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

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Holger Henneicke, M.D.

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GENERAL MEETING INFORMATION

ASBMR 2014 Annual Meeting Location

All ASBMR sessions will take place in the George R. Brown Convention Center in Houston, Texas, USA, unless otherwise stated. The George R. Brown Convention Center is located at 1001 Avenida De Las Americas, Houston, TX 77010.

Annual Meeting Evaluation

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 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.

Registration Hours

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

ASBMR Media Office

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

Media Office - Hours of Operation

Thursday, September 11	2:00 pm–5:00 pm
Friday, September 12	8:00 am–6:00 pm
Saturday, September 13	8:00 am–5:30 pm
Sunday, September 14	8:00 am–6:00 pm
Monday, September 15	8:00 am–4:00 pm

ASBMR On-site Telephone Numbers

Registration Desk (see hours above)	Tel: (713) 853-8417
Press Office	Tel: (713) 853-8416
Management Office	Tel: (713) 853-8415

Future ASBMR Annual Meeting Dates

ASBMR 2015 Annual Meeting

Washington State Convention and Trade Center, Seattle, Washington, USA
October 9–12, 2015

ASBMR 2016 Annual Meeting

Georgia World Congress Center, Atlanta, Georgia, USA
September 16–19, 2016

ASBMR POLICIES

Re-Use of ASBMR Annual Meeting Material

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

Abstracts

Abstracts submitted to the ASBMR 2014 Annual Meeting are copyrighted by the American Society for Bone and Mineral Research and published in the *JBMR*[®]. Reproduction, distribution, or transmission of the abstracts in whole or in part, by electronic, mechanical or other means, or other intended use, is prohibited without the express written permission of the American Society for Bone and Mineral Research. Information about how to obtain permission to re-use ASBMR Annual Meeting abstracts is provided below in the section entitled “Re-Use of ASBMR Annual Meeting Abstracts.”

Other Material

Information presented at the ASBMR 2014 Annual Meeting other than abstracts, including but not limited to posters, on-screen presentations (e.g. PowerPoint), and hand-outs, are the intellectual property of individual presenters or organizations other than the ASBMR. Such material may not be re-used without the written consent of the relevant individual or organization and, in some cases, the ASBMR. Details are provided below in the section entitled “Re-Use of Other ASBMR Meeting Materials.”

Re-Use of ASBMR Annual Meeting Abstracts

Embargo

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

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

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

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

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

Permission for Re-Use of Abstracts: Corporate Purposes

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

Should ASBMR grant permission for abstract reproduction, the following must occur: A disclaimer must be prominently displayed/printed (often this appears on the inside front cover), indicating that the choice of abstracts to reproduce full-text was not made by the ASBMR. *Example: Selection of abstracts was made by {company name} and does not necessarily include all abstracts presented on this subject at the 2014 Annual Meeting of the American Society for Bone and Mineral Research {Houston, Texas, USA 9/12/2014–9/15/2014}. The compilation does not constitute an endorsement by ASBMR of the product, assay or information contained herein. No responsibility is assumed and responsibility is hereby disclaimed by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of product liability, negligence or otherwise, or from any use or operation of methods, products, instructions or ideas presented in the abstracts. Independent verification of diagnosis and drug dosages should be made. Discussions, views and recommendations as to medical procedures, choice of drugs and drug dosages are the responsibilities of the authors.*

Translation of Abstracts

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

Re-Use of Other ASBMR Annual Meeting Material

Re-Use for Commercial purposes

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

requests for re-use of Annual Meeting materials may be directed to the ASBMR Business Office at +1 (202) 367-1161 or asbmr@asbmr.org.

