timur Yorgan*[1], Stephanie Boerms[2], Peggy Benisch[3], Franz Jakob[4], Michael Amling[5], Thorsten Schinke[6]. [1]University of Hamburg, University Medical Center Hamburg-Eppendorf, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [3]University of Wuerzburg, Germany, [4]Orthopedic Center for Musculoskeletal Research, University of Wuerzburg, Germany, [5]University Medical Center Hamburg-Eppendorf, Germany, [6]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany
Disclosures: Timur Yorgan, None

SA0120 **The Effects of Activin Receptor Type IIB Fusion Protein (ActRIIB-Fc) on Hindlimb Skeletal Muscles and Femoral Properties of Osteogenesis Imperfecta Model (*oim*) Mouse**
Young Jeong*[1], Marybeth Brown[1], R. Scott Pearsall[2], Charlotte Phillips[3]. [1]University of Missouri, USA, [2]Acceleron Pharma, USA, [3]University of Missouri-Columbia, USA
Disclosures: Young Jeong, None

SA0121 **THE F508DEL-CFTR MUTATION INHIBITS OSTEOBLAST DIFFERENTIATION AND FUNCTION THROUGH CONSTITUTIVE ACTIVATION OF NF-kB SIGNALING**

Carole Le Henaff*, Rafik Mansouri, Dominique Modrowski, Pierre J. Marie. UMR-1132 Inserm, Paris, France & b Université Paris Diderot, Sorbonne Paris Cité, France

Disclosures: Carole Le Henaff, None

SA0122 **WNT1 is one of the major WNT ligands regulating bone homeostasis**

Kyu Sang Joeng*[1], Yi-Chien Lee[1], Ming-Ming Jiang[1], Terry Bertin[1], Yuqing Chen[1], Annie Mary Abraham[2], Hao Ding[2], Xiaohong Bi[3], Catherine Ambrose[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]University of Texas Health Science Center at Houston, USA, [3]University of Texas Health Science Center at Houst, USA

Disclosures: Kyu Sang Joeng, Amgen provided Scl-Ab for this study, 99

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: GENE THERAPY

SA0123 **TRAPPC9 Regulates BMP2-mediated Osteoblast Differentiation through Down-Regulation of NF-kB Activation**

Fayez Safadi[1], Thomas Mbimba*[2], Gregory Sondag[1], Fouad Moussa[1], Samir Abdelmagid[1]. [1]Northeast Ohio Medical University, USA, [2]Kent State University, USA

Disclosures: Thomas Mbimba, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: MONOGENIC BONE DISEASES

SA0124 **Discovery of Novel Models of Bone Disease using an Unbiased High-Throughput Phenotyping Screen of Transgenic Mice**

Douglas Adams[1], Renata Rydzik[1], Li Chen[1], Seung-Hyun Hong[2], Dana Godfrey[3], Xi Jiang[1], Zhihua Wu[1], Vilmaris Diaz-Doran[1], Caibin Zhang[1], Dong-Guk Shin[2], David Rowe[1], Cheryl Ackert-Bicknell*[4]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut, USA, [3]The Jackson Laboratory, USA, [4]University of Rochester, USA

Disclosures: Cheryl Ackert-Bicknell, None

SA0125 **Hyperactive *RAS*Mutations in the Bone have an Intrinsic Negative Effect on Mineralization in Cutaneous-Skeletal-Hypophosphatemia Syndrome**

Diana Ovejero*[1], Nisan Bhattacharyya[1], Andrea Burke[1], Laura Tosi[2], Larry Fisher[3], Edward McCarthy[4], Young Lim[5], Keith Choate[6], Michael Collins[1]. [1]National Institutes of Health, USA, [2]Children's National Medical Center, USA, [3]National Institute of Dental & Craniofacial Research, USA, [4]Johns Hopkins Medical Institutions, USA, [5]Yale University School of Medicine, USA, [6]Yale University School of Medicine, USA

Disclosures: Diana Ovejero, None

SA0126 **IDENTIFICATION OF GENE SETS DYSREGULATED BY MUTANT ACVR1 GENE CAUSING A RARE INTRACTABLE DISEASE, FIBRODYSPLASIA OSSIFICANCE PROGRESSIVA.**

Yoshihisa Matsumoto*[1], Makoto Ikeya[1], Takanobu Otsuka[2], Junya Toguchida[1]. [1]Kyoto University, Japan, [2]Nagoya city university, Japan

Disclosures: Yoshihisa Matsumoto, None

SA0127 **Identification of the Third *LRP4* Mutation in a Patient Diagnosed with Sclerosteosis.**

Igor Fijalkowski*[1], Eveline Boudin[1], João Silva[2], Wim Van Hul[1]. [1]University of Antwerp, Belgium, [2]Instituto de Genética Médica, Portugal

Disclosures: Igor Fijalkowski, None

SA0128 **Novel Causes of Bone Dysplasias Identified through Whole Exome Sequencing**

Emily Farrow*[1], Serdar Ceylaner[2], Zafer Bicakci[3], Ergun Cetinkaya[4], Melanie Patterson[1], Lisa Krivohlavek[1], Margaret Gibson[1], Katie Barger[1], Carol Saunders[1], Neil Miller[1], Neil Mardis[1], Stephen Kingsmore[1]. [1]Children's Mercy Hospital, USA, [2]Intergen Genetics Diagnosis & Research Centre, Turkey, [3]Pediatrics, Kafkas University, Turkey, [4]Pediatrics of Endomer, Turkey

Disclosures: Emily Farrow, None

SA0129 **Novel Mutations in the Osteoprotegerin Gene *TNFRSF11B* in Two Patients with Juvenile Paget's Disease**

Dorit Naot*[1], Ally Choi[1], David Musson[2], Pelin Özlem Simsek Kiper[3], Gulen Eda Utine[3], Koray Boduroglu[3], Munro Peacock[4], Linda Dimeglio[5], Tim Cundy[6]. [1]University of Auckland, New Zealand, [2]University of Auckland, New Zealand, New Zealand, [3]Hacettepe University, Turkey, [4]Indiana University Medical Center, USA, [5]Indiana University School of Medicine, USA, [6]Faculty of Medical & Health Sciences University of Auckland, New Zealand

Disclosures: Dorit Naot, None

SA0130 **Ossified Auricles: A New Feature Of Osteoprotegerin Deficiency Juvenile Paget's Disease**

Gary Gottesman*[1], Katherine Madson[1], William McAlister[2], Angela Nenninger[1], Steven Mumm[2], Michael Whyte[1]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Washington University School of Medicine, USA

Disclosures: Gary Gottesman, None

SA0131 **Rapid Turnover Skeletal Disease Caused By A Multiple-Exon Duplication of *TNFRSF11A* Encoding RANK**

Steven Mumm*[1], Felicity Collins[2], Shenghui Duan[1], Margaret Huskey[1], William McAlister[1], David Sillence[3], Michael Whyte[4]. [1]Washington University School of Medicine, USA, [2]The Children's Hospital at Westmead & Sydney University Medical School, Australia, [3]The Children's Hospital at Westmead & Sydney University Medical School, Australia, [4]Shriners Hospital for Children-Saint Louis, USA

Disclosures: Steven Mumm, None

SA0132 **Tissue Non-specific Alkaline Phosphatase Enzyme Therapy Prevents Abnormal Craniofacial Endochondral and Intramembraneous Bone Development in the *Alpl*$^{-/-}$ Mouse Model of Infantile Hypophosphatasia**

Jin Liu[1], Hwa Kyung Nam[1], Cassandra Campbell[1], Kellen Da Silva Gasque[2], Jose Luis Millan[2], Nan Hatch*[1]. [1]University of Michigan, USA, [2]Sanford-Burnham Medical Research Institute, USA

Disclosures: Nan Hatch, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: OTHER DISEASES

SA0133 **A number of novel loci are implicated for height and bone density determination through integration of ESR1 DNA occupancy and SNP association data**

Matthew Johnson*[1], Perry Evans[2], Mahdi Sarmady[2], Kurt Hankenson[3], Andrew Wells[4], Struan Grant[5]. [1]Children's Hospital of Philadelphia, USA, [2]The Children's Hospital of Philadelphia, USA, [3]University of Pennsylvania, USA, [4]Children's Hospital of Philadelphia, USA, [5]Children's Hospital of Philadelphia / University of Pennsylvania, USA

Disclosures: Matthew Johnson, None

SA0134 **Genotype and Phenotype Analyses Suggest a Distinct Molecular Signature of Giant Cell Tumor Occurring in Paget's Disease of Bone**

Luigi Gennari*[1], Domenico Rendina[2], Maria De Lucia[3], Laetitia Michou[4], Daniela Merlotti[1], Stuart Ralston[5], Giuseppina Divisato[3], Laura Pazzaglia[6], Maria Serena Benassi[6], Riccardo Muscariello[2], Gianpaolo De Filippo[2], Ranuccio Nuti[1], Pasquale Strazzullo[2], Teresa Esposito[3], Fernando Gianfrancesco[7]. [1]University of Siena, Italy, [2]Department of Clinical & Experimental Medicine, Federico II University, Italy, [3]Institute of Genetics & Biophysics, National Research Council of Italy, Italy, [4]Université Laval, Canada, [5]University of Edinburgh, United Kingdom, [6]Laboratory of Experimental Oncology, Rizzoli Orthopaedic Institute, Italy, [7]National Research Council of Italy, Italy

Disclosures: Luigi Gennari, None

SA0135 **Strong Correlation Between BMD Associated Transcripts in Postmenopausal Iliac Bone Biopsies and DNA Methylation Levels at Specific CpGs**

Sjur Reppe*[1], Runa M. Grimholt[1], Robert Lyle[1], Ole K. Olstad[1], Vigdis T. Gautvik[2], Kaare M. Gautvik[3]. [1]Oslo University Hospital, Ullevaal, Norway, [2]University of Oslo, IMB, Norway, [3]Oslo University Hospital, Oslo Deacon Hospital, University of Oslo, Norway

Disclosures: Sjur Reppe, None

HORMONAL REGULATORS: CALCITONIN AND OTHER HORMONES

SA0136 **Withdrawn**

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

SA0137 **FGF23 Neutralizing Antibody Improves Bone Phenotype of HMWFGF2 Isoforms Transgenic Mice**
Liping Xiao*[1], Collin Homer-Bouthiette[1], Erxia Du[1], Marja Marie Hurley[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
Disclosures: Liping Xiao, None

SA0138 **Induction of FGF23 expression in IDG-SW3 osteocytes by inflammatory stimuli**
Nobuaki Ito[1], Asiri Wijenayaka[2], Matthew Prideaux[3], Masakazu Kogawa[1], Renee Ormsby[2], Lynda Bonewald[4], David Findlay[5], Gerald Atkins*[5]. [1]The university of Adelaide, Australia, [2]Centre for Orthopaedic & Trauma Research, University of Adelaide, Australia, [3]Centre for Orthopaedic & Trauma Research, University of Adelaide, Azerbaijan, [4]University of Missouri - Kansas City, USA, [5]University of Adelaide, Australia
Disclosures: Gerald Atkins, None

SA0139 **Role of XLαs in phosphate and vitamin D metabolism during early postnatal development**
Qing He*[1], Cumhur Aydin[2], Braden Corbin[3], Regina Goetz[4], Moosa Mohammadi[4], Antonius Plagge[5], Murat Bastepe[3]. [1]Endocrine Unit, Department of Medicine, Massachusetts General Hospital & Harvard Medical School, USA, [2]Gulhane School of Medicine, Ankara, TURKEY, Turkey, [3]Massachusetts General Hospital, Harvard Medical School, USA, [4]Department of Biochemistry & Molecular Pharmacology, New York University School of Medicine, USA, [5]Department of Cellular & Molecular Physiology, Institute of Translational Medicine, University of Liverpool, United Kingdom
Disclosures: Qing He, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

SA0140 **Effect of a Calcilytic Compound in Autosomal Dominant Hypocalcemia Model Mice**
Bingzi Dong*[1], Itsuro Endo[1], Takeshi Kondo[2], Yukiyo Ohnishi[2], Masahiro Abe[2], Seiji Fukumoto[3], Tomoka Hasegawa[4], Norio Amizuka[5], Shin-ichi Aizawa[6], Toshio Matsumoto[1]. [1]University of Tokushima Graduate School of Medical Sciences, Japan, [2]University of Tokushima, Japan, [3]University of Tokyo Hospital, Japan, [4]Hokkaido University, Japan, [5]Hokkaido University School of Dentistry, Japan, [6]RINKEN Center for developmental biology, Japan
Disclosures: Bingzi Dong, None

SA0141 **Identification and Functional Characterization of a Novel Activating Mutation in the Human Calcium-sensing Receptor Gene, Responsible for Autosomal Dominant Hypocalcemia**
Anne Qvist Rasmussen*[1], Peter Schwarz[2], Niklas Jorgensen[3]. [1]Capital Region of Denmark, Denmark, [2]Glostrup Hospital, Denmark, [3]Copenhagen University Hospital Glostrup, Denmark
Disclosures: Anne Qvist Rasmussen, None

SA0142 **PTHrP Stimulates Skeletal Growth And Osteoblastic Bone Formation in An Intracrine Manner By Inhibiting P16-Rb And P19-P53-P21 Signal Pathways Mediated By Bmi1**
Yongli Han*[1], Ruilei Teng[1], Ying Zhang[1], Zhen Gu[1], Lin Chen[2], Baojie Li[3], David Goltzman[4], Andrew Karaplis[4], Dengshun Miao[5]. [1]Nanjing Medical University, China, [2]Daping Hospital, Peoples Republic of China, [3]Shanghai Jiao Tong University, Peoples Republic of China, [4]McGill University, Canada, [5]Nunjing Medical University, Peoples Republic of China
Disclosures: Yongli Han, None

SA0143 **Regulation of PTH-induced Bone Loss: A Role for Monocyte Chemoattractant Protein-1**
Jawed Siddiqui*[1], Joshua Johnson[1], Joseph Tamasi[2], Nicola Partridge[3]. [1]New York University, USA, [2]Bristol-Myers Squibb, USA, [3]New York University College of Dentistry, USA
Disclosures: Jawed Siddiqui, None

SA0144 **Stapled Peptides as Long-Acting, Selective Parathyroid Hormone Antagonists**
Manoj Samant*[1], Karen Olson[1], Aditi Mukherjee[1], Hubert Chen[2], Thomas Gardella[3], Allen Annis[1]. [1]Aileron Therapeutics, Inc., USA, [2]USA, [3]Massachusetts General Hospital, USA
Disclosures: Manoj Samant, Aileron Therapeutics, Inc., 3

SA0145 **TSH elevation as first laboratory evidence for pseudohypoparathyroidism type Ib (PHP-Ib)**
Harald Jueppner[1], Angelo Molinaro*[2], Dov Tiosano[3], William Russell[4], Dionisios Chrysis[5], Outi Makitie[6], Rieko Takatani[7], Massimo Tonacchera[8]. [1]Massachusetts General Hospital, USA, [2]Endocrine Unit, Massachusetts General Hospital, USA, [3]Division of Pediatric Endocrinology, Meyer Children's Hospital, Rambam Health Care Campus, Israel, [4]Division of Pediatric Endocrinology & Diabetes, Vanderbilt University School of Medicine, USA, [5]Division of Endocrinology, Department of Pediatrics, Medical School, University of Patras, Greece, [6]Children's Hospital, Helsinki University Central Hospital, Finland, [7]Massachusetts General Hospital & Harvard Medical School, USA, [8]Endocrinology Unit, Department of Internal Medicine, University of Pisa, Italy
Disclosures: Angelo Molinaro, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

SA0146 **Co-expression Network Analysis Identifies Alpha-Synuclein (*Snca*) as a Mediator of Ovariectomy-induced Bone Loss**
Gina Calabrese[1], Larry Mesner[2], Patricia Foley[2], Clifford Rosen[3], Charles Farber*[2]. [1]USA, [2]University of Virginia, USA, [3]Maine Medical Center, USA
Disclosures: Charles Farber, None

SA0147 **Withdrawn**

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

SA0148 **A bone-testicular interaction for the maintenance of male steroidogenesis**
Daniela Hofer[1], Julia Münzker[2], Matthias Ulbing[2], Philipp Stiegler[3], Karla Hutz[4], Richard Zigeuner[4], Thomas Pieber[2], Helmut Müller[3], Barbara Obermayer-Pietsch*[5]. [1]Division of Endocrinology & Metabolism, Medical University Graz, Austria, Austria, [2]Department of Internal Medicine, Division of Endocrinology & Metabolism, Medical University Graz, Austria, Austria, [3]Department of Surgery, Division of Transplantation Surgery, Medical University Graz, Austria, Austria, [4]Department of Urology, Medical University Graz, Austria, Austria, [5]Medical University Graz, Austria
Disclosures: Barbara Obermayer-Pietsch, None

SA0149 **Model-based Meta-analysis for Development of a Population-Pharmacokinetic (PPK) Model for Vitamin D3 and its 25OHD3 Metabolite**
Alanna Ocampo*[1], Marc Gastonguay[2], Joseph Lorenzo[3], Matthew Riggs[2]. [1]University of Connecticut, USA, [2]Metrum Research Group LLC, USA, [3]University of Connecticut Health Center, USA
Disclosures: Alanna Ocampo, None

SA0150 **Renal CYP27B1 is essential to maintain circulating 1,25 dihydroxyvitamin D, and calcium and bone homeostasis**
Yingben Xue*[1], Rene St-Arnaud[2], David Goltzman[3]. [1]Calcium Research Lab, McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada, [3]McGill University, Canada
Disclosures: Yingben Xue, None

SA0151 **Withdrawn**

SA0152 **Vitamin D3 Regulates Frizzled 1 Expression in Osteoblasts**
Shibing Yu[1], Yanxia Chu[2], Joseph Zmuda[3], Yingze Zhang*[4]. [1]University of Pittsburgh Medical Center, USA, [2]University of Pittsburgh Department of Medicine, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]University of Pittsburgh, USA
Disclosures: Yingze Zhang, None

INFLAMMATORY BONE DISORDERS: ANKYLOSING SPONDYLITIS AND SPONDYLOARTHRITIS

SA0153 Role of Interleukin-32 Gamma in Bone Formation in Ankylosing Spondylitis

Chang Keun Lee*[1], Eun-Ju Lee[2], Eun-Jin Lee[3], Seokchan Hong[2], Bin Yoo[2], Tae-Hwan Kim[4], Soo-Hyun Kim[5], Eun-Ju Chang[3], Yong-Gil Kim[2]. [1]University of Ulsan College of Medicine, South Korea, [2]Department of Rheumatology, University of Ulsan College of Medicine, Asan Medical Center, South Korea, [3]Department of Biomedical Sciences, Cell Dysfunction Research Center & BMIT, University of Ulsan College of Medicine, Asan Medical Center, South Korea, [4]Hanyang University Hospital for Rheumatic Diseases, South Korea, [5]Department of Biomedical Science & Technology, Konkuk University, South Korea

Disclosures: Chang Keun Lee, None

INFLAMMATORY BONE DISORDERS: GENERAL

SA0154 Adenovirus 36, Adiposity and Inflammatory-Related Markers in Children

Paige Berger*[1], Emma Laing[1], Norman Pollock[2], Stuart Warden[3], Kathleen Hill Gallant[4], Dorothy Hausman[1], Ralph Tripp[1], Linda McCabe[4], George McCabe[4], Connie Weaver[4], Munro Peacock[5], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Georgia Regents University, USA, [3]Indiana University School of Health & Rehabilitation Sciences, USA, [4]Purdue University, USA, [5]Indiana University Medical Center, USA

Disclosures: Paige Berger, None

SA0155 Pro-Resorptive Therapy for Heterotopic Ossification

Song Xue*[1], Roberto Fajardo[2], Kevin McHugh[1]. [1]University of Florida, USA, [2]UT Health Science Center, San Antonio, USA

Disclosures: Song Xue, None

SA0156 Role of *sarA* in osteomyelitis pathogenesis in UAMS-1 and LAC clinical strains of *Staphylococcus aureus*

Dana Gaddy*, Nisreen Akel, Karen Beenken, Mark Smeltzer, Larry Suva. University of Arkansas for Medical Sciences, USA

Disclosures: Dana Gaddy, None

INFLAMMATORY BONE DISORDERS: RHEUMATOID ARTHRITIS AND INFLAMMATORY ARTHRITIS

SA0157 Calcium-release activated calcium channel inhibitors suppress acute arthritis in vivo by blocking osteoclast development

Lisa Robinson[1], Jonathan Soboloff[2], Harry Blair*[1], John Barnett[3]. [1]University of Pittsburgh, USA, [2]Temple University, USA, [3]West Virginia University School of Medicine, USA

Disclosures: Harry Blair, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR EFFECT OF MECHANICAL LOADING AND UNLOADING

SA0158 Mouse Forearm Loading – Experimental Strain Quantification using a Digital Image Correlation Technique

Mark Begonia[1], Mark Dallas[1], Mark Johnson[2], Ganesh Thiagarajan*[3]. [1]University of Missouri Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA, [3]University of Missouri - Kansas City, USA

Disclosures: Ganesh Thiagarajan, None

SA0159 Sparsely ionizing radiation exacerbates the effects of rat hindlimb suspension on the musculoskeletal system

Nisreen Akel*, Robert Griffin, Howard Hendrickson, Parimal Chowdhury, Maxim Dobretsov, Larry Suva, Dana Gaddy. University of Arkansas for Medical Sciences, USA

Disclosures: Nisreen Akel, None

SA0160 **Tensile Force Induces Vascular Formation during the Ealy Biomechanical Response of Cranial Sutures via ROCK2, CTGF, and ERK1/2 Dependent Mechanisms**
Nobuo Takeshita*[1], Masakazu Hasegawa[2], Kiyo Sasaki[2], Daisuke Seki[2], Shunrou Miyashita[2], Ikuko Takano[2], Yuuki Miyajima[2], Teruko Takano-Yamamoto[1]. [1]Tohoku University, Japan, [2]Division of Orthodontics & Dentofacial Orthopedics, Department of Oral Health & Development, Tohoku University Graduate School of Dentistry, Japan
Disclosures: Nobuo Takeshita, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR MECHANOSENSING

SA0161 **Endoplasmic Reticulum Calcium Handling in Osteocyte Mechanobiology**
Genevieve Brown*, X. Edward Guo. Columbia University, USA
Disclosures: Genevieve Brown, None

SA0162 **Polycystin-1 Mediates Mechanical Strain-Induced Osteoblastic Mechanoresponses via Potentiation of Intracellular Calcium and Akt/β-Catenin Pathway**
Hua Wang*[1], Wen Sun[2], Junqing Ma[3], Yongchu Pan[3], Lin Wang[3], Wei-Bing Zhang[4]. [1]Institute of Stomatology, Peoples Republic of China, [2]Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, [3]Institute of Stomatology, Nanjing Medical University, China, [4]School of Stomatology, Nanjing Medical University, Nanjing, China, USA
Disclosures: Hua Wang, None

MECHANOBIOLOGY: GENERAL

SA0163 **Examining the Effects of Migration on Bone Quantity and Microarchitecture in Migratory Landbirds**
Maria Squire*[1], Robert Smith[2], Jennifer Owen[3]. [1]Department of Biology, The University of Scranton, USA, [2]The University of Scranton, USA, [3]Michigan State University, USA
Disclosures: Maria Squire, None

SA0164 **Mechanical Vibration Potentializes the Effect of Estrogen Hormone Replacement Therapy in Osteopenic Females Mice**
Márcio Moura Moura*[1], Marise Lazaretti Castro[2], Helena Bonciani Nader[2], Ana Paula Mayumi Kawachi[2], Keico Okino Nonaka[3], Rejane Reginato[4]. [1]Luis Alves Moura, Ana lina de Almeida Moura, Brazil, [2]Federal University of São Paulo, Brazil, [3]Federal University of São Carlos, Brazil, [4]Unifesp - Federal University of São Paulo, Brazil
Disclosures: Márcio Moura Moura, None

SA0165 **ASBMR 2014 Annual Meeting Young Investigator Award**
Mechanotransduction from Dendritic Processes to Cell Body of Osteocytes through the Functional Interplay of Integrin Activation, PI3K Signaling and Connexin Hemichannels
Manuel Riquelme*[1], Nidhi Batra[2], Jean Jiang[3]. [1]University of Texas Science Center, San Antonio, USA, [2]University of Texas Health Science Center at San Antonio (UTHSCSA), USA, [3]University of Texas Health Science Center at San Antonio, USA
Disclosures: Manuel Riquelme, None

SA0166 **MiR-103a: a novel mechano-sensitive microRNA inhibits bone formation through targeting Runx2**
Bin Zuo*[1], JunFeng Zhu[1], Jiao Li[2], XiaoDong Chen[1], Xiaoling Zhang[3]. [1]Department of Orthopedic Surgery, Xinhua Hospital, Shanghai JiaoTong 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]Institute of Health Sciences, Peoples Republic of China
Disclosures: Bin Zuo, None

SA0167 **Osteoblast mechanoresponse: the role of Lipocalin 2**
Mattia Capulli*[1], Sara Gemini Piperni[1], Patrick Lau[2], Petra Frings-Meuthen[2], Martina Heer[3], Anna Teti[1], Nadia Rucci[1]. [1]University of L'Aquila, Italy, [2]German Aerospace Center (DLR), Germany, [3]PROFIL - Institute for Metabolic Research GmbH, Germany
Disclosures: Mattia Capulli, None

SA0168 **Research of bone mass change by PTH administration to OPN-KO mice neurectomy**
Takayuki Yamada*[1], Yoichi Ezura[2], Tadayoshi Hayata[3], Kiyoshi Harada[1], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Organization for Educational Initiatives, University of Tsukuba, Japan
Disclosures: Takayuki Yamada, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): ANABOLIC FACTORS

SA0169 **Loss of N-cadherin in Osteoblasts Enhances the Osteo-Anabolic Effects of Lrp5/6 Signaling**
Cynthia Brecks*[1], Valerie Salazar[2], Susan Grimston[3], Leila Revollo[4], Marcus Watkins[3], Gabriel Mbalaviele[3], Roberto Civitelli[3]. [1]Washington University In St Louis, USA, [2]Harvard School of Dental Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA, [4]Washington University, Division of Bone & Mineral Diseases, USA
Disclosures: Cynthia Brecks, None

SA0170 **PDGF Secreted by TRAP$^+$ Preosteoclasts Induces Angiogenesis for Bone Formation**
Hui Xie*[1], Zhuang Cui[2], Long Wang[2], Lingling Xian[3], Zhuying Xia[4], Yin Hu[4], Changjun Li[2], Liang Xie[2], Janet Crane[5], Mei Wan[3], Gehua Zhen[6], Tao Qiu[3], Weizhong Chang[5], Maureen Pickarski[7], Le Duong[8], Xu Cao[5]. [1]Johns Hopkins Medical Institution, USA, [2]Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, USA, [3]Johns Hopkins University School of Medicine, USA, [4]Institute of Endocrinology & Metabolism, Second Xiangya Hospital of Central South University, China, [6]Johns Hopkins University, USA, [6]The Johns Hopkins Hospital, USA, [7]Merck & Co., Inc., USA, [8]Merck Research Laboratories, USA
Disclosures: Hui Xie, None

SA0171 **Role of the STING cytosolic DNA sensor pathway in bone remodeling**
Rebecca Baum*[1], Shruti Sharma[1], Yukiko Maeda[1], Catherine Manning[1], Jason Organ[2], David Burr[2], Ann Rothstein[1], Kate Fitzgerald[1], Ellen Gravallese[1]. [1]University of Massachusetts Medical School, USA, [2]Indiana University School of Medicine, USA
Disclosures: Rebecca Baum, None

SA0172 **The bone anabolic potential of canonical WNT signaling requires epigenetic priming of endogenous BMP2 production: *in vitro, in vivo* and *in silico* studies**
Young Dan Cho*[1], Kyung Mi Woo[2], Jeong Hwa Baek[2], Young Ku[3], van Wijnen Andre J.[4], Hyun Mo Ryoo[2]. [1]Seoul National University, South Korea, [2]Department of Molecular Genetics, School of Dentistry, Seoul National University, South Korea, [3]Department of Periodontology, School of Dentistry, Seoul National University, South Korea, [4]Departments of Orthopedic Surgery & Biochemistry & Molecular Biology, Mayo Clinic, USA
Disclosures: Young Dan Cho, None

SA0173 **The flavonoid fisetin promotes osteoblasts differentiation through Runx2 transcriptional activity**
Cedric Darie*, Laurent Léotoing. , France
Disclosures: Cedric Darie, None

SA0174 **ASBMR 2014 Annual Meeting Young Investigator Award**
TIEG suppresses SOST expression and mediates the skeletal response to sclerostin antibody therapy
Anne Gingery*[1], Kevin S. Pitel[2], Gino W. Gaddini[3], Xiaodong Li[4], Hua Zhu Ke[5], Russell T. Turner[5], Nalini M. Rajamannan[6], Urszula T. Iwaniec[3], Thomas C. Spelsberg[2], Malayannan Subramaniam[2], John R. Hawse[7]. [1]Mayo Clinic School of Medicine, USA, [2]Mayo Clinic, USA, [3]Oregon State University, USA, [4]Amgen, Inc., USA, [5]Amgen, USA, [6]Mayo Clinic, Rochester MN, USA, [7]Mayo Clinic College of Medicine, USA
Disclosures: Anne Gingery, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): ANTIRESORPTIVE FACTORS

SA0175 **Carbon-containing Polyhedral Boron-cluster Carborane BA321 acts on bone tissues as selective androgen receptor modulator (SARM)**
Tsukasa Tominari, Chiho Matsumoto, Michiko Hirata, Masaki Inada, Chisato Miyaura*. Tokyo University of Agriculture & Technology, Japan
Disclosures: Chisato Miyaura, None

SA0176 **ASBMR 2014 Annual Meeting Young Investigator Award**
CHIP Is a Critical Regulator of Bone Remodeling
Shan Li*, Wanqing Xie, Guozhi Xiao, Di Chen. Rush University Medical Center, USA
Disclosures: Shan Li, None

SA0177 **Combination Therapy with Ibandronate and Eldecalcitol Enhances Bone Strength with upregulation of minimodeling 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]Taisho Pharmaceutical Co., Ltd, Japan
Disclosures: Sadaoki Sakai, Chugai Pharmaceutical Co., Ltd, 3

SA0178 **OPG-Fc but not Zoledronic Acid Discontinuation Reverses Radiographic and Histologic Indices of Osteonecrosis of the Jaws (ONJ) in a Mouse Model**
Rafael De Molon*[1], Hiroaki Shimamoto[1], Olga Bezouglaia[1], Flavia Pirih[1], Sara Dry[2], Paul Kostenuik[3], Denise Dwyer[4], Rogely Waite Boyce[4], Tara Aghaloo[5], Sotirios Tetradis[5]. [1]UCLA School of Dentistry, USA, [2]UCLA School of Medicine, USA, [3]Amgen Inc., USA, [4]Amgen Inc, USA, [5]University of California, Los Angeles, USA
Disclosures: Rafael De Molon, None

SA0179 **The inhibitory effect of zoledronate on early-stage osteoinduction by recombinant human bone morphogenetic protein 2 in an osteoporosis model**
Jae Hyup Lee*[1], Kyung Mee Lee[2], Hae-Ri Baek[2], Hyun-Kyung Lee[2]. [1]Seoul National University, College of Medicine, South Korea, [2]Department of Orthopedic Surgery, College of Medicine, Seoul National University, South Korea
Disclosures: Jae Hyup Lee, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): OTHER AGENTS

SA0180 **BMP2 and ibandronate combination therapy improves bone healing during non-weight bearing treatment of ischemic osteonecrosis of the femoral head**
Olumide Aruwajoye*[1], Justin Du[1], Nobuhiro Kamiya[2], Harry Kim[3]. [1]Texas Scottish Rite Hospital, USA, [2]Texas Scottish Rite Hospital for Children, USA, [3]Scottish Rite Hospital for Children, USA
Disclosures: Olumide Aruwajoye, None

SA0181 **Brain-Specific PTEN Deletion Induces Abnormal Skeletal Activity in Mice**
Marjorie Thompson*[1], Philippe Huber[2], Gregory Smith[3], Andrew Holley[3], Steven Bain[2], Edith Gardiner[2], Joaquin Lugo[3], Ronald Kwon[2]. [1]USA, [2]University of Washington, USA, [3]Baylor University, USA
Disclosures: Marjorie Thompson, None

SA0182 **Effects of Circulating Osteocalcin on Bone Remodelling**
Tara Brennan-Speranza*[1], Katharina Blankenstein[2], Hong Zhou[2], Markus Seibel[2]. [1]University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Tara Brennan-Speranza, None

SA0183 **Enhanced fracture healing following selective abrogation of Runx3 in the perisoteum**
Do Yu Soung[1], Vanessa Piccullio[1], Archana Sanjay[2], Marc Hansen[1], Hicham Drissi*[1]. [1]University of Connecticut Health Center, USA, [2]UCHC, USA
Disclosures: Hicham Drissi, None

SA0184 **Is MMP-13 the critical mediator for the effects of HDAC4 deletion in mice?**
Teruyo Nakatani*[1], Tiiffany Chen[2], Shoshana Yakar[3], Nicola Partridge[4]. [1]New York University College of Dentistry, USA, USA, [2]New York University, USA, [3]New York University College of Dentistry, David B. Kriser Dental Center, USA, [4]New York University College of Dentistry, USA
Disclosures: Teruyo Nakatani, None

SA0185 **Lead Induced Differences in Bone Properties in Osteocalcin +/+ and -/- Female Mice**
Terry Dowd*[1], Adele Boskey[2], Caren Gundberg[3], Marjolein Van Der Meulen[4], Olga Berezovska[5]. [1]Brooklyn College of the City University of New York, USA, [2]Hospital for Special Surgery, USA, [3]Yale University School of Medicine, USA, [4]Cornell University, USA, [5]Department of Chemsitry Brooklyn College, USA
Disclosures: Terry Dowd, None

SA0186 **Muramyl dipeptide enhances Lipopolysaccharide-induced osteoclast formation and bone resorption by enhance of RANKL expression**
Masahiko Ishida*[1], Hideki Kitaura[2], Keisuke Kimura[2], Jafari Saeed[3], Haruki Sugisawa[2], Haruhiko Takada[2], Teruko Takano-Yamamoto[2]. [1]Tohoku University, Graduate School of Dentistry, Japan, [2]Tohoku University, Japan, [3]Tohoku University Graduate School of Dentistry, Japan
Disclosures: Masahiko Ishida, None

SA0187 **Scleraxis modulates fracture healing and callus formation**
Megan L Killian*[1], Jennifer A McKenzie[2], Evan G Buettmann[2], Benjamin D Havelka[3], Matthew J Silva[2], Michael J Gardner[2]. [1]USA, [2]Washington University School of Medicine, USA, [3]Saint Louis University, USA
Disclosures: Megan L Killian, None

SA0188 **Serotonin Reuptake Inhibitors Inhibit Osteoclast Differentiation And Function Through A Serotonin-Independent And Nfatc1-Dependent Mechanism**
María José Ortuño*, Patricia Ducy. Columbia University, USA
Disclosures: María José Ortuño, None

SA0189 **Strontium ranelate leads to bone matrix modifications and increases bone formation in ovariectomized and osteopenic rats**
Jenifer Campos*[1], Mariana Freitas[2], Keico Okino Nonaka[3], Helena Nader[4], Eduardo Katchburian[4], Marise Lazaretti-Castro[2], Rejane Reginato[5]. [1]Universidade Federal de São Paulo, Brazil, [2]Federal University of São Paulo, Brazil, [3]Federal University of São Carlos, Brazil, [4]UNIFESP, Brazil, [5]Unifesp - Federal University of São Paulo, Brazil
Disclosures: Jenifer Campos, None

SA0190 **The whole-body analysis employing RANKL -/- and OPG -/- medaka fish reveals the in vivo bone resorption system**
Masahiro Chatani*[1], Yoshiro Takano[2], Takeshi Todo[3], Akira Kudo[1]. [1]Tokyo Institute of Technology, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Osaka University, Japan
Disclosures: Masahiro Chatani, None

MUSCLE BIOLOGY AND BONE: CELLULAR AND MOLECULAR INTERACTIONS

SA0191 **A Selective Androgen Receptor Modulator that favorably affects the bone muscle interface**
Venkatesh Krishnan*[1], Henry Bryant[1], Yanfei Ma[1], Charles Benson[2], Prabhakar Jadhav[2], Judith Henck[2], Nita Patel[2], Heather Bullock[2], Alan Chiang[1], Timothy Waterhouse[2], Masahiko Sato[3], George Zeng[2], Benjamin Yaden[2], Pamela Shetler[2]. [1]Eli Lilly & Company, USA, [2]Lilly Research laboratories, USA, [3]Indiana University School of Medicine, USA
Disclosures: Venkatesh Krishnan, Eli Lilly & Company, 3

SA0192 **Activation of Prostaglandin E_2 EP4 signaling promotes primary myoblast proliferation via regulation of cell cycle progression and MyoD expression**
Chenglin Mo*[1], Lori Wetmore[2], Julian Vallejo[3], Leticia Brotto[3], Lynda Bonewald[4], Marco Brotto[4]. [1]University of Missouri-Kansas City, USA, [2]William Jewell College, USA, [3]Muscle Biology Research Group, School of Nursing & Health Studies, University of Missouri-Kansas City, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Chenglin Mo, None

SA0193 Establishment and characterization of a novel Tet-Off embryonic stem cell lines carrying ALK2

Mai Fujimoto*[1], Satoshi Ohte[2], Masashi Shin[2], Katsumi Yoneyama[3], Kenji Osawa[2], Sho Tsukamoto[2], Arei Miyamoto[4], Takato Mizuta[2], Shoichiro Kokabu[2], Akihiko Okuda[2], Naoto Suda[5], Takenobu Katagiri[2]. [1]Saitama Medical University Research Center for Genomic Medicine, Jpn, [2]Saitama Medical University Research Center for Genomic Medicine, Japan, [3]Saitama Medical Univercity Reserch Center fo Genomic Medicine, Japan, [4]Saitama Medical University, Research Center for Genomic Medicine, Japan, [5]Meikai University School of Dentistry, Japan

Disclosures: Mai Fujimoto, None

SA0194 The Age-Associated Rise in miRNAs from Muscle Target SDF-1 and Musculoskeletal Regulatory Genes is Reversed with Caloric Restriction and Leptin

Sudharsan Periyasamy-Thandavan[1], Samuel Herberg[2], Phonepasong Arounleut[3], Sunil Upadhyay[4], Galina Kondrikova[4], Amy Dukes[4], Colleen Davis[4], Maribeth Johnson[4], Xing-Ming Shi[4], Carlos Isales[4], Mark Hamrick[5], William Hill*[6]. [1]Georgia Regents University & Charlie Norwood VAMC, USA, [2]Case Western Reserve University, USA, [3]Georgia Regents University (formally Georgia Health Sciences University), USA, [4]Georgia Regents University, USA, [5]Georgia Health Sciences University, USA, [6]Georgia Regents University & Charlie Norwood VAMC, USA

Disclosures: William Hill, None

SA0195 The Effects of Combined Use of Glucocorticoids and Bisphosphonates on Musculoskeletal System in a Mouse Model of Duchenne Muscular Dystrophy

Jane Mitchell[1], Sung-Hee Yoon*[1], Jinghan Chen[2], Ariana delaCruz[1], Kim Sugamori[2], Marc Grynpas[3]. [1]University of Toronto, Canada, [2]Univeristy of Toronto, Canada, [3]Lunenfeld-Tanenbaum Research Institute of Mount Sinai Hospital, Canada

Disclosures: Sung-Hee Yoon, None

MUSCLE BIOLOGY AND BONE: GENERAL

SA0196 Effects of eldecalcitol on body weight, bone mineral density and skeletal muscle in glucocorticoid-treated rats

Hayato Kinoshita*[1], Naohisa Miyakoshi[2], Michio Hongo[2], Yuji Kasukawa[2], Koji Nozaka[2], Yoichi Shimada[3]. [1]Akita University, Japan, [2]Akita University Graduate School of Medicine, Japan, [3]Akita University Graduate School of Medicine Department of Orthopedics Surgery, Japan

Disclosures: Hayato Kinoshita, None

SA0197 Mediation of SDF-1/CXCR4 signaling in aged skeletal muscle by the adipokine leptin.

Samuel Herberg*[1], Sudharsan Periyasamy-Thandavan[2], Phonepasong Arounleut[3], Sunil Upadhyay[4], Amy Dukes[4], Colleen Davis[4], Galina Kondrikova[4], Maribeth Johnson[4], Carlos Isales[4], William Hill[5], Mark Hamrick[6]. [1]Case Western Reserve University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Regents University (formally Georgia Health Sciences University), USA, [4]Georgia Regents University, USA, [5]Georgia Regents University & Charlie Norwood VAMC, USA, [6]Georgia Health Sciences University, USA

Disclosures: Samuel Herberg, None

OSTEOARTHRITIS - PATHOPHYSIOLOGY (ANIMAL MODELS): GENERAL

SA0198 A Longitudinal Study of Articular Cartilage and Subchondral Bone During Spontaneous Osteoarthritis in Dunkin-Hartley Guinea Pigs

Weiwei Zhao*[1], Ting Wang[2], Qiang Luo[3], Chunyi Wen[3], Haobo Pan[2], Songlin James Peng[4], KwongYuen Chiu[3], Xu Cao[5], William Lu[3]. [1]The University of Hong Kong, Hong Kong, [2]Centre for Human Tissues & Organs Degeneration, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China, [3]Department of Orthopaedics & Traumatology, The University of Hong Kong, China, [4]Shenzhen People's Hospital, Jinan University School of Medicine, Peoples Republic of China, [5]Johns Hopkins University, USA

Disclosures: Weiwei Zhao, None

SA0199 **Elevated TGF-β in Subchondral Bone Causes Joint Degeneration of Rheumatoid Arthritis and Osteoarthris**

Xin Xu*[1], Liwei Zheng[2], Qin Bian[3], Xuedong Zhou[4], Xu Cao[5]. [1]Johns Hopkins University, Medical Institute, USA, [2]West China School of Stomatology, Sichuan University, Peoples Republic of China, [3]USA, [4]West China School of Stomatology, Sichuan University, China, [5]Johns Hopkins University, USA

Disclosures: Xin Xu, None

SA0200 **Elucidating Molecular Mechanisms leading to Post Traumatic Osteoarthritis in Sost KO Mice**

Jiun Chiun Chang*[1], Blaine Christiansen[2], Nicole Collette[3], Aimy Sebastian[1], Deepa Murugesh[4], SARAH HATSELL[5], Aris Economides[6], Craig Blanchette[4], Gabriela Loots[7]. [1]University of California, Merced, USA, [2]University of California - Davis Medical Center, USA, [3]Lawrence Livermore National Laboratory, USA, [4]Lawrence Livermore National Laboratories, USA, [5]REGENERON PHARMACEUTICALS, USA, [6]Regeneron Pharmaceuticals, Inc., USA, [7]Lawrence Livermore National Laboratory, UC Merced, USA

Disclosures: Jiun Chiun Chang, None

SA0201 **Genetic Inhibition of FGFR1 in Cartilage at Adult stage Attenuates the Degeneration of Articular Cartilage in FGFR3 disruption mice**

Yangli Xie*[1], Wei Xu[2], Junlan Huang[2], Xiaolan Du[2], Siru Zhou[2], Lin Chen[3], Zuqiang Wang[2]. [1]Trauma Center, Daping Hospital,Third Military Medical University, Chn, [2]Center of Bone Metabolism & Repair, State Key Laboratory of Trauma, Burns & Combined Injury, Trauma Center, Institute of Surgery Research, Daping Hospital, Third Military Medical University, China, [3]Daping Hospital, Peoples Republic of China

Disclosures: Yangli Xie, None

OSTEOARTHRITIS AND OTHER CARTILAGE DISORDERS: GENERAL

SA0202 **3D Bone Microarchitectural Assessment in the Human Knee by Second Generation HR-pQCT – A New Tool for Early Osteoarthritis Detection?**

Sarah Manske*, Ying Zhu, Britta Jorgenson, Steven Boyd. University of Calgary, Canada

Disclosures: Sarah Manske, None

SA0203 **Characterization of Skeletal Phenotype of Smurf2-Deficient Mice and the Potential Role of Smurf2-inhibition in Mitigating Osteoarthritis**

Henry Huang*[1], Eric Veien[1], Hong Zhang[1], David Ayers[2], Jie Song[1]. [1]University of Massachusetts Medical School, USA, [2]UMass Memorial Medical Center, USA

Disclosures: Henry Huang, None

SA0204 **Hypoxia and vitamin D contribute to leptin and DKK2 production in human osteoarthritic subchondral bone osteoblasts.**

Béatrice Bouvard[1], Elie Abed*[2], Mélissa Yéléhé-Okouma[1], Arnaud Bianchi[1], Didier Mainard[3], Patrick Netter[3], Jean-Yves Jouzeau[3], Daniel Lajeunesse[4], Pascal Reboul[5]. [1]UMR 7365, CNRS-Université de Lorraine, IMoPA, France, France, [2]Crchum-hôpital Notre-dame, Canada, [3]Centre Hospitalier Universitaire, Nancy, France, France, [4]CRCHUM, Canada, [5]UHP Nancy 1 / CNRS UMR7561, France

Disclosures: Elie Abed, None

SA0205 **Inhibition of TGFb activity in Nucleus Pulposus Attenuate Disc Degeneration**

Qin Bian*[1], Liwei Zheng[2], Xin Xu[2], Amit Jain[2], Khaled Kebaish[2], Gehua Zheng[2], Hui Xie[3], Janet Crane[2], Mei Wan[4], Paul Sponseller[2], zhengdong zhang[5], Edward Guo[5], Lee Riley[2], Yongjun Wang[6], Xu Cao[2]. [1]USA, [2]Johns Hopkins University, USA, [3]Johns Hopkins Medical Institution, USA, [4]Johns Hopkins University School of Medicine, USA, [5]Bone Bioengineering Laboratory, Columbia University, USA, [6]Othopedic Surgery, Peoples Republic of China

Disclosures: Qin Bian, None

SA0206 **Intra-Articular Treatment with Recombinant Human Bone Morphogenetic Protein 7 (rhBMP-7) Attenuates the Development of Post-Traumatic Osteoarthritis in Rats**

Jukka Morko*[1], Zhiqi Peng[1], Katja Fagerlund[1], Yvonne Konkol[1], Jukka Rissanen[1], Jenni Bernoulli[1], Jussi Halleen[2]. [1]Pharmatest Services Ltd, Finland, [2]Pharmatest Services Ltd, Fin

Disclosures: Jukka Morko, Pharmatest Services Ltd, 3

SA0207 **The influence of osteophytes on femoral neck microcracks in osteoarthritis**
Gustavo Davi Rabelo[1], Jean-Paul Roux*[2], Nathalie Portero-Muzy[1], Stephanie Boutroy[3], Roland Chapurlat[4], Pascale Chavassieux[1]. [1]INSERM UMR1033, Université de Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM U1033 & Université de Lyon, France, [4]E. Herriot Hospital, France
Disclosures: Jean-Paul Roux, None

SA0208 **The role of FoxA factors in the onset and development of Osteoarthritis**
Andreia Ionescu*[1], Lin Xu[2], Elena Kozhemyakina[3], Klaus Kaestner[4], Yefu Li[2], Andrew Lassar[3]. [1]Harvard Medical School, USA, [2]HSDM, USA, [3]HMS, USA, [4]University of Pennsylvania, USA
Disclosures: Andreia Ionescu, None

OSTEOBLASTS - FUNCTION: ADHESION, MOTILITY AND CELL-CELL COMMUNICATION

SA0209 **Nuclear Factor of Activated T-Cells (Nfatc)2 Inhibits Osteoblast Function and Causes Osteopenia**
Stefano Zanotti*[1], Ernesto Canalis[2]. [1]St. Francis Hospital & Medical Center, USA, [2]University of Connecticut Health Center, USA
Disclosures: Stefano Zanotti, None

OSTEOBLASTS - FUNCTION: BONE FORMATION MECHANISMS

SA0210 **Cannabinoid CB1 Receptor in Sympathetic Nerves Regulates Bone Mass**
Saif Deis*[1], Natalya Kogan[1], Lital Goldfine[1], Raj Kamal Srivastava[2], Saja Baraghithy[1], Esther Shohami[1], Beat Lutz[2], Itai Bab[3]. [1]Hebrew University of Jerusalem, Israel, [2]Johannes Gutenberg University, Germany, [3]The Hebrew University, Israel
Disclosures: Saif Deis, None

SA0211 **Cyclooxygenase 2 deficiency impaired the bone regeneration capacity of muscle derived stem cells via cell autonomous and non-autonomous mechanisms**
Xueqin Gao*[1], Arvydas Usas[1], Aiping Lu[1], Ying Tang[1], Minakashi Poddar[1], Adam Kozemchak[1], James Cummins[1], Johnny Huard[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA
Disclosures: Xueqin Gao, None

SA0212 **Deletion of Rorβ, a Novel Regulator of Osteoblast Function, Slows Trabecular Bone Loss During Aging in Mice**
Qian Xing[1], Kristy Nicks[1], Joshua Farr[1], Daniel Fraser[1], Sundeep Khosla[2], David Monroe*[3]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Foundation, USA
Disclosures: David Monroe, None

SA0213 **GPR40, a free fatty acid receptor, differentially impacts osteoblast behavior depending on differentiation stage and environment.**
Claire Philippe*. INRA, France
Disclosures: Claire Philippe, None

SA0214 **miR-874-3p expressed during weaning phase positively regulates skeletal mass and plays an important role in primary osteoporosis**
Priyanka Kushwaha*[1], Vikram Khedgikar[2], Jyoti Gautam[2], Anirudha Karvande[2], Nasser Ahmed[2], Deepika Mishra[3], Prabodh Kumar Trivedi[3], Ritu Trivedi[2]. [1]Central Drug Research -CSIR, India, [2]CSIR-CDRI, India, [3]CSIR-NBRI, India
Disclosures: Priyanka Kushwaha, None

SA0215 **Possible role of RANKL-RANK signal in osteoblast differentiation**
Midori Nakamura[1], Teruhito Yamashita[1], Yuko Nakamichi[1], YURIKO FURUYA[2], Hisataka Yasuda[3], Nobuyuki Udagawa*[1]. [1]Matsumoto Dental University, Japan, [2]Oriental Yeast Co.,Ltd, Japan, [3]Oriental Yeast Company, Limited, Japan
Disclosures: Nobuyuki Udagawa, None

SA0216 **The role of MACF1 in migration, proliferation and differentiation of preosteoblast and the screening of the natural antisense transcripts of MACF1**
Airong Qian*[1], Lifang Hu[2], Yulong Sun[3], Dijie Li[2], Zhihao Chen[2], Peng Shang[1], Ge Zhang[4]. [1]Northwestern Polytechnical University, Peoples Republic of China, [2]Northwestern Polytechnical University, China, [3]Norhtwestern Polytechnical University, China, [4]Ge Zhang' S Lab, Hong Kong
Disclosures: Airong Qian, None

OSTEOBLASTS - FUNCTION: HORMONAL AND LOCAL REGULATION

SA0217 ***In Vivo*Maintenance of Cortical Bone Mass is Dependent on Estrogen Receptor Alpha Binding to Estrogen Response Elements in Mouse Osteoblasts**
Kristy Nicks*[1], Daniel Fraser[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

SA0218 **Administration of PTH and Tob deficiency in mice synergistically enhances the levels of both cancellous and cortical bone mass**
Shuichi Moriya*[1], Tadayoshi Hayata[2], Toru Suzuki[3], Takayuki Yamada[4], Jumpei Shirakawa[4], Kazuo Kaneko[5], Tadashi Yamamoto[3], Yoichi Ezura[6], Masaki Noda[4]. [1]Dept. of Molecular Pharmacology, Medical Research Institute Tokyo Medical & Dental University, Japan, [2]Organization for Educational Initiatives, University of Tsukuba, Japan, [3]Okinawa Institute of Science & Technology Graduate University, Japan, [4]Tokyo Medical & Dental University, Japan, [5]Department of Orthopedics, Juntendo University School of Medicine, Japan, Japan, [6]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Shuichi Moriya, None

SA0219 **Expression of Glucose Transporters during Osteoblast Differentiation**
Anna-Reeta Virta, Milja Arponen, Kaisa Ivaska*. University of Turku, Finland
Disclosures: Kaisa Ivaska, None

SA0220 **IGF-I Regulation of MicroRNA Expression in Osteoblasts**
Chandrasekhar Kesavan*, Jon Wergedal, Subburaman Mohan. Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Chandrasekhar Kesavan, None

SA0221 **PTH promotes the transcription of members of the LGR/Rspondin family in bone**
Nicoletta Bivi*[1], Jonathan Lucchesi[1], Matthew Hamang[1], Qianqiang Zeng[1], Rick Cain[1], Mary Adrian[1], Masahiko Sato[2], Venkatesh Krishnan[3], Yanfei Ma[3]. [1]Eli Lilly & Co., USA, [2]Indiana University School of Medicine, USA, [3]Eli Lilly & Company, USA
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OSTEOBLASTS - FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

SA0222 ***Rest/Nrsf*Suppresses Osteoblast Differentiation by Down Regulating *Osterix* Expression**
Subburaman Mohan[1], Bo Liu*[2], Shaohong Cheng[3], Sheila Pouteymoor[2]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]VALLHCS, USA, [3]VA Loma Linda Health Care Systems, USA
Disclosures: Bo Liu, None

SA0223 **Carbamazepine Inhibits Native Sodium Currents In Murine Osteoblasts**
Sandra Petty*[1], Carol Milligan[2], Marian Todaro[1], Terence O'Brien[1], John Wark[3], Eleanor Mackie[4], Steven Petrou[2]. [1]The University of Melbourne, Australia, [2]The Florey Institute of Neuroscience & Mental Health, Australia, [3]University of Melbourne, Department of Medicine, Australia, [4]University of Melbourne, Australia
Disclosures: Sandra Petty, None

SA0224 **Cbfβ upregulates Atf4 promoter activity and plays an indispensable role in skeletal development and homeostasis**
Guochun Zhu*[1], Wei Chen[2], Junqing Ma[2], Mengrui Wu[1], Matthew McConnell[2], Joel Jules[2], Christie Paulson[2], Yi-Ping Li[2]. [1]The University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Guochun Zhu, None

SA0225 **HDAC4 integrates PTH and sympathetic signaling in osteoblasts to regulate *Rankl* expression and osteoclasts differentiation**
Arnaud Obri*, Munevver Parla Makinistoglu, Gerard Karsenty. Columbia University, USA
Disclosures: Arnaud Obri, None

SA0226 **Knockout of Nuclear HMWFGF2 Isoforms in Mice Modulates Bone and Phosphate Homeostasis**
Collin Homer-Bouthiette*[1], Marja Marie Hurley[2], Liping Xiao[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
Disclosures: Collin Homer-Bouthiette, None

SA0227 **MEKK2 promotes osteoblast activity via phosphorylation and stabilization of β-catenin**
Matthew Greenblatt*[1], Dong-Yeon Shin[2], Hwanhee Oh[3], Dou Liu[4], Bo Zhai[5], Sutada Lotinun[6], Roland Baron[7], Steven Gygi[8], Laurie Glimcher[2], Bing Su[4], Jae Hyuck Shim[2]. [1]Weill Cornell Medical College/ Brigham & Women's Hospital, USA, [2]Weill Cornell Medical College, USA, [3]Weill Medical College of Cornell University, USA, [4]Yale University, USA, [5]Harvard University, USA, [6]Chulalongkorn University, Thailand, [7]Harvard School of Medicine & of Dental Medicine, USA, [8]Harvard Medical School, USA
Disclosures: Matthew Greenblatt, None

SA0228 **Pin1 promotes nuclear stay of β-catenin and controls Wnt3a-induced osteoblast differentiation**
Hea-rim SHIN*[1], Taegyung Lee[2], Han-sol Bae[1], Young-Dan Cho[1], Won-Joon Yoon[2], Hyun-Mo Ryoo[3]. [1]Seoul National University, South Korea, [2]School of Dentistry Seoul National University, Korea, democratic people's republic of, [3]Seoul National University School of Dentistry, South Korea
Disclosures: Hea-rim SHIN, None

SA0229 **Regulation of Bone Mass by Lrp4 and Secreted Wnt Antagonists**
Youngwook Ahn*[1], Jesús Fuentes-Antrás[1], Mark Dallas[2], Mark Johnson[2], Robb Krumlauf[1]. [1]Stowers Institute for Medical Research, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Youngwook Ahn, None

SA0230 **Smad8 negatively regulats BMP signaling in a dominant negative fashion**
Sho Tsukamoto*[1], Takato Mizuta[2], Mai Fujimoto[3], Satoshi Ohte[2], Kenji Osawa[2], Arei Miyamoto[4], Katsumi Yoneyama[2], Eiko Murata[5], Eijiro Jimi[6], Shoichiro Kokabu[6], Takenobu Katagiri[2]. [1]Saitama Medical University RCGM, Japan, [2]Saitama Medical University Research Center for Genomic Medicine, Japan, [3]Saitama Medical University Research Center for Genomic Medicine, Jpn, [4]Saitama Medical University, Research Center for Genomic Medicine, Japan, [5]Faculty of Health & Medical Care, Saitama Medical University, Japan, [6]Kyushu Dental College, Japan
Disclosures: Sho Tsukamoto, None

SA0231 **The cooperation of CREB and NFAT is required for PTHrP-induced RANKL expression in mouse osteoblastic cells**
Jeong-Hwa Baek*[1], Hyun-Jung Park[2], Kyunghwa Baek[3], Hyung-Ryong Kim[4]. [1]Seoul National University, School of Dentistry, South Korea, [2]Department of Molecular Genetics, Seoul National University School of Dentistry, South Korea, [3]Gangneung-Wonju national university, School of dentistry, South Korea, [4]Department of Dental Pharmacology, School of Dentistry, Wonkwang University, South Korea
Disclosures: Jeong-Hwa Baek, None

SA0232 **Ucma, a downstream target gene regulated by both Runx2 and Osterix, promotes osteoblast differentiation**
Yeon Ju Lee[1], So-Jeong Lee*[1], Eun-Hye Lee[1], Yeo Hyang Kim[2], Je-Yong Choi[3], Jung-Eun Kim[1]. [1]Kyungpook National University School of Medicine, South Korea, [2]Kyungpook National University Hospital, South Korea, [3]Kyungpook National University, School of Medicine, South Korea
Disclosures: So-Jeong Lee, None

SA0233 **Unique Distal Enhancers Linked to the Mouse *Tnfsf11* Gene Direct Tissue-Specific Expression and Inflammation induced Regulation of RANKL Expression**
Melda Onal*[1], Hillary St John[2], Allison Danielson[3], Charles O'Brien[4], J. Pike[2]. [1]university of wisconsin, USA, [2]University of Wisconsin-Madison, USA, [3]undergraduate student, USA, [4]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Melda Onal, None

OSTEOBLASTS - ORIGIN AND CELL FATE: REGULATION OF DIFFERENTIATION

SA0234 **Cbfβ promotes osteoblast lineage commitment and regulates the fate of mesenchymal stem cells by suppressing the expression of key adipocyte regulators and activating Wnt/β-catenin pathway *in vivo* and *in vitro***
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

SA0235 **Bone lining cells are a major source of osteoblasts during bone remodeling**
igor Matic*, Brya Matthews, Ivo Kalajzic. University of Connecticut Health Center, USA
Disclosures: igor Matic, None

SA0236 **Chondrocytes Are a Major Source of Osteoblasts in Endochondral Bones *in Vivo***
Xin Zhou*[1], Stephen Henry[2], Benoit de Crombrugghe[3], Klaus von der mark[4], Henry adams[5]. [1]MD Anderson Cancer Center, USA, [2]University of Texas MD Anderson, USA, [3]UT MD Andrson cancer center, USA, [4]University of Erlangen-Nuremberg, Germany, [5]UT MD Anderson, USA
Disclosures: Xin Zhou, None

SA0237 **EP1 Deletion Enhances Mitochondrial Activity in Mesenchymal Stem Cell and Promotes Osteogenicity**
Marina Feigenson*[1], Jennifer Jonason[2], Alayna Loiselle[2], Roman Eliseev[2], Regis O'Keefe[2]. [1]USA, [2]University of Rochester, USA
Disclosures: Marina Feigenson, None

SA0238 **ER Stress Signaling Molecule IRE1α Regulates Bone Develpment and Confers Genetic Risk for Human Osteoporosis**
Shankar Revu*[1], KAI LIU[2], Fengming Wang[1], Konstantinos Verdelis[1], Mariana Bezamat[1], Alexandre Vieira[1], Hong-Jiao Ouyang[1]. [1]University of Pittsburgh, USA, [2]USA
Disclosures: Shankar Revu, None

SA0239 **Sensory Neuron Differentiation Enhances Osteoblast Differentiation Through Soluble Factors**
Leah Worton*, Brandon Park, Anthony Redidoro, Edith Gardiner, Ronald Kwon. University of Washington, USA
Disclosures: Leah Worton, None

SA0240 **Signaling by matrix-bound VEGF controls the lineage commitment of multipotent mesenchymal progenitors**
Fiona Louis*[1], Sylvie Peyroche[2], Marie-Thérèse Linossier[2], Laurence Vico[3], Alain Guignandon[2]. [1]Inserm U1059, France, [2]Unit of Integrative Biology of Bone Tissue, INSERM U1059, France, [3]University of St-Etienne, France
Disclosures: Fiona Louis, None

OSTEOBLASTS - ORIGIN AND CELL FATE: STEMS CELLS AND PROGENITORS

SA0241 Circulating Microvesicles from Elderly Donors impact on Osteogenic Differentiation of Mesenchymal Stem Cells

Sylvia Weilner[1], Elisabeth Schraml[1], Matthias Wieser[2], Paul Messner[3], Andrea Maier[4], Heinz Redl[5], Peter Pietschmann[6], Matthias Hackl[7], Regina Grillari-Voglauer[2], Johannes Grillari*[8]. [1]Department of Biotechnology, University of Natural Resources & Life Sciences Vienna, Austria, [2]Evercyte GmbH, Austria, [3]Department of Nanobiotechnology, University of Natural Resources & Life Sciences Vienna, Austria, [4]Department of Gerontology & Geriatrics, Leiden University Medical Center, Leiden, Austria, [5]Ludwig Boltzmann Institute for Experimental & Clinical Traumatology, AUVA Research Center, Austria, [6]Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, [7]TAmiRNA GmbH, Austria, [8]University of Natural Resources & Life Sciences Vienna, Austria

Disclosures: Johannes Grillari, Evercyte GmbH, 3

SA0242 Early Embryonic Stem Cell Markers are Commonly Induced in Both Fracture and in Ectopically Induced Bone Formation

Beth Bragdon*[1], Kyle Lybrand[2], Louis Gerstenfeld[3]. [1]Boston University School of Medicine Department of Orthopaedics, USA, [2]Boston University Dept of Orthopaedic Surgery, USA, [3]Boston University School of Medicine, USA

Disclosures: Beth Bragdon, None

SA0243 Genome-wide Global Chromatin Landscape during Bone Differentiation from Normal and Osteogenesis Imperfecta iPS Cells

Lyuba Varticovski[1], Bethtrice Thompson*[2], Songjoon Baek[3], Jay Shapiro[4], Gordon Hager[3]. [1]NCI, National Institutes of Health, USA, [2]Howard U, USA, [3]LRBGE, NCI, NIH, USA, [4]Kennedy Krieger Institute, Johns Hopkins, USA

Disclosures: Bethtrice Thompson, None

SA0244 Identifying Markers in Pre-Implantation hES and iPS-Derived Progenitor Cells for In Vivo Skeletal Tissue Formation.

Xiaonan Xin*, Kyle Shin, Xi Jiang, Liping Wang, Nathaniel Dyment, Mark Kronenberg, Jianping Huang, David Rowe, Alexander Lichtler. University of Connecticut Health Center, USA

Disclosures: Xiaonan Xin, None

SA0245 iPS cell derived Endothelial Cells in Fibrodysplasia Ossificans Progressiva

Emilie Barruet*[1], Wint Lwin[1], Marcela Morales[1], Ashley Urrutia[1], Hannah Kim[1], Christina Theodoris[2], Mark P. White[3], Deepak Srivastava[4], Edward Hsiao[1]. [1]University of California, San Francisco, USA, [2]Gladstone Institute of Cardiovascular Disease, USA, [3]Gladstone Institute of Cardiovascular Disease, San Francisco, CA, USA, [4]Gladstone Institutes, USA

Disclosures: Emilie Barruet, None

SA0246 Neural Origin of Osteoblasts during Heterotopic Ossification

ZaWaunyka Lazard*, Elizabeth Salisbury, Eric Beal II, Elizabeth Olmsted-Davis, Alan Davis. Baylor College of Medicine, USA

Disclosures: ZaWaunyka Lazard, None

SA0247 Osteogenic commitment of mesenchymal stem cells is driven by epigenetic mechanisms characterized by dynamic changes in histone modifications

Hai Wu*[1], Jonathan Gordon[1], Troy Whitfield[2], Phillip Tai[3], Andre Van Wijnen[4], Gary Stein[5], Janet Stein[6], Jane Lian[7]. [1]University of Vermont, USA, [2]Department of Cell & Developmental Biology, University of Massachusetts Medical School, USA, [3]University of Vermont, College of Medicine, Department of Biochemistry, USA, [4]Mayo Clinic, USA, [5]University of Vermont, College of Medicine, USA, [6]Department of Biochemistry, University of Vermont College of Medicine, USA, [7]University of Vermont College of Medicine, USA

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SA0248 Paracrine effects of hematopoietic cells on human mesenchymal stem cells

Shuanhu Zhou*. Brigham & Women's Hospital, USA

Disclosures: Shuanhu Zhou, None

SA0249 **Regulation of skeletal stem cell multipotency by MT1-MMP**
Jason Horton*[1], Heba Degheidy[2], Steven Bauer[2], Pamela Robey[3], Kenn Holmbeck[3]. [1]National Institutes of Health, National Cancer Institute, USA, [2]Laboratory of Stem Cell Biology, Division of Cell & Gene Therapies, Center for Biologics Evaluation & Research, Food & Drug Administration, USA, [3]National Institute of Dental & Craniofacial Research, USA
Disclosures: Jason Horton, None

SA0250 **Understanding the periosteal response to mechanical load and injury**
Candice GT Tahimic*[1], Tao Wang[1], Alicia T. Menendez[1], Chak Fong[1], Yongmei Wang[1], Shunichi Murakami[2], Daniel Bikle[1]. [1]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA, [2]Case Western Reserve University, USA
Disclosures: Candice GT Tahimic, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

SA0251 **Choline Kinase Beta is an Important Regulator of Bone Homeostasis**
Jennifer Tickner*[1], Jasreen Kular[1], Nathan Pavlos[1], Tamara Abel[2], BaySie Lim[1], Ming Hao Zheng[1], Jiake Xu[1]. [1]University of Western Australia, Australia, [2]Centre for Microscopy, Characterisation & Analysis, University of Western Australia, Australia
Disclosures: Jennifer Tickner, None

SA0252 **Genetic Activation of *Nlrp3* Reveals NLRP3 Inflammasome Role in Osteoclast Activity**
Chao Qu*[1], Samer Abu-Amer[2], Sheri Bonar[2], Jacqueline Kading[1], Yousef Abu-Amer[3], Roberto Civitelli[3], Gabriel Mbalaviele[3]. [1]Washington University in St Louis, USA, [2]Washington University in St. Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Chao Qu, None

SA0253 **Osteoclast ruffled border formation and bone resorption require Plekhm1-regulated lysosomal secretion**
Toshifumi Fujiwara*[1], Jian Zhou[2], Shiqiao Ye[1], Stavros Manolagas[1], Haibo Zhao[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]UAMS, USA
Disclosures: Toshifumi Fujiwara, None

SA0254 **Snx10-dependent osteoclastic activity and gastric acidification is required for bone and calcium homeostasis**
Liang Ye*[1], Leslie Morse[2], Li Zhang[3], Hajime Sasaki[3], Jason Mills[4], Greg Sibbel[4], Ariane Zamarioli[5], Ricardo Battaglino[3]. [1]The Forsyth Institute & Harvard School of Dental Medicine, USA, [2]Harvard Medical School, USA, [3]The Forsyth Institute, USA, [4]Washington University School of Medicine, USA, [5]University of Sao Paulo, Brazil
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SA0255 **Specific Ostm1 ablation in the hematopoietic mature osteoclast induce severe osteopetrosis**
Jean Vacher*[1], Monica Pata[2]. [1]Institut De Recherches Cliniques De Montréal, Canada, [2]IRCM, Canada
Disclosures: Jean Vacher, None

SA0256 **Targeting Cathepsin K to attenuate Toll-Like Receptor (TLR) signaling inhibits rheumatoid arthritis and periodontitis and reveals the critical function of Cathepsin K in osteoimmunology**
Liang Hao*, Wei Chen, Yi-Ping Li. University of Alabama at Birmingham, USA
Disclosures: Liang Hao, None

SA0257 **TRAP-Positive Multinucleated Cell Independent Bone Resorption in a Mouse Model of Inflammatory Bone Disease**
Mizuho Kittaka*[1], Tomoyuki Mukai[2], Teruhito Yoshitaka[3], Yasuyoshi Ueki[4]. [1]University of Missouri-Kansas City, School of Dentistry, USA, [2]University of Missouri - Kansas City, USA, [3]University Missouri-Kansas City, School of Dentistry, USA, [4]University of Missouri-Kansas City, School of Dentistry, USA
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OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

SA0258 **Cytosolic Calcium Flickers Orchestrate Steering during Osteoclast Migration**
Benjamin Wheal*[1], S. Jeffrey Dixon[2], Stephen M. Sims[2]. [1]The University of Western Ontario, Can, [2]The University of Western Ontario, Canada
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SA0259 **mTORC1 Activity in Osteoclasts is Regulated by Lysosomal pH**
Luciene Carraro-Lacroix[1], YIngwei Hu[2], Celeste Owen[3], Irina Voronov*[4]. [1]Faculty of Dentistry, University of Toronto, Canada, [2]Institute of Dental Medicine, Qilu Hospital, Shandong University, China, [3]Centre for Modeling Human Disease, Samuel Lunenfeld Research Institute, Mt Sinai Hospital, Canada, [4]University of Toronto, Canada
Disclosures: Irina Voronov, None

OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SA0260 **CHMP5 Is a Novel Risk Factor of Paget's Disease of Bone Regulating the NF-kB Pathway in Osteoclasts**
Jae Hyuck Shim*[1], Kwang Hwan Park[2], Matthew Greenblatt[3]. [1]Weill Cornell Medical College, USA, [2]Yonsei University College of Medicine, USA, [3]Weill Cornell Medical College/ Brigham & Women's Hospital, USA
Disclosures: Jae Hyuck Shim, None

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

SA0261 ***β-catenin*deletion in Ctsk-expressing cells decreases bone mass**
Paula Ruiz[1], Marta Martin-Millan[2], Shoshana Bartell[3], Maria Jose Almeida[3], Marian Ros[4], Jesús Gonzalez-Macias*[5]. [1]Fundación Instituto de Investigación Marqués de Valdecilla, Spain, [2]University of Cantabria, IDIVAL, HUMV, Spain, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [4]Instituto de Biomedicina y Biotecnología de Cantabria, Spain, [5]University of Cantabria, HUMV, IDIVAL, RETICEF., Spain
Disclosures: Jesús Gonzalez-Macias, None

SA0262 **Arctigenin Inhibits Osteoclastogenesis by Suppressing Both Calcineurin-Dependent and Osteoblastic Cell-Dependent NFATc1 Pathways**
Teruhito Yamashita*[1], Shunsuke Uehara[1], Nobuyuki Udagawa[1], Feng Li[2], Shigetoshi Kadota[2], Hiroyasu Esumi[3], Yasuhiro Kobayashi[1], Naoyuki Takahashi[1]. [1]Matsumoto Dental University, Japan, [2]University of Toyama, Japan, [3]Tokyo University of Science, Japan
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SA0263 **Caspase-2 Plays a Role in Osteoclastogenesis by Regulating Reactive Oxygen Species**
Danielle Callaway*[1], Manuel Riquelme[2], Jean Jiang[1]. [1]University of Texas Health Science Center at San Antonio, USA, [2]University of Texas Science Center, San Antonio, USA
Disclosures: Danielle Callaway, None

SA0264 **Deletion of Wnt Receptors Lrp5 and Lrp6 or ß-catenin in osteoclast precursors differentially affects skeletal development**
Megan Weivoda*[1], Ming Ruan[1], Christine Hachfeld[1], Larry Pederson[1], Rachel Davey[2], Jeffrey Zajac[3], Yasuhiro Kobayashi[4], Bart Williams[5], Sundeep Khosla[6], Jennifer Westendorf[1], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]University of Melbourne, Australia, [3]Austin Hospital, Australia, [4]Japan, [5]Van Andel Research Institute, USA, [6]Mayo Clinic College of Medicine, USA
Disclosures: Megan Weivoda, None

SA0265 **Inhibition of a cholesterol regulator, Srebp2, prevents bone loss induced by RANKL**
Kazuki Inoue*, Yuuki Imai. Ehime University, Japan
Disclosures: Kazuki Inoue, None

SA0266 **Orphan Nuclear Receptor Nur77 Decreases Osteoclast Differentiation by Promoting NFATc1 Degradation via Ubiquitin E3 Ligase Cbl-b**
Xiaoxiao Li*[1], Wei Wei[2], HoangDinh Huynh[2], Yihong Wan[3]. [1]USA, [2]UT southwestern, USA, [3]University of Texas Southwestern Medical Center, USA
Disclosures: Xiaoxiao Li, None

SA0267 **Pathway analysis of microRNA profile during early, mid and late osteoclastogenesis**
Neha Dole*, Tiziana Franceschetti, Catherine Kessler, Sun-Kyeong Lee, Anne Delany. University of Connecticut Health Center, USA
Disclosures: Neha Dole, None

SA0268 **Rhinacanthin C Inhibits RANKL-induced Osteoclast Differentiation by Suppressing MAPKs/NF-κB/NFATc1 Pathways through Preventing TRAF6-TAK1 Formation**
Mineko Tomomura*[1], Ryuichiro Suzuki[2], Yoshiaki Shirataki[2], Hiroshi Sakagami[3], Akito Tomomura[4]. [1]Meikai University School of Dentistry, Japan, [2]Faculty of Pharmaceutical Sciences, Josai University, Japan, [3]Divisions of Pharmacology, Meikai University School of Dentistry, Japan, [4]Meikai University, School of Dentistry, Japan
Disclosures: Mineko Tomomura, None

SA0269 **Sirtuin 1 suppresses mitochondrial ATP and osteoclastogenesis via FoxO-mediated stimulation of Heme oxygenase 1**
Ha-Neui Kim*[1], Shoshana Bartell[2], Li Han[2], Aaron Warren[3], Srividhya Iyer[2], Rafael de Cabo[4], 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]Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, [4]Translational Gerontology Branch, National Institute on Aging, National Institutes of Health, USA
Disclosures: Ha-Neui Kim, None

SA0270 **Soluble silica: an osteoclast-macrophage linage regulator in early RAW264.7 osteoclastogenesis**
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Disclosures: Pamela Uribe-Trespalacios, None

OSTEOCYTES: BONE REMODELING REGULATION

SA0271 **A possible role of DMP1 as a negative regulator of FGF23 production in functional heterogeneity osteocytes: Three-dimensional morphological approaches**
Ji-Won Lee*[1], Akira Yamaguchi[2], Tadahiro Iimura[3]. [1]Ehime University, (Department of Medicine), Japan, [2]Tokyo Medical & Dental University, Japan, [3]Ehime University, Proteo-Science Center (PROS), Japan
Disclosures: Ji-Won Lee, None

SA0272 **Compartment-, Age-, and Disease-Specific Variability in the Architecture of Osteocyte Lacunar-Canalicular System**
Xiaohan Lai*[1], Shannon Modla[2], Catherine B. Safran[3], Christopher Price[1], Liyun Wang[1]. [1]University of Delaware, USA, [2]DBI Bioimaging Center, University of Delaware, USA, [3]Department of Biological Sciences, University of Delaware, USA
Disclosures: Xiaohan Lai, None

SA0273 **Mechanical Loading and High Glucose Modify the Chemokine Secretion Profile of Osteocytes Affecting Osteoclast Differentiation and Activity**
Arancha Gortazar*[1], Maria Teresa Portoles[2], Maria Concepcion Matesanz[2], Javier Linares[2], Maria Jose Feito[2], Daniel Arcos[3], Maria Vallet[3], Lilian Plotkin[4], Pedro Esbrit[5]. [1]Universidad San Pablo-CEU School of Medicine Madrid Spain, Spain, [2]Department of Biochemistry & Molecular Biology I, Faculty of Chemistry, UCM, Spain, [3]Department of Inorganic & Bioinorganic Chemistry, Faculty of Pharmacy, UCM, Instituto de Investigación Sanitaria Hospital 12 de Octubre i+12, Spain, [4]Indiana University School of Medicine, USA, [5]Instituto de Investigación Sanitaria (IIS)-Fundación Jiménez Díaz, Spain
Disclosures: Arancha Gortazar, None

SA0274 **Microdamage and Mechanical Loading Have an Interactive Effect on Remodeling Signals Produced by Osteocyte**
Chao Liu*[1], Xiaoqing Zhang[1], Michael Wu[1], Lidan You[2]. [1]University of Toronto, Canada, [2]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Chao Liu, None

SA0275 **Osteocyte Lacunar Density is Breed Related in Mice**
Brett Rosauer[1], Mohammed Akhter*[2], Donald Kimmel[3], Joan Lappe[2], Robert Recker[1]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA, [3]Kimmel Consulting Services, USA
Disclosures: Mohammed Akhter, None

SA0276 **Osteocytes Produce Interferon-β as a Negative Regulator of Osteoclastogenesis**
Takuya Sato*, Chiyomi Hayashida, Junta Ito, Mai Nakayachi, Yoko Ohyama, Yoshiyuki Hakeda. Meikai University School of Dentistry, Japan
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SA0277 **Parathyroid Hormone (PTH) Downregulates Notch2 Signaling in Osteocytes**
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Disclosures: Stefano Zanotti, None

SA0278 **The Importance of Activated Vitamin D for the Mineralization by the Osteocyte in Patients with Renal Hyperparathyroidism**
Aiji Yajima*[1], Ken Tsuchiya[2], Kosaku Nitta[2], Masaaki Inaba[3], Yoshihiro Tominaga[4], Norio Amizuka[5], Akemi Ito[6], Hironari Shindo[7]. [1]Akebono Clinic, Japan, [2]Tokyo Women's Medical University, Japan, [3]Osaka City University, Japan, [4]Nagoya Second Red Cross Hospital, Japan, [5]Hokkaido University School of Dentistry, Japan, [6]Ito Bone Histomorphometry Institute, Japan, [7]Otsuki Municipal Central Hospital, Japan
Disclosures: Aiji Yajima, None

OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS

SA0279 **Identification of miRNAs Involved in the Differentiation Process from Osteoblasts to Osteocytes**
Laura De Ugarte Corbalán*[1], Nicholas H. Farina[2], Matt Prideaux[3], Gary Stein[4], Jane Lian[2], Lynda Bonewald[5]. [1]Institut Hospital del Mar d'Investigacions Mèdiques, USA, [2]University of Vermont College of Medicine, USA, [3]University of Adelaide, Australia, [4]University of Vermont, College of Medicine, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Laura De Ugarte Corbalán, None

SA0280 **Morphological analysis of Dentin Matrix Protein 1 (DMP1) phosphorylation by Fam20C in the bone**
Kaori Oya*[1], Sunao Sato[2], Satoru Toyosawa[3]. [1]Osaka University Dental Hospital, Japan, [2]Osaka University Graduate School of Dentistry, Japan, [3]Osaka University, Japan
Disclosures: Kaori Oya, None

OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION

SA0281 **Isolation of a hematopoietic cell-free preparation of highly purified DMP1-GFP+ osteocytes using fluorescence activated cell sorting (FACS)**
Ling Yeong Chia[1], Nicole Walsh[2], T. John Martin[3], Natalie Sims*[4]. [1]Department of Bone Cell Biology & Disease, Australia, [2]St Vincent's Institute of Medical Research, Australia, [3]St. Vincent's Institute of Medical Research, Australia, [4]St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie Sims, None

SA0282 **Osteocyte Microvesicles in Cell-Cell Communication in Bone**
Kun Wang*, Andrew Keightley, Patricia Veno, Vladimir Dusevich, LeAnn Tiede-Lewis, Lynda Bonewald, Sarah Dallas. University of Missouri - Kansas City, USA
Disclosures: Kun Wang, None

SA0283 **Osteocytes directly communicate with sensory neuronal cells via cell-cell networks that are modulated under an acidic microenvironment**
Masahiro Hiasa*[1], Yuki Nagata[2], Jesus Delgado-Calle[1], Yohance M Allette[2], Matthew S Ripsch[2], Teresita Bellido[1], G. David Roodman[2], Fletcher A White[2], Toshiyuki Yoneda[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA
Disclosures: Masahiro Hiasa, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

SA0284 **Are Biochemical Markers of Bone Turnover Representative of Bone Turnover Assessed with Histomorphometry? An Analysis in a Sample of 370 Postmenopausal Women with Osteoporosis**

Pascale Chavassieux*[1], Nathalie Portero-Muzy[1], Jean-Paul Roux[2], Patrick Garnero[3], Roland Chapurlat[4]. [1]INSERM UMR1033, Université De Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM Research Unit, France, [4]E. Herriot Hospital, France

Disclosures: Pascale Chavassieux, None

SA0285 **Circulating Periostin: a Determinant of Cortical Bone Structure Heritability**

Nicolas Bonnet*[1], Claire Durosier[2], Emmanuel Biver[2], Thierry Chevalley[3], Rene Rizzoli[4], Serge Ferrari[5]. [1]University Geneva Hospital (HUG), Switzerland, [2]Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, Switzerland, [3]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [4]Geneva University Hospitals & Faculty of Medicine, Switzerland, [5]Geneva University Hospital & Faculty of Medicine, Switzerland

Disclosures: Nicolas Bonnet, None

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

SA0286 **Automatic QCT quantification of the proximal femur: vBMD, bone volume, cortical bone thickness and finite element modeling**

Julio Carballido-Gamio*[1], Serana Bonaretti[1], Isra Saeed[1], Roy Harnish[1], Robert Recker[2], Andrew Burghardt[1], Joyce Keyak[3], Tamara Harris[4], Sundeep Khosla[5], Thomas Lang[1]. [1]University of California, San Francisco, USA, [2]Creighton University, USA, [3]Department of Radiological Sciences, University of California, Irvine, USA, [4]Intramural Research Program, National Institute on Aging, USA, [5]Mayo Clinic College of Medicine, USA

Disclosures: Julio Carballido-Gamio, None

SA0287 **Bone Microstructure Analysis in Men by HR-pQCT: Associations with Age, Body Mass Index, and Androgens**

Narihiro Okazaki*[1], Andrew Burghardt[1], Ko Chiba[2], Makoto Osaki[3], Sharmila Majumdar[1]. [1]University of California, San Francisco, USA, [2]Nagasaki University School of Medicine, Japan, [3]Nagasaki University, Japan

Disclosures: Narihiro Okazaki, None

SA0288 **Cortical Bone Water in Renal Transplant Patients**

Wenli Sun*[1], Mary Leonard[2], Hamidreza Saligheh Rad[3], Chamith Rajapakse[4], Felix Werner Wehrli[5]. [1]University of Pennsylvania, USA, [2]Stanford School of Medicine, USA, [3]Osteoporosis Research Center, Endocrinology & Metabolism Research Institute.Tehran University of Medical Sciences, Iran, [4]University of Pennsylvania School of Medicine, USA, [5]University of Pennsylvania Medical Center, USA

Disclosures: Wenli Sun, None

SA0289 **Impact of lumbar syndesmophyte on bone heath as assessed by Bone density (BMD) and Bone Texture (TBS) in men with axial spondyloarthritis**

Berengere Aubry-rozier*[1], Laura Wildberger[1], Vladimira Boiadjieva[2], Didier Hans[1], Nikolay Stoilov[2], Mariana Ivanova[2], Rumen Stoilov[2], Rasho Rashkov[2]. [1]Lausanne University Hospital, Switzerland, [2]Clinic of Rheumatology, University Hospital "St. Iv. Rilski", Bulgaria

Disclosures: Berengere Aubry-rozier, None

SA0290 **ASBMR 2014 Annual Meeting Young Investigator Award**
Microindentation in vivo captures elements of bone fragility independently of BMD

Natasha Appelman-dijkstra*[1], Frank Malgo[2], Socrates Papapoulos[1], Neveen Hamdy[1]. [1]Leiden University Medical Center, The Netherlands, [2]Leiden University Medical Center, Netherlands

Disclosures: Natasha Appelman-dijkstra, None

SA0291 **Multi-modality in vivo Imaging Identifies Marrow and Vasculature within Pathological Cortical Porosity**

Robin Parrish*[1], Julien Rivoire[2], Misung Han[2], Anne Schafer[3], Thomas Link[4], Roland Krug[2], Galateia Kazakia[4]. [1]UC Berkeley, USA, [2]UC San Francisco, USA, [3]University of California, San Francisco & the San Francisco VA Medical Center, USA, [4]University of California, San Francisco, USA

Disclosures: Robin Parrish, None

SA0292 **Osteoporotic women with clinical vertebral fractures have lower trabecular bone scores than controls matched by lumbar spine T-scores and age**

Albrecht Popp*[1], Nadshathra Varathan[1], Helene Buffat[1], Christoph Röder[2], Didier Hans[3], Kurt Lippuner[1]. [1]Department of Osteoporosis, University Hospital & University of Berne, Switzerland, [2]Institute for Evaluative Research in Orthopaedic Surgery, University of Berne, Switzerland, [3]Lausanne University Hospital, Switzerland

Disclosures: Albrecht Popp, None

OSTEOPOROSIS - ASSESSMENT: DXA

SA0293 **Age-Related Changes in Lumbar Spine Trabecular Bone Score in Chinese-American Men**

Barbara Silva*[1], Rajeev Babbar[2], George Liu[2], Chiyuan Zhang[3], Donald McMahon[4], Wen-Wei Fan[5], Didier Hans[6], John Bilezikian[4], Marcella Walker[3]. [1]Columbia University Medical Center, Brazil, [2]Weill Cornell Medical college, NYP Lower Manhattan Hospital, USA, [3]Columbia University, USA, [4]Columbia University College of Physicians & Surgeons, USA, [5]Columbia University Medical Center, USA, [6]Lausanne University Hospital, Switzerland

Disclosures: Barbara Silva, None

SA0294 **Clinical aspect of patients with and without vertebral fractures presenting at a fracture liaison service**

Sandrine Bours*[1], Tineke Van Geel[2], Joop Van Den Bergh[3], Sabine Landewe[4], Debby Vosse[5], Piet Geusens[6]. [1]Maastricht University Medical Centre, The Netherlands, [2]Maastricht University, The Netherlands, [3]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, [4]Department of Internal Medicine, subdivision of Endocrinology, Maastricht University Medical Centre, Netherlands, [5]Department of Internal Medicine, subdivision of Rheumatology, Maastricht University Medical Centre, Netherlands, [6]University Hasselt, Belgium

Disclosures: Sandrine Bours, None

SA0295 **Unusual Cause of Increased Lumbar Bone Mineral Density - Case Report**

Miro Cokolic*[1], Matej Rakusa[2]. [1]medical doctor, Slovenia, [2]Slovenia

Disclosures: Miro Cokolic, None

SA0296 **Volumetric Bone Mineral Content changes assessed by 3D-DXA after two years of Alendronate Treatment.**

Luis Del Rio*[1], Silvana Di Gregorio[2], Ludovic Humbert[3], Yves Martelli[4]. [1]Cetir Centre Medical, Spain, [2]MD, Spain, [3]PhD, Spain, [4]Eng, Spain

Disclosures: Luis Del Rio, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

SA0297 **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], Andrew Burghardt[2], Afrodite Zendeli[3], Serana Bonaretti[2], Ashild Bjornerem[4], Xiao-Fang Wang[5], Yohann Bala[6], Galateia Kazakia[2], Roger Zebaze[1], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]University of California, San Francisco, USA, [3]Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, [4]UiT The Arctic University of Norway, Norway, [5]University of Melbourne, Austin Health, Australia, [6]University of Melbourne, Dept. of Medicine, Australia

Disclosures: Ali Ghasem-Zadeh, None

SA0298 **Assessing the performances of the Trabecular Bone Score (TBS) on EOS™ images for the discrimination of osteoporotic fractures**

Karine Briot*[1], Anabela Darbon[2], Adrien Etcheto[3], Renaud Winzenrieth[4], Sami Kolta[5], Franck Michelet[6], Nor-Eddine Regnard[7], Antoine Feydy[8], Christian Roux[9]. [1]Paris Descartes University, Cochin hospital, Rheumatology Hospital, France, [2]EOS imaging, France, [3]Hopital Cochin, France, [4]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [5]Centre D'Evaluation, Des Maladies Osseuses, France, [6]Med-Imaps, Plateforme Technologique d'Innovation Biomédicale (PTIB), France, [7]EOS imaging, R&D, Paris, France, France, [8]Université Paris Descartes,. Service de Radiologie, Hôpital Cochin. INSERM U 1153, France, [9]Hospital Cochin, France

Disclosures: Karine Briot, None

SA0299 **Clinical Performance of an Updated Version of Trabecular Bone Score in Men and Women: The Manitoba BMD Cohort**

William Leslie*[1], Renaud Winzenrieth[2], Sumit Majumdar[3], Lisa Lix[1], Didier Hans[4]. [1]University of Manitoba, Canada, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [3]University of Alberta, Canada, [4]Lausanne University Hospital, Switzerland

Disclosures: William Leslie, None

SA0300 **Concordance in Paired QCT and DXA at the Lumbar Spine**

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Disclosures: Alan Brett, Mindways Software, 3

SA0301 **Impaired trabecular bone microarchitecture improves after one year on gluten-free diet. A prospective HRp-QCT study in women with celiac disease.**

Maria Belen Zanchetta*[1], vanesa longobardi[2], Florencia Costa[2], julio cesar bai[2]. [1]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [2]md, Argentina

Disclosures: Maria Belen Zanchetta, None

SA0302 **Osteoporosis treatment decision based on combining Bindex® and FRAX®**

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

SA0303 **Performance Characteristics of Heel Quantitative Ultrasound (QUS) for the Assessment of Fracture Risk; an Individual-level Meta-analysis**

Nicholas Harvey*[1], Helena Johansson[2], Anders Oden[3], Douglas Bauer[4], Claus-C Glueer[5], Didier Hans[6], Stephen Kaptoge[7], Marc-Antoine Krieg[8], Timothy Kwok[9], Fernando Marin[10], Alireza Moayyeri[11], Terry O'Neill[12], Eric Orwoll[13], John Kanis[14], Eugene McCloskey[15]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [2]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, [3]Consulting Statistician, Sweden, [4]University of California, San Francisco, USA, [5]Christian Albrechts Universitaet zu Kiel, Germany, [6]Lausanne University Hospital, Switzerland, [7]University of Cambridge Bone Research Group, United Kingdom, [8]University Hospital, Switzerland, [9]The Chinese University of Hong Kong, Hong Kong, [10]Eli Lilly & Company, Spain, [11]King's College London, United Kingdom, [12]University of Manchester, United Kingdom, [13]Oregon Health & Science University, USA, [14]University of Sheffield, Belgium, [15]University of Sheffield, United Kingdom

Disclosures: Nicholas Harvey, None

SA0304 **Prediction of fracture risk by trabecular bone score (TBS)**

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Disclosures: Tuan Nguyen, None

SA0305 **Trabecular bone score improves prediction accuracy of FRAX® for major osteoporotic fractures in elderly Japanese men: The Fujiwara-kyo Osteoporosis Risk in Men (FORMEN) Cohort Study**

Masayuki Iki*[1], Yuki Fujita[1], Junko Tamaki[2], Yuho Sato[3], Renaud Winzenrieth[4], Katsuyasu Kouda[5], Akiko Yura[5], Jong Seong Moon[6], Nozomi Okamoto[7], Norio Kurumatani[7]. [1]Kinki University Faculty of Medicine, Japan, [2]Department of Hygiene & Public Health, Osaka Medical College, Japan, [3]Jin-ai University, Japan, [4]Med-Imaps, France, [5]Department of Public Health, Kinki University Faculty of Medicine, Japan, [6]Kio University, Japan, [7]Department of Community Health & Epidemiology, Nara Medical University School of Medicine, Japan

Disclosures: Masayuki Iki, None

SA0306 **Trabecular bone score predicts fracture incidence in non-osteoporotic older Chinese men, independently of hip Bone Density**

Timothy Kwok*. Hong Kong

Disclosures: Timothy Kwok, None

SA0307 **Unexpected Distinct Fall of Dental Alveolar Bone Density Measured by Computerized Microradiography (Bone Right) in Response to Teriparatide in Contrast to Its Bisphosphonate-Induced Rise**

Yoshitomo Takaishi*[1], Takuo Fujita[2], Mutsumi Ohue[2], Tsuyoshi Jotoku[3], Yoshio Fujii[4], Akimitsu Miyauchi[5], Yasuyuki Takagi[6]. [1]Takaishi Dental Clinic, Japan, [2]Katsuragi Hospital, Japan, [3]Department of Orthopedic Surgery, Japan, [4]Calcium Research Institute Kobe Branch, Japan, [5]Miyauchi Medical Center, Japan, [6]National Hyogo Chuo Hospital, Japan

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OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

SA0308 A large-scale whole genome sequence-based analysis discovered novel genetic variants influencing bone mineral density: Results from the GEFOS and UK10K Consortia

Hou-Feng Zheng*[1], Vince Forgetta[1], Yi-Hsiang Hsu[2], Karol Estrada[3], Paul Leo[4], Jonathan Tobias[5], Charles Kooperberg[6], Ching-Ti Liu[7], Alberto Rosello-Diez[8], Daniel Evans[9], Carrie Nielson[10], Ulrika Pettersson-Kymmer[11], Joel Eriksson[12], Tony Kwan[13], Klaudia Walter[14], Yasin Memari[14], Shane McCarthy[14], Josine Min[5], Jie Huang[14], Petr Danecek[14], Beth Wilmot[10], Rui Li[1], Wen-Chi Chou[15], Lauren Mokry[1], Alireza Moayyeri[16], Melina Claussnitzer[17], Chia-Ho Cheng[15], Warren Cheung[10], Carolina Medina-Gomez[18], Bing Ge[1], Shu-Huang Chen[13], Kwangbom Choi[19], Ling Oei[20], James Fraser[1], Robert Kraaij[21], Matthew Hibbs[19], Celia Gregson[5], Denis Paquette[1], Albert Hofman[21], Carl Wibom[22], Mhairi Marshall[4], Brooke Gardiner[23], Paul Auer[24], Li Hsu[6], Sue Ring[25], Nathalie van der Velde[21], Beatrice Melin[22], John Kemp[4], Adrian Sayers[5], Yanhua Zhou[26], Sophie Calderari[27], Matthew Maurano[28], Jeroen van Rooij[21], Chris Carlson[6], Ulrike Peters[6], Soizik Berlivet[1], Josée Dostie[1], Claes Ohlsson[29], Andre Uitterlinden[30], David Goltzman[1], Tomi Pastinen[1], Elin Grundberg[13], Dominique Gauguier[27], Eric Orwoll[10], David Karasik[31], Chitra Dahia[32], George Davey-Smith[5], Nicholas Timpson[5], Nicole Soranzo[14], Richard Durbin[14], Scott Wilson[33], Matthew Brown[34], Tim Spector[16], L Adrienne Cupples[7], Celia Greenwood[1], Cynthia Loomis[35], Cheryl Ackert-Bicknell[36], Alexandra Joyner[8], Rebecca Jackson[37], Emma Duncan[38], David Evans[4], Fernando Rivadeneira[39], Douglas Kiel[15], Brent Richards[1]. [1]McGill University, Canada, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, [4]University of Queensland Diamantina Institute, Australia, [5]University of Bristol, United Kingdom, [6]Fred Hutchinson Cancer Research Center, USA, [7]Boston University School of Public Health, USA, [8]Sloan-Kettering Institute, USA, [9]California Pacific Medical Center, USA, [10]Oregon Health & Science University, USA, [11]Clinical Pharmacology, Sweden, [12]Centre for Bone & Arthritis Research, Sweden, [13]McGill University & Genome Quebec Innovation Centre, Canada, [14]Wellcome Trust Sanger Institute, United Kingdom, [15]Hebrew SeniorLife, USA, [16]King's College London, United Kingdom, [17]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [18]Erasmus Medical Center, The Netherlands, [19]The Jackson Laboratory, USA, [20]Erasmus University Medical Center, The Netherlands, [21]Erasmus Medical Center, Netherlands, [22]Umeå University, Sweden, [23]niversity of Queensland Diamantina Institute, Australia, [24]University of Wisconsin, USA, [25]niversity of Bristol, United Kingdom, [26]Boston University, USA, [27]Cordeliers Research Centre, France, [28]University of Washington, USA, [29]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [30]Erasmus Medical Center, Canada, [31]Hebrew SeniorLife; Bar Ilan University, USA, [32]Hospital for Special Surgery, USA, [33]University of Western Australia, Australia, [34]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [35]New York University School of Medicine, USA, [36]University of Rochester, USA, [37]The Ohio State University, USA, [38]Royal Brisbane & Women's Hospital, Australia, [39]Erasmus University Medical Center, The Netherlands

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SA0309 Endochrondral ossification, mesenchymal stem cell and Wnt pathway specific loci predict differential skeletal effects in High Bone Mass

Celia Gregson[1], John Kemp[2], Mhairi Marshall[3], Graeme Clarke[3], George Davey Smith[2], Matthew Brown[4], Emma Duncan[5], Jon Tobias*[6]. [1]University of Bristol, United Kingdom, [2]MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, [3]University of Queensland Diamantina Institute, Australia, [4]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, [5]Royal Brisbane & Women's Hospital, Australia, [6]Musculoskeletal Research Unit, University of Bristol, United Kingdom

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OSTEOPOROSIS - EPIDEMIOLOGY:BONE MINERAL DENSITY

SA0310 Changes in Bone Mineral Density and Trabecular Bone Score (TBS) as Indicators of On-Treatment Antifracture Effect: The Manitoba BMD Cohort

William Leslie*[1], Sumit Majumdar[2], Suzanne Morin[3], Lisa Lix[1], Didier Hans[4]. [1]University of Manitoba, Canada, [2]University of Alberta, Canada, [3]McGill University, Canada, [4]Lausanne University Hospital, Switzerland

Disclosures: William Leslie, None

SA0311 **Correlates of Heel Bone Mass in Young Adults: The Role of Cholesterol Over 20 Years from Childhood to Early Adulthood**

Benny Samuel Eathakkattu Antony*[1], Changhai Ding[2], Alison Venn[2], Terence Dwyer[3], Graeme Jones[4]. [1]Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, [2]Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, [3]Murdoch Childrens Research Institute, Australia, [4]Menzies Research Institute, Australia

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SA0312 **Identification of Novel Serum Peptides and Proteins That Are Associated with Hip Bone Loss in Older Men**

Jian Shen*[1], Jodi Lapidus[1], Aaron Baraff[1], Christine Lee[1], Arie Baratt[1], Shannon McWeeney[1], Vladislav Petyuk[2], Douglas Bauer[3], Nancy Lane[4], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]Pacific Northwest National Laboratory, USA, [3]University of California, San Francisco, USA, [4]University of California, Davis Medical Center, USA

Disclosures: Jian Shen, None

SA0313 **No Association Between BMD and Telomere Length in Healthy Women aged 25-93 Years**

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Disclosures: Barbara Rubek Nielsen, None

OSTEOPOROSIS - EPIDEMIOLOGY:ENVIRONMENTAL AND LIFESTYLE FACTORS

SA0314 **Determinants of bone outcomes in obese and normal-weight young adults**

Heli Viljakainen*[1], Helena Valta[2], Marita Lipsanen-Nyman[3], Tero Saukkonen[4], Eero Kajantie[5], Sture Andersson[3], Outi Makitie[6]. [1]University of Helsinki, Finland, [2]Hospital for Children & Adolescents, University of Helsinki, Helsinki Finland, Finland, [3]Children's Hospital, Helsinki University Central Hospital, University of Helsinki, Finland, [4]Novo Nordisk Pharma Oy, Finland, [5]National Institute for Health & Welfare, Diabetes Prevention Unit, Finland, [6]Children's Hospital, Helsinki University Central Hospital, Finland

Disclosures: Heli Viljakainen, None

SA0315 **Vitamin D status in Young Adults is associated with gender, educational level and living.**

Rune Tønnesen*. Center of ageing & osteoporosis, Denmark

Disclosures: Rune Tønnesen, None

OSTEOPOROSIS - EPIDEMIOLOGY:FALLS AND FRACTURES

SA0316 **Association of Incident Radiographic Vertebral Fracture with Back Pain Symptoms in Older Men: the Osteoporotic Fractures in Men (MrOS) Study**

Howard Fink*[1], Lynn Marshall[2], Jian Shen[2], Steven Cummings[3], Peggy Cawthon[4], Kristine Ensrud[5], Rena Singleton[6], Jane Cauley[7], Elizabeth Barrett-Connor[8], Nancy Lane[9], Deborah Kado[8], John Schousboe[10]. [1]GRECC, Minneapolis VA Medical Center, USA, [2]Oregon Health & Science University, USA, [3]San Francisco Coordinating Center, USA, [4]California Pacific Medical Center Research Institute, USA, [5]University of Minnesota & Minneapolis VA Health Care System, USA, [6]University of Minnesota, USA, [7]University of Pittsburgh Graduate School of Public Health, USA, [8]University of California, San Diego, USA, [9]University of California, Davis Medical Center, USA, [10]Park Nicollet Clinic, University of Minnesota, USA

Disclosures: Howard Fink, None

SA0317 **Atypical femoral fractures: Sensitivity and specificity of radiographic characteristics**
Annette Adams*[1], Fei Xue[2], Jean Chantra[1], Richard Dell[3], Susan Ott[4], Stuart Silverman[5], Joseph Giaconi[6], Cathy Critchlow[7]. [1]Kaiser Permanente Southern California, USA, [2]Amgen, Inc., USA, [3]Kaiser, USA, [4]University of Washington Medical Center, USA, [5]Cedars-Sinai/UCLA, USA, [6]Cedars Sinai Medical Center, USA, [7]Amgen Inc., USA
Disclosures: Annette Adams, Amgen, Inc., 2

SA0318 **Back Pain Is Associated with Increased Risk of Recurrent Falls Among Older US Women**
Lynn Marshall*[1], Stephanie Harrison[2], Peggy Cawthon[3], Deborah Kado[4], Una Makris[5], Richard Deyo[1], Hans Carslon[1], Michael Nevitt[6]. [1]Oregon Health & Science University, 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 Texas Southwestern Medical Center, USA, [6]University of California San Francisco, USA
Disclosures: Lynn Marshall, None

SA0319 **Dose Trabecular Bone Score (TBS) Improve the Predictive Ability of FRAX® ? : The Japanese Population-based Osteoporosis (JPOS) Cohort Study**
Junko Tamaki*[1], Masayuki Iki[2], Yuho Sato[3], RENAUD WINZENRIETH[4], Etsuko Kajita[5], Sadanobu Kagamimori Kagamimori[6], Yoshiko Kagawa[7], Hideo Yoneshima[8]. [1]Department of Hygiene & Public Health, Osaka Medical College, Japan, [2]Kinki University Faculty of Medicine, Japan, [3]Department of Domestic Sciences, Jin-ai University, Japan, [4]Center of Bone diseases, Lausanne University Hospital, Lausanne, Switzerland, France, [5]Department of Public Health & Home Nursing, Nagoya University School of Health Sciences, Japan, [6]University of Toyama, Japan, [7]Kagawa Nutrition University, Japan, [8]Shuuwa General Hospital, Japan
Disclosures: Junko Tamaki, None

SA0320 **Fractures Increasing in Oldest Age Groups Despite Decreasing Fracture Rates: A Population-based Study**
Susan Jaglal*[1], Gillian Hawker[1], Cathy Cameron[2], Ruth Croxford[3]. [1]University of Toronto, Canada, [2]Women's College Research Institute, Canada, [3]Institute for Clinical Evaluative Sciences, Canada
Disclosures: Susan Jaglal, None

SA0321 **FRAX (Aus) as a predictor of falls risk in men**
Kara Holloway*[1], Mark Kotowicz[2], Stephen Lane[3], Sharon Brennan[4], Julie Pasco[4]. [1]Barwon Health, Australia, [2]Deakin University School of Medicine, Australia, [3]Barwon Health Biostatistics Unit, Australia, [4]Deakin University, Australia
Disclosures: Kara Holloway, None

SA0322 **Glucocorticoid Exposure and Fracture Risk in a Large Cohort of Commercially-Insured Rheumatoid Arthritis Patients Under Age 65**
Akhila Balasubramanian*[1], Sally Wade[2], Robert Adler[3], Celia Lin[4], Michael Maricic[5], Cynthia O'Malley[6], Kenneth Saag[7], Jeffrey Curtis[7]. [1]Amgen Inc., USA, [2]Wade Outcomes Research & Consulting, USA, [3]McGuire VA Medical Center, USA, [4]Amgen, USA, [5]Catalina Pointe Rheumatology, USA, [6]Amgen, Inc, USA, [7]University of Alabama at Birmingham, USA
Disclosures: Akhila Balasubramanian, Amgen Inc., 1; Amgen Inc., 3

SA0323 **Incidence and Worsening of Vertebral Fracture, Disc Height Narrowing, and Facet Joint Osteoarthritis Evaluated by Computed Tomography: The Framingham Study**
Mohamed Jarraya*[1], Yanhua Zhou[2], L Adrienne Cupples[2], Ali Guermazi[1], Ching-An Meng[3], Elana Borchin[3], Douglas Kiel[3], Mary Bouxsein[4], Elizabeth (Lisa) Samelson[5]. [1]Boston University School of Medicine, USA, [2]Boston University School of Public Health, USA, [3]Hebrew SeniorLife, USA, [4]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [5]Hebrew SeniorLife, Harvard Medical School, USA
Disclosures: Mohamed Jarraya, None

SA0324 **Low Risk for Hip Fracture Ten Years Before and After Total Hip Replacement Surgery in the Entire Swedish Population**

Cecilie Vala*[1], Johan Kärrholm[2], Sabine Sten[3], Magnus Karlsson[4], Maria Vretemark[5], Valter Sundh[1], Mattias Lorentzon[6], Dan Mellstrom[7]. [1]Department of Geriatrics, Sweden, [2]department of orthopedic surgery, Sweden, [3]Department of Archaeology & Ancient History, Sweden, [4]Skåne University Hospital Malmö, Lund University, Sweden, [5]Västergötland Museum, Sweden, [6]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [7]Sahlgrenska University Hospital, Sweden

Disclosures: Cecilie Vala, None

SA0325 **Secular Decline In Fracture Incidence Is Not Associated With Better Post-fracture Outcomes**

Dana Bliuc*[1], Mei Chan[2], Tuan Nguyen[1], John Eisman[1], Jacqueline Center[1]. [1]Garvan Institute of Medical Research, Australia, [2]Osteoporosis & Bone Biology, Australia

Disclosures: Dana Bliuc, None

SA0326 **Temporal Trends in high- and low-trauma Hip, Femur and Pelvic Fracture Rates and Selected Quality of Care Indicators in Québec, Canada**

Suzanne Morin*[1], Edward Harvey[1], Etienne Belzile[2], Jacques P. Brown[3], Sonia Jean[4]. [1]McGill University, Canada, [2]Université Laval, Canada, [3]CHU de Québec Research Centre, Canada, [4]Institut National De Santé Publique Du Québec, Canada

Disclosures: Suzanne Morin, Amgen, 5; Amgen, 8; Eli Lilly, 5; Merck, 5; Eli Lilly, 8; Merck, 8

SA0327 **Temporal Trends in Pelvic Fracture Rates and Selected Quality of Care Indicators in Québec, Canada**

Sonia Jean*[1], Edward Harvey[2], Etienne Belzile[3], Jacques P. Brown[4], Suzanne Morin[2]. [1]Institut National De Santé Publique Du Québec, Canada, [2]McGill University, Canada, [3]Université Laval, Canada, [4]CHU de Québec Research Centre, Canada

Disclosures: Sonia Jean, None

SA0328 **The Influence of Lean Mass and Fat Mass on Fracture Outcome in a Prospective Community-Dwelling Korean Cohort**

Jung Hee Kim*[1], Hyung Jin Choi[2], Sang Wan Kim[3], Nam H. Cho[4], Chan Soo Shin[5]. [1]Seoul National University College of Medicine, South Korea, [2]Chungbuk National University Hospital, South Korea, [3]Seoul National University College of Medicine, Boramae Hospital, South Korea, [4]Ajou University School of Medicine, South Korea, [5]Seoul National University College of Medicine, South Korea

Disclosures: Jung Hee Kim, None

OSTEOPOROSIS - EPIDEMIOLOGY:MENOPAUSE AND SEX HORMONES

SA0329 **Serum Bioavailable Estradiol Adds Information Beyond FRAX® for Hip Fracture Reclassification in Elderly Swedish Men – MrOS Sweden**

Liesbeth Vandenput[1], Maria Nilsson[2], Maria Nethander[3], Joel Eriksson[4], Osten Ljunggren[5], Andreas Kindmark[5], Mattias Lorentzon[6], Helena Johansson[7], Jodi Lapidus[8], Ying Wang[8], Eric Orwoll[8], Magnus Karlsson[9], Dan Mellstrom[10], Claes Ohlsson*[11]. [1]University of Gothenburg, Sweden, [2]Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [3]Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Centre for Bone & Arthritis Research, Sweden, [5]Uppsala University Hospital, Sweden, [6]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [7]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, [8]Oregon Health & Science University, USA, [9]Skåne University Hospital Malmö, Lund University, Sweden, [10]Sahlgrenska University Hospital, Sweden, [11]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden

Disclosures: Claes Ohlsson, None

SA0330 **Sex hormones and radiographic vertebral fractures in older men**

Peggy Cawthon*[1], John Schousboe[2], Kristine Ensrud[3], Dennis Black[4], Jane Cauley[5], Steven Cummings[6], Erin LeBlanc[7], Gail Laughlin[8], Carrie Nielson[9], Deborah Kado[10], Andrew Hoffman[11], Elizabeth Barrett-Connor[10], Eric Orwoll[9]. [1]California Pacific Medical Center Research Institute, USA, [2]Park Nicollet Clinic, University of Minnesota, USA, [3]University of Minnesota & Minneapolis VA Health Care System, USA, [4]University of California, San Francisco, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]San Francisco Coordinating Center, USA, [7]Kaiser, USA, [8]UCSD, USA, [9]Oregon Health & Science University, USA, [10]University of California, San Diego, USA, [11]Stanford, USA

Disclosures: Peggy Cawthon, None

OSTEOPOROSIS - EPIDEMIOLOGY:RISK FACTORS

SA0331 **A good self-estimated health lowers hip fracture risk independent of FRAX and BMD**

Hans Lundin*[1], Maria Sääf[2], Lars-Erik Strender[3], Sven Nyrén[3], Helena Salminen[3]. [1]Karolinska Institutet, Sweden, Sweden, [2]Karolinska University Hospital Solna, Sweden, [3]Karolinska Institutet, Sweden

Disclosures: Hans Lundin, None

SA0332 **Associations of 25OHD and 1,25(OH)$_2$D with BMD, BMD Loss and Fracture**

Christine Swanson*[1], Priya Srikanth[2], Christine Lee[1], Steven Cummings[3], Ivo Jans[4], Jane Cauley[5], Roger Bouillon[6], Dirk Vanderschueren[6], Eric Orwoll[1], Carrie Nielson[1]. [1]Oregon Health & Science University, USA, [2]Department of Public Health & Preventive Medicine, Oregon Health & Science University, USA, [3]San Francisco Coordinating Center, USA, [4]Laboratory of Diagnostic Medicine, KU Leuven, University of Leuven, Belgium, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]Katholieke Universiteit Leuven, Belgium

Disclosures: Christine Swanson, None

SA0333 **Cardiovascular risk factor analysis in patients with a recent fracture at the Fracture Liaison Service**

Caroline Wyers*[1], Lisanne Vranken[2], Robert Van Der Velde[3], Heinrich Janzing[4], Wim Morrenhof[5], Piet Geusens[6], Joop Van Den Bergh[7]. [1]Maastricht University, VieCuri Medical Centre, The Netherlands, [2]VieCuri Medical Centre, The Netherlands, [3]VieCuri Medical Center Venlo, the Netherlands, The Netherlands, [4]VieCuri Medical Centre, Department of Surgery, Netherlands, [5]VieCuri Medical Centre, Department of Orthopedic Surgery, Netherlands, [6]University Hasselt, Belgium, [7]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands

Disclosures: Caroline Wyers, None

SA0334 **Direct and Indirect Effects of Frailty on Fractures: Potential Roles of Muscle and Bone**

Andy Kin On Wong*[1], Courtney Kennedy[2], George Ioannidis[2], Karen Beattie[2], Christopher Gordon[2], Laura Pickard[2], Alexandra Papaioannou[3], David Goltzman[4], Jerilynn Prior[5], Heather Macdonald[5], Maureen Ashe[5], Leigh Gabel[5], Danmei Liu[5], Saija Kontulainen[6], Andrew Frank[6], Wojciech Olszynski[6], K. Shawn Davison[7], Lora Giangregorio[8], Robert Josse[9], Eva Szabo[10], Marta Erlandson[6], Tassos Anastassiades[11], Norma MacIntyre[2], Angela M. Cheung[12], Jonathan Adachi[13]. [1]McMaster University, University Health Network, Canada, [2]McMaster University, Canada, [3]Hamilton Health Sciences, Canada, [4]McGill University, Canada, [5]University of British Columbia, Canada, [6]University of Saskatchewan, Canada, [7]University of Victoria, Canada, [8]University of Waterloo, Canada, [9]St. Michael's Hospital, University of Toronto, Canada, [10]University Health Network, Canada, [11]Queen's University, Canada, [12]University Health Network-University of Toronto, Canada, [13]St. Joseph's Hospital, Canada

Disclosures: Andy Kin On Wong, None

SA0335 **Increased risk for hip fracture after bereavement**
Dan Mellstrom*[1], Valter Sundh[2], Magnus Karlsson[3], Claes Ohlsson[4], Mattias Lorentzon[5], John Kanis[6], Boo Johansson[7], Anders Odén[8]. [1]Sahlgrenska University Hospital, Sweden, [2]Department of Geriatrics, Gothenburg University, 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, Gothenburg University, Sweden, [8]Department of biostatistics, Chalmers University, Sweden
Disclosures: Dan Mellstrom, None

SA0336 **Persistent low grade inflammation is associated with bone loss in elderly women**
Kristina Akesson[1], Sofia Berglundh*[1], Linnea Malmgren[2], Fiona McGuigan[3], Paul Gerdhem[4], Holger Luthman[5]. [1]Skåne University Hospital, Malmö, Sweden, [2]Skane University Hospital, Sweden, [3]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [4]Karolinska Institutet, Sweden, [5]Lund University, Sweden
Disclosures: Sofia Berglundh, None

SA0337 **Sex-specific Associations Between Income and Incident Major Osteoporotic Fractures: A Population-based Analysis**
Sharon Brennan*[1], Lin Yan[2], Lisa Lix[2], Suzanne Morin[3], Sumit Majumdar[4], William Leslie[2]. [1]Deakin University, Australia, [2]University of Manitoba, Canada, [3]McGill University, Canada, [4]University of Alberta, Canada
Disclosures: Sharon Brennan, None

SA0338 **Visceral Adipose Tissue is Associated with Better Trabecular Density and Architecture but Increased Cortical Porosity: The Framingham Osteoporosis Study**
Douglas Kiel*[1], Kerry Broe[2], Adrienne Cupples[3], Serkalem Demissie[3], Caroline Fox[4], Marian Hannan[5], Yi-Hsiang Hsu[6], David Karasik[7], Ching-Ti Liu[3], Robert McLean[8], Ching-An Meng[9], Elizabeth (Lisa) Samelson[10], Xiaochun Zhang[9], Mary Bouxsein[11]. [1]Hebrew SeniorLife, USA, [2]Institute for Aging Research, Hebrew SeniorLife, USA, [3]Boston University School of Public Health, USA, [4]National Institutes of Health, USA, [5]HSL Institute for Aging Research & Harvard Medical School, USA, [6]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [7]Hebrew SeniorLife; Bar Ilan University, USA, [8]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [9]Institute for Aging Research, Hebrew SeniorLife, USA, [10]Hebrew SeniorLife, Harvard Medical School, USA, [11]Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Douglas Kiel, Novartis,5; Amgen,5; Amgen, 2; Merck Sharp & Dohme, 2; Kluwer Wolter, 7; Eli Lilly, 2; Springer Publishing, 7; Merck Sharp & Dohme, 5

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

SA0339 **How Long Does the Therapeutic Window of Opportunity Persist After a Fragility Fracture?**
François Cabana[1], Marie-Claude Beaulieu[2], Nathalie Carrier[1], Sophie Roux[3], Gilles Boire*[1]. [1]Centre hospitalier universitaire de Sherbrooke, Canada, [2]Université de Sherbrooke, Canada, [3]University of Sherbrooke, Canada
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SA0340 **Implementation of FLS in the Province of Quebec (Canada): perseverance and creativity**
Marie-Claude Beaulieu*[1], Hélène Corriveau[1], Isabelle Gaboury[1], François Cabana[2], Gilles Boire[3]. [1]Université de Sherbrooke, Canada, [2]CHUS, Canada, [3]Centre Hospitalier Universitaire De Sherbrooke, Canada
Disclosures: Marie-Claude Beaulieu, None

SA0341 **Osteoporosis in Female Type 1 Diabetic Patient at the Veterans Affairs Medical Center**
Foiqa Chaudhry*, Kwame Ntim. University of Florida, USA
Disclosures: Foiqa Chaudhry, None

SA0342 **Physicians' Attitudes to Contemporary Issues on Osteoporosis Management in Korea**
Young-Kyun Lee*[1], Yong-Ki Min[2], Hyoung-Moo Park[3], Deog-Yoon Kim[4], Ho-Yeon Chung[5], Yong-Chan Ha[6]. [1]Seoul National University Bundang Hospital, South Korea, [2]Samsung Medical Center, South Korea, [3]Chung-Ang University College of Medicine, South Korea, [4]Kyung Hee University Hospital, South Korea, [5]Kyung Hee University, South Korea, [6]Chung-Ang University Hospital, South Korea
Disclosures: Young-Kyun Lee, None

SA0343 **Validation of ICD-9 Codes or Self-report for Osteoporotic Fractures in Women Aged 45-60**
Susan Ott*[1], Rebecca Hubbard[2], Belinda Operskalski[2], Do Peterson[2], Kelly Hansen[2], Andrea Lacroix[3], Delia Scholes[4]. [1]University of Washington Medical Center, USA, [2]Group Health Research Institute, USA, [3]Fred Hutchinson Cancer Research Center, USA, [4]Group Health Cooperative, Group Health Research Institute, USA
Disclosures: Susan Ott, None

SA0344 **Where the ball was dropped. Why do patients fall off Secondary Fracture Prevention Programs?**
Manju Chandran*, Xiao Feng Huang, Matthew Tan. Osteoporosis & Bone Metabolism Unit, Singapore General Hospital, Singapore
Disclosures: Manju Chandran, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: HEALTH ECONOMICS

SA0345 **Individual Characteristics that Predict Higher Health Care Costs After Hip Fracture**
John Schousboe*[1], Misti Paudel[2], Brent Taylor[3], Allyson Kats[4], Beth Virnig[5], Bryan Dowd[5], Kristine Ensrud[6]. [1]Park Nicollet Clinic, University of Minnesota, USA, [2]Division of Epidemiology University of Minnesota, USA, [3]University of Minnesota, USA, [4]Chronic Disease Research Group, USA, [5]Division of Health Policy & Management, University of Minnesota, USA, [6]University of Minnesota & Minneapolis VA Health Care System, USA
Disclosures: John Schousboe, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: OUTCOME STUDIES

SA0346 **Factors Associated With Early Functional Outcome After Hip Fracture Surgery**
Matthew Cohn*[1], Ting Cong[2], Benedict Nwachukwu[3], Minda Patt[4], Pingal Desai[3], Kara Gasiorowski[4], Jin Chen[3], Jonathan Jo[5], Joseph Lane[3]. [1]Weill Medical College of Cornell University, USA, [2]Weill Cornell Medical College, USA, [3]Hospital for Special Surgery, USA, [4]NewYork Presbyterian-Weill Cornell Medical Center, USA, [5]Weill Cornell Medical College, Hospital for Special Surgery, USA
Disclosures: Matthew Cohn, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: GENERAL

SA0347 **A longitudinal analysis of the impact of very low energy diets on bone mineral density**
Palak Choksi*[1], Amy Rothberg[1], Andrew Kraftson[1], Nicole Miller[1], Katherine Zurales[1], Charles Burant[1], Catherine Van Poznak[2], Mark Peterson[1]. [1]University of Michigan, USA, [2]University of Michigan Comprehensive Cancer Center, USA
Disclosures: Palak Choksi, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: VITAMIN D

SA0348 Daily intake of high-dose vitamin D-enriched milk in healthy postmenopausal women: A randomized, controlled and double-blind nutritional trial (The EFICALCIO Study).

Rebeca Reyes-Garcia*[1], Manuel Muñoz-Torres[2], Antonia Garcia-Martin[3], Santiago Palacios[4], Nancy Salas[4], Nicolas Mendoza[5], Miguel Quesada-Charneco[6], Federico Lara-Villoslada[7], Juristo Fonolla[8]. [1]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada. Endocrinology Unit. Hospital General Universitario Rafael Mendez, Lorca, Murcia., Spain, [2]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada., Spain, [3]Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada. Endocrinology. Hospital Comarcal del Noroeste, Caravaca de la Cruz, Murcia., Spain, [4]Palacios Institute of Women's Health, Spain, [5]Department of Obstetrics & Gynecology, University of Granada, Spain, [6]Endocrinology Division, Hospital Universitario San Cecilio, Spain, [7]Departamento de Investigación y Desarrollo. Lactalis Puleva, Spain, [8]Nutrition Department, Biosearch S.A, Spain

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SA0349 Eldecalcitol, a second generation active vitamin D analog, increases lumbar spine BMD in osteoporotic patients treated with alendronate regardless of their pretreatment levels of bone turnover.

Akinori Sakai*[1], Masako Ito[2], Tatsushi Tomomitsu[3], Hiroshi Tsurukami[4], SATOSHI IKEDA[5], Fumio Fukuda[6], Hideki Mizunuma[7], Tomoyuki Inoue[8], Hitoshi Saito[9], Toshitaka Nakamura[10]. [1]University of Occupational & Environmental Health, Japan, [2]Nagasaki University Hospital, Japan, [3]Department of Radiological Technology, Kawasaki College of Allied Health Professions, Japan, [4]Tsurukami Clinic of Orthopedics & Rheumatology, Japan, [5]Ken-Ai Memorial Hospital, Japan, [6]Kitakyushu General Hospital, Japan, [7]Department of Obstetrics & Gynecology, Hirosaki University School of Medicine, Japan, [8]Taisho Pharmaceutical Co., Ltd., Japan, [9]Chugai Pharmaceutical Company, Limited, Japan, [10]National Center for Global Health & Medicine, Japan

Disclosures: Akinori Sakai, None

SA0350 Evaluating the Effects of High-Dose Supplemental Vitamin D on Bone Density and Structure: Design of the VITamin D and OmegA-3 TriaL (VITAL)

Amy Yue*[1], JoAnn Manson[2], Julie Buring[2], Nancy Cook[2], Patricia Copeland[1], Meryl Leboff[3]. [1]Brigham & Women's Hospital, USA, [2]Brigham & Women's Hospital Professor of Medicine, Harvard Medical School, USA, [3]Brigham & Women's Hospital, Professor of Medicine, Harvard Medical School, USA

Disclosures: Amy Yue, None

SA0351 Exposure to direct sunlight biodegrades vitamin D in milk. R. C. Hamdy, R. Mohseni, C. Magallanes, B. Som, T. Piggee. East Tennessee State University, Johnson City, TN 37614

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Disclosures: Ronald Hamdy, None

SA0352 High Vitamin D is Associated with Low Fasting Insulin in Non-diabetic Men

Anna Nilsson*[1], Ewa Waern[1], Mattias Lorentzon[2], Magnus Karlsson[3], Claes Ohlsson[4], Dan Mellstrom[1]. [1]Sahlgrenska University Hospital, Sweden, [2]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden

Disclosures: Anna Nilsson, None

SA0353 Rising Trend in Vitamin D Status in Ireland from 1993 to 2013: Concerns for the Future

Malachi McKenna*[1], Barbara Murray[1], Myra O'Keane[2], Mark Kilbane[2]. [1]St. Michael's Hospital, Ireland, [2]St. Vincent's University Hospital, Ireland

Disclosures: Malachi McKenna, None

SA0354 **Sex-specific effects of PTH, total 25OHD, and free 25OHD on femoral neck BMD**
Lisa Langsetmo*[1], Claudie Berger[2], Brent Richards[3], Christopher Kovacs[4], William Leslie[5], David Hanley[6], Jonathan Adachi[7], Jerilynn Prior[8], Suzanne Morin[3], K. Shawn Davison[9], Stephanie Kaiser[10], Robert Josse[11], David Goltzman[3]. [1]Canadian Multicenter Osteoporosis Study, Canada, [2]CaMos, McGill University, Canada, [3]McGill University, Canada, [4]Memorial University of Newfoundland, Canada, [5]University of Manitoba, Canada, [6]University of Calgary, Canada, [7]St. Joseph's Hospital, Canada, [8]University of British Columbia, Canada, [9]University of Victoria, Canada, [10]Dalhousie University, Canada, [11]St. Michael's Hospital, University of Toronto, Canada
Disclosures: Lisa Langsetmo, None

SA0355 **The Impact of 25(OH) Vitamin D Reference Method Procedure (RMP) Alignment on Measurements Obtained with the IDS Chemiluminescent-based Automated Analyzer Assay**
Christine Simpson*, Anna Maria Cusano, Karl Insogna. Yale University School of Medicine, USA
Disclosures: Christine Simpson, None

SA0356 **Vitamin D Levels in Young Women with Anorexia Nervosa during Nutritional Rehabilitation and Relationship with Bone Mass**
Anna Svedlund*[1], Bojan Tubic[2], Cecilia Pettersson[2], Per Magnusson[3], Björn Wettergren[4], Diana Swolin-Eide[2]. [1]Sweden, [2]Queen Silvia Children's Hospital, Sweden, [3]Linkoping University, Sweden, Sweden, [4]Paediatric Primary Care, Sweden
Disclosures: Anna Svedlund, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

SA0357 **Bone Anabolic Effect in Ovariectomized Mice by low-dose RANKL Mediated by FoxP3^{+} CD8 T-Cells.**
Reggie Aurora*[1], Zachary Buchwald[2], Chang Yang[3], Suman Nellore[2], Elena Sashkova[2], Deborah Novack[4], Richard Di Paolo[2]. [1]Saint Louis University University, USA, [2]Saint Louis University School of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA, [4]Washington University in St. Louis School of Medicine, USA
Disclosures: Reggie Aurora, None

SA0358 **Hyperlipidemia-induced Loss of Bone Mass is Caused by Decreased Bone Formation and is Associated with an Inflammatory Response in the Marrow: Evidence from the ApoE$^{-/-}$ Mouse Model of Atherosclerosis**
Yu Liu*, Annick DeLoose, Kanan Vyas, Michela Palmieri, Amanda Hunt, Robert Weinstein, Charles O'Brien, Stavros Manolagas, Robert Jilka. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Yu Liu, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: CALCIUM, VITAMIN D, NUTRITIONAL AND PHYSICAL FACTORS

SA0359 **Eldecalcitol, a new-generation vitamin D_3analog, increases trabecular bone via "minimodeling" in ovariectomizedcynomolgus monkeys.**
Tomoka Hasegawa*[1], Saito Mitsuru[2], Doyle Nancy[3], Chouinard Luc[3], Smith Susan[3], Yamamoto Tomomaya[1], Oda Kimimitsu[4], Saito Hitoshi[5], Amizuka Norio[1]. [1]Hokkaido University, Japan, [2]Jikei University School of Medicine, Japan, [3]Charles River Laboratories, Canada, [4]Niigata University, Japan, [5]Chugai Pharmaceutical Co., Ltd., Japan
Disclosures: Tomoka Hasegawa, None

SA0360 **Pregnancy and Lactation Bone Loss Cause Long-Lasting Structural Deterioration of the Maternal Skeleton that Accumulates over Multiple Reproductive Cycles**
Chantal De Bakker*, Allison Altman, Connie Li, Wei-Ju Tseng, Xiaowei Liu. University of Pennsylvania, USA
Disclosures: Chantal De Bakker, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

SA0361 Chronic Stress Induces Bone Loss via Glucocorticoid Signaling in Osteoblasts

Holger Henneicke*[1], Jingbao Li[2], Sylvia Jane Gasparini[3], Markus Seibel[4], Hong Zhou[4]. [1]ANZAC Research Institute, The University of Sydney, Australia, [2]Key Laboratory for Space Bioscience & Biotechnology, Institute of Special Environmental Biophysics, Faculty of Life Sciences, Northwestern Polytechnical University, China, [3]Bone Biology Program, ANZAC Research Institute, The University of Sydney, Australia, [4]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia

Disclosures: Holger Henneicke, None

SA0362 Deletion of TRAF3 Specifically in Mesenchymal Progenitor Cells Results in Age-related OsteoporosisThrough Effects on both Osteoblasts and Osteoclasts

Jinbo Li*[1], Zhenqiang Yao[2], Yan Xiu[3], Xiaoxiang Yin[3], Lianping Xing[2], Brendan Boyce[3]. [1]USA, [2]University of Rochester, USA, [3]University of Rochester Medical Center, USA

Disclosures: Jinbo Li, None

SA0363 Heterozygosity for *TGFβR3* Alters Osteoblast and Osteoclast Differentiation and Signaling, Increases Peak Bone Mass, and Sensitizes Mice to OVX-Induced Bone Loss.

Nicole Fleming[1], Vanessa Bray[2], James Butler[3], Tristan Fowler[4], Joey Barnett[5], Dana Gaddy[6], Erick Fleming[1], Jeffry Nyman[7], Rashmi Pandey[3], Daniel Perrien*[7]. [1]VUIIS, Vanderbilt University, USA, [2]Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, [3]Department of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, [4]Universität Wien, Aut, [5]Department of Pharmacology, Vanderbilt University, USA, [6]University of Arkansas for Medical Sciences, USA, [7]Vanderbilt University Medical Center, USA

Disclosures: Daniel Perrien, None

SA0364 High Cortico -Trabecular Junctional Zone Porosity and Reduced Trabecular Density in Persons with Stress Fractures

Afrodite Zendeli*[1], Christian Muschitz[2], Minh Bui[3], Lukas Fischer[4], Wolfgang Schima[5], Fritz Lomoschitz[6], Norbert Laimer[7], Ali Ghasem-Zadeh[8], Roger Zebaze[8], Ego Seeman[8]. [1]The VINFORCE Study Group - St. Vincent Hospital - Medical Department II, Australia, [2]St. Vincent's Hospital, Austria, [3]Centre for Epidemiology & Biostatistics, Melbourne School of Population & Global Health, University of Melbourne, Australia, Australia, [4]Computational Imaging Research Lab, Department of Biomedical Imaging & Image-guided Therapy, Medical University of Vienna, Austria, Austria, [5]Department of Diagnostic & Interventional Radiology - St. Vincent Hospital Vienna, Austria, Austria, [6]Department of Diagnostic & Interventional Radiology - St. Vincent Hospital Vienna, Austria, Austria, [7]Medical Department II - St. Vincent Hospital Vienna - The VINFORCE Study Group, Austria, Austria, [8]Austin Health, University of Melbourne, Australia

Disclosures: Afrodite Zendeli, None

SA0365 Pulsatile delivery of parathyroid hormone from an implantable device promotes bone regeneration in vivo

Ming Dang*[1], Amy Koh[2], Laurie McCauley[3], Peter Ma[4]. [1]Macromolecular Science & Engineering Center, University of Michigan, USA, [2]Department of Periodontics & Oral Medicine, University of Michigan, USA, [3]University of Michigan School of Dentistry, USA, [4]Department of Biologic & Materials Sciences, University of Michigan, USA

Disclosures: Ming Dang, None

SA0366 Site-specific Effects of Spaceflight on Cancellous Bone Architecture in Ovariectomized Rats with Established Osteopenia

Jessica Keune*, Dawn Olson, Urszula T. Iwaniec, Russell T. Turner. Oregon State University, USA

Disclosures: Jessica Keune, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS AND OTHER DRUGS

SA0367 GILZ Protects TNF-alpha-induced Bone Loss in Mice

Nianlan Yang*[1], Babak Baban[1], William Hill[2], Mark Hamrick[3], Carlos Isales[1], Xing-Ming Shi[1]. [1]Georgia Regents University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Health Sciences University, USA

Disclosures: Nianlan Yang, None

SA0368 **Kinin receptor B1 and B2 knockout are resistant to the bone losing effects of glucocorticoid treatment**
Charlles Castro[1], Marina Eloi*[1], Daniela Horvath[1], João Carlos Ortega[1], João Bosco Pesquero[1], Vera Szejnfeld[2]. [1]Universidade Federal de São Paulo, Brazil, [2]UNIFESF/EPM, Brazil
Disclosures: Marina Eloi, None

SA0369 **Vascular Defects Detected by Micro-MRI in the Femoral Head of Glucocorticoid Treated Mice: A Potential Early Diagnostic Predictor of Osteonecrosis**
Robert Weinstein*[1], Erin A. Hogan[1], Marilina Piemontese[2], Jinhu Xiong[1], Charles A O'Brien[1], Stavros Manolagas[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Robert Weinstein, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: SEX HORMONES AND CALCIOTROPIC HORMONES

SA0370 **Estradiol: Endocrine or Autocrine Regulator of Bone? Insights from Mass Spectrometry in Male Mouse Models**
Michaël Laurent*[1], Ivo Jans[2], Marco Blokland[3], Frederike van Tricht[3], Saskia Sterk[3], Leen Antonio[1], Brigitte Decallonne[1], Geert Carmeliet[1], Geoffrey Hammond[4], Frank Claessens[1], Dirk Vanderschueren[1]. [1]Katholieke Universiteit Leuven, Belgium, [2]University Hospitals Leuven, Belgium, [3]RIKILT, Wageningen UR, Netherlands, [4]University of British Columbia, Canada
Disclosures: Michaël Laurent, None

SA0371 **H_2O_2 generation in osteoclast mitochondria is indispensible for endocortical, but not cancellous, bone resorption in estrogen or androgen deficiency**
Shoshana Bartell*[1], Li Han[1], Aaron Warren[1], Julie Crawford[1], Semahat Serra Ucer[2], Srividhya Iyer[1], Maria Jose Almeida[1], Stavros Manolagas[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

OSTEOPOROSIS - SECONDARY CAUSES: DRUGS, OTHER THAN GLUCOCORTICOIDS

SA0372 **A double-blind, randomized, Phase III, multicenter study in 300 pediatric subjects receiving isotretinoin therapy therapy demonstrate no effect on pediatric bone mineral densityPurpose:**
Kevin Hoover*[1], Colin Miller[2], Craig Langman[3], Rick Gilbert[4], Jason Gross[5]. [1]Virginia Commonwealth University, USA, [2]BioClinica, Inc., USA, [3]Ann & Robert H Lurie Childrens Hospital of Chicago, USA, [4]TKL Research, USA, [5]Cipher Pharmaceuticals, Canada
Disclosures: Kevin Hoover, BioClinica, 5

SA0373 **Bone Mineral Density Changes Among Women Initiating Proton Pump Inhibitors or H2 Receptor Antagonists: Results from the SWAN Bone Study**
Daniel Solomon*[1], Susan Diem[2], Kristine Ruppert[3], YinJuan Lian[3], Chih-Chin Liu[4], Alyssa Wohlfarht[4], Gail Greendale[5], Joel Finkelstein[6]. [1]Harvard Medical School, USA, [2]University of Minnesota, USA, [3]University of Pittsburgh, USA, [4]Brigham & Women's Hospital, USA, [5]University of California, Los Angeles, USA, [6]Massachusetts General Hospital, USA
Disclosures: Daniel Solomon, Amgen, 2; Lilly, 2

SA0374 **Effects of long-term thyrotropin-suppressive therapy on bone mineral density and fracture prevalence in elderly women with differentiated thyroid carcinoma**
Sabine Weidner[1], Albrecht Popp*[2], Sandra Grifone[2], Helene Buffat[2], Christian Boy[1], Thomas Krause[1], Kurt Lippuner[2]. [1]Department of Nuclear Medicine, Inselspital, University Hospital Berne, Switzerland, [2]Department of Osteoporosis, University Hospital & University of Berne, Switzerland
Disclosures: Albrecht Popp, None

SA0375 **Risedronate Prevents Anastrozole-Induced Bone Loss In The IBIS-II Prevention Trial**
Ivana Sestak*[1], Shalini Singh[2], Jack Cuzick[3], Glen Blake[4], Rajesh Patel[5], Rob Coleman[6], Mitch Dowsett[7], John F. Forbes[8], Anthony Howell[9], Richard Eastell[10]. [1]Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University London, United Kingdom, [2]Centre for Cancer Prevention, United Kingdom, [3]Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London, United Kingdom, [4]King's College London, United Kingdom, [5]Imperial College London, United Kingdom, [6]Department of Oncology, Cancer Clinical Trials Centre, Academic Unit of Clinical Oncology, United Kingdom, [7]Royal Marsden Hospital, United Kingdom, [8]University of Newcastle, Calvary Mater Hospital, Australia, [9]Paterson Institute for Cancer Research, United Kingdom, [10]University of Sheffield, United Kingdom
Disclosures: Ivana Sestak, None

OSTEOPOROSIS - SECONDARY CAUSES: GLUCOCORTICOIDS

SA0376 **A risk factor for fracture in patients with rheumatoid arthritis is not the disease itself but the use of glucocorticoid–the third year results of the TOMORROW study-**
Tatsuya Koike*[1], Yuko Sugioka[2], Kenji Mamoto[3], Tadashi Okano[3], Masahiro Tada[3], Kentaro Inui[4]. [1]Search Institute for Bone & Arthritis Disease (SINBAD), Japan, [2]Center for Senile Degenerative Disorder, Osaka City University Medical School, Japan, [3]Orthopaedic Surgery, Osaka City University Medical School, Japan, [4]Osaka City University Medical School, Japan
Disclosures: Tatsuya Koike, Eisai, 8; Teijin Pharma, 8; Abbott Japan, 8; Takeda Pharmaceutical, 8; Chugai Pharmaceutical, 8; Ono Pharmaceutical, 8; Bristol Meyers, 5; Mitsubishi Tanabe Pharma Corporation, 2

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

SA0377 **Acute Skeletal Effects of PTH in Combination with Denosumab or Alendronate**
Joy Tsai*[1], Hang Lee[2], Yuli Zhu[3], Katelyn Foley[3], Sherri-Ann Burnett-Bowie[1], Robert Neer[1], Benjamin Leder[4]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital, Biostatistics Center, USA, [3]Massachusetts General Hospital, Endocrine Unit, USA, [4]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Joy Tsai, None

SA0378 **Intermittent PTH (1-34) Administration Enhances Endothelium-Dependent Vasodilation of the Femoral Principal Nutrient Artery in Aged Rats and Alters the Marrow Microenvironment such that Vasodilation is Improved in its Presence**
SEUNGYONG LEE*, Ashley Bice, Brianna Hood, Rhonda Prisby. University of Delaware, USA
Disclosures: SEUNGYONG LEE, None

SA0379 **Responder Analysis of the Effects of Abaloparatide and Teriparatide on Bone Mineral Density in Postmenopausal Women With Osteoporosis**
Benjamin Leder*[1], Kathleen Banks[2], Louis O'Dea[2], C.R. Lyttle[2], John Yates[3], Gary Hattersley[2]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Radius, USA, [3]Radius Health, USA
Disclosures: Benjamin Leder, Merck, 5; Radius, 5; Lilly, 5; Amgen, 5

SA0380 **Romosozumab Significantly Improves Vertebral Cortical Bone Mass and Structure Compared With Teriparatide: HR-QCT Analyses of Randomized Controlled Trial Results in Postmenopausal Women with Low BMD**
T Damm*[1], C Libanati[2], J Peña[1], G Campbell[1], R Barkmann[1], DA Hanley[3], S Goemaere[4], MA Bolognese[5], C Recknor[6], C Mautalen[7], YC Yang[2], CC Glüer[1]. [1]Christian-Albrechts-Universität zu Kiel, Germany, [2]Amgen Inc., USA, [3]University of Calgary, Canada, [4]Ghent University Hospital, Belgium, [5]Bethesda Health Research Center, USA, [6]United Osteoporosis Centers, USA, [7]Centro de Osteopatias Medicas, Argentina
Disclosures: T Damm, Amgen, 2

SA0381 **Teriparatide Treatment for Sacral Insufficiency Fractures**

Yuji Kasukawa*[1], Naohisa Miyakoshi[1], Toshihito Ebina[2], Michio Hongo[1], Koji Nozaka[1], Yoshinori Ishikawa[1], Daisuke Kudo[1], Hayato Kinoshita[3], Kentaro Ohuchi[1], Masashi Fujii[1], Chie Sato[1], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Dept. of Orthopedic Surgery, Kakunodate General Hospital, Japan, [3]Akita University, Japan

Disclosures: Yuji Kasukawa, None

OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

SA0382 **Antiresorptive Therapy – Yes, It is Sometimes 'Too Late'**

Roger Zebaze[1], Cherie Chiang[2], Sandra Iuliano-Burns[1], Yohann Bala[3], Afrodite Zendeli[4], Negar Shahmoradi[5], Yu Peng[6], Ali Ghasem-Zadeh[1], Ego Seeman*[1]. [1]Austin Health, University of Melbourne, Australia, [2]Austin Health, Australia, [3]University of Melbourne, Dept. of Medicine, Australia, [4]Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, [5]Department of Endocrinology, Austin Health, Australia, [6]Straxcorp Pty Ltd, Australia

Disclosures: Ego Seeman, Straxcorp Pty Ltd, 1

SA0383 **Atypical subtrochanteric fracture is a rare phenomenon in osteoporotic patients treated with bisphosphonates**

Christian Muschitz*[1], Hans Peter Dimai[2], Roland Kocijan[3], Heinrich Resch[4], Peter Pietschmann[5], Martina Kostic[6], Alexandra Kaider[7], Michael Szivak[8], Matthias Schilling[9], Heinrich W. Thaler[10]. [1]St. Vincent's Hospital, Austria, [2]Medical University of Graz – Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, [3]St. Vincent Hospital Vienna, Austria, [4]Medical University Vienna, Austria, [5]Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, [6]St. Vincent Hospital – Medical Department II - Academic Teaching Hospital of Medical University of Vienna, Austria, [7]Center for Medical Statistics, Informatics & Intelligent Systems, Medical University of Vienna, Austria, [8]Austrian Trauma Insurance Agency (AUVA), Austria, [9]Institute for Medical Radiology, Diagnostics, Intervention; Clinical Center of Lower Austria, Austria, [10]Trauma Center Meidling, Austria

Disclosures: Christian Muschitz, None

SA0384 **Withdrawn**

SA0385 **Brand-Name vs. Generic Oral Bisphosphonate Medications: Prescribing Patterns and Variations over Eleven Years**

Lisa-Ann Fraser*[1], Jordan Albaum[2], Mina Tadrous[2], Andrea Burden[2], Salimah Shariff[3], Suzanne Cadarette[2]. [1]Western University, Canada, [2]University of Toronto, Canada, [3]University of Western University, Canada

Disclosures: Lisa-Ann Fraser, None

SA0386 **Dynamic analysis of short-term effects of bisphosphonates by using intravital two-photon microscopy**

Junichi Kikuta*[1], Mai Shirazaki[2], Masaru Ishii[3]. [1]Immunology Frontier Research Center, Osaka University, Japan, [2]Graduate School of Medicine, Osaka University, Japan, [3]Graduate School of Medicine & Frontier Biosciences, Osaka University, Japan

Disclosures: Junichi Kikuta, None

SA0387 **Evaluation of Invasive Oral Procedures and Events in Women With Postmenopausal Osteoporosis Treated With Denosumab: Results From the Pivotal Phase 3 Fracture Study Extension**

Nelson B. Watts*[1], John T. Grbic[2], Michael McClung[3], Socrates Papapoulos[4], David Kendler[5], Christence S. Teglbjaerg[6], Lawrence O'Connor[7], Rachel B. Wagman[7], Eric Ng[7], Nadia S. Daizadeh[7], Pei-Ran Ho[7]. [1]Mercy Health, USA, [2]Columbia University, USA, [3]Oregon Osteoporosis Center, USA, [4]Leiden University Medical Center, Netherlands, [5]University of British Columbia, Canada, [6]CCBR, Denmark, [7]Amgen Inc., USA

Disclosures: Nelson B. Watts, OsteoDynamics, co-founder, stockholder and director, 1; Merck, NPS, 2; AbbVie, Amarin, Amgen, Bristol-Meyers Squibb, Corcept, Endo, Imagepace, Janssen, Lilly, Merck, Novartis, Noven, Pfizer/Wyeth, Radius, sanofi-aventis, 5

SA0388 **Findings from Denosumab (Prolia®) Post-marketing Safety Surveillance for Atypical Femoral Fracture, Osteonecrosis of the Jaw, Severe Symptomatic Hypocalcemia, and Anaphylaxis**

M Geller[1], RB Wagman*[1], PR Ho[1], S Siddhanti[1], C Stehman-Breen[1], NB Watts[2], S Papapoulos[3]. [1]Amgen Inc., USA, [2]Mercy Health Osteoporosis & Bone Health Services, USA, [3]Leiden University Medical Center, Netherlands

Disclosures: RB Wagman, Amgen, 1; Amgen, 3

SA0389 **Lack of Clinically Important Gender Differences in the Pharmacokinetics and Exposure-Response Relationship of Odanacatib**

Julie Stone*[1], David Jaworowicz[2], Stefan Zajic[1], Rebecca Humphrey[2], Arthur Santora[3], Aubrey Stoch[4]. [1]Merck Research Laboratories, USA, [2]Cognigen Corporation, USA, [3]Merck & Co. Inc., USA, [4]Merck & Co., Inc., USA

Disclosures: Julie Stone, Merck, 1; Merck, 3

SA0390 **Mechanically improved femoral bone strength by risedronate in postmenopausal women with breast cancer taking aromatase inhibitors : 2-year-longitudinal data**

Su Jin Lee*[1], JO EUN KIM[2], Sung-Kil Lim[2], Yumie Rhee[3]. [1]Yonsei University Health System, South Korea, [2]Yonsei University College of Medicine, South Korea, [3]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea

Disclosures: Su Jin Lee, None

SA0391 **Percentage of Women Achieving Non-osteoporotic BMD T-scores at the Spine and Hip Over 8 Years of Denosumab Treatment**

S Ferrari*[1], C Libanati[2], CJF Lin[2], S Adami[3], JP Brown[4], F Cosman[5], C Czerwiński[6], LH de Gregório[7], J Malouf[8], J-Y Reginster[9], NS Daizadeh[2], A Wang[2], RB Wagman[2], EM Lewiecki[10], S Cummings[11]. [1]Geneva University Hospital, Switzerland, [2]Amgen Inc., USA, [3]University of Verona, Italy, [4]Laval University & CHU de Québec Research Centre, Canada, [5]Helen Hayes Hospital, USA, [6]Krakow Medical Center, Poland, [7]CCBR, Brazil, [8]Universitat Autònoma de Barcelona, Spain, [9]University of Liège, Belgium, [10]New Mexico Clinical Research & Osteoporosis Center, USA, [11]San Francisco Coordinating Center, CPMC Research Institute, & UCSF, USA

Disclosures: S Ferrari, Amgen, MSD, Eli Lilly, GSK, Bioiberica, 5; Amgen, MSD, 2

SA0392 **Response in Subgroups based on Baseline 25-Hydroxyvitamin D and Bone Turnover Markers: Alendronate Sodium/Vitamin D_3 versus Calcitriol for Treatment of Osteoporosis in Chinese Women**

Zhen Lin Zhang*[1], Er Yuan Liao[2], Weibo Xia[3], Hua Lin[4], Qun Cheng[5], Li Wang[6], Yong Qiang Hao[7], De Cai Chen[8], Hai Tang[9], Yong De Peng[10], Li You[10], Liang He[11], Zhao Heng Hu[12], Chun Li Song[13], Fang Wei[14], Jue Wang[14], Lei Zhang[14], Arthur Santora[15]. [1]Shanghai Sixth People's Hospital, Shanghai Jiaotong University School of Medicine, China, [2]The Second Xiangya Hospital, Central South University, China, [3]Peking Union Medical College Hospital, Department of Endocrinology, Chn, [4]Peking Union Medical College Hospital, China, [5]Huadong Hospital Affiliated to Fudan University, China, [6]TianJin Hospital, China, [7]Shanghai Ninth People's Hospital, China, [8]West China Hospital, West China School of Medicine, Sichuan University, China, [9]Beijing Friendship Hospital, Capital Medical University, China, [10]Shanghai First People's Hospital, China, [11]Beijing Jishuitan Hospital, China, [12]Peking University People's Hospital, China, [13]Peking University Third Hospital, China, [14]MSD China, China, [15]Merck Research Laboratories, USA

Disclosures: Zhen Lin Zhang, Merck, 2; Merck, 8; Merck, 5

SA0393 **Risk factor for the Non-Responder of Bisphosphonates and Active Vitamin D Analog for the Treatment of Osteoporosis**

Mayuko Kinoshita*[1], Muneaki Ishijima[2], Yuko Sakamoto[3], Hidetoshi Nojiri[4], Liu Liz[5], Haruka Kaneko[6], Ryo Sadatsuki[1], Shinnosuke Hada[1], Kazuo Kaneko[1]. [1]Department of Orthopaedics & Motor Organ, Juntendo University Graduate School of Medicine, Tokyo, JAPAN, Japan, [2]Juntendo University Graduate School of Medicine, Japan, [3]Department of Orthopaedics, Juntendo Nerima Hospital, Tokyo, JAPAN, Japan, [4]Juntendo University, School of Medicine, Japan, [5]University Graduate School of Medicine, Tokyo, JAPAN, Japan, [6]Department of Orthopaedics & Motor Organ, Juntendo University Graduate School of Medicine, Tokyo, JAPA, Japan

Disclosures: Mayuko Kinoshita, None

SA0394 **Sustained P1NP suppression with monthtly 150 mg risedronate treatment of postmenopausal women with low bone mass during 1 year treatment**
Gregorio Riera-Espinoza*[1], Yamila Cordero[2], Sandra Mendoza[3], Yuneci Gonzalez[3], Jeny Ramos[3]. [1]Unidad Metabolica. CEAM, Venezuela, [2]Unidad Metabolica., Venezuela, [3]Unidad Metabolica, Venezuela
Disclosures: Gregorio Riera-Espinoza, Laboratorios Leti Venezuela, 2

SA0395 **The Effect of Monthly i.v. Ibandronate Injections on Japanese Patients with High-Risk Primary Osteoporosis: Subgroup 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, Teijin Pharma Ltd., 5; Astellas Pharma Inc., 5; Eisai Co. Ltd., 5; Chugai Pharmaceutical Co. Ltd., 5; Ono Pharmaceutical Co. Ltd., 5; Pfizer Inc., 5; Banyu Pharmaceuticals Co., 5; Mitsubishi Tanabe Pharma Corp.,5; Eli Lilly Japan K. K.,5; Takeda Pharmaceutical Co. Ltd.,5; Asahi Kasei Pharma Corp., 5

SA0396 **The Extent of Symmetry on Images of Bilateral Atypical Femoral Fractures**
Linda Probyn*[1], Angela M. Cheung[2], Jonathan Adachi[3], Leon Lenchik[4], Aliya Khan[5], Earl Bogoch[6], Robert Josse[7], Catherine Lang[8], R Bleakney[9]. [1]University of Toronto, Sunnybrook Health SC, Dept. Medical Imaging, Canada, [2]University Health Network-University of Toronto, Canada, [3]St. Joseph's Hospital, Canada, [4]Wake Forest University, USA, [5]McMaster University, Canada, [6]St. Michael's Hospital, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]University of Toronto, Canada, [9]Mount Sinai Hospital, Canada
Disclosures: Linda Probyn, None

SA0397 **Virtual Twin Estimates: Continued New Vertebral and Nonvertebral Anti-Fracture Efficacy Through 8 Years of Treatment With Denosumab**
SR Cummings*[1], E Vittinghoff[2], NS Daizadeh[3], M Austin[3], A Wang[3], RB Wagman[3]. [1]San Francisco Coordinating Center, CPMC Research Institute, USA, [2]University of California San Francisco, USA, [3]Amgen Inc., USA
Disclosures: SR Cummings, Amgen, Lilly, Merck, 5

SA0398 **Zoledronic Acid in Frail Elders to Strengthen Bone: Three Year Results from ZEST Trial**
Susan Greenspan*[1], Mary Anne Ferchak[1], Subashan Perera[1], Dave Nace[1], Neil Resnick[2]. [1]University of Pittsburgh, USA, [2]Univeristy of Pittsburgh, USA
Disclosures: Susan Greenspan, Eli Lilly, Amgen, 2

OSTEOPOROSIS - TREATMENT: COMPLIANCE AND PERSISTENCE

SA0399 **Effective secondary fracture prevention: a global quality exercise**
Muhammad Javaid*[1], Carey Kyer[2], Charlotte Moss[3], Paul Mitchell[4], Dominique Pierroz[5], Judy Stenmark[2], Kristina Akesson[6], Cyrus Cooper[7], and the IOF Fracture Working Group[5]. [1]University of Oxford, United Kingdom, [2]IOF, Switzerland, [3]MRC Lifecourse Epidemiology Unit, United Kingdom, [4]Synthesis Medical, New Zealand, [5]International Osteoporosis Foundation, Switzerland, [6]Skåne University Hospital, Malmö, Sweden, [7]University of Southampton, United Kingdom
Disclosures: Muhammad Javaid, None

SA0400 **Factors Associated with Sub-optimal Adherence to Bisphosphonate Therapy among Patients with Postmenopausal Osteoporosis**
Maral DerSarkissian[1], Cynthia O'Malley*[2], Irene Ferreira[3], Stuart Silverman[4], Deborah Gold[5], Rachel Wagman[6], Andreas Grauer[7]. [1]Amgen Incorporated, USA, [2]Amgen, Inc, USA, [3]Amgen Limited, United Kingdom, [4]Cedars-Sinai/UCLA, USA, [5]Duke University Medical Center, USA, [6]Amgen, Incorporated, USA, [7]Amgen Inc., USA
Disclosures: Cynthia O'Malley, Amgen, Inc., 3

SA0401 **More Than 90% Two Year Adherence to 6-MonthlyDenosumab Injections in Patients with Different Forms of Osteoporosis**

Johann Ringe*[1], Parvis Farahmand[2]. [1]Klinikum Leverkusen, University of Cologne, Germany, [2]West German Osteoporosis Center (WOC), Klinikum Leverkusen, University of Cologne, Germany

Disclosures: Johann Ringe, None

SA0402 **National Bone Health Alliance: A Multi-SectorPublic-Private Partnership Working Together to Improve America's Bone Health**

Debbie Zeldow[1], David Lee*[2]. [1]National Bone Health Alliance, USA, [2]NBHA, USA

Disclosures: David Lee, None

SA0403 **Real-World Evidence on Treatment Initiation and Discontinuation in Canadian Osteoporotic Patients**

Marie-Claude Meilleur*[1], Martin Cloutier[2], Jimmy Royer[3], Arun Krishna[4]. [1]Merck Canada Inc., Canada, [2]Analysis Group Inc., Canada, [3]Analysis Group Inc. & Université de Sherbrooke, Canada, [4]Merck, USA

Disclosures: Marie-Claude Meilleur, Merck, 1; Merck Canada Inc., 3

OSTEOPOROSIS - TREATMENT: FRACTURE REPAIR

SA0404 **Effects of combination therapy of zoledronic acid plus teriparatide [rhPTH(1–34)] for fracture healing in mice**

Tsuyoshi Sugiura*[1], Masafumi Kashii[2], Kazuma Kitaguchi[3], Masayuki Furuya[1], Tokimitsu Morimoto[1], Yohei Matsuo[4], Takahiro Makino[1], Kousuke Ebina[3], Takashi Kaito[1], Motoki Iwasaki[1], Hideki Yoshikawa[2]. [1]Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, [2]Osaka University Graduate School of Medicine, Japan, [3]Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, [4]Japan

Disclosures: Tsuyoshi Sugiura, None

SA0405 **Teriparatide Accelerates Healing of Bisphosphonate-Associated Atypical Femoral Fractures in Patients with Osteoporosis**

Naohisa Miyakoshi*[1], Toshiaki Aizawa[2], Satoshi Sasaki[3], Shigeru Ando[4], Shigeto Maekawa[5], Hiroshi Aonuma[1], Hiroyuki Tsuchie[6], Hiroshi Sasaki[7], Yuji Kasukawa[1], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Northern Akita Municipal Hospital, Japan, [3]Higashinaruse National Health Insurance Clinic, Japan, [4]Yamamoto-Kumiai General Hospital, Japan, [5]Ogachi Central Hospital, Japan, [6]Nakadori General Hospital, Japan, [7]Akita University School of Medicine, Japan

Disclosures: Naohisa Miyakoshi, None

SA0406 **The effect of teriparatide against pain and vertebral collapse after fresh osteoporotic vertebral fracture**

Hiroyuki Tsuchie*[1], Naohisa Miyakoshi[2], Yuji Kasukawa[2], Tomio Nishi[3], Hidekazu Abe[3], Toyohito Segawa[2], Yoichi Shimada[2]. [1]Nakadori General Hospital, Japan, [2]Akita University Graduate School of Medicine, Japan, [3]Ugo Municipal Hospital, Japan

Disclosures: Hiroyuki Tsuchie, None

OSTEOPOROSIS - TREATMENT: OTHER THERAPEUTIC AGENTS

SA0407 **A Multicenter, Randomized, Double-blind, and Placebo-controlled Study of Chinese Medicine Zuogui Pill and Yougui Pill for Improving Bone Mineral Density**

Dezhi Tang*[1], Chenguang Li[2], Xuejun Cui[2], Dongfeng Zhao[2], Xiaofeng Li[2], Qin Bian[2], Bing Shu[2], Jing Wang[2], Weiwei Da[2], Wen Mo[2], Qi Shi[2], Yongjun Wang[3]. [1]Spine Research Institute, Shanghai University of Traditional Chinese Medicine, Peoples Republic of China, [2]Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China, [3]Othopedic Surgery, Peoples Republic of China

Disclosures: Dezhi Tang, None

SA0408 **A novel approach to inhibit bone resorption: ectosite inhibitors against cathepsin K**
PREETY PANWAR*[1], Kent Soe[2], Haoran Cui[3], Xin Du[4], Jean-Marie Delaisse[5], Dieter Bromme[6]. [1]University of British Columbia, Canada, [2]Vejle Hospital, University of Southern Denmark, Denmark, [3]Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, [4]Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, [5]Vejle Hospital, IRS, University of Southern Denmark, Denmark, [6]The University of British Columbia, Canada
Disclosures: PREETY PANWAR, None

SA0409 **Animal Models of Osteoporosis Correlate with Clinical Bone Marker Data in Women Treated with Ospemifene**
Ginger Constantine*[1], Shelli Graham[2]. [1]EndoRheum Consultants, USA, [2]Shionogi Inc, USA
Disclosures: Ginger Constantine, Shionogi Inc., 5

SA0410 **Effects of Odanacatib on Bone Structure and Quality in Postmenopausal Women with Osteoporosis: Results from the Phase III Long-Term Odanacatib Fracture Trial (LOFT)**
Robert Recker*[1], David Dempster[2], Tobias de Villiers[3], Bente Langdahl[4], Paul Miller[5], Ivo Valter[6], Cristiano AF Zerbini[7], Dosinda Cohn[8], Steven Doleckyj[8], Le Duong[9], Boyd Scott[8], Nadia Verbruggen[10], Arthur Santora[11]. [1]Creighton University, USA, [2]Columbia University, USA, [3]Stellenbosch University, South Africa, [4]Aarhus University Hospital, Denmark, [5]Colorado Center for Bone Research, USA, [6]CCBR, Estonia, [7]Centro Paulista de Investigações Clínicas, Brazil, [8]Merck & Co., Inc., USA, [9]Merck Research Laboratories, USA, [10]MSD Europe Inc., Belgium, [11]Merck & Co. Inc., USA
Disclosures: Robert Recker, Merck, 2; Amgen, 2; Lilly, 5; Lilly, 2; Merck, 5

SA0411 **Inhibition NF-κB Signaling Pathway by Partial Ablation of the P65 Subunit Leads to Improved Bone Quality without Interfering with Bone Healing**
Hongshuai Li*[1], Aiping Lu[1], Nicholas Oyster[1], Ying Tang[1], Bing Wang[1], Johnny Huard[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA
Disclosures: Hongshuai Li, None

SA0412 **Melatonin improves bone mineral density (BMD) at the femoral neck in post-menopausal women with osteopenia: A randomized controlled trial**
Anne-Kristine Amstrup*[1], Tanja Sikjaer[2], Leif Mosekilde[3], Lars Rejnmark[3]. [1]Aarhus University, Denmark, [2]Department of Medicine & Endocrinology, MEA Aarhus University Hospital, Denmark, [3]Aarhus University Hospital, Denmark
Disclosures: Anne-Kristine Amstrup, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA AND HIV

SA0413 **Hepatitis C Co-infection is Associated With Lower Areal and Volumetric BMD and Abnormal Trabecular Microarchitecture in HIV-infected Postmenopausal Minority Women.**
Michael Yin*[1], Chiyuan Zhang[1], Susan Olender[1], David Ferris[2], Mariana Bucovsky[1], Ivelisse Colon[3], Nientara Anderson[2], Cosmina Zeana[4], Elizabeth Shane[5]. [1]Columbia University, USA, [2]Mt Sinai St Lukes & Mt Sinai Roosevelt, USA, [3]Columbia University Medical Center, USA, [4]Bronx Lebanon Hospital Center, USA, [5]Columbia University College of Physicians & Surgeons, USA
Disclosures: Michael Yin, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: DIABETES

SA0414 **Bone Properties in Type 2 Diabetes are Associated with the Advanced Glycation Endproduct Pentosidine**
Dorothy Fink*[1], Jessica Furst[2], Chiyuan Zhang[3], Laura Beth Anderson[3], Hongfeng Jiang[4], Serge Cremers[3], Kyle Nishiyama[3], Hua Zhou[5], David Dempster[3], Atharva Poundarik[6], Shonni Silverberg[3], Deepak Vashishth[7], Mishaela Rubin[3]. [1]NYP-Columbia, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]Columbia University College of Physician & Surgeons, USA, [5]Helen Hayes Hospital, USA, [6]Rensselaer Polytechnic University, USA, [7]Rensselaer Polytechnic Institute, USA
Disclosures: Dorothy Fink, None

SA0415 **Effect of Teriparatide in Patients with Osteoporosis and Type 2 Diabetes Mellitus**
Ann Schwartz*[1], John Krege[2], Jahangir Alam[2], Dara Schuster[2]. [1]University of California, San Francisco, USA, [2]Eli Lilly & Company, USA
Disclosures: Ann Schwartz, Merck, 5

SA0416 **Predictors of mortality subsequent to a fracture in diabetes mellitus patients**
Jakob Linde*[1], Søren Gregersen[1], Peter Vestergaard[2]. [1]Aarhus University Hospital, Denmark, [2]Aalborg University Hospital, Denmark
Disclosures: Jakob Linde, None

SA0417 **The Risk of Hip Fracture Is Increased in Subjects with Late-Onset Autoimmune Diabetes (LADA): Results from the HUNT Study**
Hanne Gulseth*[1], Lisa Forsen[2], Mari Hoff[3], Arnulf Langhammer[4], Siri Forsmo[5], Berit Schei[6], Kristian Midthjell[4], Haakon E. Meyer[2]. [1]MD PHD, Norway, [2]Norwegian Institute of Public Health/University of Oslo, Norway, [3]Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, [4]HUNT Research Centre, Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, [5]Norwegian University of Science & Technology, Norway, [6]Women's Health, Department of Community Medicine, Norwegian University of Science & Technology/Department of Obstetrics & Gynaecology St. Olavs Hospital Trondheim University Hospital, Norway
Disclosures: Hanne Gulseth, None

SA0418 **Type 1 Diabetes Mellitus Effects on Bone: Results of Histomorphometric Analysis**
Laura Armas*, Robert Recker. Creighton University, USA
Disclosures: Laura Armas, None

SA0419 **Type 2 Diabetics with and without Fragility Fractures show characteristic Differences in their Serum MicroRNA Profiles that may be used for Fracture Risk Prediction**
Ursula Heilmeier*[1], Matthias Hackl[2], Susanna Skalicky[2], Janina Patsch[3], Thomas Baum[4], Andrew Burghardt[5], Ann Schwartz[5], Johannes Grillari[6], Thomas Link[5]. [1]University of California San Francisco, USA, [2]TAmiRNA GmbH, Austria, [3]Medical University of Vienna, Austria, [4]Klinikum rechts der Isar, TU Muenchen, Germany, [5]University of California, San Francisco, USA, [6]University of Natural Resources & Life Sciences Vienna, Austria
Disclosures: Ursula Heilmeier, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: OTHER POPULATIONS

SA0420 **HR-pQCT Detects Abnormal Cortical and Trabecular Bone Density and Structure in Young Adults with Cystic Fibrosis**
Kyle Nishiyama*[1], Anna Kepley[1], Fernando Rosete[1], Claire Keating[1], Emily DiMango[1], Elizabeth Shane[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Kyle Nishiyama, None

SA0421 **Network-based Proteomic Analysis for Postmenopausal Osteoporosis in Caucasian Females**
Lan Zhang*, Yingchun Zhao, Hong-Wen Deng. Tulane University, USA
Disclosures: Lan Zhang, None

SA0422 **Osteoporosis Treatment and Chronic Kidney Disease as Measured by Creatinine Clearance and Estimated Glomerular Filtration Rate**
Brian Decker*[1], Ziyue Liu[2], Allison Martin Nguyen[3], Marc Rosenman[1], Joel Martin[4], Katie Allen[4], Siu Lui Hui[1], Erik Imel[1]. [1]Indiana University School of Medicine, USA, [2]Department of Biostatistics, Indiana School of Medicine & Public Health, USA, [3]Merck & Co, USA, [4]Regenstrief Institute, USA
Disclosures: Brian Decker, None

SA0423 **Risk and Prevalence of Vertebral Fractures among Breast Cancer Survivors in China**
Evelyn Hsieh*[1], Qin Wang[2], Renzhi Zhang[2], Chun-Wu Zhou[2], Youlin Qiao[2], Liana Fraenkel[3], Weibo Xia[4], Karl Insogna[5], Jennifer Smith[6], Pin Zhang[2]. [1]Yale School of Medicine, Section of Rheumatology, USA, [2]Cancer Institute & Hospital, Chinese Academy of Medical Sciences, China, [3]Section of Rheumatology, Yale School of Medicine, USA, [4]Peking Union Medical College Hospital, Department of Endocrinology, Chn, [5]Yale University School of Medicine, USA, [6]Gillings School of Public Health, University of North Carolina, USA
Disclosures: Evelyn Hsieh, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: PREMENOPAUSAL WOMEN AND PREGNANCY

SA0424 **Teriparatide (PTH1-34) treatment effectively increases bone mineral density in patients with pregnancy and lactation associated osteoporosis**
JO EUN KIM*[1], Su Jin Lee[2], Sung-Kil Lim[1], Yumie Rhee[3]. [1]Yonsei University College of Medicine, South Korea, [2]Yonsei University Health System, South Korea, [3]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
Disclosures: JO EUN KIM, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

SA0425 **Long-term Changes in Bone Mineral Density in Kidney Transplant Recipients**
Kyla Naylor*[1], Amit Garg[1], Anthony Hodsman[1], David Rush[2], William Leslie[2]. [1]Western University, Canada, [2]University of Manitoba, Canada
Disclosures: Kyla Naylor, None

PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

SA0426 **Withdrawn**

PARACRINE REGULATORS: CYTOKINES AND IMMUNOMODULATORS

SA0427 **Monocyte Chemotactic Protein-1 (MCP-1) is a Key Regulator of Remodeling Activation**
Mark Forwood*[1], Gemma Diessel[1], Andy Wu[2], Wendy Kelly[1], Nigel Morrison[3]. [1]Griffith University, Australia, [2]Mater Medical Research Institute, Australia, [3]Griffith University, Gold Coast Campus, Australia
Disclosures: Mark Forwood, None

SA0428 **sCSF-1 Maintains Cortical Bone Thickness During Aging**
Ramaswamy Sharma*[1], Diane Horn[2], Kathleen Woodruff[2], Jean Jiang[2], Roberto Fajardo[3], Sherry Abboud Werner[2]. [1]University of Texas Health Sciences Center At San Antonio, USA, [2]University of Texas Health Science Center at San Antonio, USA, [3]UT Health Science Center, San Antonio, USA
Disclosures: Ramaswamy Sharma, None

PARACRINE REGULATORS: FIBROBLAST AND INSULIN-LIKE GROWTH FACTORS

SA0429 **IGF Signaling in Periosteal Cells Plays a Crucial Role in Callus Formation and Bone Fracture Repair**
Ping Ye*[1], Timothy Myers[2], Alessandra Esposito[3], Joseph Temple[3], Tieshi Li[1], Helen Willcockson[2], Billie Moats-Staats[4], Lara Longobardi[1], Anna Spagnoli[1]. [1]University of North Carolina at Chapel HIll, USA, [2]University of North Carolina, USA, [3]The University of North Carolina at Chapel Hill, USA, [4]University of North Carolina- Chapel Hill, USA
Disclosures: Ping Ye, None

PARACRINE REGULATORS: RANK, RANKL AND OPG

SA0430 **Stimulating the release of soluble Rankl by osteoblasts is a unique property of PTH**

Timo Heckt*[1], Johannes Keller[2], Athena Chalaris[3], Stefan Rose-John[3], Michael Amling[1], Thorsten Schinke[4]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [3]Biochemical Institute, University of Kiel, Germany, [4]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany

Disclosures: Timo Heckt, None

PARACRINE REGULATORS: WNT SIGNALING

SA0431 **PTH-Stimulated β-Catenin Signaling via PKA in Osteoblasts Is Blocked by a Factor Secreted by Osteoclasts**

Thomas Estus*[1], Shilpa Choudhary[2], Carol Pilbeam[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA

Disclosures: Thomas Estus, None

SA0432 **Wnt Signaling Does Not Affect Inflammatory-driven Bone Resorption in Experimental Periodontal Disease**

Sabrina Garcia Aquino[1], Morgana Rodrigues Guimaraes[1], Ligia Araujo Barbosa[2], Bruna C S Rodrigues[2], Debora Emy Miyazaki Lopes[2], Carlos Rossa*[2]. [1]School of Dentistry at Araraquara-Univ Estadual Paulista (UNESP), Brazil, [2]School of Dentistry at Araraquara - Univ Estadual Paulista (UNESP), Brazil

Disclosures: Carlos Rossa, None

RARE BONE DISEASES: FIBROUS DYSPLASIA

SA0433 **RANKL Inhibition in the Pathogenesis and Treatment of Fibrous Dysplasia**

Andrea Burke*[1], Howard Wang[2], Jeffrey Tsai[3], Nisan Bhattacharyya[4], Alison Boyce[5], Rachel Gafni[1], Andrea Estrada[1], Alfredo Molinolo[4], Pamela Robey[6], Michael Collins[1]. [1]National Institutes of Health, USA, [2]University of Maryland, USA, [3]SUNY Buffalo, USA, [4]NIH, USA, [5]Children's National Medical Center, USA, [6]National Institute of Dental & Craniofacial Research, USA

Disclosures: Andrea Burke, None

RARE BONE DISEASES: HYPOPHOSPHATASIA

SA0434 **Adult Hypophosphatasia: Clinical Presentation and Diagnostic Findings**

Lothar Seefried*[1], Franca Genest[1], Christine Hofmann[2], Sebastian v. d. Assen[1], Maximilian Rudert[1], Franz Jakob[1]. [1]Orthopedic Center for Musculoskeletal Research, Germany, [2]University Childrens Hospital, Germany

Disclosures: Lothar Seefried, None

SA0435 **Enzyme-Replacement Therapy in Life-Threatening Hypophosphatasia: The 3-Year Experience with Asfotase Alfa**

Michael Whyte*[1], Jill H. Simmons[2], Richard E. Lutz[3], Scott Moseley[4], Agustin Melian[4], Tatjana Odrljin[4], Nicholas Bishop[5]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Vanderbilt Children's Hospital, USA, [3]Nebraska Medical Center, USA, [4]Alexion Pharmaceuticals Inc, USA, [5]University of Sheffield, Academic Unit of Child Health, United Kingdom

Disclosures: Michael Whyte, Alexion Pharmaceuticals Inc, 5; Alexion Pharmaceuticals Inc, 2

SA0436 **Hypophosphatasia: Clinical Nosology In Childhood Validated From 25 Years Experience With 174 Pediatric Patients**

Michael Whyte*[1], Fan Zhang[1], William McAlister[2], Deborah Wenkert[3], Karen Mack[1], Marci Benigno[1], Stephen P. Coburn[4], Susan Wagy[1], Donna M. Griffin[1], Karen Erickson[4], Steven Mumm[5]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]Department of Pediatric Radiology, Mallinckrodt Institute of Radiology at St. Louis Children's Hospital, Washington University School of Medicine, USA, [3]Amgen, Inc., USA, [4]Department of Chemistry, Indiana University – Perdue University, USA, [5]Washington University School of Medicine, USA

Disclosures: Michael Whyte, Enobia Pharma Montreal Canada, 5; Enobia Pharma Montreal Canada, 2; Alexion Pharmaceuticals Cheshire CT, USA, 5; Alexion Pharmaceuticals Cheshire CT, USA, 2

SA0437 **Unrecognized Mild Hypophosphatasia in Adults**
Leyre Riancho-Zarrabeitia[1], Mayte García-Unzueta[2], Juan Gomez-Gerique[2], Jose Riancho*[3]. [1]Hospital U.M.Valdecilla, Spain, [2]Hospital U.M. Valdecilla, Spain, [3]University of Cantabria, Spain
Disclosures: Jose Riancho, None

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

SA0438 **Efficiency of whole exome sequencing for determining genetic origins of hypophosphatemic rickets patients without identified PHEX mutations**
Catherine Brownstein*[1], Matthew Bainbridge[2], Meghan Towne[3], Nicholas Marinakis[3], Pankaj Agarwal[3], Alan Beggs[3], David Margulies[3], Gang-Qing Yao[4], Karl Insogna[4], Thomas Carpenter[4]. [1]Boston Children's Hospital & Harvard Medical School, USA, [2]Codified Genomics, USA, [3]Boston Children's Hospital, USA, [4]Yale University School of Medicine, USA
Disclosures: Catherine Brownstein, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

SA0439 **Altered pyrophosphate homeostasis contributes to NF1 hyperosteoidosis and bone fragility.**
Jean De La Croix Ndong*[1], Alexander Makowski[2], Sasidhar Uppuganti[1], Guillaume Vignaux[1], Koichiro Ono[3], Daniel Perrien[4], Simon Joubert[5], Serena R. Baglio[6], donatella granch[6], david A. stevenson[7], Jonathan J. Rios[8], Jeffry Nyman[4], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Department of Veterans Affairs, Vanderbilt University, USA, [3]Center for Bone Biology, USA, [4]Vanderbilt University Medical Center, USA, [5]Alexion Montreal Corp, Canada, [6]Laboratorio di Fisiopatologia Ortopedica e Medicina Rigenerativa, Istituto Ortopedico Rizzoli Via di Barbiano 1/10, Italy, [7]Department of Pediatrics, Division of Medical Genetics, University of Utah, USA, [8]Sarah M. & Charles E. Seay Center for Musculoskeletal Research, Texas Scottish Rite Hospital for Children, USA
Disclosures: Jean De La Croix Ndong, None

SA0440 **Challenges in localizing the tumor in tumor-induced osteomalacia with whole body venous sampling**
Su Jin Lee*[1], Sung-Kil Lim[2], Yumie Rhee[3]. [1]Yonsei University Health System, South Korea, [2]Yonsei University College of Medicine, South Korea, [3]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
Disclosures: Su Jin Lee, None

SA0441 **Clinical Characterization of a Cohort of Patients with Familial Tumoral Calcinosis**
Mary Ramnitz*[1], Pravitt Gourh[1], Jaydira Del Rivero[1], Diana Ovejero[1], Nisan Bhattacharyya[1], Lori Guthrie[1], Raphaela Goldbach-Mansky[1], Felasfa Wodajo[2], Shoji Ichikawa[3], Erik Imel[3], Michael Econs[4], Kenneth White[3], Brian Kirmse[5], Adele Boskey[6], Alfredo Molinolo[1], Rachel Gafni[1], Michael Collins[1]. [1]National Institutes of Health, USA, [2]Virginia Hospital Center, USA, [3]Indiana University School of Medicine, USA, [4]Indiana University, USA, [5]Children's National Medical Center, USA, [6]Hospital for Special Surgery, USA
Disclosures: Mary Ramnitz, None

SA0442 **Loss of ERK1 and ERK2 in osteochondro progenitor cells causes metachondromatosis by enhancing chondrogenesis**
Zhijun Chen*[1], Susan X. Yue[2], Guang Zhou[1], Edward Greenfield[1], Shunichi Murakami[1]. [1]Case Western Reserve University, USA, [2]Department of Orthopaedics, Case Western Reserve University, USA
Disclosures: Zhijun Chen, None

SA0443 **Measurement of autoantibodies against osteoprotegerin in adult human serum: Development of a novel ELISA assay.**
Isabelle Piec*[1], Jonathan Tang[2], Christopher Washbourne[3], Emily Fisher[3], Julie Greeves[4], Sarah Jackson[5], Stuart Ralston[6], Philip Riches[7], William Fraser[3]. [1]BioAnalytical Facility, University of East Anglia, United Kingdom, [2]University of East Anglia, Norwich, UK, United Kingdom, [3]University of East Anglia, United Kingdom, [4]HQ Army Recruiting & Training Division, United Kingdom, [5]MOD, United Kingdom, [6]University of Edinburgh, United Kingdom, [7]Rheumatoic Disease Unit, Institute of Genetics & Molecular Medecine, United Kingdom
Disclosures: Isabelle Piec, None

SA0444 **Serum Levels of Amino-terminal Propeptide of C-type Natriuretic Peptide may Predict Growth Response to Growth Hormone Treatment in Patients with Achondroplasia/ hypochondroplasia**

Takuo Kubota*[1], Kohji Miura[2], Wei Wang[2], Keiko Yamamoto[2], Makoto Fujiwara[2], Yasuhisa Ohata[2], Makiko Tachibana[2], Taichi Kitaoka[2], Yoko Miyoshi[2], Noriyuki Namba[2], Keiichi Ozono[2]. [1]Osaka University Graduate School of Medicine & Dentistry, Japan, [2]Osaka University Graduate School of Medicine, Japan

Disclosures: Takuo Kubota, None

SARCOPENIA, MUSCLE AND BONE (CLINICAL): GENERAL

SA0445 **Assessment of physical performance in patients with a recent clinical fracture at the Fracture Liaison Service**

Lisanne Vranken*[1], Caroline Wyers[2], Kenneth Meijer[3], Robert Van Der Velde[4], Heinrich Janzing[5], Wim Morrenhof[6], Piet Geusens[7], Joop Van Den Bergh[8]. [1]VieCuri Medical Centre, The Netherlands, [2]Maastricht University, The Netherlands, [3]Department of Human Movement Sciences, NUTRIM, Maastricht University, Netherlands, [4]VieCuri Medical Center Venlo, the Netherlands, The Netherlands, [5]VieCuri Medical Centre, Department of Surgery, Netherlands, [6]VieCuri Medical Centre, Department of Orthopedic Surgery, Netherlands, [7]University Hasselt, Belgium, [8]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands

Disclosures: Lisanne Vranken, None

SA0446 **Fall risk assessment using body composition, muscle strength and physical performance 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

SA0447 **Gender and Race Disparities in Body Composition: an Analysis of National Health and Nutrition Examination Survey (NHANES) Data**

Didier Chalhoub*[1], Hussein Abu Daya[2], Robert Boudreau[1], Jane Cauley[3]. [1]University of Pittsburgh, USA, [2]University of Pittsburgh Medical Center (UPMC), USA, [3]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Didier Chalhoub, None

SA0448 **Increased peripheral vascular flow and aortic stiffness are associated with higher lean mass but lower muscle quality in middle-aged and older adults: the Framingham Heart Study**

Shivani Sahni*[1], Na Wang[2], Alyssa Dufour[3], Douglas Kiel[3], Emelia Benjamin[4], Joanne Murabito[5], Joseph Vita[6], Marian Hannan[7], Paul Jacques[8], Robert McLean[9], Roger Fielding[10], Vasan Ramachandran[11], Gary Mitchell[12], Naomi Hamburg[6]. [1]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [2]Boston University School of Public Health, USA, [3]Hebrew SeniorLife, USA, [4]Framingham Heart Study, Boston University School of Public Health, Boston University School of Medicine, USA, [5]Framingham Heart Study & Boston University School of Medicine, USA, [6]Boston University School of Medicine, USA, [7]HSL Institute for Aging Research & Harvard Medical School, USA, [8]Jean Mayer USDA HNRCA, Tufts University, USA, [9]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [10]Jean Mayer USDA HNRCA At Tufts University, USA, [11]Framingham Heart Study, Boston University School of Medicine, USA, [12]Cardiovascular Engineering, Inc., USA

Disclosures: Shivani Sahni, Unrestricted research grants from General Mills Bell Institute of Health and Nutrition, 2

SA0449 **Long-term bisphosphonate users have relatively lower skeletal muscle mass around the femur with increased serum pentosidine concentrations**

Shigeharu Uchiyama*[1], Shota Ikegami[2], Keijiro Mukaiyama[2], Yukio Nakamura[3], Mikio Kamimura[4], Hiroyuki Kato[2]. [1]Shinshu University, School of Medicine, Japan, [2]Department of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [3]Dept of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [4]Kamimura Clinic, Japan

Disclosures: Shigeharu Uchiyama, None

SA0450 **Muscle, Fat and Bone tissues in Patients with Hip Fracture**

Mª José Montoya*[1], Mercè Giner[2], Mª Angeles Vázquez[3], Marta Rey[4], Aurora Gil-Bernal[3], David García-Romero[3], Mª Carmen Cañamero[5], Presentación Zambrano[5], Ramón Pérez-Cano[6]. [1]University of Seville, Spain, [2]Bone Metabolism Unit, Internal Medicine, "Virgen Macarena" University Hospital, Spain, [3]Medicine Department, University of Seville, Spain, [4]Viamed Sta. Angela de la Cruz Hospital, Spain, [5]Traumatology & Orthopaedic Unit, "Virgen Macarena" University Hospital, Spain, [6]Bone Metabolism Unit, Internal Medicine, "Virgen Macarena" University Hospital / Medicine Department, University of Seville, Spain

Disclosures: Ma José Montoya, None

SA0451 **Novel Mass Spectrometry Measurements of Circulating Myostatin Levels in Relation to Sarcopenia, Lean Mass and Bone Parameters in Women and Men**

Joshua Farr*[1], Patrick Vanderboom[1], H. Robert Bergen[1], Sundeep Khosla[2], Nathan LeBrasseur[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Joshua Farr, None

SA0452 **Precision and Monitoring Time Intervals for Muscle Area and Density in Older Adults: A Comparison of Stratec and BoneJ Analyses**

Andrew Frank*[1], Wojciech Olszynski[2], Saija Kontulainen[1]. [1]University of Saskatchewan, Canada, [2]Saskatoon Osteoporosis & Arthritis Infusion Centre, Canada

Disclosures: Andrew Frank, None

SA0453 **Relationship of Muscle Function and Mass with the Health Assessment Questionnaire**

Bjoern Buehring*[1], Sheeva Marvdashti[2], Christina C Lemon[2], Kaitlin R Chambers[2], Erin Johnson[2], Karen Hansen[3]. [1]University of Wisconsin, Madison, USA, [2]Department of Medicine, University of Wisconsin School of Medicine & Public Health, USA, [3]University of Wisconsin, USA

Disclosures: Bjoern Buehring, None

SA0454 **Serological peptide biomarkers derived from intramuscular connective tissue collagens are biomarkers of muscle mass**

Anders Nedergaard*[1], Ulrik Dalgas[2], Hanne Primdahl[3], Jørgen Johansen[4], Jens Overgaard[5], Kristian Overgaard[2], Kim Henriksen[6], Simon Lønbro[2]. [1]Nordic Bioscience, Denmark, [2]Department of Public Health - Sport Science, Aarhus University, Denmark, [3]Department of Clinical Medicine - The Department of Oncology, Denmark, [4]Department of Oncology, Odense University Hospital, Denmark, [5]Dept. Experimental Clinicall Oncology, Aarhus University Hospital, Denmark, [6]Nordic Bioscience A/S, Denmark

Disclosures: Anders Nedergaard, None

SA0455 **ASBMR 2014 Annual Meeting Young Investigator Award**
Simple Functional Tests Predict Hip Fracture and Mortality in Postmenopausal Women; A 15 – Year Follow-Up

Toni Rikkonen*[1], Kenneth Poole[2], Joonas Sirola[3], Reijo Sund[4], Risto Honkanen[5], Heikki Kroger[6]. [1]Finland, [2]University of Cambridge, United Kingdom, [3]University of Eastern Finland / Kuopio, Finland, [4]University of Helsinki, Finland, [5]University of Eastern Finland, Finland, [6]Kuopio University Hospital, Finland

Disclosures: Toni Rikkonen, None

SA0456 **The effect of acute exercise on undercarboxylated osteocalcin and insulin sensitivity in obese men**

Itamar Levinger*[1], George Jerums[2], Nigel Stepto[3], Lewan Parker[3], Fabio Serpiello[3], Glenn McConell[3], Mitchell Anderson[3], David Hare[2], Elizabeth Byrnes[4], Peter Ebeling[5], Ego Seeman[6]. [1]Victoria University, Australia, [2]Austin Health, Australia, [3]Institute of Sport, Exercise & Active Living (ISEAL), Victoria University, Australia, [4]PathWest QEII Medical Centre, Australia, [5]Department of Medicine, School of Clinical Sciences, Monash University, Australia, [6]Austin Health, University of Melbourne, Australia

Disclosures: Itamar Levinger, None

SA0457 Caloric Restriction and the Adipokine Leptin alter the SDF-1 signaling axis and autophagy in Bone and MSCs