Disclaimer

All authored abstracts, findings, conclusions, recommendations, or oral presentations are those of the author(s) and do not reflect the views of the ASBMR or imply any endorsement. No responsibility is assumed, and responsibility is hereby disclaimed, by the American Society for Bone and Mineral Research for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of methods, products, instructions, or ideas presented in the materials herein (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 CreditsTM*. 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
7:00 am - 7:00 pm	3
ASBMR Registration Open <i>Discovery Hall-Hall E</i>	
8:00 am - 9:30 am	3
Louis V. Avioli Lecture Presentation of the Louis V. Avioli Award, Frederic C. Bartter Award and Paula Stern Achievement Award <i>General Assembly Theater</i>	
9:30 am - 10:00 am	3
Networking Break	
9:30 am - 11:00 am	3
Publications Workshop: Improve Your Chances of Getting Published <i>Room 332AD</i>	
10:00 am - 11:00 am	3
Meet-the-Professor Sessions <i>Room 342A - Room 351F</i>	
10:00 am - 11:30 am	5
Grant Writing Workshop: Selling Your Science <i>Grand Ballroom A</i>	
10:00 am - 11:30 am	5
Highlights of the ASBMR 2014 Annual Meeting <i>General Assembly Theater</i>	
11:00 am - 11:30 am	6
Networking Break	
11:30 am - 12:45 pm	6
Symposium - Bone and Inflammation <i>Grand Ballroom BC</i>	
11:30 am - 12:45 pm	6
Symposium - Muscle and Bone <i>General Assembly Theater</i>	
12:45 pm - 1:15 pm	7
Networking Break	
1:15 pm - 2:30 pm	7
Concurrent Orals: Angiogenesis and Bone <i>Room 320</i>	
1:15 pm - 2:30 pm	8
Concurrent Orals: Biomechanics and Hormonal Effects <i>Room 310</i>	
1:15 pm - 2:30 pm	9
Concurrent Orals: Falls, Frailty and Fractures <i>Grand Ballroom A</i>	
1:15 pm - 2:30 pm	10
Concurrent Orals: Neuromuscular Regulation of Bone <i>Grand Ballroom BC</i>	

2:30 pm - 3:00 pm.....	10
Networking Break	
2:45 pm - 4:00 pm.....	11
Symposium - Cellular Mechanobiology	
<i>Grand Ballroom BC</i>	
3:00 pm - 4:00 pm.....	11
ASBMR/ECTS Clinical Debate: Biochemical Markers are of Practical Value in the Routine Management of Osteoporosis	
<i>General Assembly Theater</i>	
4:00 pm - 4:30 pm.....	11
Networking Break	
4:30 pm - 5:30 pm.....	12
Oral Poster Presentations: Translational	
<i>Grand Ballroom A</i>	
4:30 pm - 5:30 pm.....	13
Oral Poster Presentations: Clinical	
<i>Grand Ballroom BC</i>	
4:30 pm - 5:30 pm.....	15
Oral Poster Presentations: Basic	
<i>Room 310</i>	
5:30 pm - 7:00 pm.....	16
Discovery Hall Open	
<i>Discovery Hall-Hall E</i>	
5:30 pm - 7:00 pm.....	16
Young Investigator and New Member Reception	
<i>Discovery Hall-Hall E</i>	
5:30 pm - 7:00 pm.....	16
Diversity in Bone and Mineral Research Reception	
<i>Discovery Hall-Hall E</i>	
5:30 pm - 7:00 pm.....	17
Welcome Reception & Plenary Poster Session	
<i>Discovery Hall-Hall E</i>	
6:00 pm - 6:30 pm.....	46
Discovery Hall Quiz Show	
<i>Discovery Hall-Hall E</i>	
7:15 pm - 8:00 pm.....	46
Young Investigator and Diverse Member Networking Hour	
<i>Hilton Americas - Room 230</i>	
7:15 pm - 9:30 pm.....	47
Pediatric Bone and Mineral Working Group	
<i>Room 332E</i>	
7:30 pm - 9:30 pm.....	47
Muscle and Bone Working Group	
<i>Room 332D</i>	
7:30 pm - 9:30 pm.....	48
Bone Turnover Markers Working Group	
<i>Room 342B</i>	
8:00 pm - 10:00 pm.....	48
Speed Networking Event	
<i>Hilton Americas - Ballroom of the Americas A</i>	

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

Friday

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

Friday

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.
Universitätsklinikum 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 Osteoblastic Oxygen Sensing Prolyl Hydroxylases Regulate Bone Homeostasis by
1001 Controlling both Osteoclastogenesis and Angiogenesis**