Sudharsan Periyasamy-Thandavan*[1], Samuel Herberg[2], Phonepasong Arounleut[3], Sunil Upadhyay[4], Amy Dukes[4], Colleen Davis[4], Maribeth Johnson[4], Mark Hamrick[5], Carlos Isales[4], William Hill[6]. [1]Georgia Regents University & Charlie Norwood VAMC, USA, [2]Case Western Reserve University, USA, [3]Georgia Regents University (formally Georgia Health Sciences University), USA, [4]Georgia Regents University, USA, [5]Georgia Health Sciences University, USA, [6]Georgia Regents University & Charlie Norwood VAMC, USA

Disclosures: Sudharsan Periyasamy-Thandavan, None

SA0458 Aged-related Bone Loss (Osteopenia) in Old Male Mice Results From Diminished Activity and Availability of TGF-b and WNT Signaling

Shen-chin Hsu[1], I-HUI SHU[2], Shanshan shi*[3], Hsin-chu Ho[4], Tzong-Jen Sheu[3], Wei Hsu[5], J. Edward Puzas[6]. [1]Chung Shan Medical University Hospital Dept of Pharmacy, Taiwan, [2]Fanglio General Hospital, Taiwan, [3]University of Rochester, USA, [4]Wan-Chuan Clinics, Fangliao General Hospital, Taiwan, [5]University of Rochester Medical Center, USA, [6]University of Rochester School of Medicine, USA

Disclosures: Shanshan shi, None

SA0459 Aromatic Amino Acids Ameliorate Ovariectomy Induced Bone Loss

Kehong Ding*[1], Aleena Lakhanpal[1], Qing Zhong[1], Wendy Bollag[1], Jianrui Xu[1], William Hill[2], Xing-Ming Shi[1], Mona El Refaey[1], Monte Hunter[1], Mark Hamrick[3], Carlos Isales[1]. [1]Georgia Regents University, USA, [2]Georgia Regents University & Charlie Norwood VAMC, USA, [3]Georgia Health Sciences University, USA

Disclosures: Kehong Ding, None

SA0460 Effects of aging on bone turnover markers and bone density regulating hormones in cynomolgus monkeys

Rana Samadfam*, Susan Y. Smith. Charles River Laboratories, Canada

Disclosures: Rana Samadfam, Charles River, 3

SA0461 Hdac3 regulates osteoblastic glucocorticoid and lipid metabolism during aging

Meghan McGee-Lawrence*[1], Lomeli Carpio[1], Ryan Schulze[1], Mark McNiven[1], Sundeep Khosla[2], Merry Jo Oursler[1], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

Disclosures: Meghan McGee-Lawrence, None

SA0462 Loss of Progranulin Increases Bone Mass in Adult Mice in a Gender Dependent Manner

Liping Wang*[1], Theresa M. Roth[2], Thi A. Nguyen[3], Ping Zhou[3], Jiasheng Zhang[4], Mary Nakamura[5], Eric J. Huang[6], Robert V. Farese Jr.[7], Robert Nissenson[8]. [1]VA Medical Center, San Francisco, USA, [2]Endocrine Unit, VA Medical Center, USA, [3]Gladstone Institute of Cardiovascular Disease, USA, [4]Pathology, University of California, USA, [5]University of California, San Francisco/San Francisco VA Medical Center, USA, [6]Pathology, University of California / Pathology Service, VA Medical Center, USA, [7]Gladstone Institute of Cardiovascular Disease / Medicine & Biochemistry & Biophysics, University of California, USA, [8]VA Medical Center & University of California, San Francisco, USA

Disclosures: Liping Wang, None

SA0463 Nox2-dependent ROS signaling protects against skeletal ageing

Jin-Ran Chen*[1], Oxana P. Lazarenko[2], Kelly Mercer[3], Michael L. Blackburn[3], Thomas M. Badger[3], Martin J. J. Ronis[4]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]Arkansas Children's Nutrition Center & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [3]Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [4]Arkansas Children's Nutrition Center, USA

Disclosures: Jin-Ran Chen, None

SA0464 **Sirtuin1 increases ATP production, Wnt signaling, osteoblastogenesis, and bone mass in mice via a FoxO-mediated mechanism**

Srividhya Iyer*[1], Li Han[1], Shoshana Bartell[1], Ha-Neui Kim[2], Aaron Warren[3], Julie Crawford[4], Igor Gubrij[5], Charles O'Brien[1], Stavros Manolagas[1], Maria Jose Almeida[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]Univ. Arkansas for Medical Sciences, Central Arkansas VA Healthcare System, USA, [3]University of Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, [4]University of Arkansas for Medical Sciences, USA, [5]Central Arkansas Veterans Healthcare System, Division of Pulmonary & Critical Care, University of Arkansas for Medical Sciences, USA

Disclosures: Srividhya Iyer, None

SKELETAL AGING: FRAILTY AND SARCOPENIA

SA0465 **Hip Fracture And Sarcopenia: A Model Of Osteoporosis-Related Muscle failure**

Umberto Tarantino*[1], Jacopo Baldi[2], Eleonora Piccirilli[2], Maurizio Feola[2], Cecilia Rao[2], Elena Gasbarra[2]. [1]Università degli Studi di Roma Tor Vergata, Italy, [2]Università degli Studi di Roma "Tor Vergata", Italy

Disclosures: Umberto Tarantino, None

SA0466 **Testosterone and its derivatives for the treatment of Sarcopenia in elderly males: A systematic review and Meta-analysis**

Sara Mursleen*[1], Sultan Alamri[2], Alexandra Papaioannou[3]. [1]McMaster University, Canada, [2]King Abdulaziz University, Saudi Arabia, [3]Hamilton Health Sciences, Canada

Disclosures: Sara Mursleen, None

SKELETAL DEVELOPMENT: BONE MODELING

SA0467 ***Asxl1*loss alters histone methylation status, leading to skeletal deficits**

Feng-Chun Yang*[1], Peng Zhang[2], Zhaomin Li[1], Yongzheng He[1], Lihn Nguyen[1], Jiapeng Wang[1], Khalid S. Mohammad[1], Theresa A. Guise[1], Mingjiang Xu[3]. [1]Indiana University, USA, [2]Indiana Univeristy, USA, [3]Indiana University School of Medicine, USA

Disclosures: Feng-Chun Yang, None

SA0468 **Dissociation of cortical and trabecular bone parameters in mice with conditional deletion of Solute carrier family 4 (anion exchanger), member 2 (SLC4A2) in mesenchymal cells**

William O'Brien*[1], Julia Charles[2], Kelly Tsang[1], Kenichi Nagano[3], Gary Shull[4], Roland Baron[5], Antonios Aliprantis[1]. [1]Brigham & Women's Hospital, USA, [2]Brigham & Women's Hospital & Harvard School of Medicine, USA, [3]Harvard School of Dental Medicine, USA, [4]University of Cincinnati College of Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA

Disclosures: William O'Brien, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

SA0469 ***Dullard/Ctdnep1* regulates endochondral ossification via suppression of 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

SA0470 **ASBMR 2014 Annual Meeting Young Investigator Award**
Challenging the dogma of BMP canonical signaling in the absence of Smad4

Diana Rigueur*[1], Karen Lyons[2]. [1]Graduate Student, USA, [2]University of California, Los Angeles, USA

Disclosures: Diana Rigueur, None

SA0471 **Contrasting Skeletal and Molecular Phenotypes in Mice Lacking Prolyl Hydroxylase Domain-containing Protein 2 (PHD2) Gene in Chondrocytes Versus Osteoblasts**
Shaohong Cheng*[1], Weirong Xing[2], Sheila Pourteymoor[3], Subburaman Mohan[4], Jan Schulte[3], Bo Liu[3]. [1]VA Loma Linda Health Care Systems, USA, [2]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [3]Musculoskeletal Disease Center, Jerry L Pettis VA Medical Center, USA, [4]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Shaohong Cheng, None

SA0472 **FGFR Inhibition Partially Corrects Size Abnormalities in *Nf1$_{Col2}^{-/-}$* Mice**
Matthew Karolak*, Xiangli Yang, Florent Elefteriou. Vanderbilt University, USA
Disclosures: Matthew Karolak, None

SA0473 **IGF-I Signaling in Osterix-expressing Cells Is Required for Secondary Ossification Center Formation during Postnatal Bone Development**
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/Veterans Affairs Medical Center, USA, [3]Endocrine Unit, University of California San Francisco/Veterans Affairs Medical Center, USA, [4]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Yongmei Wang, None

SA0474 **RECQL4 regulates p53 function *in vivo* during skeletogenesis**
Linchao Lu*[1], Karine Harutyunyan[2], Weidong Jin[1], Jianhong Wu[1], Tao Yang[3], Yuqing Chen[1], Kyu Sang Joeng[1], Yangjin Bae[1], Jianning Tao[1], Brian Dawson[1], Ming-Ming Jiang[1], Brendan Lee[1], Lisa Wang[1]. [1]Baylor College of Medicine, USA, [2]University of Texas M. D. Anderson Cancer Center, USA, [3]Van Andel Research Institute, USA
Disclosures: Linchao Lu, None

SA0475 **Rotopol and MicroCT Imaging in the Regenerating Zebrafish Fin for BMD Therapeutic Discovery**
Ronald Kwon*, Anthony Recidoro, Werner Kaminsky. University of Washington, USA
Disclosures: Ronald Kwon, None

SA0476 **The homeoboxgene *DLX4* promotes generation of human induced pluripotent stem cells.**
Naritaka Tamaoki*[1], Kazutoshi Takahashi[2], Hitomi Aoki[3], Kazuki Iida[1], Tomoko Kawaguchi[1], Daijirou Hatakeyama[1], Masatoshi Inden[4], Naoyuki Chosa[5], Akira Ishisaki[5], Takahiro Kunisada[3], Toshiyuki Shibata[1], Naoki Goshima[6], Shinya Yamanaka[2], Ken-Ichi Tezuka[7]. [1]Department of Oral & Maxillofacial Science, Gifu University Graduate School of Medicine, Japan, [2]Center for iPS Cell Research & Application, Japan, [3]Department of Tissue & Organ Development, Gifu University Graduate School of Medicine, Japan, [4]Laboratory of Medical Therapeutics & Molecular Therapeutics, Gifu Pharmaceutical Universit, Japan, [5]Division of Cellular Biosignal Sciences, Department of Biochemistry, Iwate Medical University, Japan, [6]Biomedicinal Information Research Center, National Institute of Advanced Industrial Science & Technology, Japan, [7]Gifu University Graduate School of Medicine, Japan
Disclosures: Naritaka Tamaoki, None

SA0477 **Use of Quantitative Micro-computed Tomography for Assessment of Skeletal Growth and Whole-body Composition in Mice**
Kim Beaucage*, Steven I. Pollmann, Stephen M. Sims, S. Jeffrey Dixon, David Holdsworth. The University of Western Ontario, Canada
Disclosures: Kim Beaucage, None

SA0478 **Znf9 plays an indispensable role in skeletal development by upregulating the expression of Indian hedgehog (Ihh) and multiple limb development regulator genes**
Yun Lu*[1], Guiqian Chen[2], Wei Chen[2], Guochun Zhu[3], Yi-Ping Li[2]. [1]USA, [2]University of Alabama at Birmingham, USA, [3]The University of Alabama at Birmingham, USA
Disclosures: Yun Lu, None

CONCURRENT ORAL SESSION: GREG MUNDY MEMORIAL SESSION: BONE AND CANCER

2:30 pm - 4:00 pm **George R. Brown Convention Center**
Grand Ballroom A

Moderators:
Julie Sterling, M.D., Ph.D.
Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Julie Sterling, None

G. David Roodman, M.D., Ph.D.
Indiana University, USA
Disclosures: G. David Roodman, None

2:30 pm 1033 **ERRalpha, a pro-Bone metastatic factor : Implication in metastatic Niche and prostate Cancer Stem Cells phenotype**
Mathilde Bouchet[1], Anais Fradet[1], Carine Delliaux[2], Lamia Bouazza[1], Francesco Pantano[1], Xavier Leroy[3], Akeila Bellahcene[4], Vincent Castonovo[4], Philippe A.R. Clezardin[5], Martine Duterque-Coquillaud[2], Edith Bonnelye*[6]. [1]INSERM1033, France, [2]CNRS UMR8161, France, [3]Institut de Pathologie-Centre de Biologie-Pathologie, France, [4]University of Liege, Belgium, [5]INSERM & University of Lyon, France, [6]Faculte de Medecine RTH Laennec, France
Disclosures: Edith Bonnelye, None

2:45 pm 1034 **ASBMR 2014 Annual Meeting Young Investigator Award**
WNT5A Inhibits Skeletal Metastases of Prostate Cancer in Mice and Is Associated with a Longer Patient Survival
Stefanie Thiele*[1], Andy Göbel[2], Sandra Hippauf[2], Tilman D. Rachner[2], Michael Muders[2], Susanne Fuessel[2], Ricardo Bernhardt[3], Franz Jakob[4], Martina Rauner[5], Lorenz Hofbauer[6]. [1]Germany, [2]Uniklinikum Dresden, Germany, [3]Technische Universität Dresden, Germany, [4]University of Würzburg, Germany, [5]Medical Faculty of the TU Dresden, Germany, [6]Dresden University Medical Center, Germany
Disclosures: Stefanie Thiele, None

3:00 pm 1035 **Modeling osteogenic sarcoma: insight into tumor initiation and progression**
Jianning Tao*, Brendan Lee. Baylor College of Medicine, USA
Disclosures: Jianning Tao, None

3:15 pm 1036 **Runx2 Phosphorylation Increases Migration and Invasive Activity of Prostate Cancer Cells and is Associated with Metastatic Disease**
Chunxi Ge*[1], Guisheng Zhao[2], Xiang Zhao[3], Yan Li[4], Hui Li[4], Binbin Li[4], Giuseppe Pannone[5], Pantaleo Bufo[5], Angela Santoro[5], Francesca Sanguedolce[5], Simona Tortorella[5], Marilena Mattoni[5], Silvana Papagerakis[6], Evan Keller[4], Renny Franceschi[4]. [1]Pom Univ of Michigan School of Dentistry, USA, [2]University of Michigan School of Dentistry, USA, [3]University of Michigan, School of Dentistry, USA, [4]University of Michigan, USA, [5]University of Foggia, Italy, [6]University of Michigan School of Medicine, USA
Disclosures: Chunxi Ge, None

3:30 pm 1037 **Micro-RNA-mediated Targeting of Runx2 Reduces Breast Cancer Metastasis and Progression of Osteolytic Disease**
Hanna Taipaleenmaki*[1], Gillian Browne[2], Jacqueline Akech[3], Andre Van Wijnen[4], Janet Stein[5], Eric Hesse[6], Gary Stein[7], Jane Lian[8]. [1]University Medica Center Hamburg-Eppendorf, Germany, [2]Department of Biochemistry & Vermont Cancer Center, University of Vermont College of Medicine, USA, [3]University of Massachusetts Medical School, USA, [4]Mayo Clinic, USA, [5]Vermont Cancer Center, University of Vermont College of Medicine, USA, [6]University Medical Center Hamburg-Eppendorf, Deu, [7]University of Vermont, College of Medicine, USA, [8]University of Vermont College of Medicine, USA
Disclosures: Hanna Taipaleenmaki, None

3:45 pm 1038 **Intravital 2-photon imaging reveals tumour-associated macrophages as the cellular targets underlying the anti-tumour activity of bisphosphonates in vivo**
Michael J Rogers*[1], Simon Junankar[1], Charles E McKenna[2], Shuting Sun[2], Tri Giang Phan[1]. [1]Garvan Institute of Medical Research, Australia, [2]University of Southern California, USA
Disclosures: Michael J Rogers, None

CONCURRENT ORALS: IMMUNE SYSTEM AND BONE

2:30 pm - 4:00 pm **George R. Brown Convention Center**

Room 320

Moderators:
Roberta Faccio, Ph.D.
Washington University in St Louis School of Medicine, USA
Disclosures: Roberta Faccio, None

2:30 pm 1039 **Reduced Cortical Bone Mass in Mice with B Lymphocyte-Specific Androgen Receptor Inactivation**
Jianyao Wu[1], Anna Borjesson[2], Anna Wilhelmson[3], Åsa Tivesten[3], Sofia Moverare Skrtic*[4], Claes Ohlsson[4]. [1]Sahlgrenska Academy, University of Gothenburg, Sweden, [2]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, [3]Wallenberg Laboratory for Cardiovascular & Metabolic Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden
Disclosures: Sofia Moverare Skrtic, None

2:45 pm 1040 **T cell expression of CD40L potentiates the bone anabolic activity of PTH by promoting osteoblastogenesis and bone formation**
Jerid Robinson*[1], Jau-Yi Li[2], Abdul Malik[2], Michael Reott[2], Lindsey Walker[1], Jonathan Adams[1], M. Neale Weitzmann[2], Roberto Pacifici[2]. [1]Emory University, USA, [2]Emory University School of Medicine, USA
Disclosures: Jerid Robinson, None

3:00 pm 1041 **Continuous PTH Treatment Induces Bone Loss through T Cells Produced IL17**
Jau-Yi Li*[1], Lindsey Walker[2], Abdul Malik[1], Michael Reott[1], Jonathan Adams[1], M. Neale Weitzmann[1], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory University, USA
Disclosures: Jau-Yi Li, None

3:15 pm 1042 **ASBMR 2014 Annual Meeting Young Investigator Award**
Tmem178 modulates bone homeostasis via a novel negative feedback loop targeting endoplasmic reticulum Ca^{2+} mobilization in osteoclasts
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

3:30 pm 1043 **ASBMR 2014 Annual Meeting Young Investigator Award**
Inflammation-Induced Hypercytokinemia and Myeloproliferation Underlie Osteopenia in Scurfy Mice; the Animal Model For Heritable Autoimmune Disease IPEX
Yousef Abu-Amer[1], Tim Hung-Po Chen*[2], Gaurav Swarnkar[2], Gabriel Mbalaviele[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Tim Hung-Po Chen, None

3:45 pm 1044 **PARP1 is a Potent Negative Regulator of Bone Resorption**
Chao Qu*[1], Samer Abu-Amer[2], Susan Grimston[3], Sheri Bonar[4], Jacqueline Kading[2], Gaurav Swarnkar[2], Monika Fey[5], Michael Hottiger[5], Yousef Abu-Amer[3], Roberto Civitelli[3], Gabriel Mbalaviele[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, [4]Washington University in St. Louis, USA, [5]University of Zurich, Switzerland
Disclosures: Chao Qu, None

CONCURRENT ORALS: OSTEOPOROSIS TREATMENT

2:30 pm - 4:00 pm **George R. Brown Convention Center**
Grand Ballroom BC

Moderators:
Roland Chapurlat, M.D., Ph.D.
E. Herriot Hospital, France
Disclosures: Roland Chapurlat, None

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

2:30 pm **ASBMR 2014 Most Outstanding Clinical Abstract Award**
1045 **Bisphosphonate Drug Holiday and Fracture Risk**
Annette Adams*[1], John Adams[2], Marsha Raebel[3], Beth Tang[2], Jennifer Kuntz[4], Vinutha Vijayadeva[5], Elizabeth McGlynn[2], Wendolyn Gozansky[3]. [1]Kaiser Permanente Southern California, USA, [2]Kaiser Permanente Center for Effectiveness & Safety Research, USA, [3]Kaiser Permanente Colorado, USA, [4]Kaiser Permanente Northwest, USA, [5]Kaiser Permanente Hawaii, USA
Disclosures: Annette Adams, Amgen, Inc., 2

2:45 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1046 **Effects of Two Years of Teriparatide, Denosumab and Combination Therapy on Peripheral Bone Density and Microarchitecture: The DATA-HRpQCT Extension study**
Joy Tsai*[1], Alexander Uihlein[2], Sherri-Ann Burnett-Bowie[1], Robert Neer[1], Yuli Zhu[3], Nicholas Derrico[3], Katelyn Foley[3], Hang Lee[4], Mary Bouxsein[5], Benjamin Leder[6]. [1]Massachusetts General Hospital, USA, [2]Northwestern Memorial Faculty Foundation, USA, [3]Massachusetts General Hospital, Endocrine Unit, USA, [4]Massachusetts General Hospital, Biostatistics Center, USA, [5]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [6]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Joy Tsai, None

3:00 pm **Denosumab Restores Cortical Bone Loss at the Distal Radius Associated With Aging and**
1047 **Reduces Wrist Fracture Risk: Analyses From the FREEDOM Extension Cross-over Group**
John P. Bilezikian*[1], Claude Laurent Benhamou[2], Celia J.F. Lin[3], Jacques P. Brown[4], Nadia S. Daizadeh[3], Peter R. Ebeling[5], Astrid Fahrleitner-Pammer[6], Edward Franek[7], Nigel Gilchrist[8], Paul D. Miller[9], James A. Simon[10], Ivo Valter[11], Cristiano A.F. Zerbini[12], Cesar Libanati[3]. [1]Columbia University, USA, [2]Orléans Hospital, France, [3]Amgen Inc., USA, [4]CHU de Québec Research Centre, Canada, [5]The University of Melbourne, Australia, [6]Medical University, Austria, [7]Medical Research Center Polish Academy of Sciences, Poland, [8]The Princess Margaret Hospital, New Zealand, [9]Colorado Center for Bone Research, USA, [10]George Washington University, USA, [11]CCBR, Estonia, [12]Centro Paulista de Investigação Clinica, Brazil
Disclosures: John P. Bilezikian, Elsevier Press, 7; Columbia University, 3; Amgen, NIH, NPS, 2; Amgen, Johnson & Johnson, Lilly, Merck, NPS, 5

3:15 pm **Teraparatide Stimulates Bone Formation Rapidly in the Human Femoral Neck**
1048 Felicia Cosman*[1], David Dempster[2], Jeri Nieves[3], Hua Zhou[1], Marsha Zion[1], Catherine Roimisher[1], Yvonne Houle[4], Robert Lindsay[1], Mathias Bostrom[4]. [1]Helen Hayes Hospital, USA, [2]Columbia University, USA, [3]Columbia University & Helen Hayes Hospital, USA, [4]Hospital for Special Surgery, USA
Disclosures: Felicia Cosman, Amgen, Lilly, Merck, 2; Lilly, Amgen, 8; Lilly, Amgen, Merck, Pfizer, 5

3:30 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1049 **Romosozumab and Teriparatide Effects on Vertebral Cortical Mass, Thickness, and Density in Postmenopausal Women With Low Bone Mineral Density (BMD)**
Tristan Whitmarsh*[1], Graham Treece[1], Andrew Gee[1], Michael Bolognese[2], Jacques P. Brown[3], Stefan Goemaere[4], Andreas Grauer[5], David Hanley[6], Carlos Mautalen[7], Christopher Recknor[8], Yu-Ching Yang[5], Cesar Libanati[5], Kenneth Poole[1]. [1]University of Cambridge, United Kingdom, [2]Bethesda Health Research Center, USA, [3]CHU de Québec Research Centre, Canada, [4]Ghent University Hospital, Belgium, [5]Amgen Inc., USA, [6]University of Calgary, Canada, [7]Centro de Osteopatías Médicas, Argentina, [8]United Osteoporosis Center, USA
Disclosures: Tristan Whitmarsh, Amgen, Eli Lilly and Co., 2

3:45 pm **The Long Term Effects Of Abaloparatide (BA058) On Micro-CT and Histomorphometry in**
1050 **Osteopenic Cynomolgus Monkeys**
Aurore Varela*[1], Solomon Haile[2], Nancy Doyle[2], Susan Y. Smith[1], Robert Guldberg[3], Gary Hattersley[4]. [1]Charles River Laboratories, Canada, [2]Charles River, Canada, [3]School of Mechanical Engineering, Georgia Institute of Technology, USA, [4]Radius, USA
Disclosures: Aurore Varela, Charles River, 3

CONCURRENT ORALS: SIGNALING PATHWAYS IN SKELETAL DEVELOPMENT

2:30 pm - 4:00 pm **George R. Brown Convention Center**
Room 310

Moderators:
Matthew Hilton, Ph.D.
Duke University Musculoskeletal Research Center, USA
Disclosures: Matthew Hilton, None

2:30 pm **Heterozygous deletion of Wntless in the osteoclast lineage causes osteopenia demonstrating**
1051 **that osteoclasts are a critical source of Wnt proteins in the developing skeleton**
Megan Weivoda*[1], Ming Ruan[1], Christine Hachfeld[1], Larry Pederson[1], Rachel Davey[2], Jeffrey Zajac[3], Jean Vacher[4], Richard Lang[5], Bart Williams[6], Sundeep Khosla[7], Jennifer Westendorf[1], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]University of Melbourne, Australia, [3]Austin Hospital, Australia, [4]Institut De Recherches Cliniques De Montréal, Canada, [5]Cincinnati Children's Hospital Medical Center, USA, [6]Van Andel Research Institute, USA, [7]Mayo Clinic College of Medicine, USA
Disclosures: Megan Weivoda, None

2:45 pm **Deletion of LRP6 in Different Stages of Osteoblastic Lineage of Cells Impairs Bone**
1052 **Formation at Different Postnatal Stages**
Changjun Li*[1], Hui Xie[2], Janet Crane[3], Xu Cao[3], Mei Wan[1]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins Medical Institution, USA, [3]Johns Hopkins University, USA
Disclosures: Changjun Li, None

3:00 pm **Hedgehog Induces Osteoblast Differentiation through IGF-mTORC2 Signaling**
1053 Yu Shi*[1], Jianquan Chen[2], Courtney Karner[3], Fanxin Long[3]. [1]Washington University in St. Louis, USA, [2]Washington University, USA, [3]Washington University School Of Medicine, USA
Disclosures: Yu Shi, None

3:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1054 **BMP-Alk3 signaling exerts opposite effects on trabecular versus cortical bone formation in postnatal mice**
Joohyun Lim*[1], Fanxin Long[2]. [1]Washington University in St. Louis, USA, [2]Washington University School of Medicine, USA
Disclosures: Joohyun Lim, None

3:30 pm **TGIF Is Required for Canonical Wnt Signaling-induced Bone Formation**
1055 Ming-zhu Zhang*[1], Eric Hesse[2], Celine Prunier[3], Mutsuko Ohnishi[4], Harikiran Nistala[5], Yun-feng Yang[6], Guang-rong Yu[6], Santosh Kumar[7], William Horne[8], Roland Baron[9], Azeddine Atfi[2]. [1]harvard dental school, Chn, [2]Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, Boston, United States, 02115, USA, [3]Laboratory of Cell Signaling & Carcinogenesis, INSERM UMRS938, 184 Rue du Faubourg St-Antoine, 75571, France, [4]Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, 02115, USA, [5]Harvard University, USA, [6]Department of Orthopedics, Tongji Hospital, School of Medicine Tongji University, Shanghai, China,200065, China, [7]Cancer Institute, University of Mississippi Medical Center, 2500 N. State St, Jackson, MS 39216., USA, [8]Harvard School of Dental Medicine, USA, [9]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Ming-zhu Zhang, None

3:45 pm **PTH/PTHrP Receptor Signaling in Osteoprogenitors is Essential for B Lymphocyte**
1056 **Differentiation, Maturation, and Mobilization in Mice**
Cristina Panaroni*[1], Keertik Fulzele[2], Vaibhav Saini[3], Rhiannon Chubb[4], Paola Divieti Pajevic[5], Joy Wu[1]. [1]Stanford University School of Medicine, USA, [2]Massachusetts General Hospital; Harvard Medical School, USA, [3]MGH, Harvard Medical School, USA, [4]Endocrine Unit, Massachusetts General Hospital, USA, [5]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Cristina Panaroni, None

COFFEE BREAK

4:00 pm - 4:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

CONCURRENT ORALS: BONE REMODELING AND MINERAL HOMEOSTASIS

4:30 pm - 6:00 pm **George R. Brown Convention Center**
Room 310

Moderators:
Yousef Abu-Amer, Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Yousef Abu-Amer, None

Di Chen, M.D., Ph.D.
Rush University Medical Center, USA
Disclosures: Di Chen, None

4:30 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1057 **FGF23 regulates bone mineralization in a vitamin D and Klotho-independent fashion**
Sathish Kumar Murali*[1], Paul Roschger[2], Ute Zeitz[1], Klaus Klaushofer[3], Olena Andrukhova[1], Reinhold Erben[4]. [1]Dept. of Biomedical Sciences, University of Veterinary Medicine, Austria, [2]L. Boltzmann Institute of Osteology, Austria, [3]Hanusch Hospital, Ludwig Boftzmann Institute of Osteology, Austria, [4]University of Veterinary Medicine, Austria
Disclosures: Sathish Kumar Murali, None

4:45 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1058 **Deletion of PTH1R expression from limb mesenchyme affects systemic mineral ion homeostasis**
Yi Fan*[1], Beate Lanske[2], Tatsuya Kobayashi[3], Tadatoshi Sato[1], Michael Densmore[1]. [1]Harvard School of Dental Medicine, USA, [2]Harvard School of Dental Medicine, Harvard Medical School, USA, [3]Massachusetts General Hospital, USA
Disclosures: Yi Fan, None

5:00 pm 1059 **Phosphate-induced signaling cascade is regulated by Trps1 in mineralizing cells.**
Maria Kuzynski[1], Morgan Goss[1], Callie Mobley[1], Dobrawa Napierala*[2]. [1]University of Alabama at Birmingham, USA, [2]University of Alabama At Birmingham School of Dentistry, USA
Disclosures: Dobrawa Napierala, None

5:15 pm 1060 **Mechanisms Underlying Ectopic Mineralization in a Mouse Model of Diffuse Idiopathic Skeletal Hyperostosis**
Hisataka Ii[1], Sumeeta Warraich[1], Neil Tenn[1], Diana Quinonez[1], David Holdsworth[1], James Hammond[2], S. Jeffrey Dixon*[1], Cheryle Séguin[1]. [1]The University of Western Ontario, Canada, [2]University of Alberta, Canada
Disclosures: S. Jeffrey Dixon, None

5:30 pm 1061 **Late-Breaking Abstract**
3*Gli1* haploinsufficiency disrupts postnatal bone homeostasis under physiological and pathological conditions
Yoshiaki Kitaura*[1], Hironori Hojo[2], Yuske Komiyama[3], Tsuyoshi Takato[3], Ung-Il Chung[4], Shinsuke Ohba[3]. [1]Japan, [2]The Center for Disease Biology & Integrative Medicine, USA, [3]The university of Tokyo, Japan, [4]University of Tokyo Schools of Engineering & Medicine, Japan
Disclosures: Yoshiaki Kitaura, None

5:45 pm 1062 **ASBMR 2014 Annual Meeting Young Investigator Award**
Prolonging JAK/STAT signaling by deletion of osteocytic SOCS3 results in a profound sex-divergent change in trabecular bone mass
Holly Brennan*[1], Rachelle Johnson[2], Emma Walker[1], Gordon Smyth[3], Nicos Nicola[3], T. John Martin[2], Natalie Sims[4]. [1]St Vincent's Institute of Medical Research, Australia, [2]St. Vincent's Institute of Medical Research, Australia, [3]Walter & Eliza Hall Institute, Australia, [4]St. Vincent's Institute of Medical Research, Australia
Disclosures: Holly Brennan, None

CONCURRENT ORALS: FRACTURE RISK ASSESSMENT

4:30 pm - 6:00 pm **George R. Brown Convention Center**
Grand Ballroom A

Moderators:
Bo Abrahamsen, M.D., Ph.D.
University of Southern Denmark, Denmark
Disclosures: Bo Abrahamsen, None

Jacqueline Center, Ph.D.
Garvan Institute of Medical Research, Australia
Disclosures: Jacqueline Center, None

4:30 pm 1063 **PLASMA SPHINGOSINE 1-PHOSPHATE LEVELS AND THE RISK OF OSTEOPOROTIC FRACTURES: THE CEOR STUDY**
Mohammed-Salleh Ardawi*[1], Abdulrahim Rouzi[2], Nawal Al-Senani[2], Mohammed Qari[3], Shaker Mousa[4]. [1]Center of Excellence for Osteoporosis Research & Department of Clinical Biochemistry & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [2]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [3]Center of Excellence for Osteoporosis Research & Department of Haematology & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [4]The Pharmaceutical Research Institute, Albany College of Pharmacy & Health Sciences, USA
Disclosures: Mohammed-Salleh Ardawi, None

4:45 pm 1064 **Bone Material Strength as measured by microindentation in vivo is decreased independently of BMD in patients with fractures.**
Frank Malgo*[1], Neveen Hamdy[2], Socrates Papapoulos[2], Natasha Appelman-dijkstra[3]. [1]Leiden University Medical Center, Netherlands, [2]Leiden University Medical Center, The Netherlands, [3]LUMC Centre for Bone Quality, Dept of Endocrinology, The Netherlands
Disclosures: Frank Malgo, None

5:00 pm 1065 **Effect of Vertebral Artifact and Exclusions on Fracture Prediction from Lumbar Spine BMD and TBS (Trabecular Bone Score): The Manitoba BMD Cohort**
William Leslie*[1], Suzanne Morin[2], Lisa Lix[1], Sumit Majumdar[3], Didier Hans[4]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada, [4]Lausanne University Hospital, Switzerland
Disclosures: William Leslie, None

5:15 pm 1066 **ASBMR 2014 Annual Meeting Young Investigator Award**
Prospective Association between Novel Biomarker of Oxidative Stress and Hip Fracture in Postmenopausal Women
Shuman Yang*[1], Diane Feskanich[2], Walter Willett[2], Heather Eliassen[2], Tianying Wu[3]. [1]University of Cincinnati, USA, [2]Departments of Nutrition & Epidemiology, USA, [3]Department of Environmental Health, USA
Disclosures: Shuman Yang, None

5:30 pm 1067 **Beyond BMD: Trochanteric Soft Tissue Thickness Predicts Hip Fracture in Older Adults**
Alyssa Dufour*[1], Arunima Awale[1], Douglas Kiel[1], Ann Schwartz[2], Deborah Kado[3], Eric Orwoll[4], Mary Bouxsein[5], Marian Hannan[6]. [1]Hebrew SeniorLife, USA, [2]University of California, San Francisco, USA, [3]University of California, San Diego, USA, [4]Oregon Health & Science University, USA, [5]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [6]HSL Institute for Aging Research & Harvard Medical School, USA
Disclosures: Alyssa Dufour, None

5:45 pm 1068 **Gene Panel Diagnostics for Disorders with Abnormal Bone Mass: Results From 50 Patients**
Uwe Kornak*[1], Ralf Oheim[2], Peter Krawitz[1], Tomasz Zemojtel[3], Michael Amling[2], Stefan Mundlos[1], Peter N. Robinson[1]. [1]Charité-Universitaetsmedizin Berlin, Germany, [2]University Medical Center Hamburg-Eppendorf, Germany, [3]Labor Berlin - Charité Vivantes GmbH, Germany
Disclosures: Uwe Kornak, None

Saturday

CONCURRENT ORALS: NEW PERSPECTIVES IN BONE

4:30 pm - 6:00 pm **George R. Brown Convention Center Room 320**

Moderators:
Ego Seeman, M.D., FRACP
Austin Health, University of Melbourne, Australia
Disclosures: Ego Seeman, None

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

4:30 pm 1069 **Suppression of osteoprotegerin by glucocorticoids may underlie their adverse effects on cortical bone mass**
Marilina Piemontese*[1], Jinhu Xiong[2], Rajamani Selvam[1], Priscilla Baltz[1], Stuart Berryhill[1], Erin Hogan[1], Robert Weinstein[2], Stavros Manolagas[2], Charles O'Brien[2]. [1]University of Arkansas for Medical Sciences, USA, [2]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Marilina Piemontese, None

4:45 pm 1070 **Deletion of the androgen receptor in osteoblast progenitors (using Prx1-Cre) reduces bone mass and precludes the effects of orchidectomy in cancellous, but not cortical, bone**
Semahat Serra Ucer*[1], Aaron Warren[2], Shoshana Bartell[3], Srividhya Iyer[3], Li Han[3], Julie Crawford[2], Charles O'Brien[3], Maria Jose Almeida[3], Stavros Manolagas[3]. [1]University of Arkansas for Medical Sciences, USA, [2]Center for Osteoporosis & Metabolic Bone Diseases, Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, USA, [3]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Semahat Serra Ucer, None

5:00 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1071 **Prolyl Hydroxylase 2 (PHD2) controls Bone Homeostasis through increasing Erythropoietin Production via HIF2α**
Martina Rauner*[1], Kristin Franke[2], Lorenz Hofbauer[3], Ben Wielockx[4]. [1]Medical Faculty of the TU Dresden, Germany, [2]Technische Universität Dresden, Germany, [3]Dresden University Medical Center, Germany, [4]Technische Universtät Dresden, Germany
Disclosures: Martina Rauner, None

5:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1072 **An O-glycosylation on Fibronectin Mediates Hepatic Osteodystrophy by Interacting with α4β1 Integrin**
Carla Sens*[1], Nina Kawelke[1], Anja von Au[1], Inaam Nakchbandi[2]. [1]University of Heidelberg & Max-Planck Institute of Biochemistry, Germany, [2]Max-Planck Institute of Biochemistry & University of Heidelberg, Germany
Disclosures: Carla Sens, None

5:30 pm **What generates porosity in cortical bone?**
1073 Nicolai Lassen*[1], Thomas Andersen[2], Jean-Marie Delaisse[3], Søren Harving[4], Ellen Hauge[5], Gete Eschen[6], Jesper Thomsen[7], Annemarie Brüel[8]. [1]Vejle Hospital, Denmark, [2]Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, [3]Vejle Hospital, IRS, University of Southern Denmark, Denmark, [4]Department of Orthopaedic Surgery, Aalborg Hospital, Denmark, [5]Aarhus University Hospital, Denmark, [6]Department of Plastic Surgery, Aarhus Hospital, Denmark, [7]Aarhus University, Denmark, [8]University of Aarhus, Denmark
Disclosures: Nicolai Lassen, None

5:45 pm **Dysregulated innate immune responses mediate chronic inflammation leading to osteoarthritis.**
1074 Evangelia Kalaitzoglou*[1], Mary Beth Humphrey[2]. [1]OUHSC, USA, [2]University of Oklahoma Health Sciences Center, USA
Disclosures: Evangelia Kalaitzoglou, None

CONCURRENT ORALS: NUTRITION AND SECONDARY BONE LOSS

4:30 pm - 6:00 pm **George R. Brown Convention Center**
Grand Ballroom BC

Moderators:
Catherine Gordon, M.D.
Hasbro Children's Hospital and Brown University, USA
Disclosures: Catherine Gordon, None

Jeri Nieves, Ph.D.
Columbia University and, Helen Hayes Hospital, USA
Disclosures: Jeri Nieves, None

4:30 pm **Increasing 25-hydroxyvitamin D levels over time: The Study of Women's Health Across the**
1075 **Nation (SWAN)**
DEBORAH MITCHELL*[1], Hang Lee[1], Gail Greendale[2], Jane Cauley[3], Sherri-Ann Burnett-Bowie[1], Joel Finkelstein[1]. [1]MASSACHUSETTS GENERAL HOSPITAL, USA, [2]University of California, Los Angeles, USA, [3]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: DEBORAH MITCHELL, None

4:45 pm **Serum 25 Hydroxyvitamin D (25(OH)D), Bone Mineral Density (BMD) and Fracture Risk**
1076 **across the Menopausal Transition: Study of Women's Health Across the Nation (SWAN)**
Jane Cauley*[1], Gail Greendale[2], Kristine Ruppert[3], Yinjuan Lian[3], John Randolph[4], Joan Lo[5], Robert Neer[6], Sherri-Ann Burnett-Bowie[6], Joel Finkelstein[6]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of California, Los Angeles, USA, [3]University of Pittsburgh, USA, [4]University of Michigan, USA, [5]Kaiser Permanente, USA, [6]Massachusetts General Hospital, USA
Disclosures: Jane Cauley, None

5:00 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1077 **Intestinal Calcium Absorption Decreases Dramatically After Gastric Bypass Surgery, Despite Optimization of Vitamin D Status**
Anne Schafer*[1], Deborah Sellmeyer[2], Connie Weaver[3], Amber Wheeler[4], Lygia Stewart[5], Stanley Rogers[4], Jonathan Carter[4], Andrew Posselt[4], Dennis Black[4], Dolores Shoback[6].
[1]University of California, San Francisco & the San Francisco VA Medical Center, USA, [2]The Johns Hopkins Bayview Medical Center, USA, [3]Purdue University, USA, [4]University of California, San Francisco, USA, [5]San Francisco VA Medical Center & the University of California, San Francisco, USA, [6]VA Medical Center, USA
Disclosures: Anne Schafer, None

5:15 pm **ASBMR 2014 Annual Meeting Young Investigator Award**
1078 **Vitamin K1 supplementation does not improve bone health even among postmenopausal women with low baseline serum vitamin K1: Secondary analyses from the ECKO trial**
Maryam Hamidi*[1], Hanxian Hu[1], Olga Gajic-Veljanoski[1], Judy Scher[1], Angela M. Cheung[2].
[1]University Health Network, Canada, [2]University Health Network-University of Toronto, Canada
Disclosures: Maryam Hamidi, None

5:30 pm **Trabecular Plate-Rod Morphology and Connectivity are Abnormal and Associated with**
1079 **Reduced Bone Stiffness in Women Treated with Glucocorticoids**
Ji Wang[1], Bin Zhou[1], Kyle Nishiyama[1], Stephanie Sutter[2], X Guo[1], Emily Stein*[3].
[1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Emily Stein, None

5:45 pm **Medical Comorbidity and Osteoporosis Are Associated with Subsequent Initiation of Proton**
1080 **Pump Inhibitors**
Laura Targownik*, Zoann Nugent, William Leslie. University of Manitoba, Canada
Disclosures: Laura Targownik, Takeda Canada, 5

BASIC EVENING - GETTING THE BEST OUT OF YOUR ANIMAL MODELS

6:30 pm - 8:30 pm **George R. Brown Convention Center**
Grand Ballroom A

Co-Chairs
Henry Kronenberg, M.D.
Massachusetts General Hospital, USA
Disclosures: Henry Kronenberg, None

Cheryl Ackert-Bicknell, Ph.D.
The Jackson Laboratory, USA
Disclosures: Cheryl Ackert-Bicknell, None

7:10 pm **Strategies for Regulating Gene Recombination**
Henry Kronenberg, M.D.
Massachusetts General Hospital, USA
Disclosures: Henry Kronenberg, None

7:30 pm **Cre Drivers and Lineage Tracking**
David Rowe, M.D.
University of Connecticut Health Center, USA
Disclosures: David Rowe, None

7:50 pm **Analysis of Mouse Models: Histomorphometry and Imaging**
Deborah Novack, M.D., Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Deborah Novack, None

8:10 pm **One-Step Generation of Mice Carrying Multiple Mutations using Guided Nucleases**
Jorge Henao-Mejia, M.D., Ph.D.
University of Pennsylvania, Children's Hospital of Philadelphia, USA
Disclosures: Jorge Henao-Mejia, None

CLINICAL EVENING - PERSONALIZING TREATMENT OF OSTEOPOROSIS

This activity is supported by an educational grant from Lilly and Amgen, Inc.

Space is limited and available on a first-come, first-served basis.

Attendees must be registered for the ASBMR 2014 Annual Meeting.

6:30 pm - 8:30 pm **Hilton Americas**

Grand Ballroom

Co-Chairs
Michael McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Michael McClung, Merck 7; Lilly 9; Amgen 9; Merck 9; Amgen 7

Felicia Cosman, M.D.
Helen Hayes Hospital, USA
Disclosures: Felicia Cosman, Amgen 9; Amgen 7; Eli Lilly 7; Eli Lilly 5; Eli Lilly 9; Amgen 2; Merck 9

6:30 pm **Dinner**

7:00 pm **Should Severe Osteoporosis Be Managed Differently?**
Erik Fink Eriksen, M.D., DMSc
Oslo University Hospital, Norway
Disclosures: Erik Fink Eriksen, Amgen 9; Novartis 7; Eli Lilly & Co 9; Merck 9

7:30 pm **Glucocorticoid Induced Osteoporosis: A Personalized Approach To Prevention and Treatment**
Kenneth Saag, M.D., MSc
University of Alabama at Birmingham, USA
Disclosures: Kenneth Saag, None

8:00 pm **Management of the Patients Who Fails to Respond to Therapy**
Richard Eastell, M.D., FRCP
University of Sheffield, United Kingdom
Disclosures: Richard Eastell, Ono 5; Immunodiagnostic Systems 2; Roche Diagnostics 2; Lilly 9; Chronos 5

ASBMR NETWORKING EVENT

This activity is supported by Lilly

8:30 pm - 11:30 pm **Hilton Americas**

Americas Ballroom

Enjoy an engaging and energetic live music performance with Howl at the Moon's world famous dueling piano show! Build new connections, meet with old friends, and dance the night away while listening to experienced musicians perform a medley of songs that will satisfy your musical tastes, no matter what your favorite genre is.

Sunday, September 14, 2014

Day-At-A-Glance

Time/Event/Location **All locations in the George R. Brown Convention Center unless otherwise noted**

ASBMR REGISTRATION OPEN

7:30 am - 5:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

PLENARY SYMPOSIUM - LESSONS FROM BRITTLE BONE DISEASES: CONTROL OF BONE MASS AND QUALITY

PRESENTATION OF THE FULLER ALBRIGHT AWARD AND GIDEON A. RODAN EXCELLENCE IN MENTORSHIP AWARD

This activity is supported by an educational grant from Lilly

8:00 am - 9:30 am **George R. Brown Convention Center**
General Assembly Theater

Co-Chairs
Deborah Krakow, M.D.
David Geffen School of Medicine At UCLA, USA
Disclosures: Deborah Krakow, None

Brendan Lee, M.D., Ph.D.
Baylor College of Medicine & Howard Hughes Medical Institute, USA
Disclosures: Brendan Lee, None

8:00 am **Genetics of OI and Homeostatic Mechanisms in the Skeleton**
Brendan Lee, M.D., Ph.D.
Baylor College of Medicine, USA
Disclosures: Brendan Lee, None

8:25 am **Collagen/Matrix Abnormalities**
David Eyre, Ph.D.
University of Washington Orthopaedic Research Labs, USA
Disclosures: David Eyre, None

8:50 am **OI Treatment, A Multidisciplinary Approach**
Francis Glorieux, M.D., Ph.D.
Shriners Hospital for Children and McGill University, Canada
Disclosures: Francis Glorieux, Amgen 9; Novartis 9; Novartis 2

POSTERS OPEN

8:00 am - 6:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

DISCOVERY HALL OPEN

9:30 am - 4:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

COFFEE BREAK

9:30 am - 10:00 am **George R. Brown Convention Center**
Discovery Hall-Hall E

Moderators:
Dolores Shoback, M.D.
VA Medical Center, USA
Disclosures: Dolores Shoback, None

Peter Ebeling, M.D., FRACP
Department of Medicine, School of Clinical Sciences, Monash University, Australia
Disclosures: Peter Ebeling, None

10:00 am 1081 **Asfotase Alfa: Sustained Improvements in Hypophosphatasia-related Rickets, Physical Function, and Pain During 3 Years of Treatment for Severely Affected Children**
Katherine Madson*[1], Cheryl Rockman-Greenberg[2], Agustin Melian[3], Scott Moseley[3], Amy L. Reeves[4], Tatjana Odrljin[3], Michael Whyte[1]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]University of Manitoba, Canada, [3]Alexion Pharmaceuticals Inc, USA, [4]Shriners Hospitals for Children, USA
Disclosures: Katherine Madson, Alexion Pharmaceuticals, 5

10:15 am 1082 **Efficacy and Safety of a Human Monoclonal Anti-FGF23 Antibody (KRN23) in Cumulative 4-Month Dose Escalation (KRN23-INT-001) and 12-Month Long-Term Extension Study (KRN23-INT-002) in Adult Subjects with X-Linked Hypophosphatemia (XLH)**
Thomas Carpenter*[1], Xiaoping Zhang[2], Erik Imel[3], Mary Ruppe[4], Thomas Weber[5], Mark A. Klausner[6], Takahiro Ito[6], Maria Vergeire[6], Jeffrey S. Humphrey[6], Francis Glorieux[7], Anthony Portale[8], Karl Insogna[1], Munro Peacock[9]. [1]Yale University School of Medicine, USA, [2]Kyowa Hakko Kirin Pharma Inc, USA, [3]Indiana University School of Medicine, USA, [4]The Methodist Hospital, USA, [5]Duke University Medical Center, USA, [6]Kyowa Hakko Kirin Pharma Inc., USA, [7]Shriners Hospital for Children & McGill University, Canada, [8]University of California San Francisco, USA, [9]Indiana University Medical Center, USA
Disclosures: Thomas Carpenter, Kyowa Hakko Kirin Pharma Inc., 5

10:30 am 1083 **Deficits in Cortical Bone Density and Microstructure in Type 2 Diabetes: Framingham HR-pQCT Study**
Elizabeth (Lisa) Samelson*[1], Mary Bouxsein[2], Elana Brochin[3], Xiaochun Zhang[3], Ching-An Meng[3], Kerry Broe[3], Mary Hogan[3], Danette Carroll[3], Robert McLean[4], Marian Hannan[5], L. Adrienne Cupples[6], Caroline Fox[7], Douglas Kiel[8]. [1]Hebrew SeniorLife, Harvard Medical School, USA, [2]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [3]Institute for Aging Research, Hebrew SeniorLife, USA, [4]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [5]HSL Institute for Aging Research & Harvard Medical School, USA, [6]Boston University School of Public Health; NHLBI Framingham Heart Study, USA, [7]National Heart Lung & Blood Institute, National Institutes of Health, USA, [8]Hebrew SeniorLife, USA
Disclosures: Elizabeth (Lisa) Samelson, None

10:45 am 1084 **High Incidence of Osteoporotic Fractures Following Hematopoietic Stem Cell Transplantation**
Xerxes Pundole[1], Heather Lin[2], Andrea Barbo[2], Huifang Lu*[3]. [1]The University of Texas MD Anderson Cancer Center, USA, [2]UT MD Anderson.org, USA, [3]UT MD Anderson Cancer Center, USA
Disclosures: Huifang Lu, None

11:00 am 1085 **Bone Microarchitecture assessed by HR-pQCT as Predictor of Fracture Risk in Postmenopausal Women: The OFELY Study**
Elisabeth Sornay-Rendu[1], Stephanie Boutroy[2], François DUBOEUF[3], Roland Chapurlat*[4]. [1]INSERM UMR1033, Université de Lyon, France, [2]INSERM U1033 & Université de Lyon, France, [3]INSERM UMR1033 & Université de Lyon, France, [4]E. Herriot Hospital, France
Disclosures: Roland Chapurlat, None

11:15 am **Clinical Presentation of Primary Hyperparathyroidism: a Five-Year Study**
1086 Cristiana Cipriani*[1], Federica Biamonte[2], Daniele Diacinti[3], Piergianni Biondi[2], Orlando Raimo[4], Sara Piemonte[5], Jessica Pepe[6], Elisabetta Romagnoli[7], John Bilezikian[8], Salvatore Minisola[1]. [1]"Sapienza", University of Rome, Italy, [2]Department of Internal Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, [3]Department of Radiology, "Sapienza" University of Rome, Italy, [4]Department of Interla Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, [5]Department of Internal Medicine & Medical Disciplines, "Sapienza", Italy, [6]Department fo Internal Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, [7]"Sapienza", University of Rome, Italy, [8]Columbia University College of Physicians & Surgeons, USA
Disclosures: Cristiana Cipriani, None

PLENARY ORALS: TRANSLATIONAL SCIENCE II

10:00 am - 11:30 am **George R. Brown Convention Center**
Grand Ballroom BC

Moderators:
Maria Jose Almeida, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Maria Jose Almeida, None

Serge Ferrari, M.D.
Geneva University Hospital and Faculty of Medicine, Switzerland
Disclosures: Serge Ferrari, None

10:00 am **Osteosarcoma invasiveness and recurrence are controlled by exosome-induced tumor initiating cells**
1087 Paul Daft*[1], Majd Zayzafoon[2], Joan Cadillac[2]. [1]The University of Alabama At Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Paul Daft, None

10:15 am **Foxo1 Expressed in Osteoblasts Promotes the Leukemogenic Properties of β-Catenin by**
1088 **Activating Notch Signaling**
Aruna Kode*[1], Ioanna Mosialou[1], Sanil J Manavalan[1], Julie Teruya Feldstein[2], Govind Bhagat[1], Ellin Berman[2], Stavroula Kousteni[1]. [1]Columbia University Medical Center, USA, [2]Memorial Sloan-Kettering Cancer Center, USA
Disclosures: Aruna Kode, None

10:30 am **Large-scale Temporal Gene Expression Profiling Reveals Potential NOTCH1 Target Genes**
1089 **Responsible for Cartilage Fibrosis and Degradation**
Zhaoyang Liu*[1], Anthony Mirando[2], Regis O'Keefe[2], Michael Zuscik[3], Matthew Hilton[4]. [1]University of Rochester Medical Center, USA, [2]Department of Orthopaedics & Rehabilitation, Center for Musculoskeletal Research, University of Rochester Medical Center, USA, [3]University of Rochester School of Medicine & Dentistry, USA, [4]Duke University Musculoskeletal Research Center, USA
Disclosures: Zhaoyang Liu, None

10:45 am **ASBMR 2014 Most Outstanding Translational Abstract Award**
1090 **Glut1-dependent glucose uptake in osteoblasts is necessary for bone formation before and after birth and whole-body glucose homeostasis**
Jianwen Wei*, Junko Shimazu, Gerard Karsenty. Columbia University, USA
Disclosures: Jianwen Wei, None

11:00 am **Brown Adipose Tissue Indices a Bone Anabolic Effect Through an Uncoupling Protein 1-**
1091 **Mediated Elevation of Central Neuropeptide Y Expression and Reduced Sympathetic Tone.**
Amy Nguyen[1], Herbert Herzog[1], Paul Baldock*[2]. [1]Neuroscience Division, Garvan Institute of Medical Research, Australia, [2]Garvan Institute of Medical Research, Australia
Disclosures: Paul Baldock, None

11:15 am ASBMR 2014 Annual Meeting Young Investigator Award

1092 Exercise regulation of marrow fat in the setting of PPARγ agonist treatment

Maya Styner*[1], Xin Wu[2], William Thompson[2], Gunes Uzer[2], Zhihui Xie[2], Buer Sen[3], Andrew Romaine[2], Gabriel Pagnotti[4], Clinton Rubin[5], Martin Styner[2], Mark Horowitz[6], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]University of North Carolina, USA, [3]University of North Carolina At Chapel Hill, USA, [4]Stony Brook University, USA, [5]State University of New York at Stony Brook, USA, [6]Yale University School of Medicine, USA

Disclosures: Maya Styner, None

MEET-THE-PROFESSOR SESSIONS

11:30 am - 12:30 pm **George R. Brown Convention Center**

Rooms 351A-351F

Meet-the-Professor Session: Brown Fat and Bone
Room 351A

Beata Lecka-Czernik, Ph.D.
University of Toledo College of Medicine, USA
Disclosures: Beata Lecka-Czernik, None

Meet-the-Professor Session: RNA Sequencing
Room 351B

Matthew Warman, M.D.
Boston Children's Hospital, USA
Disclosures: Matthew Warman, None

Ugur Ayturk, Ph.D.
Boston Children's Hospital, USA
Disclosures: Ugur Ayturk, None

Meet-the-Professor Session: Bone Microdamage
Room 351C

Christopher Hernandez, Ph.D.
Cornell University, USA
Disclosures: Christopher Hernandez, None

Meet-the-Professor Session: Bone Metastasis and the Bone Microenvironment
Room 351D

Roberta Faccio, Ph.D.
Washington University in St Louis School of Medicine, USA
Disclosures: Roberta Faccio, None

Meet-the-Professor Session: Nutrition and Bone Health in Adolescents
Room 351E

John Pettifor, MBBCh, Ph.D.
University of the Witwatersrand, South Africa
Disclosures: John Pettifor, None

Meet-the-Professor Session: Clinical Management of Phosphorus Disorders
Room 351F

Marc Drezner, M.D.
University of Wisconsin-Madison, USA
Disclosures: Marc Drezner, None

THE ROLE OF ENCODE IN ADVANCING MUSCULOSKELETAL RESEARCH

11:30 am - 12:30 pm **George R. Brown Convention Center**
Room 320

One of the most important approaches to understanding the functional elements of the human genome has been the work of the ENCODE (Encyclopedia of DNA Elements) Project a National Human Genome Research Institute public research consortium. To support and assist international musculoskeletal researchers in accessing and utilizing this important resource, the International Federation of Musculoskeletal Research Societies (IFMRS) Working Group on Big Data has invited Dr. Elise Feingold, Director of the ENCODE project, to provide a top level view of the ENCODE project. Dr. Timothy Hubbard, Head of Bioinformatics, King's College London, will provide information on how to use ENCODE specifically for musculoskeletal research. All investigators interested in how to use these resources for their own research are encouraged to attend.

CLINICAL ROUNDTABLE - MANAGEMENT OF BONE HEALTH IN CKD-MBD

11:30 am - 12:30 pm **George R. Brown Convention Center**
Grand Ballroom A

Chair
Keith Hruska, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Keith Hruska, None

Speakers:
Paul Miller, M.D., FACP
Colorado Center for Bone Research, USA
Disclosures: Paul Miller, None

Stuart Sprague, D.O.
NorthShore University HealthSystem-Pritzker School of Medicine University of Chicago, USA
Disclosures: Stuart Sprague, None

THE CLINICAL DIAGNOSIS OF OSTEOPOROSIS: REPORT OF AN NBHA WORKING GROUP

11:30 am - 12:00 pm **George R. Brown Convention Center**
Room 310

An NBHA Working Group, composed of representatives of ASBMR, NOF, AAOS and the liaison to NBHA from the CDC, was charged with the task of expanding the criteria by which a diagnosis of osteoporosis can be made in postmenopausal women and men age 50 and older in the US. Ethel Siris, M.D., Columbia University College of Physicians and Surgeons, will present the report detailing the process and the conclusions.

Speaker:
Ethel Siris, M.D.
Columbia University College of Physicians and Surgeons, USA
Disclosures: Ethel Siris, None

INTERNATIONAL ONJ TASK FORCE - 2014 CONSENSUS ON DIAGNOSIS AND MANAGEMENT

12:00 pm - 12:30 pm **George R. Brown Convention Center**
Room 310

This session will present an update on the 2014 Consensus on Diagnosis and Management by the International ONJ Task Force. The presentations will cover diagnosis and pathophysiology, incidence and prevention strategies and staging and advances in management.

Co-Chairs
Laurie McCauley, D.D.S., Ph.D.
University of Michigan School of Dentistry, USA
Disclosures: Laurie McCauley, None

Sotirios Tetradis, Ph.D., D.D.S.
University of California, Los Angeles, USA
Disclosures: Sotirios Tetradis, None

12:00 pm Diagnosis and Pathophysiology
Juliet Compston, M.D., FRCP
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, None

12:10 pm Incidence and Prevention Strategies
Aliya Khan
McMaster University, Canada
Disclosures: Aliya Khan, None

12:20 pm Staging and Advances in Management

POSTER SESSION II & POSTER TOURS

12:30 pm - 2:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

ADULT METABOLIC BONE DISORDERS: CHRONIC KIDNEY DISEASE – METABOLIC BONE DISORDER

SU0001 Bone Mineral Density Predicts Fractures in Predialysis Chronic Kidney Disease
Sarah West*[1], Charmaine E Lok[2], Roxana Bucur[3], Angela M. Cheung[4], Eva Szabo[2], Dawn Pearce[5], Sophie Jamal[6]. [1]University of Toronto, Canada, [2]University Health Network, Canada, [3]Canada, [4]University Health Network-University of Toronto, Canada, [5]St Michael's Hospital, Canada, [6]The University of Toronto, Canada
Disclosures: Sarah West, None

SU0002 Effect of parathyroid function and bone turnover on bone structural and material properties in dialysis patients
Junichiro Kazama*[1], Ichiei Narita[2], Yoshiko Iwasaki[3], Masafumi Fukagawa[4]. [1]Niigata University Medical & Dental Hospital, Japan, [2]Niigata University, Japan, [3]Oita University of Nursing & Health Sciences, Japan, [4]Tokai University School of Medicine, Japan
Disclosures: Junichiro Kazama, None

SU0003 Inflammation and iron deficiency stimulate FGF23 production
Valentin David*[1], Aline Martin[2], Kimberly Zumbrennen-Bullough[3], Chia Chi Sun[3], Herbert Lin[3], Tamara Isakova[4], Jodie Babitt[3], Myles Wolf[4]. [1]University of Miami, Miller School of Medicine, USA, [2]University of Miami, USA, [3]Massachusetts General Hospital, USA, [4]Feinberg School of Medicine, Northwestern University, USA
Disclosures: Valentin David, None

SU0004 **Parathyroidectomy and serum leptin levels in stage 5 CKD patients**
Ningning Wang*[1], Jingjing Zhang[2], Xiaoming Zha[2], Jianling Bai[3], Lina Zhang[2], Guang Yang[2], Changying Xing[2]. [1]Nanjing Medical University, Peoples Republic of China, [2]First Affiliated Hospital of Nanjing Medical University, China, [3]Nanjing Medical University, China
Disclosures: Ningning Wang, None

SU0005 **Procollagen type-1 N-terminal propeptide (P1NP) levels by Elecsys assay correlate with bone formation rate in Chronic Kidney Disease**
Serge Cremers*[1], David Dempster[1], Hua Zhou[2], Elzbieta Dworakowski[3], Mafo Kamanda-Kosseh[1], Thomas Nickolas[4]. [1]Columbia University, USA, [2]Helen Hayes Hospital, USA, [3]Columbia University Medical Center, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Serge Cremers, None

SU0006 **The increased expression of ASARM-MEPE by osteocytes is associated with bone mineralisation defect in hemodialysed patients.**
Martin Jannot*[1], Vasili Gnyubkin[1], Myriam Lessard[2], Norbert Laroche[1], Christophe Mariat[3], Luc Malaval[4], Laurence Vico[5], Marie-Helene Lafage-Proust[6]. [1]INSERM-U1059, France, [2]Hôpital du Sacré-Coeur, Service de Néphrologie, France, [3]Service de Néphrologie-CHU, France, [4]INSERM U1059-Université de Lyon-Université Jean Monnet, Saint-Etienne, France, [5]University of St-Etienne, France, [6]INSERM Unit 1059, France
Disclosures: Martin Jannot, None

SU0007 **Uremia exacerbates bone mechanical property in chronic kidney disease model rats with secondary hyperparathyroidism**
Yoshiko Iwasaki[1], Junichiro Kazama[2], Masafumi Fukagawa*[3]. [1]Oita University of Nursing & Health Sciences, Japan, [2]Niigata University Medical & Dental Hospital, Japan, [3]Tokai University School of Medicine, Japan
Disclosures: Masafumi Fukagawa, None

SU0008 **What is the Threshold of Renal Function that Influences the Measurement of Biochemical Markers of Bone Turnover among Postmenopausal Women with Osteoporosis?**
Pascale Chavassieux*[1], Jean-Paul Roux[2], Nathalie Portero-Muzy[3], Patrick Garnero[4], Roland Chapurlat[5]. [1]INSERM UMR1033, Université De Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM UMR 1033, Université de Lyon, France, [4]INSERM Research Unit, France, [5]E. Herriot Hospital, France
Disclosures: Pascale Chavassieux, None

ADULT METABOLIC BONE DISORDERS: OSTEOMALACIA AND VITAMIN D DEFICIENCY

SU0009 **No significant change in Bone mineral density after vitamin D supplementation in young and elderly women : Results from 2 randomized trials**
SRI HARSHA TELLA*[1], J. Christopher Gallagher[2], Lynette Smith[3]. [1]Creighton University School of Medicine, USA, [2]Creighton University Medical Center, USA, [3]University of Nebraska, USA
Disclosures: SRI HARSHA TELLA, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

SU0010 **Withdrawn**

SU0011 **Large genomic deletions inactivate the MEN1 gene in Multiple Endocrine Neoplasia (MEN1) families**
Filomena Cetani*[1], Elena Pardi[2], Simona Borsari[2], Federica Saponaro[2], Chiara Banti[2], Edda Vignali[1], Antonella Picone[2], Antonella Meola[2], Claudio Marcocci[3]. [1]University Hospital of Pisa, Italy, [2]Department of Clinical & Experimental Medicine, University of Pisa, Italy, [3]University of Pisa, Italy
Disclosures: Filomena Cetani, None

SU0012 **Urinary Calcium Excretion in Postmenopausal Women of African Ancestry**
Mageda Mikhail*[1], shahidul islam[1], Albert Shieh[2], John Aloia[1]. [1]Winthrop University Hospital, USA, [2]University of California, Los Angeles, USA
Disclosures: Mageda Mikhail, None

ADULT METABOLIC BONE DISORDERS: PAGET'S DISEASE

SU0013 **A mutation in the TRAF6-binding domain of SQSTM1/p62 associated with Paget's disease of bone is associated with hyper-activation of signalling**
Sarah Rea*[1], Melanie Sultana[2], John Walsh[2], Nathan Pavlos[3], Jiake Xu[3], Lynley Ward[2], Robert Layfield[4], Thomas Ratajczak[2]. [1]Sir Charles Gairdner Hospital, Australia, [2]Dept Endocrinology & Diabetes, Sir Charles Gairdner Hospital, Australia, [3]University of Western Australia, Australia, [4]University of Nottingham, United Kingdom
Disclosures: Sarah Rea, None

ADULT METABOLIC BONE DISORDERS: PARATHYROID DISORDERS

SU0014 **A Prospective Study on Juvenile Primary Hyperparathyroidism Population**
Federica Saponaro*[1], Federica Cacciatore[2], Elena Pardi[2], Simona Borsari[2], Claudio Marcocci[3], Filomena Cetani[4]. [1]M.D., Italy, [2]U.O. Endocrinology 2, Italy, [3]University of Pisa, Italy, [4]University Hospital of Pisa, Italy
Disclosures: Federica Saponaro, None

SU0015 **Beneficial Effects of PTH(1-84) in Hypoparathyroidism as Determined by Trabecular Bone Score (TBS)**
Cristiana Cipriani*[1], Barbara Silva[2], Natalie Cusano[3], Aline Costa[4], Dinaz Irani[5], Alice Abraham[4], Donald McMahon[3], Laura Beth Anderson[4], Elizabeth Levy[4], Mishaela Rubin[4], John Bilezikian[3]. [1]"Sapienza", University of Rome, Italy, [2]Federal University of Minas Gerais, Brazil, Brazil, [3]Columbia University College of Physicians & Surgeons, USA, [4]Columbia University, USA, [5]Columbia University Medical Center, USA
Disclosures: Cristiana Cipriani, None

SU0016 **Parathyroidectomy-Associated Thyrotoxicosis: A Prospective Cohort Study**
Lisa-Ann Fraser*[1], Stan Van Uum[2], Terri Paul[3], John Yoo[2]. [1]Western University, Canada, [2]University of Western Ontario, Canada, [3]St. Joseph's Health Centre, Canada
Disclosures: Lisa-Ann Fraser, None

SU0017 **Protein Expression of Fibroblast Growth Factor Receptor/α-klotho, Vitamin D Receptor, CYP24A1 and CYP27B1 in Parathyroid Adenoma**
A Ram Hong*[1], Jung Hee Kim[2], Chan Soo Shin[3], Seong Yeon Kim[1], Hye Sook Min[1], Sang Wan Kim[4]. [1]Seoul National University Hospital, South Korea, [2]Seoul National University College of Medicine, South Korea, [3]Seoul National University College of Medicine, South Korea, [4]Seoul National University Boramae Hospital, South Korea
Disclosures: A Ram Hong, None

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SU0018 **A Semi-Automated Method for Defining Cortical Bone Breaks in Cadaveric Finger Joints using High-Resolution peripheral QCT and MicroCT.**
Michiel Peters*[1], Andrea Scharmga[2], Astrid Van Tubergen[3], Joop Van Den Bergh[4], Chris Arts[3], Bert Rietbergen[5], Piet Geusens[6]. [1]Maastricht University, The Netherlands, [2]Maastricht University, Netherlands, [3]MUMC, Netherlands, [4]VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, [5]Eindhoven University of Technology, The Netherlands, [6]University Hasselt, Belgium
Disclosures: Michiel Peters, None

SU0019 **Age Related Changes in the Structure, Composition and Properties of Porcine Cortical Bone**
Iwona Jasiuk*[1], Michael Chittenden[2]. [1]University of Illinois at Urbana-Champaign, USA, [2]University of Illinois, USA
Disclosures: Iwona Jasiuk, None

SU0020 **Association Between Reference Point Indentation Measures and Cortical Bone Composition, Bending Properties, and Fracture Toughness**

Lamya Karim*[1], Nathalie Portero-Muzy[2], Daniel Brooks[3], Evelyne Gineyts[2], Pascale Chavassieux[4], Roland Chapurlat[5], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [2]Universite de Lyon, France, [3]Beth Israel Deaconess Medical Center, USA, [4]INSERM UMR1033, Université De Lyon, France, [5]E. Herriot Hospital, France

Disclosures: Lamya Karim, None

SU0021 **Brittle Bone Explained?: Multivariate Polarization Raman Spectroscopy for Assessing Bone Toughness**

Alexander Makowski*[1], Sasidhar Uppuganti[2], Meredith Huszagh[2], Ahbid Zein-Sabbato[2], 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

SU0022 **Clinical Applicability of Trabecular Microarchitecture Class (TMAC) Assessement using Multi-Detector Comptuted Tomography**

Alexander Valentinitsch*[1], Lukas Fischer[2], Janina Patsch[2], Jan Bauer[3], Franz Kainberger[2], Georg Langs[4], Matthew DiFranco[2]. [1]Klinikum rechts der Isar, Technische Universität München, Neuro-Kopf-Zentrum, Germany, [2]Medical University of Vienna, Austria, [3]Klinikum rechts der Isar, Technische Universität München, Germany, [4]Medical University of Vienna, Computational Imaging Research Lab, Austria

Disclosures: Alexander Valentinitsch, None

SU0023 **Differences in Assessment of Micro-Indentation Resistance between BioDent and OsteoProbe**

Mathilde Granke*[1], Sasidhar Uppuganti[2], Mary Katherine Manhard[2], Mark Does[2], Donald Lee[2], Daniel Perrien[1], Jeffry Nyman[1]. [1]Vanderbilt University Medical Center, USA, [2]Vanderbilt University, USA

Disclosures: Mathilde Granke, None

SU0024 **Do Contralateral Femora Differ in Strength? A Multicentric Finite Element Study in Post-menopausal Women**

Enrico Schileo*[1], Cristina Falcinelli[2], Luca Balistreri[3], Fabio Baruffaldi[3], Sigurdur Sigurdsson[4], Vilmundur Gudnason[5], Roswitha Dietzel[6], Gabriele Armbrecht[7], Stephanie Boutroy[8], Fulvia Taddei[3]. [1]Istituto Ortopedico Rizzoli, Bologna, Italy, Italy, [2]Istituto Ortopedico Rizzoli & University of Rome Tor Vergata, Italy, [3]Istituto Ortopedico Rizzoli, Italy, [4]Icelandic Heart Association, Iceland, [5]Icelandic Heart Association Research Institute, Iceland, [6]Charité, Germany, [7]Centre of Muscle & Bone Research, Charite-CBF, Germany, [8]INSERM U1033 & Université de Lyon, France

Disclosures: Enrico Schileo, None

SU0025 **Evaluation of Bone Quality and Mechanics in a Mouse Model of Pseudoachondroplasia**

Hao Ding*[1], Xiaohong Bi[2], Annie Abraham[1], Catherine Ambrose[1], Karen Posey[1], Jacqueline Hecht[1]. [1]University of Texas Health Science Center at Houston, USA, [2]University of Texas Health Science Center at Houst, USA

Disclosures: Hao Ding, None

SU0026 **Finite Element Analysis Accurately Reflects the Improvements in Vertebral Strength with Denosumab in Ovariectomized Cynomolgus Monkeys**

David Lee*[1], Paul Hoffmann[1], Aurore Varela[2], Paul Kostenuik[3], Michael Ominsky[3], Tony Keaveny[4]. [1]O.N. Diagnostics, USA, [2]Charles River Laboratories, Canada, [3]Amgen Inc., USA, [4]University of California, Berkeley, USA

Disclosures: David Lee, O.N. Diagnostics, LLC, 3

SU0027 **HR-pQCT based measurements of the distal tibial segment predict whole tibia stiffness**

Bin Zhou*[1], Ji Wang[1], Eric Yu[1], Zhendong Zhang[1], Kyle Nishiyama[1], Elizabeth Shane[2], X Guo[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA

Disclosures: Bin Zhou, None

SU0028 **Independent Measurement of Femoral Cortical Thickness and Cortical Bone Density using Clinical QCT**
Graham Treece*, Andrew Gee. University of Cambridge, United Kingdom
Disclosures: Graham Treece, Eli Lilly & Co., 2; Amgen Inc., 2

SU0029 **Lower matrix bound water is related to compromised skeletal mechanical properties in an animal model of chronic kidney disease**
Matthew Allen[1], Christopher Newman*[1], Neal Chen[1], Sharon Moe[1], Jeffry Nyman[2], Mathilde Granke[2]. [1]Indiana University School of Medicine, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Christopher Newman, None

SU0030 **Multidirectional Poroelastic-Ultrasound and Structural-Anisotropy Predict Multidirectional Yield Behavior of Trabecular Bone**
Paolo Palacio-mancheno*, Mohamad Souzanchi F, Sankha Ghatak S, Stephen Cowin C, Luis Cardoso. The City College of New York, USA
Disclosures: Paolo Palacio-mancheno, None

SU0031 **Reduced Growth-Related Trabecular Corticalization and Increased Age-Related Cortical Trabecularization: Determinants of Forearm Fragility Fractures**
Yohann Bala*[1], Minh Bui[2], Sandra Iulliano[3], Tamara Rozental[4], Quinju Wang[3], Xiao-Fang Wang[5], Tara Sepehrizadeh[3], Ali Ghasem-Zadeh[6], Mary Bouxsein[7], Roger Zebaze[6], Ego Seeman[6]. [1]University of Melbourne, Dept. of Medicine, Australia, [2]Mega Center for Epidemiology, Australia, [3]Dept. Of Medicine, University of Melbourne, Australia, [4]Harvard Medical School, Beth Israel Deaconess Medical Cente, USA, [5]University of Melbourne, Austin Health, Australia, [6]Austin Health, University of Melbourne, Australia, [7]Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Yohann Bala, None

SU0032 **Relationship of Cortical and Endocortical-Trabecular Bone Structure to Femoral Strength in a Sideways Fall Configuration**
Fjola Johannesdottir*[1], Kenneth Poole[1], Graham Treece[1], Mary Bouxsein[2]. [1]University of Cambridge, United Kingdom, [2]Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Fjola Johannesdottir, None

SU0033 **Withdrawn**

SU0034 **The role of type 2 Diabetes on fracture healing in an experimental rat model**
Javier La Fontaine[1], Chris Chen*[1], Lawrence Lavery[1], Ed Jude[2]. [1]UT Southwestern Medical Center, USA, [2]Tameside General Hospital, United Kingdom
Disclosures: Chris Chen, None

SU0035 **Toward non-invasive monitoring of bone infection in diabetic foot ulcers by Raman spectroscopy**
Karen Esmonde-White*[1], Francis Esmonde-White[1], Michael Morris[1], Blake Roessler[2]. [1]University of Michigan, USA, [2]University of Michigan Medical School, USA
Disclosures: Karen Esmonde-White, Kaiser Optical Systems, Inc., 99

SU0036 **Vertebral Fracture Discrimination in Postmenopausal Women using a Subject-Specific Finite Element Model of the Disc-Vertebra-Disc Unit**
Chuhee LEE*[1], Miguel Debono[2], Richard Eastell[2], Priyan Landham[3], Michael Adams[3], Patricia Dolan[3], Lang Yang[2]. [1]United Kingdom, [2]University of Sheffield, United Kingdom, [3]University of Bristol, United Kingdom
Disclosures: Chuhee LEE, None

SU0037 **What is the bilateral asymmetry of radius and tibia bone microarchitecture by HR-pQCT?**
Erin Hildebrandt*, Sarah Manske, David Hanley, Steven Boyd. University of Calgary, Canada
Disclosures: Erin Hildebrandt, None

BIOMECHANICS AND BONE QUALITY: DISUSE OSTEOPOROSIS – ANIMAL MODELS

SU0038 Bisphosphonate Treatment During an Initial Unloading Period also Protects Against Bone Loss for a Second Unloading

Scott Lenfest*[1], Jessica Brezicha[1], Ray Boudreaux[1], Cameron Schaefer[1], Susan Bloomfield[1], Matthew Allen[2], Harry Hogan[1]. [1]Texas A&M University, USA, [2]Indiana University School of Medicine, USA

Disclosures: Scott Lenfest, None

SU0039 Effects of Hind Limb Unloading and Sclerostin Antibody on Femoral Neck Strength Estimated by Finite Element Analysis

Lindsay Sullivan*[1], Eric Livingston[2], Rachel Ellman[3], Jordan Spatz[4], Louis Stodieck[5], Mary Bouxsein[6], Virginia Ferguson[5], Ted Bateman[7], Anthony Lau[1]. [1]University of North Carolina at Chapel Hill, USA, [2]University of North Carolina-Chapel Hill, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [5]University of Colorado, USA, [6]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [7]Univesity of North Carolina, USA

Disclosures: Lindsay Sullivan, None

BIOMECHANICS AND BONE QUALITY: GENERAL

SU0040 Bone morphology in 46 BXD Recombinant Inbred Strains and femur-tibia correlation

Yan Jiao*[1], Yueying Zhang[2], Jinshong Huang[3], Valentin David[2], Weikuan Gu[1]. [1]University of Tennessee Health Science Center, USA, [2]UTHSC, USA, [3]UTHSC.edu, USA

Disclosures: Yan Jiao, None

SU0041 Cx43 Scaffolding C-Terminus Intracellular Domain Is Required for Achieving Proper Bone Architecture and Strength, but It Does Not Mediate the Effect of Osteocytic Cx43 on Cortical Bone

Rafael Pacheco*[1], Iraj Hassan[2], Chad Sorenson[2], Hannah Davis[2], Max Hammond[3], Rejane Reginato[4], Eduardo Katchburian[4], Joseph Wallace[5], Teresita Bellido[2], Lilian Plotkin[2]. [1]Indiana University School of Medicine, Federal University of São Paulo, USA, [2]Indiana University School of Medicine, USA, [3]Purdue University, USA, [4]Federal University of São Paulo, Brazil, [5]Indiana University Purdue University Indianapolis (IUPUI), USA

Disclosures: Rafael Pacheco, None

SU0042 Do African-Americans and Caucasians build long bones in fundamentally different ways

Stephen Schlecht*, Karl Jepsen. University of Michigan, USA

Disclosures: Stephen Schlecht, None

SU0043 Effects of Preventive Long Term Treatment with Strontium Ranelate and Zoledronic Acid to Ovariectomized Rats on Bone Biomechanics

Marta Martín-Fernández*[1], Marina Gómez-Chinchón[1], David Guede[2], Jose Caeiro[3], Manuel Díaz-Curiel[4], Concepcion De La Piedra Gordo[5]. [1]Bioquímica Investigación, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, [2]Trabeculae,Technology Based Firm, Technological Park of Galicia, Spain, [3]Orthopaedic Surgeon, Spain, [4]Medicina Interna, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, [5]Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain

Disclosures: Marta Martín-Fernández, None

SU0044 New Tool for Accurate Cortical Bone Analysis in pQCT Images

Tomas Cervinka*[1], Lora Giangregorio[2], Deena Lala[2], Angela M. Cheung[3], Eva Szabo[4], Harri Sievanen[5], Jari Hyttinen[6]. [1]Tampere University of Technology, Finland, [2]University of Waterloo, Canada, [3]University Health Network-University of Toronto, Canada, [4]University Health Network, Canada, [5]The UKK Institute for Health Promotion Research, Finland, [6]Department of Electronics & Communications Engineering, Tampere University of Technology, Finland

Disclosures: Tomas Cervinka, None

SU0045 Once Daily and Once Weekly Regimens of Teriparatide have Different Effects on Cortical Bone

Roger Zebaze*[1], Ryoko Takao-Kawabata[2], Yu Peng[3], Ali Ghasem-Zadeh[1], Aya Shimomura[4], Hiroshi Yamane[4], Kyoko Hirano[4], Yukihiro Isogai[4], Toshinori Ishizuya[4], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]Asahi Kasei Pharma Co., Japan, [3]StraxCorp Pty Ltd, Australia, [4]Asahi Kasei Pharma Corporation, Japan

Disclosures: Roger Zebaze, StraxCorp, 3; Amgen, 5; MSD, 5; GSK, 5; Servier, 5; Asahi Kasei Pharma, 5

SU0046 Synchrotron mCT evaluation of peri-implant hard tissues -A review of the literature and preliminary results

Camilla Neldam*[1], Else Marie Pinholt[2], Niklas Rye Jørgensen[3]. [1]PhD student, Denmark, [2]DDS, M Sci, dr. odont, Professor & Head, Denmark, [3]MD, PhD, DMSc, Denmark

Disclosures: Camilla Neldam, None

BIOMECHANICS AND BONE QUALITY: MECHANICAL LOADING EFFECTS IN INTACT ANIMALS

SU0047 Matrix protein biglycan mediates suture expansion osteogenesis via potentiation of β-catenin

Hua Wang*[1], Wen Sun[2], Lin Wang[3], Wei-Bing Zhang[4]. [1]Institute of Stomatology, Nanjing Medical University, Peoples Republic of China, [2]Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, [3]Institute of Stomatology, Nanjing Medical University, China, [4]School of Stomatology, Nanjing Medical University, Nanjing, China, USA

Disclosures: Hua Wang, None

BIOMECHANICS AND PHYSICAL ACTIVITY: EFFECT OF LOADING OR UNLOADING IN HUMANS

SU0048 A realistic musculoskeletal model of the thoracolumbar spine and ribcage produces spinal loading patterns that may help explain the non-uniform distribution of vertebral fractures along the spine

Alexander Bruno*[1], Dennis Anderson[2], Xiangjie Meng[3], Mary Bouxsein[4]. [1]Harvard-MIT, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Tsinghua University, China, [4]Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Disclosures: Alexander Bruno, None

SU0049 Four Year Vibration Therapy Reduces Age-related Bone Loss and Improves Lower Extremity Function

Belinda Beck*. Griffith University, Australia

Disclosures: Belinda Beck, None

BIOMECHANICS AND PHYSICAL ACTIVITY: PHYSICAL ACTIVITY AND EXERCISE

SU0050 Effectiveness of Community Group and Home Based Falls Prevention Exercise Programmes on Bone Health in Older People: the ProAct65+ Bone Study

Rachel Duckham[1], Katherine Brooke-Wavell*[2], Tahir Masud[3], Rachael Taylor[3], Denise Kendrick[4], Hannah Carpenter[4], Dawn A Skelton[5], Susann Dinan[6], Heather Gage[7], Richard Morris[6], Steve Iliffe[6]. [1]Deakin University, Aus, [2]Loughborough University, United Kingdom, [3]Nottingham University Hospitals NHS Trust, United Kingdom, [4]University of Nottingham, United Kingdom, [5]Glasgow Caledonian University, United Kingdom, [6]University College London, United Kingdom, [7]University of Surrey, United Kingdom

Disclosures: Katherine Brooke-Wavell, None

SU0051 Effects of Whole-Body Vibration Therapy on Bone, Muscle and Metabolism in Obese Adolescents

Rickard Zeijlon*[1], Bojan Tubic[2], Staffan Mårild[3], Göran Wennergren[4], Jovanna Dahlgren[4], Per Magnusson[5], Diana Swolin-Eide[6]. [1]Sweden, [2]Department of Pediatrics, Gothenburg University, Sweden, [3]The Queen Silvia Children's Hospital, Sahlgrenska Academy at the University of Gothenburg, Sweden, [4]The Queen Silvia Children's Hospital, Sweden, [5]Linkoping University, Sweden, Sweden, [6]Queen Silvia Children's Hospital, Sweden

Disclosures: Rickard Zeijlon, None

SU0052 **Hand grip strength, leg extensor power and cardiorespiratory fitness are associated with bone mineral density in men aged 18-60 years: the Health2008 study**

Peter Schwraz[1], Niklas Rye Joergensen[2], Barbara Rubek Nielsen*[3], Anne Sofie Dam Laursen[4], Allan Linneberg[4], Mette Aadahl[4]. [1]Research Centre of Ageing & Osteoporosis, Department of Medicine, Copenhagen University Hospital, Glostrup, Denmark. Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Research Centre of Ageing & Osteoporosis, Department of Medicine & Diagnostics, Copenhagen University Hospital, Glostrup, Denmark, [3]Research Centre of Ageing & Osteoporosis, Department of Medicine, Copenhagen University Hospital, Glostrup, Denmark, [4]Research Centre for Prevention & Health, Denmark

Disclosures: Barbara Rubek Nielsen, None

SU0053 **Loading during Growth is Associated with Radius Marrow Density and Sector-specific Cortical Properties**

Jodi Dowthwaite*[1], Tomas Cervinka[2], Charity Ntansah[3], Harri Sievanen[4], Tamara Scerpella[5]. [1]SUNY Upstate Medical University;, Syracuse University, USA, [2]Tampere University of Technology, Finland, [3]Syracuse University, USA, [4]The UKK Institute for Health Promotion Research, Finland, [5]University of Wisconsin, USA

Disclosures: Jodi Dowthwaite, None

SU0054 **Visceral adiposity is independently and inversely associated with bone mineral density.**

Mark Peterson*, Palak Choksi. University of Michigan, USA

Disclosures: Mark Peterson, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: ASSESSMENT OF BONE DISEASE IN CHILDREN

SU0055 **The association of pediatric fractures with serum vitamin D25 [25(OH)D] levels compared to non-fracture community controls**

Barbara Minkowitz*[1], Barbara Cerame[2], Eileen Poletick[3], Tim Leier[3], Sherri Luxenberg[3], Lior Fusman[3], Jonathan Chevinsky[3], Nicole Formoso[3], Renee Eng[3], Samantha Easton[3], Scott Musial[3], Ben Lee[2]. [1]Pediatric Orthopaedics, USA, [2]Goryeb Children's Hospital, USA, [3]Morristown Medical Center, USA

Disclosures: Barbara Minkowitz, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE DEVELOPMENT AND BONE MASS ACCRUAL

SU0056 **Distal one-third forearm bone mineral density of healthy young children is more highly related to lumbar spine than whole body bone mineral density**

Catherine Vanstone[1], Jonathon Maguire[2], Hope Weiler[3], Paula Lavery[1], Neil Brett*[1]. [1]McGill University, Canada, [2]University of Toronto, Canada, [3]McGill University, USA

Disclosures: Neil Brett, None

SU0057 **Effect of adiposity and trabecular bone microarchitecture on vibration transmission in the lower limb of children with spastic CP**

Harshvardhan Singh*[1], Daniel Whitney[1], Freeman Miller[2], Christopher Knight[1], Christopher Modlesky[1]. [1]University of Delaware, USA, [2]AI duPont Hospital for Children, USA

Disclosures: Harshvardhan Singh, None

SU0058 **Effects of exposure to oral contraceptive use on bone mineral accrual and bone density between 12 and 30 years of age: A longitudinal study**

Adam Baxter-Jones*[1], Stefan Jackowski[1], Ashlee McLardy[2], Carol Rodgers[1]. [1]University of Saskatchewan, Canada, [2]College of Kinesiology, University of Saskatchewa, Canada

Disclosures: Adam Baxter-Jones, None

SU0059 **Is adolescent body composition development associated with bone structural strength at the proximal femur in males at 50 years of age?**

Stefan Jackowski*[1], Donald Bailey[1], Joey Eisenmann[2], Lauren Sherar[3], Adam Baxter-Jones[1]. [1]University of Saskatchewan, Canada, [2]Michigan State University, USA, [3]Loughborough University, United Kingdom

Disclosures: Stefan Jackowski, None

SU0060 **Risk of vitaminD insuficiency and inadequate bone mineral status in newcomer immigrant and refugee children in Canada, data from Healthy Immigrant Children study**
Hassanali Vatanparast*, Virginia Lane. University of Saskatchewan, Canada
Disclosures: Hassanali Vatanparast, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE LOSS IN PEDIATRICS

SU0061 **Associations between Vitamin D Status, Undercarboxylated Osteocalcin, and Glucose Metabolism in American Children**
Kelly Giudici*[1], Berdine Martin[2], Emma Laing[3], George McCabe[4], Linda McCabe[5], Dorothy Hausman[6], Ligia Martini[7], Richard Lewis[3], Connie Weaver[2], Munro Peacock[8], Kathleen Hill Gallant[2]. [1]Department of Nutrition, School of Public Health, University of São Paulo, Brazil, [2]Purdue University, USA, [3]The University of Georgia, USA, [4]Department of Statistics, College of Science, Purdue University, USA, [5]Department of Nutrition Science, College of Health & Human Sciences, Purdue University, USA, [6]Department of Foods & Nutrition, University of Georgia, USA, [7]University of São Paulo, Brazil, [8]Indiana University Medical Center, USA
Disclosures: Kelly Giudici, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: EFFECTS OF BONE ACTIVE DRUGS IN CHILDREN

SU0062 **Effects of 2 years on treatment with Zoledronic acid given every 6 months on bone mineral density, bone turnover and skeletal architecture in children with secondary osteoporosis**
Craig Munns*, Craig Coorey, Julie Briody, Andrew Biggin. The Children's Hospital at Westmead, Australia
Disclosures: Craig Munns, Novartis, 2

BONE MARROW MICROENVIRONMENT AND NICHES: STEM CELL NICHES

SU0063 **Osteocyte-mediated parathyroid hormone signaling restrains the long-term hematopoietic stem cell pool in the bone marrow**
Benjamin Frisch*[1], Alexandra Goodman[1], Olga Bromberg[1], Xiaolin Tu[2], Teresita Bellido[2], Laura Calvi[3]. [1]University of Rochester School of Medicine & Dentistry, USA, [2]Indiana University School of Medicine, USA, [3]University of Rochester School of Medicine, USA
Disclosures: Benjamin Frisch, None

BONE MARROW MICROENVIRONMENT AND NICHES: BONE AND HEMATOPOIESIS

SU0064 **Fibronectin from the Osteoblastic Niche Modulates Myelopoiesis and the Response to Cancer**
Sabrina Kraft*[1], Carla Sens[1], Anja von Au[1], Inaam Nakchbandi[2]. [1]University of Heidelberg & Max-Planck Institute of Biochemistry, Germany, [2]Max-Planck Institute of Biochemistry & University of Heidelberg, Germany
Disclosures: Sabrina Kraft, None

SU0065 **High plasma osteocalcin associates with low blood Hb and anemia in elderly men; The MrOS Sweden Study**
Catharina Lewerin*[1], Helena Johansson[2], Ulf Lerner[3], Magnus Karlsson[4], Mattias Lorentzon[5], Elizabeth Barrett-Connor[6], Ulf Smith[7], Claes Ohlsson[8], Dan Mellstrom[9]. [1]Västra Götaland, Sweden, [2]Center for Bone & Arthritis Research, Sweden, [3]Sahlgrenska Univesity Hospital, Sweden, [4]Skåne University Hospital Malmö, Lund University, Sweden, [5]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [6]University of California, San Diego, USA, [7]Department of Molecular & Clinical Medicine, Sahlgrenska Academy, Sweden, [8]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [9]Sahlgrenska University Hospital, Sweden
Disclosures: Catharina Lewerin, None

BONE MARROW MICROENVIRONMENT AND NICHES: BONE AND VASCULATURE

SU0066 Simultaneous Measurement of Changes in Bone Remodeling and Microvasculature in Response to Estrogen Deficiency-Induced Bone Loss and Intermittent PTH-Induced Bone Gain

Wei-Ju Tseng*[1], Chantal De Bakker[1], Tiao Lin[1], Wei Tong[2], Haoruo Jia[1], L. Scott Levin[3], Ling Qin[1], Xiaowei Liu[1]. [1]University of Pennsylvania, USA, [2]Perelman school of medicine, USA, [3]Hospital of the University of Pennsylvania, USA

Disclosures: Wei-Ju Tseng, None

BONE MARROW MICROENVIRONMENT AND NICHES: GENERAL

SU0067 The Effect of Phosphate Deficiency on Callus Composition

Amira Hussein*[1], Kyle Lybrand[2], Anthony De Giacomo[2], Kamolnat Tabattanon[1], Brenna Hogue[2], Chantal De Bakker[1], Marie Demay[3], Elise Morgan[1], Louis Gerstenfeld[2]. [1]Boston University, USA, [2]Boston University School of Medicine, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA

Disclosures: Amira Hussein, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

SU0068 Engineering an Ex Vivo Analogue of Bone Tissue for Studies of Bone Metastasis

Eliza Fong*[1], Xinqiao Jia[2], Antonios Mikos[3], Daniel Harrington[3], Mary Farach-Carson[3]. [1]BioScience Research Collaborative, USA, [2]University of Delaware, USA, [3]Rice University, USA

Disclosures: Eliza Fong, None

SU0069 Withdrawn

SU0070 The Bone Microenvironment Modulates ERα Positive Mammary Cancer Cells Favoring Estrogen Independent Skeletal Metastasis

Aude-Helene CAPIETTO*[1], Szeman Ruby Chan[1], Julie Allen[1], Robert Schreiber[1], Roberta Faccio[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St Louis School of Medicine, USA

Disclosures: Aude-Helene CAPIETTO, None

SU0071 The role of Insulin-like growth factor-I and Focal adhesion kinase in angiogenesis of tumor induced bone metastasis

Naito Kurio*[1], Tsuyoshi Shimo[2], Hiromasa Kuroda[3], Kenichi Matsumoto[3], Tatsuo Okui[3], Akira Sasaki[3]. [1]Japan, Japan, [2]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, [3]Okayama university, Japan

Disclosures: Naito Kurio, None

BONE TUMORS AND METASTASIS: GENERAL

SU0072 Cell-to-Cell Crosstalk Between Multiple Myeloma Cells and Osteocytes Activates Notch Signaling and Triggers Osteocyte Apoptosis

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Disclosures: Jesus Delgado-Calle, None

SU0073 Diagnostic microRNA Biomarkers Differentiate Benign Osteblastoma and Malignant Osteosarcoma

Scott Riester*[1], Amel Dudakovic[1], Eric Lewallen[1], Jorge Torres-Morra[1], Emily Camilleri[1], Peter Rose[1], Michael Yaszemski[2], Franklin Sim[1], Thomas Shives[1], Sanjeev Kakar[1], Andre Van Wijnen[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

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SU0074 NELL-1 expression in benign and malignant bone tumors and correlation with malignant potential

Jia Shen[1], Kevork Khadarian[2], Greg Asatrian[2], Xinli Zhang[1], Sarah Dry[2], Kang Ting[1], Chia Soo[2], Aaron James*[1]. [1]University of California, Los Angeles, USA, [2]UCLA, USA

Disclosures: Aaron James, None

SU0075 **Serum Dickkopf-1 is a prognostic marker in prostate cancer**
Tilman Rachner*[1], Stefanie Thiele[1], Andy Göbel[1], Susanne Füssel[1], Martina Rauner[2], Lorenz Hofbauer[3]. [1]University Hospital Dresden, Germany, [2]Medical Faculty of the TU Dresden, Germany, [3]Dresden University Medical Center, Germany
Disclosures: Tilman Rachner, Novartis, 2

SU0076 **The protein tyrosine phosphatase Rptpz suppresses osteosarcoma development in Trp53-heterozygous mice**
Christina Baldauf*[1], Anke Jeschke[2], Vincent Kanbach[2], Philip Catala-Lehnen[2], Peter Nollau[3], Michael Amling[4], Sheila Harroch[5], Thorsten Schinke[6]. [1]University of Hamburg, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, [3]Department of Clinical Chemistry, University Medical Center Hamburg Eppendorf, Hamburg, Germany, [4]University Medical Center Hamburg-Eppendorf, Germany, [5]Department of Neuroscience, Institute Pasteur, France, [6]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany
Disclosures: Christina Baldauf, None

BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

SU0077 **Effects of PGE2 receptor EP4 antagonist on breast cancer-induced bone metastasis and bone destruction in the metastasis region**
Kenta Watanabe[1], Chiho Matsumoto[1], Michiko Hirata[1], Takayuki Maruyama[2], Masaki Inada[1], Chisato Miyaura*[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Ono Pharmaceutical Co., Ltd, Japan
Disclosures: Chisato Miyaura, None

SU0078 **Heparanase elicits a bone resident cell-like phenotype in multiple myeloma cells and promotes myeloma bone metastasis**
Timothy Trotter*[1], Haiyan Chen[1], Patrick Rowan[1], Qianying Pan[1], Mei Li[1], Larry Suva[2], Amjad Javed[1], Yang Yang[3]. [1]University of Alabama at Birmingham, USA, [2]University of Arkansas for Medical Sciences, USA, [3]The University of Alabama At Birmingham, USA
Disclosures: Timothy Trotter, None

SU0079 **Osteocytes' Response to Mechanical Loading Supports Breast Cancer Cell Growth and Migration**
Yu-Heng Ma*[1], Lidan You[2]. [1]University of Toronto, Canada, [2]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Yu-Heng Ma, None

BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

SU0080 **Molecular Mechanisms of Bone Invasion by Oral Squamous Cell Carcinoma (OSCC)**
Jingjing Quan*[1], Nigel Morrison[2], Newell Johnson[3], Jin Gao[4]. [1]Guanghua Dental Hospital of Sun Yat-sen University, Peoples Republic of China, [2]Griffith University, Gold Coast Campus, Australia, [3]Griffith Univeristy, Australia, [4]James Cook University, Australia
Disclosures: Jingjing Quan, None

SU0081 **PTHrP Abrogates CARP-1 Functional Mimetics (CFMs) Induced Growth Inhibition of Differentiated Osteoblasts**
Sahiti Chukkapalli[1], Arun Rishi[2], Nabanita Datta*[1]. [1]Wayne State University School of Medicine, USA, [2]Wayne State University, USA
Disclosures: Nabanita Datta, None

SU0082 **The Mevalonate Pathway Inhibitors Atorvastatin and Zoledronic Acid Exhibit Synergistic Anti-Tumor Effects in Bone-Seeking Human Tumor Cells**
Andy Goebel*[1], Stefanie Thiele[2], Andrew Browne[2], Martina Rauner[3], Lorenz Hofbauer[4], Tilman Rachner[5]. [1]University Hospital Carl Gustav Carus, Germany, [2]Division of Endocrinology, Diabetes & Metabolic Bone Diseases, Germany, [3]Medical Faculty of the TU Dresden, Germany, [4]Dresden University Medical Center, Germany, [5]University Hospital Dresden, Germany
Disclosures: Andy Goebel, None

SU0083 **The Pain Mediator NGF is Induced by Multiple Myeloma *in vivo*, and Relieved by Therapeutic Activation of Adiponectin Signalling**
Sam Olechnowicz*[1], Megan Weivoda[2], Seint Lwin[3], James Edwards[3], Claire Edwards[3]. [1]University of Oxford, GBR, [2]Mayo Clinic, USA, [3]University of Oxford, United Kingdom
Disclosures: Sam Olechnowicz, None

CHONDROCYTES: ARTICULAR CARTILAGE

SU0084 ***In Vitro* Effects of Strontium on the Proliferation Process of Human Articular Chondrocytes**
Cecilia Romagnoli*[1], Roberto Zonefrati[1], Carmelo Mavilia[1], Anna Maria Carossino[1], Annalisa Tanini[1], Maria Luisa Brandi[2]. [1]University of Florence, Italy, [2]Direttore Malattie Del Metabolismo Minerale E Osseo, Azienda Ospedaliera Univers, Italy
Disclosures: Cecilia Romagnoli, None

SU0085 **A potential role for TGFβ-RII/MCP-5/ PTHrP axis in post-traumatic osteoarthritis**
Lara Longobardi*[1], Nunzia D'Onofrio[2], Tieshi Li[1], Joseph Temple[3], Huseyin Ozkan[4], Alessandra Esposito[3], Helen Willcockson[5], Timothy Myers[5], Ping Ye[1], Billie Moats-Staats[6], Lidia Tagliafierro[3], Marialuisa Balestrieri[2], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]Second University of Naples, Italy, [3]UNC-Chapel Hill, USA, [4]Gulhane Military Medical Academy, Etlik, Turkey, [5]University of North Carolina, USA, [6]University of North Carolina- Chapel Hill, USA
Disclosures: Lara Longobardi, None

SU0086 **Evaluation of cartilage based on second harmonic generation microscopy**
Hiroshi Kiyomatsu*[1], Takeshi Imamura[2], Atsuhiko Hikita[3], Tadahiro Iimura[4], Tsuyoshi Miyazaki[5], Yusuke Ohsima[6], Takashi Saitou[7], Hiromasa Miura[8]. [1]Ehime University Hospital, Japan, [2]Ehime University Graduate School of Medicine, Japan, [3]Ehime University, Japan, [4]Ehime University, Proteo-Science Center (PROS), Japan, [5]Tokyo Metropolitan Geriatric Hospital & Institute of Gerontology, Japan, [6]Translational Research Center, Ehime University Hospital, Japan, [7]Department of Molecular Medicine for Pathogenesis, Ehime University Graduate School of Medicine, Japan, [8]Department of Orthopaedic Surgery, Ehime University Graduate School of Medicine, Japan
Disclosures: Hiroshi Kiyomatsu, None

SU0087 **NFAT1 is an Upstream Regulator of Specific Anabolic and Catabolic Genes in Mouse Articular Cartilage**
Mingcai Zhang*[1], Qinghua Lu[2], Andrew Miller[2], Clayton Theleman[2], Jinxi Wang[2]. [1]Department of Orthopedic Surgery, University of Kansas Medical Center, USA, [2]University of Kansas Medical Center, USA
Disclosures: Mingcai Zhang, None

SU0088 **Role of estrogen and estrogen receptor beta signaling in mediating mandibular condylar growth in young male mice**
Sunil Wadhwa, Jing Chen, Manshan Xu*, Helen Lu, Thomas Choi. Columbia University, USA
Disclosures: Manshan Xu, None

CHONDROCYTES: ORIGIN, DIFFERENTIATION, APOPTOSIS

SU0089 **Effects Of Extracellular Calcium In Human And Porcine Adipose Derived Stem Cell Differentiation For Osteochondral Tissue Engineering**
Liliana Mellor*[1], Elizabeth Loboa[1], Farshid Guilak[2], Jorge Piedrahita[1], Sehwon Koh[1], John Williams[1]. [1]North Carolina State University, USA, [2]Duke University, USA
Disclosures: Liliana Mellor, None

SU0090 **Epigenetic Regulatory Role of KDM4B in TGFβ-Mediated Chondrogenic Differentiation of Human MSCs**
Christine Hong*[1], Hyelim Lee[2], Cun-Yu Wang[3]. [1]UCLA School of Dentistry, USA, [2]Seoul National University, South Korea, [3]UCLA, USA
Disclosures: Christine Hong, None

SU0091 **Osteoclasts regulate chondrocyte metabolism through the inhibition of the Wnt canonical pathway.**
Chahrazad Cherifi*[1], Wafa Bouaziz[2], Martine Cohen-solal[3], Eric Hay[1]. [1]Inserm U1132, France, [2]INSERM U606, France, [3]Hôpital Lariboisière, France
Disclosures: Chahrazad Cherifi, None

SU0092 **Preferentially expressed genes in synovium derived stromal cells include atypical genes not expressed highly in mouse synovium but in embryonic cartilages**
Yoichi Ezura*[1], Tadayoshi Hayata[2], Takuya Notomi[3], Ichiro Sekiya[4], Masaki Noda[4]. [1]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [2]Organization for Educational Initiatives, University of Tsukuba, Japan, [3]Department of Pharmacology, Osaka Dental University, Japan, [4]Tokyo Medical & Dental University, Japan
Disclosures: Yoichi Ezura, None

SU0093 **The enzymatic activity of IRE1a modulates chondrocyte differentiation**
Fengjin Guo*[1], Zhangyuan Xiong[2], Peng Zhang[3], Xiaofeng Han[3]. [1]Chongqing Medical University, Peoples Republic of China, [2]Department of Cell Biology & Genetics,Core Facility of Development Biology, Chongqing Medical University, China, [3]Department of Cell Biology & Genetics, Core Facility of Development Biology, Chongqing Medical University, Chongqing 400016, China, China
Disclosures: Fengjin Guo, None

SU0094 **W9 peptide repaired full-thickness articular cartilage defects in rabbits. - Mechanism of chondrogenic differentiation by W9 peptide -**
Yuriko Furuya*[1], Hisashi Mera[2], Maki Itokazu[3], Hiroaki Nakamura[4], Kohji Uchida[5], Shigeyuki Wakitani[2], Hisataka Yasuda[6]. [1]Oriental Yeast Co.,Ltd, Japan, [2]Mukogawa Women's University, Japan, [3]Osaka City University Graduate School of Medicine, Japan, [4]Osaka City University Gradulate School of Medicine, Japan, [5]Oriental Yeast Co., Ltd., Japan, [6]Oriental Yeast Company, Limited, Japan
Disclosures: Yuriko Furuya, Oriental Yeast Co.,Ltd., 3

CHONDROCYTES: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SU0095 **Leptin increases VEGF expression and enhances angiogenesis in human chondrosarcoma cells**
Yi-chin Fong*[1], Wei-Hung Yang[2], Jui-Chieh Chen[3], Chih-Hsin Tang[3]. [1]China Medical University Hospital, Taiwan, [2]China Medical University Hospital, Taiwan, [3]China Medical University, Taiwan
Disclosures: Yi-chin Fong, None

CONNECTIVE TISSUE MATRIX: COLLAGEN AND PROTEINASES

SU0096 **Influence of Beta-Aminoproprionitrile on Morphology of Type I Collagen Produced by MC3T3-E1 Osteoblasts and Measured Using Atomic Force Microscopy**
Silvia Canelon*[1], Joseph Wallace[2]. [1]Purdue University, USA, [2]Indiana University Purdue University Indianapolis (IUPUI), USA
Disclosures: Silvia Canelon, None

SU0097 **Sc65 is a novel ER protein and a regulator of bone mass homeostasis**
Roy Morello*[1], Roberta Besio[1], Patrizio Castagnola[2], Milena Dimori[1], Yuqing Chen[3], Dana Gaddy[1], Larry Suva[1]. [1]University of Arkansas for Medical Sciences, USA, [2]IRCCS AOU San Martino – IST, Italy, [3]Baylor College of Medicine, USA
Disclosures: Roy Morello, None

CONNECTIVE TISSUE MATRIX: GENERAL

SU0098 **Monoosteophils Accelerate Nonunion Bone Repair by Using Intracellular Apatite Formation**
Zhifang Zhang*, Keith Le, Frances Chang, Zhuo Li, Ricardo Zerda, Marcia Miller, John Shively. City of hope, USA
Disclosures: Zhifang Zhang, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

SU0099 **An insulin-sensitizing thioglitazone, which fails to activate PPARγ, does not cause bone loss**
Tomohiro Fukunaga*[1], Wei Zou[1], Nidhi Rohatgi[2], Jerry Colca[3], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA, [3]Metabolic Solutions Development Company, USA
Disclosures: Tomohiro Fukunaga, None

SU0100 **Dramatic effects of high and low glucose on osteocytes: A model for the effects of glucose on bone loss**
Donna Pacicca*[1], Tammy Brown[1], Lynda Bonewald[2]. [1]Children's Mercy Hospital, USA, [2]University of Missouri - Kansas City, USA
Disclosures: Donna Pacicca, None

SU0101 **Glucose Intolerance Attenuates Bone Accrual in Young Growing Skeleton by Promoting the Maturation of Osteoblasts through Beclin1-Mediated Autophagy**
Elizabeth Rendina-Ruedy*[1], Jennifer Graef[1], Stan Lightfoot[2], Jerry Ritchey[3], Stephen Clarke[1], Edralin Lucas[1], Brenda Smith[1]. [1]Oklahoma State University, USA, [2]Center for Cancer Prevention & Drug Development, University of Oklahoma Health Sciences Center, USA, [3]Department of Veterinary Pathology, Oklahoma State University, USA
Disclosures: Elizabeth Rendina-Ruedy, None

SU0102 **mTOR-dependent Reactive Oxygen Species Contribute to Diabetic Bone Pathology**
Nandini Ghosh-Choudhury*[1], Balakuntalam S Kasinath[1], Kavithalakshmi Sataranatarajan[2], Hanna E Abboud[2], Jameela Banu[3], Goutam Ghosh Choudhury[2]. [1]University of Texas Health Science Center at San Antonio, USA, [2]University of Texas Health Science Center, USA, [3]University of Texas-Pan American, USA
Disclosures: Nandini Ghosh-Choudhury, None

SU0103 **Protective effect of ion zinc on bone strength and flexibility: Bone biomechanical and molecular analyses in type 1 diabetes model**
Raul H Bortolin*[1], Marcela A G Ururahy[2], Flávio S Silva[2], Angelica A S Batista[3], Giselle Oliveira[3], Karla S C Souza[2], Melina B Loureiro[2], Valeria M G Duarte[4], Bento J Abreu[2], Maria G Almeida[2], Luciana A Rezende[3], Adriana Rezende[5]. [1]Federal University of Rio Grande do Norte, USA, [2]Federal University of Rio Grande do Norte, Brazil, [3]University of Ribeirão Preto, Brazil, [4]State University of Paraiba, Brazil, [5]Federal University of Rio Grande De Norte-UFRN, Brazil
Disclosures: Raul H Bortolin, None

SU0104 **Type 2 diabetes increases infection severity, impairs humoral immunity, and alters bone remodeling following orthopaedic implant associated *S. aureus*infection**
Christopher Farnsworth*[1], Robert Maynard[1], Edward Schwarz[1], Michael Zuscik[2], Robert Mooney[3]. [1]University of Rochester, USA, [2]University of Rochester School of Medicine & Dentistry, USA, [3]University of Rochester Medical Center, USA
Disclosures: Christopher Farnsworth, None

ENERGY METABOLISM AND BONE: FAT AND BONE

SU0105 **Apolipoprotein E protects mice from osteoporosis by promoting osteoblasts differentiation and inhibiting osteoclasts induction**
Takaaki Noguchi*[1], Kosuke Ebina[2], Masafumi Kashii[3], Yohei Matsuo[4], Tsuyoshi Sugiura[5], Jun Hashimoto[6], Hideki Yoshikawa[3]. [1]Osaka university, Japan, [2]Osaka University, Graduate School of Medicine, Japan, [3]Osaka University Graduate School of Medicine, Japan, [4]Japan, [5]Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, [6]National Hospital Organization, Osaka Minami Medical Center, Japan
Disclosures: Takaaki Noguchi, None

SU0106 **Changes in Bone Marrow Fat During Gastric Bypass Surgery-Induced Weight Loss**
Anne Schafer*[1], Ann Schwartz[2], Dennis Black[2], Amber Wheeler[2], Lygia Stewart[3], Stanley Rogers[2], Jonathan Carter[2], Andrew Posselt[2], Dolores Shoback[4], Xiaojuan Li[2]. [1]University of California, San Francisco & the San Francisco VA Medical Center, USA, [2]University of California, San Francisco, USA, [3]San Francisco VA Medical Center & the University of California, San Francisco, USA, [4]VA Medical Center, USA
Disclosures: Anne Schafer, None

SU0107 **Differences in the Associations of Obesity with Bone Density, Microarchitecture and Strength in Younger and Older Adults**
Amy Evans*, Margaret Paggiosi, Richard Eastell, Jennifer Walsh. University of Sheffield, United Kingdom
Disclosures: Amy Evans, None

SU0108 **Relationships Between Total Body and Regional Adiposity and Cortical and Trabecular Architecture in Late Adolescent Females**

Joseph Kindler*[1], Hannah Ross[1], Emma Laing[1], Christopher Modlesky[2], Norman Pollock[3], Clifton Baile[4], Mark Punyanitya[5], Richard Lewis[1]. [1]The University of Georgia, USA, [2]University of Delaware, USA, [3]Georgia Regents University, USA, [4]University of Georgia, USA, [5]Image Reading Center, Inc., USA

Disclosures: Joseph Kindler, None

SU0109 **Skeletal response to caloric restriction differs in male vs. female mice**

Maureen Devlin*[1], Miranda Van Vliet[2], Leeann Louis[2], Christine Conlon[2], Mary Bouxsein[3]. [1]University of Michigan, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Disclosures: Maureen Devlin, None

ENERGY METABOLISM AND BONE: GENERAL

SU0110 **Effect of dietary Fe on FGF23 level of adriamycin-treated mice**

Masanori Takaiwa*[1], Kosei Hasegawa[2], Kunihiko Aya[3], Hiroyuki Tanaka[4], Yoichi Kondoh[1], Nobuyuki Kodani[1]. [1]Dept. of Pediatrics, Matsuyama Red Cross Hosp., Japan, [2]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [3]Kurashiki Chuou Hospital, Japan, [4]Okayama Saiseikai General Hospital, Japan

Disclosures: Masanori Takaiwa, None

SU0111 **Impact of Common Variants in Type 2 Diabetes Genes on Fracture Risk and Measures of Bone Quality in African American Children**

Courtney Sprouse*[1], Joseph Devaney[2], Heather Gordish-Dressman[2], Leticia Ryan[3], Laura Tosi[1]. [1]Children's National Medical Center, USA, [2]Children's National Health System, USA, [3]Johns Hopkins University, USA

Disclosures: Courtney Sprouse, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: ANIMAL MODELS

SU0112 **A 'conditional-ON' mouse model of Fibrodysplasia Ossificans Progressiva (FOP)**

Sarah Hatsell*[1], Lily Huang[2], Liqin Xie[3], Trikaldarshi Persaud[2], Peter Yang[2], Lili Wang[2], Xialing Wen[2], Kalyan Nannuru[2], Vincent Idone[2], Aris Economides[4]. [1]Regeneron Pharmaceuticals, USA, [2]Regeneron Pharmaceuticals Inc, USA, [3]Regeneron Pharmaceutical company, USA, [4]Regeneron Pharmaceuticals, Inc., USA

Disclosures: Sarah Hatsell, None

SU0113 **Withdrawn**

SU0114 **A Transgenic Mouse Model of OI Type V Suggests the IFITM5 c.-14C>T Mutation Is Neomorphic**

Ronit Marom*[1], Caressa Lietman[1], Ming Ming Jiang[1], Elda Munivez[1], Brian Dawson[1], Terry Bertin[1], Yuqin Chen[1], MaryAnn Weis[2], David Eyre[3], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]University of Washington, USA, [3]University of Washington Orthopaedic Research Labs, USA

Disclosures: Ronit Marom, None

SU0115 **Abnormal Bone Morphology in a Feline Model of Sandhoff Disease**

Margaret McNulty*[1], Patricia Beadlescomb[2], Miguel Sena-Esteves[3], Ashley Randle[4], Aime Johnson[5], D. Ray Wilhite[6], Douglas Martin[2]. [1]Louisiana State University School of Veterinary Medicine, USA, [2]Auburn University College of Veterinary Medicine, Scott-Ritchey Research Center, Dept. of Anatomy, Physiology, & Pharmacology, USA, [3]University of Massachusetts Medical School, Department of Neurology & Gene Therapy Center, USA, [4]Auburn University College of Veterinary Medicine, Scott-Ritchey Research Center, USA, [5]Auburn University College of Veterinary Medicine, Department of Clinical Sciences, Scott-Ritchey Research Center, USA, [6]Auburn University College of Veterinary Medicine, Dept. of Anatomy, Physiology, & Pharmacology, USA

Disclosures: Margaret McNulty, None

SU0116 **Activation of FGF/FGF Receptor Signaling in the Primary Osteocytes Isolated from Hypophosphatemic *Hyp* Mice**

Kazuaki Miyagawa*[1], Miwa Yamazaki[2], Masanobu Kawai[2], Takao Koshimizu[2], Jin Nishino[2], Yasuhisa Ohata[3], Kanako Tachikawa[2], Yuko Mikuni-Takagaki[4], Mikihiko Kogo[5], Keiichi Ozono[3], Toshimi Michigami[2]. [1]Osaka University, Japan, [2]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [3]Osaka University Graduate School of Medicine, Japan, [4]Kanagawa Dental University Graduate School of Dentistry, Japan, [5]Osaka University Graduate School of Dentistry, Japan

Disclosures: Kazuaki Miyagawa, None

SU0117 **Development of Refined Methods to Induce Heterotopic Ossification in the Alk2^{Q207D} Mouse Model of Fibrodysplasia Ossificans Progressiva**

Nicole Fleming[1], Satoru Hayano[2], Yuji Mishina[2], Charles Hong[3], Paul Yu[4], Daniel Perrien*[5]. [1]VUIIS, Vanderbilt University, USA, [2]Dept. of Biologic & Materials Sciences, University of Michigan School of Dentistry, USA, [3]Department of Cardiovascular Medicine, Vanderbilt University, USA, [4]Division of Cardiology, Harverd Medical School & Brigham & Women's Hospital, USA, [5]TVHS, Department of Veterans Affairs; Dept of Orthopaedic Surgery & Rehabilitation,Vanderbilt University, USA

Disclosures: Daniel Perrien, None

SU0118 **Dystrophic Systemic Milieu Plays an ImportantRole in the Muscle and Bone Abnormalities in Duchenne Muscular Dystrophy**

Hongshuai Li*[1], Aiping Lu[1], Ying Tang[1], Bing Wang[1], Johnny Huard[2]. [1]University of Pittsburgh, USA, [2]Orthopaedic Surgery, USA

Disclosures: Hongshuai Li, None

SU0119 **Enhanced TLR-MYD88 Signaling Stimulates Autoinflammation in SH3BP2 Cherubism Mice and Defines the Etiology of Cherubism**

Teruhito Yoshitaka[1], Tomoyuki Mukai[2], Mizuho Kittaka[3], Bjorn Olsen[4], Ernst Reichenberger[5], Yasuyoshi Ueki*[6]. [1]University Missouri-Kansas City, School of Dentistry, USA, [2]University of Missouri - Kansas City, USA, [3]University of Missouri-Kansas City, School of Dentistry, USA, [4]Harvard School of Dental Medicine, USA, [5]University of Connecticut Health Center, USA, [6]University of Missouri-Kansas City, School of Dentistry, USA

Disclosures: Yasuyoshi Ueki, None

SU0120 **Iroquois Homeobox Factors 3 and 5 Regulation of Skull Mineralization**

Corey Cain*[1], Nathalie Gaborit[2], Wint Lwin[1], Edward Hsiao[1]. [1]University of California, San Francisco, USA, [2]Inserm 1087/CNRS UMR 6291, Institut du Thorax, France

Disclosures: Corey Cain, None

SU0121 **Mechanisms of Mineral Metabolism During Pregnancy in Mice with X-Linked Hypophosphatemia (XLH)**

Steven Tommasini*[1], Meina Wang[2], Helen King[2], Catherine Skinner[2], Carolyn Macica[3]. [1]Yale School of Medicine, USA, [2]Yale University, USA, [3]Frank H. Netter School of Medicine Quinnipiac University, USA

Disclosures: Steven Tommasini, None

SU0122 **Mouse Model with Mutant Type I Collagen C-propeptide Cleavage Site has Brittle Bones and Increased Osteoblast Mineralization**

Aileen Barnes*[1], Joseph Perosky[2], M. Helen Rajpar[1], Kenneth Kozloff[3], Joan Marini[4]. [1]NICHD/NIH, USA, [2]University of Michigan, USA, [3]University of Michigan Department of Orthopaedic Surgery, USA, [4]National Institute of Child Health & Human Development, USA

Disclosures: Aileen Barnes, None

SU0123 **The Collaborative Cross, a Next-Generation Genetic Analysis Platform for Complex Skeletal Traits**

Charles Farber[1], Larry Mesner*[1], Gina Calabrese[2], Steven Tommasini[3], Mark Horowitz[4], Clifford Rosen[5]. [1]University of Virginia, USA, [2]USA, [3]Yale University, USA, [4]Yale University School of Medicine, USA, [5]Maine Medical Center, USA

Disclosures: Larry Mesner, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: GENE THERAPY

SU0124 A Peptide-functionalized delivery system to target osteoclasts

Ge Zhang[1], Lei Dang*[2], Baosheng Guo[2], Defang Li[3], Jin Liu[2], Chao Liang[2], Xiaojuan He[4], Heng Wu[2], Zhijun Yang[2], Zicai Liang[3], Aiping Lu[2]. [1]Ge Zhang' S Lab, Hong Kong, [2]Hong Kong Baptist University, China, [3]Kunshan Industrial Technology Research Institute, China, [4]China Academy of Chinese Medical Sciences, China

Disclosures: Lei Dang, None

SU0125 Improvement of enamel and skeletal defects in murine hypophosphatasia via lentiviral gene therapy

Seiko Yamamoto*[1], Carmen Huesa[2], Eri Yokoi[3], Chika Endo[4], Yumi Obi[4], Kei Ogawa[5], Takehiko Shimizu[3], Takashi Shimada[6], Jose Luis Millan[7]. [1]Nihon University, Japan, [2]University of the West of Scotland, United Kingdom, [3]Nihon University School of Dentistry at Matsudo Department of Pediatric Dentistry, Japan, [4]Nihon University School of Dentistry at Mastudo Department of Pediatric Dentistry, Japan, [5]Nihon University School of Dentistry at Mastudo Department of Pediatric Dentistry, Japan, [6]Nippon Medical School, Japan, [7]Sanford-Burnham Medical Research Institute, USA

Disclosures: Seiko Yamamoto, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: MONOGENIC BONE DISEASES

SU0126 Withdrawn

SU0127 Identification of a novel PCSK5 frameshift mutation in a patient with the VACTERL association

Yukio Nakamura*[1], Shingo Kikugawa[2], Hidehito Inagaki[3], Tatsuya Kobayashi[4], Hiroki Kurahashi[3], Hiroyuki Kato[5]. [1]Dept of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [2]DNA Chip Research Inc., Japan, [3]Fujita Health University, Japan, [4]Massachusetts General Hospital, USA, [5]Shinshu University School of Medicine, Japan

Disclosures: Yukio Nakamura, None

SU0128 New Lessons From An Old Disease – What Alkaptonuria Teaches Us About Cartilage and Bone Remodelling

Craig Keenan*[1], Alan Boyde[2], Lakshminarayan Ranganath[1], James Gallagher[1], Nathan Jeffery[1], Jonathan Jarvis[1], Adam Taylor[3]. [1]University of Liverpool, United Kingdom, [2]Barts & The London School of Medicine & Dentistry, Queen Mary University of London., United Kingdom, [3]Lancaster University, United Kingdom

Disclosures: Craig Keenan, None

SU0129 Relationship between SQSTM1 mutations status and severity of Paget disease of Bone (PDB)

Manuel Diaz Curiel*[1], m[a] jesus moro alvarez[2], marjorie andrade[3], M[a] Jose Trujillo[4], Ignacio Mahillo Fernandez[5], Camilo Velez[6], Nerea Carvajal[7]. [1]Jimenez Diaz Fundacion, Spain, [2]Department of Internal Medicine. Metabolic Bone Disease. Hospital Infanta Leonor., Spain, [3]Bone Diseases Service. IIFJD., Spain, [4]Genetic Department IIFJD, Spain, [5]IIFJD. Epidemiology Research, Spain, [6]Genetic Department. IIFJD, Spain, [7]Genetic Department, Spain

Disclosures: Manuel Diaz Curiel, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: OTHER DISEASES

SU0130 *Bicc1* Regulates the Expression of *Pkd2* in Osteoblasts and Genetic Variants in both are Associated with BMD

Larry Mesner[1], Yi-Hsiang Hsu[2], Ani Manichaikul[1], Elizabeth Bryda[3], Guanqing Wu[4], Stephen Rich[1], Clifford Rosen[5], Michael Criqui[6], Matthew Allison[6], Matthew Budoff[7], Thomas Clemens[8], Charles Farber*[1]. [1]University of Virginia, USA, [2]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [3]University of Missouri, USA, [4]Vanderbilt University, USA, [5]Maine Medical Center, USA, [6]University of California at San Diego, USA, [7]Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center, USA, [8]Johns Hopkins University, USA

Disclosures: Charles Farber, None

SU0131 **Withdrawn**

SU0132 **hiPSCs from Patients with Craniometaphyseal Dysplasia are Refractory to *in vitro* Osteoclast Differentiation**
I-Ping Chen*, Zhifang Hao, Ernst Reichenberger. University of Connecticut Health Center, USA
Disclosures: I-Ping Chen, None

HORMONAL REGULATORS: CALCITONIN AND OTHER HORMONES

SU0133 **Menaquinone-4 (Vitamin K_2) in Bone Originates from Menadione (Vitamin K_3) Released from Oral Phylloquinone (Vitamin K_1) During Intestinal Absorption**
Kimie Nakagawa*[1], Yoshihisa Hirota[1], Naoko Tsugawa[1], Yuri Uchino[1], Yoshitomo Suhara[2], Toshio Okano[1]. [1]Kobe Pharmaceutical University, Japan, [2]Shibaura Institute of Technology, Japan
Disclosures: Kimie Nakagawa, None

SU0134 **Regulation of Osteocytic Osteolysis by the Calcitonin Receptor During Lactation in Mice.**
Rachel Davey*[1], Michele Clarke[2], Patricia Russell[2], David Findlay[3], Jeffrey Zajac[4]. [1]University of Melbourne, Australia, [2]Department of Medicine, Austin Health, University of Melbourne, Australia, [3]University of Adelaide, Australia, [4]Austin Hospital, Australia
Disclosures: Rachel Davey, None

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

SU0135 **Fibroblast growth factor 23 impairs aortic relaxation: role of reactive oxygen species**
Neerupma Silswal*, Chad Touchberry, Jon Andresen, Michael Wacker. University of Missouri-Kansas City School of Medicine, USA
Disclosures: Neerupma Silswal, None

SU0136 **MEPE-ASARM, a Substrate of Phex, Decreases Bone Volume Independently of Serum Phosphate Levels**
Kaoru Sakurai*[1], Tomoko Minamizaki[2], Yoko Fujino[1], Yuichiro Takei[2], Hirotaka Yoshioka[3], Mitsugi Okada[2], Katsuyuki Kozai[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 Graduate School of Biomedical Sciences, Japan
Disclosures: Kaoru Sakurai, None

SU0137 **Role of renal phosphate excretion in the pathogenesis of renal stone disease and nephrocalcinosis: insights from the Npt2a knockout mouse model**
Yuwen Li[1], Chuanlong Zhu[1], Jun Guo[1], Marie Demay[2], Harald Jueppner[1], Clemens Bergwitz*[2]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Clemens Bergwitz, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

SU0138 **Chronic Inhibition of RANKL Induces an Osteoclast-Independent Mechanism of PTH-induced Calcium Mobilization**
Hila Bahar*[1], Akira Maeda[2], Monica Reyes[2], Thomas Dean[2], Ernestina Schipani[3], Paola Divieti Pajevic[4], Robert Neer[2], Paul Kostenuik[5], John Potts[2], Thomas Gardella[2]. [1]MGH & HMS, USA, [2]Massachusetts General Hospital, USA, [3]University of Michigan, USA, [4]Massachusetts General Hospital & Harvard Medical School, USA, [5]Amgen Inc., USA
Disclosures: Hila Bahar, None

SU0139 **Localization of parathyroid hormone-related protein and its receptor in MIN6 cells, a mouse insulinoma cell line**
Syu Mi Sam*[1], Kristi Milley[2], Peter Little[1], Jeffrey Zajac[3], Mathis Grossmann[4], Janine Danks[1]. [1]School of Medical Sciences, RMIT University, Australia, [2]RMIT University, Australia, [3]Austin Hospital, Australia, [4]The University of Melbourne, Department of Medicine, Australia
Disclosures: Syu Mi Sam, None

SU0140 **Mechanisms controlling duration of signaling at the PTH receptor 1**
Tomoyuki Watanabe*[1], Alexandre Gidon[2], Thomas Dean[1], John Potts[1], Jean-Pierre Vilardaga[2], Thomas Gardella[1]. [1]Massachusetts General Hospital, USA, [2]University of Pittsburgh, School of Medicine, USA
Disclosures: Tomoyuki Watanabe, None

SU0141 **Osteoblast number is dependent and bone formation independent of osteoblast-specific CaSR and calcium availability**
Saja Al-Dujaili*[1], Amy Koh[1], Ming Dang[1], Xue Mi[2], Wenhan Chang[3], Peter X. Ma[1], Laurie McCauley[4]. [1]University of Michigan, USA, [2]Tianjin University, China, [3]Endocrine Unit, VA Medical Center, University of California, San Francisco, USA, [4]University of Michigan School of Dentistry, USA
Disclosures: Saja Al-Dujaili, None

SU0142 **Reduced Differentiation of Bone Marrow Stromal Cells May Contribute to Attenuated Response to Long-term Intermittent Administration of PTH**
Jun Guo*[1], Forest Lai[1], Daniel Brooks[2], Joel Finkelstein[1], Mary Bouxsein[3], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Jun Guo, None

SU0143 **Segment specific role of Gsα in mediating parathyroid hormone actions in the renal proximal tubule**
yan zhu*[1], Cumhur Aydin[2], Isabelle Rubera[3], Michel Tauc[3], Min Chen[4], Lee Weinstein[4], Vladimir Marshansky[5], Murat Bastepe[1]. [1]Massachusetts General Hospital, Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, [3]LP2M CNRS 7370 Université de Nice Sophia Antipolis, France, [4]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [5]Program in Membrane Biology, Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: yan zhu, None

SU0144 **The Calcium-Sensing Receptor Supports the Growth of Breast Cancer Cells in High Calcium Environments By Stimulating Parathyroid Hormone-related Protein Production.**
Wonnam Kim*[1], Joshua VanHouten[2], Karena Swan[1], John Wysolmerski[2]. [1]Yale School of Medicine, USA, [2]Yale University School of Medicine, USA
Disclosures: Wonnam Kim, None

SU0145 **The transcription factor, Mef2c participates in PTH stimulated MMP-13 gene expression in osteoblastic cells through the AP-1 site and c-Fos**
Teruyo Nakatani*[1], Nicola Partridge[2]. [1]New York University College of Dentistry, USA, USA, [2]New York University College of Dentistry, USA
Disclosures: Teruyo Nakatani, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

SU0146 **High Estradiol to Testosterone Ratio is Associated with Higher Baseline Bone Mineral Density but Poorer Response to Testosterone Treatment in Hypogonadal Males**
Lina Aguirre*[1], Irum Jan[1], David Robbins[1], Dennis Villareal[2], Reina Armamento-Villareal[2]. [1]New Mexico VA Health Care System, USA, [2]University of New Mexico School of Medicine, USA
Disclosures: Lina Aguirre, None

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

SU0147 **A Common Polymorphism in the *CYP2R1* Gene Reduces Promoter Activity: Relevance to GWAS for 25(OH)D**
Jeff Roizen*[1], Alex Casella[2], Michael Levine[3]. [1]The Childrens Hospital of Philadelphia, USA, [2]Division of Endocrinology & Diabetes, The Children's Hospital of Philadelphia, Philadelphia, PA, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, United States, 19104, USA, [3]Children's Hospital of Philadelphia, USA
Disclosures: Jeff Roizen, None

SU0148 **Anabolic Bone Effect Of PGE_1 On The Rabbit Orthodontic Palate Disjunction**
Francisco Valasquez-Forero*. Hospital Infantil De Mexico Federico Gomez, Mexico
Disclosures: Francisco Valasquez-Forero, None

SU0149 **Effect of Dietary Calcium and Sodium on Blood Pressure and Its Related Gene Expression in *Cyp27b1* Knockout Mice**
Naoko Tsugawa*, Shiho Hiraiwa, Kanako Ohara, Kimie Nakagawa, Toshio Okano. Kobe Pharmaceutical University, Japan
Disclosures: Naoko Tsugawa, None

INFLAMMATORY BONE DISORDERS: ANKYLOSING SPONDYLITIS AND SPONDYLOARTHRITIS

SU0150 **Alterations of volumertic bone density, bone microarchitecture and bone strength in patients with ankylosing spondylitis: a case-control study using high-resolution peripheral quantitative computerized tomography**
Nisha Nigil Haroon*[1], Eva Szabo[2], Janet Raboud[3], Robert Josse[4], Robert. D. Inman[5], Angela M. Cheung[6]. [1]University of Toronto, Canada, [2]Osteoporosis Program, University Health Network, Canada, [3]Dept of Biostatistics, University of Toronto & Toronto General Research Institute, Canada, [4]St. Michael's Hospital, University of Toronto, Canada, [5]Department of Medicine, University of Toronto, Canada, [6]University Health Network-University of Toronto, Canada
Disclosures: Nisha Nigil Haroon, Salary support as a clinical fellow from Amgen Canada, 99

SU0151 **Circulating Osteoblast Precursors in Peripheral Blood Were Decreased after TNF-α Blocker Therapy in Patients with Ankylosing Spondylitis**
Seong-Ryul Kwon*, Won Park, Min-Jung Son, KoWoon Joo, Mie-Jin Lim, Kyoung-Hee Jung. INHA University Hospital, South Korea
Disclosures: Seong-Ryul Kwon, None

INFLAMMATORY BONE DISORDERS: GENERAL

SU0152 **Serum Sclerostin in Juvenile Idiopathic Arthritis**
Jan Stepan*[1], Kristyna Brabnikova Maresova[2], Katerina Jarosova[3], Karel Pavelka[3]. [1]Charles University, Czech Republic, [2]Institute of Reheumatology, Czech Republic, [3]Institute of Rheumatology, Czech Republic
Disclosures: Jan Stepan, None

INFLAMMATORY BONE DISORDERS: RHEUMATOID ARTHRITIS AND INFLAMMATORY ARTHRITIS

SU0153 **Comparison of the effect of 18-months daily teriparatide administration on patients with rheumatoid arthritis and postmenopausal osteoporosis patients**
Kosuke Ebina*[1], Jun Hashimoto[2], Masafumi Kashii[3], Takaaki Noguchi[4], Yohei Matsuo[5], Tsuyoshi Sugiura[6], Hideki Yoshikawa[3]. [1]Osaka University, Graduate School of Medicine, Japan, [2]National Hospital Organization, Osaka Minami Medical Center, Japan, [3]Osaka University Graduate School of Medicine, Japan, [4]Osaka Univiersity, Graduate school of medicine, Department of Orthopaedic Surgery, Japan, [5]Japan, [6]Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan
Disclosures: Kosuke Ebina, None

SU0154 **Role of the A2B Adenosine Receptor in the Degradation of Bone in Rheumatorid Arthritis**
Lauren Mangano*[1], Dana Daukss[2], Shannon Carroll[3], Katya Ravid[4], Louis Gerstenfeld[4], Elise Morgan[2]. [1]Boston Univeristy, USA, [2]Boston University, USA, [3]Boston Univerisyt, USA, [4]Boston University School of Medicine, USA
Disclosures: Lauren Mangano, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR EFFECT OF MECHANICAL LOADING AND UNLOADING

SU0155 ***In Vivo* Fatigue Damage in Bone Linked to Cytokine Expression**
Travis McCumber*[1], Bryan Hackfort[1], Mohammed Akhter[2], Diane Cullen[1]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA
Disclosures: Travis McCumber, None

SU0156 **Continuous and intermittent hypergravity induce a bone compartment-specific anabolic response and affect differently osteocyte Sclerostin expression**
Vasily Gnyubkin*[1], Alain Guignandon[2], Norbert Laroche[2], Arnaud Vanden-Bossche[2], Fiona Louis[2], Marie-Helene Lafage-Proust[3], Laurence Vico[4]. [1]Laboratoire de Biologie du Tissu Osseux, Inserm U1059, France, [2]INSERM U1059, LBTO, Faculty of Medicine, University of Lyon, France, [3]INSERM Unit 1059, France, [4]University of St-Etienne, France
Disclosures: Vasily Gnyubkin, None

SU0157 **Deficit in the Adaptation of Old Bone to Loading is Associated with Reduced Retention of Wnt Activity**
Nilsson Holguin*[1], Michael Brodt[2], Matthew Silva[3]. [1]Washington University Department of Orthopaedic Surgery, USA, [2]Washington University in St Louis, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Nilsson Holguin, None

SU0158 **Differential effects of involuntary running on bone structure of high-fat diet-induced obese rats**
Jay Cao*[1], Matthew Picklo[2]. [1]USDA ARS, USA, [2]Grand Forks Human Nutrition Research Center, USA
Disclosures: Jay Cao, None

SU0159 **Prolonged Performance of A High Repetition High Force Task Induces Bone Degradation in Young Adult Rats**
Vicky Massicotte[1], Michele Harris[1], Paul W Fisher[2], Steven Popoff[1], Mary Barbe*[1]. [1]Temple University School of Medicine, USA, [2]Temple University, USA
Disclosures: Mary Barbe, None

MECHANOBIOLOGY: GENERAL

SU0160 **Congenic Strains Confirm a Pleiotropic Bone QTL on Mouse Chromosome 4**
Jasmin Kristianto*[1], Michael Johnson[2], suzanne litscher[3], Forum Patel[3], Robert Blank[4]. [1]University of Wisconsin–Madison, USA, [2]University of Wisconsin, USA, [3]University of wisconsin Madison, USA, [4]Medical College of Wisconsin, USA
Disclosures: Jasmin Kristianto, None

SU0161 **Interleukin-11 is an important factor for mechanical stress-induced osteoblast differentiation and bone formation.**
Takeshi Kondo*[1], Bingzi Dong[1], Takashi Omatsu[1], Yukiyo Ohnishi[1], Itsuro Endo[2], Masahiro Abe[3], Shinichi Aizawa[4], Hiroshi Sakaue[5], Toshio Matsumoto[2]. [1]Department of Medicine & Bioregulatory Sciences, University of Tokushima Graduate School of Medical Sciences, Japan, [2]University of Tokushima Graduate School of Medical Sciences, Japan, [3]University of Tokushima, Japan, [4]not yet, Japan, [5]Department of Nutrition & Metabolism, Institute of Health Biosciences, University of Tokushima Graduate School, Japan
Disclosures: Takeshi Kondo, None

SU0162 **M1/M2-like Macrophage Polarization Contributes to Mechanical Force-induced Orthodontic Root Resorption**
Danqing He*[1], Xiaoxing Kou[2], Yanheng Zhou[3]. [1]Department of Orthodontics, Peking University School & Hospital of Stomatology, Peoples Republic of China, [2]Orthodontic Department, Peking University School of Stomatology, Beijing, China, [3]Orthodontic Department, Peking University School of Stomatology, China
Disclosures: Danqing He, None

SU0163 **Streptomycin inhibits effects of electrical stimulation-induced muscle force on reducing disused bone loss**
Hiroyuki Tamaki*[1], Kengo Yotani[2], Hikari Kirimoto[3], Kazuhiro Sugawara[1], Atsuhiro Tsubaki[1], Hideaki Onishi[1], Noriaki Yamamoto[4], Norikatsu Kasuga[5]. [1]Niigata University of Health & Welfare, Japan, [2]National Institute of Fitness & Sports in Kanoya, Japan, [3]Niigata University of Health & Welfare, Japan, [4]Niigata Rehabilitation Hospital, Japan, [5]Aichi University of Education, Japan
Disclosures: Hiroyuki Tamaki, None

SU0164 **Structured Fibronectin Surfaces to Guide Migration of Mesenchymal Stem Cells**
Annika Kasten[1], Rolf Brenner[2], Tamara Naser[2], Jörg Fiedler[2], Petra Müller[1], Jürgen Groll[3], Joachim Rychly*[4]. [1]Rostock University Medical Center, Germany, [2]Department of Orthopaedics, Germany, [3]Department of Functional Materials in Medicine, Germany, [4]University of Rostock, Germany
Disclosures: Joachim Rychly, None

SU0165 **β2-adrenergic Receptor Plays an Important Role in Sympathetic Nervous System-regulated Orthodontic Tooth Movement**
Haifeng Cao*[1], Xiaoxing Kou[2], Yanheng Zhou[3]. [1]Peking University School & Hospital of Stomatology, Peoples Republic of China, [2]Peking University School & Hospital of Stomatology, China, [3]Department of Orthodontics. Peking University School & Hospital of Stomatology, China
Disclosures: Haifeng Cao, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): ANABOLIC FACTORS

SU0166 **Anti-sclerostin Antibody Treatment of Renal Osteodystrophy**
Sharon Moe*[1], Neal Chen[1], Christopher Newman[2], Jason Organ[1], Vincent Gattone[1], Michaela Kneissel[3], Ina Kramer[3], Matthew Allen[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA, [3]Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Sharon Moe, Novartis, 5

SU0167 **Dabigatran etexilate, a new direct thrombin inhibitor, enhances bone mass, inhibits bone resorption and stimulates bone formation in mice.**
Judy Kalinowski, Sandra Jastrzebski, Hee Yeun Won, Faryal Mirza, Sun-Kyeong Lee, Joseph Lorenzo*. University of Connecticut Health Center, USA
Disclosures: Joseph Lorenzo, None

SU0168 **Dose response study of the effects of sclerostin antibody on cortical bone mass and strength in Brtl/+ mouse**
David Barton*[1], Benjamin Sinder[1], Yuchen Yang[1], Joan Marini[2], Michelle Caird[1], Kenneth Kozloff[3]. [1]University of Michigan, USA, [2]National Institute of Child Health & Human Development, USA, [3]University of Michigan Department of Orthopaedic Surgery, USA
Disclosures: David Barton, None

SU0169 **MVNP Expression in Osteoblast Induces IGF1 to Increase EphrinB2/EphB4 and Osteoblast Differentiation**
Jumpei Teramachi[1], Yukio Kitagawa[2], Jolene Windle[3], Laetitia Michou[4], Jacques P. Brown[5], Noriyoshi Kurihara*[2], G. David Roodman[2]. [1]The University of Tokushima, Japan, [2]Indiana University, USA, [3]Virginia Commonwealth University, USA, [4]Université Laval, Canada, [5]CHU de Québec Research Centre, Canada
Disclosures: Noriyoshi Kurihara, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): ANTIRESORPTIVE FACTORS

SU0170 **Bone turnover markers in a 24-month treatment study comparing efficacy of a cathepsin K inhibitor, MK-0674, to alendronate and denosumab in ovariectomized cynomolgus monkeys.**
Maureen Pickarski*[1], Mary Belfast[2], Brenda Pennypacker[3], Le Duong[3]. [1]Merck & Co., Inc., USA, [2]Merck & Company, USA, [3]Merck Research Laboratories, USA
Disclosures: Maureen Pickarski, Merck & Co., Inc, 3; Merck & Co., Inc, 1

SU0171 **Comparison of the Efficacy of Cathepsin K inhibitor MK0674 versus Alendronate and Denosumab in Restoring Bone Mass in the Treatment of Estrogen-deficient Cynomolgus Monkeys**
Brenda Pennypacker*[1], Maureen Pickarski[2], Nancy Doyle[3], Aurore Varela[3], Le Duong[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc., USA, [3]Charles River Laboratories, Canada
Disclosures: Brenda Pennypacker, Merck and Co., 3

SU0172 **Increased Periostin in Cortical Bone of Cathepsin K Knock-Out Mice is Responsible for Higher Cortical Bone Mass and Strength**

Nicolas Bonnet*[1], Le Duong[2], Serge Ferrari[3]. [1]University Geneva Hospital (HUG), Switzerland, [2]Merck Research Laboratories, USA, [3]Geneva University Hospital & Faculty of Medicine, Switzerland

Disclosures: Nicolas Bonnet, None

SU0173 **Osteoactivin/Gpnmb, A Negative Regulator of Osteoclastogenesis**

Hilary Stinnett*[1], Samir Abdelmagid[1], Fouad Moussa[1], Gregory Sondag[1], Matthew Matthew Khol[1], Kimberly Novak[1], Nagat Frara[2], Fayez Safadi[1]. [1]Northeast Ohio Medical University, USA, [2]Temple University, USA

Disclosures: Hilary Stinnett, None

SU0174 **Skeletal Retention and Urinary Excretion of Nitrogen-Containing Bisphosphonates Including Fluorescently-labeled Bisphosphonates in Rats**

Mark Lundy*[1], Shuting Sun[2], Xuchen Duan[3], Charles McKenna[4], Gwyn Jeans[5], Roy Dobson[5], Michael Quijano[5], James Triffitt[6], R Graham Russell[7], Frank Ebetino[8]. [1]Indiana University School of Medicine, USA, [2]BioVinc LLC, USA, [3]Department of Developmenta Biology, Harvard School of Dental Medicine, USA, [4]Department of Chemistry, University of Southern California, USA, [5]Procter & Gamble, USA, [6]University of Oxford Nuffield Orthopaedic Centre, United Kingdom, [7]University of Oxford, United Kingdom, [8]University of Rochester, USA

Disclosures: Mark Lundy, BioVinc LLC, 5

MODULATORS OF BONE REMODELING (ANIMAL MODELS): OTHER AGENTS

SU0175 **Absence of Complement Component 3 Protects Against Bone Loss in a Murine Model of Postmenopausal Osteoporosis**

Danielle MacKay*[1], Thomas Kean[1], Kristina Bernardi[1], Feng Lin[2], Jim Dennis[3]. [1]Benaroya Research Institute, USA, [2]Cleveland Clinic Foundation, USA, [3]Baylor College of Medicine, USA

Disclosures: Danielle MacKay, PFE, 1

SU0176 **Chronic administration of Liraglutide, a glucagon-like peptide-1 receptor agonist, improves trabecular bone mass and architecture in ovariectomised mice**

Marie Pereira*[1], Jeshmi Jeyabalan[1], Mark Hopkinson[1], Mark Cleasby[1], Pascale Chavassieux[2], Jean Paul Roux[3], Chantal Chenu[1]. [1]Royal Veterinary College, United Kingdom, [2]INSERM UMR1033, Université De Lyon, France, [3]INSERM UMR1033 & Universite de Lyon, France

Disclosures: Marie Pereira, None

SU0177 **Combination Treatment of 1-34 PTH and Eldecalcitol Showed Synergistic Effect on BMD without Severe Hypercalcemia**

Sadaoki Sakai*[1], Satoshi Takeda[1], Tomomaya Yamamoto[2], Tomoka Hasegawa[2], Norio Amizuka[3], Koichi Endo[1]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]Hokkaido University, Japan, [3]Hokkaido University School of Dentistry, Japan

Disclosures: Sadaoki Sakai, Chugai Pharmaceutical Co., Ltd., 3

SU0178 **Effect of Sclerostin Depletion on Fracture Healing in the Mouse Model**

Mohammad Alzahrani*[1], Frank Rauch[2], Reggie Hamdy[3]. [1]McGill University, Canada, [2]Shriners Hospital for Children, Montreal, Canada, [3]Shriners Hospital for Children, Canada

Disclosures: Mohammad Alzahrani, None

SU0179 **Estrogen replacement but not dietary antioxidants from beetroot juice preserves alveolar bone in ovariectomized rats**

Bryan D. Johnston*, Amanda B. Longo, Wendy E. Ward. Centre for Bone & Muscle Health, Faculty of Applied Health Sciences, Brock University, St. Catharines, Ontario, L2S 3A1, Canada

Disclosures: Bryan D. Johnston, None

SU0180 **Maintenance of Proximal Tubule Phosphate Homeostasis Requires the Transcription Factor Ebf1**

Jackie Fretz*[1], Tracy Nelson[2], Yougen Xi[2], Mark Horowitz[1]. [1]Yale University School of Medicine, USA, [2]Yale School of Medicine, USA

Disclosures: Jackie Fretz, None

SU0181 **Methylphenidate Impairs Skeletal Development In Female Rats**

David Komatsu*[1], Lisa Robison[2], Melissa Vitale[2], Junho Lee[2], Michalis Michaelos[2], Jason Gandhi[3], Soyeh Paeng[2], Panayotis Thanos[2], Michael Hadjiargyrou[4]. [1]Stony Brook University, Dept. of Orthopaedics, USA, [2]Department of Psychology, Stony Brook University, USA, [3]Department of Physiology & Biophysics, Stony Brook University, USA, [4]New York Institute of Technology, USA

Disclosures: David Komatsu, None

SU0182 **Osteoclastogenesis–inhibiting peptide W9 delivery stimulates new bone formation in expanded mid-palatal suture**

Wei-Bing Zhang*. School of Stomatology, Nanjing Medical University, Nanjing, China, USA

Disclosures: Wei-Bing Zhang, None

SU0183 **PEGylation of NELL-1 Improves Pharmacokinetics and Systemic Osteogenic Therapy**

Yulong Zhang*[1], Jin Hee Kwak[2], Juyoung Park[2], Chirag Chawan[2], Omar Velasco[3], Kambiz Khalilinejad[4], Jia Shen[5], Eric Chen[2], Pia Bayani[2], Sepideh Dolatyar[2], Greg Asatrian[2], Xinli Zhang[5], Chia Soo[6], Benjamin Wu[7], Kang Ting[5]. [1]University of California, Los Angeles, USA, [2]Department of Craniofacial Research Institute, School of Dentistry, University of California, Los Angeles, USA, [3]UCLA & Orthopaedic Hospital Department of Orthopaedic Surgery & the Orthopaedic Hospital Research Center, University of California, Los Angeles, USA, [4]Division of Associated Clinical Specialties & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, USA, [5]University of California, Los Angeles, USA, [6]Division of Plastic & Reconstructive Surgery, Department of Surgery, David Geffen School of Medicine, University of California, Los Angeles, USA, [7]Weintraub Center for Reconstructive Biotechnology, School of Dentistry, University of California, Los Angeles, USA

Disclosures: Yulong Zhang, None

SU0184 **Sharpin-deficient *Cpdm*mice display cortical thinning due to loss of osteoblasts and osteal macrophages**

Anke Jeschke*[1], Philip Catala-Lehnen[2], Sabrina Sieber[3], Michaela Schweizer[4], Kristofer Wintges[2], Thomas Bickert[2], Michael Amling[5], Hans-Jürgen Keienkamp[3], Thorsten Schinke[6]. [1]Department of Osteology & Biomechanics, Germany, [2]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, [3]Department of Human Genetics, University Medical Center Hamburg Eppendorf, Germany, [4]Center of Molecular Neurobiology, University Medical Center Eppendorf, Germany, [5]University Medical Center Hamburg-Eppendorf, Germany, [6]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany

Disclosures: Anke Jeschke, None

SU0185 **Soy Protein Isolate Inhibits High Fat Diet-Induced Senescence Pathways in Osteoblasts to Maintain Bone Acquisition in Rats**

Jin-Ran Chen*[1], Oxana P. Lazarenko[2], Michael L. Blackburn[3], Thomas M. Badger[3], Martin J. J. Ronis[3]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, [3]Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA

Disclosures: Jin-Ran Chen, None

SU0186 **Staphylococcal lipoprotein is a potent inhibitor of osteoblast differentiation**

Ok-Jin Park*[1], Jiseon Kim[2], Cheol-Heui Yun[2], Seung Hyun Han[3]. [1]School of Dentistry, Seoul National University, South Korea, [2]Seoul National University, South Korea, [3]Seoul National University School of Dentistry, South Korea

Disclosures: Ok-Jin Park, None

SU0187 **Velcade Inhibits the Ubiquitin Proteasome System in Mesenchymal Stem Cells to Enhance Fracture Repair**

Xing Li*[1], Hengwei Zhang[2], Hani Awad[3], Matthew Hilton[4], Zhenqiang Yao[1], Michael Zuscik[5], Brendan Boyce[3], Lianping Xing[1]. [1]University of Rochester, USA, [2]Univeristy of Rochester, USA, [3]University of Rochester Medical Center, USA, [4]Duke University Musculoskeletal Research Center, USA, [5]University of Rochester School of Medicine & Dentistry, USA

Disclosures: Xing Li, None

MUSCLE BIOLOGY AND BONE: CELLULAR AND MOLECULAR INTERACTIONS

SU0188 **Withdrawn**

SU0189 **The Role of LXR in Glucocorticoid-Induced Muscle Wasting and Bone Loss**

Jasmine Williams-Dautovich*, Rucha Patel, Carolyn L. Cummins. University of Toronto, Canada

Disclosures: Jasmine Williams-Dautovich, None

SU0190 **Wnt3a potentiates myogenesis in C2C12 myoblasts through changes of signaling pathways including Wnt and NFκB**

Jian Huang*[1], Chenglin Mo[2], Lynda Bonewald[3], Marco Brotto[3]. [1]University of missouri kansas city, USA, [2]University of Missouri-Kansas City, USA, [3]University of Missouri - Kansas City, USA

Disclosures: Jian Huang, None

MUSCLE BIOLOGY AND BONE: GENERAL

SU0191 **Withdrawn**

SU0192 **Longitudinal Changes in Distal Lower-Extremity Muscle Area and Density after Chronic Spinal Cord Injury**

Cameron Moore[1], B. Catharine Craven[2], Lehana Thabane[3], Jonathan Adachi[4], Alexandra Papaioannou[5], Lindsie Blencowe[2], Milos Popovic[6], Lora Giangregorio*[7]. [1]University Health Network, Canada, [2]Toronto Rehabilitation Institute, Canada, [3]McMaster University, Canada, [4]St. Joseph's Hospital, Canada, [5]Hamilton Health Sciences, Canada, [6]University Health Network - Toronto Rehabilitation Institute, University of Toronto, Canada, [7]University of Waterloo, Canada

Disclosures: Lora Giangregorio, None

SU0193 **Lower Extremity Muscle Size, Density and Function Is Associated with Indices of Bone Quality in Individuals with Chronic Spinal Cord Injury**

Jenna Gibbs*[1], Catharine Craven[2], Cameron Moore[1], Lehana Thabane[3], Alexandra Papaioannou[4], Jonathan Adachi[5], Milos Popovic[2], Neil McCartney[6], Lora Giangregorio[1]. [1]University of Waterloo, Canada, [2]University Health Network - Toronto Rehab - Lyndhurst Centre, Canada, [3]McMaster University, Canada, [4]Hamilton Health Sciences, Canada, [5]St. Joseph's Hospital, Canada, [6]Brock University, Canada

Disclosures: Jenna Gibbs, None

SU0194 **Mechanical Stimulation Induced Musculoskeletal Adaptations Are Responses to Manner of Loading via Oscillatory Electrical Muscle Contraction and Dynamic Hydraulic Flow Stimulation**

Minyi Hu*[1], Hoyan Lam[1], Robbin Yeh[1], Morgan Teeratananon[1], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA

Disclosures: Minyi Hu, None

OSTEOARTHRITIS - PATHOPHYSIOLOGY (ANIMAL MODELS): GENERAL

SU0195 **Dkk-1 secreted by bone cells prevents mice against osteoarthritis**

Thomas Funck-Brentano*[1], Wafa Bouaziz[2], Caroline Marty[1], Valerie Geoffroy[3], Eric Hay[1], Martine Cohen-solal[4]. [1]Inserm U1132, France, [2]INSERM U606, France, [3]INSERM Unit 1132, France, [4]Hôpital Lariboisière, France

Disclosures: Thomas Funck-Brentano, None

SU0196 **Early Diagnosis of Osteoarthritis through Detecting Articular Chondrocyte Apoptosis Using a Minimally Invasive Fluorescent Peptide Probe**
Xiang-Guo Che*[1], Lian-Hua Chi[1], Gyoung-Ho Cho[1], Na-Rae Park[2], Min-Su Han[1], Clara Park[3], Seung-Hee Han[1], Gyoung-Hwa Kim[1], Byung-Heon Lee[1], Je-Yong Choi[4]. [1]Kyungpook National University, School of Medcine, South Korea, [2]Kyungpook National University School of Medcine, South Korea, [3]Kyungpook National University School of Medicine, South Korea, [4]Kyungpook National University, School of Medicine, South Korea
Disclosures: Xiang-Guo Che, None

SU0197 **Estrogen status in experimental osteoarthritis determines extent of chondrocyte apoptosis following injury**
Paul Fanning*[1], Linda Xie[2], Christopher Raskett[2], David Ayers[3]. [1]University of Massachusetts Medical School, USA, [2]UMass Medical School, USA, [3]UMass Memorial Medical Center, USA
Disclosures: Paul Fanning, None

SU0198 **Subchondral Bone Health is Compromised in Post-Traumatic Osteoarthritis**
Brett Tonkin[1], Natasha Jansz[1], Evange Romas[2], Natalie Sims[3], Nicole Walsh*[1]. [1]St Vincent's Institute of Medical Research, Australia, [2]St. Vincent's Hospital Melbourne, Australia, [3]St. Vincent's Institute of Medical Research, Australia
Disclosures: Nicole Walsh, None

OSTEOARTHRITIS AND OTHER CARTILAGE DISORDERS: GENERAL

SU0199 **A High Resolution Musculoskeletal Gene Expression Atlas for Characterizing Bone and Cartilage Diseases**
Eric Lewallen*[1], Scott Riester[1], Carolina Bonin[1], Amel Dudakovic[1], Emily Camilleri[1], Noelle Larson[1], Aaron Krych[1], Jay Smith[1], Sanjeev Kakar[1], Jennifer Westendorf[1], Hee-Jeong Im Sampen[2], Andre Van Wijnen[1]. [1]Mayo Clinic, USA, [2]Rush University Medical Center, USA
Disclosures: Eric Lewallen, None

SU0200 **Elevated Mean Arterial Pressure Is Associated With Higher Rate of Subchondral Bone Turnover in Patients With Knee Osteoarthritis**
Yan Chen*[1], Min Guan[2], Frankie Leung[3], Xu Cao[4], Xiaohua Pan[5], William Lu[1]. [1]The University of Hong Kong, Hong Kong, [2]Center for Human Tissues & Organs Degeneration, Shenzhen Institutes of Advanced Technology, CAS, China, [3]Department of Orthopaedics & Traumatology, Faculty of Medicine, the University of Hong Kong, Hong Kong, China, [4]Johns Hopkins University, USA, [5]Department of Joint Surgery, Shenzhen People's Hospital, Jinan University Second College of Medicine, China
Disclosures: Yan Chen, None

SU0201 **Individuals with Primary Osteoarthritis Have Different Musculoskeletal Phenotypes Depending on Affected Joint**
Magnus Karlsson*[1], Caroline Karlsson[2], Håkan Magnusson[3], Maria Cöster[4], Jan-Åke Nilsson[3], Bjorn Rosengren[1]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Department of Clinical Sceinces, Lund University, SUS, Sweden, [3]Department of Orthopedics & Clinical Sciences, Lund University, SUS, Sweden, [4]Department of Orthoepdics & Clinical Sciences, Lund University, SUS, Sweden
Disclosures: Magnus Karlsson, None

SU0202 **Osteoclast Regulatory Factors in Human Osteoarthritic Chondrocytes**
Julie Glowacki*, Shuanhu Zhou, Thomas Thonhill. Brigham & Women's Hospital, USA
Disclosures: Julie Glowacki, None

SU0203 **Subchondral Bone Underlying Degenerated versus Normal Cartilage Has Greater Bone Mineral Density but No Difference in Structural Stiffness**
James Johnston*[1], Saija Kontulainen[1], Tuhina Neogi[2], Bassam Masri[3], David Wilson[3]. [1]University of Saskatchewan, Canada, [2]Boston University, USA, [3]University of British Columbia, Canada
Disclosures: James Johnston, None

SU0204 **TBRII/IL36α Axis is Involved in the Osteoarthritic Process in Mice and Humans**
Tieshi Li*[1], Joseph D. Temple[2], Lara Longobardi[1], Susan Chubinskaya[3], Helen Willcockson[4], Timothy Myers[4], Ping Ye[1], Billie Moats-Staats[5], Alessandra Esposito[1], Arnavaz A Hakimiyan[3], Daniel J. Del Gaizo[1], Christopher W. Olcott[1], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]University of North Carolina-North Carolina State University Joint Department of Biomedical Engineering, USA, [3]GME, Graduate College, Rush Medical College, USA, [4]University of North Carolina, USA, [5]University of North Carolina- Chapel Hill, USA
Disclosures: Tieshi Li, None

SU0205 **The development of articular cartilage thickness, impeded by obesity in high weight bearing regions, is protected by daily exposure to low intensity vibration**
Tee Pamon*[1], M. Ete Chan[1], Vincent Bhandal[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Tee Pamon, None

OSTEOBLASTS - FUNCTION: ADHESION, MOTILITY AND CELL-CELL COMMUNICATION

SU0206 **Cortical Expansion in Connexin43 (Cx43) Deficient Bones: Potential Role of Reduced *Sost* Expression**
Susan Grimston*, Marcus Watkins, Roberto Civitelli. Washington University in St. Louis School of Medicine, USA
Disclosures: Susan Grimston, None

SU0207 **Sphingomyelin Synthase 2 Promotes Osteoclast Differentiation by Enhancing retinoid X receptor a Expression**
Yoshihiro Yoshikawa*, Eisuke Domae, Seiji Goda, Isao Tamura, Aiko Kamada, Takashi Ikeo. Osaka Dental University, Japan
Disclosures: Yoshihiro Yoshikawa, None

OSTEOBLASTS - FUNCTION: BONE FORMATION MECHANISMS

SU0208 **Biomechanical Analysis of Fibronectin Fibril Assembly Dynamics in Living Osteoblasts**
Bhargav Javvaji*[1], Sarah Dallas[2], Ganesh Thiagarajan[2]. [1]University of Missouri Kansas City, USA, [2]University of Missouri - Kansas City, USA
Disclosures: Bhargav Javvaji, None

SU0209 **Ciliary protein Bbs3 positively regulates the induction of ALP activity by Hedgehog signaling in MC3T3-E1**
Makiri Kawasaki*[1], Tadayoshi Hayata[2], Yoichi Ezura[3], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Organization for Educational Initiatives, University of Tsukuba, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Makiri Kawasaki, None

SU0210 **Dock7 is a Novel Regulator of Osteoblast Differentiation and Function**
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

SU0211 **Hira, a histone chaperone, regulates bone mass**
Pablo Roman-Garcia*, Virginia Piombo, Vijay Yadav. Systems Biology of Bone, Wellcome Trust Sanger Institute, United Kingdom
Disclosures: Pablo Roman-Garcia, None

SU0212 **Lack of Wnt16 Exerts Gender-Specific Effects on Cortical Bone Diameter in Mice**
Chandrasekhar Kesavan*[1], Jon Wergedal[1], Robert Brommage[2], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Lexicon Pharmaceuticals, USA
Disclosures: Chandrasekhar Kesavan, None

SU0213 **Mechanisms for Specificity of Wnt16 Actions on the Periosteum**
Jon Wergedal*[1], Chandrasekhar Kesavan[1], Karthikeyan Muthusamy[2], Robert Brommage[3], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Alagappa University, India, [3]Lexicon Pharmaceuticals, USA
Disclosures: Jon Wergedal, None

SU0214 **Mechanisms Underlying the Effect of Melatonin, Strontium citrate, Vitamin D3 and Vitamin K2 on Bone Marrow Stem Cells and Peripheral Blood Monocytes Grown as Co-cultures**
Sifat Maria*[1], Holly Lassila[2], Christine O'Neil[3], Mark Swanson[4], Paula Witt-Enderby[5]. [1]Duquesne University Division of Pharmaceutical Sciences, USA, [2]Duquesne University Division of Clinical, Social & Administrative Science, USA, [3]Duquesne University Division of Clinical, Social & Administrative Sciences, USA, [4]Private practice, Heart Preventics, LLC, USA, [5]Duquesne University,School of Pharmacy, USA
Disclosures: Sifat Maria, None

SU0215 **PEPTIDE-MEDIATED α5β1 INTEGRIN ACTIVATION INTEGRATES WNT/β-CATENIN SIGNALING TO PROMOTE MESENCHYMAL CELL OSTEOGENIC DIFFERENTIATION**
Zuzana Saidak*[1], Sofia Azzi[1], Caroline Marty[1], Sophie Da Nascimento[2], Pascal Sonnet[2], Isabelle Dupin-Roger, Pierre J. Marie[1]. [1]UMR-1132 Inserm, Paris, France, Université Paris Diderot, Sorbonne Paris Cité, France, [2]Equipe Théra, Laboratoire des Glucides-UMR-CNRS 6219, Université de Picardie Jules Verne, France, [3]Institut De Recherche Servier, France
Disclosures: Zuzana Saidak, None

SU0216 **Pre-clinical screening of novel two-photon photopolymerized biomaterials for bone implantation**
Oskar Hoffmann[1], Tristan Fowler*[2], Carina Kampleitner[3], Leander Poocza[4], Andrea Markus[5], Christian Dullin[5], Gerhard Hildebrand[4], Frauke Alves[5], Klaus Liefeith[4]. [1]University of Vienna, Austria, [2]Universität Wien, Aut, [3]Universität Wien, Austria, [4]Institute for Bioprocessing & Analytical Measurement Techniques (iba), Germany, [5]University Medical Center Göttingen, Germany
Disclosures: Tristan Fowler, None

SU0217 **RANKL-binding peptides increased bone formation in a murine calvarial defect model.**
Yasutaka Sugamori*[1], Masashi Honma[2], Genki Kato[1], Yukihiko Tamura[1], YURIKO FURUYA[3], Hisataka Yasuda[4], Yasuhiko Tabata[5], Nobuyuki Udagawa[6], Keiichi Ohya[1], Hiroshi Suzuki[2], Kazuhiro Aoki[1]. [1]Tokyo Medical & Dental University, Japan, [2]The University of Tokyo Hospital, Japan, [3]Oriental Yeast Co.,Ltd, Japan, [4]Oriental Yeast Company, Limited, Japan, [5]Kyoto University, Japan, [6]Matsumoto Dental University, Japan
Disclosures: Yasutaka Sugamori, None

SU0218 **Runx2 Deficiency in Committed Osteoblasts Impairs Postnatal Skeletogenesis**
Mitra Adhami*[1], Harunur Rashid[2], Haiyan Chen[3], Amjad Javed[3]. [1]UAB, USA, [2]University of Alabama Birmingham, USA, [3]University of Alabama at Birmingham, USA
Disclosures: Mitra Adhami, None

SU0219 **Static Magnetic Fields Affect Biological Behaviors of Bone Cells**
Peng Shang*[1], Jian Zhang[2], Chong Ding[2], Airong Qian[3], Zhe Wang[2], Lifang Hu[2]. [1]Northwestern Polytechnical University, Xi'an, Shaanxi 710072, China, Peoples Republic of China, [2]Key Laboratory for Space Bioscience & Biotechnology, Institute of Special Environmental Biophysics, School of Life Sciences, Northwestern Polytechnical University, China, [3]Northwestern Polytechnical University, Peoples Republic of China
Disclosures: Peng Shang, None

SU0220 **Tension force-induced ATP promotes osteoblast differentiation-related transcription factors and osteogenesis through P2X7 receptor in osteoblasts**
Natsuko Tanabe*, Taro Kariya, Chieko Shionome, Takayuki Kawato, Masao Maeno, Noriyoshi Shimizu, Naoto Suzuki. Nihon University School of Dentistry, Japan
Disclosures: Natsuko Tanabe, None

OSTEOBLASTS - FUNCTION: HORMONAL AND LOCAL REGULATION

SU0221 **Regulation of bone formation and mineralisation by ATP-induced ATP release from osteoblasts**
James Gallagher*, Jane P Dillon, Lakshminarayan R Ranganath, Peter JM Wilson. University of Liverpool, United Kingdom
Disclosures: James Gallagher, None

SU0222 **Vitamin B_{12}-dependent liver taurine synthesis regulates growth and bone mass**
Isabel Quiros-Gonzalez*[1], Pablo Roman-Garcia[2], Liesbet Lieben[1], Vijay K. Yadav[1]. [1]Wellcome Trust Sanger Institute, United Kingdom, [2]Systems Biology of Bone, Wellcome Trust Sanger Institute, United Kingdom
Disclosures: Isabel Quiros-Gonzalez, None

OSTEOBLASTS - FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

SU0223 **Analysis of Runx2 and LRP5 Along the hFOB Differentiation**
Susana Balcells*[1], Behjat Gholami[1], Judith Garcia-Gonzalez[1], Roser Urreizti[1], Natalia Garcia-Giralt[2], Robert Guerri Fernandez[3], Leonardo Mellibovsky[4], Xavier Nogues[4], Adolfo Diez-Perez[5], Daniel Grinberg[6]. [1]Dept. Genetics, Univ. Barcelona, CIBERER, IBUB, Spain, [2]IMIM, Spain, [3]Fundacio IMIM, Spain, [4]Institut Municipal d'Investigació Mèdica, Spain, [5]Autonomous University of Barcelona, Spain, [6]The University of Barcelona, Spain
Disclosures: Susana Balcells, None

SU0224 **Bio-active silica nanoparticles promote osteoblast differentiation though stimulation of autophagy and direct association with LC3 and p62**
Shin Ha[1], M. Neale Weitzmann[2], George Beck*[2]. [1]Emory University, USA, [2]Emory University School of Medicine, USA
Disclosures: George Beck, None

SU0225 **Indirubin-3'-oxime Reverses Bone Loss in Ovariectomized and Hindlimb-Unloaded Mice via Activation of the Wnt/β-Catenin Signaling**
Muhammad Zahoor*[1], Pu-Hyeon Cha[2], Kang-Yell Choi[2]. [2]Yonsei University, South Korea
Disclosures: Muhammad Zahoor, None

SU0226 **MAPK-Mediated Epigenetic Regulation of Gene Expression During Osteoblast Differentiation**
Yan Li*[1], Chunxi Ge[2], Guisheng Zhao[3], Renny Franceschi[1]. [1]University of Michigan, USA, [2]Pom Univ of Michigan School of Dentistry, USA, [3]University of Michigan School of Dentistry, USA
Disclosures: Yan Li, None

SU0227 **Sp7 is Obligatory for Stability and Function of Runx2 Protein During Bone Formation**
Harunur Rashid*[1], Haiyan Chen[2], Ching-Fang Chang[2], Krishna Sinha[3], Benoit DeCrombrugghe[3], Amjad Javed[2]. [1]University of Alabama Birmingham, USA, [2]University of Alabama at Birmingham, USA, [3]UT MD Anderson Cancer Center, USA
Disclosures: Harunur Rashid, None

SU0228 **Suppression of p38alpha MAPK Signaling in Mature Osteoblasts Impairs PTH-Induced Bone Anabolism**
Cyril Thouverey*[1], Joseph Caverzasio[2]. [1]University Hospital of Geneva, Switzerland, [2]Division Bone Diseases, Switzerland
Disclosures: Cyril Thouverey, None

SU0229 **Transcription factor SP1 regulates Frizzled 1 expression 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]University of Pittsburgh Department of Medicine, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University of Pittsburgh, USA
Disclosures: Shibing Yu, None

SU0230 **Transcriptional Profiling of Laser Capture Microdissected Subpopulations of the Osteoblast Lineage Provides Insight Into the Molecular Mechanism of Action of Sclerostin Antibody**
Paul Nioi*, Scott Taylor, Rong Hu, Efrain Pacheco, Yudong He, Hisham Hamadeh, Chris Paszty, Ian Pyrah, Mike Ominsky, Rogely Boyce. Amgen Inc., USA
Disclosures: Paul Nioi, Amgen Inc, 1; Amgen Inc, 3

OSTEOBLASTS - ORIGIN AND CELL FATE: CELL CYCLE AND APOPTOSIS

SU0231 **Hippo pathway in cranial neural crest is required for normal cranial bone and suture growth**
Jun Wang*[1], Yang Xiao[2], Jianning Tao[2], Margarita Bonilla-Claudio[2], Brian Dawson[2], Eric Olson[3], Brendan Lee[2], James Martin[2]. [1]USA, [2]Baylor College of Medicine, USA, [3]University of Texas Southwestern Medical Center, USA
Disclosures: Jun Wang, None

OSTEOBLASTS - ORIGIN AND CELL FATE: REGULATION OF DIFFERENTIATION

SU0232 **Bmp2 Gene in Stem Cell Biology of the Periodontium**
Stephen Harris*[1], Audrey Rakian[2], Jelica Gluhak-Heinrich[1], Marie Harris[1], Yong Cui[3], Ivo Kalajzic[4]. [1]University of Texas Health Science Center at San Antonio, USA, [2]USA, [3]UTHSCSA, USA, [4]University of Connecticut Health Center, USA
Disclosures: Stephen Harris, None

SU0233 **Connectivity Map-Based Discovery Of Parbendazole As A Novel Osteogenic Compound**
Andrea Brum*[1], Jeroen van de Peppel[2], Cindy van der Leije[2], Marco Eijken[3], Johannes Van Leeuwen[4], Bram Van Der Eerden[1]. [1]Erasmus MC, The Netherlands, [2]Erasmus MC, Netherlands, [3]Arcarios, Netherlands, [4]Erasmus University Medical Center, The Netherlands
Disclosures: Andrea Brum, None

SU0234 **Cross-Species Transcriptomic Analysis Reveals Conserved Osteogenic Signatures During Zebrafish and Rat Bone Regeneration**
Ronald Kwon*[1], Amarjit Virdi[2], D. Rick Sumner[2]. [1]University of Washington, USA, [2]Rush University Medical Center, USA
Disclosures: Ronald Kwon, None

SU0235 **Evaluation of Potential Dried Plum Bioactive Components and their Effects on Osteoblast and Osteoclast Differentiation and Activity**
Jennifer Graef*[1], Elizabeth Rendina-Ruedy[2], Jarrod King[3], Robert Cichewicz[4], Edralin Lucas[1], Brenda Smith[1]. [1]Oklahoma State University, USA, [2]Vanderbilt University Medical Center, USA, [3]Natural Products Discovery Group, University of Oklahoma, USA, [4]Natural Products Discovery Group, Department of Chemistry & Biochemistry, University of Oklahoma, USA
Disclosures: Jennifer Graef, None

SU0236 **Foxp1 Regulaes Osteogenic/Adipogenic Cell Fate Commitment in Bone Marrow Mesenchymal Stem Cell**
Xizhi Guo[1], Hanjun Li*[2], Sixia Huang[2]. [1]Shanghai Jiao Tong University, Peoples Republic of China, [2]Bio-X Institutes, Shanghai Jiao Tong University, China
Disclosures: Hanjun Li, None

SU0237 **IGBBP-2-Regulated Sequential Activation of AMP-Activated Protein Kinase is Required for Osteoblast Differentiation**
Gang Xi*[1], Christine Wai[1], Victoria Demambro[2], Clifford Rosen[3], David Clemmons[1]. [1]Department of Medicine, University of North Carolina at Chapel Hill, USA, [2]Maine Medical Center Research Institute, USA, [3]Maine Medical Center, USA
Disclosures: Gang Xi, None

SU0238 **Withdrawn**

SU0239 **Parathyroid Hormone (1-34) Increases the Numbers and Differentiation of Osteoblast Progenitor Cells *in Vivo***
Deepak Balani*[1], Noriaki Ono[2], Henry Kronenberg[3]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]University of Michigan School of Dentistry, USA, [3]Massachusetts General Hospital, USA
Disclosures: Deepak Balani, None

SU0240 **PDGF-AA promotes osteogenic differentiation and migration of mesenchymal stem cell by down-regulating PDGFRa and derepressing BMP-Smad1 signaling**
Qian Cong*[1], James Yeh[2], Xuechun Xia[3], Yuji Mishina[4], Aijun Hao[5], Baojie Li[6], Huijuan Liu[3]. [1]Bio-X institute, Key laboratory for the Genetics of Developmental & neuropsychiatric Disorders, Ministry of Education, Shanghai Jiao Tong University, China, [2]Winthrop University Hospital, USA, [3]The Bio-X Institutes, Key Laboratory for the Genetics of Developmental & Neuropsychiatric Disorders, Ministry of Education, Shanghai Jiao Tong University, China, [4]University of Michigan School of Dentistry, USA, [5]Key Laboratory of the Ministry of Education for Experimental Teratology, Shandong University, China, [6]Shanghai Jiao Tong University, Peoples Republic of China
Disclosures: Qian Cong, None

OSTEOBLASTS - ORIGIN AND CELL FATE: STEMS CELLS AND PROGENITORS

SU0241 ***Comparative Multi-lineage Differentiation of Mandible and Femur Canine Mesenchymal Stem Cells***
Juan Bugueno, Weihua Li, Pinky Salat, Sunday Akintoye*. University of Pennsylvania School of Dental Medicine, USA
Disclosures: Sunday Akintoye, None

SU0242 **BMP2 induced *de novo* bone formation utilizes different progenitors in rats versus mice and humans**
Corinne Sonnet*, Eleanor Davis, ZaWaunyka Lazard, Eric Beal II, Elizabeth Salisbury, Alan Davis, Elizabeth Olmsted-Davis. Baylor College of Medicine, USA
Disclosures: Corinne Sonnet, None

SU0243 **Culture of Human BM-MSC in Physiological O2 Improves Robustness of Bone Formation in a Mouse Calvarial Defect Model**
Xiaonan Xin*, Xi Jiang, Liping Wang, Paiyz Mikael, Kyle Shin, Syam Nukavarapu, David Rowe, Alexander Lichtler. University of Connecticut Health Center, USA
Disclosures: Xiaonan Xin, None

SU0244 **Early reversal cells: osteoblastic nature, catabolic function and interaction with osteoclasts**
Mohamed Essameldin Abdelgawad[1], Jean-Marie Delaisse*[2], Maja Hinge[1], Ragad Walid Hamid[1], Lars Rolighed[3], Lars H Engelholm[4], Niels Marcussen[5], Thomas Levin Andersen[1]. [1]Department of Clinical Cell Biology (KCB), Vejle Hospital – Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, Denmark, [2]Vejle Hospital, IRS, University of Southern Denmark, Denmark, [3]Aarhus University Hospital, Denmark, [4]The Finsen Laboratory, Rigshodpitalet/Biotech Research & Innovation Centre (BRIC), University of Copenhagen, Denmark, [5]Department of Clinical Pathology, Odense University Hospital, Odense, Denmark, Denmark
Disclosures: Jean-Marie Delaisse, None

SU0245 **Intravital Multiphoton Imaging of Skeletal Progenitor Cells in Bone Tissue-Engineered Constructs**
Pieter-Jan Stiers*[1], Nick Van Gastel[1], Karen Moermans[1], Ingrid Stockmans[1], Geert Carmeliet[2]. [1]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, Belgium, [2]Katholieke Universiteit Leuven, Belgium
Disclosures: Pieter-Jan Stiers, None

SU0246 **LARG GEF and ARHGAP18 GAP Control Cytoskeletal Dynamics to Influence MSC Lineage Allocation**
William Thompson*[1], Sherwin Yen[1], Gunes Uzer[1], Zhihui Xie[1], Buer Sen[2], Maya Styner[3], Keith Burridge[1], 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
Disclosures: William Thompson, None

SU0247 **Temporal Nocturnin expression leads to impaired peak bone acquisition**
Anyonya Guntur*[1], Phuong Le[1], Jeremy Stubblefield[2], Carla Green[2], Clifford Rosen[3]. [1]Maine medical center research institute, USA, [2]Department of Neuroscience, University of Texas Southwestern Medical Center, USA, [3]Maine Medical Center, USA
Disclosures: Anyonya Guntur, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

SU0248 Dibenzazepine, a gamma-secretase inhibitor, inhibits osteoclastic bone resorption by suppressing c-Src activation
Bong Jun Kim*[1], Won Jong Jin[1], Hong-Hee Kim[2], Hyunil Ha[3], Zang Hee Lee[4]. [1]Department of Cell & Developmental Biology, School of Dentistry, Seoul National University, South Korea, [2]Seoul National University, South Korea, [3]Korean Medicine-Based Herbal Drug Development Group, Korea Institute of Oriental Medicine, South Korea, [4]Seoul National University School of Dentistry, South Korea
Disclosures: Bong Jun Kim, None

SU0249 Effect of IL-4 on mechanical loading-induced osteoclastogenesis and bone resorption
Hideki Kitaura*[1], Zaki Hakami[1], Keisuke Kimura[1], Masahiko Ishida[2], Jafari Saeed[1], Haruki Sugisawa[1], Teruko Takano-Yamamoto[1]. [1]Tohoku University, Japan, [2]Tohoku University, Graduate School of Dentistry, Japan
Disclosures: Hideki Kitaura, None

SU0250 Estrogen does not Facilitate Apoptosis, but Inhibit Bone Resorption by Regulation of V-ATPase in Avian Medullary Bone Osteoclasts.
Shinji Hiyama*[1], Yumiko Kadoyama[2], Mineo Watanabe[2], Takashi Uchida[2]. [1]Hiroshima University Institute of Biomedical & Health Sciences, Japan, [2]Hiroshima University, Japan
Disclosures: Shinji Hiyama, None

SU0251 Stromal cell-derived factor-1 (SDF-1) Elevations are Associated with Increased Osteoclast Formation and Bone Resorption in Transgenic or Ovariectomized mice
Philip Osdoby[1], Patricia Collin-Osdoby*[1], Linda Rothe[2], Xuefeng Yu[3]. [1]Washington University in St. Louis, USA, [2]Washington University, USA, [3]Tongji Hospital, China
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OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

SU0252 BMP Responsive Smads Are Required for Osteoclast Differentiation
Amy Tasca*[1], Melissa Stemig[2], Aaron Broege[1], Brandon Huang[1], Eric Jensen[1], Kim Mansky[1], Raj Gopalakrishnan[1]. [1]University of Minnesota, USA, [2]University of Minnesota School of Dentistry, USA
Disclosures: Amy Tasca, None

SU0253 Ligand-mediated Notch Signaling Enhances Osteoclastogenesis and Resorption
Jason Ashley*, Jaimo Ahn, Kurt Hankenson. University of Pennsylvania, USA
Disclosures: Jason Ashley, None

OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

SU0254 Bone substrate and Integrin beta 3 regulate critical pathways of cell cycle progression, proliferation and survival during terminal osteoclast differentiation
Ed Purdue*[1], Jonathan Hill[2], Steven Goldring[1], Tania Crotti[3], Gerald Nabozny[2], Kevin McHugh[4]. [1]Hospital for Special Surgery, USA, [2]Boehringer Ingelheim Pharmaceuticals, Inc., USA, [3]University of Adelaide, Australia, [4]University of Florida, USA
Disclosures: Ed Purdue, None

SU0255 The microRNA-26a regulates RANKL- induced osteoclast differentiation
Kabsun Kim*[1], Jung Ha Kim[2], Nacksung Kim[3]. [1]Chonnam National University Medical School, South Korea, [2]South Korea, [3]Chonnam National University Medical School, South Korea
Disclosures: Kabsun Kim, None

OSTEOCLASTS - ORIGIN AND CELL FATE: APOPTOSIS

SU0256 Inherent Activation of Apoptosis is a Determinant of Osteoclast Lifespan
Robert Jilka*, Toshifumi Fujiwara, Kanan Vyas, Michela Palmieri, Haibo Zhao, Stavros Manolagas. Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, None

SU0257 A critical role of *Tet2* in osteoclastogenesis by maintaining the level of 5-hydroxymethylcytosine in the genome

Mingjiang Xu*[1], Ling Li[1], Zhigang Zhao[2], Feng-Chun Yang[2]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA

Disclosures: Mingjiang Xu, None

SU0258 Activation of G protein-coupled receptor 84 with capric acid inhibits RANKL-induced osteoclast differentiation via the suppression of NF-κB signaling and blocks cytoskeletal organization and survival in mature osteoclasts

Hyun Ju Kim*[1], Hye-Jin Yoon[2], Shin-Yoon Kim[3], Young-Ran Yoon[2]. [1]South Korea, [2]Kyungpook National university, South Korea, [3]Kyungpook National University Hospital, South Korea

Disclosures: Hyun Ju Kim, None

SU0259 C-reactive protein inhibited TRAP-positive multinucleated cell formation and induced cytokine expression through TLR signaling

Ho-Yeon Chung[1], In-Jin Cho*[1], Kyung Hee Choi[1], Yoo-Chul 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: In-Jin Cho, None

SU0260 Feedback regulation of osteoclastogenesis by exosomes

Lexie Holliday*[1], Lindsay VonMoss[1], Nancy Huynh[1], Pooja Patel[1], Wellington Rody[1], Kevin McHugh[2]. [1]University of Florida College of Dentistry, USA, [2]University of Florida, USA

Disclosures: Lexie Holliday, None

SU0261 Identification and analysis of function of a novel splicing variant of receptor activator of NF-kB

Riko Kitazawa*[1], Ryuma Haraguchi[1], Yosuke Mizuno[2], Sohei Kitazawa[1]. [1]Ehime University, Japan, [2]Ehime University Hospital, Japan

Disclosures: Riko Kitazawa, None

SU0262 Iron Homeostasis is Critical for Osteoclast Differentiation

Toshifumi Fujiwara*[1], Jian Zhou[2], Shiqiao Ye[1], Stavros Manolagas[1], Haibo Zhao[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]UAMS, USA

Disclosures: Toshifumi Fujiwara, None

SU0263 Psychosine inhibits osteoclastogenesis and bone resorption via G-protein coupled receptor 65 by regulating intracellular cAMP levels in osteoclasts

Eun-Hee Ha*[1], Seong Hee Ahn[2], Hyeonmok Kim[3], Sun-Young Lee[4], Ji-Eun Baek[4], Sook-Young Park[1], Su-Youn Lee[4], Young-Sun Lee[1], Beom-Jun Kim[5], Seung Hun Lee[2], Jung-Min Koh[5], Ghi Su Kim[2]. [1]Asan Institute for Life Sciences, South Korea, [2]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [4]Asan Institute for Life Science, South Korea, [5]Asan Medical Center, South Korea

Disclosures: Eun-Hee Ha, None

SU0264 Serum calcium-decreasing factor, caldecrin, suppresses osteoclastogenesis by regulation for the RANKL-mediated Src family kinase

Akito Tomomura*[1], Mineko Tomomura[2]. [1]Meikai University, School of Dentistry, Japan, [2]Meikai University School of Dentistry, Japan

Disclosures: Akito Tomomura, None

SU0265 The Effect of Vascular Endothelial Growth Factor (VEGF) on Osteoclastogenesis in Rheumatoid Arthritis

Sang-Heon Lee*[1], Hae-Rim Kim[1], Youngil Seo[2]. [1]Konkuk University Medical Center, South Korea, [2]Hallym University Sacred Heart Hospital, South Korea

Disclosures: Sang-Heon Lee, None

SU0266 A bacterial artificial chromosome-based SOST-Cre transgene is active in mature osteocytes as well as an early hematopoietic progenitor
Jinhu Xiong*[1], Marilina Piemontese[2], 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
Disclosures: Jinhu Xiong, None

SU0267 A Novel Bone Metabolic Role for the Acute Phase Protein A-SAA/Saa3
Roman Thaler*[1], Monika Rumpler[2], Ines Sturmlechner[2], Silvia Spitzer[2], Klaus Klaushofer[3], Amel Dudakovic[4], Andre Van Wijnen[4], Franz Varga[2]. [1]Ludwig Boltzmann Institute of Osteology, USA, [2]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling. 1st Medical Department, Hanusch Hospital, Austria, [3]Hanusch Hospital, Ludwig Boftzmann Institute of Osteology, Austria, [4]Mayo Clinic, USA
Disclosures: Roman Thaler, None

SU0268 Expression of c-fms in osteocytes is differentiation-dependent and plays an important role in regulating Tissue Mineral Density *in vivo*
Meiling Zhu[1], Joanne Walker*[2], Benhua Sun[3], Steven Tommasini[1], Christine Simpson[3], Joshua VanHouten[3], Karl Insogna[3]. [1]Yale University, USA, [2]Yale School of Medicine, USA, [3]Yale University School of Medicine, USA
Disclosures: Joanne Walker, None

SU0269 Gender specific effects of β-catenin on trabecular bone with unloading
Delphine Maurel*[1], Peipei Duan[2], Ning Zhao[3], Mark Johnson[4], Lynda Bonewald[5]. [1]Department of Oral & Craniofacial Sciences, USA, [2]Oral & Craniofacial Sciences, USA, [3]univ of missouri kansas city, USA, [4]University of Missouri, Kansas City Dental School, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Delphine Maurel, None

SU0270 IGF-1 induces the differentiation of mouse and human osteoblasts in 3D culture to mature osteocytes expressing sclerostin and FGF-23
Nicole Scully*, Sam Evans, Carole Elford, Deborah Mason, Bronwen Evans. Cardiff University, United Kingdom
Disclosures: Nicole Scully, None

SU0271 Multiple tissue targets revealed in a transgenic mouse model for inducible and specific osteocyte ablation
Ahmed Aljazzar*[1], Andy Pitsillides[2]. [1]United Kingdom, [2]Royal Veterinary College, United Kingdom
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SU0272 Mutual Enhancement of Differentiation of Osteoblasts and Osteocytes Occurs Through Direct Cell-cell Communication
Qian Xing[1], Koji Fujita[1], Sundeep Khosla[2], David Monroe*[3]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Foundation, USA
Disclosures: David Monroe, None

SU0273 Pannexin 1 Knockout Mice Have Reduced RANKL Expression Following Focal Microinjury: Possible Mechanism Involving Pannexin 1 Channels for Osteoclast Recruitment?
Wing-Yee Cheung*[1], Eliana Scemes[2], David Spray[2], Jelena Basta-Pljakic[1], Robert Majeska[3], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]Albert Einstein College of Medicine, USA, [3]City College of New York, USA
Disclosures: Wing-Yee Cheung, None

SU0274 Strontium Ranelate is more efficient when combined with *physical* activity
Priscilla Aveline[1], Eric Lespessailles[2], Claude Laurent Benhamou[3], Thomas M Best[4], Hechmi Toumi*[1]. [1]Univ. Orléans, I3MTO Laboratory, EA 4708, Hospital of Orleans, 1 rue Porte Madeleine, F-45032 Orléans, France, [2]Centre Hospitalier Regional Orleans, France, [3]CHR ORLEANS, France, [4]Division of Sports Medicine, Department of Family Medicine, Sports Health And, USA
Disclosures: Hechmi Toumi, None

OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS

SU0275 Extracellular Inorganic Phosphate Functions as a Potent Inducer of the *Dmp1* Expression and Facilitates the Transition of Osteoblasts to Osteocytes

Jin Nishino*[1], Kazuaki Miyagawa[2], Masanobu Kawai[1], Miwa Yamazaki[1], Kanako Tachikawa[1], Yuko Mikuni-Takagaki[3], Mikihiko Kogo[2], Keiichi Ozono[4], Toshimi Michigami[1]. [1]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Osaka University Graduate School of Dentistry, Japan, [3]Kanagawa Dental University Graduate School of Dentistry, Japan, [4]Osaka University Graduate School of Medicine, Japan

Disclosures: Jin Nishino, None

SU0276 Further Characterization of a Novel Cell Line Expressing a Membrane Targeted GFP in Osteocytes, Which Forms "Mini-bone"Structures in vitro.

Kun Wang*, Brad Chun, Richard Campos, Vladmir Dusevich, Sarah Dallas. University of Missouri - Kansas City, USA

Disclosures: Kun Wang, None

SU0277 Prevention of Osteocyte Apoptosis and the Increase in Osteocytic RANKL Are Not Sufficient to Restrain Osteoclastic Bone Resorption and Stop Bone Loss Induced by Reduced Mechanical Forces

Lilian Plotkin*[1], Arancha Gortazar[2], Keith Condon[1], Hugo Gabilondo[1], Marta Maycas[1], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]Universidad San Pablo-CEU School of Medicine Madrid Spain, Spain

Disclosures: Lilian Plotkin, None

OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION

SU0278 Continuous PTH Administration Stimulates Osteoclasts and Leads to Increased Cortical Bone Resorption at the Endosteal Surface, Widening of the Porosities, and Osteoclasts Contact with Osteocytes

Nobuhito Nango*[1], Shogo Kubota[1], Wataru Yashiro[2], Atsushi Momose[2], Makoto Morikawa[3], Koichi Matsuo[4]. [1]Ratoc System Engineering Co., Ltd., Japan, [2]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, [3]Laboratory of Cell & Tissue Biology, School of Medicine, Keio University, Japan, [4]School of Medicine, Keio University, Japan

Disclosures: Nobuhito Nango, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

SU0279 Circulating sclerostin as a predictor of cardiovascular events in Type 2 diabetes patients.

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Disclosures: Manuel Muñoz-Torres, None

SU0280 Higher serum carcinoembryonic antigen level is associated with increased development of incident fractures in Korean women: a longitudinal study using the national health insurance claim data

HyeonMok Kim*[1], Seong Hee Ahn[2], Beom-Jun Kim[3], Seung Hun Lee[2], Ghi Su Kim[2], Jung-Min Koh[3]. [1]South Korea, [2]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]Asan Medical Center, South Korea

Disclosures: HyeonMok Kim, None

SU0281 **How accurate is your sclerostin measurement? Comparison between two commercially available sclerostin ELISA kits.**
Isabelle Piec*[1], Emily Fisher[2], Christopher Washbourne[2], Jonathan Tang[3], William Fraser[2]. [1]BioAnalytical Facility, University of East Anglia, United Kingdom, [2]University of East Anglia, United Kingdom, [3]University of East Anglia, Norwich, UK, United Kingdom
Disclosures: Isabelle Piec, None

SU0282 **LC-MS/MS Measurement of Urine Free Collagen Crosslinks Pyridinoline and Deoxypyridinoline: Urine Markers of Bone Resorption.**
Jonathan Tang*[1], John Dutton[2], Darrell Green[3], Isabelle Piec[4], Emily Fisher[3], Christopher Washbourne[3], William Fraser[3]. [1]University of East Anglia, Norwich, UK, United Kingdom, [2]Royal Liverpool & Broadgreen University Hospital, United Kingdom, [3]University of East Anglia, United Kingdom, [4]BioAnalytical Facility, University of East Anglia, United Kingdom
Disclosures: Jonathan Tang, None

SU0283 **Using Bone Turnover Markers to Predict Changes in BMD After Alendronate Therapy in Postmenopausal Women**
Brian Mcnabb*[1], Eric Vittinghoff[2], Ann Schwartz[2], Douglas Bauer[2], Kristine Ensrud[3], Elizabeth Barrett-Connor[4], Richard Eastell[5], Dennis Black[2]. [1]San Francisco VA Medical Center, University of California, San Francisco, USA, [2]University of California, San Francisco, USA, [3]University of Minnesota & Minneapolis VA Health Care System, USA, [4]University of California, San Diego, USA, [5]University of Sheffield, United Kingdom
Disclosures: Brian Mcnabb, DocMatter, 1

OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

SU0284 **Factors Involved in Cortical Porosity Formation in Males: Analysis of Distal Radius by HR-pQCT**
Ko Chiba*[1], Andrew Burghardt[2], Narihiro Okazaki[2], Makoto Osaki[3], Sharmila Majumdar[2]. [1]Nagasaki University School of Medicine, Japan, [2]University of California, San Francisco, USA, [3]Nagasaki University, Japan
Disclosures: Ko Chiba, None

SU0285 **Microarchitectural Deterioration of Lumbar Spine Estimated by Trabecular Bone Score (TBS) is Associated with Vertebral Fractures Independent of Bone Mineral Density in Patients with Type 2 Diabetes Mellitus**
Masahiro Yamamoto*[1], Toru Yamaguchi[2], Nobuaki Kiyohara[1], Noriko Nakata[1], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Shimane University Faculty of Medicine, Jpn, [3]Shimane University School of Medicine, Japan
Disclosures: Masahiro Yamamoto, None

SU0286 **Multi-Row Detector CT Imaging with Image Analysis using an Advanced Tensor Scale Algorithm Provides a Robust Assessment of Trabecular Bone Micro-Architecture for Human Studies**
Punam K. Saha*, Yinxiao Liu, CHADI CALARGE, Ryan Amelon, Cheng Chen, Elena Letuchy, Trudy Burns, James Torner, Steven Levy. University of Iowa, USA
Disclosures: Punam K. Saha, None

SU0287 **Non-invasive assessment of longitudinal changes in bone microarchitecture and bone strength over eighteen months in lung transplant recipients using high-resolution peripheral quantitative computed tomography (HR-pQCT)**
Daniela Kienzl[1], Lukas Fischer[1], Thomas Gross[2], Matthew DiFranco[1], Michael Weber[1], Alexander Valentinitsch[3], Peter Jaksch[1], Walter Klepetko[1], Rodrig Marculescu[1], Peter Pietschmann[4], Claudia Schueller-Weidekamm[1], Franz Kainberger[1], Georg Langs[1], Janina Patsch*[1]. [1]Medical University of Vienna, Austria, [2]Vienna University of Technology, Austria, [3]Klinikum rechts der Isar, Technische Universität München, Germany, [4]Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria
Disclosures: Janina Patsch, None

SU0288 **Systemic and local bone loss in Psoriasis and Psoriatic Arthritis**
Roland Kocijan*[1], Matthias Englbrecht[2], Arnd Kleyer[2], Judith Haschka[3], David Simon[2], Stephanie Finzel[2], Sebastian Kraus[2], Christian Muschitz[4], Heinrich Resch[5], Klaus Engelke[6], Juergen Rech[2], Georg Schett[2]. [1]St. Vincent Hospital Vienna, Austria, [2]Department of Internal Medicine 3 & Institute of Clinical Immunology, University of Erlangen-Nurnberg, Germany, [3]University Hospital Erlangen-Nuremberg, Deu, [4]St. Vincent's Hospital, Austria, [5]Medical University Vienna, Austria, [6]University of Erlangen, Germany
Disclosures: Roland Kocijan, None

SU0289 **Trabecular Bone Microarchitecture of lumber spine is Deteriorated in Patients with Type 2 Diabetes Mellitus.**
Kenichiro Matsuzaki*[1], Toshihide Kawai[2], Takeshi Miyamoto[3], Kensuke Mio[4], Hironori Kaneko[5], Keisuke Horiuchi[6], Morio Matsumoto[6], Koichi Nemoto[4]. [1]National Defense Medical College, Japan, [2]Dept. of Internal Medicine, Keio Univ., Japan, [3]Keio University School of Medicine, Japan, [4]Dept. of Orthopaedic Surgery, National Defense Medical College, Japan, [5]Keio University, Japan, [6]Dept. of Orthopaedic Surgery, Keio Univ., Japan
Disclosures: Kenichiro Matsuzaki, None

SU0290 **Trabecular bone score (TBS), vitamin d and biochemical measures of bone metabolism in men.**
Mário Rui Mascarenhas*[1], Ana Paula Barbosa[2], Didier Hans[3], Manuel Bicho[4]. [1]Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN,EPE, Portugal, [2]Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, [3]Lausanne University Hospital, Switzerland, [4]Genetic Laboratory, Lisbon's Medical School, Portugal
Disclosures: Mário Rui Mascarenhas, None

OSTEOPOROSIS - ASSESSMENT: DXA

SU0291 **Comparison between normative spine TBS data for men and women: LAVOS Mexican Cohort**
Patricia Clark*[1], Renaud Winzenrieth[2], Margarita Deleze[3], Fidencio Cons-Molina[4], Jorge Morales[5], Didier Hans[6], Bruno Muzzi Camargos[7]. [1]Hospital Infantil Federico Gomez-Facultad de Medicina UNAM, Mexico, [2]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [3]Hospital Angeles Puebla, Mexico, [4]Centro de Investigacion en Artritis y Osteoporosis, Mexico, [5]Hospital Aranda de la Parra, Mexico, [6]Lausanne University Hospital, Switzerland, [7]Densimater Hospital Mater Dei, Brazil
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SU0292 **Glucocorticoid-induced osteoporosis in patients with pulmonary diseases, 4-year observation of treatment compliance**
Vaclav Vyskocil*[1], Monika Honnerova[2]. [1]Center for Metabolic Bone Diseases, Czech Republic, [2]Metabolic Bone Disease Center, Czech Republic
Disclosures: Vaclav Vyskocil, None

SU0293 **Subject Position on Accuracy of Vertebral Measurement**
Bo Fan*[1], Meng Lian[2], Cassidy Powers[2], Neda Sarafrazi Isfahani[3], Mita Patel[4], John Shepherd[1]. [1]University of California, San Francisco, USA, [2]University of California San Francisco, USA, [3]Nutritional Epidemiologist National Health & Nutrition Examination Survey National Center for Health Statistics Centers for Disease Control & Prevention, USA, [4]Westat, USA
Disclosures: Bo Fan, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

SU0294 **A Comparison of Trabecular Bone Microarchitecture as Determined by Quantitative MRI in Caucasian versus Asian American Young Adults at Peak Bone Mass**
Albert Shieh*, Jacqueline Hollada, Edgar Rios Piedra, Ameer Elbuluk, Alex Bui, John Adams. University of California, Los Angeles, USA
Disclosures: Albert Shieh, None

SU0295 **A New Method for Peripheral 3D QCT of the Distal Forearm using Clinical Whole Body CT Scanners: Preliminary Results**
Bastian Gerner*, Dominique Töpfer, Oleg Museyko, Alexander Mühlberg, Wolfgang Kemmler, Klaus Engelke. University of Erlangen, Germany
Disclosures: Bastian Gerner, None

SU0296 **Bindex® Technology for Osteoporosis Diagnostics in US Primary Care**
Janne Karjalainen*[1], Ossi Riekkinen[2], John Schousboe[3]. [1]Bone Index Finland Ltd., Finland, [2]Bone Index Finland, Ltd., Finland, [3]Park Nicollet Clinic, University of Minnesota, USA
Disclosures: Janne Karjalainen, Bone Index Finland Ltd., 3

SU0297 **Can identification of vertebral fractures on lateral spine x-rays be improved by workflow software?**
Jeri Nieves*[1], Peter Steiger[2], Patricia Garrett[3], Marsha Zion[3], Robert Lindsay[3], Felicia Cosman[3]. [1]Columbia University & Helen Hayes Hospital, USA, [2]Paroxel, United Kingdom, [3]Helen Hayes Hospital, USA
Disclosures: Jeri Nieves, None

SU0298 **Clinical Ultrasonic Bone Assessment of the 1/3 Radius**
Emily Stein*[1], Fernando Rosete[1], Gangming Luo[2], Mariana Bucovsky[1], Jonathan Kaufman[2], Elizabeth Shane[1], Robert Siffert[3]. [1]Columbia University College of Physicians & Surgeons, USA, [2]CyberLogic, Inc., USA, [3]The Mount Sinai School of Medicine, USA
Disclosures: Emily Stein, None

SU0299 **Diagnostic performance for identifying osteoporotic postmenopausal women without prevalent fractures by dental panoramic radiographs**
Akira Taguchi*[1], Noriyuki Sugino[1], Shinichiro Yamada[1], Yae Iwamoto[1], Keiichi Uchida[1], Mikio Kamimura[2]. [1]Matsumoto Dental University, Japan, [2]Center of Osteoporosis & Spinal Disorders, Japan
Disclosures: Akira Taguchi, None

SU0300 **QCT as a problem-solving diagnostic tool for individuals other than post-menopausal Caucasian females.**
Bruno Camargos*[1], Marlon de Faria[1], Renata Diniz[1], Alan Brett[2], Keenan Brown[3]. [1]Hospital Mater Dei, Brazil, [2]Mindways Software, Inc., USA, [3]Mindways Software, USA
Disclosures: Bruno Camargos, None

SU0301 **Self-directed Training for Recognition of Vertebral Fractures**
Sharon Chou*[1], Jessica Hwang[1], Peter Steiger[2], Tamara Vokes[1]. [1]University of Chicago, USA, [2]PAREXEL International, USA
Disclosures: Sharon Chou, None

SU0302 **Why we should think differently about cancer survivors'bone health - multi-modality imaging reveals gradual decreased bone mineral density but rapid and heterogeneous expansion of marrow fat from cancer therapy**
Susanta Hui*[1], Luke Arentsen[1], Keenan Brown[2], patrick Bolan[1], Rahel Ghebre[1], Levi Downs[1], Ryan Shanley[1], Karen Hansen[3], Anne Minenko[1], Yutaka Takahashi[1], Masashi Yagi[1], Yan Zhang[4], Sharon Allen[1], Bruno Beomonte Zobel[5], Chap Le[1], Jerry Froelich[1], Clifford Rosen[6], Douglas Yee[1]. [1]University of Minnesota, USA, [2]Mindways Software, USA, [3]University of Wisconsin, USA, [4]Medtronic, USA, [5]Campus Bio-Medico University, Italy, [6]Maine Medical Center, USA
Disclosures: Susanta Hui, None

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

SU0303 **Association between polymorphisms of the tissue non-specific alkaline phosphatase gene with serum alkaline phosphatase and fragility fractures in Italian population.**
Laura Masi*[1], Gigliola Leoncini[2], Francesco Franceschelli[2], Maria Luisa Brandi[3]. [1]University of Florence, Italy, [2]Department of Surgery & Translational Medicine, University Hospital of Florence, Italy, [3]Direttore Malattie Del Metabolismo Minerale E Osseo, Azienda Ospedaliera Univers, Italy
Disclosures: Laura Masi, None

SU0304 **Association of *C6orf97* and *ESR1* region with Bone mineral density in postmenopausal Mexican women**

Alma Parra-Torres[1], Humberto García-Ortiz[2], Manuel Castillejos-López[3], Rogelio Jiménez-Ortega[4], Nelly Patiño[5], Quiterio Manuel[6], Lorena Orozco[7], Jorge Salmerón[8], Rafael Velazquez-Cruz*[4]. [1]Laboratorio Genómica del Metabolismo Óseo, Instituto Nacional de Medicina Genómica, Mexico, [2]Laboratorio de Inmunogenómica y Enfermedades Metabólicas, Instituto Nacional de Medicina Genómica, Mexico, [3]Unidad de Vigilancia Epidemiológica Hospitalaria, Instituto Nacional de Enfermedades Respiratorias, Mexico, [4]Laboratorio de Genómica del Metabolismo Óseo, Instituto Nacional de Medicina Genómica, Mexico, [5]Subdirección de Desarollo de Aplicaciones Clínicas, Instituto Nacional de Medicina Genómica, Mexico, [6]Centro de Investigación en Salud Poblacional,Instituto Nacional de Salud Pública, Mexico, [7]Laboratorio de Inmunogenómica y Enfermedades Metabolicas, Instituto Nacional de Medicina Genómica, Mexico, [8]Unidad de Investigación Epidemiológica y en Servicios de Salud, Instituto Mexicano del Seguro Social, Mexico

Disclosures: Rafael Velazquez-Cruz, None

SU0305 **Association of $P2Y_2$ Receptor Single-Nucleotide Polymorphism with Bone Mineral Density in Elderly Men**

Maria Ellegaard*[1], Magnus Karlsson[2], Mattias Lorentzon[3], Claes Ohlsson[4], Dan Mellstrom[5], Osten Ljunggren[6], Peter Schwarz[7], Niklas Jorgensen[1]. [1]Copenhagen University Hospital Glostrup, Denmark, [2]Skåne University Hospital Malmö, Lund University, Sweden, [3]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [4]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [5]Sahlgrenska University Hospital, Sweden, [6]Uppsala University Hospital, Sweden, [7]Glostrup Hospital, Denmark

Disclosures: Maria Ellegaard, None

SU0306 **Associations Between Polymorphisms in ALOX12 and ALOX15 and Bone Properties in Young and Elderly Women**

Maria Herlin*[1], Fiona McGuigan[1], Holger Luthman[2], Kristina Akesson[3]. [1]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [2]Medical Genetics Unit, Department of Clinical Sciences, Malmö, Lund University, Sweden, [3]Skåne University Hospital, Malmö, Sweden

Disclosures: Maria Herlin, None

SU0307 **Common and Rare Variants in the Exons and Regulatory Regions of Osteoporosis-Related Genes Improve Osteoporotic Fracture Risk Prediction.**

Seung Hun Lee*[1], Moo Il Kang[2], Seong Hee Ahn[1], Kyeong-Hye Lim[1], Gun Eui Lee[3], Eun-Soon Shin[3], Jong-Eun Lee[3], Beom-Jun Kim[4], Eun-Hee Cho[5], Sang-Wook Kim[5], Tae-Ho Kim[6], Hyun-Ju Kim[7], Kun-Ho Yoon[2], Won Chul Lee[8], Ghi Su Kim[1], Jung-Min Koh[4], Shin-Yoon Kim[9]. [1]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [2]Seoul St. Mary's Hospital, The Catholic University of Korea, South Korea, [3]DNA Link, South Korea, [4]Asan Medical Center, South Korea, [5]Kangwon National University College of Medicine, South Korea, [6]Kyungpook National University School of Medicine, South Korea, [7]Skeletal Diseases Genome Research Center & Kyungpook National University School of Medicine, South Korea, [8]The Catholic University of Korea, South Korea, [9]Kyungpook National University Hospital, South Korea

Disclosures: Seung Hun Lee, None

OSTEOPOROSIS - EPIDEMIOLOGY:BONE MINERAL DENSITY

SU0308 **BMD Genome-Wide Association Studies (GWAS) loci are enriched in tissue-specific DNase I hypersensitive sites in human muscle, skin, blood and osteoblast cells**

Wen-Chi Chou*[1], Gosia Trynka[2], David Karasik[3], Douglas Kiel[1], Yi-Hsiang Hsu[4]. [1]Hebrew SeniorLife, USA, [2]Broad Institute, USA, [3]Hebrew SeniorLife; Bar Ilan University, USA, [4]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA

Disclosures: Wen-Chi Chou, None

SU0309 **Combined Hormonal Contraceptive Use Associated with Less Positive BMD Change in Adolescent Women in CaMOS Population-based Cohort—BMD loss significantly greater in women 20-24 using CHC at baseline**

Jerilynn Prior*[1], Katharina Schlammerl[2], William Mercer[3], David Hanley[4], Jonathan Adachi[5], Christopher Kovacs[6]. [1]University of British Columbia, Canada, [2]Technical University of Munich, Germany, [3]Centre for Menstrual Cylce & Ovulation Research, Canada, [4]University of Calgary, Canada, [5]St. Joseph's Hospital, Canada, [6]Memorial University of Newfoundland, Canada

Disclosures: Jerilynn Prior, None

SU0310 **Different Relationships between Body Compositions and Bone Mineral Density According to Gender and Age in Korean Populations (KNHANES 2008–2010)**

Seong Hee Ahn*[1], Seung Hun Lee[1], Hyeonmok Kim[1], Beom-Jun Kim[2], Jung-Min Koh[2]. [1]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [2]Asan Medical Center, South Korea

Disclosures: Seong Hee Ahn, None

SU0311 **Hip Structural Analysis Predicts Hip Fracture in Women Independent of BMD: A Meta-Analysis**

Preeti Kohli*[1], Chia-Ho Cheng[2], Marian Hannan[3], Yi-Hsiang Hsu[4], Lisa Strano-Paul[1], Michael Lavalley[5], Thomas Beck[6], Douglas Kiel[2], David Karasik[7]. [1]Stony Brook University, USA, [2]Hebrew SeniorLife, USA, [3]HSL Institute for Aging Research & Harvard Medical School, USA, [4]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [5]Biostatistics, Boston University Sch of Public Health, USA, [6]Beck Radiological Innovations, Inc., USA, [7]Hebrew SeniorLife; Bar Ilan University, USA

Disclosures: Preeti Kohli, None

SU0312 **Idiopathic and Secondary Osteoporosis in Premenopausal Women**

Alicia Bagur*[1], Silvina Mastaglia[2], Beatriz Oliveri[3], Diana González[4], Elizabeth Sarnacki[3], Candela Fernández[3], Carlos Mautalen[5]. [1]Mautalen Salud e Investigacion, Argentina, [2]SECCIÓN OSTEOPATÍAS MÉDICAS, HOSPITAL DE CLÍNICAS, Argentina, [3]Mautalen, Salud e Investigación, Argentina, [4]Mautalen Salud e Investigación, Argentina, [5]Centro de Osteopatías Médicas, Argentina

Disclosures: Alicia Bagur, None

SU0313 **The association of vitamin D and parathyroid hormone with bone mineral density in Korean adults**

Seong-Woo Choi[1], Sun-Seog Kweon[2], Jin-Su Choi[2], Jung-Ae Rhee[2], Young-Hoon Lee[3], Hae-Sung Nam[4], Hee Nam Kim[5], Min-Ho Shin*[6]. [1]Department of Preventive Medicine, Chosun University Medical School, Gwangju, Republic of Korea, South Korea, [2]Department of Preventive Medicine, Chonnam National University Medical School, South Korea, [3]Department of Preventive Medicine & Institute of Wonkwang Medical Science, Wonkwang University College of Medicine, South Korea, [4]Department of Preventive Medicine, Chungnam National University Medical School, South Korea, [5]Center for Creative Biomedical Scientists, Chonnam National University, South Korea, [6]Chonnam National University Medical School, South Korea

Disclosures: Min-Ho Shin, None

SU0314 **The trends in bone mineral density is reversed by body weight adjustment — a study of 12,401 Chinese women**

Edith Lau*[1], Rick Chung[1], Peng Cheng Ha[2], Hai Tang[3], Dicky Lam[4]. [1]Center for Clinical & Basic Research (CCBR) (Hong Kong), Hong Kong, [2]CCBR Beijing, China, [3]Department of Orthopedics, Friendship Hospital, Beijing, China, [4]CCBR Hong Kong, Hong Kong

Disclosures: Edith Lau, None

OSTEOPOROSIS - EPIDEMIOLOGY:ENVIRONMENTAL AND LIFESTYLE FACTORS

SU0315 **Obesity Was Not Protective Against Fractures in Post-Menopausal Women: a Cross-Sectional Study at Santa Maria, Brazil**

Rafaela Copes, Felipe Langer, Karen da Costa, Luana Marchesan, Giovani Sartori, Aline Cocco, Jose de Carvalho, Rafael Moresco, Fabio Comim, Melissa Premaor*. Federal University of Santa Maria, Brazil

Disclosures: Melissa Premaor, None

OSTEOPOROSIS - EPIDEMIOLOGY:FALLS AND FRACTURES

SU0316 Bone mineral density and association between BMI and fracture risk: a mediation study

Mei Chan*[1], Steve Frost[2], Jacqueline Center[2], John Eisman[2], Tuan Nguyen[2]. [1]Osteoporosis & Bone Biology, Australia, [2]Garvan Institute of Medical Research, Australia

Disclosures: Mei Chan, None

SU0317 Degree of Trauma Differs for Major Osteoporotic Fracture Events in Older Men vs. Older Women

Kristine Ensrud*[1], Terri Blackwell[2], Peggy Cawthon[2], Dawn Mackey[3], Douglas Bauer[4], Howard Fink[5], John Schousboe[6], Dennis Black[4], Eric Orwoll[7], Deborah Kado[8], Jane Cauley[9]. [1]University of Minnesota & Minneapolis VA Health Care System, USA, [2]California Pacific Medical Center Research Institute, USA, [3]Simon Fraser University, Canada, [4]University of California, San Francisco, USA, [5]GRECC, Minneapolis VA Medical Center, USA, [6]Park Nicollet Clinic, University of Minnesota, USA, [7]Oregon Health & Science University, USA, [8]University of California, San Diego, USA, [9]University of Pittsburgh Graduate School of Public Health, USA

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SU0318 Withdrawn

SU0319 Identification of Osteoporosis Cases in Administrative Healthcare Databases: A Validation Study in the Province of Quebec,Canada

Sonia Jean*[1], Jacques P. Brown[2], Philippe Gamache[3], Suzanne Morin[4], Siobhan O'Donnell[5], William Leslie[6], Louis Bessette[7]. [1]Institut National De Santé Publique Du Québec, Canada, [2]CHU de Québec Research Centre, Canada, [3]INSPQ, Canada, [4]McGill University, Canada, [5]PHAC, Canada, [6]University of Manitoba, Canada, [7]CHU de Quebec Research Centre, Canada

Disclosures: Sonia Jean, None

SU0320 Serum 25-hydroxy vitamin D levels and fracture risk: The Dubbo Osteoporosis Epidemiology Study

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Disclosures: Weiwen Chen, None

SU0321 Serum Periostin Improves Fracture Prediction in Older Men: the STRAMBO Study

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OSTEOPOROSIS - EPIDEMIOLOGY:RISK FACTORS

SU0322 Determinants of serum sclerostin in postmenopausal women.

Pedro Rozas-Moreno*[1], Rebeca Reyes[2], Manuel Munoz-Torres[3], Antonia Garcia-Martin[4], Ines Luque-Fernandez[4], Verónica Avila-Rubio[4], Beatriz García-Fontana[4], Sonia Morales-Santana[4]. [1]Endocrinology Division. Hospital General de Ciudad Real. Ciudad Real, Spain., Spain, [2]Bone Metabolic Unit., Spain, [3]Hospital Universitario San Cecilio, Spain, [4]Bone Metabolic Unit, Spain

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SU0323 Hypothyroidism, thyroxine replacement and major osteoporotic fractures – The OPENTHYRO register cohort.

Bo Abrahamsen*[1], Henrik L Jørgensen[2], Anne Sofie Laulund[2], Mads Nybo[3], Douglas Bauer[4], Thomas H Brix[3], Laszlo Hegedüs[3]. [1]University of Southern Denmark, Denmark, [2]Bispebjerg Hospital, Denmark, [3]Odense University Hospital, Denmark, [4]University of California, San Francisco, USA

Disclosures: Bo Abrahamsen, Eli Lilly, 99; Novartis, 2; Merck, 5; Amgen, 5; UCB, 2

SU0324 **Inflammatory Markers and Change in Bone Mineral Density among Older Men**

Kamil Barbour*[1], Stephanie Harrison[2], Kristine Ensrud[3], Peggy Cawthon[4], Nancy Lane[5], Thuy-Tien Dam[6], Joseph Zmuda[7], Steven Cummings[2], Jane Cauley[7]. [1]CDC, USA, [2]San Francisco Coordinating Center, USA, [3]University of Minnesota & Minneapolis VA Health Care System, USA, [4]California Pacific Medical Center Research Institute, USA, [5]University of California, Davis Medical Center, USA, [6]Division of Geriatric Medicine & Aging, Columbia University, USA, [7]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Kamil Barbour, None

SU0325 **Is the Swedish FRAX Model Appropriate for Immigrants to Sweden?**

Helena Johansson*[1], Anders Odén[2], Mattias Lorentzon[3], Eugene McCloskey[4], Nicholas Harvey[5], John Kanis[6], Magnus Karlsson[7], Dan Mellstrom[8]. [1]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [2]Sheffield University, United Kingdom, [3]Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, [4]University of Sheffield, United Kingdom, [5]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [6]University of Sheffield, Belgium, [7]Skåne University Hospital Malmö, Lund University, Sweden, [8]Sahlgrenska University Hospital, Sweden

Disclosures: Helena Johansson, None

SU0326 **Multimorbidity in Men with and without Osteoporosis:Results from a Large US Retrospective Cohort Study**

Cynthia O'Malley*[1], Nguyet Tran[1], Carol Zapalowski[2], Nadia Daizadeh[1], Thomas Olenginski[3], Jane Cauley[4]. [1]Amgen Inc., USA, [2]Amgen, USA, [3]Geisinger Health System, USA, [4]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Cynthia O'Malley, Amgen Inc., 1; Amgen, Inc, 3

SU0327 **Nationwide Osteoporosis Awareness and Screening Campaigns in Taiwan**

Rong-Sen Yang, Ding-Cheng Chan*. National Taiwan University Hospital, Taiwan

Disclosures: Ding-Cheng Chan, None

SU0328 **Rapid resting heart rate is associated with low bone mineral density in Korean adults: the Dong-gu Study**

Hee Nam Kim*[1], Sun-Seog Kweon[2], Jin-Su Choi[2], Jung-Ae Rhee[2], Min-Ho Shin[3]. [1]Center for Creative Biomedical Scientists, Chonnam National University, South Korea, [2]Department of Preventive Medicine, Chonnam National University Medical School, South Korea, [3]Chonnam National University Medical School, South Korea

Disclosures: Hee Nam Kim, None

SU0329 **Serum 25-Hydroxivitamin D, Skin Phototype, Sun Exposure and the Metabolic Risk in a Large Sample of Subjects Living in the Tropics**

Francisco Bandeira[1], Maria Azevedo[2], ALINE CORREIA[3], Larissa Pimentel*[4], Sirley Vasconcelos[5]. [1]University of Pernambuco, Brazil, [2]endocrinology & diabetes, Brazil, [3]Endocrinology & diabetes unit of agamenon Magalhães Hospital, Brazil, [4]Brazil, [5]Hospital Agamenon Magalhães - Recife, Brazil

Disclosures: Larissa Pimentel, None

SU0330 **The 10-year probability of major osteoporotic fracture of FRAX is useful as a screening item for osteoporosis patients. A cross sectional study of Japanese women**

Shinya Tanaka*[1], Sawako Moriwaki[2], Kiyoshi Tanaka[3], Yoshitaka Ikeda[4], Kazuhiro Uenishi[5], Shunpei Niida[2]. [1]Saitama Medical University, Japan, [2]Biobank, National Center for Geriatrics & Gerontology, Japan, [3]Kyoto Women's University, Japan, [4]Department of Biomolecular Sciences, Faculty of Medicine, Saga University, Japan, [5]Kagawa Nutrition University, Japan

Disclosures: Shinya Tanaka, None

SU0331 **Trabecular Bone Score as an Indicator for Skeletal Deterioration in Diabetes**
Jung Hee Kim*[1], Hyung Jin Choi[2], Eu Jeong Ku[1], Kyoung Min Kim[3], Sang Wan Kim[4], Nam H. Cho[5], Chan Soo Shin[6]. [1]Seoul National University College of Medicine, South Korea, [2]Chungbuk National University Hospital, South Korea, [3]Seoul National University Bundang Hospital, South Korea, [4]Seoul National University College of Medicine, Boramae Hospital, South Korea, [5]Ajou University School of Medicine, South Korea, [6]Seoul National University College of Medicine, South Korea
Disclosures: Jung Hee Kim, None

SU0332 **Unintentional Weight Loss and Fracture: The Global Longitudinal Study of Osteoporosis in Women**
Juliet Compston*[1], Allison Wyman[2], Stephen Gehlbach[3], Nelson Watts[4], Ethel Siris[5], Coen Netelenbos[6], Adolfo Diez-Perez[7], Cyrus Cooper[8], Roland Chapurlat[9], Silvano Adami[10], Jonathan Adachi[11], Gordon FitzGerald[2]. [1]University of Cambridge School of Clinical Medicine, United Kingdom, [2]UMASS Medical School, USA, [3]University of Massachusetts, USA, [4]Mercy Health Osteoporosis & Bone Health Services, USA, [5]Columbia University College of Physicians & Surgeons, USA, [6]VU Medical Center, The Netherlands, [7]Autonomous University of Barcelona, Spain, [8]University of Southampton, United Kingdom, [9]E. Herriot Hospital, France, [10]University of Verona, Italy, [11]St. Joseph's Hospital, Canada
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SU0333 **Use of the Safe Functional Motion-6 test to predict incident osteoporotic fractures at any site**
Christopher Recknor*[1], Julie Recknor[2], Norma MacIntyre[3]. [1]United Osteoporosis Center, USA, [2]United Osteoporosis Centers, USA, [3]McMaster University, Canada
Disclosures: Christopher Recknor, IONmed Systems, 4

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

SU0334 **Bone Health Collaborative Fracture Prevention Platform: *New tools that will enable the rapid implementation of a Fracture Liaison Service program focused on provider performance, quality improvement, care coordination and community***
Debbie Zeldow[1], David Lee*[2]. [1]National Bone Health Alliance, USA, [2]NBHA, USA
Disclosures: David Lee, None

SU0335 **Differences in Characteristics of Osteoporosis Patients Treated by Endocrine and Non-Endocrine Specialties**
Leyda Callejas*[1], Philip Orlander[2], Kelly Wirfel[3], Nahid Rianon[4]. [1]University of Texas at Health Science Center, USA, [2]Department of Endocrinology Diabetes & Metabolism, University of Texas Health Science Center, USA, [3]Department of Endocrinology Diabetes & Metabolism, University of Texas Health Science Center, USA, [4]UTHealth The University of Texas Medical School at Houston, USA
Disclosures: Leyda Callejas, None

SU0336 **Factors Associated with Non-Receipt of Osteoporosis Therapy Following an Osteoporotic Fracture**
Delia Scholes*[1], Do Peterson[2], Akhila Balasubramanian[3], Cynthia O'Malley[4], Jane Grafton[2], Jackie Saint-Johnson[2], Denise Boudreau[2]. [1]Group Health Cooperative, Group Health Research Institute, USA, [2]Group Health Research Institute, USA, [3]Amgen Inc., USA, [4]Amgen, Inc., USA
Disclosures: Delia Scholes, Amgen, Inc., 2

SU0337 **Relationship of Spine Fracture Burden to Reduced Lung Volume in Postmenopausal Women With Osteoporosis**
John Krege*[1], David Kendler[2], Kelly Krohn[3], Harry Genant[4], Pierre-Yves Berclaz[1], Corina Loghin[1]. [1]Eli Lilly & Company, USA, [2]Associate Professor, University of British Columbia, Canada, [3]Lilly USA, LLC, USA, [4]UCSF/Synarc, USA
Disclosures: John Krege, Eli Lilly and Company, 3; Eli Lilly and Company, 1

SU0338 **Rural distribution and scope of a centralized, electronic consult program for patients with recent fracture**
Richard Lee*[1], Megan Pearson[2], Kenneth Lyles[3], Patricia Jenkins[2], Cathleen Colon-Emeric[3]. [1]Duke University, USA, [2]Durham VAMC, USA, [3]Duke University Medical Center, USA
Disclosures: Richard Lee, None

SU0339 **Trends in Glucocorticoid-Induced Osteoporosis Management Among Seniors in Ontario, 1996-2012**
Jordan Albaum*[1], Linda Levesque[2], Andrea Gershon[3], Guoyuan Liu[2], Yan Yun Liu[1], Suzanne Cadarette[1]. [1]University of Toronto, Canada, [2]Queen's University, Canada, [3]Sunnybrook Health Sciences Centre, Canada
Disclosures: Jordan Albaum, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: HEALTH ECONOMICS

SU0340 **An Early Development Budget Impact Model for the Use of Melatonin in the Treatment and Prevention of Osteoporosis**
Corry Bondi*[1], Rahul Khairnar[1], Khalid Kamal[1], Paula Witt-Enderby[2]. [1]Duquesne University Clinical, Social & Administrative Sciences, USA, [2]Duquesne University, School of Pharmacy, USA
Disclosures: Corry Bondi, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: OUTCOME STUDIES

SU0341 **Reduction of fracture rate for treatment based on quality metrics in glucocorticoid-induced osteoporosis (GIO)**
Robert Overman*[1], Bradley Layton[1], Joel Farley[1], Alan Brookhart[1], Chad Deal[2], Margaret Gourlay[1]. [1]University of North Carolina, USA, [2]Cleveland Clinic Foundation, USA
Disclosures: Robert Overman, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: CALCIUM

SU0342 **The Effect of Dietary Calcium versus Supplemental Calcium on Vascular and Bone Markers in Healthy Postmenopausal Women: Results of A 12-Month Pilot Clinical Trial**
Angel Ong*[1], Hope Weiler[2], Michelle Wall[1], Rouba Haddad[3], Emily Rose Hamilton-Leavitt[3], Stella Daskalopoulou[4], David Goltzman[4], Suzanne Morin[4]. [1]McGill University Health Centre Research Institute, Canada, [2]McGill University, USA, [3]School of Dietetics & Human Nutrition, McGill University, Canada, [4]McGill University, Canada
Disclosures: Angel Ong, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: GENERAL

SU0343 **Associations between serum parathyroid hormone concentrations, bone turnover markers and bone traits in Caucasian pre-menopausal females and males with fairly high dietary calcium intake**
Suvi Itkonen*[1], Elisa Saarnio[1], Virpi Kemi[2], Heini Karp[2], Minna Pekkinen[3], Juha Risteli[4], Marja-Kaisa Koivula[5], Harri Sievanen[6], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]Calcium Research Unit, Department of Food & Environmental Sciences, University of Helsinki, Finland, [3]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [4]University of Oulu, Finland, [5]Northern Finland Laboratory Centre Nordlab & Department of Clinical Chemistry, Institute of Diagnostics, University of Oulu, Finland, [6]The UKK Institute for Health Promotion Research, Finland
Disclosures: Suvi Itkonen, None

SU0344 **GPR40 limits bone loss induced by ovariectomy upon high fat diet**
Claire Philippe*. INRA, France
Disclosures: Claire Philippe, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: VITAMIN D

SU0345 **A New Paradigm for Vitamin D Supplementation: Treat to Target Using a Vitamin D Panel**
Neil Binkley*[1], Ravinder Singh[2], Joan Lappe[3], Diane Krueger[1], Marc Drezner[4], Robert Blank[5]. [1]University of Wisconsin, Madison, USA, [2]Mayo Clinic, USA, [3]Creighton University Osteoporosis Research Center, USA, [4]University of Wisconsin, USA, [5]Medical College of Wisconsin, USA
Disclosures: Neil Binkley, None

SU0346 **Association Between Serum Levels of Vitamin D and Osteocalcin In Older Patients with Osteoporosis**

Matthew Hnatow*[1], Jonash Loh[2], Catherine Ambrose[3], Nahid Rianon[4]. [1]Univeristy of Texas Health Science Center at Houston - Medical School, USA, [2]UT Medical School - Houston, USA, [3]University of Texas Health Science Center at Houston, USA, [4]UTHealth The University of Texas Medical School at Houston, USA

Disclosures: Matthew Hnatow, None

SU0347 **BMD changes in accordance with serum vitamin D changes in postmenopausal Korean women**

Duck Joo Lee[1], Sanghyun Je*[2], Beomtek Kim[2]. [1]Ajou University School of Medicine, South Korea, [2]Ajou University Hospital, South Korea

Disclosures: Sanghyun Je, None

SU0348 **Dairy products consumption and serum 25-hydroxyvitamin D level in Saudi children and adults**

Nasser Al-Daghri*[1], Omar Al-Attas[1], Soundararajan Krishnaswamy[1], Hanan Alfawaz[1], Naji Aljohani[2], Shaun Sabico[1], Majed Alokail[1]. [1]King Saud University, Saudi Arabia, [2]King Saud University for Health Sciences, Saudi Arabia

Disclosures: Nasser Al-Daghri, None

SU0349 **Does Vitamin D Affect Femoral Cartilage Thickness? An Ultrasonographic Study**

Aysen AKINCI-TAN*[1], Serdar Güven[2], Fevziye UNSAL MALAS[3], Murat KARA[4], Lale AKTEKIN[3], Murat ERSOZ[4], Levent OZCAKAR[5]. [1]Hacettepe University, Turkey, [2]Hacettepe University School of Medicine, Turkey, [3]Ankara PMR Training & Research Hospital, Turkey, [4]Ankara PMR Training & Rehabilitation Center, Turkey, [5]Hacettepe University dept of PMR, Turkey

Disclosures: Aysen AKINCI-TAN, None

SU0350 **Optimal Dose of Vitamin D Replacement in Middle Eastern and North African Population: a Systematic Review and Meta-analysis**

Marlene Chakhtoura*[1], Ghada El-Hajj Fuleihan[2], Asma Arabi[3], Sara El-Ghandour[1], Elie Akl[1], Khaled Shawwa[1]. [1]American University of Beirut, Lebanon, [2]American University of Beirut-Medical Center, Lebanon, [3]Calcium Metabolism & Osteoporosis Program, American University of Beirut, Lebanon

Disclosures: Marlene Chakhtoura, None

SU0351 **Quantification of total 25-hydroxyvitamin D: Acomparison between the Elecsys® Vitamin D Total assay and LC-MS/MS**

Christopher Washbourne*[1], Darrell Green[1], Emily Fisher[1], Isabelle Piec[2], Jonathan Tang[3], William Fraser[1]. [1]University of East Anglia, United Kingdom, [2]BioAnalytical Facility, University of East Anglia, United Kingdom, [3]University of East Anglia, Norwich, UK, United Kingdom

Disclosures: Christopher Washbourne, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE AND THE MICROBIOME, BONE INFECTIONS

SU0352 **Probitotic treatment prevents bone loss in type 1 diabetic mice.**

Laura McCabe[1], Sandi Raehtz*[1], Katherine Motyl[2], Jing Zhang[1], Robert Britton[1], Narayanan Parameswaran[1], Regina Irwin[1]. [1]Michigan State University, USA, [2]Maine Medical Center Research Institute, USA

Disclosures: Sandi Raehtz, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

SU0353 **Oxytocin is not a determinant of bone mineral density in men: analysis of the MINOS cohort**

Veronique Breuil*[1], Eric Fontas[2], Roland Chapurlat[3], Patricia Panaia-Ferrari[2], Hedi Ben Yahia[4], Sylvie Faure[2], Yacine Allam[2], Liana Euller-Ziegler[2], Ez Zoubir Amri[4], Pawel Szulc[5]. [1]Chu De Nice, France, [2]Nice University Hospital, France, [3]E. Herriot Hospital, France, [4]CNRS, iBV UMR 7277, France, [5]INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France

Disclosures: Veronique Breuil, None

SU0354 **Pathologically Altered Osteocytes (Ocys) are Responsible for Osteoporosis**
Yinshi Ren*[1], Baozhi Yuan[2], Ying Liu[1], Marc Drezner[2], Jian Feng[1]. [1]Baylor college of dentistry,Texas A&M Health Science Center, USA, [2]University of Wisconsin, USA
Disclosures: Yinshi Ren, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: CALCIUM, VITAMIN D, NUTRITIONAL AND PHYSICAL FACTORS

SU0355 **Effects of the Combination of Eldecalcitol, an Analog of Active Vitamin D_3, and Parathyroid Hormone in Ovariectomized Rat Bones**
Tomomaya Yamamoto*[1], Tomoka Hasegawa[1], Sadaoki Sakai[2], Satoshi Takeda[3], Kimimitsu Oda[4], Minqi Li[5], Koichi Endo[2], Norio Amizuka[6]. [1]Hokkaido University, Japan, [2]Chugai Pharmaceutical Co., Ltd., Japan, [3]Chugai Pharmaceutical Co., LTD, Japan, [4]Niigata University, Japan, [5]The School of Stomatology, Shandong University, Japan, [6]Hokkaido University School of Dentistry, Japan
Disclosures: Tomomaya Yamamoto, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

SU0356 **Experimental Hepatic Osteodystrophy: The Reciprocal Influence of Glucose Metabolism and Pamidronate Treatment on Bone Microstructure and Strength.**
Francisco Jose De Paula*[1], Fernando Cunha[2], Leandra Ramalho[2], Ariane Ariane[2], Antonio Shimano[2], Marcello Nogueira-Barbosa[2], Ingrid Dick-de-Paula[2], Vanda Jorgetti[3], Sandra Fukada[4], Adriano Spirlandeli[2]. [1]School of Medicine of Ribeirao Preto - USP, Brazil, [2]Ribeirao Preto Medical School, USP, Brazil, [3]University of São Paulo, Brazil, [4]School of Pharmaceutical Sciences of Ribeirao Preto, USP, Brazil
Disclosures: Francisco Jose De Paula, None

SU0357 **Integrative Analysis of GWASs, Human Protein Interaction and Gene Expression Identified Gene Modules Associated with BMDs**
Hao He*[1], Lei Zhang[1], Jian Li[1], Yu-Ping Wang[1], Ji-Gang Zhang[1], Jie Shen[1], Yan-Fang Guo[1], Hong-Wen Deng[2]. [1]Center of Genomics & Bioinformatics, Tulane University, USA, [2]Tulane University, USA
Disclosures: Hao He, None

SU0358 **Refining Isolation Methods of Human Osteoblastic Cells from Small Needle Bone Biopsies Without In Vitro Culture: Exclusion of Quiescent Bone Lining Cells**
Joshua Farr*[1], David Monroe[2], Sundeep Khosla[3]. [1]Mayo Clinic, USA, [2]Mayo Foundation, USA, [3]Mayo Clinic College of Medicine, USA
Disclosures: Joshua Farr, None

SU0359 **Serum Proteomic Profiles and Incident Vertebral Fracture in Older Men: The MrOS Study**
Douglas Bauer*[1], Jian Shen[2], Jodi Lapidus[3], Peggy Cawthon[4], Andy Hoffman[5], Steven Cummings[6], Eric Orwoll[2]. [1]University of California, San Francisco, USA, [2]Oregon Health & Science University, USA, [3]OHSU, USA, [4]California Pacific Medical Center Research Institute, USA, [5]Stanford, USA, [6]San Francisco Coordinating Center, USA
Disclosures: Douglas Bauer, None

SU0360 **Simvastatin action on bone repair after fracture in experimental surgical protocol**
João Paulo Mardegan Issa*[1], Conrado Ingraci de Lucia[2], Fellipe Augusto Tocchini de Figueiredo[3], Junia Ramos[4], Daniela Mizusaki Iyomasa[3], Mamie Mizusaki Iyomasa[5], Ana Paula Macedo[4], Roberta Carminati Shimano[3]. [1]USP- University of São Paulo, Brazil, [2]Professor, Brazil, [3]University of São Paulo, Brazil, [4]Technician of University of São Paulo, Brazil, [5]Professor of University of São Paulo, Brazil
Disclosures: João Paulo Mardegan Issa, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICOIDS AND OTHER DRUGS

SU0361 **Effects of intermittent administration of teriparatide on bone mineral density and bone strength in autochthonous transgenic mice for diabetes mellitus (Akita mice)**
Kentaro Ohuchi*[1], Naohisa Miyakoshi[1], Yuji Kasukawa[1], Hayato Kinoshita[2], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Akita University, Japan
Disclosures: Kentaro Ohuchi, None

SU0362 Osthole inhibits osteoclast formation and exerts an osteoprotective effect in mice model of 5/6 nephrectomy

Bing Shu*[1], Xiaofeng Li[2], Chunchun Xue[2], Yongjian Zhao[2], Weiwei Da[2], Sheng Lu[2], Dezhi Tang[3], Qi Shi[2], Yongjun Wang[4]. [1]Longhua Hospital, Peoples Republic of China, [2]Longhua Hospital, Spine Research Institute, Shanghai University of TCM, China, [3]Shanghai University of Traditional Chinese Medicine, Peoples Republic of China, [4]Othopedic Surgery, Peoples Republic of China

Disclosures: Bing Shu, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: SEX HORMONES AND CALCIOTROPIC HORMONES

SU0363 An herbal formula prevents postmenopausal osteoporosis via DHEA suppressing osteoclastogenesis

Ling Wang*[1], Xuemin Qiu[2], Hans-Jürgen Gober[3], Dajin Li[2]. [1]Fudan University, Institute of Obstetrics & Gynecology, Obstetrics & Gynecology, Peoples Republic of China, [2]Laboratory for Reproductive Immunology, Hospital & Institute of Obstetrics & Gynecology, China, [3]Department of Cell Signaling, Graduate School of Medical & Dental Sciences, Tokyo Medical & Dental University, Japan

Disclosures: Ling Wang, None

SU0364 Changes in Cortical and Trabecular vBMD After 5 Months of Ovarian Hormone Suppression in Premenopausal Women

Vanessa Sherk*[1], Karen Shea[2], Pamela Wolfe[2], Robert Schwartz[2], Wendy Kohrt[3]. [1]University of Colorado - Denver, USA, [2]University of Colorado Anschutz Medical Center, USA, [3]University of Colorado Denver, USA

Disclosures: Vanessa Sherk, None

OSTEOPOROSIS - SECONDARY CAUSES: DRUGS, OTHER THAN GLUCOCORTICOIDS

SU0365 Adefovir-induced nephrotoxicity with osteomalacia - cases series

Su Jin Lee*[1], Kwang Joon Kim[2], JO EUN KIM[3], Yumie Rhee[4], Sung-Kil Lim[3]. [1]Yonsei University Health System, South Korea, [2]Severance Hospital, South Korea, [3]Yonsei University College of Medicine, South Korea, [4]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea

Disclosures: Su Jin Lee, None

SU0366 High circulating sclerostin levels and low bone formation in primary biliary cirrhosis

Ana Monegal[1], Silvia Ruiz-Gaspà[2], Laia Gifre[1], Albert Pares[3], Rosa Miquel[4], Pilar Peris[5], Marta Dubreuil[6], Ana Arias[7], Nuria Guanabens*[8]. [1]Hospital Clinic Barcelona, Spain, [2]Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd). Hospital Clínic Barcelona., Spain, [3]Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd). Hospital Clínic Barcelona. 3Liver Unit. Hospital Clínic of Barcelona.University of Barcelona., Spain, [4]Department of Pathology, Hospital Clínic of Barcelona, Spain, [5]Hospital Clínic of Barcelona, Spain, [6]Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd). Hospital Clínic Barcelona, Spain, [7]Department of Rheumatology. Metabolic Bone Diseases Unit. Hospital Clínic of Barcelona, Spain, [8]Universitat De Barcelona, Spain

Disclosures: Nuria Guanabens, None

OSTEOPOROSIS - SECONDARY CAUSES: GLUCOCORTICOIDS

SU0367 Analysis of age among clinical risk factors in patients with glucocorticoid-induced osteoporosis (GIO).

Ikuko Tanaka*[1], Mari Ushikubo[2], Harumi Kuda[2], Yuki Takane[2], Kumiko Akiya[2], Shigenori Tamaki[2], Hisaji Oshima[3]. [1]NAGOYA Rheumatology Clinic, Japan, [2]National Tokyo Medical Center, Japan, [3]Tokyo Medical Center, Japan

Disclosures: Ikuko Tanaka, None

SU0368 Effects of teriparatide (TPT) on bone mineral density and vertebral fractures in patients with severe glucocorticoid-induced osteoporosis (GIO) pretreated with bisphosphonates (BP)

Mari Ushikubo*[1], Harumi Kuda[1], Yuki Takane[1], Kumiko Akiya[1], Shigenori Tamaki[2], Ikuko Tanaka[2], Hisaji Oshima[3]. [1]National Tokyo Medical Center, Japan, [2]Nagoya Rheumatology Clinic, Japan, [3]Tokyo Medical Center, Japan

Disclosures: Mari Ushikubo, None

SU0369 **Rapid changes in bone metabolism and clinical benefits of alendronate in patients with systemic rheumatic diseases treated with high dose glucocorticoid: Early DIagnosis and Treatment of OsteopoRosis in Japan (EDITOR-J) Study**

Yoshiya Tanaka*[1], Hiroko Mori[1], Takatoshi Aoki[2], Tatsuya Atsumi[3], Yutaka Kawahito[4], Hisanori Nakayama[5], Shigeto Tohma[6], Hitoshi Hasegawa[7], Kazuhide Tanimura[8], Nobuo Negoro[9], Yuji Yamanishi[10], Yukitaka Ueki[11], Atsushi Kawakami[12], Katsumi Eguchi[13], Kazuyoshi Saito[14], Yosuke Okada[15]. [1]University of Occupational & Environmental Health, Japan, Japan, [2]Department of Radiology, University of Occupational & Environmental Health, Japan, Japan, [3]Hokkaido University School of Medicine, Japan, [4]Kyoto Prefectural University of Medicine, Department of Inflammation & Immunology, Japan, [5]Samihara National Hospital, Department of Rheumatology, Japan, [6]Sagamihara National Hospital, National Hospital Organization, Department of Rheumatology, Clinical Research Center for Allergy & Rheumatology, Japan, [7]Ehime University Graduate School of Medicine, Department of Rheumatology, Japan, [8]Hokkaido Medical Center for Rheumatic Diseases, Japan, [9]Clinical Immunology & Rheumatology, Osaka City University, Japan, [10]Department of Rheumatology, Hiroshima Rheumatology Clinic, Japan, [11]Sasebo Chuo Hospital, Rheumatic & Collagen Disease Center, Japan, [12]Nagasaki University Graduate School of Biomedical Sciences, Department of Immunology & Rheumatology, Japan, [13]Sasebo Municipal Hospital, Department of Internal Medicine, Japan, [14]The First Department of Internal medicine, University of Occupational & Environmental Health, Japan, Japan, [15]University of Occupational & Environmental Health, Japan

Disclosures: Yoshiya Tanaka, Mitsubishi-Tanabe, Chugai, MSD, Astellas, Novartis, 2; Abbvie, Chugai, Astellas, Takeda, Santen, Mitsubishi-Tanabe, Pfizer, Janssen, Eisai, Daiichi-Sankyo, UCB, GlaxoSmithKline, Bristol-Myers, 8

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

SU0370 **Abaloparatide (BA058), a Human PTHrP Analog: Correlation of In vivo Bone Mass Gains and Improved Bone Strength in an Osteopenic Rat Model**

Aurore Varela*[1], Elisabeth Lesage[2], Susan Y. Smith[1], Gary Hattersley[3]. [1]Charles River Laboratories, Canada, [2]Charles River, Canada, [3]Radius, USA

Disclosures: Aurore Varela, Charles River, 3

SU0371 **Abaloparatide (BA058), a Human PTHrP Analog: Correlation of In Vivo Bone Mass Gains and Improved Bone Strength in the Osteopenic Cynomolgus Monkey**

Nancy Doyle*[1], Aurore Varela[1], Susan Y. Smith[1], Gary Hattersley[2]. [1]Charles River Laboratories, Canada, [2]Radius, USA

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SU0372 **Activation of the cAMP/PKA Pathway is Dominant During Vasodilation of the Femoral Principal Nutrient Artery to PTH 1-84 and PTHrP, While Activation of PKC and cAMP/PKA are Equally Important for Vasodilation to PTH 1-34**

Jahyun Kim*, Brianna Hood, Ashley Bice, Rhonda Prisby. University of Delaware, USA

Disclosures: Jahyun Kim, None

SU0373 **Characteristics of premenopausal women with idiopathic osteoporosis who experience significant bone loss after teriparatide cessation**

Adi Cohen*[1], Mafo Kamanda-Kosseh[2], Robert Recker[3], Joan Lappe[4], David Dempster[2], Hua Zhou[5], Serge Cremers[2], Mariana Bucovsky[2], Julie Stubby[3], Elizabeth Shane[6]. [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]Columbia University College of Physicians & Surgeons, USA

Disclosures: Adi Cohen, None

SU0374 **Effect of Teriparatide on Trabecular Bone Microarchitecture Assessed by the Trabecular Bone Score (TBS) in Patients with Osteoporosis**

Oksana Davydov*[1], Didier Hans[2], Richard Bockman[3]. [1]New York Presbyterian Hospital/Weill-Cornell Medical Center, USA, [2]Lausanne University Hospital, Switzerland, [3]Hospital for Special Surgery, Weill Cornell Medical College, USA

Disclosures: Oksana Davydov, None

SU0375 **Effects of Sclerostin antibody on osteoblast and osteocyte viability/autophagy in mouse model of glucocorticoid-induced bone loss**

Weiwei Dai[1], Yu-An Lay[2], Li Jiang[2], Xiaodong Li[3], Hua Zhu (David) Ke[4], Nancy Lane[5], Wei Yao*[5]. [1]Longhua Hospital Shanghai University of Traditional Chinese Medicine, USA, [2]UC Davis Medical center, USA, [3]Amgen, Inc., USA, [4]Amgen Inc., USA, [5]University of California, Davis Medical Center, USA

Disclosures: Wei Yao, None

SU0376 **Factors related to the response rate of bone mineral density (BMD) to osteoanabolic therapy (teriparatide/PTH) in patients with severe osteoporosis.**

Laia Gifre*[1], Ana Monegal[1], Xavier Filella[2], Africa Muxi[3], Nuria Guanabens[4], Pilar Peris[5]. [1]Hospital Clinic Barcelona, Spain, [2]Department of Biochemistry & Molecular Genetics, Hospital Clinic., Spain, [3]Nuclear Medicine Department. Hospital Clinic, Spain, [4]Universitat De Barcelona, Spain, [5]Hospital Clínic of Barcelona, Spain

Disclosures: Laia Gifre, None

SU0377 **FRAX and the effect of teriparatide on vertebral and non-vertebral fracture**

John Kanis[1], Anders Oden[2], Helena Johansson[3], Russel Burge[4], Bruce Mitlak[4], Eugene McCloskey*[2]. [1]University of Sheffield, Belgium, [2]University of Sheffield, United Kingdom, [3]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, [4]Eli Lilly & Company, USA

Disclosures: Eugene McCloskey, Eli Lilly and Company, 5

SU0378 **Indirubin-3′-oxime, an activator of Wnt/β-catenin pathway, induces osteogenic lineage commitment of ST2 cells and reverses bone loss in high-fat diet-induced obese mice**

Jeong-Ha Hwang*, Zahoor Muhammad, Kang-Yell Choi, Pu-Hyeon Cha. Translational Research Center for Protein Function Control, Yonsei University, South Korea

Disclosures: Jeong-Ha Hwang, None

SU0379 **Noninvasive Quantification of Focal Osteogenesis Induced by Mechanical Loading**

Brandon Ausk*, Philippe Huber, Ted Gross, Sundar Srinivasan. University of Washington, USA

Disclosures: Brandon Ausk, None

SU0380 **PTH-CBD, a Long-Acting Parathyroid Hormone Analog, restores normal bone formation after cyclophosphamide therapy in mice.**

Ranjitha Katikaneni[1], Robyn Goforth[2], Andrew Seymour[3], Robert Gensure[4], Tulasi Ponnapakkam*[5]. [1]Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, [2]BiologicsMD, Inc, USA, [3]Department of Pathology, Montefiore Medical Center, USA, [4]Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA, [5]Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA

Disclosures: Tulasi Ponnapakkam, None

SU0381 **Safety of daily subcutaneous administration of teriparatide with regard to calcium metabolism in patients with serum procollagen type 1 N-terminal propeptide elevation above the upper limit of normal range**

Takanori Yamamoto*[1], Mika Tsujimoto[2], Hideaki Sowa[3]. [1]Eli Lilly, Japan, [2]Asia Pacific Statistical Science, Eli Lilly Japan K.K., Japan, [3]Lilly Research Laboratories Japan, Eli Lilly Japan K.K., Japan

Disclosures: Takanori Yamamoto, Eli Lilly Japan K.K., 3

SU0382 **Thapsigargin increases bone volume in mice in vivo by inhibiting Notch signaling in mesenchymal progenitors and promoting osteoblast differentiation**

Hengwei Zhang*[1], Xing Li[2], Brendan Boyce[3], Lianping Xing[2]. [1]Univeristy of Rochester, USA, [2]University of Rochester, USA, [3]University of Rochester Medical Center, USA

Disclosures: Hengwei Zhang, None

SU0383 **The LRP5 Variants rs312024 and rs312009 are not Associated with Teriparatide Efficacy in the Treatment of Osteoporosis**

Hou-Feng Zheng*[1], Lauren Morkry[1], Lee O'Brien[2], Bente Langdahl[3], Brent Richards[1]. [1]McGill University, Canada, [2]Eli Lilly & Company, USA, [3]Aarhus University Hospital, Denmark

Disclosures: Hou-Feng Zheng, None

SU0384 **TREATMENT OF SEVERE OSTEOPOROSIS IN YOUNGS WITH TERIPARATIDE AND DENOSUMAB**

Jose Manuel Quesada Gomez*[1], Concepción Muñoz[2], Maria Angeles Galvez[2], Adolfo Diez-Perez[3]. [1]Quesper R&D, Spain, [2]SAS, Spain, [3]Autonomous University of Barcelona, Spain

Disclosures: Jose Manuel Quesada Gomez, None

OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

SU0385 **Bisphosphonate drug holiday: results from the ESTRATOS survey**

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Disclosures: Enrique Casado, None

SU0386 **Bisphosphonate ISS Flight Experiment**

Adrian LeBlanc*[1], Toshio Matsumoto[2], Jeffrey Jones[1], Jay Shapiro[3], Thomas Lang[4], Linda Shackelford[5], Scott Smith[6], Harlan Evans[7], Elisabeth Spector[7], Robert Ploutz-Snyder[8], Jean Sibonga[6], Joyce Keyak[9], Toshitaka Nakamura[10], Kenjiro Kohri[11], Hiroshi Ohshima[12], Gilbert Moralez[13]. [1]Baylor College of Medicine, USA, [2]University of Tokushima Graduate School of Medical Sciences, Japan, [3]Kennedy Krieger Institute, Johns Hopkins, USA, [4]University of California, San Francisco, USA, [5]NASA JSC, USA, [6]NASA, USA, [7]Wyle, USA, [8]USRA, USA, [9]Department of Radiological Sciences, University of California, Irvine, USA, [10]National Center for Global Health & Medicine, Japan, [11]Nagoya City University, Japan, [12]JAXA, Space Biomedical Research Office, Japan, [13]UNTHSC, USA

Disclosures: Adrian LeBlanc, None

SU0387 **Bone Benefit of Fish Oil Supplementation Depends on Its EPA and DHA Content**

Md Rahman*[1], Xiao Yang[2], Mohiuddin Rasel[3]. [1]University of Texas Health Science Center, USA, [2]University of Texas at San Antonio, USA, [3]UT Health Science Center at San Antonio, USA

Disclosures: Md Rahman, None

SU0388 **Comparative Characteristics of Subtrochanteric Fracture cases fulfilling and not fulfilling the ASBMR Task Force Criteria**

Angela Juby*, Sean Crowther, Marilyn Cree. University of Alberta, Canada

Disclosures: Angela Juby, None

SU0389 **Comparative Effects of Raloxifene and Bisphosphonate on Bone Marrow Density and Osteoporotic Fracture Outcomes in Rheumatoid Arthritis Patients**

Kowoon Joo*, Won Park, Seong-Ryul Kwon, Mie-Jin Lim, Kyong-Hee Jung. Inha University Hospital, South Korea

Disclosures: Kowoon Joo, None

SU0390 **Comparison of Bone Turnover in Patients with Prodromal Bone Deterioration (Pbd) and Atypical Femoral Fracture (AFF)**

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Disclosures: Shijing Qiu, None

SU0391 **Effect of Denosumab Three Years Therapy in Women with Osteoporosis and Contraindications to Oral Bisphosphonates on Bone Mineral Density**

Andrzej Sawicki*[1], Radoslaw Janiak[2], Ireneusz Nawrot[3], Piotr Sawicki[2]. [1]Synexus Poland, Poland, [2]Medical Centre Synexus, Poland, [3]Medical University of Warsaw, Poland

Disclosures: Andrzej Sawicki, None

SU0392 **Effects of denosumab on microarchitecture and bone mineral density in a Swiss outpatient women population**

Berengere Aubry-rozier*[1], Delphine Stoll[2], Olivier Lamy[3], Didier Hans[1]. [1]Lausanne University Hospital, Switzerland, [2]Centre a bone diseases, Che, [3]University Hospital, Switzerland

Disclosures: Berengere Aubry-rozier, None

SU0393 **Effects of local administration of zoledronate for the local osteoporotic lesion of ovariectomized rats**

Yohei Matsuo*[1], Masafumi Kashii[2], Tsuyoshi Sugiura[3], Masayuki Furuya[4], Tokimitsu Morimoto[4], Takahiro Makino[4], Takaaki Noguchi[4], Kosuke Ebina[5], Takashi Kaito[4], Motoki Iwasaki[4], Hideki Yoshikawa[2]. [1]Japan, [2]Osaka University Graduate School of Medicine, Japan, [3]Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, [4]Department of Orthopaedic Surgery, Osaka University Graduate School of Medicine, Japan, [5]Osaka University, Graduate School of Medicine, Japan

Disclosures: Yohei Matsuo, None

SU0394 **Long-term Oral Bisphosphonate Use for Osteoporosis Among Older Women – US and Canadian Perspective**

Nicole Wright*[1], Suzanne Cadarette[2], Wilson Smith[1], Andrea Burden[2], Amy Warriner[1], P. Jeffrey Foster[1], Huifeng Yun[1], Mary Melton[1], Jeffrey Curtis[1], Kenneth Saag[1]. [1]University of Alabama at Birmingham, USA, [2]University of Toronto, Canada

Disclosures: Nicole Wright, None

SU0395 **The Positive Effects of Bisphosphonate on the Biomechanics of Human Bone Are Not Seen with Long-Term Treatment**

Jonathan Ward[1], Constance Wood[2], Keith Rouch[3], David Pienkowski[4], Hartmut Malluche*[5]. [1]University of Kentucky, Department of Biomedical Engineering, USA, [2]University of Kentucky, Department of Statistics, USA, [3]University of Kentucky, Department of Mechanical Engineering, USA, [4]University of Kentucky, USA, [5]University of Kentucky Medical Center, USA

Disclosures: Hartmut Malluche, None

SU0396 **Treatment of Nonunion of Long Bones in Bisphosphonate users vs Non Bisphosphonate users with Concentrated Autogenous Iliac Crest Bone Marrow Aspirate (BMAC) and Demineralized bone matrix(DBM) and/or Bone Morphogenic Protein**

Pingal Desai*[1], Lester Zambrana[2], Saad Hasan[2], Joseph Nguyen[1], Libi Galmer[1], Joseph Lane[1]. [1]Hospital for special surgery, USA, [2]Weil Corneil medical college, USA

Disclosures: Pingal Desai, None

OSTEOPOROSIS - TREATMENT: COMPLIANCE AND PERSISTENCE

SU0397 **Why don't we treat her right? Documentation from physicians when not prescribing medications for women with osteopenia, osteoporosis, or osteoporosis-suspicious fractures**

Meg Durbin*[1], Miriam Rotman[2], Bradley Stolshek[3], Harold Luft[4]. [1]Palo Alto Medical Foundation, Sutter Health, USA, [2]Palo Alto Medical Foundation, USA, [3]Amgen, USA, [4]Palo Alto Medical Foundation Research Institute, USA

Disclosures: Meg Durbin, AMGEN, 2

OSTEOPOROSIS - TREATMENT: FRACTURE REPAIR

SU0398 **Factors associated with Hardware Failure, Non-union and other Complications of Atypical Femoral Fractures**

R Bleakney*[1], Linda Probyn[2], Leon Lenchik[3], Jonathan Adachi[4], Aliya Khan[5], Earl Bogoch[6], Catherine Lang[7], Robert Josse[8], Angela M. Cheung[9]. [1]Mount Sinai Hospital, Canada, [2]University of Toronto, Sunnybrook Health Sciences Centre, Dept Medical Imaging, Canada, [3]Wake Forest University, USA, [4]St. Joseph's Hospital, Canada, [5]McMaster University, Canada, [6]St. Michael's Hospital, Canada, [7]University of Toronto, Canada, [8]St. Michael's Hospital, University of Toronto, Canada, [9]University Health Network-University of Toronto, Canada

Disclosures: R Bleakney, None

OSTEOPOROSIS - TREATMENT: OTHER THERAPEUTIC AGENTS

SU0399 **Withdrawn**

SU0400 **Withdrawn**

SU0401 **Concentration of Urinary C-terminal Telopeptide of Type I Collagen Predicts Bone Mineral Density in Modeling and Simulation Analysis: MOVER Study with Monthly Intravenous Administration of Ibandronate**

Kiyohiko Nakai*[1], Satofumi Iida[2], Masato Tobinai[2], Junko Hashimoto[3], Takehiko Kawanishi[2], Yoshiaki Matsumoto[4]. [1]Japan, [2]Chugai Pharmaceutical CO., LTD., Japan, [3]Chugai Pharmaceutical Corporation Limited, Japan, [4]Nihon University, Japan

Disclosures: Kiyohiko Nakai, None

SU0402 **The Effect of Food on Odanacatib Pharmacokinetics**

Stefan Zajic*[1], Aubrey Stoch[2], David Hreniuk[3], Filipos Kesisoglou[4], Fang Liu[4], Deborah Panebianco[4], Stefaan Rossenu[5], Julie Stone[4], Rose Witter[4], Sachiko Yama[6], Randall Stoltz[7]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc., USA, [3]Akros Pharma, USA, [4]Merck Research Labs, USA, [5]Merck Research Labs, Netherlands, [6]Merck Research Labs, Japan, [7]Covance, Inc., USA

Disclosures: Stefan Zajic, Merck & Co., Inc., 3; Merck & Co., Inc., 1

SU0403 **The Effect of Raloxifene on Sclerostin, Bone Turnover and Bone Balance in Postmenopausal Women with Osteopenia**

Fatma Gossiel*[1], Kim Naylor[1], Richard Jacques[2], Nicola Peel[3], Richard Eastell[2]. [1]The University of Sheffield, United Kingdom, [2]University of Sheffield, United Kingdom, [3]Sheffield Teaching Hospitals, United Kingdom

Disclosures: Fatma Gossiel, None

SU0404 **The effects of combination therapy of Raloxifene with Eldecalcitol in postmenopausal osteoporosisswitch from Alfacalcidol to Eldecalcitol**

Kozaburo Inoue*[1], Shoichi Ichimura[2], Masaichi Hasegawa[1], Tomoo Inoue[3]. [1]Kyorin Univercity school of Medicine Department of Orthopedic Surgery, Japan, [2]Kyorin University School of Medicine, Department of Orthopedic Surgery, Japan, [3]Yamanasi Hospital Orpthopedic Surgery, Japan

Disclosures: Kozaburo Inoue, None

OSTEOPOROSIS - TREATMENT: QUALITY OF LIFE

SU0405 **Age and gender differences in the treatment of different osteoporotic fractures**

Hans-Christof Schober*[1], Reimer Andresen[2], Kathrin Baessgen[3], Thomas Mittlmeier[4]. [1]Klinikum Südstadt RostockKlinik Für Innere Medizin I, Germany, [2]Westküstenklinikum, Germany, [3]Klinikum Suedstadt Rostock, Germany, [4]University of Rostock, Dept Traumatology, Germany

Disclosures: Hans-Christof Schober, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: ANOREXIA NERVOSA AND HIV

SU0406 **Bone Mineral Density and Vitamin D Status in Antiretroviral-naïve HIV-infected Thais: A Preliminary Result from a Five-Year Prospective Cohort Study**

Lalita Wattanachanya*[1], Jureeporn Jantrapakde[2], Anchalee Avihingsanon[3], Reshmie Ramautarsing[3], Nipat Teeratakulpisarn[2], Tanate Jadwattanakul[4], Nittaya Phanuphak[2], Praphan Phanuphak[3]. [1]Kingchulalongkorn memorial hospital, Thailand, [2]Thai Red Cross AIDS Research Centre, Thailand, [3]The HIV Netherlands Australia Thailand Research Collaboration (HIV-NAT), Thai Red Cross AIDS Research Centre, Thailand, [4]Queen Savang Vadhana Memorial Hospital, Thailand

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OSTEOPOROSIS IN SPECIAL POPULATIONS: DIABETES

SU0407 **Adequate Glucose Control Attenuates the Effects of Longstanding Type 2 Diabetes on Bone**

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Disclosures: Tomaz Kocjan, None

SU0408 **Defects in cortical microarchitecture among postmenopausal African-American women with DM2**

Elaine Yu*[1], Melissa Putman[2], Nicolas Derrico[3], Gabriela Abrishamanian-Garcia[3], Joel Finkelstein[1], Mary Bouxsein[4]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital, Children's Hospital Boston, USA, [3]MGH, USA, [4]Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Disclosures: Elaine Yu, None

SU0409 **Sex-specific differences in the relationship between glycemic status and hip geometry: The Baltimore Longitudinal Study of Aging**

Kendall Moseley*[1], Chee Chia[2], Eleanor Simonsick[2], Josephine Egan[2], Deborah Sellmeyer[3]. [1]Division of Endocrinology, Johns Hopkins Bayview Medical Center, USA, [2]NIA, USA, [3]The Johns Hopkins Bayview Medical Center, USA

Disclosures: Kendall Moseley, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MOBILITY DISORDERS, DISUSE OSTEOPOROSIS

SU0410 **Musculoskeletal Effects of Two Functional Electrical Stimulation Cycling Paradigms for People with Spinal Cord Injury**

Therese Johnston*[1], Mary Schmidt-Read[2], Ralph Marino[1], Christina Oleson[1], Benjamin Leiby[1], Christopher Modlesky[3]. [1]Thomas Jefferson University, USA, [2]Magee Rehabilitation Hospital, USA, [3]University of Delaware, USA

Disclosures: Therese Johnston, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: OTHER POPULATIONS

SU0411 **Combined Effects of Spaceflight and Age in Astronauts as Assessed by Areal Bone Mineral Density [BMD] and Trabecular Bone Score [TBS]**

Jean Sibonga*[1], Elisabeth Spector[2], Robert Ploutz-Snyder[3], Harlan Evans[2], Lisa King[2], Nelson Watts[4], Didier Hans[5], Scott Smith[2]. [1]NASA Johnson Space Center, USA, [2]Wyle, USA, [3]USRA, USA, [4]Mercy Health Osteoporosis & Bone Health Services, USA, [5]Lausanne University Hospital, Switzerland

Disclosures: Jean Sibonga, None

SU0412 **Cortical and trabecular bone microarchitecture after severe burn injury**

Christian Muschitz*[1], Gabriela Katharina Muschitz[2], Roland Kocijan[3], Gerald Ihra[4], Heinrich Resch[5], Lukas A. Fischer[6], Thomas Rath[2]. [1]St. Vincent's Hospital, Austria, [2]Division of Plastic & Reconstructive Surgery Department of Surgery, Medical University Vienna, Austria, [3]St. Vincent Hospital Vienna, Austria, [4]Department of Anesthesia & Intensive Care, Medical University Vienna, Austria, [5]Medical University Vienna, Austria, [6]CIR Lab, Department of Radiology, Medical University of Vienna, Austria

Disclosures: Christian Muschitz, None

SU0413 **Hepatitis C Infection is Associated with Lower Bone Mineral Density**

Naim Maalouf*[1], Xilong Li[2], Beverley Huet[2], James Cutrell[3], Roger Bedimo[3]. [1]University of Texas Southwestern Medical Center, Dallas, USA, [2]University of Texas Southwestern Medical Center, USA, [3]VA North Texas Health Care System, USA

Disclosures: Naim Maalouf, None

SU0414 **Risk Factors for Fractures in Women with Breast Cancer, the WHI Bone Density Study**

Beatrice Edwards*[1], Zhao Chen[2], Wenjun Li[3], Carolyn Crandall[4], Marilyn Kwan[5], Meryl Leboff[6], Jane Cauley[7]. [1]MD Anderson Cancer Center, USA, [2]University of Arizona College of Public Health, USA, [3]University of California, San Francisco, USA, [4]University of California, Los Angeles, USA, [5]Kaiser Permanente, USA, [6]Brigham & Women's Hospital, Professor of Medicine, Harvard Medical School, USA, [7]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Beatrice Edwards, None

SU0415 **Serum sclerostin change after exercise in breast cancer patients**

Seong-Bin Hong*[1], Soo Hyun Kim[2], Joo Young Han[3], So Hun Kim[4], Moonsuk Nam[4], Yong Seong Kim[4]. [1]INHA University, South Korea, [2]Department of Nursing, Inha University, South Korea, [3]Inha University hospital, South Korea, [4]Inha University School of Medicine, South Korea

Disclosures: Seong-Bin Hong, None

SU0416 **The Effect of Kidney Function on the Performance of FRAX: A Population-based report from CaMos**

Kyla Naylor*[1], William Leslie[2], Amit Garg[1], Guangyong Zou[1], Lisa-Ann Fraser[1], Suzanne Morin[3], Jonathan Adachi[4], Brian Lentle[5], David Goltzman[3], Stuart Jackson[6], Sophie Jamal[7]. [1]Western University, Canada, [2]University of Manitoba, Canada, [3]McGill University, Canada, [4]St. Joseph's Hospital, Canada, [5]University of British Columbia, Canada, [6]University of Alberta, Canada, [7]The University of Toronto, Canada

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OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

SU0417 **Assessment of mineral bone diseases in adult post-pancreas transplantation recipients in Japan**

Megumi Shibata*[1], Atsushi Suzuki[2], Izumi Hiratsuka[3], Mizuho Kondo-Ando[3], Hiroyuki Hirai[4], Sahoko Sekiguchi-Ueda[2], Takeshi Takayanagi[5], Masaki Makino[6], Hitomi Sasaki[7], Mamoru Kusaka[7], Taihei Itoh[8], Takashi Kenmochi[8], Kiyotaka Hoshinaga[7], Mitsuyasu Itoh[9]. [1]Fujita Health University Division of Endocrinology, Japan, [2]Fujita Health University, Division of Endocrinology, Japan, [3]Division of Endcrinology & Metabolism,Department of Internal Medicine, Fujita Health University School of Medicine,Toyoake, Japan, [4]Fujita Health University Division of Endocrinology, Japan, Japan, [5]Division of Endocrinology & Metabolism, Department of Internal Medicine, Fujita Health University School of Medicine, Toyoake, Japan, [6]Division of Endcrinology & Metabolism, Department of Internal Medicine, Fujita Health University School of Medicine, Toyoake, Japan, [7]Department of Urology, Fujita Health University School of Medicine, Toyoake, Japan, [8]Department of Organ Transplant Surgery, Fujita Health University School of Medicine, Toyoake, Japan, [9]Division of Endocrinology & Metabolism, Department of Internal Medicine, Fujita Health University School of Medicine, Toyoake, Japan

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SU0418 **Utility of trabecular bone score in kidney transplantation recipients**

Sahoko Sekiguchi-Ueda*[1], Atsushi Suzuki[1], Hitomi Sasaki[2], Midori Hasegawa[3], Hiroyuki Hirai[4], Megumi Shibata[5], Tamotsu Sugita[6], Masashi Sugimoto[7], Yutaka Kinomura[7], Hiroshi Toyama[7], Yukio Yuzawa[8], Kiyotaka Hoshinaga[2], Mitsuyasu Itoh[9]. [1]Fujita Health University, Division of Endocrinology, Japan, [2]Department of Urology Fujita Health University, Japan, [3]Devision of Nephrology, Department of Internal Medicine Fujita Health University, Japan, [4]Fujita Health University Division of Endocrinology, Japan, Japan, [5]Fujita Health University Division of Endocrinology, Japan, [6]Department Radiology Fujita Health University, Japan, [7]Department of Radiology Fujita Health University, Japan, [8]Department of Nephrology Fujita Health University, Japan, [9]Division of Endocrinology & Metabolism, Japan

Disclosures: Sahoko Sekiguchi-Ueda, None

PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

SU0419 **SDF-1β / BMP-2 Co-Therapy Augments BMSC-Mediated Healing of Critical-Size Mouse Calvarial Defects**

Samuel Herberg*[1], Alexandra Aguilar[2], Sudharsan Periyasamy-Thandavan[3], R. Nicole Howie[1], Mohammed Elsalanty[1], Xing-Ming Shi[1], Mark Hamrick[4], Carlos Isales[1], William Hill[5], James Cray[6]. [1]Georgia Regents University, USA, [2]UCC School of Medicine, Georgia Regents University, USA, [3]Georgia Regents University & Charlie Norwood VAMC, USA, [4]Georgia Health Sciences University, USA, [5]Georgia Regents University & Charlie Norwood VAMC, USA, [6]Medical University of South Carolina, USA

Disclosures: Samuel Herberg, None

PARACRINE REGULATORS: CYTOKINES AND IMMUNOMODULATORS

SU0420 Acute inflammatory response in macrophages induced by titanium particles released from ultrasonic scaling of surface-treated dental implants

Michal Eger*[1], Nir Sterer[2], Tamar Liron[1], David Kohavi[2], Yankel Gabet[3]. [1]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel Aviv University, Israel, [2]Department of Prosthodontics, Goldschleger School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University, Israel, [3]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel

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SU0421 Inflammatory Factors in the Circulation of Patients with Active Rheumatoid Arthritis Stimulate Osteoclastogenesis via Endogenous Cytokine Production by Osteoblasts

Janak L Pathak[1], Nathalie Bravenboer[2], Patrick Verschueren[3], Willem F Lems[4], Frank P Luyten[3], Jenneke Klein-Nulend*[5], Astrid D Bakker[6]. [1]ACTA-University of Amsterdam & VU University Amsterdam, Dept Oral Cell Biology, MOVE Research Institute Amsterdam, Netherlands, [2]VU University Medical Center, The Netherlands, [3]Skeletal Biology & Engineering Research Center, KU Leuven, Belgium, [4]Department of Rheumatology, VU University Medical Center, MOVE Research Institute Amsterdam, Netherlands, [5]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The Netherlands, [6]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, MOVE Research Institute Amsterdam, Netherlands

Disclosures: Jenneke Klein-Nulend, None

PARACRINE REGULATORS: PTHRP AND OTHER PARACRINE REGULATORS

SU0422 Prevention of hyper-active PTH signaling and function by VPS35

Lei Xiong[1], Wen-Fang Xia[2], Fu-Lei Tang[1], Shan Xiong[1], Wen-Cheng Xiong*[3]. [1]Georgia Health Sciences University, Charlie Norwood VA Medical Center, USA, [2]Georgia Health Sciences University, Charlie Norwood VA Medical Center, Union Hospital, Tongji Medical College, Huazhong University of Science & Technology, USA, [3]Georgia Regents University, USA

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SU0423 PTHrP Induces Lactation in the Absence of Pregnancy and Affects Breast Cancer Initiation and Progression Differentially in Two Murine Models

Farzin Takyar*[1], Kata Boras-Granic[2], Pamela Dann[1], Christina Marmol[1], Alexzandrea Buscarello[1], John Wysolmerski[3]. [1]Yale University, School of Medicine, USA, [2]Yale School of Medicine, USA, [3]Yale University School of Medicine, USA

Disclosures: Farzin Takyar, None

SU0424 PTHrP-Induced BMP Signaling Contributes to Specification of The Mammary Mesenchyme

Minoti Hiremath[1], Pamela Dann[2], Wei Shi[3], John Wysolmerski*[4]. [1]Boise State University, USA, [2]Yale University, USA, [3]Children's Hospital Los Angeles, USA, [4]Yale University School of Medicine, USA

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SU0425 Regulation of bone metabolism by Semaphorin 3A derived from osteoblast lineage cells.

Mikihito Hayashi*[1], Tomoki Nakashima[1], Hiroshi Takayanagi[2]. [1]Tokyo Medical & Dental University, Japan, [2]The University of Tokyo, Japan

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RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

SU0426 Quality of life assessment of adults patients with X-Linked Hypophosphoremia.

Hélène Che[1], Adrien Etcheto[2], Anya Rothenbuhler[3], Peter Kamenicky[3], Agnès Linglart[3], Christian Roux[4], Karine Briot*[5]. [1]Paris Descartes University, Cochin Hospital, France, [2]Paris Descartes Uniiversity, Cochin Hospital, France, [3]Hôpital Bicêtre, France, [4]Hospital Cochin, France, [5]Paris Descartes University, Cochin hospital, Rheumatology Hospital, France

Disclosures: Karine Briot, None

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

SU0427 **Bone Material Properties in Osteogenesis Imperfecta: a Matter of Quantity Over Quality**
Carolyne Albert*[1], John Jameson[2], Peter Smith[3], Gerald Harris[1]. [1]Marquette University, USA, [2]Lawrence Berkeley National Lab, USA, [3]Shriners Hospitals for Children, USA
Disclosures: Carolyne Albert, None

SU0428 **Demographics, bone mass density, lifetime fractures and bisphosphonate use in an adult Osteogenesis Imperfecta cohort: a cross-sectional explorative study.**
Anton Franken*[1], Luuk Scheres[2], Guus Janus[3], Fleur van Dijk[4]. [1]Isala clinics, The Netherlands, [2]Isala clinics, Netherlands, [3]Isala, Netherlands, [4]VU medical center, Netherlands
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SU0429 **HSP47 and FKBP65 cooperate in the synthesis of type I procollagen**
Ivan Duran*[1], Lisette Nevarez[2], Anna Sarukhanov[3], Sulin Wu[3], Katrina Lee[4], Maryann Weis[5], David Eyre[5], Deborah Krakow[6], Daniel H. Cohn[2]. [1]University of California Los Angeles, USA, [2]Department of Molecular, Cell, & Developmental Biology. UCLA, USA, [3]Orthopaedic Surgery, USA, [4]Department of Molecular, Cell, & Developmental Biology, USA, [5]Department of Orthopaedics & Sports Medicine, University of Washington, USA, [6]Orthopaedic Surgery, UCLA, USA
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SU0430 **Improved Bone Density in a patient with Osteogenesis Imperfecta using Denosumab**
Jessica Abramowitz*[1], Stuart Weinerman[2]. [1]Hofstra North Shore LIJ, USA, [2]Division of Endocrinology, USA
Disclosures: Jessica Abramowitz, None

SU0431 **Intravenous bisphosphonate therapy prevent the development and progression of spinal deformity associated with osteogenesis imperfecta**
Masafumi Kashii*[1], Sadaaki Kanayama[2], Taichi Kitaoka[1], Takahiro Makino[1], Takashi Kaito[2], Kosuke Ebina[3], Tsuneo Shigi[4], Takuo Kubota[5], Noriyuki Namba[1], Motoki Iwasaki[1], Takehisa Yamamoto[4], Keiichi Ozono[1], Hideki Yoshikawa[1]. [1]Osaka University Graduate School of Medicine, Japan, [2]Osaka University, Graduate School od Medicine, Japan, [3]Osaka University, Graduate School of Medicine, Japan, [4]Minoh City Hospital, Japan, [5]Osaka University Graduate School of Medicine & Dentistry, Japan
Disclosures: Masafumi Kashii, None

SU0432 **Physical Activity and Muscle Function in Children with Osteogenesis Imperfecta Type I**
Louis-Nicolas Veilleux*[1], Annie Pouliot-Laforte[2], Martin Lemay[2], Frank Rauch[3]. [1]McGill University/Shriners Hospital for Children, Canada, [2]Université du Québec à Montréal; Marie Enfant Rehabilitation Center, Canada, [3]Shriners Hospital for Children, Montreal, Canada
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RARE BONE DISEASES: OTHER RARE BONE DISEASES

SU0433 **A Case of Tumor-Induced Osteomalacia and Hyperparathyroidism: Primary vs.Tertiary?**
Racha Dermesropian*, Pamela Taxel. university of connecticut health center, USA
Disclosures: Racha Dermesropian, None

SU0434 **Assessment of Adverse Effects Associated with Zoledronic Acid Use in Children and Young Adults with Metabolic and Genetic Bone Disease**
Sobenna George*[1], David Weber[2], Heather Bodenstab[3], Kelly Hummel[3], Paige Kaplan[3], Jaya Ganesh[3], Michael Levine[1]. [1]Children's Hospital of Philadelphia, USA, [2]Golisano Chilldren's Hospital, The University of Rochester, USA, [3]The Children's Hospital of Philadelphia, USA
Disclosures: Sobenna George, None

SU0435 **Paternal Uniparental Isodisomy Involving Chromosome 20q (patUPD20q) as a Cause of Japanese Patients Affected by Sporadic Pseudohypoparathyroidism Type Ib**
Rieko Takatani*[1], Masanori Minagawa[2], Kaori Kinoshita[3], Tomozumi Takatani[3], Angelo Molinaro[1], Harald Jueppner[4]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Chiba Children's Hospital, Japan, [3]Chiba University, Japan, [4]Massachusetts General Hospital, USA
Disclosures: Rieko Takatani, None

SU0436 **The Type 2 Diabetes associated rs7903146 T allele within *TCF7L2* is significantly under-represented in Hereditary Multiple Exostoses: insights into pathogenesis**
Federica Sgariglia*[1], Elena Pedrini[2], Jonathan Bradfield[3], Tricia Bhatti[3], Pio D'Adamo[4], John Dormans[3], Aruni Gunawardena[3], Hakon Hakonarson[3], Jacqueline Hecht[5], Luca Sangiorgi[2], Maurizio Pacifici[3], Motomi Enomoto-Iwamoto[3], Struan Grant[6]. [1]Children's Hospital of Philadelphia, USA, [2]Rizzoli Orthopaedic Institute, Italy, [3]Children's Hospital of Philadelphia, USA, [4]Institute for Maternal & Child Health, IRCCS "Burlo Garofolo", Italy, [5]UTHealth School of Dentistry, USA, [6]Children's Hospital of Philadelphia / University of Pennsylvania, USA
Disclosures: Federica Sgariglia, None

SU0437 **To determine the prevalence of osteonecrosis of the jaw in patients who take bisphosphonate for osteoporosis treatment**
Tak Kee Dicky Choy*. The Chinese University of Hong Kong, Hong Kong
Disclosures: Tak Kee Dicky Choy, None

SARCOPENIA, MUSCLE AND BONE (CLINICAL): GENERAL

SU0438 **Body Composition Analysis in Brazilian Men: Normative Data**
Marcela Ushida[1], Vera Szejnfeld*[2], Marcelo Pinheiro[3]. [1]Universidade Federal de São Paulo, Brazil, [2]UNIFESF/EPM, Brazil, [3]Sao Paulo Federal University/ Unifesp/ Escola Paulista De Medicina, Brazil
Disclosures: Vera Szejnfeld, None

SU0439 **Bone, muscle, fat triad in women: Determining the threshold at which body fat becomes harmful for bone**
Pei-Yang Liu[1], Jasminka Z. Ilich*[2]. [1]University of Akron, USA, [2]Florida State University, USA
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SU0440 **Development of a QCT- and MRI-compatible Muscle Phantom**
Andy Kin On Wong*[1], Zamir Merali[2], Jonathan Adachi[3]. [1]McMaster University, University Health Network, Canada, [2]University of Toronto, Canada, [3]St. Joseph's Hospital, Canada
Disclosures: Andy Kin On Wong, None

SU0441 **Dietary protein patterns are not associated with lean mass or strength among adults from the Framingham 3rd Generation Study**
Kelsey Mangano*[1], Shivani Sahni[2], Robert McLean[3], Alyssa Dufour[4], Douglas Kiel[4], Katherine Tucker[5], Marian Hannan[6]. [1]Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, USA, [2]Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, [3]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [4]Hebrew SeniorLife, USA, [5]University of Massachusetts Lowell, USA, [6]HSL Institute for Aging Research & Harvard Medical School, USA
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SU0442 **Do Strong Women Have Strong Bones?**
Julie Pasco*[1], Sharon Brennan[1], Kara Holloway[1], David Moloney[1], Mark Kotowicz[2]. [1]Deakin University, Australia, [2]Deakin University School of Medicine, Australia
Disclosures: Julie Pasco, None

SU0443 **How Does the Frailty Status of a Population-based Cohort Change? Results from the Longitudinal Canadian Multicentre Osteoporosis Study (CaMos)**
Courtney Kennedy*[1], George Ioannidis[1], Jonathan Adachi[2], Lehana Thabane[1], Kenneth Rockwood[3], Susan Kirkland[3], Andy Kin On Wong[4], Laura Pickard[1], Alexandra Papaioannou[5]. [1]McMaster University, Canada, [2]St. Joseph's Hospital, Canada, [3]Dalhousie University, Canada, [4]McMaster University, University Health Network, Canada, [5]Hamilton Health Sciences, Canada
Disclosures: Courtney Kennedy, None

SU0444 **Identification of a Particular Clinical, Functional and Biochemical Profile in Sarco-Osteoporotic Older Persons**

Ruth Huo*[1], Pushpa Suriyaarachchi[2], Piumali Gunawardene[2], Oddom Demontiero[3], Gustavo Duque[4]. [1]University of New South Wales, Australia, [2]Ageing Bone Research Program, The University of Sydney, Australia, [3]The University of Sydney Nepean Clinical School, Australia, [4]Ageing Bone Research Program, University of Sydney, Australia

Disclosures: Ruth Huo, None

SU0445 **Longitudinal Decline of Quality of Life is Determined by Loss of Muscle Mass and Reduced Physical Functioning in Older Adults**

Andrea Trombetti*[1], Kieran Reid[2], Mélany Hars[1], François Herrmann[1], Roger Fielding[2]. [1]Division of Bone Diseases, Geneva University Hospitals & Faculty of Medicine, Switzerland, [2]Jean Mayer USDA HNRCA At Tufts University, USA

Disclosures: Andrea Trombetti, None

SU0446 **MMP-2 Mediated Degradation of Titin in Muscle Atrophy Study**

Shu Sun*[1], Anders Nedergaard[2], Morten Karsdal[1], Kim Henriksen[1], Gabriele Armbrecht[3], Daniel L. Belavý[4], Dieter Felsenberg[5]. [1]Nordic Bioscience A/S, Denmark, [2]Nordic Bioscience Biomarkers & Research, Denmark, [3]Centre of Muscle & Bone Research, Charite-CBF, Germany, [4]Center for Muscle & Bone Research, Charite Campus Benjamin Franklin, Free University & Humboldt-University Berlin, Germany, [5]Charité - Campus Benjamin Franklin, Germany

Disclosures: Shu Sun, Nordic Bioscience, 3

SU0447 **Nutritional and Laboratory Associations with Skeletal Muscle Mass in Postmenopausal Women**

Karen Hansen*[1], Sheeva Marvdashti[2], Christina Lemon[2], Kaitlin Chambers[2], R. Erin Johnson[2], Bjoern Buehring[3]. [1]University of Wisconsin, USA, [2]University of Wisconsin School of Medicine & Public Health, USA, [3]University of Wisconsin, Madison, USA

Disclosures: Karen Hansen, None

SU0448 **Prevalence of 'Dysmobility Syndrome' in Community Dwelling Older Adults: Findings from the UK and US**

Bjoern Buehring*[1], Mark Edwards[2], Rebecca Moon[2], MA Clynes[3], Celia Gregson[4], Ellen Fidler[5], Nicholas Harvey[2], Elaine Dennison[6], Neil Binkley[1], Cyrus Cooper[7]. [1]University of Wisconsin, Madison, USA, [2]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [3]MRC Lifecourse Epidemiology Unit, University of Southampton, UK, United Kingdom, [4]University of Bristol, United Kingdom, [5]University of Wisconsin, USA, [6]MRC Lifecourse Epidemiology Unit, United Kingdom, [7]University of Southampton, United Kingdom

Disclosures: Bjoern Buehring, None

SU0449 **Use of the Safe Functional Motion-6 test to classify individuals at risk for functional decline following a distal radius fracture**

Norma MacIntyre*[1], Joy MacDermid[1], Julie Richardson[1], Ruby Grewal[2], Christopher Recknor[3]. [1]McMaster University, Canada, [2]St Joseph's Health Care, Canada, [3]United Osteoporosis Center, USA

Disclosures: Norma MacIntyre, None

SKELETAL AGING: CELLULAR AND MOLECULAR MECHANISMS

SU0450 **Compartment Specific Changes in Bone Mass with Advanced Age in a Mouse Model with Enhanced Sympathetic Tone and Impaired Brown Adipose Tissue Function**

Phuong Le*[1], Katherine Motyl[1], Kathleen Bishop[1], David Maridas[1], Daniel Brooks[2], Mary Bouxsein[3], Clifford Rosen[4]. [1]Maine Medical Center Research Institute, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA, [4]Maine Medical Center, USA

Disclosures: Phuong Le, None

SU0451 **Cortical porosity increases with age in murine long bones and is associated with elevated RANKL and reduced OPG expression in osteocytes**
Charles O'Brien*[1], Jinhu Xiong[1], Marilina Piemontese[2], Stuart Berryhill[1], Priscilla Baltz[1], Robert Weinstein[1], Maria Jose Almeida[1], Stavros Manolagas[1], Robert Jilka[1]. [1]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None

SU0452 **Galectin-3: A novel regulator of bone mass**
Kevin Maupin*[1], John Wang[2], Bart Williams[3]. [1]Van Andel Institute Graduate School, USA, [2]Michigan State University, USA, [3]Van Andel Research Institute, USA
Disclosures: Kevin Maupin, None

SU0453 **Mitochondria-targeted expression of catalase does not prevent the low bone mass caused by suppression of autophagy in osteoblasts and osteocytes**
Marilina Piemontese*[1], Jinhu Xiong[2], Priscilla Baltz[1], Rajamani Selvam[1], Li Han[2], Stuart Berryhill[1], Stavros Manolagas[2], Charles O'Brien[2]. [1]University of Arkansas for Medical Sciences, USA, [2]Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Marilina Piemontese, None

SU0454 **Osteoblast depletion increases osteoblast activity and reduces bone toughness 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]Lunenfeld-Tanenbaum Research Institute of Mount Sinai Hospital, Canada
Disclosures: Adeline Ng, None

SU0455 **PTH/PTHrP Receptor (PPR) Signaling in Osteocytes Delays Osteocyte Senescence and Protects from Age-related Osteopenia**
Vaibhav Saini*[1], Keertik Fulzele[2], Xiaolong Liu[3], Christopher G Dedic[3], Vladimir Zoubine[3], Jordan Spatz[4], Hiroaki Saito[5], Katharina Jahn[5], Saman F Khaled[3], Kathryn D Held[3], Eric Hesse[6], Paola Divieti Pajevic[7]. [1]MGH, Harvard Medical School, USA, [2]Massachusetts General Hospital; Harvard Medical School, USA, [3]MGH, USA, [4]Harvard-MIT Division of Health Sciences & Technology (HST), USA, [5]University Medical Center Hamburg-Eppendorf, Germany, [6]University Medical Center Hamburg-Eppendorf, Deu, [7]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Vaibhav Saini, None

SU0456 **TNFα modulates cholesterol transport protein synthesis and efflux in osteocytes.**
Kent Wehmeier*[1], Salma Makhoul-Ahwach[2], Melanie Thomas[3], William Kurban[3], Harshit Shah[3], Aiham Chamseddin[4], Michael Haas[5], Arshag Mooradian[6], Luisa M. Onstead-Haas[6]. [1]University of Florida, College of Medicine, Jacksonville, USA, [2]Division of Endocrinology, Diabetes & Metabolism. University of Florida, College of Medicine Jacksonville, USA, [3]Division of Endocrinology, Diabetes & Metabolism, University of Florida, College of Medicine Jacksonville, USA, [4]Division of Endocrinology, Diabetes & MetabolismUniversity of Florida, College of Medicine Jacksonville, USA, [5]Division of Endocrinology, Department of Medicine, University of Florida, College of Medicine Jacksonville, USA, [6]Department of Medicine, University of Florida, College of Medicine Jacksonville, USA
Disclosures: Kent Wehmeier, None

SKELETAL AGING: FRAILTY AND SARCOPENIA

SU0457 **Factors Associated with Kyphosis and Kyphosis Progression in Older Men: the MrOS Study**
Deborah Kado*[1], Mei-Hua Huang[2], Peggy Cawthon[3], Howard Fink[4], John Schousboe[5], Elizabeth Barrett-Connor[1]. [1]University of California, San Diego, USA, [2]UCLA, USA, [3]California Pacific Medical Center Research Institute, USA, [4]GRECC, Minneapolis VA Medical Center, USA, [5]Park Nicollet Clinic, University of Minnesota, USA
Disclosures: Deborah Kado, None

SU0458 **Self-reported Estrogen Use, Kyphosis and Kyphosis Progression in Older Women: the Study of Osteoporotic Fractures**
Deborah Kado[1], Gina Woods*[2], Mei-Hua Huang[3], Corinne McDaniels-Davidson[4], Peggy Cawthon[5], Howard Fink[6]. [1]University of California, San Diego, USA, [2]UCSD, USA, [3]UCLA, USA, [4]SDSU/UCSD Joint Doctoral Program in Public Health (Epidemiology), USA, [5]California Pacific Medical Center Research Institute, USA, [6]GRECC, Minneapolis VA Medical Center, USA
Disclosures: Gina Woods, None

SU0459 **Statement of Changes in Muscle Mass during Life by DXA**
Silvana Di Gregorio[1], Jorge Malouf[2], Luis Del Rio*[3], Beatriz Oliveri[4]. [1]Ph, Spain, [2]Hospital de la Santa Creu i Sant Pau, Spain, [3]Cetir Centre Medical, Spain, [4]Mautalen, Salud e Investigación, Argentina
Disclosures: Luis Del Rio, None

SKELETAL DEVELOPMENT: BONE MODELING

SU0460 **How Muscle Force Shapes a Growing Mandible**
Donna Jones*. Cincinnati Children's Hospital, USA
Disclosures: Donna Jones, None

SU0461 **Intermittent Parathyroid Hormone Treatment Enhances Both Trabecular and Cortical Bone Modeling in Growing Rats**
Allison Altman*, Wei-Ju Tseng, Abhishek Chandra, Ling Qin, Xiaowei Liu. University of Pennsylvania, USA
Disclosures: Allison Altman, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

SU0462 **C57Bl/6J mice have a lower bone mass than C3H/HeJ mice but are less sensitive to the skeletal effect of intrauterine stress by teratogens.**
Maria Raygorodskaya*[1], Arkady Torchinsky[2], Yankel Gabet[3], Eugene Kobyliansky[2], David Karasik[4]. [1]Faculty of Medicine, Bar Ilan University, Israel, [2]Department of Anatomy & AnthropologySackler Faculty of Medicine, Israel, [3]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel, [4]Hebrew SeniorLife; Bar Ilan University, USA
Disclosures: Maria Raygorodskaya, None

SU0463 **Ephrin Reverse Signaling Mediates Palatal Fusion and Epithelial-to-Mesenchymal Transition Independently of Tgfß3**
Maria Serrano*[1], Jingpeng Liu[2], Kathy Svoboda[1], Ali Nawshad[2], M. Douglas Benson[3]. [1]Baylor College of Dentistry, USA, [2]University of Nebraska Medical Center College of Dentistry, USA, [3]TA&M HSC Baylor College of Dentistry, USA
Disclosures: Maria Serrano, None

SU0464 **HDAC inhibitor MS-275 could attenuate phenotypes of cleidocranial dysplasia syndrome in Runx2$^{+/-}$ mice through the activation of Runx2 activity**
Han-sol Bae*[1], Won-Joon Yoon[2], Young-Dan Cho[1], Rabia Islam[3], Hea-rim SHIN[1], Bong-Soo Kim[2], Kyung-Mi Woo[2], Jeong-Hwa Baek[4], Hyun-Mo Ryoo[2]. [1]Seoul National University, South Korea, [2]Seoul National University School of Dentistry, South Korea, [3]School of Dentistry, Seoul National University, South Korea, [4]Seoul National University, School of Dentistry, South Korea
Disclosures: Han-sol Bae, None

SU0465 **Involvement of PiT-1 (Slc20a1) function during endochondral ossification**
Manisha Yadav*[1], Pia Kuss[2], Campbell Sheen[2], Laurent Beck[3], Colin Farquharson[4], Jose Luis Millan[1]. [1]Sanford-Burnham Medical Research Institute, USA, [2]Sanford Burnham Medical Research Institute, USA, [3]Inserm U791, France, [4]Roslin Institute, University of Edinburgh, United Kingdom
Disclosures: Manisha Yadav, None

SU0466 **Mechanism of Longitudinal Overgrowth of Femur of Developing Rat Following Circumferential Periosteal Division**
Shinjiro Takata*. Tokushima National Hospital, National Hospital Organization, Japan
Disclosures: Shinjiro Takata, None

SU0467 **Osterix-Cre Transgene Causes Craniofacial Bone Development Defect**
Li Wang*[1], Fei Liu[2]. [1]School of dentistry, University of Michigan, USA, [2]University of Michigan School of Dentistry, USA
Disclosures: Li Wang, None

SU0468 **Quantitative Micro-CT Analysis of Bone in Zebrafish: Accessing an Untapped Resource**
Julia Charles*[1], Katrin Henke[2], Kelly Tsang[3], Ruby Russell[4], Matthew P. Harris[2], Jeffrey Duryea[5], Antonios Aliprantis[6]. [1]Brigham & Women's Hospital & Harvard School of Medicine, USA, [2]Department of Genetics Harvard Medical School, Department of Orthopedics, Boston Children's Hospital, USA, [3]Department of Medicine, Brigham & Women's Hospital & Harvard Medical School, USA, [4]. Department of Radiology, Brigham & Women's Hospital, USA, [5]Department of Radiology, Brigham & Women's Hospital, USA, [6]Brigham & Women's Hospital, USA
Disclosures: Julia Charles, None

SU0469 **Stat3 signaling modulates the osteochondro transcription factor Sox9 in vivo to influence endochondral ossification and is important in the pathology of campomelic dysplasia**
Michael Hall*, Alan Perantoni. National Cancer Institute, USA
Disclosures: Michael Hall, None

SU0470 **Targeted Deletion of Atg5 or Atg7 in Chondrocytes Impairs Cell Viability and Bone Growth**
Karuna Vuppalapati*[1], Thibault Bouderlique[2], Vitaliy Kaminskyy[3], Phillip Newton[2], Lars Sävendahl[4], Boris Zhivotovsky[3], Andrei Chagin[5]. [1]Karolinksa Institutet, Sweden, [2]Department of Physiology & Pharmacology, Karolinska Institutet, Sweden, [3]Institute of Environmental Medicine, Karolinska Institutet, Sweden, [4]Department of Women's & Children's Health, Karolinska Institutet, Sweden, [5]Karolinska Institutet, Swe
Disclosures: Karuna Vuppalapati, None

SU0471 **The Transcriptional Regulator Jab1 Is Essential for Osteoblast Differentiation *In Vivo***
Lindsay Bashur, Zhijun Chen, Shunichi Murakami, Guang Zhou*. Case Western Reserve University, USA
Disclosures: Guang Zhou, None

CONCURRENT ORALS: BONE DISEASE IN CHILDREN AND ADOLESCENTS

2:30 pm - 4:00 pm **George R. Brown Convention Center**
Room 310

Moderators:
Michael Collins, M.D.
National Institutes of Health, USA
Disclosures: Michael Collins, None

2:30 pm 1093 **Placental morphology is differentially related to offspring skeletal size and volumetric density assessed by pQCT**
Christopher Holroyd[1], Clive Osmond[1], David Barker[1], Susan Ring[2], Deborah Lawlor[2], J.H. Tobias[3], George Davey Smith[2], Cyrus Cooper[4], Nicholas Harvey*[5]. [1]MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, UK, United Kingdom, [2]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK, United Kingdom, [3]Avon Orthopaedic Centre, United Kingdom, [4]University of Southampton, United Kingdom, [5]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom
Disclosures: Nicholas Harvey, None

2:45 pm 1094 **The Choice of Pediatric Reference Database Changes Spine Bone Mineral Density Z-scores but Not the Relationship with Prevalent Vertebral Fractures**

Leanne M Ward*[1], Kerry Siminoski[2], Shayne Taback[3], Celia Rodd[3], Robert Stein[4], Annie M Sbrocchi[5], Josephine Ho[6], Ronald M Grant[7], Elizabeth A Cummings[8], Robert Couch[2], David A Cabral[9], Stephanie Atkinson[10], Nathalie Alos[11], Nazih Shenouda[1], Mary Ann Matzinger[1], Brian Lentle[9], Frank Rauch[5], Jinhui Ma[12], , and the Canadian STOPP Consortium[13]. [1]University of Ottawa, Canada, [2]University of Alberta, Canada, [3]University of Manitoba, Canada, [4]University of Western Ontario, Canada, [5]McGill University, Canada, [6]University of Calgary, Canada, [7]University of Toronto, Canada, [8]Dalhousie University, Canada, [9]University of British Columbia, Canada, [10]McMaster University, Canada, [11]Université de Montréal, Canada, [12]Children's Hospital of Eastern Ontario, Canada, [13]National Pediatric Bone Health Working Group, Canada

Disclosures: Leanne M Ward, None

3:00 pm 1095 **Absence of ER cation channel *TMEM38B*/TRIC-B causes recessive osteogenesis imperfecta by dysregulation of collagen post-translational modification**

Wayne Cabral*[1], Elena Makareeva[2], Masaki Ishikawa[3], Aileen Barnes[1], MaryAnn Weis[4], Felicitas Lacbawan[5], David Eyre[6], Yoshihiko Yamada[3], Sergey Leikin[7], Joan Marini[8]. [1]Bone & Extracellular Matrix Branch, NICHD, NIH, USA, [2]Section on Physical Biochemistry, NICHD, NIH, USA, [3]Molecular Biology Section, NIDCR, NIH, USA, [4]Department of Orthopaedics & Sports Medicine, University of Washington, USA, [5]Department of Medical Genetics, Children's National Medical Center, USA, [6]University of Washington Orthopaedic Research Labs, USA, [7]National Institutes of Health, USA, [8]National Institute of Child Health & Human Development, USA

Disclosures: Wayne Cabral, None

3:15 pm 1096 **Greater Bone Mineral Accrual after the Adolescent Growth Spurt Results in Stronger Bones in Young Adulthood: Evidence from 20-year follow-up of the Pediatric Bone Mineral Accrual Study**

Saija Kontulainen*, James Johnston, Hassanali Vatanparast, David Cooper, Adam Baxter-Jones. University of Saskatchewan, Canada

Disclosures: Saija Kontulainen, None

3:30 pm 1097 **Late-Breaking Abstract**
Improved Survival with Asfotase Alfa Treatment in Pediatric Patients with Hypophosphatasia at High Risk of Death

Michael Whyte*[1], Cheryl Rockman-Greenberg[2], Christine Hofmann[3], Edward C.W. Leung[2], Scott Moseley[4], Kenji P Fujita[4], Agustin Melian[5], David Thompson[4], Johannes Liese[3]. [1]Shriners Hospital for Children-Saint Louis, USA, [2]University of Manitoba, Canada, [3]University Children's Hospital, University of Wurzburg, Germany, [4]Alexion Pharmaceuticals, USA, [5]USA

Disclosures: Michael Whyte, Alexion Pharmaceuticals Inc., 5; Alexion Pharmaceuticals Inc., 2

3:45 pm 1098 **Bone Fractures in Children and Adults with Autism Spectrum Disorder**

Ann Neumeyer[1], Julia O'Rourke[1], Alexandra Massa[1], Hang Lee[2], Elizabeth Lawson[3], Christopher McDougle[1], Madhusmita Misra*[4]. [1]Lurie Center for Autism, Massachusetts General Hospital & Harvard Medical School, USA, [2]Biostatistics Center, Massachusetts General Hospital, USA, [3]Massachusetts General Hospital, Harvard Medical School, USA, [4]Pediatric Endocrine & Neuroendocrine Units, Massachusetts General Hospital & Harvard Medical School, USA

Disclosures: Madhusmita Misra, None

Moderators:
Robert Josse, M.D.
St. Michael's Hospital, University of Toronto, Canada
Disclosures: Robert Josse, None

Nicola Napoli, M.D.
University Campus Bio-Medico di Roma, Italy
Disclosures: Nicola Napoli, None

2:30 pm 1099 **Pentosidine and degree of mineralization are increased in bone from fractured-patients with type 1 diabetes mellitus**
Delphine Farlay*[1], Laura Armas[2], Evelyne Gineyts[3], Robert Recker[2], Georges Boivin[4]. [1]INSERM, UMR1033; Université De Lyon, France, [2]Creighton University, USA, [3]INSERM U1033, Université de Lyon, France, [4]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Delphine Farlay, None

2:45 pm 1100 **Elevated Sphingosine 1-Phosphate Levels are Associated with Vertebral Fractures in Patients with Type 2 Diabetes Mellitus**
Mohammed-Salleh Ardawi*[1], Daad Akbar[2], Abdulrahim Rouzi[3], Nawal Senani[4], Ali Ahmad[5], Mohammed Qari[6]. [1]Center of Excellence for Osteoporosis Research & Department of Clinical Biochemistry & KAU Hospital,Faculty of Medicine, King Abdulaziz University, 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 Obstetrics & Gynaecology & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [4]Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynaecology, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [5]Center of Excellence for Osteoporosis Research, King Abdulaziz University, Saudi Arabia, [6]Center of Excellence for Osteoporosis Research & Department of Haematology & KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia
Disclosures: Mohammed-Salleh Ardawi, None

3:00 pm 1101 **Does Diabetes Modify the Effect of FRAX Risk Factors for Major Osteoporotic and Hip Fracture Prediction? The Manitoba BMD Cohort**
William Leslie*[1], Suzanne Morin[2], Lisa M. Lix[1], Sumit Majumdar[3]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]University of Alberta, Canada
Disclosures: William Leslie, None

3:15 pm 1102 **Cortical Bone Laminar Analysis reveals Increased Midcortical Porosity in Type 2 Diabetics with History of Fragility Fractures**
Ursula Heilmeier*[1], Karen Cheng[2], Robin Parrish[2], Jasmine Nirody[3], Janina Patsch[4], Thomas Baum[5], Andrew Burghardt[3], Gabby B. Joseph[3], Ann Schwartz[3], Thomas Link[3], Galateia Kazakia[3]. [1]University of California San Francisco, USA, [2]University of California, Berkeley, USA, [3]University of California, San Francisco, USA, [4]Medical University of Vienna, Austria, [5]Klinikum rechts der Isar, TU Muenchen, Germany
Disclosures: Ursula Heilmeier, None

3:30 pm 1103 **Type 2 Diabetes and Obesity Each Contribute Separately to Adverse Skeletal Health: Adverse Effects on Cortical Bone Microarchitecture**
Jessica Furst*[1], Laura Beth Anderson[2], Chiyuan Zhang[2], Kyle Nishiyama[2], Dorothy Fink[3], Shonni Silverberg[2], Mishaela Rubin[2]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]NYP-Columbia, USA
Disclosures: Jessica Furst, None

3:45 pm 1104 **Effect of Denosumab on Fasting Glucose Concentrations in Postmenopausal Women with Osteoporosis: Results From Subjects With Diabetes or Prediabetes From the FREEDOM Trial**
Nicola Napoli*[1], Eric Vittinghoff[2], Nicola Pannacciulli[3], Daria Crittenden[3], Jang Yun[3], Andrea Wang[4], Rachel Wagman[5], Ann Schwartz[6]. [1]University Campus Bio-Medico di Roma, Italy, [2]UCSF, USA, [3]Amgen, Inc., USA, [4]Amgen Inc., USA, [5]Amgen, Incorporated, USA, [6]University of California, San Francisco, USA
Disclosures: Nicola Napoli, None

CONCURRENT ORALS: NOVEL TARGETS AND TREATMENTS

2:30 pm - 4:00 pm **George R. Brown Convention Center**
Grand Ballroom A

Moderators:
Stavros Manolagas, M.D., Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Stavros Manolagas, None

Jane Lian, Ph.D.
University of Vermont College of Medicine, USA
Disclosures: Jane Lian, None

2:30 pm 1105 **Effective Hexa-D-Arginine Therapy of X-Linked Hypophosphatemia Occurs Through Biochemical Targeting of MicroRNA335**
Baozhi Yuan*[1], Abigail Radcliff[2], Michael Johnson[1], Robert Blank[3], Marc Drezner[1]. [1]University of Wisconsin, USA, [2]University of Wisconsin-Madison, USA, [3]Medical College of Wisconsin, USA
Disclosures: Baozhi Yuan, None

2:45 pm 1106 **ASBMR 2014 Annual Meeting Young Investigator Award**
Aptamer-Functionalized Lipid Nanoparticles (LNPs) Targeting Osteoblasts as a Novel RNA Interference-Based Bone Anabolic Strategy
Liang Chao*[1], Ge Zhang[2], Baosheng Guo[3], Heng Wu[4], Liangqiang Zhang[5], Aiping Lu[3]. [1]Hong Kong, [2]Ge Zhang' S Lab, Hong Kong, [3]Hong Kong Baptist University, Hong Kong, [4]HKBU, Hong Kong, [5]Beijing Proteome Research Center, China
Disclosures: Liang Chao, None

3:00 pm 1107 **Late-Breaking Abstract**
Efficacy of an Experimental small interfering RNA Therapy for Autosomal Dominant Osteopetrosis type 2 (ADO2)
Mattia Capulli*[1], Antonio Maurizi[2], Nadia Rucci[2], Anna Teti[2]. [1]Department of experimental Medicine, University of L'Aquila, Italy, [2]University of L'Aquila, Italy
Disclosures: Mattia Capulli, None

3:15 pm 1108 **Therapeutic silencing intra-osseous *Ckip-1* for promoting bone formation in an aged rat model of male osteoporosis**
Baosheng GUO*[1], Baoting Zhang[2], Ge Zhang[3]. [1]Prince of Wales Hospital, Hong Kong, [2]Price of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, [3]Ge Zhang' S Lab, Hong Kong
Disclosures: Baosheng GUO, None

3:30 pm 1109 **Decreased Optineurin Mediates MVNP Effects on Pagetic Osteoclast Formation**
Quanhong Sun*[1], Juraj Adamik[1], Jolene Windle[2], G. David Roodman[3], Deborah Galson[1]. [1]University of Pittsburgh, USA, [2]Virginia Commonwealth University, USA, [3]Indiana University, USA
Disclosures: Quanhong Sun, None

3:45 pm 1110 **The Histone Deacetylase Sirtuin 1 is a Transcriptional Modulator of the Neuronal Control of Bone Mass**
Na Luo*[1], Aruna Kode[1], Ioanna Mosialou[1], Mattia Capulli[2], Stavroula Kousteni[1]. [1]Columbia University Medical Center, USA, [2]University of L'Aquila, Italy
Disclosures: Na Luo, None

CONCURRENT ORALS: TRANSCRIPTIONAL REGULATION OF THE SKELETON

2:30 pm - 4:00 pm **George R. Brown Convention Center**

Room 320

Moderators:
Andre Van Wijnen, Ph.D.
Mayo Clinic, USA
Disclosures: Andre Van Wijnen, None

Eric Hesse, M.D., Ph.D.
University Medical Center, Hamburg-Eppendorf, Germany
Disclosures: Eric Hesse, None

2:30 pm 1111 **Convergence of transcriptional and epigenetic programs regulating osteogenic differentiation from mesenchymal stromal cells.**
Jonathan Gordon*[1], Hai Wu[1], Troy Whitfield[2], Coralee Tye[3], Andre Van Wijnen[4], Janet Stein[3], Gary Stein[5], Jane Lian[6]. [1]University of Vermont, USA, [2]Department of Cellular & Developmental Biology, University of Massachusetts Medical School, Worcester, MA, USA, [3]Vermont Cancer Center & Department of Biochemistry, University of Vermont, Burlington, VT., USA, [4]Mayo Clinic, USA, [5]University of Vermont, College of Medicine, USA, [6]University of Vermont College of Medicine, USA
Disclosures: Jonathan Gordon, None

2:45 pm 1112 ***Dnmt3b* is a Critical Target Gene during the Development of Osteoarthritis**
Jie Shen*[1], Cuicui Wang[2], Jason Meyers[1], John Ashton[1], Tzong-Jen Sheu[1], Jennifer Jonason[1], Regis O'Keefe[1]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Jie Shen, None

3:00 pm 1113 **Histone Deacetylase 3 Suppresses Erk Phosphorylation and Subsequent Matrix Metalloproteinase (MMP)-13 Activity in Chondrocytes during Endochondral Ossification**
Lomeli Carpio*, Elizabeth Bradley, Meghan McGee-Lawrence, Jennifer Westendorf. Mayo Clinic, USA
Disclosures: Lomeli Carpio, None

3:15 pm 1114 **MicroRNA-140 provides robustness to the regulation of hypertrophic chondrocyte differentiation by the PTHrP-HDAC4 pathway.**
Garyfallia Papaioannou*[1], Fatemeh Mirzamohammadi[2], Shigeki Nishimori[1], Marc Wein[1], Henry Kronenberg[1], Eric N. Olson[3], Tatsuya Kobayashi[1]. [1]Massachusetts General Hospital, USA, [2]Massachusetts General Hospital & Harvard Medical School, USA, [3]University of Texas Southwestern Medical Center, USA
Disclosures: Garyfallia Papaioannou, None

3:30 pm 1115 **Epigenetic control of skeletal development by the histone methyltransferase EZH2**
Amel Dudakovic*[1], FUHUA XU[2], Emily Camilleri[1], Meghan McGee-Lawrence[1], Eric Lewallen[1], Scott Riester[1], John R. Hawse[3], Gary Stein[4], Martin Montecino[5], Jennifer Westendorf[1], Andre Van Wijnen[1]. [1]Mayo Clinic, USA, [2]New Jersey Medical School, UMDNJ, USA, [3]Mayo Clinic College of Medicine, USA, [4]University of Vermont, College of Medicine, USA, [5]Universidad de Concepcion, Chile
Disclosures: Amel Dudakovic, None

3:45 pm 1116 **Formation of a Zinc finger protein 521-NuRD co-repressor complex is involved in osteoprogenitor commitment and Zebrafish skeletal development**
Ken-ichi Takeyama*[1], Harikiran Nistala[2], William Addison[1], Satya Kota[1], Genri Kawahara[3], Louis Kunkel[3], Julian Mintseris[4], Steven Gygi[4], Francesca Gori[5], Roland Baron[6]. [1]Harvard school of dental medicine, USA, [2]Harvard University, USA, [3]Harvard Medical School, Boston Children's Hospital, USA, [4]Harvard Medical School, USA, [5]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [6]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Ken-ichi Takeyama, None

COFFEE BREAK

4:00 pm - 4:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

SYMPOSIUM - FALLS AND FALL-RELATED INJURIES

This activity is supported by an educational grant from Merck & Co., Inc.

4:30 pm - 5:45 pm **George R. Brown Convention Center**
Grand Ballroom BC

Co-Chairs
Elizabeth Samelson, Ph.D.
Hebrew SeniorLife, Harvard Medical School, USA
Disclosures: Elizabeth Samelson, None

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

4:30 pm **Epidemiology of Falls, Injurious Falls, and Fall-related Fractures**
Magnus Karlsson, M.D., Ph.D.
Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Magnus Karlsson, None

4:55 pm **Preventing Falls and Fall-related Injuries: Effective Interventions**
Stephen Lord, Ph.D.
Neuroscience Research Australia, Australia
Disclosures: Stephen Lord, None

5:20 pm **Falls Risk Assessment and Prevention in High Risk Patients**
Clemens Becker, M.D.
Robert-Bosch-Krakenhaus, Germany
Disclosures: Clemens Becker, None

SYMPOSIUM - HETEROTOPIC OSSIFICATION

This activity is supported by an educational grant from Merck & Co., Inc.

4:30 pm - 5:45 pm **George R. Brown Convention Center**
General Assembly Theater

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

Edward Hsiao, M.D., Ph.D.
University of California, San Francisco, USA
Disclosures: Edward Hsiao, None

4:30 pm **Heterotopic Ossification in Combat Wounds**
Jonathan Forsberg, M.D.
Walter Reed National Military Medical Center, USA
Disclosures: Jonathan Forsberg, None

4:55 pm **Activation of Hedgehog Signaling by GNAS Inactivation Causes Ectopic Osteoblast Differentiation in POH**
Yingzi Yang
NIH, USA
Disclosures: Yingzi Yang, None

5:20 pm **Pharmacological Prevention of Heterotopic Ossification**
Maurizio Pacifici, Ph.D.
Children's Hospital of Philadelphia, USA
Disclosures: Maurizio Pacifici, None

ASBMR TOWN HALL MEETING & RECEPTION

6:00 pm - 7:00 pm **George R. Brown Convention Center**
Room 320

You are invited to attend the ASBMR Annual Town Hall Meeting and Reception 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, ask questions during an "open-mic" time, and enjoy a wine and cheese reception.

NUTRITION WORKING GROUP

Interaction of Physical Activity and Nutrients on Bone - New Developments

Supported by an educational grant from Dairy Research Institute

7:15 pm - 9:45 pm **George R. Brown Convention Center**
Room 332E

7:15 pm **Dinner**

7:40 pm **Introduction**
Sue Shapses, Ph.D.
Rutgers University, USA

7:45 pm **Exercise as a Potential Link Between Visceral Adipose Tissue and Bone**
Wendy Kohrt, Ph.D.
University of Colorado, Denver, USA

8:15 pm **Nutritional Modifiers of the Bone Response to Disuse**
Susan Bloomfield, Ph.D.
Texas A&M University, USA

8:45 pm **Neuromuscular Benefits of Vitamin D, Protein and Exercise**
Robin Daly, Ph.D.
Deakin University-Melbourne, Australia

9:15 pm **Concluding Remarks**
Richard Lewis, Ph.D.
University of Georgia, USA

BONE STRENGTH WORKING GROUP

Sponsored by the Canadian Bone Strength Working Group

Supported by Grants from Amgen Canada, Eli Lilly Canada and Merck Canada

7:15 pm - 9:45 pm **George R. Brown Convention Center**
Room 342B

7:15 pm **Registration and Buffet Dinner**

7:45 pm **Welcome and Overview of the Program**
Introduction of Co-Chairs
Robert Josse, MBBS, University of Toronto, Canada
David Kendler, M.D., University of British Columbia, Canada

7:55 pm **Impaired Trabecular Bone Microarchitecture Improves After One Year on Gluten-Free Diet. A Prospective HRp-QCT Study in Women with Celiac Disease**
Maria Zanchetta, M.D.
Instituto de Investigaciones Metabolicas (IDIM), Argentina

8:00 pm **Fracture History in Oligo-amenorrheic Athletes, Eumenorrheic Ahtletes and Non-athletes: Correlations with Bone Density and Microarchitecture**
Kathryn Ackerman, M.D., MPH
Brigham and Women's Hospital, USA

8:05 pm **Insulin Resistance and Bone Strength in Children**
Joseph Kindler
The University of Georgia, USA

8:10 pm **Bone Structure Assessed by TBS Reflects Trabecular Microarchitecture of Transiliac Bone Biopsies in Idiopathic Osteoporotic Females with Fragility Fractures**
Christian Muschitz, M.D.
St. Vincent's Hospital, Austria

8:15 pm **What is the Treshold of Renal Function that Influences the Measurement of Biochemical Markers of Bone Turnover Among Postmenopausal Women with Osteoporosis?**
Pascale Chavassieux, M.D.
INSERM UMR1033, Université De Lyon, France

8:25 pm **Keynote Debate: Atypical Fractures are a Function of Biomechanical Factors and Not Reduction in Bone Turnover**
For: Marjolein van der Meulen, Ph.D., Cornell University, USA
Against: David Burr, Ph.D., Indiana University, USA

9:25 pm **Panel Discussion**

9:40 pm **Concluding Remarks**

ADULT BONE AND MINERAL WORKING GROUP

Supported by Educational Grants from NPS Pharma and Merck & Co, Inc.

7:15 pm - 10:00 pm **George R. Brown Convention Center**
Room 332D

7:15 pm **Dinner**

7:35 pm **Transplantation Osteoporosis: An Evolutionary Perspective**
Elizabeth Shane
Columbia University, USA

8:00 pm **A Case of a Family with Subclinical Hypoparathyroidism**
Cory Wilczynsk
Loyola Medical Center, USA

8:12 pm **The Primacy of Parathyroid Hormone over Fibroblast Growth Factor 23 in Renal Phosphorus Handling**
Malachi McKenna
St. Vincent's University Hospital, Ireland

8:24 pm **Familial Intermittent Hypercalcemia, Hypercalcuria with Elevated Calcitriol, Low PTH, Chronic Nephrolithiasis and Osteopenia**
Derek O'Keeffe
Mayo Clinic, USA

8:36 pm **Restoration of Bone Remodeling with Teriparatide in a Patient with Severely Suppressed Bone Turnover**
Ryan Mills
Henry Ford Medical Center, USA

8:48 pm **Osteosarcoma in a Patient with Pseudohypoparathyroidism Type 1b Due to Paternal Uniparental Disomy of Chromosome 20q**
Yumie Rhee
Yonsei University College of Medicine, South Korea

9:00 pm **Drug Induced Fanconi's syndrome and Metabolic Bone Disease (Hypophophatemic Osteomalacia) Due to Nucleotide Reverse Transcriptase Inhibitors: Need for Increased Physician Awareness, Prospective Surveillance and Prompt Therapy**
Mahalakshmi Honasoge
Henry Ford Hospital, Jnana Sanjeevini Medical Centre and Diabetes Hospital, and Samatvam Endocrinology Diabetes Centre, USA and India

9:12 pm **A Case Report: A Patient With Extensive Osseous Sarcoidosis ("Holes in Her Bones")**
Elaine Cong
Columbia University Medical Center, USA

9:24 pm **Transient Osteoporosis of the Hip Associated with Alcohol Consumption**
Kamyar Asadipooya
University of Kansas Medical Center, USA

9:36 pm **Arterial Dissection and Associated COL1A1 Sequence Variants in Adult Osteogenesis Imperfecta**
Jay Shapiro
Kennedy Krieger Institute, USA

9:48 pm **Presentation of Boy Frame Award**

10:00 pm **Adjourn**

WORKING GROUP ON MUSCULOSKELETAL REHABILITATION IN PATIENTS WITH OSTEOPOROSIS
16th Annual Meeting

7:30 pm - 9:15 pm **George R. Brown Convention Center**
Room 342A

7:30 pm **Welcome and Introduction**
Mehrsheed Sinaki, M.D., M.S.
Mayo Clinic and Mayo Clinic College of Medicine, USA

7:35 pm **Simple Functional Tests Predict Hip Fracture and Mortality in Postmenopausal Women: A 15-Year Follow-Up**
Toni Rikkonen, Ph.D.
Mediteknia University of Eastern Finland, Finland

7:55 pm **Pain Management Strategies for Bone Pain and Back Pain**
Elizabeth Huntoon, M.D., M.S.
Vanderbilt University Medical Center, USA

8:15 pm **Effects of Orthoses for Treatment of Vertebral Fractures dueto Osteoporosis: A Review of Clinical Trials**
Michael Pfiefer, M.D.
German Osteology Foundation, Germany

8:35 pm **Effectiveness of Community Group and Home Based Falls Prevention Exercise Programs on Bone Health in Older People: the ProAct 65+ Bone Study**
Katherine Brooke-Wavell, BSc
Loughborough University, United Kingdom

8:55 pm **Summary and Closure**
Michael Pfiefer, M.D.
German Osteology Foundation, Germany

Monday, September 15, 2014

Day-At-A-Glance

Time/Event/Location **All locations in the George R. Brown Convention Center unless otherwise noted**

ASBMR REGISTRATION OPEN

7:30 am - 4:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

POSTERS OPEN

8:00 am - 2:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

CONCURRENT ORALS: ENERGY METABOLISM AND BONE

8:00 am - 9:30 am **George R. Brown Convention Center**
Grand Ballroom A

Moderators:
Gerard Karsenty, M.D., Ph.D.
Columbia University, USA
Disclosures: Gerard Karsenty, None

Tara Brennan-Speranza, Ph.D.
University of Sydney, Australia
Disclosures: Tara Brennan-Speranza, None

8:00 am 1117 **The molecular chaperone FKBP51 regulates energy metabolism and bone mass by controlling PPARg and p38 MAPK activities in adipocytes and marrow mesenchymal stem cells**
Lance Stechschulte*[1], Edwin Sanchez[1], Piotr Czernik[2], Beata Lecka-Czernik[2]. [1]University of Toledo Health Science Campus, USA, [2]University of Toledo College of Medicine, USA
Disclosures: Lance Stechschulte, None

8:15 am 1118 **ASBMR 2014 Annual Meeting Young Investigator Award**
Glucocorticoid Signaling in Osteoblasts Mediates Age-Associated Changes in Glucose Metabolism and Body Composition in Mice
Holger Henneicke*[1], Jingbao Li[2], Sylvia Jane Gasparini[3], Markus Seibel[4], Hong Zhou[4]. [1]ANZAC Research Institute, The University of Sydney, Australia, [2]Key Laboratory for Space Bioscience & Biotechnology, Institute of Special Environmental Biophysics, Faculty of Life Sciences, Northwestern Polytechnical University, China, [3]Bone Biology Program, ANZAC Research Institute, The University of Sydney, Australia, [4]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Holger Henneicke, None

8:30 am 1119 **Brown adipocyte-like cells from the peripheral nerve functionally contribute to heterotopic bone formation in a multifaceted manner**
Elizabeth Salisbury*, ZaWaunyka Lazard, Eric Beal II, Eleanor Davis, Alan Davis, Elizabeth Olmsted-Davis. Baylor College of Medicine, USA
Disclosures: Elizabeth Salisbury, None

8:45 am 1120 **Leptin is crucial for ventral hypothalamic ΔFosB-mediated regulation of glucose and energy homeostasis but not for bone homeostasis**
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

9:00 am 1121 **DLK1 Exerts a Negative Feedback Regulation on The Osteocalcin-Insulin Loop**
Basem Abdallah*[1], Nicholas Ditzel[2], Gerard Karsenty[3], Moustapha Kassem[2]. [1]Odense University Hospital, University of South Denmark, Denmark, [2]Odense University Hospital, Denmark, [3]Columbia University, USA
Disclosures: Basem Abdallah, None

9:15 am **Mitochondrial Etiology of Osteoporosis**
1122 Roman Eliseev*, Jerry Madukwe, Regis O'Keefe. University of Rochester, USA
Disclosures: Roman Eliseev, None

CONCURRENT ORALS: MECHANOBIOLOGY

8:00 am - 9:30 am **George R. Brown Convention Center**
Room 320

Moderators:
X Guo, Ph.D.
Columbia University, USA
Disclosures: X Guo, None

Tamara Alliston, Ph.D.
University of California, San Francisco, USA
Disclosures: Tamara Alliston, None

8:00 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1123 **Identification of Gremlin1 as A Catabolic Factor Induced by Mechanical Stress Loading in Articular Chondrocytes**
Song Ho Chang*[1], Hiroshi Kobayashi[2], Keita Okada[1], Shurei Sugita[3], Tomotake Okuma[1], Sakae Tanaka[1], Taku Saito[4]. [1]The University Of Tokyo, Japan, [2]The University of Tokyo Hospital, Japan, [3]Japan, [4]University of Tokyo, Graduate School of Medicine, Japan
Disclosures: Song Ho Chang, None

8:15 am **Cellular Tension Regulates TGFβ Receptor Spatial Organization and Induction of**
1124 **Chondrogenic Gene Expression**
Joanna Rys*[1], Christopher DuFort[2], Michelle Baird[3], Michael Davidson[3], Tamara Alliston[2]. [1]UC Berkeley - UCSF, USA, [2]University of California, San Francisco, USA, [3]National High Magnetic Field Laboratory & Department of Biological Science, Florida State University, USA
Disclosures: Joanna Rys, None

8:30 am **Muscle, Bone, and Nerve Differentially Interact to Achieve Trabecular and Cortical Bone**
1125 **Homeostasis**
Steven Bain, Philippe Huber, Ronald Kwon, Laura Stoll, Ted Gross*. University of Washington, USA
Disclosures: Ted Gross, None

8:45 am **The nuclear envelope mechanosome regulates mechanical activation of βcatenin and its nuclear**
1126 **transport**
Gunes Uzer*[1], Buer Sen[2], William Thompson[1], Zhihui Xie[1], Sherwin Yen[1], Guniz Bas[1], Maya Styner[3], Clinton Rubin[4], 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
Disclosures: Gunes Uzer, None

9:00 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1127 **Altered force sensing and cell-cell adhesion by mutant ACVR1/ALK2 FOP progenitor cells – implications for heterotopic ossification**
Julia Haupt*, Brian Cosgrove, Claire McLeod, Andria Culbert, Robert L. Mauck, Eileen M. Shore. University of Pennsylvania, USA
Disclosures: Julia Haupt, None

9:15 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1128 **Inner ear vestibular signals contribute to bone loss through the sympathetic nervous system**
Guillaume Vignaux*, Jean De La Croix Ndong, Florent Elefteriou. Vanderbilt University, USA
Disclosures: Guillaume Vignaux, None

CONCURRENT ORALS: OSTEOCLASTS

8:00 am - 9:30 am **George R. Brown Convention Center**

Room 310

Moderators:
Alberta Zallone, Ph.D.
University of Bari Medical School, Italy
Disclosures: Alberta Zallone, None

Gabriel Mbalaviele, Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Gabriel Mbalaviele, None

8:00 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1129 **Alternative NF-κB Controls Mitochondrial Biogenesis Independent of Osteoclast Differentiation**
Rong Zeng*[1], Deborah Novack[2], Chang Yang[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

8:15 am **The actin-binding protein Cofilin and its interaction with cortactin are required for podosome**
1130 **patterning in osteoclasts and bone resorption in vivo and in vitro**
Detina Zalli*[1], Kenichi Nagano[2], Lynn Neff[3], Ken-ichi Takeyama[2], Walter Witke[4], Francesca Gori[5], Roland Baron[6]. [1]USA, [2]Harvard School of Dental Medicine, USA, [3]Harvard School of Dental Medicine 188 Longwood Ave Boston MA 02115, USA, [4]Prof. Dr. Walter Witke Institute of Genetics University Bonn Karlrobert Kreiten Str. 13 D - 53115 Bonn/Germany, Germany, [5]Harvard School of Dental Medicine, Massachusetts General Hospital, USA, [6]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Detina Zalli, None

8:30 am **A Role for the Proprotein Convertase Furin in the Regulation of Osteoclastic Bone Resorption**
1131 Benjamin Ng*[1], Dian Teguh[2], Nathan Pavlos[3], Jennifer Tickner[3], Jiake Xu[3]. [1]The University of Western Australia, Australia, [2]Research personnel, Australia, [3]University of Western Australia, Australia
Disclosures: Benjamin Ng, None

8:45 am **ASBMR 2014 Annual Meeting Young Investigator Award**
1132 **EBI2 guides osteoclast precursors to endosteal niches and regulates bone mass homeostasis**
Erin Nevius*[1], Mark Horowitz[2], Masaru Ishii[3], Joao Pereira[2]. [1]Yale School of Medicine, USA, [2]Yale University School of Medicine, USA, [3]Graduate School of Medicine & Frontier Biosciences, Osaka University, Japan
Disclosures: Erin Nevius, None

9:00 am **Gain of function of Jagged1 stimulates osteoclastogenesis leading to low bone volume**
1133 Yangjin Bae*[1], Hanqiu Zheng[2], Yuqing Chen[3], Terry Bertin[3], Yibin Kang[4], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]Department of Molecular Biology, Princeton University, USA, [3]Departments of Molecular & Human Genetics, Baylor College of Medicine, USA, [4]Princeton University, USA
Disclosures: Yangjin Bae, None

9:15 am **Late-Breaking Abstract**
1134 **ADAMTS 18 is important regulator of post-natal skeletal development and bone remodeling.**
Sardar Uddin*[1], Zong Dong Li[2], Yi-Xian Qin[3], Chuanju Liu[4]. [1]New York University Medical Center, USA, [2]Stony Brook University, USA, [3]State University of New York at Stony Brook, USA, [4]New York University, USA
Disclosures: Sardar Uddin, None

CONCURRENT ORALS: OSTEOPOROSIS CLINICAL MANAGEMENT

8:00 am - 9:30 am **George R. Brown Convention Center**
Grand Ballroom BC

Moderators:
David Kendler, M.D., FRCPC
Associate Professor, University of British Columbia, Canada
Disclosures: David Kendler, None

Marjorie Luckey, M.D.
Barnabas Health Osteoporosis Center, Livingston, NJ, USA
Disclosures: Marjorie Luckey, None

8:00 am 1135 **Assessment and Intervention Thresholds for FRAX probabilities in the UK – An Evaluation of adjusting Thresholds in Older Postmenopausal Women**
Eugene McCloskey*[1], Helena Johansson[2], Anders Oden[3], Nicholas Harvey[4], Juliet Compston[5], John Kanis[6]. [1]University of Sheffield, United Kingdom, [2]Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, [3]Consulting Statistician, Sweden, [4]MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, [5]University of Cambridge School of Clinical Medicine, United Kingdom, [6]University of Sheffield, Belgium
Disclosures: Eugene McCloskey, None

8:15 am 1136 **Bone Mineral Density (BMD) at Multiple Sites and Risk of Multiple Types of Fracture: The Osteoporotic Fractures in Men (MrOS) Study**
Didier Chalhoub*[1], Eric Orwoll[2], Peggy Cawthon[3], Kristine Ensrud[4], Douglas Bauer[5], Steven Cummings[6], Jane Cauley[7]. [1]University of Pittsburgh, USA, [2]Oregon Health & Science University, USA, [3]California Pacific Medical Center Research Institute, USA, [4]University of Minnesota & Minneapolis VA Health Care System, USA, [5]University of California, San Francisco, USA, [6]San Francisco Coordinating Center, USA, [7]University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Didier Chalhoub, None

8:30 am 1137 **Risk and Cumulative Incidence of Subsequent Fractures Following an Initial Fracture: a Cohort Study with a Quarter Century Follow-up**
Suzanne Morin*[1], Lin Yan[2], Lisa Lix[2], Sumit Majumdar[3], William Leslie[2]. [1]McGill University, Canada, [2]University of Manitoba, Canada, [3]University of Alberta, Canada
Disclosures: Suzanne Morin, Merck, 5; Amgen, 5; Eli Lilly, 8; Eli Lilly, 5; Amgen, 8; Amgen, 2

8:45 am 1138 **Persistence with Osteoporosis Therapies among Osteoporotic Women at High Risk for Fracture within a Commercially-Insured Population in the United States**
Emily Durden[1], Lung-I Cheng*[2], Elnara Eynullayeva[1], Larry Radbill[1], Paul Juneau[1], Leslie Spangler[3], Faisal Mirza[3], Bradley Stolshek[2]. [1]Truven Health Analytics, USA, [2]Amgen, Inc., USA, [3]Amgen, USA
Disclosures: Lung-I Cheng, Amgen, Inc., 5

9:00 am 1139 **Diagnostic pathways for the detection of incomplete atypical femur fractures: An economic evaluation**
Olga Gajic-Veljanoski*[1], R Bleakney[2], Linda Probyn[3], Angela M. Cheung[4]. [1]University Health Network, Canada, [2]Mount Sinai Hospital, Canada, [3]University of Toronto, Sunnybrook HSC, Dept. of Medical Imaging, Canada, [4]University Health Network-University of Toronto, Canada
Disclosures: Olga Gajic-Veljanoski, None

9:15 am 1140 **Comparison of Fracture Risk Prediction by the U.S. Preventive Task Force Strategy and Two Alternative Strategies in Women 50-64 Years Old in the Women's Health Initiative**
Carolyn Crandall*[1], Joseph Larson[2], Nelson Watts[3], Margaret Gourlay[4], Meghan Donaldson[5], Andrea Lacroix[6], Jane Cauley[7], Jean Wactawski-Wende[8], Margery L.S. Gass[9], John Robbins[10], Kristine Ensrud[11]. [1]University of California, Los Angeles, USA, [2]Fred Hutchinson Cancer Research Center, Seattle, WA, USA, [3]Mercy Health Osteoporosis & Bone Health Services, USA, [4]University of North Carolina, USA, [5]San Francisco Coordinating Center, USA, [6]Fred Hutchinson Cancer Research Center, USA, [7]University of Pittsburgh Graduate School of Public Health, USA, [8]University at Buffalo, USA, [9]The North American Menopause Society, USA, [10]University of California, Davis Medical Center, USA, [11]University of Minnesota & Minneapolis VA Health Care System, USA
Disclosures: Carolyn Crandall, None

COFFEE BREAK

9:30 am - 10:00 am **George R. Brown Convention Center**
Discovery Hall-Hall E

DISCOVERY HALL OPEN

9:30 am - 3:00 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

PLENARY ORALS: BASIC BONE BIOLOGY II

10:00 am - 11:30 am **George R. Brown Convention Center**
Grand Ballroom A

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

Itai Bab, D.M.D.
The Hebrew University, Israel
Disclosures: Itai Bab, None

10:00 am 1141 **ASBMR 2014 Annual Meeting Young Investigator Award**
MiR-17-92 Family MicroRNAs Play an Essential Role in Limb Development by Suppressing TGF-b Signaling
Fatemeh Mirzamohammadi*[1], Garyfallia Papaioannou[2], Elena Paltrinieri[2], Tatsuya Kobayashi[2]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Massachusetts General Hospital, USA
Disclosures: Fatemeh Mirzamohammadi, None

10:15 am 1142 **ASBMR 2014 Most Outstanding Basic Abstract Award**
Conditional ablation of MT1-MMP in SM22a-expressing cells identifies vascular- associated progenitors cells as essential for skeletal homeostasis
Joanne Shi*, Pamela Robey, Kenn Holmbeck. National Institute of Dental & Craniofacial Research, USA
Disclosures: Joanne Shi, None

10:30 am 1143 **Characterization of aSMA Expressing Cells That Contribute To Muscle Heterotopic Ossification**
Brya Matthews*[1], Elena Torreggiani[1], Danka Grcevic[2], Ivo Kalajzic[1]. [1]University of Connecticut Health Center, USA, [2]University of Zagreb, Croatia
Disclosures: Brya Matthews, None

10:45 am ASBMR 2014 Young Investigator Award

1144 Interaction of RBP-J and Endogenous TGF-β Signaling Controls ITAM-Mediated Costimulation of Osteoclastogenesis and Bone Resorption

Christine Miller*, Susan Li, Xiaoyu Hu, Lionel Ivashkiv, Baohong Zhao. Hospital for Special Surgery, USA

Disclosures: Christine Miller, None

11:00 am ASBMR 2014 President's Award

1145 Ensuing Osteopetrosis in TAK1-Null Mice Owing to Defective NF-B and NOTCH Signaling

Gaurav Swarnkar*[2], Yousef Abu-Amer[1], Kannan Karuppaiah[3], Gabriel Mbalaviele[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA, [3]Washington University School of Medicine in St. Louis, USA

Disclosures: Gaurav Swarnkar, None

11:15 am Osteocalcin regulates muscle function and mass

1146 Paula Mera*, Kathrin Laue, Gerard Karsenty. Columbia University, USA

Disclosures: Paula Mera, None

PLENARY ORALS: JOHN H CARSTENS MEMORIAL SESSION ON NEW TREATMENT STRATEGIES

10:00 am - 11:30 am **George R. Brown Convention Center**

Grand Ballroom BC

Moderators:

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

Jane Cauley, Ph.D.
University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Jane Cauley, None

10:00 am Odanacatib Anti-Fracture Efficacy and Safety in Postmenopausal Women with Osteoporosis.

1147 Results from the Phase III Long-Term Odanacatib Fracture Trial (LOFT)

Michael McClung*[1], Bente Langdahl[2], Socrates Papapoulos[3], Kenneth Saag[4], Silvano Adami[5], Henry Bone[6], Tobias de Villiers[7], Douglas Kiel[8], Annie Kung[9], Prasanna Kumar[10], Sung-Kil Lim[11], Xu Ling[12], Kurt Lippuner[13], Carlos Mautalen[14], Toshitaka Nakamura[15], Jean-Yves Reginster[16], Ian Reid[17], Jose Rodriguez Portales[18], Christian Roux[19], Jesus Walliser[20], Nelson Watts[21], Jose Ruben Zanchetta[22], Cristiano Zerbini[23], Andrea Rybak-Feiglin[24], Dosinda Cohn[24], Carolyn DaSilva[24], Rachid Massaad[25], Arthur Santora[26], Boyd Scott[24], Nadia Verbruggen[25], Albert Leung[27], Antonio Lombardi[24]. [1]Oregon Osteoporosis Center, USA, [2]Aarhus University Hospital, Denmark, [3]Leiden University Medical Center, The Netherlands, [4]University of Alabama at Birmingham, USA, [5]University of Verona, Italy, [6]Michigan Bone & Mineral Clinic, USA, [7]Stellenbosch University, South Africa, [8]Hebrew SeniorLife, USA, [9]Dr. Kung-Wai Chee Clinic, Hong Kong, [10]Bangalore Diabetes Centre, India, [11]Yonsei University, Korea, democratic people's republic of, [12]Peking Union Medical College Hospital, Peoples Republic of China, [13]Department of Osteoporosis, University Hospital & University of Berne, Switzerland, [14]Centro de Osteopatías Médicas, Argentina, [15]University of Occupational & Environmental Health, Japan, [16]CHU Centre Ville, Belgium, [17]University of Auckland, New Zealand, [18]Catholic University of Chile, Chile, [19]Hospital Cochin, France, [20]Bone Metabolism Clinic, Hospital Angeles del Pedregal, Mexico, [21]Mercy Health Osteoporosis & Bone Health Services, USA, [22]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [23]Centro Pualista de Investigação Clinica, Brazil, [24]Merck & Co., Inc., USA, [25]MSD Europe Inc., Brussels, Belgium, [26]Merck & Co. Inc., USA, [27]USA

Disclosures: Michael McClung, Merck, 5; Merck, 2; Merck, 8

10:15 am 1148 Safety and Tolerability of Odanacatib Therapy in Postmenopausal Women with Osteoporosis: Results from the Phase III Long-Term Odanacatib Fracture Trial (LOFT)

Socrates Papapoulos*[1], Michael McClung[2], Bente Langdahl[3], Kenneth Saag[4], Silvano Adami[5], Henry Bone[6], Tobias de Villiers[7], Douglas Kiel[8], Annie Kung[9], Prasanna Kumar[10], Sung-Kil Lim[11], Xu Ling[12], Kurt Lippuner[13], Carlos Mautalen[14], Toshitaka Nakamura[15], Jean-Yves Reginster[16], Ian Reid[17], Jose Adolfo Rodriguez-Portales[18], Christian Roux[19], Jesus Walliser[20], Nelson Watts[21], Jose Ruben Zanchetta[22], Christiano AF Zerbini[23], Andrea Fybak-Feiglin[24], Dosinda Cohn[24], Carolyn A da Silva[24], Celine Le Bailly De Tilleghem[25], Arthur Santora[26], Boyd Scott[27], Nadia Verbruggen[25], Albert Leung[28], Antonio Lombardi[27], Deborah Gurner[27]. [1]Leiden University Medical Center, The Netherlands, [2]Oregon Osteoporosis Center, USA, [3]Aarhus University Hospital, Denmark, [4]University of Alabama at Birmingham, USA, [5]University of Verona, Italy, [6]Michigan Bone & Mineral Clinic, USA, [7]Stellenbosch University, South Africa, [8]Hebrew SeniorLife, USA, [9]Dr. Kung-Wai Chee Clinic, Hong Kong, [10]Bangalore Diabetes Centre, India, [11]Yonsei University College of Medicine, South Korea, [12]Peking Union Medical College Hospital, Peoples Republic of China, [13]Department of Osteoporosis, University Hospital & University of Berne, Switzerland, [14]Centro de Osteopatías Médicas, Argentina, [15]National Center for Global Health & Medicine, Japan, [16]CHU Centre Ville, Belgium, [17]University of Auckland, New Zealand, [18]Pontificia Universidad Católica de Chile, Chile, [19]Hospital Cochin, France, [20]Bone Metabolism Clinic, Hospital Angeles del Pedregal, Mexico, [21]Mercy Health Osteoporosis & Bone Health Services, USA, [22]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [23]Centro Paulista de Investigações, Brazil, [24]Merck Sharp & Dohme Corp, USA, [25]MSD Europe Inc., Belgium, [26]Merck & Co. Inc., USA, [27]Merck & Co., Inc., USA, [28]USA

Disclosures: Socrates Papapoulos, GSK, 5; Novartis, 5; Axsome, 5; Merck, 5; Amgen, 5

10:30 am 1149 Randomized Controlled Trial to Assess the Safety and Efficacy of Odanacatib in the Treatment of Men with Osteoporosis

Eric Orwoll*[1], Silvano Adami[2], Neil Binkley[3], Roland Chapurlat[4], Bente Langdahl[5], Steven Doleckyj[6], Hilde Giezek[7], Boyd Scott[6], Arthur Santora[8]. [1]Oregon Health & Science University, USA, [2]University of Verona, Italy, [3]University of Wisconsin, Madison, USA, [4]E. Herriot Hospital, France, [5]Aarhus University Hospital, Denmark, [6]Merck & Co., Inc., USA, [7]MSD Europe Inc., Brussels, Belgium, [8]Merck & Co. Inc., USA

Disclosures: Eric Orwoll, Merck, 2; Merck, 5

10:45 am 1150 The Transition from Denosumab to Teriparatide or from Teriparatide to Denosumab in Postmenopausal Women with Osteoporosis: The DATA-Switch Study

Benjamin Leder*[1], Joy Tsai[2], Alexander Uihlein[3], Yuli Zhu[2], Katelyn Foley[2], Robert Neer[2], Sherri-Ann Burnett-Bowie[2]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Massachusetts General Hospital, USA, [3]Northwestern Memorial Faculty Foundation, USA

Disclosures: Benjamin Leder, Lilly, Merck, Amgen, 5; Lilly, Merck, Amgen, 2; Radius, 5

11:00 am 1151 Effect of Blosozumab on Bone Mineral Density: 52-Week Follow-up of a Phase 2 Study of Postmenopausal Women with Low Bone Mineral Density

Charles Benson*[1], Alan Chiang[1], Leijun Hu[1], Alam Jahangir[1], Bruce Mitlak[1], Robert Recker[2], Deborah Robins[1], Hideaki Sowa[3], Adrien Sipos[1]. [1]Eli Lilly & Company, USA, [2]Creighton University, USA, [3]Lilly Research Laboratories Japan, Eli Lilly Japan K.K., Japan

Disclosures: Charles Benson, Eli Lilly and Company, 3; Eli Lilly and Company, 1

11:15 am 1152 Effects of 2 Years of Treatment With Romosozumab Followed by 1 Year of Denosumab or Placebo in Postmenopausal Women With Low Bone Mineral Density

MR McClung*[1], A Chines[2], JP Brown[3], A Diez-Perez[4], H Resch[5], J Caminis[6], MA Bolognese[7], S Goemaere[8], HG Bone[9], JR Zanchetta[10], J Maddox[2], O Rosen[2], S Bray[11], A Grauer[2]. [1]Oregon Osteoporosis Center, USA, [2]Amgen Inc., USA, [3]Laval University & CHU de Québec Research Centre, Canada, [4]Autonomous University of Spain, Spain, [5]St. Vincent Hospital, Austria, [6]UCB, USA, [7]Bethesda Health Research Center, USA, [8]Ghent University Hospital, Belgium, [9]Michigan Bone & Mineral Clinic, USA, [10]Instituto de Investigaciones Metabólicas, Argentina, [11]Amgen Ltd., United Kingdom

Disclosures: MR McClung, Amgen, Merck, 2; Amgen, Lilly, Merck, 5

MEET-THE-PROFESSOR SESSIONS

11:30 am - 12:30 pm **George R. Brown Convention Center**

Rooms 351A-351F

Meet-the-Professor Session: What are Mesenchymal Stem Cells?
Room 351A

Pamela Robey, Ph.D.
National Institute of Dental and Craniofacial Research, USA
Disclosures: Pamela Robey, None

Meet-the-Professor Session: The NIH Geroscience Summit
Room 351B

Robert Jilka, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, None

John Williams, Ph.D.
National Institute on Aging, USA
Disclosures: John Williams, None

Joan McGowan, Ph.D.
National Institute of Arthritis, Musculoskeletal & Skin Disease, USA
Disclosures: Joan McGowan, None

Meet-the-Professor Session: Cortical Bone Modeling (and Remodeling)
Room 351C

Ego Seeman, M.D., FRACP
Austin Health, University of Melbourne, Australia
Disclosures: Ego Seeman, StrAXcorpt 111; StrAXcorpt 11

Meet-the-Professor Session: In Vivo Microindentation
Room 351D

Mary Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Mary Bouxsein, None

Meet-the-Professor Session: Using Large Databases for Osteoporosis Research
Room 351E

Jeffrey Curtis, M.D., MPH
University of Alabama at Birmingham, USA
Disclosures: Jeffrey Curtis, Novartis 5; Eli Lilly 5; Amgen 5; Amgen 2

Meet-the-Professor Session: Management of Atypical Femoral Fractures
Room 351F

Angela M. Cheung, M.D., Ph.D.
University Health Network-University of Toronto, Canada
Disclosures: Angela M. Cheung, Eli Lilly 11; Amgen 11; Merck 11; Eli Lilly 2; Amgen 2

CAREER DEVELOPMENT SESSION: IDENTIFYING AND SECURING ALTERNATE FUNDING

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

11:30 am - 12:30 pm **George R. Brown Convention Center**
Room 310

Investigators across all career stages are feeling the effects of the worldwide decrease in research funding availability. In this session, investigators who have successfully sought alternate funding sources will share their tips for partnering with industry and identifying funding opportunities from philanthropic organizations. This session is designed for investigators at all career stages. The audience will have the opportunity to ask questions.

Co-Chairs
Melissa Kacena, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Melissa Kacena, None

Teresita Bellido, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Teresita Bellido, None

11:30 am Career Development Session: Identifying and Securing Alternate Funding
Theresa Guise, M.D.
Indiana University, USA
Disclosures: Theresa Guise, None

Peter Ebeling, M.D., FRACP
Department of Medicine, School of Clinical Sciences, Monash University, Australia
Disclosures: Peter Ebeling, None

CLINICAL ROUNDTABLE - MANAGEMENT OF OSTEOPOROSIS IN PREGNANCY AND PEDIATRICS

11:30 am - 12:30 pm **George R. Brown Convention Center**
Grand Ballroom A

Chair
Maria Luisa Bianchi, M.D.
Istituto Auxologico Italiano IRCCS, Italy
Disclosures: Maria Luisa Bianchi, None

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

Leanne Ward, M.D.
Children's Hospital of Eastern Ontario, Canada
Disclosures: Leanne Ward, None

ASBMR TASK FORCE REPORTS

11:30 am - 12:30 pm **George R. Brown Convention Center**
Room 310

This session will feature presentations from the chairs of the ASBMR Task Force on Managing Osteoporosis Patients after Long-term Bisphosphonate Treatment and the ASBMR-NOF Task Force on Goals for Osteoporosis Treatment.

11:30 am ASBMR Task Force on Managing Osteoporosis Patients after Long-term Bisphosphonate Treatment

Chairs
Robert Adler, M.D.
McGuire VA Medical Center and Virginia Commonwealth University, USA
Disclosures: Robert Adler, None

Ghada El-Hajj Fuleihan, M.D., MPH
American University of Beirut Medical Center, Lebanon
Disclosures: Ghada El-Hajj Fuleihan, None

12:00 pm ASBMR-NOF Task Force on Goals for Osteoporosis Treatment

Co-Chairs
Steven Cummings, M.D., FACP
University of California, San Francisco, USA
Disclosures: Steven Cummings, None

Felicia Cosman, M.D.
Helen Hayes Hospital, USA
Disclosures: Felicia Cosman, None

E. Michael Lewiecki, M.D., FACP, FACE
University of New Mexico School of Medicine, USA
Disclosures: E. Michael Lewiecki, None

POSTER SESSION III & POSTER TOURS

12:30 pm - 2:30 pm **George R. Brown Convention Center**
Discovery Hall-Hall E

ADULT METABOLIC BONE DISORDERS: CHRONIC KIDNEY DISEASE – METABOLIC BONE DISORDER

MO0001 Biological and clinical benefits of a systematic protocol of bone evaluation and treatment in kidney transplantation
Rose-Marie Javier*[1], Clotilde Kiener[2], Peggy Perrin[2], Sophie Caillard[2], Bruno Moulin[2]. [1]Department of Rheumatology, University Hospital, France, [2]Nephrology-Transplantation Department, University Hospital Strasbourg, France
Disclosures: Rose-Marie Javier, None

MO0002 Bone Adiposity and Magnetic Resonance Spectroscopy in Kidney Disease
Ranjani Moorthi*, Chen Lin, Kristen Ponsler-Sipes, Sharon Moe. Indiana University School of Medicine, USA
Disclosures: Ranjani Moorthi, None

MO0003 Determination of FGF23/FGFR3 Interfacing Domains; Insights into Developing Novel Therapeutics
Abdulhafez Selim*[1], Mohamed Hafez[2], Mourad Ali[3], Osama Yasin[3], Tarek El-Ghandour[3]. [1]Center for Chronic Disorders of Aging, PCOM, USA, [2]Inspire, Egypt, [3]Ain Shams University, Egypt
Disclosures: Abdulhafez Selim, None

MO0004 Low Bone Mineral Density and Fractures in Stages 3-5 CKD: An Updated Systematic Review and Meta-Analysis

Roxana Bucur*[1], Dilshaan Panjwani[2], Lucy Turner[3], Tamara Rader[4], Sarah West[5], Sophie Jamal[6]. [1]Canada, [2]Women's College Research Institute, Women's College Hospital, The University of Toronto, Canada, [3]Ottawa Hospital Research Institute, Canada, [4]Cochrane Musculoskeletal Group, Centre for Global Health, University of Ottawa, Canada, [5]University of Toronto, Canada, [6]The University of Toronto, Canada

Disclosures: Roxana Bucur, None

MO0005 Vitamin D2 vs.Vitamin D3 in Stage 5 Chronic Kidney Disease Patients on Dialysis.

Valentina D. Tarasova*, Laura Armas, Robert Dunlay. Creighton University, USA

Disclosures: Valentina D. Tarasova, None

ADULT METABOLIC BONE DISORDERS: OSTEOMALACIA AND VITAMIN D DEFICIENCY

MO0006 Low Circulating 25 Hydroxyvitamin D in Obesity is not Associated with Lower 24-hour Urine Calcium, Higher Bone Turnover or Lower Bone Mineral Density

Jennifer Walsh*[1], Amy Evans[1], Kim Naylor[2], Fatma Gossiel[1], Simon Bowles[1], Richard Jacques[1], Richard Eastell[1]. [1]University of Sheffield, United Kingdom, [2]The University of Sheffield, United Kingdom

Disclosures: Jennifer Walsh, None

ADULT METABOLIC BONE DISORDERS: OTHER ADULT METABOLIC BONE DISORDERS

MO0007 Conditional ablation of *Alpl* in osteoblasts and mesenchymal cells leads to murine models of adult hypophosphatasia

Pia Kuss*[1], Manisha C. Yadav[1], Sonoko Narisawa[1], Jose Luis Millan[2]. [1]Sanford Burnham Medical Research Institute, USA, [2]Sanford-Burnham Medical Research Institute, USA

Disclosures: Pia Kuss, None

MO0008 Direct and indirect effect of cytokines on osteoclast differentiation

Enver Aydilek[1], Martina Blaschke[1], Regine Koepp[1], Ute Hempel[2], Sabine Blaschke[3], Heide Siggelkow*[4]. [1]Clinic of Gastroenterology, Germany, [2]Institute of Physiological Chemistry, Greenland, [3]Clinic for Nephrology & Rheumatology, Germany, [4]University Medicine of Goettingen, Dep. of Gastroenterology & Endocrinology, Germany

Disclosures: Heide Siggelkow, None

ADULT METABOLIC BONE DISORDERS: PAGET'S DISEASE

MO0009 *SQSTM1* Mutations Lead to Enhanced Immunoglobulin Production in Paget's Disease of Bone

Daniela Merlotti*[1], Luigi Gennari[1], Fernando Gianfrancesco[2], Niccolò Pengo[3], Domenico Rendina[4], Riccardo Muscariello[4], Laura Oliva[5], Teresa Esposito[6], Stefano Rotatori[7], Maria Beatrice Franci[7], Barbara Lucani[7], Maria Stella Campagna[7], Ranuccio Nuti[1], Simone Cenci[8]. [1]University of Siena, Italy, [2]National Research Council of Italy, Italy, [3]MRC LMCB; University College London, United Kingdom, [4]Department of Clinical & Experimental Medicine, Federico II University, Italy, [5]Division of Genetics & Cell Biology; San Raffaele Scientific Institute & University Vita-Salute San Raffaele, Italy, [6]Institute of Genetics & Biophysics, National Research Council of Italy, Italy, [7]Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, [8]Fondazione Centro San Raffaele, Italy

Disclosures: Daniela Merlotti, None

MO0010 Functional study of *OPTN* variants associated with Paget's disease of bone

Iris A. L. Silva*[1], Natércia Conceição[2], Laetitia Michou[3], M. Leonor Cancela[4]. [1]University of Algarve - PhD program in Biomedical Sciences; Dept of Biomedical Sciences & Medicine, Portugal, [2]University of Algarve - Centre of Marine Sciences (CCMAR), Portugal, [3]Université Laval, Canada, [4]University Algarve - CCMAR, Portugal

Disclosures: Iris A. L. Silva, None

ADULT METABOLIC BONE DISORDERS: PARATHYROID DISORDERS

MO0011 Withdrawn

MO0012 Changes in Trabecular Bone Score up to Two Years After Parathyroidectomy in Primary Hyperparathyroidism
Alice Abraham*[1], Chiyuan Zhang[2], Barbara Silva[3], Fan Wen-Wei[4], Didier Hans[5], Natalie Cusano[4], John Bilezikian[4]. [1]Endocrinology fellow, USA, [2]Columbia University, USA, [3]Federal University of Minas Gerais, Brazil, Brazil, [4]Columbia University College of Physicians & Surgeons, USA, [5]Lausanne University Hospital, Switzerland
Disclosures: Alice Abraham, None

MO0013 No Seasonal Variation in 25-Hydroxyvitamin D in Mild Primary Hyperparathyroidism
Elaine Cong*[1], Marcella Walker[2], Anna Kepley[2], Chiyuan Zhang[2], Donald McMahon[3], Shonni Silverberg[2]. [1]Columbia Presbyterian Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Elaine Cong, None

MO0014 Plasma PTH levels measured with the 3rd generation 1-84 PTH assay in patients with different stages of chronic kidney disease
Giuseppe Viccica[1], Simona Borsari[1], Elena Pardi[1], Filomena Cetani[2], Roberta Centoni[2], Sonia Albertini[2], Silvia Chiavistelli[3], Giordano Fumagalli[1], Adamasco Cupisti[1], Claudio Marcocci*[4]. [1]Department of Clinical & Experimental Medicine, University of Pisa, Italy, [2]University Hospital of Pisa, Italy, [3]Azienda Ospedaliera Pisana, Italy, [4]University of Pisa, Italy
Disclosures: Claudio Marcocci, None

MO0015 Predictors of Depression Response in Primary Hyperparathyroidism
Ann Kearns*[1], Rachel Espiritu[2], Kristin Vickers Douglas[1], Clive Grant[1], Euijung Ryu[1], Robert Wermers[1]. [1]Mayo Clinic, USA, [2]Summa Physicians, Inc., USA
Disclosures: Ann Kearns, None

MO0016 Primary Hyperparathyroidism Not Confounded by Coexisting Vitamin D Deficiency
Anna Kepley*[1], Marcella Walker[1], Elaine Cong[2], Chiyuan Zhang[1], James Lee[1], Shonni Silverberg[1]. [1]Columbia University, USA, [2]Columbia Presbyterian Medical Center, USA
Disclosures: Anna Kepley, None

MO0017 PTH(1-84) Is Associated with Improved Quality of Life in Hypoparathyroidism Through 5 Years of Therapy
Natalie Cusano*[1], Mishaela Rubin[2], Donald McMahon[1], Dinaz Irani[3], Laura Beth Anderson[2], Elizabeth Levy[1], 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

MO0018 Vitamin D Status in Hyperthyroidism
Ana Paula Barbosa*[1], Mário Rui Mascarenhas[2], Manuel Bicho[3]. [1]Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, [2]Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN,EPE, Portugal, [3]Environmental Health Institute of Lisbons Faculty of Medicine, Portugal
Disclosures: Ana Paula Barbosa, None

BIOMECHANICS AND BONE QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

MO0019 Are left and right the same? Contralateral microstructural differences between HR-pQCT images at the radius and tibia
Bin Zhou*[1], Eric Yu[1], Ji Wang[1], Zhengdong Zhang[1], Fernando Rosete[2], Kyle Nishiyama[1], Elizabeth Shane[3], X Guo[1]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Bin Zhou, None

MO0020 Bone Density, Geometry, and Strength Changes after Lower Limb Amputation
Debra Bemben*[1], Vanessa Sherk[2], Michael Bemben[1], William Ertl[3]. [1]University of Oklahoma, USA, [2]University of Colorado - Denver, USA, [3]University of Oklahoma Health Sciences Center, USA
Disclosures: Debra Bemben, None

MO0021 Comparison of short term *in vivo* precision of cortical bone micro-architecture between two HR-pQCT assessment methods at the distal radius and tibia in postmenopausal women and young adults

Chantal Kawalilak*[1], James Johnston[1], David Cooper[1], W.P. Olszynski[2], Saija Kontulainen[1]. [1]University of Saskatchewan, Canada, [2]Midtown Professional Center (#103), Canada

Disclosures: Chantal Kawalilak, None

MO0022 Composite but Not Individual Tissue-Level Bone Traits Differ Significantly Between Femurs that are Stronger vs. Weaker for Body Size

Daniel Nicolella*[1], Arthur Nicholls[1], Don Moravits[1], Jennifer Harris[2], Shayna Levine[2], Travis Eliason[1], Jeffry Nyman[3], Todd Bredbenner[1], Lorena Havill[2]. [1]Southwest Research Institute, USA, [2]Texas Biomedical Research Institute, USA, [3]Vanderbilt University Medical Center, USA

Disclosures: Daniel Nicolella, Merck, 2

MO0023 Effects of strontium ranelate on the intrinsic quality of human bone tissue

Sebastien Rizzo*[1], Delphine Farlay[2], Audrey Doublier[1], Georges Boivin[3]. [1]INSERM, UMR 1033, Université de Lyon, France, [2]INSERM, UMR1033; Université De Lyon, France, [3]INSERM, UMR1033 ; Universite De Lyon, France

Disclosures: Sebastien Rizzo, None

MO0024 High Resolution 3D-Printing of Trabecular Bone based on microCT data

Volker Kuhn*, Nikola Ivanovic, Wolfgang Recheis. Medical University Innsbruck, Austria

Disclosures: Volker Kuhn, None

MO0025 Menopause is Not Followed by Increased Mineral Loss but Increase in Bone Size

Magnus Karlsson*[1], Henrik Ahlborg[2], Ola Svejme[3], Jan-Åke Nilsson[4], Bjorn Rosengren[1]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Malmo University Hospital, Sweden, [3]Lunds Universitet, Sweden, [4]Department of Orthopedics & Clinical Sciences, Lund University, SUS, Sweden

Disclosures: Magnus Karlsson, None

MO0026 Micro-Architectural Parameters other than BV/TV and Fabric Bring No Further Contribution to Stiffness of Human Trabecular bone

Sarah Khadri[1], Ghislain Maquer[1], Jasmin Wandel[2], Philippe Zysset*[1]. [1]University of Bern, Switzerland, [2]Bern University of Applied Sciences, Switzerland

Disclosures: Philippe Zysset, None

MO0027 Modulation of material property and composition parameters that contribute to impaired bone quality in Osteogenesis Imperfecta by anti-TGFβ treatment

Xiaohong Bi*[1], Hao Ding[2], Ingo Grafe[3], Stefanie Alexander[3], Elda Munivez[3], Ming-Ming Jiang[3], Brian Dawson[3], Annie Abraham[4], Brendan Lee[5], Catherine Ambrose[6]. [1]University of Texas Health Science Center at Houst, USA, [2]Department of Nanomedicine & Biomedical Engineering, University of Texas Health Science Center, USA, [3]Department of Molecular & Human Genetics, Baylor College of Medicine, USA, [4]Department of Orthopaedic Surgery, University of Texas Health Science Center, USA, [5]Baylor College of Medicine, USA, [6]University of Texas Health Science Center at Houston, USA

Disclosures: Xiaohong Bi, None

MO0028 Patients with stress fractures exhibit impaired bone material properties by microindentation

Daysi Duarte Sosa*[1], Erik Fink Eriksen[2]. [1]Ph.D., Norway, [2]Oslo University Hospital, Norway

Disclosures: Daysi Duarte Sosa, None

MO0029 Proximal Femoral Strengths in Men and Women Age 27 to 90+: A Subject-Specific Finite Element Modeling Study

Joyce Keyak*[1], Tadashi Kaneko[2], Sundeep Khosla[3], Shreyasee Amin[4]. [1]Department of Radiological Sciences, University of California, Irvine, USA, [2]University of California, USA, [3]Mayo Clinic College of Medicine, USA, [4]Mayo Clinic, USA

Disclosures: Joyce Keyak, Finite element modeling method for fall loading is patent pending, 99

MO0030 Structural and Mechanical Properties of Trabecular Bone in the Distal Extremities Studied by Micro-MRI in Postmenopausal Women
Mahdieh Bashoor-Zadeh*[1], Mona Al Mukaddam[1], Wenli Sun[1], Eual Phillips[1], Chamith Rajapakse[2], Felix Werner Wehrli[3]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Medical Center, USA
Disclosures: Mahdieh Bashoor-Zadeh, None

MO0031 The Effect of Diabetes on Bone Strength and Collagen Cross-linking
Stephen Warner*[1], Heather Hunt[2], Jonathan Jo[1], Kate Meyers[1], Edward DiCarlo[1], Joseph Lane[1], Eve Donnelly[2]. [1]Hospital for Special Surgery, USA, [2]Cornell University, USA
Disclosures: Stephen Warner, None

MO0032 The Femoral Neck Strength of Post-menopausal Women is Predicted by Factors at Multiple Length Scales
Adam Abraham*[1], Simon Tang[2], Avinesh Agarwalla[3]. [1]Washington University at St.Louis, USA, [2]Washington University in St Louis, USA, [3]Washington University in St.Louis, USA
Disclosures: Adam Abraham, None

MO0033 Validation of a digitized device of microradiography for the characterization of bone mineralization
Florian Montagner*[1], Valérie Kaftandjian[2], Delphine Farlay[3], Daniel Brau[4], Georges Boivin[5], Helene Follet[5]. [1]INSERM UMR 1033, Université de Lyon, France, [2]Laboratoire Vibrations Acoustique, INSA de Lyon, France, [3]INSERM, UMR1033; Université De Lyon, France, [4]Photonic Science, France, [5]INSERM, UMR1033 ; Universite De Lyon, France
Disclosures: Florian Montagner, None

MO0034 Vertebral Fracture Load Predicted with Finite Element Model from Bi-planar X-rays Absorptiometry for Osteoporosis Assessment
Julie Choisne*[1], Christophe Travert[1], Jean-Marc Valiadis[2], Anabela Darbon[3], Philippe Rouch[2], Wafa Skalli[1]. [1]Arts et Metiers ParisTech, France, [2]Arts et Metiers ParisTech, LBM, France, [3]EOS imaging, France
Disclosures: Julie Choisne, None

BIOMECHANICS AND BONE QUALITY: DISUSE OSTEOPOROSIS – ANIMAL MODELS

MO0035 Differences in Bone Microarchitecture and the Degree of Bone Loss during Hindlimb Unloading between C57BL/6J and C57BL/6N Mice
Jeyantt Srinivas Sankaran*[1], Alyssa Tuthill[1], Leah Rae Donahue[2], Stefan Judex[1]. [1]Stony Brook University, USA, [2]Jackson Laboratory, USA
Disclosures: Jeyantt Srinivas Sankaran, None

MO0036 Zolendronic Acid Administered Before Disuse Conserves Cancellous Bone Microarchitecture by Suppressing Turnover
Corinne Metzger*, Michael Junior, Ramon Boudreaux, Jacqueline Perticone, Harry Hogan, Susan Bloomfield. Texas A&M University, USA
Disclosures: Corinne Metzger, None

BIOMECHANICS AND BONE QUALITY: GENERAL

MO0037 A comprehensive study of long-term skeletal changes after spinal cord injury in adult rats
Tiao Lin*[1], Wei Tong[2], Abhishek Chandra[1], Shao-Yun Hsu[3], Haoruo Jia[1], Wei-Ju Tseng[1], Ji Zhu[4], Xiaowei Liu[1], Dongming Sun[3], Wise Young[3], Ling Qin[1]. [1]University of Pennsylvania, USA, [2]Perelman school of medicine, USA, [3]Rutgers, The State University of New Jersey, USA, [4]University of Pennsylvania, School of Medicine, USA
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MO0038 Age-related calcification may increase the stiffness of costal cartilage
Dennis Anderson*[1], Daniel Brooks[1], Alexander Bruno[2], Mary Bouxsein[3]. [1]Beth Israel Deaconess Medical Center, USA, [2]Harvard-MIT, USA, [3]Beth Israel Deaconess Medical Center, Harvard Medical School, USA
Disclosures: Dennis Anderson, None

MO0039 Alterations in vertebral endplate microarchitecture and adjacent disc health in the UCD-T2DM rat model of type 2 diabetes
Aaron Fields*[1], Britta Berg-Johansen[1], Lionel Metz[1], James Graham[2], Kimber Stanhope[2], Peter Havel[2], Jeffrey Lotz[1]. [1]University of California, San Francisco, USA, [2]University of California, Davis, USA
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MO0040 Differential effects of strontium ranelate on bone microarchitecture in vivo and osteogenic differentiation in vitro - role of vitamin D
Claudia Sedlinsky*[1], Juan Manuel Fernandez[2], María Silvina Molinuevo[2], León Schurman[2], Ana María Cortizo[2], Anthony Desmond McCarthy[2]. [1]Universidad Nacional de La Plata, La Plata, Hospital Cesar Milstein, Buenos Aires, Argentina, [2]LIOMM, Universidad Nacional de La Plata, Argentina
Disclosures: Claudia Sedlinsky, None

MO0041 Effects of Single vs. Hypofractionated Focused Radiation Therapy on Vertebral Structure and Biomechanical Integrity
Christina Holmes*, Ioan Lina, Jason A Liauw, Sheng-fu Larry Lo, Annie Mao, Matthew Naumann, Debebe Theodros, Varun Puvanesarajah, Benjamin Elder, Timothy F Witham. Johns Hopkins School of Medicine, USA
Disclosures: Christina Holmes, None

MO0042 New Approach to Analysis of Bone Loss Patterns in Longitudinal Studies
Tomas Cervinka*[1], Harri Sievanen[2], Jörn Rittweger[3], Jari Hyttinen[4]. [1]Tampere University of Technology, Finland, [2]The UKK Institute for Health Promotion Research, Finland, [3]Institute of Aerospace Medicine, German Aerospace Center, Germany, [4]Department of Electronics & Communications Engineering, Tampere University of Technology, Finland
Disclosures: Tomas Cervinka, None

MO0043 The Effect of a High Resolution Flat Panel Detector on a Single X-Ray Absorptiometry (SEXA) system versus the Lower Resolution Detector on a Dual X-ray Absorptiometry (DEXA) system in-vitro in the Calculation of Mouse Bone Mineral Density (BMD)
Chester Lowe*[1], Li Sun[2], Jianhua Li[3]. [1]KUB Technologies, Inc, USA, [2]Mount Sinai School of Medicine, USA, [3]Tount Sinai School of Medicine, USA
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MO0044 The Role of Osteocalcin Carboxylation on Bone Fragility
Timothy Cleland*[1], Caren Gundberg[2], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, USA, [2]Yale University School of Medicine, USA
Disclosures: Timothy Cleland, None

BIOMECHANICS AND BONE QUALITY: MECHANICAL LOADING EFFECTS IN INTACT ANIMALS

MO0045 Biomechanical Analyses of Bone Tissue Damage from Fatigue Loading *In Vivo*
Mohammed Akhter*[1], Diane Cullen[2], John Danforth[2], Gwendolin Alvarez[2], Bryan Hackfort[2], Robert Recker[2]. [1]Creighton University Osteoporosis Research Center, USA, [2]Creighton University, USA
Disclosures: Mohammed Akhter, None

MO0046 Cyclooxygenase Response to Multiple Mechanical Loads
Bryan Hackfort*[1], Mohammed Akhter[2], Diane Cullen[1]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA
Disclosures: Bryan Hackfort, None

MO0047 MECHANICAL LOADING AS AN ANABOLIC STIMULUS AFTER EXPOSURE TO IONIZING RADIATION
Yasaman Shirazi-Fard*[1], Joshua Alwood[1], Alesha Castillo[2], Ruth Globus[1]. [1]NASA Ames Research Center, USA, [2]VA Palo Alto Health Care System, USA
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MO0048 Tamoxifen does not affect the anabolic response to tibial compression in male mice 3 weeks after initial injection

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Disclosures: Heather Zannit, None

BIOMECHANICS AND PHYSICAL ACTIVITY: EFFECT OF LOADING OR UNLOADING IN HUMANS

MO0049 Withdrawn

MO0050 Human Tibia Bone Strength is Unaffected Following Long-Term Spinal Cord Injury or Bed Rest

Alex Ireland[1], Ricardo Capozza[2], Gustavo Cointry[2], Jose Ferretti*[3], Jorn Rittweger[4]. [1]Manchester Metropolitan University, United Kingdom, [2]Center of P-Ca Metabolism Studies (CEMFoC); National University of Rosario, Argentina, [3]National University of Rosario, Argentina, [4]Division of Space Physiology, Institute of Aerospace Medicine, German Aerospace Center, Germany

Disclosures: Jose Ferretti, None

BIOMECHANICS AND PHYSICAL ACTIVITY: PHYSICAL ACTIVITY AND EXERCISE

MO0051 Evaluation of Bone Density and Muscle Function in Mitochondrial Respiratory Chain Disorders

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Disclosures: Anna Middleton, None

MO0052 Increasing Bone and Reducing Fat with Modified Capoeira in the Primary School Setting: The CAPO Kids Trial

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Disclosures: Rossana Nogueira, None

MO0053 Individually Tailored Rehabilitation Regimen Did Not Prevent Tibial Bone Weakening Following Hip Fracture in Elderly Patients. Leg Bone Structural Analysis of a 12-Month Randomized Controlled Intervention

Ari Heinonen*[1], Tuuli Suominen[2], Tapio Senne[3], Johanna Edgren[3], Anu Salpakoski[3], Maija Pesola[4], Maria Arkela[5], Markku Kauppinen[3], Mauri Kallinen[6], Sarianna Sipilä[3]. [1]Department of Health Sciences, University of Jyväskylä, Finland, [2]Gerontology Research Center, Department of Health Sciences, University of Jyväskylä, Finland, [3]Gerontology Research Center Department of Health Sciences, University of Jyväskylä, Finland, [4]Department of Ortopedic, Central Finland Central Hospital, Finland, [5]Department of Physical & Rehabilitation Medicine, Central Finland Central Hospital, Finland, [6]Department of Medical Rehabilitation, Oulu University Hospital, Finland

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MO0054 Overhand Throwing Athletes as a Model for Exploring the Skeletal Benefits of Exercise during Growth

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Disclosures: Alyssa Weatherholt, None

MO0055 Physical performance, handgrip strength, functional limitations and 10-year mortality in a representative sample of the elderly Dutch population, a LASA-study

Joseph Biedermann[1], Natasja Van Schoor[2], Mirjam Oosterwerff[1], Nathalie Bravenboer[3], Mireille Van Poppel[2], Dorly Deeg[2], Elisabeth Eekhoff*[4]. [1]Department of Internal Medicine, Section Endocrinology, VU University Medical Center, Netherlands, [2]EMGO Institute for Health & Care Research, VU University Medical Center, Netherlands, [3]VU University Medical Center, The Netherlands, [4]VU University Medical Center, Amsterdam, The Netherlands, The Netherlands

Disclosures: Elisabeth Eekhoff, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: ASSESSMENT OF BONE DISEASE IN CHILDREN

MO0056 Bone remodeling compartment canopies in pediatric renal osteodystrophy

Renata Pereira*[1], Thomas Andersen[2], Peter Friedman[3], Isidro Salusky[4], Katherine Wesseling-Perry[5]. [1]UCLA, USA, [2]Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, [3]University of Pittsburgh School of Medicine, USA, [4]University of California, Los Angeles School of Medicine, USA, [5]UCLA Medical Center, USA

Disclosures: Renata Pereira, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE DEVELOPMENT AND BONE MASS ACCRUAL

MO0057 Adult Bone Density Loci and Sex Specific Bone Mass in Childhood

Jonathan Mitchell*[1], Alessandra Chesi[2], Okan Elci[2], Shana McCormack[2], Heidi Kalkwarf[3], Joan Lappe[4], Vicente Gilsanz[5], Sharon Oberfield[6], John Shepherd[7], Andrea Kelly[8], Babette Zemel[2], Struan Grant[8]. [1]University of Pennsylvania, USA, [2]Children's Hospital of Philadelphia, USA, [3]Cincinnati Children's Hospital Medical Center, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Children's Hospital Los Angeles, USA, [6]Columbia University Medical Center, USA, [7]University of California, San Francisco, USA, [8]Children's Hospital of Philadelphia / University of Pennsylvania, USA

Disclosures: Jonathan Mitchell, None

MO0058 Withdrawn

MO0059 Effect of Dietary Calcium on Phosphorus Balance and Net Absorption in Healthy Adolescent Girls

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Disclosures: Colby Vorland, None

MO0060 Preeclampsia and gestational hypertension are associated with adolescent offspring bone mineral density in a UK population based cohort

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Disclosures: Kim Hannam, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: BONE LOSS IN PEDIATRICS

MO0061 Osteocyte Dysfunction After Burns: Possible Role of Bisphosphonates

Gordon Klein*[1], David Herndon[2], Phuong Le[3], Debra Benjamin[2], Clark Andersen[2], Clifford Rosen[4]. [1]University of Texas Medical Branch, USA, [2]University of Texas Medical Branch & Shriners Burns Hospital, USA, [3]Maine Medical Center Research Institute, USA, [4]Maine Medical Center, USA

Disclosures: Gordon Klein, None

BONE ACQUISITION AND PEDIATRIC BONE DISORDERS: EFFECTS OF BONE ACTIVE DRUGS IN CHILDREN

MO0062 Bisphosphonate Treatment and Dental Development in Children with Osteogenesis Imperfecta

Ilkka Vuorimies*[1], Heidi Arponen[2], Helena Valta[1], Outi Tiesalo[2], Marja Ekholm[2], Outi Makitie[3], Janna Waltimo-Sirén[2]. [1]Hospital for Children & Adolescents, University of Helsinki, Helsinki Finland, Finland, [2]Institute of Dentistry, University of Helsinki, Helsinki, Finland, [3]Children's Hospital, Helsinki University Central Hospital, Finland

Disclosures: Ilkka Vuorimies, None

BONE MARROW MICROENVIRONMENT AND NICHES: STEM CELL NICHES

MO0063 Vibration Induced Cytoskeletal F-Actin Alignment and Molecular Gene Expression Patterns of Human Bone Marrow Mesenchymal Stem Cells are Influenced by Vibration Direction

Suphannee Pongkitwitoon*[1], Gunes Uzer[2], Janet Rubin[3], Stefan Judex[1]. [1]Stony Brook University, USA, [2]University of North Carolina, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA

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BONE MARROW MICROENVIRONMENT AND NICHES: GENERAL

MO0064 Increased type II diabetes indices and compromised bone marrow niche caused by obesity is salvaged by inclusion of refractory periods in low intensity mechanical vibrations in adult C57BL/6 mice

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MO0065 Regional Variability in Radius Marrow Density- A pQCT Study in Females Aged 8 to 58

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Disclosures: Jodi Dowthwaite, None

BONE MARROW MICROENVIRONMENT AND NICHES: OSTEOIMMUNOLOGY

MO0066 Macrophagic cells are abundant along the bone marrow envelope in human and mice cancellous bone

Thomas Andersen*[1], Maja Hinge[2], Jean-Marie Delaisse[3]. [1]Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, [2]Department of Clinical Cell Biology (KCB), Vejle Hospital – Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, [3]Vejle Hospital, IRS, University of Southern Denmark, Denmark

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MO0067 The Other Side of Osteoimmunology: Osteoclasts as Myeloid Derived Immune Regulator

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BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

MO0068 Diet-induced obesity promotes a myeloma-like disorder *in vivo*

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Disclosures: Seint Lwin, None

MO0069 Expression and role of sonic hedgehog in oral squamous cell carcinoma induced jaw bone destruction

Tsuyoshi Shimo*[1], Naito Kurio[2], Masahiro Iwamoto[3], Tatsuo Okui[4], Hiromasa Kuroda[5], Kenichi Matsumoto[5], Soichiro Ibaragi[5], Norie Yoshioka[5], Yuichirou Takebe[5], Hitoshi Nagatsuka[5], Akira Sasaki[4]. [1]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, [2]Japan, [3]Children's Hospital of Philadelphia, USA, [4]Okayama University, Japan, [5]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan

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MO0070 Increased Expression of TAF12 in the Bone Microenvironment in Multiple Myeloma Enhances Tumor Cell Growth and Osteoclast Formation

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Disclosures: Noriyoshi Kurihara, None

BONE TUMORS AND METASTASIS: GENERAL

MO0071 Acid sensing and survival signaling in myeloma cells in acidic bone lesions: formation of acid-induced vicious cycle.

Ryota Amachi*[1], Masahiro Hiasa[2], Jumpei Teramachi[3], Keiichiro Watanabe[4], Takeshi Harada[5], Shiro Fujii[5], Shingen Nakamura[5], Hirokazu Miki[5], Asuka Oda[5], Eiji Tanaka[6], Itsuro Endo[7], Toshio Matsumoto[7], Masahiro Abe[1]. [1]University of Tokushima, Japan, [2]Indiana University School of Medicine, USA, [3]The University of Tokushima, Japan, [4]Tokushima University Hospital, Japan, [5]Dept. of Medicine & Bioregulatory Sciences, Tokushima Univ., Japan, [6]Dept. of Orthodontics & Dentofacial Orthopedics, Tokushima Univ., Japan, [7]University of Tokushima Graduate School of Medical Sciences, Japan

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MO0072 C-11-Acetate Metabolic PET Imaging uncovers a Role for Acetate Metabolism in Multiple Myeloma

Francesca Fontana*[1], Michelle Hurchla[2], Kooresh Shoghi[3], Walter Akers[3], Simone Cenci[4], Michael Tomasson[5], Andre D'Avignon[6], Monica Shokeen[7], Roberto Civitelli[8], Katherine Weilbaecher[8]. [1]Bone & Mineral Diseases, USA, [2]Washington University in St. Louis, USA, [3]Washington University School of Medicine Department of Radiology, USA, [4]Fondazione Centro San Raffaele, Italy, [5]Division of Oncology - Washington University School of Medicine, USA, [6]Department of Chemistry - Washington University in St Louis, USA, [7]Washington University School of Medicine - Department of Radiology, USA, [8]Washington University in St. Louis School of Medicine, USA

Disclosures: Francesca Fontana, None

MO0073 Comparing the Incidence of Bone Tumors in Rats Chronically Exposed to Abaloparatide (BA058) or PTH(1-34)

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Disclosures: Jacquelin Jolette, Charles River, 1; Charles River, 3

MO0074 Histomorphometric Assessment of Breast Cancer Bone Metastases with the 2mm Jamshidi Trephine Reveals Intense Woven Bone Formation and Resistance to Bisphosphonates

Richard Kremer*[1], Iryna Kuchuk[2], Monzur Murshed[3], Nathaniel Bouganim[2], Natasha Kekre[2], Susan Robertson[2], Lisa Vandermeer[2], Jin Li[3], Christina Addison[2], Roanna Segal[2], Mark Clemons[2]. [1]McGill University, Royal Victoria Hospital, Canada, [2]Ottawa Hospital Research Institute, Canada, [3]McGill University, Canada

Disclosures: Richard Kremer, None

MO0075 Human CD138+ myeloma cells suppress osteoblastogenesis when co-cultured with human mesenchymal stem cells

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Disclosures: Matthew Drake, None

MO0076 Interactions Between Multiple Myeloma Cells and Osteocytes Alter Osteocytic Gene Expression: Evidence for Osteocyte-Driven Dysregulation of Bone Remodeling in Multiple Myeloma

Jesus Delgado-Calle*[1], Lilian Plotkin[1], Teresita Bellido[1], G. David Roodman[2]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA

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BONE TUMORS AND METASTASIS: MECHANISMS OF BONE METASTASIS

MO0077 Cross-talk between Runx2 regulatory network and IGF-1R pathway: A novel regulatory mechanism of bone metastasis

Jitesh Pratap, Manish Tandon*, Zujian Chen, Amarjit Virdi. Rush University Medical Center, USA

Disclosures: Manish Tandon, None

MO0078 Hedgehog and mechanical signaling regulate PTHrP expression and bony invasion of oral squamous cell carcinomas
Shellese Cannonier*[1], Cara Gonzales[2], Jonathan Page[3], Scott Guelcher[4], Julie Sterling[5]. [1]USA, [2]UT Health Science Center, USA, [3]Department of Cehmical & Biomolecular Engineering, Vanderbilt University, USA, [4]Vanderbilt University, USA, [5]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
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BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

MO0079 Withdrawn

MO0080 Inhibition of Autophagy Increases Cytotoxic Effects in Chondrosarcoma Cells
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MO0081 Withdrawn

MO0082 Interleukin-6 receptor inhibitor suppresses bone metastases in a breast cancer cell line
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Disclosures: HIROKI WAKABAYASHI, None

MO0083 Osteopenia and Osteolysis Resulting from Multiple Myeloma Partially Suppressed through Low Intensity Mechanical Signals
Gabriel Pagnotti*[1], Benjamin Adler[1], M. Ete Chan[1], Mallory Korman[2], Kenneth R Shroyer[2], Clinton Rubin[3]. [1]Stony Brook University, USA, [2]Stony Brook Medicine Department of Pathology, USA, [3]State University of New York at Stony Brook, USA
Disclosures: Gabriel Pagnotti, None

CHONDROCYTES: ARTICULAR CARTILAGE

MO0084 Connexin 43 Regulates Chondrocyte Differentiation
Yue Zhang[1], Alayna Loiselle[2], Yanghue Xing[3], Jun You[1], Henry Donahue*[1]. [1]The Pennsylvania State University College of Medicine, USA, [2]University of Rochester, USA, [3]Pennsylvania State University College of Medicine, USA
Disclosures: Henry Donahue, None

MO0085 Pulsed Electromagnetic Field (PEMF) Treatment Reduces Expression of Genes Associated with Disc Degeneration in Human Intervertebral Disc Cells
Stephanie Miller*[1], Rachel Bradshaw[2], Dezba Couglin[2], Jeffrey Lotz[2]. [1]University of California, San Francisco, USA, [2]UCSF, USA
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MO0086 The dynamics of mineralized cartilage formation
David Rowe[1], Nathaniel Dyment*[1], Yusuke Hagiwara[1], Andrew Breidenbach[2], David Butler[2], Thomas Thomopoulos[3], Andrea Schwartz[3], Lindsey Aschbacher-Smith[4], Han Liu[4], Rulang Jiang[4]. [1]University of Connecticut Health Center, USA, [2]University of Cincinnati School of Engineering, USA, [3]Washington University, Department of Orthopedics, USA, [4]Cincinnati Children's Hospital Research Foundation, USA
Disclosures: Nathaniel Dyment, None

MO0087 The Effects of Reduced Gravity On Subchondral Bone And Articular Cartilage: Are They Good Neighbors?
Liliana Mellor*[1], Elizabeth Loboa[1], Julia Oxford[2], Travis Baker[2], Minoti Hiremath[2]. [1]North Carolina State University, USA, [2]Boise State University, USA
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CHONDROCYTES: ORIGIN, DIFFERENTIATION, APOPTOSIS

MO0088 An *in Vitro* Chondrogenic Differentiation Model Using KS483 Mouse Mesenchymal Progenitor Cell Line

Katja Fagerlund*[1], Natalia Habilainen-Kirillov[1], Clemens Lowik[2], Alan Chan[3], Jussi Halleen[4]. [1]Pharmatest Services Ltd, Finland, [2]Department of Radiology, Leiden University Medical Center, Netherlands, [3]Percuros BV, Netherlands, [4]Pharmatest Services Ltd, Fin

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MO0089 Antiangiogenic Drug, TNP-470, Inhibited Early Chondrocyte Condensation During Ectopic Bone Formation

Beth Bragdon*[1], Stephanie Lam[2], Sherif Aly[2], Elise Morgan[3], Louis Gerstenfeld[4]. [1]Boston University School of Medicine Department of Orthopaedics, USA, [2]Department of Orthopaedic Surgery, Boston University School of Medicine, USA, [3]Boston University, USA, [4]Boston University School of Medicine, USA

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MO0090 Environmental Stress Promotes Chondrogenic Commitment of Skeletal Progenitor Cells by Activating Autophagy

Nick Van Gastel*[1], Sophie Torrekens[1], Patrizia Agostinis[2], Geert Carmeliet[3]. [1]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, Belgium, [2]Laboratory of Cell Death Research & Therapy, KU Leuven, Belgium, Belgium, [3]Katholieke Universiteit Leuven, Belgium

Disclosures: Nick Van Gastel, None

CHONDROCYTES: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

MO0091 Enhanced ST2 Expression in Late Stages of Chondrocyte Differentiation in Growth Plate is Regulated by Transcriptional Activity of Runx2

Ehsan Bonyadi Rad*[1], Karin Pichler[1], Giuseppe Musumeci[2], Egon Marth[3], Annelie Weinberg[1]. [1]Medical University Graz, Austria, [2]University of Catania, Italy, [3]Medical University of Graz, Austria

Disclosures: Ehsan Bonyadi Rad, None

MO0092 Expression and function of CCAAT/enhancer-binding protein family in chondrocytes

Tomotake Okuma*[1], Makoto Hirata[1], Sakae Tanaka[2], Hiroshi Kawaguchi[3], Taku Saito[4]. [1]University of Tokyo, Japan, [2]The University of Tokyo, Japan, [3]JCHO Tokyo Shinjuku Medical Center, Japan, [4]University of Tokyo, Graduate School of Medicine, Japan

Disclosures: Tomotake Okuma, None

MO0093 LSD1-Mediated Demethylation of Histone H3 Lysine 9 Contributes to Interleukin 1-Induced Microsomal Prostaglandin E Synthase-1 Expression

Fatima Ezzahra El Mansouri*[1], Sarah Nebbaki[1], Hassan Afif[2], Johanne Martel-Pelletier[2], Jean-Pierre Pelletier[2], Mohamed Benderdour[3], Hassan Fahmi[2]. [1]Research Center-CHUM, Canada, [2]Osteoarthritis Research Unit, CR-CHUM, Canada, [3]Hopital Sacre-Coeur, Canada

Disclosures: Fatima Ezzahra El Mansouri, None

MO0094 PTHrP Uses HDAC4 and 5 to Suppress Mef2 Action and Inhibit Chondrocyte Hypertrophy

Shigeki Nishimori*[1], Forest Lai[1], Marc Wein[1], Elena Kozhemyakina[2], Andrew Lassar[2], Eric Olson[3], 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

CONNECTIVE TISSUE MATRIX: GENERAL

MO0095 Deletion of Connexin 43 in osteocytes blunts the response to intermittent PTH administration in the bone matrix

Rafael Pacheco Da Costa[1], Iraj Hassan[2], Eduardo Katchburian[3], Hannah Davis[2], Lilian Plotkin[2], Rejane Reginato*[4]. [1]Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, [2]Indiana University School of Medicine, USA, [3]Federal University of São Paulo, Brazil, [4]Unifesp - Federal University of São Paulo, Brazil

Disclosures: Rejane Reginato, None

MO0096 Healing of the bone and tendon interface: an in vivo study using a lactoferrin seeded biomaterial scaffold

David Musson*[1], Matthew Street[2], Michael Dray[3], Ashvin Thambayah[2], Karen Callon[2], Donna Tuari[2], Brendan Coleman[4], Jillian Cornish[2]. [1]University of Auckland, New Zealand, New Zealand, [2]University of Auckland, New Zealand, [3]Waikato District Health Board, New Zealand, [4]Counties Manukau District Health Board, New Zealand

Disclosures: David Musson, None

CONNECTIVE TISSUE MATRIX: NON-COLLAGEN MATRIX PROTEINS

MO0097 The Leader Tripeptide of Mature DMP1 Guides the Transportation of Secretory DMP1 from Endoplasmic Reticulum to Golgi Apparatus

Suzhen Wang[1], Tian Meng[1], Chunlin Qin[2], Yongbo Lu*[1]. [1]Texas A&M University Baylor College of Dentistry, USA, [2]Texas A & M University Baylor College of Dentistry, USA

Disclosures: Yongbo Lu, None

CONNECTIVE TISSUE MATRIX: NORMAL AND ECTOPIC MINERALIZATION

MO0098 Tartrate-Resistant Acid Phosphatase – a Potential Regulator of Bone Mineralization Controlled by Osteopontin

Cecilia Halling Linder*[1], Michael Krumpel[2], Barbro Ek-Rylander[2], Göran Andersson[2], Per Magnusson[1]. [1]Department of Clinical Chemistry, Linköping University, Sweden, [2]Division of Pathology, Department of Laboratory Medicine, Karolinska Institute, Sweden

Disclosures: Cecilia Halling Linder, None

ENERGY METABOLISM AND BONE: DIABETES AND BONE (ANIMAL MODELS)

MO0099 Age-Related Soft Tissue Body Composition Changes in CD-1 Mice

Nancy Doyle*[1], Luc Chouinard[2], Ousmane-Noel Diallo[1], Angela Keightley[1], Lewis Gruber[3], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Charles River Laboratories, PCS Montreal, Canada, [3]SIWA Regenerative Medicine Corporation, USA

Disclosures: Nancy Doyle, Charles River Laboratories, 3

MO0100 Enhanced Mitochondrial Oxygen Consumption by Noncanonical Wnt5a is Reversed in Aortic Myofibroblasts From LRP6-Null Mice

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MO0101 The Effect of PTH Treatment on Bone Tissue Mechanics, Mineral Density and Non-enzymatic Glycation in Rats with Type 2 Diabetes Mellitus

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Disclosures: Graeme Campbell, None

ENERGY METABOLISM AND BONE: FAT AND BONE

MO0102 Induction of Heterotopic Ossification is Severely Curtailed in Mice lacking Apolipoprotein E

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Disclosures: Eric Beal, None

MO0103 Influence of obesity on the prevalence of osteoporosis and low-impact fractures in Brazilian women
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MO0104 Mechanisms of reduced bone mineral density are diet- and strain-dependent
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Disclosures: Casey Doucette, None

MO0105 Nerve Growth Factor and Brain-derived Neurotrophic Factor are differently expressed in energy stores, bone and reproductive organs
Claudia Camerino*[1], Maria Cannone[2], Elena Conte[2], Domenico Tricarico[2]. [1]University of Bari, Italy, USA, [2]Dept. of Pharmacy-Drug Sciences, University of Bari, Italy
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MO0106 Oleic acid protects hMSC from healthy donors and osteonecrotic patients against lipotoxicity by inducing intracellular lipid droplet formation and preventing ERK activation
Céline Gillet*[1], Delphine Spruyt[1], Jessica Berlier[1], Sabrina Rigutto[1], Antoine Dalla Valle[1], Caroline Louis[2], Cathy Debier[2], Nathalie Gaspard[1], Willy J Malaisse[1], Valerie Gangji[3], Joanne Rasschaert[4]. [1]Université libre de Bruxelles, Belgium, [2]Université catholique de Louvain, Belgium, [3]Hôpital Erasme, Université Libre de Bruxelles, Belgium, [4]Laboratory of Bone & Metabolic Biochemistry, Belgium
Disclosures: Céline Gillet, None

MO0107 Stem Cell Transplantation in Type 1 Diabetes Mellitus: Influence on Bone Marrow Fat (BMF) and Bone Mineral Density (BMD)
Adriana Carvalho*[1], Bianca Massaro[2], Marcello Nogueira-Barbosa[2], Carlos Salmon[2], Belinda Simões[2], Maria Carolina Rodrigues[2], Clifford Rosen[3], Francisco Jose De Paula[4]. [1]Brazil, [2]University of São Paulo, Brazil, [3]Maine Medical Center, USA, [4]School of Medicine of Ribeirao Preto - USP, Brazil
Disclosures: Adriana Carvalho, None

ENERGY METABOLISM AND BONE: GENERAL

MO0108 A General Theory of Metabolism Demonstrating an Organizing Principle for Calciotropic Signals
Robert Fredericks*. Endocrine Associates, USA
Disclosures: Robert Fredericks, None

MO0109 Insulin Resistance and Bone Strength in Children
Joseph Kindler*[1], Norman Pollock[2], Emma Laing[1], Kathleen Hill Gallant[3], Stuart Warden[4], Berdine Martin[3], Connie Weaver[3], Munro Peacock[5], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Georgia Regents University, USA, [3]Purdue University, USA, [4]Indiana University School of Health & Rehabilitation Sciences, USA, [5]Indiana University Medical Center, USA
Disclosures: Joseph Kindler, None

MO0110 Protection from Fracture Risk in Long Term Type 1 Diabetes: 50- Year Medalist Study
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Disclosures: Hillary Keenan, None

MO0111 Reduced Biomechanical Loading may Contribute to the Bone Phenotype of FGF21 Overexpressing Mice
Yanfei Ma*, Armando R. Irizarry, Tamer Coskun, Qianqiang Zeng, Mattew Hamang, Venkatesh Krishnan, Henry Bryant, Vincent L Reynolds, Malgorzata Gonciarz, Libbey O'Farrell, Alexei Kharitonenkov, Ruth E Gimeno, Andrew Charles Adams. Eli Lilly & Company, USA
Disclosures: Yanfei Ma, Eli Lilly and Co., 3

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: ANIMAL MODELS

MO0112 A Murine Model of CKD Has Increased Heart Mass, Even in the Absence of Elevated Fgf23
Shoji Ichikawa*, Tyler Unsicker, Amie Gray, Sharon Moe. Indiana University School of Medicine, USA
Disclosures: Shoji Ichikawa, None

MO0113 A Quantitative Trait Loci Analysis for BMD using the Diversity Outbred Mouse Population
Hayley Britz*[1], Denise Liberton[1], Fernando de Villena[2], Benedikt Hallgrimsson[1]. [1]University of Calgary, Canada, [2]University of North Carolina, USA
Disclosures: Hayley Britz, None

MO0114 Altered osteoclast homeostasis responsible for bone changes in progressive myoclonus epilepsy EPM1
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Disclosures: Otto Manninen, None

MO0115 An *Fkbp10* mouse model recapitulates joint contractures found in Bruck syndrome
Caressa Lietman*[1], Keren Machol[1], Elda Munivez[1], Brian Dawson[1], Terry Bertin[1], Yuqing Chen[1], Deborah Krakow[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]UCLA, USA
Disclosures: Caressa Lietman, None

MO0116 Calcium Absorption Efficiency Protects Bone from Dietary Ca Restriction During Growth: Evidence for Common Genetic Control
Perla Reyes*, Rebecca Replogle, James Fleet. Purdue University, USA
Disclosures: Perla Reyes, None

MO0117 Dysregulated TGF-β signaling alters bone microarchitecture in a mouse model of Loeys-Dietz Syndrome
Ashvin Dewan*[1], Ryan Tomlinson[1], Brian Goh[2], Stuart Mitchell[1], Rachel Yung[1], Sarvesh Kumar[3], Eric Tan[1], Harry Dietz[1], Thomas Clemens[1], Paul Sponseller[1]. [1]Johns Hopkins University, USA, [2]Johns Hopkins University School of Medicine, USA, [3]Johns Hopkins University, Baltimore MD, USA
Disclosures: Ashvin Dewan, None

MO0118 Mice with Sclerostin Gene Deficiency are Resistant to Bone Loss after Acute Spinal Cord Injury.
Weiping Qin*[1], Xiaodong Li[2], Jay Cao[3], Lauren Collier[1], Yuanzhen Peng[4], Jerry Feng[5], Jiliang Li[6], Yiwen Qin[1], Tom Brown[7], Hua Zhu (David) Ke[7], William A. Bauman[1], Christopher Cardozo[1]. [1]James J. Peters Va Medical Center, USA, [2]Amgen, Inc., USA, [3]USDA ARS, USA, [4]The Mount Sinai School of Medicine, USA, [5]Baylor College of Dentistry, TX A&M, USA, [6]Indiana University Purdue University Indianapolis, USA, [7]Amgen Inc., USA
Disclosures: Weiping Qin, None

MO0119 Oxidative DNA damage as the cause for osteoporosis in gerodermia osteodysplastica, a premature aging disorder
Hardy WL Chan*[1], Magdalena Steiner[2], Uwe Kornak[1], Michael Amling[3], Stefan Mundlos[2], Björn Busse[3], Jan Pestka[4], Thorsten Schinke[5], Till Köhne[3], Danny Chan[6]. [1]Charité-Universitaetsmedizin Berlin, Germany, [2]Institut für Medizinische Genetik und Humangenetik, Germany, [3]University Medical Center Hamburg-Eppendorf, Germany, [4]Department f.Orthopädie u.Traumatologie, Universitätsklinikum Freiburg, Germany, [5]Department of Osteology & Biomechanics, University Medical Center Hamburg Eppe, Germany, [6]Department of Biochemistry, The University of Hong Kong, Hong Kong
Disclosures: Hardy WL Chan, None

MO0120 Pathologically increased osteoclastogenesis in a mouse model of MPS-I following bone marrow transplantation

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Disclosures: Sonja Kuehn, None

MO0121 Previously unsuspected defects in the cranial base of a mouse model of Hereditary Multiple Exostoses

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Disclosures: Federica Sgariglia, None

MO0122 SDF-1/CXCR4 Axis in Endothelial Progenitor Cells Regulates Both Vasculogenesis and Osteogenesis for Bone Fracture Healing

Yohei Kawakami*[1], Msaaki Ii[2], Tomoyuki Matsumoto[3], Atsuhiko Kawamoto[4], Yutaka Mifune[5], Ryosuke Kuroda[6], Takayuki Asahara[4], Masahiro Kurosaka[6]. [1]Kobe University Graduate School of Medicine, Japan, [2]Department of Pharmacology, Faculty of Medicine, Osaka Medical College, Japan, [3]University of Pittsburgh, USA, [4]Group of Vascular Regeneration, Institute of Biomedical Research & Innovation, Japan, [5]Kobe university, Japan, [6]Department of Orthopaedic Surgery, Kobe University Graduate School of Medicine, Japan

Disclosures: Yohei Kawakami, None

MO0123 The FOP R206H Acvr1 mutation is sufficient to cause heterotopic ossification in mouse limbs and is inhibited by a selective RARγ agonist treatment

Salin Chakkalakal*[1], Kenta Uchibe[2], Deyu Zhang[1], Andria Culbert[1], Michael Convente[3], Frederick Kaplan[1], Maurizio Pacifici[4], Masahiro Iwamoto[4], Eileen Shore[1]. [1]University of Pennsylvania, USA, [2]Division of Orthopaedic Surgery, Children's Hospital of Philadelphia, USA, [3]University of Pennsylvania School of Medicine, USA, [4]Children's Hospital of Philadelphia, USA

Disclosures: Salin Chakkalakal, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: MONOGENIC BONE DISEASES

MO0124 1,25 dihydroxyvitamin D treatment improves bone microarchitecture in Hyp mice

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Disclosures: Eva Liu, None

MO0125 Dysosteosclerosis: Evidence for Genetic Heterogeneity

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Disclosures: Gary Gottesman, None

MO0126 R990G mutation of CASR gene in the autosomal dominant hypocalcemia

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Disclosures: JO EUN KIM, None

GENETIC DISORDERS OF THE MUSCULOSKELETAL SYSTEM: OTHER DISEASES

MO0127 An Alignment of ChIP-seq-Defined MEF2C Binding Sites and Genome Wide Polymorphisms Reveals a Risk Genotype Associated with Low Bone Mineral Density (BMD)

David Karasik*[1], Jaeyoon Chung[2], Yi-Hsiang Hsu[3], L. Adrienne Cupples[4], Izhak Haviv[5], Douglas Kiel[6], Ching-Ti Liu[4]. [1]Hebrew SeniorLife; Bar Ilan University, USA, [2]Bioinformatics Program, Boston U, USA, [3]Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, [4]Biostatistics, Boston U Sch Public Health, USA, [5]Faculty of Medicine, Bar-Ilan University, Israel, [6]Hebrew SeniorLife, USA

Disclosures: David Karasik, None

MO0128 Characterization of small molecule activators and inhibitors of the mutated $G_s\alpha$ responsible for Fibrous Dysplasia of Bone

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Disclosures: Nisan Bhattacharyya, None

MO0129 Somatic Neurofibromin Deficiency and Transcriptional Dysregulation in Tibial Pseudoarthrosis with Neurofibromatosis Type 1

Nandina Paria[1], Tae-Joon Cho[2], In Ho Choi[3], Nobuhiro Kamiya[1], Kay Kayembe[4], Rong Mao[5], Rebecca Margraf[5], Gerlinde Obermosser[4], Ila Oxendine[1], David Sant[5], Mi Hyun Song[6], David Stevenson[7], David Viskochil[7], Carol Wise[1], Harry Kim[8], Jonathan Rios*[1]. [1]Texas Scottish Rite Hospital for Children, USA, [2]Seoul National University Hospital, South Korea, [3]Seoul National University Children's Hospital, South Korea, [4]Baylor Institute for Immunology Research, USA, [5]ARUP Institute for Clinical & Experimental Pathology, USA, [6]Jeju National University Hospital, South Korea, [7]University of Utah, USA, [8]Scottish Rite Hospital for Children, USA

Disclosures: Jonathan Rios, None

MO0130 Targeted sequencing of the Paget's disease associated 14q32 locus identifies several missense coding variants in *RIN3* that predispose to Paget's disease of bone

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MO0131 Unraveling the Skeletal Pathophysiology in Gaucher Disease and Gba2 as a Therapeutic Target

Mone Zaidi*[1], Li Sun[2], Tony Yuen[2], Ping Lu[3], Se-Min Kim[2], Peng Liu[4], Kate Zhang[5], Ruhua Yang[6], Jianhua Li[7], Yiaoting Ji[2], Wei-Lien Chuang[8], Joan Keutzer[5], Agens Stachnik[6], Albert Mennone[5], James Boyer[6], Dhanpat jain[6], Roscoe Btady[9], Maria New[10], Jun Liu[6], Pramod Mistry[6]. [1]Mount Sinai Medical Center, USA, [2]Mount Sinai School of Medicine, USA, [3]Bone Program, USA, [4]USA, [5]Genzyme, USA, [6]Yale University School of Medicine, USA, [7]Tount Sinai School of Medicine, USA, [8]Genzyme Corporation, a Sanofi Company, USA, [9]National Institute of Neurological Disorders & Stroke, National Institutes of Health, USA, [10]Mount Sinai School of Medicine,Departments of Pediatrics, USA

Disclosures: Mone Zaidi, Genzyme, 5

HORMONAL REGULATORS: CALCITONIN AND OTHER HORMONES

MO0132 Insulin-like Growth Factor Binding Protein 4 in the Development and Metabolism of Bone and Fat Tissues

David Maridas*[1], Victoria Demambro[2], Phuong Le[2], Casey Doucette[2], Clifford Rosen[3]. [1]Rosen Laboratory, USA, [2]Maine Medical Center Research Institute, USA, [3]Maine Medical Center, USA

Disclosures: David Maridas, None

HORMONAL REGULATORS: FGF23 AND OTHER PHOSPHATONINS

MO0133 Association with Fetuin-A and Ectopic Calcification in Alpha-klotho Mutant Mice
Hironori Yamamoto*[1], Nozomi Yokoyama[2], Rina Onishi[2], Shiori Fukuda[2], Otoki Nakahashi[2], Yuichiro Takei[3], Yutaka Taketani[2], Eiji Takeda[2]. [1]University of Jin-ai, Japan, [2]University of Tokushima School of Medicine, Japan, [3]Hiroshima University, Japan
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MO0134 FGF23 deficiency ameliorates progression of chronic kidney disease in mice
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MO0135 HMW FGF2 isoforms mediate renal phosphate wasting by modulating FGF23/FGFR/MAPKinase signaling in kidney
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HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

MO0136 Calcemic actions of a long-acting PTH analog in PTH knockout mice
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MO0137 Evolution of a Long-Acting Parathyroid Hormone Analog for the Treatment of Hypoparathyroidism
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Disclosures: Henry Bryant, Eli Lilly Company, 3

MO0138 Serum Amyloid A3 Secreted by Osteoclasts Inhibits PTH-Stimulated cAMP Production and Osteoblast Differentiation *In Vitro*
Shilpa Choudhary*, Thomas Estus, Joseph Lorenzo, Hector Aguila, Carol Pilbeam. University of Connecticut Health Center, USA
Disclosures: Shilpa Choudhary, None

HORMONAL REGULATORS: SEX HORMONES AND GLUCOCORTICOIDS

MO0139 Activity and Gene Expression of Steroid Sulfatase During Differentiation of the Human MG-63 Preosteoblastic Cell Line
Kyle Selcer, Natasha Dias*. Duquesne University, USA
Disclosures: Natasha Dias, None

MO0140 Compartmental, temporal and functional interaction of the *cis*-acting heterogeneous nuclear ribonucleoprotein D_0 (AUF1) and estrogen receptor-α in osteoblasts
Alejandro Garcia*[1], John Adams[2], Martin Hewison[2], Rui Zhou[2]. [1]Univ. of California, Los Angeles, USA, [2]University of California, Los Angeles, USA
Disclosures: Alejandro Garcia, None

MO0141 Prednisolone Treatment Reduces the Osteogenic Effects of Loading in Female Mice

Ingrid Bergstrom*[1], Hanna Isaksson[2], Riccardo Chiusaroli[3], Christina Perdikouri[2], Neashan Mathavan[2], Maria Norgård[4], Antti Koskela[5], Juha Tuukkanen[6], Claes Ohlsson[7], Goran Andersson[8], Sara Windahl[9]. [1]Karolinska Institutet, Sweden, [2]Department of Solid Mechanics & Orthopedics, Lund University, Sweden, [3]Rottapharm Biotech, Italy, [4]Department of Laboratory Medicine, Karolinska Institutet, Sweden, [5]Department of Anatomy & Cell Biology, Institute of Biomedicine, University of Oulu, Finland, [6]University of Oulu, Finland, [7]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, [8]Karolinska Institute, Sweden, [9]Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden

Disclosures: Ingrid Bergstrom, None

HORMONAL REGULATORS: VITAMIN D AND ANALOGS

MO0142 A Reverse J-shaped Association Between Serum 25-hydroxyvitamin D and Cardiovascular Disease Mortality – the CopD Study

Darshana Durup*[1], Henrik L. Jørgensen[2], Jane Christensen[3], Anne Tjønneland[3], Anja Olsen[3], Jytte Halkjær[3], Bent Lind[4], Anne-Marie Heegaard[5], Peter Schwarz[6]. [1]Faculty of Pharmaceutical Sciences, University of Copenhagen, Denmark, [2]Department of Clinical Biochemistry, Copenhagen University Hospital Bispebjerg, Denmark, [3]Danish Cancer Society Research Center, Denmark, [4]The Elective Laboratory of the Capital Region, Denmark, [5]Faculty of Health & Medical Sciences, University of Copenhagen, Denmark, [6]Glostrup Hospital, Denmark

Disclosures: Darshana Durup, None

MO0143 Adipose Derived Stem Cells Combined With Beta-Tricalcium Phosphate Is a Potential Therapeutic Approach for Bone Defects Under Systemic Administration of $1,25(OH)_2D_3$

Shengyu Lv*[1], Jian Cui[1], Hongrui Liu[1], Wei Feng[1], Juan Li[1], Bao Sun[1], Kefeng Wang[2], Xiong Lu[3], Minqi Li[4]. [1]Shandong University, China, [2]Sichuan University, China, [3]Southwest Jiaotong University, China, [4]The School of Stomatology, Shandong University, Japan

Disclosures: Shengyu Lv, None

MO0144 Evidence that C/EBP alpha, PU.1 and the SWI/SNF complex are key mediators of 1,25-dihydroxyvitamin D_3 regulation of innate immune responses in lung epithelial cells

Puneet Dhawan*[1], Ran Wei[1], Cheng Sun[1], Adrian F. Gombart[2], H. Phillip Koeffler[3], Gill Diamond[4], Sylvia Christakos[1]. [1]Rutgers - New Jersey Medical School, USA, [2]Oregon State University, USA, [3]Cedars Sinai Medical Center, USA, [4]University of Florids, USA

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MO0145 Gene expression profiles identify selective transcriptome responses of the duodenum and distal intestine to modulation by calcium or vitamin D

Vaishali Veldurthy*[1], Puneet Dhawan[1], Tanya Seth[1], Kiin Kim[1], Angela Porta[2], Patricia Soteropoulos[1], Saleena Ghanny[1], Sylvia Christakos[1]. [1]Rutgers - New Jersey Medical School, USA, [2]Kean University, USA

Disclosures: Vaishali Veldurthy, None

MO0146 Hypercalcemia and Nephrocalcinosis in Two Infants with Glucose Galactose Malabsorption: The Role of 1,25 Vitamin D

Melissa Fiscaletti*[1], Marie-Jeanne Lebel[1], Nathalie Alos[2], Prevost Jantchou[3], Geneviève Benoit[4]. [1]University of Montreal, Canada, [2]CHU Sainte Justine, Canada, [3]Unviersity of Montreal, Canada, [4]Univerity of Montreal, Canada

Disclosures: Melissa Fiscaletti, None

MO0147 Obese premenopausal women have lower serum total, free and bioavailable 25(OH)D status and higher vitamin D binding protein (DBP) and parathyroid hormone (PTH) concentrations compared to normal weight premenopausal women

Elisa Saarnio*[1], Minna Pekkinen[2], Suvi Itkonen[1], Virpi Kemi[3], Heini Karp[3], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]Folkhälsan Institute of Genetics, University of Helsinki, Finland, [3]Calcium Research Unit, Finland

Disclosures: Elisa Saarnio, None

MO0148 Withdrawn

MO0149 Vitamin D Deficiency and Cardiometabolic |Risks in Arab Adolescents: the "Veiled" Female Advantage

Nasser Al-Daghri*[1], Yousef Al-Saleh[2], Abdulaziz Al-Othman[1], Majed Alokail[1], Omar Al-Attas[1], Abdullah Alnaami[1], Shaun Sabico[1], George Chrousos[3]. [1]King Saud University, Saudi Arabia, [2]King Saud University for Health Sciences, Saudi Arabia, [3]Athens University, Greece

Disclosures: Nasser Al-Daghri, None

INFLAMMATORY BONE DISORDERS: ANKYLOSING SPONDYLITIS AND SPONDYLOARTHRITIS

MO0150 An open label study of Zoledronic Acid (*Reclast/Aclasta* 5mg iv) in the treatment of Ankylosing Spondylitis

Gavin Clunie*[1], Amel Ginawi[2], Philip O'Connor[3], Philip Bearcroft[4], Steven Garber[5], Shweta Bhagat[6], Andrew Grainger[3], Hill Gaston[7]. [1]Addenbrooke's Hospital, United Kingdom, [2]Basildon University Hospital, United Kingdom, [3]NIHR Biomedical Research Unit, United Kingdom, [4]Cambridge University Hospitals NHS Foundation Trust, United Kingdom, [5]The Ipswich Hospital NHS Foundation Trust, United Kingdom, [6]West Suffolk NHS Foundation Trust, United Kingdom, [7]University of Cambridge Medical School, United Kingdom

Disclosures: Gavin Clunie, None

INFLAMMATORY BONE DISORDERS: GENERAL

MO0151 Differential expression of inflammation- and regeneration-associated markers of macrophage-polarization (M1 vs. M2) in Bisphosphonate Related Osteonecrosis of the Jaw (BRONJ) and Osteoradionecrosis (ORN)

Falk Wehrhan*[1], Manuel Weber[2], Patrick Moebius[2], Raimund Preidl[2], Phillip Stockmann[2], Friedrich W. Neukam[2], Kerstin Amann[3]. [1]University of Erlangen-Nuremberg, Germany, [2]Dept. of Oral & Maxillofacial Surgery, University hospital of Erlangen-Nuernberg, Germany, [3]Institute of Pathology, University hospital of Erlangen-Nuernberg, Germany

Disclosures: Falk Wehrhan, None

MO0152 Regulatory T cells-mediated arrest of inflammatory bone loss involves the chemoattraction of MSCs and the improvement of its pro-reparative and -immunosuppressive phenotype

Gustavo Garlet*[1], Ana Claudia Araujo-Pires[2], Claudia Biguetti[2], Ana Paula Trombone[3], Andrew Glowacki[4], Sayuri Yoshizawa[4], Steven Little[5], Charles Sfeir[4]. [1]School of Dentistry of Bauru, São Paulo University -FOB/USP, Brazil, [2]FOB/USP, Brazil, [3]USC, Brazil, [4]University of Pittsburgh, USA, [5]University of, USA

Disclosures: Gustavo Garlet, None

INFLAMMATORY BONE DISORDERS: RHEUMATOID ARTHRITIS AND INFLAMMATORY ARTHRITIS

MO0153 Bone Geometry and Volumetric Density of Femoral Shaft in postmenopausalPatients with Rheumatoid Arthritis and Bisphosphonate Therapy

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Disclosures: Rahel Meinen, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR EFFECT OF MECHANICAL LOADING AND UNLOADING

MO0154 *In Situ* Osteocyte Modulation of β_3 Integrin in Response to Hindlimb Unloading

Pamela Zuckerman*[1], Damien Laudier[1], Robert Majeska[2], Stefan Judex[3], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]City College of New York, USA, [3]Stony Brook University, USA

Disclosures: Pamela Zuckerman, None

MO0155 Withdrawn

MO0156 Effects of Early Axial Compressive Loading on Cortical Bone Defect Healing in Mice
Robert Carrera*[1], David Wagner[2], Benson George[3], Philipp Leucht[4], Daniel Hunter[3], Gary Beaupre[2], Jill Helms[3], Alesha Castillo[2]. [1]Department of Bioengineering, Stanford University, USA, [2]VA Palo Alto Health Care System, USA, [3]Department of Surgery, Stanford University School of Medicine, USA, [4]Department of Orthopaedic Surgery, Stanford University School of Medicine, USA
Disclosures: Robert Carrera, None

MO0157 Effects of Mechanical Stimulation on Differentiation of Human Adipose-Derived Stem Cells
Kai Megerle*[1], Whitney Cole[2], Ian Mahaffey[2], Philipp Leucht[3], James Chang[4], Alesha Castillo[2]. [1]Technische Universität München, Germany, [2]VA Palo Alto Health Care System, USA, [3]USA, [4]Department of Surgery, Stanford University School of Medicine, USA
Disclosures: Kai Megerle, None

MO0158 Load-Induced Changes in Corticocancellous Gene Expression, Bone Formation, and Resorption Are Regulated by an Applied Load Threshold and Mechanical Unloading
Haisheng Yang*, Whitney A Bullock, Alexandra Myhal, Daniel Duffy, Philip DeShield, Maxime Gallant, Russell Main. Purdue University, USA
Disclosures: Haisheng Yang, None

MO0159 Rearing Medaka Fish in International Space Station (ISS) for Bone Metabolism Study
Masahiro Chatani*[1], Akiko Mantoku[1], Kazuhiro Takeyama[1], Kazuhiro Aoki[2], Yasutaka Sugamori[2], Keiichi Ohya[2], Satoko Uchida[3], Hiromi Suzuki[3], Toru Sakimura[3], Yasushi Kono[4], Fumiaki Tanigaki[5], Masaki Shirakawa[5], Keiji Inohaya[1], Dawud Abduweri[2], Yoshiro Takano[2], Akira Kudo[1]. [1]Tokyo Institute of Technology, Japan, [2]Tokyo Medical & Dental University, Japan, [3]Japan Space Forum, Japan, [4]Mitsubishi Heavy Industries, Japan, [5]Japan Aerospace Exploration Agency (JAXA), Japan
Disclosures: Masahiro Chatani, None

MECHANOBIOLOGY: CELLULAR AND MOLECULAR MECHANOSENSING

MO0160 Elevation of Glucose to Levels Associated with Type 1 Diabetes Profoundly Diminished Bone Cell Mechanosignaling
Zeynep Seref-Ferlengez*[1], Stephanie Maung[2], Xiaonan Wang[2], Jelena Basta-Pljakic[1], Mitchell Schaffler[1], David C. Spray[2], Sylvia O. Suadicani[2], Mia M. Thi[2]. [1]City College of New York, USA, [2]Albert Einstein College of Medicine, USA
Disclosures: Zeynep Seref-Ferlengez, None

MECHANOBIOLOGY: GENERAL

MO0161 A Novel In Vivo Loading Model to Study Microdamage in Subchondral Bone Following Acute Knee Injury
Oran Kennedy*[1], Bryan Beutal[2], Matin Lendhey[2]. [1]New York University School of Medicine, USA, [2]Department of Orthopaedic Surgery, New York University School of Medicine, Hospital for Joint Diseases, NY, NY 10003, USA
Disclosures: Oran Kennedy, None

MO0162 Interrelation between External Oscillatory Muscle Coupling Amplitude and In Vivo Intramedullary Pressure Related Bone Adaptation
Minyi Hu*[1], Jiqi Cheng[1], Neville Bethel[1], Frederick Serra-Hsu[2], Suzanne Ferreri[1], Liangjun Lin[2], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York At Stony Brook, USA
Disclosures: Minyi Hu, None

MO0163 Load Represses TGFβ Signaling in Bone through a CYLD and PGE2-dependent Mechanism
Jacqueline Nguyen*, Tamara Alliston. University of California, San Francisco, USA
Disclosures: Jacqueline Nguyen, None

MO0164 Numerical Characteristics of Overloaded Vertebra L_1
Oleg Ardatov[1], Vidmantas Alekna*[2], Algirdas Maknickas[3], Marija Tamulaitiene[4], Rimantas Kacianauskas[3]. [1]Department of Biomechanics, Vilnius Gediminas Technical University, Lithuania, [2]Vilnius University, Lithuania, [3]Institute of Mechanics, Vilnius Gediminas Technical University, Lithuania, [4]Faculty of Medicine, Vilnius University, Lithuania
Disclosures: Vidmantas Alekna, None

MO0165 Spontaneous Activity from Access to Running Wheels Stimulates Bone Gain at Multiple Sites in Mice

Robert Brommage*, Sabrina Jeter-Jones, Andrea Thompson, Jeff Liu. Lexicon Pharmaceuticals, USA

Disclosures: Robert Brommage, Lexicon Pharmaceuticals, 99

MO0166 Using Novel 3D Bone Mimicking Scaffolds to Investigate Tumor-Induced Bone Disease

Ushashi Dadwal*[1], Jonathan Page[2], Alyssa Merkel[3], Michael Kessler[4], Julie Sterling[5], Scott Guelcher[6]. [1]Vanderbilt Center for Bone Biology, Vanderbilt University Medical Center, USA, [2]Department of Chemical & Biomolecular Engineering, Vanderbilt University, USA, [3]Department of Veterans Affairs (TVHS), USA, [4]School for Math & Science, Vanderbilt University, USA, [5]Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA, [6]Vanderbilt University, USA

Disclosures: Ushashi Dadwal, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): ANABOLIC FACTORS

MO0167 Bone Regeneration in a Rat Model of Type 2 Diabetes and Aging is Improved by PTHrP Loaded in a Biopolymer-coated Hydroxyapatite

Juan Antonio Ardura*[1], Sergio Portal-Nuñez[1], Irene Gutierrez-Rojas[1], Daniel Lozano[1], Ana Lopez-Herradon[1], Francisca Mulero[2], Maria Vallet-Regi[3], Pedro Esbrit[4]. [1]Instituto de Investigación Sanitaria-Fundación Jiménez Díaz, Spain, [2]Centro Nacional de Investigaciones Oncológicas (CNIO), Spain, [3]Universidad Complutense de Madrid, Spain, [4]IIS-Fundación Jiménez Díaz, Spain

Disclosures: Juan Antonio Ardura, None

MO0168 Improving Parathyroid Hormone (PTH) Therapy In An Osteoporotic Mouse Model

Joseph Bidwell[1], Paul Childress*[1], Yu Shao[1], Selene Hernandez-Buquer[1], Yongzheng He[1], Daniel Horan[1], Alexander Robling[2], Stuart Warden[3], Feng-Chun Yang[2], Matthew Allen[1]. [1]Indiana University School of Medicine, USA, [2]Indiana University, USA, [3]Indiana University School of Health & Rehabilitation Sciences, USA

Disclosures: Paul Childress, None

MO0169 Inactivation of Tgfbr2 in osteoclasts causes osteopenia due to impaired coupling of bone formation to bone-resorption

Megan Weivoda*[1], Ming Ruan[1], Christine Hachfeld[1], Larry Pederson[1], Rachel Davey[2], Jeffrey Zajac[3], Jennifer Westendorf[1], Sundeep Khosla[4], Merry Jo Oursler[1]. [1]Mayo Clinic, USA, [2]University of Melbourne, Australia, [3]Austin Hospital, Australia, [4]Mayo Clinic College of Medicine, USA

Disclosures: Megan Weivoda, None

MO0170 Intermittent PTH after Prolonged Bisphosphonate Treatment Improves Trabecular Bone Microarchitecture and Alleviates Bone Tissue Hypermineralization by Inducing Substantial New Bone Formation

Allison Altman*, Carina Lott, Wei-Ju Tseng, Chantal De Bakker, Sy-Dar Liou, Tiao Lin, Ling Qin, Xiaowei Liu. University of Pennsylvania, USA

Disclosures: Allison Altman, None

MO0171 Osteolineage Jagged1 maintains bone homeostasis by regulating osteoblast and osteoclast

Rialnat Lawal*[1], Mary Georger[2], Alexandra Goodman[2], Laura Calvi[3]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA, [3]University of Rochester School of Medicine, USA

Disclosures: Rialnat Lawal, None

MO0172 Sost Antibody Treatment Improves Fracture Healing in Type 1 Diabetes

Cristal Yee*[1], Liqin Xie[2], Deepa Murugesh[3], Sarah Hatsell[4], Aris Economides[5], Gabriela Loots[6], Nicole Collette[3]. [1]University of California, Merced, USA, [2]Regeneron Pharmaceutical company, USA, [3]Lawrence Livermore National Laboratory, USA, [4]Regeneron Pharmaceuticals, USA, [5]Regeneron Pharmaceuticals, Inc., USA, [6]Lawrence Livermore National Laboratory, UC Merced, USA

Disclosures: Cristal Yee, None

MO0173 The P2X7 Antagonist AFC-5261 rescues Ovariectomy-induced Bone Loss in Mice
Susanne Syberg*[1], Ankita Agrawal[2], Solveig Petersen[3], Jens-Erik Beck Jensen[4], Peter Schwarz[1], Alison Gartland[2], Michael Bös[5], Niklas Jorgensen[6]. [1]Glostrup Hospital, Denmark, [2]The Mellanby Centre for Bone Research, The University of Sheffield, United Kingdom, [3]Research Centre for Ageing & Osteoporosis, Departments of Diagnostics & Medicine, Copenhagen University Hospital Glostrup, Denmark, [4]Department of Endocrinology, Copenhagen University Hospital Hvidovre, Denmark, [5]Affectis Pharmaceuticals AG, Fraunhoferstrasse 13, Germany, [6]Copenhagen University Hospital Glostrup, Denmark
Disclosures: Susanne Syberg, None

MO0174 The Sirtuin1 Activator SRT3025 Down-regulates Sclerostin in Vivo and in Vitro and rescues OVX-induced bone loss and biomechanical deterioration in mice
Hanna Artsi[1], Einav Cohen-Kfir[2], Irina Gurt[1], Yankel Gabet[3], Ron Shahar[4], Teresita Bellido[5], Rivka Dresner-Pollak*[1]. [1]Hadassah-Hebrew University Medical Center, Israel, [2]HEBREW UNIVERSITY Medicine Faculty, Israel, [3]Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel, [4]The Hebrew University, Israel, [5]Indiana University School of Medicine, USA
Disclosures: Rivka Dresner-Pollak, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): ANTIRESORPTIVE FACTORS

MO0175 Effect of Green Tea on Socket Repair of Rats Treated with Bisphosphonates
Mariza Matsumoto*, Alana Santos, Angelica Fonseca, Roberto Kawakami, Edson Mada, Fernando Neves, Patrícia Saraiva. Sagrado Coração University, Brazil
Disclosures: Mariza Matsumoto, None

MO0176 Effects of Risedronate, Alendronate and Minodronate in Combination with Eldecalcitol in Ovariectomized rats
Hirotaka Wagatsuma*[1], Tetsuo Yano[2], Mei Yamada[2], Daisuke Inoue[3]. [1]Ajinomoto Pharmaceuticals Co., Ltd., Japan, [2]Ajinomoto Pharmaceuticals Co., LTD, Japan, [3]Teikyo University Chiba Medical Center, Japan
Disclosures: Hirotaka Wagatsuma, None

MO0177 Intermittent interleukin-10 administration prevents early radiation- and combined trauma-induced bone loss by altering RANKL/OPG and Sclerostin
Joshua Swift*[1], Aminul Islam[1], William Danchanko[2], Min Zhai[1], Joan Smith[1], Rossitsa Owens[1], Juliann Kiang[1], Sibyl Swift[1], Matthew Allen[3]. [1]Armed Forces Radiobiology Research Institute, USA, [2]Uniformed Services University of the Health Sciences, USA, [3]Indiana University School of Medicine, USA
Disclosures: Joshua Swift, None

MO0178 Orally Administered Bisphosphonates Alleviate Colonic Inflammation and Bone Loss in a Mouse Model of Acute Colitis
Maria K. Tsoumpra*[1], Hans-Anton Lehr[2], F. Hal Ebetino[3], Jeffrey D. Neighbors[4], R Graham Russell[5], Sylvie Ferrari-Lacraz[6], Serge Ferrari[7]. [1]Switzerland, [2]Institute of Pathology, Medicine Campus Bodensee, Germany, [3]Structural Genomics Consortium, Oxford University, United Kingdom, [4]Terpenoid Therapeutics Inc., USA, [5]University of Oxford, United Kingdom, [6]Departments of Paediatrics & Internal Medicine & the Transplantation Immunology Unit, Geneva University Hospital, Switzerland, [7]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Maria K. Tsoumpra, None

MO0179 ASBMR 2014 Annual Meeting Young Investigator Award
Targeting osteoclast sealing zone to prevent bone degradation while maintaining bone formation: *in vivo* proof of concept with a small chemical compound
Gaelle Cres*[2], Anne Blangy[1], Virginie Vives[2], Christian Richard[2]. [1]CNRS CRBM Montpellier University, France, [2]CNRS CRBM Montpellier University, France
Disclosures: Gaelle Cres, None

MODULATORS OF BONE REMODELING (ANIMAL MODELS): OTHER AGENTS

MO0180 Ablation of Tak1 in monocyte leads to defects in skeletal growth and bone remodeling in mice
Huihuan Liu*[1], Bing Qi[2], Qian Cong[1], Ping Li[1], Micheal Schneider[3], Baojie Li[4]. [1]The Bio-X Institutes, Key Laboratory for the Genetics of Developmental & Neuropsychiatric Disorders, Ministry of Education, Shanghai Jiao Tong University, China, [2]School of Biological Science, Taishan Medical University, China, [3]Cardiovascular Science National Heart & Lung Institute, United Kingdom, [4]Shanghai Jiao Tong University, Peoples Republic of China
Disclosures: Huihuan Liu, None

MO0181 Biglycan and fibromodulin deficiency leads to increased bone remodeling that can be rescued by exogenous osteoprotegerin
Vardit Kram*[1], Tina Kilts[2], Kenn Holmbeck[2], Marian Young[1]. [1]National Institutes of Health, USA, [2]NIH/NIDCR, USA
Disclosures: Vardit Kram, None

MO0182 Bone Quality Changes in The Streptozocin-induced Diabetes Rat and The Effect of Zoledronic Acid Through Up-regulating The Expression of The Osteogenic Genes
Lingzhi Yu*[1], Min Cui[2], Jing Sun[3]. [1]"shandong University ,jinan Central Hospital", , [2]Shandong University,Jinan Central Hospital, China, [3]Binzhou Medical college,affiliated Hospital, China
Disclosures: Lingzhi Yu, None

MO0183 Combined Treatment with Ascorbic Acid and Thyroid Hormone Promotes Healing of a Non-union Tail Vertebra Defect in Mice.
Kevin DeLeon*[1], Hongrun Yu[2], Heather Watt[1], Catrina Alarcon[1], Subburaman Mohan[2]. [1]VALLHCS, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Kevin DeLeon, None

MO0184 Delay in Fracture Healing by Phosphate Restriction Displays Uniform Recovery in AJ and C57B6 Strains Independent of Genetic Variability
Kyle Lybrand*[1], Brenna Hogue[2], Heather Matheny[2], Amira Hussein[2], Anthony De Giacomo[1], Elise Morgan[3], Thomas Einhorn[4], Louis Gerstenfeld[2]. [1]Boston University Dept of Orthopaedic Surgery, USA, [2]Boston University School of Medicine, USA, [3]Boston University, USA, [4]Boston Medical Center, USA
Disclosures: Kyle Lybrand, None

MO0185 Differing effects are exerted by the Vitamin E isomers gamma-tocotrienol (GT3) and delta-tocotrienol (DT3) on indices of bone remodeling in mice following exposure to non-lethal ionizing radiation
Sibyl Swift*[1], Joshua Swift[1], Shukla Biswas[2], Merriline Satyamitra[2], Venkataraman Srinivasan[2], Sanchita Ghosh[2]. [1]Armed Forces Radiobiology Research Institute, USA, [2]AFRRI, USA
Disclosures: Sibyl Swift, None

MO0186 Mushroom polysaccharides improve bone microarchitecture and strength in diabetic rats
Chung-Hwan Chen*[1], Hui-Chen Lo[2], Yi-Shan Lin[3], Zai-Jie Wang[3], Lin Kang[4], Chwan-Li Shen[5]. [1]Kaohsiung Medical University Hospital & Kaohsiung Medical University, Taiwan, [2]Fu Jen Catholic University, Taiwan, [3]Kaohsiung Medical University, Taiwan, [4]National Cheng Kung University, Taiwan, [5]Texas Tech University Health Sciences Center, USA
Disclosures: Chung-Hwan Chen, None

MO0187 Role of CCR2+ Cells in the Alveolar Bone Repair Process in Mice
Claudia Biguetti*[1], Andreia Vieira[2], Priscila Maria Colavite[1], Carlos Eduardo Repeke[1], Franco Cavalla[1], Ana Paula Trombone[3], Gustavo Garlet[4]. [1]Universidade de São Paulo, Brazil, [2]Bauru School of Dentistry - University of Sao Paulo (FOB - USP), Brazil, [3]Universidade do Sagrado Coração, Brazil, [4]School of Dentistry of Bauru, São Paulo University -FOB/USP, Brazil
Disclosures: Claudia Biguetti, None

MO0188 Sheep Model Reflecting Glucocorticoid-induced Osteoporosis in Postmenopausal Women
Christina Andreasen*[1], Søren Overgaard[2], Ming Ding[3], Peter Bollen[4], Thomas Levin Andersen[5]. [1]Odense University Hospital, Institute of Clinical Research, Denmark, [2]Department of Orthopedics & Traumatology, Institute of Clinical Research, University of Southern Denmark, Denmark, [3]Department of Orthopedics & Traumatology, Institute of Clinical Health, University of Southern Denmark, Denmark, [4]Biomedicine Laboratory, University of Southern Denmark, Denmark, [5]Department of Clinical Cell Biology, Institute of Regional Health Services Research, University of Southern Denmark, Denmark
Disclosures: Christina Andreasen, None

MO0189 WISP1/CCN4 controls bone mass by uncoupling osteoblast and osteoclast function potentially by regulation of Wnt signaling
Azusa Maeda*[1], Mitsuaki Ono[2], Tina Kilts[2], Li Li[2], Kenn Holmbeck[2], Pamela Robey[3], Marian Young[2]. [1]Nih/nidcr, USA, [2]National Institutes of Health, USA, [3]National Institute of Dental & Craniofacial Research, USA
Disclosures: Azusa Maeda, None

MUSCLE BIOLOGY AND BONE: GENERAL

MO0190 COX-1,2 and EP1,2 expression in chronic spinal cord injured patients and healthy controls skeletal muscle tissue
Marco Invernizzi*[1], Manuela Rizzi[2], Claudio Molinari[3], Carlo Cisari[4], Stefano Carda[5], Filippo Renò[2]. [1]University of Eastern Piedmont, Novara, Italy, [2]Innovative Reasearch Laboratory for Wound Healing, Department of Health Sciences, University of Eastern Piedmont "A.Avogadro", Novara, Italy, [3]Human Physiology, Department of Translational Medicine, University of Eastern Piedmont "A.Avogadro", Novara, Italy, [4]Physical & Rehabilitation Medicine, Department of Health Sciences, University of Eastern Piedmont "A.Avogadro", Novara, Italy, [5]Department of Neurorehabilitation & Neuropsychology, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland
Disclosures: Marco Invernizzi, None

MO0191 GPR55 Regulates Peak Bone Mass and Steroid Hormone Levels in Male Mice
Lauren Whyte*[1], Aysha Khalid[2], Graeme Finnie[2], Selina Chiu[2], David Baker[3], Richard Aspden[2], Ruth Ross[1]. [1]University of Toronto, Canada, [2]University of Aberdeen, United Kingdom, [3]Blizard Institute, Barts & The London School of Medicine & Dentistry, United Kingdom
Disclosures: Lauren Whyte, None

MO0192 Maternal Myostatin Deficiency Improves Bone Quality of Wildtype Murine Offspring
Arin Oestreich*[1], Marcus McCray[1], William Kamp[1], Laura Schulz[1], Charlotte Phillips[2]. [1]University of Missouri, USA, [2]University of Missouri-Columbia, USA
Disclosures: Arin Oestreich, None

MO0193 Musculoskeletal effects of a 246-km ultramarathon race
Peter Pietschmann*[1], Elisabeth Weiss[2], Ursula Föger-Samwald[2], Markus Thalmann[3], Maria Tsironi[4], Katerina Skenderi[5], Katharina Kerschan-Schindl[6]. [1]Institut fuer Pathophysiologie und Allergieforschung, Austria, [2]Department of Pathophysiology & Allergy Research, Center for Pathophysiology, Infectiology & Immunology, Medical University of Vienna, Austria, [3]Department of Cardiovascular Surgery, Hospital-Hietzing, Austria, [4]School of Nursing, University of Peloponnese, Greece, [5]Department of Nutrition & Dietetics, Harokopio University, Greece, [6]Department of Physical Medicine & Rehabilitation, Medical University of Vienna, Austria
Disclosures: Peter Pietschmann, None

MO0194 The amino acid tryptophan increases skeletal muscle IGF-1 and follistatin in mice, and induces the expression of exercise-related factors.
Mona El Refaey[1], Colleen Davis*[1], Phonepasong Arounleut[2], Sunil Upadhyay[1], Amy Dukes[1], Maribeth Johnson[1], William Hill[3], Carlos Isales[1], Mark Hamrick[4]. [1]Georgia Regents University, USA, [2]Georgia Regents University (formally Georgia Health Sciences University), USA, [3]Georgia Regents University & Charlie Norwood VAMC, USA, [4]Georgia Health Sciences University, USA
Disclosures: Colleen Davis, None

MO0195 ASBMR Phoebe Leboy Professional Development Award
The osteogenic effects of swimming, jumping and vibration on the protection of bone quality from disuse bone loss
Mauricio Falcai[1], Ariane Zamarioli*[2], Francisco Jose de Paula[1], Graziela Leoni[3], Manoel Sousa Neto[3], Jose Batista Volpon[1]. [1]School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [2]University of Sao Paulo, Brazil, [3]Dental School of Ribeirao Preto, University of Sao Paulo, Brazil
Disclosures: Ariane Zamarioli, None

OSTEOARTHRITIS - PATHOPHYSIOLOGY (ANIMAL MODELS): GENERAL

MO0196 A Novel mimetic peptide CK2.1 that induces chondrogenesis and cartilage repair *in vivo*
Hemanth Akkiraju*, Jeremy Bonor, Padma Srinivasan, Catherine Kirn-Safran, Randall Duncan, Anja Nohe. University of Delaware, USA
Disclosures: Hemanth Akkiraju, None

MO0197 An Rescue Effect of Altering Subchondral Bone Architecture on the Temporomandibular Joint Cartilage Degradation Induced by an Aberrant Dental Occlusion
Yundong Liu[1], Lifan Liao[1], Kai Jiao[1], Hongyun Zhang[1], Lei Lu[1], Mian Zhang[1], Jing Zhang[1], Jianjun He[1], Yaoping Wu[2], Meiqing Wang*[1]. [1]College of Stomatology, Fourth Military Medical University, China, [2]Xijing Hospital, Fourth Military Medical University, China
Disclosures: Meiqing Wang, None

MO0198 Characterization of Monosodium Iodoacetate Induced Osteoarthritis in Rat Knee, Including Tibiofemoral and Patellofemoral Joints
Zhiqi Peng*[1], Jukka Vääräniemi[1], Katja Fagerlund[1], Jukka Rissanen[1], Jenni Bernoulli[1], Jussi Halleen[2], Jukka Morko[1]. [1]Pharmatest Services Ltd, Finland, [2]Pharmatest Services Ltd, Fin
Disclosures: Zhiqi Peng, Pharmatest Services Ltd, 3

MO0199 Chondroprotective Effects of Salubrinal in a Mouse Model of Osteoarthritis
Kazunori Hamamura*[1], Akinobu Nishimura[1], Akihiro Sudo[2], Hiroki Yokota[1]. [1]Indiana University Purdue University Indianapolis, USA, [2]Mie University Graduate School of Medicine, Japan
Disclosures: Kazunori Hamamura, None

MO0200 Osteoarthritis in Mice Overexpressing High Molecular Isoforms of FGF2
Patience Meo Burt*[1], Liping Xiao[1], Caroline Dealy[1], Marja Marie Hurley[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
Disclosures: Patience Meo Burt, None

OSTEOARTHRITIS AND OTHER CARTILAGE DISORDERS: GENERAL

MO0201 Withdrawn

MO0202 Bone Marrow Lesions Are Characterized by Increased Bone Turnover and Increased Vascularity
Maziar Shabestari*[1], Erik Fink Eriksen[2], Janne Reseland[1], Jarle Vik[3]. [1]University of Oslo, Norway, [2]Oslo University Hospital, Norway, [3]Martina Hansens Hospital, Norway
Disclosures: Maziar Shabestari, None

MO0203 Correlates of Knee Bone Marrow Lesions in Younger Adults
Benny Samuel Eathakkattu Antony*[1], Graeme Jones[2], Alison Venn[3], Lyn March[4], Leigh Blizzard[3], Andrew Halliday[5], Terence Dwyer[6], Flavia Cicuttini[7], Changhai Ding[3]. [1]Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, [2]Menzies Research Institute, Australia, [3]Menzies Research Institute Tasmania, University of Tasmania, Australia, [4]Institute of Bone & Joint Research, University of Sydney, Australia, [5]Department of Radiology, Royal Hobart Hospital, Australia, [6]Murdoch Childrens Research Institute, Australia, [7]Department of Epidemiology & Preventive Medicine, Monash University, Australia
Disclosures: Benny Samuel Eathakkattu Antony, None

MO0204 Knee osteoarthritis patients with severe pain while lying down have higher local subchondral tibial bone mineral density

Wadena Burnett*[1], Saija Kontulainen[1], Christine McLennan[2], Diane Hazel[3], Carl Talmo[3], David Hunter[4], David Wilson[5], James Johnston[1]. [1]University of Saskatchewan, Canada, [2]Hebrew SeniorLife, USA, [3]New England Baptist Hospital, USA, [4]University of Sydney, Australia, [5]University of British Columbia, Canada

Disclosures: Wadena Burnett, None

MO0205 Structure of Femoral Neck in Hip Osteoarthritis: Texture Analysis Improvement in Cortical Evaluation

Gustavo Davi Rabelo[1], Jean-Paul Roux*[2], Nathalie Portero-Muzy[1], Stephanie Boutroy[3], Roland Chapurlat[4], Pascale Chavassieux[1]. [1]INSERM UMR1033, Université de Lyon, France, [2]INSERM, UMR 1033, Université de Lyon, France, [3]INSERM U1033 & Université de Lyon, France, [4]E. Herriot Hospital, France

Disclosures: Jean-Paul Roux, None

MO0206 The comparison study of quality of sleep(QOS) in rheumatoid arthritis and osteoarthritis.

Sang-Hyon Kim*[1], Sang-Il Lee[2]. [1]Chief of Rheumatology, South Korea, [2]M.D., South Korea

Disclosures: Sang-Hyon Kim, None

OSTEOBLASTS - FUNCTION: ADHESION, MOTILITY AND CELL-CELL COMMUNICATION

MO0207 Connexin45 is Involved in Cancellous but not Cortical Bone Homeostasis

Marcus Watkins*, Susan Grimston, Bing Wang, Xiaowen Zhang, Roberto Civitelli. Washington University in St. Louis School of Medicine, USA

Disclosures: Marcus Watkins, None

MO0208 Osterix Has a Critical Role in BMP2-induced Cx43 Promoter Activity in vitro

Dong Jin Chung*[1], Dong Hyeok Cho[1], Jin Ook Chung[1], Min Young Chung[1], Kwang Youl Lee[2]. [1]Chonnam National University Medical School, South Korea, [2]College of Pharmacy, Chonnam National University, South Korea

Disclosures: Dong Jin Chung, None

MO0209 Pyk2 Isoforms in Osteoblasts: Mechanism of Regulation by Phosphorylation, Translocation, and Pin1 Activity.

Pierre Eleniste*, Angela Bruzzaniti. Indiana University School of Dentistry, USA

Disclosures: Pierre Eleniste, None

OSTEOBLASTS - FUNCTION: BONE FORMATION MECHANISMS

MO0210 Adiponectin Enhances Fracture Repair

Liping Wang*[1], Theresa M. Roth[2], Robert Nissenson[3]. [1]VA Medical Center, San Francisco, USA, [2]Endocrine Unit, VA Medical Center, USA, [3]VA Medical Center & University of California, San Francisco, USA

Disclosures: Liping Wang, None

MO0211 Autophagy in Osteoblasts is involved in Mineralization and Bone Homeostasis

Valérie Pierrefite-Carle[1], Marie Nollet[1], Sabine Santucci-Darmanin[1], Véronique Breuil[2], Rasha Al-Sahlanee[1], Michel Samson[1], Sophie Pagnotta[3], Séverine Battaglia[4], Delphine Farlay[5], Romain Dacquin[6], Pierre Jurdic[7], Georges Boivin[8], Dominique Heymann[9], Shi Shou Lu[10], David Dempster[11], Georges Carle*[12]. [1]Université Nice-Sophia Antipolis, CEA, UMR E4320 MATOs, France, [2]CHU Nice, Université Nice-Sophia Antipolis, CEA, UMR E4320 MATOs, France, [3]Université Nice Sophia-Antipolis, CCMA, France, [4]INSERM UMR 957, Université de Nantes, France, [5]INSERM, UMR1033; Université De Lyon, France, [6]IGFL, Université de Lyon, CNRS, Ecole Normale Supérieure de Lyon, France, [7]Ecole Normale Superieure de Lyon, France, [8]INSERM, UMR1033; Universite De Lyon, France, [9]INSERM U957, University of Nantes, France, [10]Regional Bone Center, Helen Hayes Hospital, USA, [11]Columbia University, USA, [12]CNRS, Université Nice-Sophia Antipolis, France

Disclosures: Georges Carle, None

MO0212 Withdrawn

MO0213 ECE1 Dependent Endothelin Signaling Regulates the Production of IGF-1, the WNT Signaling Inhibitors Sclerostin and DKK1, and is Critical for Osteogenesis
Michael Johnson*[1], Jasmin Kristianto[2], Baozhi Yuan[1], Everett Smith[1], Luisa Meyer[3], Caitlin Collins[1], Heidi Ploeg[1], Robert Blank[4]. [1]University of Wisconsin, USA, [2]University of Wisconsin–Madison, USA, [3]University of Wisconsin - Madison, USA, [4]Medical College of Wisconsin, USA
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MO0214 Evidence that adiponectin negatively regulates skeletal homeostasis by direct panacrine effects on osteoblasts
Linh Ho*[1], Marcia J Abbott[2], Dylan O'Carroll[3], Liping Wang[3], Theresa Roth[3], Robert Nissenson[4]. [1]UCSF, USA, [2]SFSU, USA, [3]SF VAMC, USA, [4]VA Medical Center & University of California, San Francisco, USA
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MO0215 miR-665 Regulates Dentinogenesis by miRNA and Epigenetic Mechanism
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MO0216 Naringenin stimulates mineral formation by human osteoblast-like cells at levels attainable by consuming fruits and vegetables
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Disclosures: Bryan D. Johnston, None

MO0217 N-linked Glycosylation: a Critical Mechanism of PTH-Resistance in Osteoblasts under High Glucose Conditions
Ann-Kristin Picke*[1], Christine Hofbauer[2], Martina Rauner[3], Lorenz Hofbauer[4]. [1]Dresden University Medical Center, Germany, [2]Dresden Technical University Medical Center, Germany, [3]Medical Faculty of the TU Dresden, Germany, [4]Dresden University Medical Center, Germany
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MO0218 Parathyroid Hormone Regulates Osteoblast Bioenergetics Through its Actions on Glycolysis.
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MO0219 Role for Chloride and Potassium Channels Supporting Na/H Exchange in Bone Formation
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MO0220 The Function of MicroRNA miR-23a Cluster in Osteogenesis
Huan-Chang Zeng*, Yangjin Bae, Jordan Kho, Yuqing Chen, Terry Bertin, Elda Munivez, Brendan Lee. Baylor College of medicine, USA
Disclosures: Huan-Chang Zeng, None

MO0221 Transgenic Over-expression of Vitamin D Receptor in Mature Osteoblasts Enhances Anabolic and Catabolic Activities Depending on Dietary Calcium and Phosphate Levels
Rahma Triliana*[1], Howard Morris[2], Paul Anderson[3]. [1]the University of Adelaide, SA Pathology/IMVS, Australia, [2]SA Pathology, Australia, [3]Musculoskeletal Biology Research, University of South Australia, Australia
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OSTEOBLASTS - FUNCTION: HORMONAL AND LOCAL REGULATION

MO0222 Membrane-bound prostaglandin E synthase (mPGES)-1-mediated prostaglandin E_2 (PGE_2)production plays a critical role in the ligand for toll-like receptor 2 heterodimer (TLR1/2, TLR 2/6) induced bone resorption
Chiho Matsumoto, Tsukasa Tominari, Michiko Hirata, Chisato Miyaura, Masaki Inada*. Tokyo University of Agriculture & Technology, Japan
Disclosures: Masaki Inada, None

MO0223 Osteoblast-Specic IGF-1 signaling deficiency causes delayed endochondral bone formation during fracture healing
Tao Wang*[1], Yongmei Wang[2], Candice GT Tahimic[3], Chak Fong[1], Alicia Menendez[1], Daniel Bikle[3]. [1]University of California, San Francisco, USA, [2]Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, [3]Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
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MO0224 Use Of MC3T3 Cells For Native High-Level Production Of Carboxylated Mouse Osteocalcin
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OSTEOBLASTS - FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

MO0225 Cation activation of G-class signalling in human osteoblasts
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MO0226 HIF-1α Dependent Metabolic Reprogramming of Periosteal Cells Improves Bone Repair
Steve Stegen*[1], Nick Van Gastel[2], Guy Eelen[3], Annelies Quaegebeur[4], Riet Van Looveren[5], Peter Carmeliet[4], Geert Carmeliet[3]. [1]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, [2]Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, Belgium, [3]Katholieke Universiteit Leuven, Belgium, [4]Angiogenesis & Neurovascular Link, Vesalius Research Center, KU Leuven, Belgium, [5]KU Leuven, Belgium
Disclosures: Steve Stegen, None

MO0227 Induction of single nucleotide polymorphisms in the purinergic P2X7 receptor and subsequent investigation of changes in function and gene expression of specific bone markers.
Barakat Ali Nasir Ali[1], Jan Rune Larsen*[2], Solveig Petersen[2], Niklas Jorgensen[3], Ole Vang[4], Susanne Syberg[5]. [1]Denmark, [2]Research Center for Ageing & Osteoporosis, Diagnostic Department, Glostrup Hospital, Denmark, [3]Copenhagen University Hospital Glostrup, Denmark, [4]Department of Science, Systems & Models, 18.1 Roskilde University, Denmark, [5]Research Centre for Ageing & Osteoporosis, Denmark
Disclosures: Jan Rune Larsen, None

MO0228 Mice Deficient in Osteoblast Smad4 Exhibit Impaired Collagen Fibrillogenesis
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MO0229 Odd-skipped related 1 transcription factor modulates skull closure and cranial bone formation
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Disclosures: Shinji Kawai, None

MO0230 Osteoblast differentiation causes a switch in the primary mechanism that regulates activity of the cAMP/PKA signaling pathway
Bryan Hausman*, Xin Chen, Guang Zhou, Guangbin Luo, Shunichi Murakami, Edward Greenfield. Case Western Reserve University, USA
Disclosures: Bryan Hausman, None

MO0231 Osteoclast-derived coupling factor Cthrc1 stimulates osteoblast differentiation through Rac1/PKCδ/ERK

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MO0232 RUNX2 O-GlcNAcylation Links Osteogenesis and Nutrient Metabolism in Mesenchymal Stem Cells

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MO0233 Sr stimulating effect on mineralization is modified by calcimimetic R568 in UMR 106.1 osteoblast like cells

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Disclosures: Nicole Nijs-De Wolf, None

OSTEOBLASTS - ORIGIN AND CELL FATE: CELL CYCLE AND APOPTOSIS

MO0234 Alternative Splice Variants Of The Osteogenic Cytokine SDF-1 Differentially Mediate CXCR4 and CXCR7 Expression in Bone Marrow MSCs

Alexandra Aguilar*[1], Samuel Herberg[2], Sudharsan Periyasamy-Thandavan[3], Brian Volkman[4], Galina Kondrikova[5], Xing-Ming Shi[5], Mark Hamrick[6], Carlos Isales[5], William Hill[7]. [1]UCC School of Medicine, Georgia Regents University, USA, [2]Case Western Reserve University, USA, [3]Georgia Regents University & Charlie Norwood VAMC, USA, [4]Medical College of Wisconsin, USA, [5]Georgia Regents University, USA, [6]Georgia Health Sciences University, USA, [7]Georgia Regents University & Charlie Norwood VAMC, USA

Disclosures: Alexandra Aguilar, None

MO0235 IRE1a,forming a control loop with BMP2 and GEP,regulates osteoblastogenesis

Fengjin Guo*[1], Zhangyuan Xiong[2], Peng Zhang[3], Xiaofeng Han[3], Meiling Li[3], Fei Xia[3]. [1]Chongqing Medical University, Peoples Republic of China, [2]Department of Cell Biology & Genetics, Core Facility of Development Biology, Chongqing Medical University, China, [3]Department of Cell Biology & Genetics, Core Facility of Development Biology, Chongqing Medical University, Chongqing 400016, China

Disclosures: Fengjin Guo, None

MO0236 The canonical Wnt/β-catenin signaling improves osteoblast and osteocyte survival by enhancing DNA repair

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Disclosures: Abhishek Chandra, None

OSTEOBLASTS - ORIGIN AND CELL FATE: REGULATION OF DIFFERENTIATION

MO0237 A Glimpse into MicroRNA 23a~27a~24-2 Regulation of Bone Development

Austin Kemper*[1], Mohammad Hassan[2]. [1]University of Alabama at Birmingham, USA, [2]University of Alabama, USA

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MO0238 Bisphosphonate Suppress Mesenchymal Cells Proliferation and Differentiation into Osteoblast via Attenuation of Wnt Signaling

Seungwoo Han[1], Hye-Ri Park*[2], Min-Su Han[2], Youn-Kwan Jung[2], Eun-Ju Lee[2], Ji-Ae Jang[2], Gun-Woo Kim[2]. [1]Daegu Fatima Hospital, South Korea, [2]Laboratory for arthritis & bone biology, Fatima research institute, South Korea

Disclosures: Hye-Ri Park, None

MO0239 Bobby Sox homology regulates osteogenic/odontogenic differentiation of human dental pulp stem cells

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MO0240 Comprehensive profiling of gene expression temporal dynamics during osteoblastogenesis in the context of differing genetic backgrounds.

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Disclosures: Cheryl Ackert-Bicknell, None

MO0241 COUP-TFII suppression by miR-194 determinates fate of mesenchymal stromal cells

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Disclosures: Jeong-Tae Koh, None

MO0242 Genome-wide DNase hypersensitivity analysis reveals novel transcriptionally active regions during osteoblastogenesis

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Disclosures: Phillip Tai, None

MO0243 High Osteogenic Potential of fibroblast from FOP Patients

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MO0244 IL-17 inhibits osteoblast differentiation and bone regeneration in rat

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MO0245 Inhibition of Adipogenic and Osteogenic Differentiation of hBM-MSCs by FGF1 and FGF2 in 3D Collagen Gels

Solange Le Blanc*[1], Meike Simann[2], Franz Jakob[3], Norbert Schuetze[3], Tatjana Schilling[4]. [1]Universitat Wurzburg, Germany, [2]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, Germany, [3]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [4]University of Wuerzburg, Germany

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MO0246 Microarray Analysis of Pulsed Electromagnetic Field (PEMF) Stimulatory Effects on Human Bone Marrow Stromal Cells

Nicola Partridge[1], Zhiming He*[2], Nagarajan Selvamurugan[3]. [1]New York University College of Dentistry, USA, [2]New York University, USA, [3]University of Medicine & Dentistry of New Jersey, USA

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OSTEOBLASTS - ORIGIN AND CELL FATE: STEMS CELLS AND PROGENITORS

MO0247 ***Connective Tissue Growth Factor* Reporter Mice Label a Subpopulation of Mesenchymal Progenitor Cells that Reside Around Trabecular Bone**

Peter Maye*[1], Wen Wang[2], Sara Strecker[1], Yaling Liu[1], Mark Kronenberg[1], Spenser Smith[1], Liping Wang[1], Fayekah Assanah[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut, USA

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MO0248 **3D Scaffolding with Adipose Derived Mesenchymal Stem Cells – Their Osteogenicity and Osteoblast Mineralization**

Morten Dahl*[1], Susanne Syberg[2], Niklas Jorgensen[3], Else Marie Pinholt[4]. [1]Denmark, [2]Research Centre for Ageing & Osteoporosis, Denmark, [3]Copenhagen University Hospital Glostrup, Denmark, [4]Department of Maxillofacial Surgery, Denmark

Disclosures: Morten Dahl, None

MO0249 **Loss of Notch Signaling in Skeletogenic Mesenchymal Stem Cells Results in Fracture Nonunion**

Cuicui Wang*[1], Jason Inzana[2], Michael Zuscik[3], Regis O'Keefe[4], Hani Awad[1], Matthew Hilton[5]. [1]University of Rochester Medical Center, USA, [2]USA, [3]University of Rochester School of Medicine & Dentistry, USA, [4]University of Rochester, USA, [5]Duke University Musculoskeletal Research Center, USA

Disclosures: Cuicui Wang, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

MO0250 **AGING EFFECTS OF ADVANCED GLYCATION END PRODUCTS ON OSTEOCLAST RESORPTION ON HUMAN BONE**

Xiao Yang*[1], Chintan Gandhi[2], Rahman MD Mizanur[3], Mark R. Appleford[4], Lian-Wen Sun[5], Xiaodu Wang[6]. [1]University of Texas at San Antonio & Beihang University, USA, [2]Department of Mechanical Engineering, University of Texas at San Antonio, USA, [3]Department of Medicine - Clinical Immunology & Rheumatology, University of Texas Health Science Center at San Antonio, USA, [4]Department of Biomedical Engineering, University of Texas at San Antonio, USA, [5]School of Biological Science & Medical Engineering, Beihang University, China, [6]UTSA, USA

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MO0251 **Effect of Zoledronate on Particle-Induced Osteolysis In Vitro and In Vivo**

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MO0252 **Glucocorticoids Enhance Mature Osteoclast Activity Without Affecting RANKL Induced Osteoclast Formation**

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Disclosures: Petra Henning, None

MO0253 **Kinase Activity of Leucine Rich Repeat Kinase 1 (LRRK1) Is Essential for Osteoclast Resorptive Activity**

Weirong Xing*[1], Bo Liu[2], Shaohong Cheng[3], Robert Brommage[4], Subburaman Mohan[5]. [1]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [2]VALLHCS, USA, [3]VA Loma Linda Health Care Systems, USA, [4]Lexicon Pharmaceuticals, USA, [5]Jerry L. Pettis Memorial VA Medical Center, USA

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MO0254 **WASH complex subunit FAM21 is required for efficient osteoclast formation**

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OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

MO0255 Exosome-encapsulated miR-214 secreted from osteoclast to inhibit osteoblastic activity

Defang Li*[1], Chao Liang[1], Baosheng Guo[1], Jin Liu[1], Lei Dang[1], Liang Xu[2], Xiaojuan He[3], Zicai Liang[4], 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, [2]nstitute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong SAR, China, [3]Institute of Basic Research in Clinical Medicine, China Academy of Chinese Medical Sciences, Beijing, China, [4]Academician Chen Xinzi Workroom for Advancing Translational Medicine in Bone & Joint Diseases, Kunshan RNAi Institute, Kunshan Industrial Technology Research Institute, Kunshan, Jiangsu, China

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OSTEOCLASTS - FUNCTION: TRANSCRIPTIONAL REGULATION AND GENE EXPRESSION

MO0256 Interleukin-1 receptor-associated kinase-4 (IRAK4) promotes inflammatory osteolysis by activating osteoclasts and inhibiting formation of foreign body giant cells

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MO0257 Lhx2 regulates bone remodeling in mice by modulating RANKL signaling in osteoclasts

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OSTEOCLASTS - ORIGIN AND CELL FATE: FUSION AND CELL ADHESION

MO0258 The elementary fusion modalities of osteoclasts

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OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

MO0259 Connexin 43 Hemichannels are Important Regulators of Osteoclast Differentiation

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MO0260 Duffy Antigen Receptor for Chemokines (DARC) Modulates Inflammation-induced Recruitment of Osteoclast Precursors

Mohamed Elgendy[1], Yan Hu[1], Subburaman Mohan[2], Bouchra Edderkaoui*[2]. [1]Jerry L Pettis Memorial Veterans Administration Medical Center, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA

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MO0261 Withdrawn

MO0262 Loss of HDAC7 in Osteoclasts Increases Bone Mass Through Interactions with MITF and PU.1

Melissa Stemig[1], Kristina Astleford[2], Ann Emery[2], Tsang-hai Huang[3], Janice Cho[2], Raj Gopalakrishnan[2], Kim Mansky*[2], Eric Jensen[2]. [1]University of Minnesota School of Dentistry, USA, [2]University of Minnesota, USA, [3]National Cheng-Kung University, Taiwan

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MO0263 RANK cytoplasmic IVVY535-538 motif activates C/EBPα which plays a crucial role in osteoclast lineage commitment

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Disclosures: Joel Jules, None

MO0264 RANKL Enhances TNF Induced Osteoclast Differentiation by Degrading TRAF3 in the Absence of TRAF6
Zhenqiang Yao*[1], Yanyun Li[2], Bryant Darnay[3], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]University of Texas M.D. Anderson Cancer Center, USA
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MO0265 Regulation of Osteoclastogenesis by Integrated Signals from Toll-Like Receptors
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MO0266 SUMOylation of NEMO Differentially Regulates Osteoclastogenesis and Bone Loss
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MO0267 The Notch modulators Lnx2, Tspan5/10, and Msi2 play a critical role in osteoclast differentiation
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MO0268 The stimulation-dependent internalization of RANK is crucial for osteoclast differentiation
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OSTEOCYTES: BONE REMODELING REGULATION

MO0269 A Microfluidic System to Study the Effects of Mechanically Loaded Osteocytes on Osteoclast recruitment and formation
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Disclosures: Kevin Middleton, None

MO0270 Connexin 43 Hemichannels are Important in Maintaining Normal Bone Structure and Osteocyte Viability
Huiyun Xu[1], Sumin Gu[2], Manuel Riquelme[3], Sirisha Burra[4], Danielle Callaway[2], Hongyun Cheng[2], Teja Guda[5], James Schmitz[4], Roberto Fajardo[6], Sherry Abboud Werner[2], Hong Zhao[7], Peng Shang[8], Mark Johnson[9], Lynda Bonewald[10], Jean Jiang*[2]. [1]Peoples Republic of China, [2]University of Texas Health Science Center at San Antonio, USA, [3]University of Texas Science Center, San Antonio, USA, [4]University of Texas Health Science Center, USA, [5]University of Texas at San Antonio, USA, [6]UT Health Science Center, San Antonio, USA, [7]University of Missouri, USA, [8]Northwestern Polytechnical University, Peoples Republic of China, [9]University of Missouri, Kansas City Dental School, USA, [10]University of Missouri - Kansas City, USA
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MO0271 Estrogen loss causes mitochondrial stress in Osteocytes in vivo
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MO0272 IDG-SW3 early osteoblasts in mineralising 3D collagen gels differentiate to osteocytes that respond to mechanical loading
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MO0273 Local Bone Tissue Mechanical Properties Change Without Remodeling: A Study Of Lactating Mice
Serra Kaya*[1], Jelena Basta-Pljakic[1], Zeynep Seref-Ferlengez[1], Wing-Yee Cheung[1], Robert Majeska[2], Susannah Fritton[3], Shoshana Yakar[4], Mitchell Schaffler[1]. [1]City College of New York, USA, [2]City College of New York, USA, [3]USA, [4]New York University College of Dentistry, David B. Kriser Dental Center, USA
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MO0274 Osteocyte Signaling and Perilacunar Remodeling during Exercise
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Disclosures: Joseph Gardinier, None

MO0275 Pigment epithelium derived factor reduces sclerostin expression by osteocytes
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OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS

MO0276 E11 protein stabilisation promotes osteocyte differentiation and protects against osteoarthritis pathology
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OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION

MO0277 Deletion of ephrinB2 in osteocytes leads to increased trabecular bone mass, but reduced bone strength
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MO0278 Osteocyte differentiation is delayed by low dose TNF
Mark Nanes*[1], Linda Gilbert[2]. [1]VA Medical Center & Emory University, USA, [2]Atlanta VA Medical Center, USA
Disclosures: Mark Nanes, None

MO0279 Sclerostin Expression can be Induced by Enforced Expression of Defined Transcription Factors in Human Fibroblasts
Makoto Fujiwara*[1], Wei Wang[1], Yasuhisa Ohata[1], Kouji Miura[1], Taichi Kitaoka[1], Takuo Kubota[2], Yasuji Kitabatake[1], Noriyuki Namba[1], Toshimi Michigami[3], Keiichi Ozono[1]. [1]Osaka University graduate school of medicine, Japan, [2]Osaka University Graduate School of Medicine & Dentistry, Japan, [3]Osaka Medical Center & Research Institute for Maternal & Child Health, Japan
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MO0280 Sclerostin is Mechanically and Hormonally Regulated in a Novel *in vitro*Osteocyte Model
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OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS

MO0281 Withdrawn

MO0282 Free Circulating Mirnas and Bone Tissue Mirnas are Noval Biomarkers for Osteoporosis
Mohammed-Salleh Ardawi*[1], Mohammed Qari[2], Talal Bahksh[3], Abdulrahman Sibiani[4], Ali Ahmad[5], Mohammad Noaman[5], Abdulrahim Rouzi[6]. [1]Center of Excellence for Osteoporosis Research & Department of Clinical Biochemistry & KAU Hospital,Faculty of Medicine, King Abdulaziz University, 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 General Surgery, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, [4]Center of Excellence for Osteoporosis Research & Department of General Surgeryand KAU Hospital,Faculty of Medicine, King Abdulaziz University, Saudi Arabia, [5]Center of Excellence for Osteoporosis Research, King Abdulaziz University, Saudi Arabia, [6]Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia
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MO0283 Very Early Responses of Biochemical Markers of Bone Turnover to Teriparatide
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Disclosures: Benjamin Leder, Eli Lilly and Company, 3; Eli Lilly and Company, 1

MO0284 We Are Not On The Same Page: Variation of PTH and Vitamin D Binding Protein Measurement in 2014
Neil Binkley*[1], Gretta Borchardt[2], Diane Krueger[1], Ravinder Singh[3], Donald Wiebe[2]. [1]University of Wisconsin, Madison, USA, [2]University of Wisconsin, USA, [3]Mayo Clinic, USA
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OSTEOPOROSIS - ASSESSMENT: BONE QUALITY

MO0285 Abnormal Trabecular Plates and Cortical Thinning at the Distal Radius and Tibia in Postmenopausal Women with Vertebral Fractures
Ji Wang*[1], Emily Stein[2], Bin Zhou[1], Kyle Nishiyama[1], Elizabeth Shane[2], X Guo[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Ji Wang, None

MO0286 Advanced *In Vivo*Bone Quality Assessment Using the Next Generation of HR-pQCT
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MO0287 Comparability of HR-pQCT Bone Quality Measures Improved by Scanning Anatomically Standardized Regions
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Disclosures: Andrew Burghardt, None

MO0288 Focal Osteoporosis in the Trabeculae of the Femoral Head in Hip Fracture
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MO0289 Intra- and Inter-Operator Variability in HR-pQCT Scan Positioning
Serana Bonaretti*[1], Margaret Holets[2], Nicholas P. Derrico[3], Kyle Nishiyama[4], Danmei Liu[5], Stephanie Boutroy[6], Roland Chapurlat[7], Heather McKay[5], Elizabeth Shane[8], Mary Bouxsein[9], Thomas Lang[1], Sundeep Khosla[2], Andrew Burghardt[1]. [1]University of California, San Francisco, USA, [2]Mayo Clinic College of Medicine, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]Columbia University, USA, [5]University of British Columbia, Canada, [6]INSERM U1033 & Université de Lyon, France, [7]E. Herriot Hospital, France, [8]Columbia University College of Physicians & Surgeons, USA, [9]Beth Israel Deaconess Medical Center, Harvard Medical School, USA
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MO0290 Is TBS different in healthy European Caucasian men and women?: Creation of normative spine TBS data for men

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Disclosures: Vladyslav Povoroznyuk, None

MO0291 Static postural stability and hip fracture in elderly individuals

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OSTEOPOROSIS - ASSESSMENT: DXA

MO0292 Acromegaly induces bone microarchitectural alteration as assessed by TBS (Trabecular Bone Score) at lumbar spine without impacting bone mineral density (BMD)

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MO0293 Association Between the Risk of Distal Ulnar Fracture Complicated with Low-Energy Distal Radial Fracture among Postmenopausal Women and Bone Mineral Density of the Forearm Shaft

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Disclosures: Kayoko Furukawa, None

MO0294 Normative Spine TBS Data For Latin American Women

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Disclosures: Bruno Camargos, None

OSTEOPOROSIS - ASSESSMENT: OTHER IMAGING TECHNIQUES

MO0295 Bone structure assessed by TBS reflects trabecular microarchitecture of transiliac bone biopsies in idiopathic osteoporotic females with fragility fractures

Christian Muschitz*[1], Heinrich Resch[2], Roland Kocijan[3], Olivier Lamy[4], Angela Trubrich[5], Dieter Pahr[6], Wolfgang Schima[7], Fritz Lomoschitz[7], Stylianos Kapiotis[8], Didier Hans[9]. [1]St. Vincent's Hospital, Austria, [2]Medical University Vienna, Austria, [3]St. Vincent Hospital Vienna, Austria, [4]University Hospital, Switzerland, [5]BHS, Austria, [6]Institute of Lightweight Design & Structural Biomechanics, Vienna University of Technology, Austria, [7]Department of Diagnostic & Interventional Radiology, St. Vincent Hospital Vienna, Austria, [8]Labcon – Medical Laboratories Ltd., St. Vincent Group, Austria, [9]Lausanne University Hospital, Switzerland

Disclosures: Christian Muschitz, None

MO0296 Characterization of the osteocyte lacuno-canalicular network using ptychographic X-ray nanotomography

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MO0297 Cushing Disease: Gain in Bone Mineral Density and also Bone texture assessed by Trabecular Bone Score after cure of Cushing Disease

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MO0298 Diagnosis of vertebral fractures by the EOS X-ray imaging system

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MO0299 Effects of Glucocorticoid Treatment on Bone BMD and TBS in Men

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MO0300 Evaluation of Patients' Intervention Following Osteoporosis Screenings at Health Fairs

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MO0301 HR-pQCT, Finite Element Analysis, and Machine Learning with Support Vector Machines Improved Classification of Postmenopausal Women with Fragility Fractures

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Disclosures: Kyle Nishiyama, None

MO0302 Multimodality Radiographic Characteristics and Complications of Atypical Femoral Fractures: the Ontario AFF Cohort

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MO0303 Normative Data of TBS for Healthy Postmenopausal African American Women

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Disclosures: Gianina Usera, None

MO0304 Osteoporosis assessment at hip with Bindex®

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Disclosures: Janne Karjalainen, Bone Index Finland Ltd, 3

MO0305 The better prediction of vertebral fractures using Trabecular Bone Score and FRAX than Bone Mineral Density in postmenopausal diabetic women

Yoon-Sok Chung*, So Young Ock, Yong Jun Choi. Ajou University School of Medicine, South Korea

Disclosures: Yoon-Sok Chung, None

MO0306 A Trans-ethnic Genome-wide Association Study Identifies Gender Specific Loci Influencing Pediatric BMD and BMC at the Distal Radius

Alessandra Chesi*[1], Jonathan Mitchell[2], Heidi Kalkwarf[3], Jonathan Bradfield[1], Joan Lappe[4], Shana McCormack[1], Vicente Gilsanz[5], Sharon Oberfield[6], Hakon Hakonarson[1], John Shepherd[7], Andrea Kelly[1], Babette Zemel[1], Struan Grant[8]. [1]Children's Hospital of Philadelphia, USA, [2]University of Pennsylvania, USA, [3]Cincinnati Children's Hospital Medical Center, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Children's Hospital Los Angeles, USA, [6]Columbia University Medical Center, USA, [7]University of California, San Francisco, USA, [8]Children's Hospital of Philadelphia / University of Pennsylvania, USA

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MO0307 Association between osteoporosis susceptibility genes and bone mineral density in Vietnamese population

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MO0308 Association between polymorphisms in Glucose-dependent insulinotropic polypeptide (GIP) and GIP receptor (GIPR) genes and bone quality in young and elderly Swedish women

Gaurav Garg*[1], Jitender Kumar[2], Fiona McGuigan[3], Mattias Callréus[4], Maria F. Gomez[5], Paul Gerdhem[6], Holger Luthman[7], Valeriya Lyssenko[8], Leif Groop[9], Kristina Akesson[10]. [1]Clinical Research Center, Lund University, Sweden, [2]Dept of Medical Sciences, Molecular Epidemiology & Science for Life Laboratory, Uppsala University, Sweden, Sweden, [3]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [4]Skåne University Hospital, Sweden, [5]Department of Clinical Sciences, University Hospital Malmö, Lund University, Sweden, [6]Dept of Clinical Science, Intervention & Technology, Karolinska Institutet, Sweden, [7]Medical Genetics Unit, Dept. of Clinical Sciences Malmö, Lund University, Sweden, [8]Department of Clinical Sciences, Diabetes & Endocrinology, University Hospital Malmö, Lund University, Sweden, [9]Department of Clinical Sciences, Diabetes, & Endocrinology, University Hospital Malmö, Lund University, Sweden, [10]Skåne University Hospital, Malmö, Sweden

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MO0309 Association of VDR, COL1A1 and LCT gene polymorphisms with bone mineral density in Lithuanian women with postmenopausal osteoporosis

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Disclosures: Marija Tamulaitiene, None

MO0310 Genome-wide Association Study of Trabecular Bone Score Reveals Several Candidate Loci for Bone Quality

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Disclosures: Hyung Jin Choi, None

MO0311 Polymorphisms in Cannabinoid Receptors Genes and Bone Mineral Density in Postmenopausal Korean Women

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Disclosures: Jung-Gu Kim, None

OSTEOPOROSIS - EPIDEMIOLOGY:BONE MINERAL DENSITY

MO0312 Bone Mineral Density Changes Among Women Initiating ACE Inhibitors, Beta Blockers, and Thiazide Diuretics: Results from the SWAN Bone Study

Daniel Solomon*[1], Kristine Ruppert[2], Zhenping Zhao[2], YinJuan Lian[2], Gail Greendale[3], Joel Finkelstein[4]. [1]Harvard Medical School, USA, [2]University of Pittsburgh, USA, [3]University of California, Los Angeles, USA, [4]Massachusetts General Hospital, USA

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MO0313 Explaining gender difference in fracture risk: the role of volumetric bone mineral density

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Disclosures: Hanh Pham, None

MO0314 Influence of degenerative disorders on the lumbar spine BMD and TBS with age: the Cohort OsteoLaus

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Disclosures: Olivier Lamy, None

OSTEOPOROSIS - EPIDEMIOLOGY:ENVIRONMENTAL AND LIFESTYLE FACTORS

MO0315 Age-Related Loss of Cortical Bone in Males: Trends from the 3rd century AD to the Present Day in North-West Europe, a Study Using Archaeological Skeletons

Simon Mays*. English Heritage, United Kingdom

Disclosures: Simon Mays, None

MO0316 Osteopenia and Osteoporosis in Adult Females with Type 1 Diabetes: Results from the T1D Exchange Registry

Ruban Dhaliwal*[1], Nicole Foster[2], Linda Dimeglio[3], Katherine Manseau[4], Viral Shah[4], Julie Kittelsrud[5], Jill Simmons[6], Lucy Mastrandrea[7], Maya Styner[8], Roy Beck[2], Ruth Weinstock[9]. [1]SUNY Upstate Medical University, USA, [2]Jaeb Center for Health Research, USA, [3]Indiana University School of Medicine, USA, [4]Barbara Davis Center for Childhood Diabetes, USA, [5]Avera McKennan Hospital & University Health Center, USA, [6]Vanderbilt University Medical Center, USA, [7]SUNY at Buffalo, School of Medicine, USA, [8]University of North Carolina, Chapel Hill, School of Medicine, USA, [9]State University of New York Health Science Center, USA

Disclosures: Ruban Dhaliwal, None

OSTEOPOROSIS - EPIDEMIOLOGY:FALLS AND FRACTURES

MO0317 A small population-wide increase in BMD is associated with substantial reduction in fracture incidence

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MO0318 Correlation of Other Fracture Types with Hip Fracture: Toward a Rational Combined Hip Fracture Endpoint

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Disclosures: Cathleen Colon-Emeric, None

MO0319 FALL IN ELDERLY CARED BY UNDEGRADUATE MEDICAL STUDENTS BELONGING TO THE INTERNAL MEDICINE ACADEMIC LEAGUE

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MO0320 High Body Mass Index Is a Risk Factor for Low Trauma Fractures in Women Who Have Sustained an Upper Arm or Lower Leg Fracture

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Disclosures: Claudia Beaudoin, Actavis, Amgen, Eli Lilly, Merck, Novartis, 2

MO0321 Is Fall Risk Indirectly Captured by FRAX?

Shreyasee Amin*[1], Kenton Kaufman[1], Jeremy Crenshaw[1], Sara Achenbach[1], Elizabeth Atkinson[1], Sundeep Khosla[2], L. Joseph Melton[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA

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MO0322 Low Rate of Osteoporosis Treatment in Nursing Home Men at High-risk for Fractures

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Disclosures: Alexandra Papaioannou, Amgen, Eli Lilly, Merck Canada Inc., 8; Amgen, Eli Lilly, Merck Canada., Warner Chilcott, 2; McMaster University, 3; Amgen, Eli Lilly, Merck Canada Inc., 5

MO0323 Real-World Evidence on Fragility Fractures and Treatment in Canadian Osteoporotic Patients

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MO0324 The Epidemiology of Distal Forearm Fractures in Austria Between 1989 and 2010

Hans P. Dimai*[1], Axel Svedbom[2], Astrid Fahrleitner-Pammer[3], Thomas Pieber[4], Heinrich Resch[5], Christian Muschitz[6], Heinrich Thaler[7], Michael Szivak[8], Karin Amrein[1], Fredrik Borgström[9]. [1]Medical University of Graz, Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, [2]OptumInsight, Sweden, [3]Medical University Graz, Austria, [4]Medical University of Graz, Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, [5]Medical University Vienna, Austria, [6]St. Vincent's Hospital, Austria, [7]Trauma Center Meidling, Austria, [8]Austrian Worker's Compensation Board (AUVA), Austria, [9]Quantify Research, Sweden

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MO0325 What is the Bone Metabolic State of Patients With High Energy Trauma Fractures

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OSTEOPOROSIS - EPIDEMIOLOGY:RISK FACTORS

MO0326 Assessment of the Fracture Risk by Age Distribution in Korean Using FRAX with and without BMD

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Disclosures: JI WAN Kim, None

MO0327 Association of serum uric acid concentration with bone: Roles of age and vitamin C intake

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Disclosures: Shivani Sahni, Unrestricted research grants from General Mills Bell Institute of Health and Nutrition, 2

MO0328 Associations between Serum Vitamin K1 and Risk of Hip Fractures in Elderly Norwegian Men and Women. A NOREPOS Study

Trine Elisabeth Finnes*[1], Cathrine M Lofthus[2], Haakon E. Meyer[3], Anne Johanne Søgaard[4], Grethe Tell[5], Ellen M Apalset[6], Clara Gjesdal[7], Guri Grimnes[8], Berit Schei[9], Rune Blomhoff[10], Sven Ove Samuelsen[11], Kristin Holvik[12]. [1]Sykehuset Innlandet Thrust, Norway, [2]Department of Endocrinology, Oslo University Hospital, Norway, [3]Norwegian Institute of Public Health/University of Oslo, Norway, [4]Department of Chronic Diseases, Division of Epidemiology, Norwegian Institute of Public Health, Norway, [5]Department of Global Public Health & Primary Care, University of Bergen, Norway, [6]Department of Global Public Health & Primary Care, University of Bergen & Department of Rheumatology, Haukeland University Hospital., Norway, [7]Haukeland University Hospital, Norway, [8]University Hospital of Northern Norway, Norway, [9]Department of Public Health & General Practice Norwegian University of Science & Technology, Norway, [10]Department of Nutrition, Faculty of Medicine, University of Oslo, Norway, [11]Department of Mathematics, University of Oslo, Norway, [12]Norwegian Institute of Public Health, Norway

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MO0329 Brown adipose tissue (BAT) activity is inversely associated with bone mineral density (BMD) in healthy young adults

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MO0330 Cancer Rates in Men With and Without Osteoporosis in a US Healthcare System

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Disclosures: Cynthia O'Malley, Amgen Inc., 1

MO0331 Co-morbidities in patients with a recent fracture at the Fracture Liaison Service

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Disclosures: Lisanne Vranken, None

MO0332 High Prevalence of Vitamin D Insufficiency and Deficiency among Post-menopausal Women in China: Preliminary Results of a Chinese Multicenter Study

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Disclosures: Weibo Xia, None

MO0333 Hip Fracture Vital Signs: Simple Observations at a Medical Visit Estimate Hip Fracture Risk in Women and Men

Steven Cummings*[1], Lily Lui[2], Peggy Cawthon[3], Jane Cauley[4], Susan Diem[5], Teresa Hillier[6], Kristine Ensrud[7]. [1]San Francisco Coordinating Center, USA, [2]UCSF, USA, [3]California Pacific Medical Center Research Institute, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]University of Minnesota, USA, [6]Kaiser Center for Health Research, USA, [7]University of Minnesota & Minneapolis VA Health Care System, USA

Disclosures: Steven Cummings, None

MO0334 Lack of concordance among vitamin D binding protein assays and effect on bioavailable 25OHD estimates

Carrie Nielson*[1], Priya Srikanth[1], Ying Wang[1], Christine Swanson[1], Christine Lee[1], Rene Chun[2], Martin Hewison[3], John Adams[3], Dirk Vanderschueren[4], Roger Bouillon[4], Jodi Lapidus[1], Jane Cauley[5], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]UCLA/Orthopedic Hospital Research Center, USA, [3]University of California, Los Angeles, USA, [4]Katholieke Universiteit Leuven, Belgium, [5]University of Pittsburgh Graduate School of Public Health, USA

Disclosures: Carrie Nielson, None

MO0335 Risk factors for hip fracture in older men: The Osteoporotic Fractures in Men Study (MrOS)

Jane Cauley*[1], Peggy Cawthon[2], Kathy Peters[2], Steven Cummings[3], Kristine Ensrud[4], Douglas Bauer[5], Brent Taylor[6], James M. Shikany[7], Andrew Hoffman[8], Nancy Lane[9], Deborah Kado[10], Eric Orwoll[11]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]California Pacific Medical Center Research Institute, USA, [3]San Francisco Coordinating Center, USA, [4]University of Minnesota & Minneapolis VA Health Care System, USA, [5]University of California, San Francisco, USA, [6]University of Minnesota, USA, [7]University of Alabama, Birmingham, USA, [8]Stanford University, USA, [9]University of California, Davis Medical Center, USA, [10]University of California, San Diego, USA, [11]Oregon Health & Science University, USA

Disclosures: Jane Cauley, None

MO0336 Systematic evaluation of loss of renal function over 10 years in elderly Swedish women

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Disclosures: Linnea Malmgren, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

MO0337 A Fracture Liaison Service specifically designed to address local government concerns can be effective

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Disclosures: Diane Theriault, None

MO0338 Clinical evaluation of the appropriateness of referrals for dual energy X-ray absroptiometry: differences by physician specialty
Alp Cetin*. Proffessor, Turkey
Disclosures: Alp Cetin, None

MO0339 Effectiveness and feasibility of an iPad based Patient administered informed consent (IC) vs. Paper Consent for Osteoporosis Pragmatic Clinical Trials (PCT)
Amy Warriner*[1], P. Jeffrey Foster[1], Nicole Wright[1], Amy Mudano[1], Cora Lewis[1], Sebastian Sattui[1], Mary E. Melton[1], Wilson Pace[2], Walter Calmbach[3], Laura Nichols[2], Susan Booth[4], T. Michael Harrington[1], Jeffrey Curtis[1], Kenneth Saag[1]. [1]University of Alabama At Birmingham, USA, [2]University of Colorado Denver, USA, [3]University of Texas San Antonio, USA, [4]Mytrus, Inc., USA
Disclosures: Amy Warriner, None

MO0340 Secondary prevention of osteoporotic fractures: evaluation of the Amiens University Hospital's fracture liaison service between January 2010 and December 2011.
Nassima Dehamchia-Rehailia[1], Daciana Ursu[1], Isabelle Henry-Desailly[1], Patrice Fardellone*[2], Julien Paccou[3]. [1]Department of Rheumatology, Amiens University Hospital, France, [2]Service de rhumatologie, CHU Hôpital Nord, France, [3]University of Picardie Jules Verne, Amiens, France
Disclosures: Patrice Fardellone, None

MO0341 What Percentage of Patients in UK Nursing Homes are Suitable for and Require IV Zoledronate? Results of a Structured Nursing Home Review Programme.
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MO0342 Zoledronic Acid and Denosumab Use in Ontario, Canada
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OSTEOPOROSIS - HEALTH CARE DELIVERY: HEALTH ECONOMICS

MO0343 Comparisons of Osteoporotic Fracture Incidence and Anti-osteoporotic Medication Expenditures after Changes of Reimbursement Policy
Rong-Sen Yang, Li-Wei Hung*. National Taiwan University Hospital, Taiwan
Disclosures: Li-Wei Hung, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: CALCIUM

MO0344 Calcium alleviation of oxidative stress. Active Absorptive Algal Calcium decreases total peroxides in blood.
Takuo Fujita*[1], Mutsumi Ohue[1], Ryuji Aoyama[1], Tomohiro Tanaka[1], Yoshio Fujii[2], Tsuyoshi Jotoku[3], Akimitsu Miyauchi[4], Yasuyuki Takagi[5]. [1]Katsuragi Hospital, Japan, [2]Calcium Research Institute Kobe Branch, Japan, [3]Dept of Orthopedic Surgery, Osaka Medical College, Japan, [4]Miyauchi Medical Center, Japan, [5]National Hyogo Chuo Hospital, Japan
Disclosures: Takuo Fujita, None

MO0345 The effect of calcium and vitamin D supplementation on bone mineral density in healthy males: A meta-analysis
David Greene*, Leslie Silk, Michael Baker. Australian Catholic University, Australia
Disclosures: David Greene, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: GENERAL

MO0346 Supplementation with Beetroot Juice Does Not Affect Bone Microarchitecture of the Femur or Lumbar Vertebrae of OVX Rats
Amanda Longo*[1], Bryan Johnston[1], Paul LeBlanc[1], Sandra Peters[1], Gregory Wohl[2], Wendy Ward[1]. [1]Brock University, Canada, [2]McMaster University, Canada
Disclosures: Amanda Longo, None

OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: VITAMIN D

MO0347 Development and validation of a food frequency questionnaire for assessment of vitamin D and calcium intake in Finnish adults

Suvi Itkonen*[1], Maijaliisa Erkkola[2], Essi Skaffari[3], Pilvi Saaristo[3], Elisa Saarnio[1], Christel Lamberg-Allardt[1]. [1]University of Helsinki, Finland, [2]Division of Nutrition, Department of Food & Environmental Sciences, University of Helsinki, Finland, [3]Calcium Research Unit, Department of Food & Environmental Sciences, University of Helsinki, Finland

Disclosures: Suvi Itkonen, None

MO0348 Evaluating Effects of Supplemental Vitamin D on Incident Fracture Risk in the VITamin D and OmegA-3 TriaL (VITAL)

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Disclosures: Meryl Leboff, None

MO0349 High prevalence of vitamin D deficiency in patients with xeroderma pigmetosum (XP)- A under strict sun-protection

Akiko Kuwabara*[1], Naoko Tsugawa[2], Kiyoshi Tanaka[3], Yasuyo Uejima[1], Junko Ogawa[1], Natsumi Otao[1], Nanae Yamada[1], Taro Masaki[4], Chikako Nishigori[4], Shinichi Moriwaki[5], Toshio Okano[2]. [1]Department of Health & Nutrition, Osaka Shoin Women's University, Japan, [2]Kobe Pharmaceutical University, Japan, [3]Kyoto Women's University, Japan, [4]Division of Dermatology, Clinical Molecular Medicine, Graduate School of Medicine, Kobe University, Japan, [5]Department of Dermatology, Osaka Medical College, Japan

Disclosures: Akiko Kuwabara, None

MO0350 Measurement of Serum 1,25-dihydroxyvitamin D Levels: An Excercise in Utility or Futility?

Tarlisha Holsey*, Sudhaker Rao, Arti Bhan. Henry Ford Hospital, USA

Disclosures: Tarlisha Holsey, None

MO0351 Rational Assessment of Vitamin D

Arthur Chausmer*. C/A Informatics, LLC, USA

Disclosures: Arthur Chausmer, None

MO0352 The Effect of High-Dose Vitamin D Supplementation on Bone Mineral Density and Bone Turnover Markers in Subjects with Type 2 Diabetes and Hypovitaminosis D – a Randomized Controlled Trial

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Disclosures: Hanne Gulseth, None

MO0353 Three doses of vitamin D on bone mineral density and structural analysis in postmenopausal women: a double-blind randomized controlled pilot study

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Disclosures: L. Claudia Pop, None

MO0354 Vitamin D replacement in patients undergoing bariatric surgery: a systematic review and meta-analysis.

Marlene Chakhtoura*[1], Ghada El-Hajj Fuleihan[2], Elie Akl[1], Nancy Nakhoul[1], Bassem Safadi[1]. [1]American University of Beirut, Lebanon, [2]American University of Beirut-Medical Center, Lebanon

Disclosures: Marlene Chakhtoura, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE MODELING AND REMODELING

MO0355 Higher bone resorption across the menopause may impair trabecular microarchitecture – the prospective OFELY study

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Disclosures: Elisabeth Sornay-Rendu, None

MO0356 Model Development in Ovariectomized Rabbits to Translate the Increased Bone Remodeling Associated with the 3-mg Dose of the Odanacatib Phase II Study

Tara Cusick*[1], Le Duong[2]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA

Disclosures: Tara Cusick, Merck & Co., 1; Merck & Co., 3

MO0357 Regulating osteogenesis via Bcl6

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MO0358 RNA Seq-based Gene Expression in Mouse Cortical and Cancellous Bone

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Disclosures: Natalie Kelly, None

MO0359 Tissue Heterogeneity Determined by FTIR Imaging Decreases with Increasing Fracture Count

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Disclosures: Adele Boskey, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: CALCIUM, VITAMIN D, NUTRITIONAL AND PHYSICAL FACTORS

MO0360 Improving bone metabolism by pomegranate seed oil in bone cells culture and in a preclinical mice model of postmenopausal osteoporosis

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Disclosures: Mélanie Spilmont, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

MO0361 Bone Loss in a New Rodent Model Combining Spinal Cord Injury and Cast Immobilization

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Disclosures: Joshua Yarrow, None

MO0362 Effects of alendronate for bone loss and pain-related behavior in the hindlimb-unloaded mouse model of osteoporosis

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Disclosures: Taro Nakagawa, None

MO0363 MiRNAs Involved in the Osteoblastic Function are Altered in Human Osteoporotic Bone
Natalia Garcia-Giralt*[1], Laura De-Ugarte[2], Susana Balcells[3], Sergi Ariño-Ballester[2], Guy Yoskovitz[4], Santos Martinez-Diaz[5], Robert Guerri Fernandez[6], Leonardo Mellibovsky[7], Roser Urreizti[3], Xavier Nogues[8], Daniel Grinberg[9], Adolfo Diez-Perez[10]. [1]IMIM, Spain, [2]MSRU,IMIM (Institut Hospital del Mar d'Investigacions Mèdiques), Spain, [3]Departament de Genètica, Universitat de Barcelona, IBUB, Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), ISCIII, Spain, [4]IMIM, Parc de salut Mar, RETICEF, Spain, [5]Department Orthopaedic Surgery & Traumatology, Hospital del Mar, Spain, [6]Fundacio IMIM, Spain, [7]Servei de Medicina Interna, Hospital del Mar, Universitat Autònoma de Barcelona, Spain, [8]Institut Municipal D'Investigació Mèdica, Spain, [9]The University of Barcelona, Spain, [10]Servei de Medicina Interna, Hospital del Mar, Universitat Autònoma de Barcelona,IMIM (Institut Hospital del Mar d'Investigacions Mèdiques), Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF), Spain
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MO0364 Understanding Low Bone Mass In Down Syndrome Patients
Archana Kamalakar*[1], Diarra Williams[1], Nisreen Akel[1], Tristan Fowler[2], Frances Swain[3], Kent McKelvey[3], Dana Gaddy[1], Larry Suva[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Universität Wien, Aut, [3]Department of Orthopaedic Surgery, University of Arkansas for Medical Sciences, USA
Disclosures: Archana Kamalakar, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: SEX HORMONES AND CALCIOTROPIC HORMONES

MO0365 The effects of androgens on cortical bone mass do not result from direct actions on osteoblasts or osteoclasts
Semahat Serra Ucer*[1], Shoshana Bartell[2], Ha-Neui Kim[3], Srividhya Iyer[2], Li Han[2], Aaron Warren[4], Julie Crawford[4], Maria Jose Almeida[2], Stavros Manolagas[2]. [1]University of 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 VA Healthcare System, USA, [4]Center for Osteoporosis & Metabolic Bone Diseases, Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, USA
Disclosures: Semahat Serra Ucer, None

MO0366 Transmenopausal changes in cortical bone quality
Sonja Gamsjaeger*[1], Wolfgang Brozek[1], Robert Recker[2], Klaus Klaushofer[3], Eleftherios Paschalis[4]. [1]Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Austria, [2]Creighton University, USA, [3]Hanusch Hospital, Ludwig Boftzmann Institute of Osteology, Austria, [4]Ludwig Boltzmann Institute for Osteology, Austria
Disclosures: Sonja Gamsjaeger, None

OSTEOPOROSIS - SECONDARY CAUSES: DRUGS, OTHER THAN GLUCOCORTICOIDS

MO0367 Long-term low-molecular-weight heparin and bone health in non-pregnant patients: A systematic review
Olga Gajic-Veljanoski*[1], Chai W. Phua[2], Prakesh S. Shah[3], Angela M. Cheung[4]. [1]University Health Network, Canada, [2]Division of Hematology, Dept of Medicine, University of Toronto, Canada, [3]Departments of Paediatrics & IHPME, University of Toronto, Canada, [4]University Health Network-University of Toronto, Canada
Disclosures: Olga Gajic-Veljanoski, None

MO0368 The Association Between Use of Antidepressants and Bone Quality Using Quantitative Ultrasound
Päivi Rauma*[1], Julie Pasco[2], Michael Berk[3], Amanda Stuart[2], Risto Honkanen[1], Heli Koivumaa-Honkanen[4], Jason Hodge[5], Lana Williams[6]. [1]University of Eastern Finland, Finland, [2]Deakin University, Australia, [3]Deakin University; The University of Melbourne, Australia, [4]University of Eastern Finland; Kuopio University Hospital; University of Oulu, Finland, [5]Deakin University; The Geelong Hospital, Australia, [6]The University of Melbourne, Australia
Disclosures: Päivi Rauma, None

OSTEOPOROSIS - SECONDARY CAUSES: GLUCOCORTICOIDS

MO0369 Bone Marrow Fat (BMT), Energy Metabolism and Bone Mineral Density (BMD) in Young Women with Cushing Disease (CD)

Sergio Luchini Batista*[1], Marcello Henrique Nogueira-Barbosa[2], Iana Mizumukai de Araújo[2], Adriana Lélis Carvalho[2], Carlos Ernesto Garrido Salmon[3], Ayrton Custódio Moreira[2], Margaret de Castro[2], Francisco José Albuquerque de Paula[2]. [1]School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [2]School of Medicine of Ribeirão Preto, University of São Paulo, Brazil, [3]Faculty of Science & Letters, University of São Paulo, Brazil

Disclosures: Sergio Luchini Batista, None

MO0370 Ineffective fracture prevention by bisphosphonate in patients undergoing high dose glucocorticoid therapy with a FRAX ten year probability greater than 5.8%

Goichi Kageyama*[1], Takaichi Okano[1], Kousaku Tsuda[1], Yuzuru Yamamto[1], Daisuke Sugiyama[2], Goh Tsuji[3], Shunichi Kumagai[3], Akio Morinobu[4]. [1]Kobe University Hospital, Japan, [2]Keio University, Japan, [3]Shinko Hospital, Japan, [4]Kobe University Hospotal, Japan

Disclosures: Goichi Kageyama, None

OSTEOPOROSIS - SECONDARY CAUSES: SMOKING, ALCOHOL AND OTHER ENVIRONMENTAL FACTORS

MO0371 Serum Levels of Growth Differentiation Factor (GDF)-15 Are Elevated, And Decreased After Introduction of Oxygen Therapy in Japanese Male Subjects with COPD-Associated Osteoporosis.

Reiko Watanabe*[1], Takeshi Tanaka[1], Keisuke Aita[1], Masaaki Hagiya[1], Nobuyuki Tai[1], Junko Hirano[1], Kyoko Yokosuka[2], Hisami Yamakawa[3], Tsutomu Yarita[2], Toshiaki Homma[1], Ryo Okazaki[1]. [1]Teikyo University Chiba Medical Center, Japan, [2]Yarita Hospital, Japan, [3]Yaria Hospital, Japan

Disclosures: Reiko Watanabe, None

OSTEOPOROSIS - TREATMENT: ANABOLIC AGENTS

MO0372 Differential effects of teriparatide (TPTD) and zoledronic acid (ZOL) on bone mineralization density distribution (BMDD) at 6 and 24 months in the SHOTZ study

David Dempster*[1], Paul Roschger[2], Barbara M. Misof[3], Hua Zhou[4], Eleftherios Paschalis[5], Fangqiu Zhang[6], Jahangir Alam[7], Valerie A. Ruff[8], Klaus Klaushofer[9], Kathleen Taylor[8], For the SHOTZ Investigators USA. [1]Columbia University, USA, [2]L. Boltzmann Institute of Osteology, Austria, [3]Ludwig Boltzmann Institute of Osteology, Austria, [4]Helen Hayes Hospital, USA, [5]Ludwig Boltzmann Institute for Osteology, Austria, [6]inVentiv Health Clinical, Canada, [7]Lilly USA, USA, [8]Eli Lilly & Company, USA, [9]Hanusch Hospital, Ludwig Boftzmann Institute of Osteology, Austria

Disclosures: David Dempster, Eli Lilly, Amgen, Merck, 5; Eli Lilly, 2; Amgen, Eli Lilly, 8

MO0373 Early increases in IGF-1 receptor density on circulating osteogenic progenitor cells predict responsiveness to teriparatide

Adi Cohen*[1], J. Sanil Manavalan[2], Stavroula Kousteni[1], Robert Recker[3], Joan Lappe[4], David Dempster[2], Donald McMahon[5], Mariana Bucovsky[2], Mafo Kamanda-Kosseh[2], Julie Stubby[3], Elizabeth Shane[5]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Creighton University, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Columbia University College of Physicians & Surgeons, USA

Disclosures: Adi Cohen, None

MO0374 Effectiveness of Teriparatide in the Treatment of Osteoporosis, Data from Real-World Clinical Practice George O. Tsoukas1, Alaa Dekis2, Philip H. Tsoukas3, Louise Ullyatt1, Fiona Vickers, George M. Tsoukas1 1 Division of Endocrinology, 2 Division of Rheumatology, McGill University Health Center; 3 Department of Medicine, University College Dublin

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MO0375 Effects of Recombinant Human Parathyroid Hormone on Bone Structure in Premenopausal Women with Lower Extremity Stress Fractures: A Pilot Study
Ellen Almirol*[1], Lisa Gao[2], Shelley Hurwitz[1], Meryl Leboff[3]. [1]Brigham & Women's Hospital, USA, [2]Case Western Reserve University School of Medicine, USA, [3]Brigham & Women's Hospital, Professor of Medicine, Harvard Medical School, USA
Disclosures: Ellen Almirol, None

MO0376 Er-Xian Decoction stimulates osteoblastic differentiation of bMSCs in OVX mice and its gene profile analysis
Qin Bian*[1], Yongjun Wang[2]. [1]USA, [2]Othopedic Surgery, Peoples Republic of China
Disclosures: Qin Bian, None

MO0377 First in Man Studies of Pharmacokinetic Profiles of a Novel Oral PTH(1-34)
Jonathan Tang*[1], Hillel Galitzer[2], Christopher Washbourne[3], Isabelle Piec[4], Naifang Wang[5], Gregory Burshtein[2], Phillip Schwartz[2], Yoseph Caraco[6], Ehud Arbit[2], William Fraser[3]. [1]University of East Anglia, Norwich, UK, United Kingdom, [2]Entera Bio, Israel, [3]University of East Anglia, United Kingdom, [4]BioAnalytical Facility, University of East Anglia, United Kingdom, [5]Enter Bio, Israel, [6]Hadassah Hospital, Israel
Disclosures: Jonathan Tang, None

MO0378 Flavonoid class compounds abrogating sclerostin induced inhibition of Wnt/beta catenin signaling
Sung-Kil Lim[1], Eun Jin Kim*[2], Bo Mi Park[2], Dongdong Zhang[2], Nam Hee Kim[2], Joohyun Bae[2]. [1]Yonsei University College of Medicine, South Korea, [2]Yonsei University, South Korea
Disclosures: Eun Jin Kim, None

MO0379 Inceased Serum Undercarboxylated Osteocalcin in use of Teriparatides could be reduced with concurrent use of vitaminK
Yoichi Kishikawa*[1], Taro Mawatari[2]. [1]Kishikawa Orthopedics, Japan, [2]Hamanomachi Hospital, Japan
Disclosures: Yoichi Kishikawa, None

MO0380 Increased Endocortical Formation and Periosteal Resorption at the Distal Tibia in Premenopausal Women with Idiopathic Osteoporosis Treated with 18 Months of Teriparatide
Mary Beth Tribble*[1], Adi Cohen[2], Chantal De Bakker[1], Joan Lappe[3], Robert Recker[4], Kyle Nishiyama[5], Mishaela Rubin[5], John Bilezikian[6], Elizabeth Shane[6], Xiaowei Liu[1]. [1]University of Pennsylvania, USA, [2]Columbia University Medical Center, USA, [3]Creighton University Osteoporosis Research Center, USA, [4]Creighton University, USA, [5]Columbia University, USA, [6]Columbia University College of Physicians & Surgeons, USA
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MO0381 Withdrawn

MO0382 Once-weekly Teriparatide Increases Bone Mineral Density in the Distal Radius using The Correction Method of Dual-energy X-ray Absorptiometry Images
Yukihiro Isogai[1], Nobuo Urushibara[2], Harumi Nakayama[3], Ryutaro Adachi[4], Shigeru Kitagawa[4], Naoto Kato*[5], Tatsuhiko Kuroda[5]. [1]Japan, [2]Nukada Memorial Hospital, Japan, [3]Harumi clinic, Japan, [4]Hitachi Aloka Medical, Ltd, Japan, [5]Asahi Kasei Pharma Corporation, Japan
Disclosures: Naoto Kato, None

MO0383 Sclerostin Antibody Administration Activated Bone Formation in Ovariectomized Rats with Concurrent Mechanical Unloading
Dongye Zhang*[1], Minyi Hu[1], Timothy Chu[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

MO0384 Sequential anti-osteoporotic therapy against recurrence of fragility fractures: the positive clinical effects of an osteo-anabolic first choice.
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Disclosures: Costantino Corradini, None

MO0385 The Long Term Effects Of Abaloparatide (BA058) On Bone Histomorphometry in Osteopenic Rats
Luc Chouinard*[1], Elisabeth Lesage[2], Susan Y. Smith[3], Gary Hattersley[4]. [1]Charles River Laboratories, PCS Montreal, Canada, [2]Charles River, Canada, [3]Charles River Laboratories, Canada, [4]Radius, USA
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OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

MO0386 A RCT Study to Compare the Short-term Biochemical Bone Metabolism Outcome of Weekly Alendronate Treatment in Osteopenic Women with or without Vibro-Therapy Intervention
Emilio Roldan*[1], Ricardo Capiglioni[2], Victor Montangero[2], Alicia Marino[2], Claudia Gomez Acotto[2]. [1]Gador S.A., Argentina, [2]Maimonides Univ, Argentina
Disclosures: Emilio Roldan, Gador SA, 3

MO0387 A Study of Women with Osteoporosis who are at High Risk for Fracture despite Benefits of Oral BisphosphonateTreatment
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Disclosures: Ankita Modi, Used to be an employee of Merck, 1

MO0388 Alendronate Improves Bone Material Level Properties in Paired Human Transiliac Bone Biopsy Specimens
Patrick Ammann*[1], Rene Rizzoli[2]. [1]Division of Bone Diseases, Switzerland, [2]Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Patrick Ammann, Servier, 5

MO0389 Differentiating effects of treatments on TBS
Renaud Winzenrieth*[1], Luis Del Rio[2], Silvana Di Gregorio[3], E Bonel[3], M Garcia[3]. [1]Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, [2]Cetir Centre Medical, Spain, [3]Cetir Grup Medic, Spain
Disclosures: Renaud Winzenrieth, Med-Imaps, 3

MO0390 Efficacy and Safety of Bazedoxifene in Postmenopausal Latino Women with Osteoporosis
Jose A. Hernández Bueno[1], Lizbeth Arias[2], Ching-Ray Yu[3], Robert Williams[3], Barry S. Komm*[3]. [1]Unknown, Mexico, [2]Pfizer Inc, Mexico, [3]Pfizer Inc, USA
Disclosures: Barry S. Komm, None

MO0391 Evolution of Subject Characteristics in FREEDOM and its Extension for Up to 8 Years
JD Adachi*[1], PR Ho[2], CJF Lin[2], MA Bolognese[3], HG Bone[4], P Hadji[5], S Papapoulos[6], C Recknor[7], NS Daizadeh[2], P Dakin[2], RB Wagman[2], S Ferrari[8]. [1]McMaster University, Canada, [2]Amgen Inc., USA, [3]Bethesda Health Research Center, USA, [4]Michigan Bone & Mineral Clinic, USA, [5]Philipps-University of Marburg, Germany, [6]Leiden University Medical Center, Netherlands, [7]United Osteoporosis Centers, USA, [8]Geneva University Hospital, Switzerland
Disclosures: JD Adachi, Amgen, Eli Lilly, Warner Chilcott, 8; Amgen, Eli Lilly, Merck, 2; Amgen, Eli Lilly, Merck, Warner Chilcott, 5

MO0392 NSAID Efficacy in Acute-Phase Reaction Management in Chinese Postmenopausal Osteoporosis Patients after Zoledronic Acid Infusion: A Subgroup Analysis
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Disclosures: Fuxing Pei, None

MO0393 Oral alendronate is associated with gastro-intestinal reflux disease and voice alterations irrespective of the presence of esophagitis.
Sirley Vasconcelos*[1], Francisco Bandeira[2], Alyne Loureiro[3], Ana Catarina Araújo[3], Severino dos Santos[4], Larissa Pimentel[5]. [1]Hospital Agamenon Magalhães - Recife, Brazil, [2]University of Pernambuco, Brazil, [3]Agamenon Magalhães Hospital, Brazil, [4]Osvaldo Cruz Hospital, Brazil, [5]Brazil
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MO0394 Osteoporosis Treatment with Denosumab: Our Experience in the Real Clinical Practice
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Disclosures: Diana González, None

MO0395 Relationship between Response to Treatment with Risedronate and Baseline Characteristics Including Age, BMD, and Serum 25(OH)D Level -Subanalyses of Japanese Risedronate Phase III Trials-
Taro Mawatari*[1], Ryoichi Muraoka[2], Yukihide Iwamoto[3]. [1]Hamanomachi Hospital, Japan, [2]Ajinomoto Phamaceuticals Co, Ltd., Japan, [3]Dept. of Orthopaedic Surgery, Kyushu University, Japan
Disclosures: Taro Mawatari, None

OSTEOPOROSIS - TREATMENT: COMPLIANCE AND PERSISTENCE

MO0396 Closing the Gap in Osteoporosis Management: Implementation and Outcome Analysis of Secondary Fracture Prevention Programs
Kirtan Ganda*[1], Markus Seibel[2]. [1]Concord Hospital, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
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MO0397 DEVIDE-Study: DEnosumab Versus Intravenous IbanDronatE – a 24 months retrospective head to head real life study – Baseline Data
Astrid Fahrleitner-Pammer*[1], Christian Muschitz[2], Doris Wagner[3], Karin Amrein[3], Thomas Pieber[3], Heinrich Resch[4], Hans Dimai[5]. [1]Medical University Graz, Austria, [2]St. Vincent's Hospital, Austria, [3]Medical University, Austria, [4]Medical University Vienna, Austria, [5]Medical University of Graz, Austria
Disclosures: Astrid Fahrleitner-Pammer, None

MO0398 Persistence With Prolia® (Denosumab) for 1 Year in Relation to Patient-reported Data: Interim Results From a Prospective Observational Study of Postmenopausal Women With Osteoporosis
SL Silverman*[1], E Siris[2], DL Kendler[3], D Belazi[4], JP Brown[5], DT Gold[6], EM Lewiecki[7], A Papaioannou[8], C Simonelli[9], G Quinn[10], A Balasubramanian[11], FM Mirza[11], P Ho[11], S Siddhanti[11], B Stolshek[11], C Recknor[12]. [1]Cedars-Sinai Bone Center for Excellence, UCLA School of Medicine, & OMC Clinical Research Center, USA, [2]Columbia University Medical Center, USA, [3]University of British Columbia, Canada, [4]AlchemiPharma LLC, USA, [5]Laval University & CHU de Québec Research Centre, Canada, [6]Duke University Medical Center, USA, [7]New Mexico Clinical Research & Osteoporosis Center & University of New Mexico School of Medicine, USA, [8]McMaster University, Canada, [9]Health East Osteoporosis Care, USA, [10]Sarnia Statistics LTD, United Kingdom, [11]Amgen Inc., USA, [12]United Osteoporosis Centers, USA
Disclosures: SL Silverman, Cedars-Sinai Medical Center, 3; Amgen, Lilly, Pfizer, 8; Amgen, Lilly, Medtronics, Pfizer, 2; Amgen, Genentech, Lilly, Novartis, Pfizer, 5

MO0399 Preferences for Osteoporosis Treatment in Japan
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Disclosures: Ikuko Tanaka, MSD K.K., 99

MO0400 Preventing breaking bad: The impact of DXA and FRAX results on physicians' treatment decisions in a large multispecialty group practice
Meg Durbin*[1], Miriam Rotman[2], Bradley Stolshek[3], Harold Luft[2]. [1]Palo Alto Medical Foundation, Sutter Health, USA, [2]Palo Alto Medical Foundation Research Institute, USA, [3]Amgen, USA
Disclosures: Meg Durbin, Amgen, 2

MO0401 Understanding Physicians Perceptions of Patients Barriers to Osteoporosis Medication Intitiation

Stuart Silverman*[1], Haiyan Qu[2], Jeffrey Curtis[2], Susan Greenspan[3], Sarah Morgan[2], Jeri Nieves[4], Ryan Outman[2], Richard Shewchuk[2], Ethel Siris[5], Amy Warriner[2], Nelson Watts[6], Kenneth Saag[2]. [1]Cedars-Sinai/UCLA, USA, [2]University of Alabama at Birmingham, USA, [3]University of Pittsburgh, USA, [4]Columbia University & elen Hayes Hospital, USA, [5]Columbia University College of Physicians & Surgeons, USA, [6]Mercy Health Osteoporosis & Bone Health Services, USA

Disclosures: Stuart Silverman, None

OSTEOPOROSIS - TREATMENT: FRACTURE REPAIR

MO0402 Two Years of Osteoanabolic Treatment to Heal a Non-union Fracture in a Patient with Multiple Co-Morbidities

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OSTEOPOROSIS - TREATMENT: OTHER THERAPEUTIC AGENTS

MO0403 Combination therapy Denosumab and Alfacalcidol in Postmenopausal Osteoporosis - tree years experience

Corina Galesanu*, Andra Iulia Loghin. University of Medicine & Pharmacy, Romania

Disclosures: Corina Galesanu, None

MO0404 Effect of Eldecalcitol on Bone Metabolism Following Alendronate Treatment in Ovariectomized Rats

Satoshi Takeda*[1], Sadaoki Sakai[2], Yoshihito Tashiro[3], Michinori Hirata[4], Ken-ichi Serizawa[4], Kenji Yogo[4], Koichi Endo[2]. [1]"chugai Pharmaceutical Co., Ltd.", Japan, [2]Chugai Pharmaceutical Co., Ltd., Japan, [3]Chugai Pharmaceutical Co.,Ltd, Japan, [4]Chugai Pharmaceutical Co.,Ltd., Japan

Disclosures: Satoshi Takeda, Chugai Pharmaceutical Co.,Ltd, 3

MO0405 Intrinsic bone mineral quality in postmenopausal osteoporotic women treated for 12 months with strontium ranelate or alendronate

Camille Ponçon*[1], Delphine Farlay[2], Georges Boivin[3]. [1]INSERM U1033 Université de Lyon, France, [2]INSERM, UMR1033; Université De Lyon, France, [3]INSERM, UMR1033 ; Universite De Lyon, France

Disclosures: Camille Ponçon, None

MO0406 The Effects of Pulsed Electromagnetic Field (PEMF) and/or Bisphosphonate Treatments on Vertebral Bone Mass in a Long-Term Osteoporosis Model

Caroline Androjna*[1], Erik Waldorff[2], James Ryaby[3], Maciej Zborowski[4], Ronald Midura[5]. [1]Lerner Research Institute, Cleveland Clinic, USA, [2]Orthofix, USA, [3]Orthofix Inc, USA, [4]Cleveland Clinic, USA, [5]Lerner Research Institute of Cleveland Clinic, USA

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MO0407 The role of the renin–angiotensin system in the bone metabolic response to mental stress

Norman Pollock*[1], Laura Carbone[1], Monique Bethel[2], Yanbin Dong[1], Luiz Ortiz[1], Obioma Nwobi[1], Coral Hanevold[3], Deborah Stewart[1], Gregory Harshfield[1]. [1]Georgia Regents University, USA, [2]Indiana University School of Medicine, USA, [3]Seattle Children's Hospital, USA

Disclosures: Norman Pollock, None

OSTEOPOROSIS - TREATMENT: QUALITY OF LIFE

MO0408 Long-term Improvements in Bone Mineral Density and Health Related Quality of Life in Osteoporosis Patients Treated with Teriparatide

Herman Bami*[1], Adrian Budhram[2], Raymond Chu[3], George Ioannidis[1], Alexandra Papaioannou[4], Arthur Lau[1], Jonathan Adachi[5]. [1]McMaster University, Canada, [2]Michael G. DeGroote School of Medicine, McMaster University, Canada, [3]Faculty of Medicine, University of Toronto, Canada, [4]Hamilton Health Sciences, Canada, [5]St. Joseph's Hospital, Canada

Disclosures: Herman Bami, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: DIABETES

MO0409 Differences in bone status between type 1 and type 2 diabetes mellitus patients
Jakob Linde*[1], Søren Gregersen[1], Ellen Hauge[1], Bente Langdahl[2], Peter Vestergaard[3]. [1]Aarhus University Hospital, Denmark, [2]Aarhus University Hospital, Denmark, [3]Aalborg University Hospital, Denmark
Disclosures: Jakob Linde, None

MO0410 FRAX Underestimates Fracture Risk in Patients with Type 1 Diabetes Mellitus
Tayyab Khan*[1], Tamara Spaic[2], Lisa-Ann Fraser[2]. [1]Department of Medicine, Western University, Canada, [2]Western University, Canada
Disclosures: Tayyab Khan, None

MO0411 Young and middle aged male with type 1 diabetes have lower vBMD and strength in femoral bone and have aging structure of the femoral neck assessed by Quantitative CT.
Koji Ishikawa*[1], Takashi Nagai[1], Tomoyasu Fukui[2], Takuma Kuroda[1], Katsunori Inagaki[1]. [1]Department of Orthopeadic Surgery, Showa University School of Medicine, Japan, [2]Department of Internal Medicine, Division of Diabetes & Endocrinology, Showa University School of Medicine, Japan
Disclosures: Koji Ishikawa, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: MOBILITY DISORDERS, DISUSE OSTEOPOROSIS

MO0412 Prospective study of bone loss after spinal cord injury (SCI). Role of osteocyte markers.
Laia Gifre*[1], Joan Vidal[2], Josep Lluís Carrasco[3], Xavier Filella[4], Silvia Ruiz-Gaspà[5], Enric Portell[2], Ana Monegal[1], Africa Muxi[6], Nuria Guanabens[7], Pilar Peris[8]. [1]Hospital Clinic Barcelona, Spain, [2]Guttmann Neurorehabilitation Institute, Spain, [3]Public Health Department. University of Barcelona, Spain, [4]Department of Biochemistry & Molecular Genetics. Hospital Clinic, Spain, [5]CIBERehd. Hospital Clínic, Spain, [6]Nuclear Medicine Department. Hospital Clínic, Spain, [7]Universitat De Barcelona, Spain, [8]Hospital Clínic of Barcelona, Spain
Disclosures: Laia Gifre, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: OTHER POPULATIONS

MO0413 Bone Turnover Markers and Different Dialysis Procedures
Vladimir Palicka*[1], Sylvie Dusilova Sulkova[2], Magdalena Holeckova[2], Roman Safranek[2], Ladislava Pavlikova[2]. [1]Fakultni Nemocnice, Czech Republic, [2]Charles University, University Hospital, Czech Republic
Disclosures: Vladimir Palicka, None

MO0414 Increased marrow adipose tissue following Spinal Cord Injury
Tiffiny Butler*[1], Thomas Schnitzer[2], William Edwards[3], Karen Troy[1]. [1]Worcester Polytechnic Institute, USA, [2]Northwestern University, USA, [3]University of Calgary, Canada
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MO0415 Proximal Femur Strength and Cortical Thickness Estimates in Klinefelter Syndrome and Post-Menopausal Women
Enrico Schileo*[1], Ilaria Palmadori[2], Fulvia Taddei[2], Alessandro Coran[3], Sigur,ur Sigur,sson[4], Vilmundur Gudnason[5], Tamara Harris[6], Carlo Foresta[3]. [1]Istituto Ortopedico Rizzoli, Bologna, Italy, Italy, [2]Istituto Ortopedico Rizzoli, Italy, [3]Università di Padova, Italy, [4]Icelandic Heart Association, Iceland, [5]Icelandic Heart Association Research Institute, Iceland, [6]Intramural Research Program, National Institute on Aging, USA
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MO0416 The relationship between sclerostin, bone mineral density and vascular calcification in rheumatoid arthritis
Julien Paccou*[1], Cedric Renard[2], Sophie Liabeuf[2], Said Kamel[2], Patrice Fardellone[3], Ziad Massy[2], Michel Brazier[4], Romuald Mentaverri[5]. [1]University of Picardie Jules Verne, Amiens, France, [2]Amiens University Hospital, France, [3]Service de rhumatologie, CHU Hôpital Nord, France, [4]University of Picardie, France, [5]INSERM U1088, France
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OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

MO0417 Adverse Changes in Bone Mineral Density and FRAX Score 100 Days Post Allogeneic Bone Marrow Transplant

Monika Pawlowska*[1], Basia Pajerski[2], Qun Yang[3], Indy Sekhon[2], David Kendler[4], Raewyn Broady[5]. [1]Canada, [2]University of British Columbia, Canada, [3]Prohealth Clinic Research, Canada, [4]Associate Professor, University of British Columbia, Canada, [5]Clinical Associate Professor University of British Columbia, Canada

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MO0418 BMD Changes after Kidney Transplantation

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MO0419 Bone Quality at the Time of Lung Transplant in Cystic Fibrosis

Louis-Georges Ste-Marie*[1], Natalie Dion[2], Pasquale Ferraro[1], Caroline Albert[2], Nathalie Bureau[1], Audray Fortin[1], Valérie Jomphe[1], Larry Lands[3], Genevieve Mailhot[4]. [1]CHUM, University of Montreal, Canada, [2]CHUM, Canada, [3]MUCH, McGill University, Canada, [4]Research Center CHU Sainte-Justine, University of Montreal, Canada

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MO0420 Effect of Risedronate on Bone Mineral Density and Trabecular Bone Score in Liver Postransplantation patients after one year of follow-up

Gonzalo Allo Miguel[1], María Soledad Librizzi[2], Sonsoles Guadalix Iglesias[1], David Lora[3], Guillermo Martinez Diaz-Guerra[4], Federico Hawkins*[5]. [1]12 de Octubre, University Hospital., Spain, [2]12 de Octubre, University Hospital, Spain, [3]Clinical Epidemiology Unit, 12 de Octubre University Hospital., Spain, [4]University Hospital 12 Octubre, Esp, [5]Hospital Universitario, Spain

Disclosures: Federico Hawkins, None

PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

MO0421 Inkjet-based biopatterning of SDF-1β augments BMP-2-induced repair of critical size mouse calvarial defects

James Cray*[1], Samuel Herberg[2], Galina Kondrikova[1], Sudharsan Periyasamy-Thandavan[3], R. Nicole Howie[1], Mohammed Elsalanty[1], Lee Weiss[4], Phil Campbell[4], William Hill[5]. [1]Georgia Regents University, USA, [2]Case Western Reserve University, USA, [3]Georgia Regents University & Charlie Norwood VAMC, USA, [4]Carnegie Mellon University, USA, [5]Georgia Regents University & Charlie Norwood VAMC, USA

Disclosures: James Cray, None

PARACRINE REGULATORS: CYTOKINES AND IMMUNOMODULATORS

MO0422 CXCL8 and CCL20 Enhance Osteoblast-Mediated Osteoclastogenesis

Janak L Pathak[1], Astrid D Bakker[2], Patrick Verschueren[3], Willem F Lems[4], Frank P Luyten[3], Jenneke Klein-Nulend*[5], Nathalie Bravenboer[6]. [1]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, MOVE Research Institute Amsterdam, Netherlands, [2]Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, Netherlands, [3]Skeletal Biology & Engineering Research Center, KU Leuven, Belgium, [4]Department of Rheumatology, VU University Medical Center, MOVE Research Institute Amsterdam, Netherlands, [5]ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The Netherlands, [6]VU University Medical Center, The Netherlands

Disclosures: Jenneke Klein-Nulend, None

MO0423 Withdrawn

PARACRINE REGULATORS: PTHRP AND OTHER PARACRINE REGULATORS

MO0424 Targeted inhibition of the Parathyroid Hormone related Protein (PTHrP) 1-173 isoform in human triple negative breast cancer (TNBC) reproduces all the effects of simultaneous inhibition of all three PTHrP isoforms on tumor growth *in vitro* and *in vivo*

Aimee-Lee Luco*[1], Dao Chao Huang[2], Ibtihal Fadhil[3], Benoit Ochietti[3], Xian Fang Huang[3], Anne Camirand[3], Richard Kremer[2]. [1]McGill University, Canada, [2]McGill University, Royal Victoria Hospital, Canada, [3]McGill University Health Center, Canada

Disclosures: Aimee-Lee Luco, None

PARACRINE REGULATORS: RANK, RANKL AND OPG

MO0425 Detection of sonic hedgehog in a patient with orthognathic surgery

Tsuyoshi Shimo[1], Yuki Kunisada*[2], Naito Kurio[3], Masanori Masui[2], Norie Yoshioka[2], Soichiro Ibaragi[2], Tatsuo Okui[2], Akiyoshi Nishiyama[2], Akira Sasaki[4]. [1]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, [2]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [3]Japan, Japan, [4]Okayama University, Japan

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MO0426 Novel ELISA for the Quantitative Measurement of Free, Bioactive, Soluble RANKL - A New Highly Sensitive Tool for Bone Research

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PARACRINE REGULATORS: WNT SIGNALING

MO0427 Baseline Bone Density Modulates the Wnt Signaling Pathway in a Murine Kidney Disease Model

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Disclosures: Ryan Clark, None

MO0428 Induction of CXC Chemokines in Human Mesenchymal Stem Cells (hMSCs) by Stimulation with Secreted Frizzled-Related Proteins (sFRPs) through Non-Canonical Wnt Signaling

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Disclosures: David Bischoff, None

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

MO0429 Pharmacokinetics (PK) and Pharmacodynamics (PD) of a Human Monoclonal Anti-FGF23 Antibody (KRN23) in a Long-Term Extension Study of Adults with X-linked Hypophosphatemia (XLH)

Xiaoping Zhang*[1], Erik Imel[2], Mary Ruppe[3], Thomas Weber[4], Mark A. Klausner[5], Kavita Gumbhir-Shah[5], Takahiro Ito[5], Maria Vergeire[5], Jeffrey S. Humphrey[5], Francis Glorieux[6], Anthony Portale[7], Karl Insogna[8], Munro Peacock[9], Thomas Carpenter[8]. [1]Kyowa Hakko Kirin Pharma Inc, USA, [2]Indiana University School of Medicine, USA, [3]The Methodist Hospital, USA, [4]Duke University Medical Center, USA, [5]Kyowa Hakko Kirin Pharma Inc., USA, [6]Shriners Hospital for Children & McGill University, Canada, [7]University of California San Francisco, USA, [8]Yale University School of Medicine, USA, [9]Indiana University Medical Center, USA

Disclosures: Xiaoping Zhang, Kyowa Hakko Kirin Pharma Inc., 3

RARE BONE DISEASES: OSTEOGENESIS IMPERFECTA

MO0430 Osteoblast malfunction in the G610C model of osteogensis imperfecta

Lynn Mirigian[1], Elena Makareeva[1], Edward Mertz[1], Joseph Perosky[2], Kenneth Kozloff[3], Sergey Leikin*[1]. [1]National Institutes of Health, USA, [2]University of Michigan, USA, [3]University of Michigan Department of Orthopaedic Surgery, USA

Disclosures: Sergey Leikin, None

MO0431 Two Distinct Mutations in *IFITM5* Causing Different Forms of Osteogenesis Imperfecta Using Reciprocal Mechanisms

Adi Reich*[1], Charles Farber[2], Aileen Barnes[3], Patricia Becerra[4], Frank Rauch[5], Wayne A. Cabral[3], Alison Bae[3], Francis Glorieux[6], Thomas Clemens[7], Joan Marini[8]. [1]NIH, USA, [2]University of Virginia, USA, [3]NIH/NICHD/BEMB, USA, [4]NIH/NEI/PROTEIN STRUCTURE & FUNCTION SECTION, USA, [5]Shriners Hospital for Children, Montreal, Canada, [6]Shriners Hospital for Children & McGill University, Canada, [7]Johns Hopkins University, USA, [8]National Institute of Child Health & Human Development, USA

Disclosures: Adi Reich, None

MO0432 Whole exome sequencing is efficient for detecting mutations in patients with osteogenesis imperfecta and children with bone fragility

Ikuma Fujiwara*. Tohoku University School of Medicine, Japan

Disclosures: Ikuma Fujiwara, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES

MO0433 Activities of Dysregulated ALK2 Receptor Kinases Provide Insight Into the Protein Structural-Functional Basis of Fibrodysplasia Ossificans Progressiva

Jay Groppe*[1], Mary Rose Tandang-Silvas[2], Anupama Pathi[2], Jingfeng Wu[2], Viet Le[3], Andria Culbert[4], Kristi Wharton[3], Frederick Kaplan[4], Eileen Shore[4]. [1]Texas A&M University Baylor College of Dentistry, USA, [2]TAMU Baylor College of Dentistry, USA, [3]Brown University, USA, [4]University of Pennsylvania, USA

Disclosures: Jay Groppe, None

MO0434 Association between Nance-Horan Syndrome and Fragility fractures in a young man. Are Connexins the Connection?

Manju Chandran*[1], Bart Clarke[2], Robert D Tiegs[2], Matthew Tan[1], Peter Byers[3], Ching Lin Ho[4]. [1]Osteoporosis & Bone Metabolism Unit, Singapore General Hospital, Singapore, [2]Division of Endocrinology, Diabetes, Metabolism & Nutrition, Mayo Clinic, USA, [3]Collagen Diagnostic Laboratory, Department of Pathology & Medicine (Medical Genetics), University of Washington, USA, [4]Glaucoma Service, Singapore National Eye Centre, Singapore

Disclosures: Manju Chandran, None

MO0435 Controlled local delivery of Trametinib combined to rBMP2 promotes osteoblast differentiation and bone healing in *Nf1*$_{Osx}^{-/-}$mice

Jean De La Croix Ndong*[1], David Stevens[1], Guillaume Vignaux[1], Sasidhar Uppuganti[1], Daniel Perrien[2], Xiangli Yang[1], Jeffry Nyman[2], Eva Harth[1], Florent Elefteriou[1]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA

Disclosures: Jean De La Croix Ndong, None

MO0436 Familial hypocalciuric hypercalcemia associated with a novel homozygous loss-of-function mutation, E671D, of the calcium-sensing receptor gene

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Disclosures: Federica Saponaro, None

MO0437 Lysinuric Protein Intolerance Presenting with Multiple Fractures

Lindsay Burrage*, Jennifer Posey, Marcus Miller, Pengfei Liu, Matthew Hardison, Sarah Elsea, Qin Sun, Yaping Yang, Alecia Willis, Alan Schlesinger, Carlos Bacino, Brendan Lee. Baylor College of Medicine, USA

Disclosures: Lindsay Burrage, None

MO0438 Phosphate Metabolism in Craniometaphyseal Dysplasia (CMD): Dietary Phosphate Restriction Reduces Increased Bone Mass in a CMD Mouse Model

Yaling Liu, Eliane Dutra, Zhifang Hao, Ernst Reichenberger, I-Ping Chen*. University of Connecticut Health Center, USA

Disclosures: I-Ping Chen, None

MO0439 Phosphaturic Mesenchymal Tumour (PMT) of the Ethmoid Sinus, Confirmed with Chromogenic In-Situ Hybridization for *FGF23*

Aliya Khan*[1], Iman M'Hiri[2], Andrew L. Folpe[3], Waleed Khan[2], Christopher Marriott[4], Chaudhry Aslam[2], Gavino Perez[5], Sebastien Hotte[6], Lach Boleslaw[7]. [1]McMaster University, Canada, [2]Oakville Bone Centre, Canada, [3]Mayo Clinic, Department of Laboratory Medicine & Pathology, USA, [4]McMaster University, Department of Nuclear Medicine, Canada, [5]McMaster University, Department of Internal Medicine, Canada, [6]McMaster University,Division of Oncology, Department of Medicine, Canada, [7]McMaster University, Division of Pathology, Department of Medicine, Canada

Disclosures: Aliya Khan, None

MO0440 Volumetric characteristics of cortical and trabecular bone in patients with acromegaly meassured by pQCT.

Jorge Malouf*[1], Elena Valassi[2], Iris Crespo[2], Jaume Llauger[3], Ana Marin[4], Susan Webb[2]. [1]Hospital de la Santa Creu i Sant Pau, Spain, [2]Endocrinology department, Hospital Sant Pau, Centro de Investigación Biomédica en Red de Enfermedades Raras, Spain, [3]Radiology department. Hospital de la Santa Creu i Sant Pau., Spain, [4]Internal Medicine Department. Hospital de la Santa Creu i Sant Pau, Spain

Disclosures: Jorge Malouf, None

SARCOPENIA, MUSCLE AND BONE (CLINICAL): GENERAL

MO0441 A 4-year retrospective longitudinal study: muscle mass and bone loss

Sun Mi Park*[1], Yong-Ki Min[2]. [1]Samsung Medical Center, Sungkyunkwan University School of Medicine, South Korea, [2]Samsung Medical Center, South Korea

Disclosures: Sun Mi Park, None

MO0442 A Novel 3D QCT Technique to Quantify the Muscle-Lipid-Composition in the Thigh and its Association with Fracture of the Proximal Femur

Alexander Muehlberg*[1], Oleg Museyko[2], Bastian Gerner[2], Dominique Töpfer[2], Valérie Danielle Bousson[3], Jean-Denis Laredo[4], Klaus Engelke[2]. [1]University of Erlangen-Nuremberg, Germany, [2]University of Erlangen, Germany, [3]Service de Radiologie OsteoArticulaire, France, [4]Service de Radiologie OstéoArticulaire, France

Disclosures: Alexander Muehlberg, None

MO0443 Bioelectrical Impedance Spectroscopy: A Reproducible Method of Muscle Mass Assessment

Yosuke Yamada*, Bjoern Buehring, Diane Krueger, Neil Binkley, Dale Schoeller. University of Wisconsin, Madison, USA

Disclosures: Yosuke Yamada, None

MO0444 Fibromodulin reprogrammed progenitor cell-based therapy for skeletal muscle generation

Zhong Zheng*[1], Pu Yang[2], Omar Velasco[1], Elisabeth Lord[1], Kambiz Khalilinejad[1], Olivia Yue[1], Maxwell Murphy[1], Soyon Kim[1], Min Lee[1], Xinli Zhang[3], Kang Ting[3], Chia Soo[1]. [1]UCLA, USA, [2]Sichuan University, China, [3]University of California, Los Angeles, USA

Disclosures: Zhong Zheng, Scarless Laboratories, 99

MO0445 Macro- and Microstructural Outcomes of Leg Muscle and Bone are Similar in Postmenopausal Women With and Without Osteoporosis

Amanda Lorbergs*, Michael Noseworthy, Norma MacIntyre. McMaster University, Canada

Disclosures: Amanda Lorbergs, None

MO0446 Muscle mass and adiposity, muscle strength, and physical performance vary by gender as risk factors for hip fracture: the Age Gene/Environment Susceptibility Study-Reykjavik

Thomas Lang*[1], Sigurdur Sigurdsson[2], Gunnar Sigurdsson[3], Kristin Siggeirsdottir[2], Vilmundur Gudnason[4], Tamara Harris[5]. [1]University of California, San Francisco, USA, [2]Icelandic Heart Association, Iceland, [3]Landspitali, Iceland, [4]Icelandic Heart Association Research Institute, Iceland, [5]Intramural Research Program, National Institute on Aging, USA

Disclosures: Thomas Lang, None

MO0447 Muscular mass (MM) diferentiates women with low bone mass (BM) and osteoporotic fractures from those with low BM and no fractures
Silvina Mastaglia[1], Alicia Bagur[2], Beatriz Oliveri[3], Carlos Mautalen*[4]. [1]Laboratorio De Enfermedades Metabólicas Oseas, CONICET-UBA, Argentina, [2]Mautalen Salud e Investigacion, Argentina, [3]Mautalen, Salud e Investigación, Argentina, [4]Centro de Osteopatías Médicas, Argentina
Disclosures: Carlos Mautalen, None

MO0448 Nutrition and Physical Activity Determinants of Muscle Adiposity and Bone Density Measured by MRI and pQCT
Andy Kin On Wong*[1], Karen Beattie[2], Hardik Valand[2], Laura Pickard[2], Alexandra Papaioannou[3], Jonathan Adachi[4]. [1]McMaster University, University Health Network, Canada, [2]McMaster University, Canada, [3]Hamilton Health Sciences, Canada, [4]St. Joseph's Hospital, Canada
Disclosures: Andy Kin On Wong, None

MO0449 Nutritional Satus in Sarco-Osteoporotic Older Persons
Ruth Huo*[1], Sandra Bermeo[2], Pushpa Suriyaarachchi[3], Piumali Gunawardene[3], Oddom Demontiero[4], Gustavo Duque[5]. [1]University of New South Wales, Australia, [2]University of Sydney, Australia, [3]Ageing Bone Research Program, The University of Sydney, Australia, [4]The University of Sydney Nepean Clinical School, Australia, [5]Ageing Bone Research Program, University of Sydney, Australia
Disclosures: Ruth Huo, None

MO0450 Osteosarcopenic Obesity Is Associated with Functional Disabilities in Obese Postmenopausal Women
Julia E. Inglis[1], Owen J. Kelly[2], Jasminka Z. Ilich*[1]. [1]Florida State University, USA, [2]Abbott Nutrition, USA
Disclosures: Jasminka Z. Ilich, None

MO0451 The relationship between bone and muscle and its affecting factors
Sangmo Hong*[1], Woong Hwan Choi[2]. [1]Hanyang University, South Korea, [2]Division of Endocrinology, Department of Internal Medicine, College of Medicine, South Korea
Disclosures: Sangmo Hong, None

SKELETAL AGING: CELLULAR AND MOLECULAR MECHANISMS

MO0452 Age-Related Changes in Osteocyte Connectivity and Bone Structure in a Murine Model of Aging
LeAnn Tiede-Lewis*, Yixia Xie, Vladimir Dusevich, Molly Hulbert, Mark Dallas, Lynda Bonewald, Sarah Dallas. University of Missouri - Kansas City, USA
Disclosures: LeAnn Tiede-Lewis, None

MO0453 Autophagy is Activated in Bone and Joint Cells During Lineage Commitment and is Regulated *In Vivo* by Diet and Ageing via SirT1
Emma Morris*, Pradeep Sacitharan, Victoria Treasure, Tonia Vincent, James Edwards. University of Oxford, United Kingdom
Disclosures: Emma Morris, None

MO0454 Do Senescent Cells Accumulate in the Bone Microenvironment with Aging?
Joshua Farr*[1], Daniel Fraser[1], David Monroe[2], Sundeep Khosla[3]. [1]Mayo Clinic, USA, [2]Mayo Foundation, USA, [3]Mayo Clinic College of Medicine, USA
Disclosures: Joshua Farr, None

MO0455 Withdrawn

MO0456 Role of sonic hedgehog in the process of fracture healing with aging
Tsuyoshi Shimo[1], Kenichi Matsumoto*[2], Naito Kurio[3], Tatsuo Okui[2], Yuu Horikiri[2], Akira Sasaki[4]. [1]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, [2]Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [3]Japan, Japan, [4]Okayama University, Japan
Disclosures: Kenichi Matsumoto, None

MO0457 Role of the Oxidized Tryptophan Metabolite L-Kynurenine in Age Induced Bone Loss
Mona El Refaey*[1], Eileen Kennedy[2], Qing Zhong[1], Kehong Ding[1], William Hill[3], Xing-Ming Shi[1], Jianrui Xu[1], Wendy Bollag[1], Monte Hunter[1], Mark Hamrick[4], Carlos Isales[1]. [1]Georgia Regents University, USA, [2]Univesity of Georgia, USA, [3]Georgia Regents University & Charlie Norwood VAMC, USA, [4]Georgia Health Sciences University, USA
Disclosures: Mona El Refaey, None

SKELETAL AGING: FRAILTY AND SARCOPENIA

MO0458 Effects of Aging on Bone and Muscle in Male and Female Mice Lacking a Single Allele of β–catenin in Osteocytes
Nuria Lara*[1], Julian Vallejo[2], Mark Begonia[3], Mark Dallas[3], Madoka Spence[3], Leticia Brotto[3], Marco Brotto[1], Mark Johnson[4]. [1]University of Missouri - Kansas City, USA, [2]UMKC, USA, [3]University of Missouri-Kansas City, USA, [4]University of Missouri, Kansas City Dental School, USA
Disclosures: Nuria Lara, None

MO0459 Skeletal muscle index using height overestimate muscle mass in the elderly women: Japanese Population-based Osteoporosis (JPOS) cohort study
Takahiro Tachiki*[1], Masayuki Iki[2], Jun Kitagawa[3], Naonobu Takahira[3], Junko Tamaki[4], Yuho Sato[5], Etsuko Kajita[6], Sadanobu Kagamimori[7], Yoshiko Kagawa[8], Hideo Yoneshima[9]. [1]Kinki University, Japan, [2]Kinki University Faculty of Medicine, Japan, [3]Kitasato University, Japan, [4]Osaka Medical College, Japan, [5]Jin-ai University, Japan, [6]Nagoya University, Japan, [7]University of Toyama, Japan, [8]Kagawa Nutrition University, Japan, [9]Shuwa General Hospital, Japan
Disclosures: Takahiro Tachiki, None

SKELETAL AGING: REHABILITATION AND EXERCISE

MO0460 Reducing Fall and Unsteadiness of Gait through Mechanical Loading of Vertebral Facet Joints
Mehrsheed Sinaki*. Mayo Clinic, USA
Disclosures: Mehrsheed Sinaki, None

SKELETAL DEVELOPMENT: BONE MODELING

MO0461 Differential Bone Regeneration Starts as early as Seven Days after Marrow Ablation in Two Mouse Strains
Meghan Moran*[1], Amarjit Virdi[2], D. Rick Sumner[2]. [1]Rush Medical College, USA, [2]Rush University Medical Center, USA
Disclosures: Meghan Moran, None

MO0462 Osteogenic Capillaries Spatially Orient Pericapillary Osteoblasts to Direct Endochondral Ossification of the Malleus
Ichiro Takada[1], Kouji Shimoda[1], Yoshiaki Kubota[1], Masatsugu Ema[2], Yoshihiro Takeda[3], Nobuhito Nango[4], Wataru Yashiro[5], Atsushi Momose[5], Latifa Bakiri[6], Erwin Wagner[6], Koichi Matsuo*[1]. [1]School of Medicine, Keio University, Japan, [2]Shiga University of Medical Science, Japan, [3]Rigaku Corporation, Japan, [4]Ratoc System Engineering Co., Ltd., Japan, [5]Tohoku University, Japan, [6]Spanish National Cancer Research Centre (CNIO), Spain
Disclosures: Koichi Matsuo, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

MO0463 *Fgfr*1 and *Fgfr*2 signaling in the osteoprogenitor lineage is essential for skeletal growth and development
Kannan Karuppaiah*[1], Kai Yu[2], Craig Smith[3], David Ornitz[4]. [1]Washington University School of Medicine in St. Louis, USA, [2]Seattle Children's hospital, USA, [3]Washington University St. Louis, USA, [4]Washington University School of Medicine, USA
Disclosures: Kannan Karuppaiah, None

MO0464 Bivariate genetic association analysis of pediatric total-body DXA parameters identifies two novel genetic variants that jointly influence bone mineral content and bone area
John P. Kemp*[1], Carolina Medina-Gomez[2], Nicole M. Warrington[1], Denise H.M. Heppe[2], Nicholas J. Timpson[3], Ling Oei[2], Beate St Pourcain[3], Claudia J. Kruithof[2], M. Carola Zillikens[2], Albert Hofman[2], André G. Uitterlinden[2], George Davey Smith[3], Vincent WV. Jaddoe[2], Jonathan H. Tobias[4], Fernando Rivadeneira[5], David M. Evans[3]. [1]University of Queensland Diamantina Institute, Translational Research Institute, Australia, [2]Erasmus University Medical Center, Netherlands, [3]MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, [4]School of Clinical Sciences, University of Bristol, United Kingdom, [5]Erasmus University Medical Center, The Netherlands
Disclosures: John P. Kemp, None

MO0465 Functional Roles of IGF-II on Cartilage during Postnatal Bone Growth under the Normal and Inflammatory Condition.
Tomoya Uchimura*, Li Zeng. Tufts University, USA
Disclosures: Tomoya Uchimura, None

MO0466 Nell-1 is a Functional Mediator of Runx2 in Regulating Chondrogenic Differentiation
Chenshuang Li*[1], Jie Jiang[1], Kang Ting[1], Xuepeng Chen[1], Yanheng Zhou[2], Chia Soo[3], Xinli Zhang[1]. [1]University of California, Los Angeles, USA, [2]and Hospital of Stomatology, Peking University, China, [3]University of Carlifornia, Los Angeles, USA
Disclosures: Chenshuang Li, None

MO0467 Parathyroid hormone receptor signaling in dental mesenchymal progenitors is essential for tooth root formation
Wanida Ono*[1], Noriaki Ono[2], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]University of Michigan School of Dentistry, USA
Disclosures: Wanida Ono, None

MO0468 Withdrawn

MO0469 The *Hox* program in adult tissues: Continuing roles for embryonic patterning genes during skeletal regeneration
Danielle Rux*[1], Ilea Swinehart[1], Daniel Lucas-Alcaraz[1], Aleesa Schlientz[1], Steven Goldstein[2], Kenneth Kozloff[3], Deneen Wellik[4]. [1]University of Michigan, USA, [2]University of Michigan Orthopaedic Research Lab, USA, [3]University of Michigan Department of Orthopaedic Surgery, USA, [4]University of Michigan Medical Center, USA
Disclosures: Danielle Rux, None

MO0470 Withdrawn

MO0471 Vitamin D dose-response in young children 2 to 8 y of age: a 12 wk randomized clinical trial to establish requirements in the absence of ultra-violet beta solar radiation
Neil Brett*[1], Paula Lavery[1], Sherry Agellon[1], Catherine Vanstone[1], Jonathon Maguire[2], Frank Rauch[3], Hope Weiler[4]. [1]McGill University, Canada, [2]University of Toronto, Canada, [3]Shriners Hospital for Children, Montreal, Canada, [4]McGill University, USA
Disclosures: Neil Brett, None

PLENARY SYMPOSIUM - NEXT-GEN THERAPIES

Co-sponsored by the European Calcified Tissue Society

This activity is supported by an educational grant from Lilly

2:30 pm - 4:00 pm **George R. Brown Convention Center**
Grand Ballroom BC

Co-Chairs
Dennis Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, Amgen 7; Novartis 7; Merck 7; Eli Lilly 5

Bente Langdahl, M.D., DMSc
Aarhus University Hospital, Denmark
Disclosures: Bente Langdahl, Novo Nordisk 2; Axellus 2; Eli Lilly 2; Eli Lilly 9; Amgen 9; Merck Sharp & Dohme 11

2:30 pm **Overview of Current Treatments**
Dennis Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, Novartis 7; Amgen 7; Merck 7; Eli Lilly 5

2:45 pm **Nitric Oxide Donors - A Novel Way to Increase Bone Mass, Density and Strength**
Sophie Jamal, M.D., Ph.D.
The University of Toronto, Canada
Disclosures: Sophie Jamal, None

3:10 pm **PTH treatment of Hypoparathyroidism**
Lars Rejnmark, M.D., Ph.D.
Aarhus University Hospital, Denmark
Disclosures: Lars Rejnmark, None

3:35 pm **Anti-sclerostin Therapy**
E. Michael Lewiecki, M.D., FACP, FACE
University of New Mexico School of Medicine, USA
Disclosures: E. Michael Lewiecki, Amgen, Eli Lilly, Merck, Radius Health, AgNovos Healthcare, Theranova 5; National Osteoporosis Foundation, International Society for Clinical Densitometry 1; New Mexico Clinical Research & Osteoporosis Center 3; Amgen, Eli Lilly, Merck 2

CLOSING RECEPTION

4:00 pm - 5:00 pm **George R. Brown Convention Center**
Grand Ballroom Lobby

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, September 12, 2014 . . . . . 5:30 p.m.–7:00 p.m.

Saturday, September 13, 2014 . . . . . 9:30 a.m.–4:30 p.m.

Sunday, September 14, 2014 . . . . . 9:30 a.m.–4:30 p.m.

Monday, September 15, 2014. . . . . 9:30 a.m.–3:00 p.m.

Active Life Scientific, Inc.
Booth: 314
Santa Barbara, CA, USA
Develops instruments for researchers who desire to directly measure the material properties of tissues and biomaterials using clinically relevant technology. BioDent™ is a versatile (in vivo / ex vivo) bench-top instrument for measuring hard and soft tissues. OsteoProbe® is a hand-held instrument utilized by clinical researchers for measuring bone in vivo.

Alexion
Booth: 400
Cheshire, CT, USA
Alexion is a global biopharmaceutical company focused on developing and delivering life-transforming therapeutic products for patients with severe and rare disorders. We are developing asfotase alfa, an enzyme replacement therapy for hypophosphatasia (HPP), a severe multisystem metabolic disorder.

ALPCO
Booth: 507
Salem, NH, USA
ALPCO offers a wide range of testing solutions, providing scientists and healthcare professionals with vital tools for advancing research and improving quality of care. Our product portfolio includes applications for immunoassays, HPLC, LC-MS/MS, purified antibodies, recombinant proteins, flow cytometry reagents and our new STELLUX™ chemiluminescent assay platform.

Amgen
Booth: 501
Thousand Oaks, CA, USA
Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. A biotechnology pioneer since 1980, Amgen has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Biomedica
Booth: 521
Vienna, AUSTRIA
Biomedica provides internationally recognized, high quality ELISA kits for clinical research of bone and mineral disorders using serum based calibrators and controls thus enabling researchers to collect biologically reliable data. Visit us at booth # 521 to find out more on our new 3rd generation high sensitivity ELISA for free soluble RANKL. www.bmgrp.com.

Bioquant Image Analysis Corporation
Booth: 201
Nashville, TN, USA
BIOQUANT OSTEO bone biology research software provides templates for skeletal phenotyping, sarcopenia, cortical structure, cancer metastasis, arthritis, osseointegration, chondrocyte proliferation, microCT, human histomorphometry. Technical Services include 10 hours individualized training, priority technical support, software upgrades. BIOQUANT SCAN with the OSTEOIMAGER scanner provides 1,000 megapixel scanning of slides and well plates.

Bio-Techne
Booth: 207
Minneapolis, MN, USA
Bio-Techne combines the best-in-class products and services from R&D Systems, Tocris Bioscience, and Boston Biochem to allow us to become better strategic partners with researchers. We manufacture over 95% of our bioactive proteins, application- qualified antibodies, Quantikine ELISAs, Luminex Assays, small molecules or Ubiquitin related products. We are Bio-Techne.

Bose Corporation
Booth: 408
Eden Prairie, MN, USA
Your success is our mission at Bose®. We provide mechanical testing, characterization, and tissue growth solutions to leading institutions worldwide. Our ElectroForce proprietary zero-friction motor technology provides exceptional performance, simplicity, and efficiency for material characterization and biological stimulation. Visit our booth or bose-electroforce.com to learn more about our biomedical instruments.

Bruker Biospin Corporation
Booth: 202
Billerica, MA, USA
Bruker offers advanced preclinical imaging solutions for a broad spectrum of application fields, including orthopedics. Drawing on over twenty years' experience, Bruker develops and manufactures systems for 3-dimensional, non-destructive investigation of an object's internal microstructure.

Carl Zeiss X-Ray Microscopy, Inc.
Booth: 515
Pleasanton, CA, USA
Xradia was acquired by ZEISS in 2013 and designs and manufactures high-resolution, non-destructive 3D X-ray microscopes (XRM) enabling advanced research applications into the submicron to sub-50nm range. With superior resolution and contrast, Xradia Versa and Ultra offer the best performance for imaging complex hierarchical bone structures, from trabeculae to canaliculi.

Charles River
Booth: 303
Wilmington, MA, USA
Charles River combines established discovery and preclinical program development expertise to provide integrated Musculoskeletal Research services including novel technologies and highly specialized evaluations of bone disease and bone quality. Our scientists can assess the effect of a drug in vivo or ex vivo on bone at toxicological and pharmacological doses and facilitate the interpretation of study findings.

Elsevier
Booth: 101
San Diego, CA, USA
As your access point into the recent advancements in bone and mineral research, Elsevier provides cutting-edge research from worldwide experts. Explore the latest in research news from our journals Bone Reports, Bone, and Journal of Clinical Densitometry. Our exciting books on display include Bone Cancer, The Parathyroids, and more. Discover our electronic research and solution tools on ScienceDirect!

EMD Millapore
Booth:
Billerica, MA, USA
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.

Everidis Health Sciences
Booth: 309
St. Louis, MO, USA
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.

Exakt Technologies, Inc.
Booth: 427
Oklahoma City, OK, USA
The EXAKT 312 Diamond Pathology Saw is the ultimate sample preparation tool and bone saw. Whether you're in a hospital pathology lab or the anatomy department of a medical university, it's the safest, quickest way to gross tissues, especially bone with implants or screws. The diamond band does not cut, but grinds very precisely. The result is full preservation of the samples, clean surfaces with little or no artifacts, micro fractures or nicks. Plus, there's no immediate risk of injury if the band is touched unintentionally – a first for occupational safety.

FASEB Marc
Booth: 203
Bethesda, MD, USA
The FASEB MARC (Maximizing Access to Research Careers) Program provides a variety of activities to support the training of students, postdoctorates, faculty and researchers from underrepresented groups who are engaged in the biomedical and behavioral sciences research and training. We offer faculty/mentor with students and poster/platform presenter travel awards for scientific meetings (national and regional) and FASEB Science Research Conferences. We also sponsor career/leadership development and grantsmanship training seminars and workshops.

Faxitron
Booth: 411
Tucson, AZ, USA
Faxitron is the pioneer and leading brand in cabinet x-ray with over 7,000 systems installed worldwide. We offer compact, fully-shielded digital radiography and pre-clinical DEXA systems. Our systems offer the highest resolution (up to 100 lp/mm) with the largest field of view in the market. Multiple cabinet and detector sizes with MicroFocus sources up to 100kV make our systems ideal for the full range of small animal in vivo/ex vivo imaging.

Hologic
Booth: 300
Bedford, MA, USA
Hologic, the pioneer of X-ray based bone densitometry introduces the NEW HorizonTM DXA System. Horizon is designed to assess three major health concerns: osteoporosis, obesity and cardiovascular risk.

Immundiagnostik AG
Booth: 425
Bensheim, GERMANY
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.

Immutopics International
Booth: 510
San Clemente, CA, USA
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 (IBMS)
Booth: 110
Chicago, IL, USA
IBMS is the leading international network of researchers, clinicians, 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. Members and Member Societies receive full access to BoneKEy Reports, the official journal of IBMS.

International Society for Clinical Densitometry (ISCD)
Booth: 116
Middletown, CT, USA
The International Society for Clinical Densitometry (ISCD) is a multidisciplinary, nonprofit organization that provides a central resource for a number of scientific disciplines with an interest in the assessment of skeletal health. Founded in June of 1993, the Society was the first of its kind worldwide. The ISCD's mission is to advance excellence in the assessment of skeletal health.

Kubtec Digital X-Ray
Booth: 524
Milford, CT, USA
Kubtec offers a full range of cabinet X-ray systems including, DIGIMUS. Kubtec's DIGIMUS X-ray cabinet system lets you measure BMD in seconds. DIGIMUS is the most comprehensive digital x-ray tool for animal research, providing high resolution, high contrast images. Available in bench top or portable.

Lilly USA, LLC.
Booth: 206
Indianapolis, IN, USA
Lilly is a global healthcare leader that unites caring with discovery to make life better for people around the world. We were founded more than a century ago by a man committed to creating high-quality medicines that meet real needs, and today we remain true to that mission in all our work. Across the globe, Lilly employees work to discover and bring life-changing medicines to those who need them, improve the understanding and management of disease, and give back to communities through philanthropy and volunteerism.

Lippincott Williams and Wilkins
Booth: 211
San Antonio, TX, USA
Lone Oak Medical Technologies
Booth: 324
Doylestown, PA, USA
The American Bone Health Society states 70% of post-menopausal women in the U.S. are not tested for low bone mass. Lone Oak Medical's accudxa2 BMD peripheral screening device can help alleviate this crisis. Stop by booth 324, see the ease of operation and quick results that the accudxa2 can produce.

Medimaps Group
Booth: 304
Plan-les-Ouates, SWITZERLAND
Medimaps group is a Switzerland headquartered company dedicated to bone texture evaluation from radiological images. It was founded by clinician practitioners and researchers. Medimaps group has recently introduced TBS (Trabecular Bone Score) under the commercial name of TBS iNsight™ (FDA and CE cleared) for a better assessment of patient fracture risk and management.

Merck
Booth: 401
Whitehouse Station, NJ, USA
Today's Merck is working to help the world be well. Through our medicines, vaccines, biologic therapies, and consumer and animal products, we work with customers and operate in more than 140 countries to deliver innovative health solutions. Merck. Be Well. For more information, visit www.merck.com.

Micro Photonics, Inc.
Booth: 200
Allentown, PA, USA
Micro Photonics is the leading source of advanced instrumentation for scientific and industrial research. Thousands of clients rely on us for innovative solutions, technically superior products, and our comprehensive MicroCT laboratory contract testing services. Our ex-vivo Bruker MicroCT systems can be found in various life science laboratories across the country.

Mindways Software, Inc.
Booth: 301
Austin, TX, USA
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®.

NASA Johnson Space Center
Booth: 215
Houston, TX, USA
Provides a unique set of products and services related to the scientific evaluation, validation, and certification of the optimal complement of countermeasures as well as space craft environments required to maintain astronaut health and performance before, during and after long-duration space exploration, including spaceflight for planetary exploration.

NIH Osteoporosis & Related Bone Diseases
Booth: 112
Bethesda, MD, USA
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.
Booth: 326
White Plains, NY, USA
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.
Booth: 310
Decatur, GA, USA
With 350 OsteoMeasure systems worldwide, OsteoMetrics has been redefining Bone Histomorphometry since 1989. The system of choice, OsteoMeasure is now available with live digital camera support, on-screen pen measurement, thresholding, a complete set of Cortical Bone measurements, a greatly expanded set of non-specific measurements, and a comprehensive GLP validation package.

PerkinElmer
Booth: 225
Waltham, MA, USA
PerkinElmer translational imaging. Learn more about pathway characterization, therapeutic effect, and treatment at the cellular, whole-body, and tissue levels with PerkinElmer's complete offering of translational imaging and analysis solutions. Our intuitive, high-performance software, broad portfolio of reagents, and leading imaging systems enable you to see and understand more in every area of research.

PharmaLegacy Laboratories
Booth: 526
Shanghai, CHINA
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.

Pharmatest Services Ltd
Booth: 220
Turku, FINLAND
Pharmatest Services Ltd is a preclinical CRO offering efficacy services to the pharmaceutical industry in the fields of skeletal diseases and oncology. We are specialized in bone research and our service products include in vitro bone cell assays (osteoclasts and osteoblasts) and in vivo models of osteoporosis, osteoarthritis and cancer-induced bone disease.

Quidel Corporation
Booth: 307
San Diego, CA, USA
The Quidel® Corporation Specialty Products Group is focused on delivering innovative research and diagnostic tools for identification, development, marketing and sale of novel diagnostic and research markers with POC applications in oncology, metabolic bone (osteoporosis) and related disease states. Many of these products are unique in nature and provide researchers and clinicians valuable scientific and diagnostic information. Microwell kits, related products and core technologies are currently marketed directly and through distribution worldwide under the Quidel® and MicroVue® brands.

Radius Health
Booth: 514
Cambridge, MA, USA
Radius is a science-driven biopharmaceutical company focused on developing novel differentiated therapeutics for patients with osteoporosis and other serious endocrine-mediated diseases. Radius' clinical portfolio includes abaloparatide (BA058) in Phase 3 for osteoporosis and RAD1901 in development for treatment of breast cancer brain metastases and vasomotor symptoms

Rare Bone Network
Booth: 108
Stamford, CT, USA
The Rare Bone Disease Patient Network is a coalition of patient organizations that address rare bone diseases. These organizations provide information for patients and medical professionals and advocate for expansion of research on rare bone diseases.

Ratoc System Engineering Co., Ltd.
Booth: 519
Tokyo, JAPAN
Our new product "TRI/3D-BON-FCS" measures 3D morphometry, BMD and bone strength using DICOM files and CT images. "TRI/3D-BON-FCS" enables to qualify the bone formation, bone resorption, and bone destruction. This software will assist you by analyzing the bone lesion and gene expression in bones.

Research Diets, Inc.
Booth: 306
New Brunswick, NJ, USA
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.

RISystem AG
Booth: 512
Davos Platz, SWITZERLAND
RISystem AG provides high standard implant technology for research. RISystem implants are exclusively made out of medical grade materials to ensure biocompatibility. The surgical technique is simple and easy to learn. If you need a complete new implant system, we can give you advice and/or develop and produce them for you.

Scanco USA, Inc.
Booth: 406
Southeastern, PA, USA
Scanco Medical (www.microCT.com) is the leading global provider of mCT and XtremeCT II scanners. Scanco also provides contract based scanning services for non-destructive scanning applications. All Scanco Medical systems come with a complete suite of image analyses, 3D visualization, Finite Element Analysis and image/data archiving solutions.

Springer
Booth: 205
New York, NY, USA
Springer is a leading international scientific, technical & medical publisher, with more than 2,200 journals & 8,000 new books per year. Our publications include Journal of Bone & Mineral Metabolism, Osteoporosis International, Calcified Tissue International, and Clinical Orthopaedics & Related Research.

Ultragenyx Pharmaceutical
Booth: 509
Novato, CT, USA
Ultragenyx is a development-stage biopharmaceutical company committed to bringing to market novel products for the treatment of rare and ultra-rare diseases, with an initial focus on serious and debilitating genetic diseases. Founded in 2010, the company has rapidly built a diverse portfolio of product candidates with the potential to address diseases for which the unmet medical need is high, the biology for treatment is clear, and for which there are no approved therapies.

University of Alabama at Birmingham
Booth: 114
Birmingham, AL, USA
The Effectiveness of Discontinuing Bisphosphonates Study (EDGE) is an open-label, non-inferiority randomized trial of alendronate continuation vs. discontinuation. The objective of EDGE is to determine if continuing alendronate for up to 36 months is non-inferior to discontinuing alendronate based on clinical fracture rates among women (65+) with at least 3 years of past alendronate.

Vidara Therapeutics, Inc.
Booth: 218
Roswell, GA, USA
Vidara Therapeutics is a specialty biopharmaceutical company focused on serious and often life-threatening rare diseases.

Wiley
Booth: 413
Hoboken, NJ, USA
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