Colleen Wu*¹, Erinn Rankin¹, Edward LaGory¹, Rebecca Andersen¹, Steven Rhodes², Tremika Wilson³, Khalid Mohammad⁴, Alesha Castillo⁵, Theresa Guise⁴, Ernestina Schipani³, Amato Giaccia¹, ¹Stanford University, USA, ²Indiana University Medical School, USA, ³University of Michigan, USA, ⁴Indiana University, USA, ⁵VA Palo Alto Health Care System, USA

Disclosures: Colleen Wu, None

**1:30 pm Vascular Smooth Muscle Cell LRP6 Inhibits Noncanonical Wnt Signaling and
1002 Arteriosclerotic Calcification In Diabetic LDLR-/- Mice**

Su-Li Cheng¹, Bindu Ramachandaran¹, Abraham Behrmann¹, Jian-su Shao², Karen Krcchma¹, Megan Mead¹, Lawrence Brill¹, Bart Williams³, Dwight Towler*¹, ¹Sanford-Burnham Medical Research Institute, USA, ²MD Anderson Cancer Center, USA, ³Van Andel Research Institute, USA

Disclosures: Dwight Towler, None

**1:45 pm ASBMR 2014 Annual Meeting Young Investigator Award
1003 Direct Transformation of Chondrocytes to Bone and Vessel Cells in Patients with Osteoarthritis (OA)**

Yan Jing*¹, Yinshi Ren², Baozhi Yuan³, Joseph Borrelli⁴, Yin Xiao⁵, Ying Liu², Chuanju Liu⁶, Ding Bai⁷, Jian Feng⁸, ¹USA, ²Texas A&M Baylor College of Dentistry, USA, ³University of Wisconsin, USA, ⁴Texas Health Physicians Group, Arlington, TX, USA, ⁵Institute of Health & Biomedical Innovation, Queensland University of Technology, Brisbane, Australia, Australia, ⁶New York University, USA, ⁷State Key Laboratory of Oral Diseases (Sichuan University), Department of Orthodontics, West China Stomatology Hospital of Sichuan University, China, ⁸Texas A&M Health Science Center, USA

Disclosures: Yan Jing, None

**2:00 pm Roles of Osteoblast-derived VEGF in Osteoblastic Differentiation and Bone Formation
1004 During Bone Repair**

Kai Hu*, Bjorn Olsen. Harvard School of Dental Medicine, USA

Disclosures: Kai Hu, None

Friday

- 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 Liron², Naamit Deshet-Unger³, Avi Salamon², Moshe Mittelman⁴, Max Gassmann⁵, Kristin Franke⁶, Martina Rauner⁷, Ben Wielockx⁸, Drorit Neumann³, Yankel Gabet⁹. ¹Department of Cell & Developmental Biology, Sackler Faculty of Medicine, Tel Aviv University, Israel, ²Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel-Aviv University, Israel, ³Department of Cell & Developmental Biology, Sackler Faculty of Medicine, Tel-Aviv University, Israel, ⁴Department of Medicine, Tel Aviv Sourasky Medical Center, Sackler Faculty of Medicine, Tel-Aviv University, Israel, ⁵Institute for Veterinary Physiology, Vetsuisse Faculty & Zurich Center for Integrative Human Physiology (ZIHP), University of Zurich, Switzerland, ⁶Institute of Pathology, Technische Universität Dresden, Germany, ⁷Medical Faculty of the TU Dresden, Germany, ⁸Institute of Pathology, Dresden University of Technology, Germany, ⁹Department 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 NfI in Osteoprogenitors Affects Fracture Resistance at Multiple Levels of Bone Organization**
Mathilde Granke^{*1}, Jean de la Croix Ndong², Sasidhar Uppuganti², Guillaume Vignaux², Alexander Makowski³, Daniel Perrien¹, Florent Elefteriou², Jeffry Nyman¹. ¹Vanderbilt University Medical Center, USA, ²Vanderbilt University, USA, ³Department 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 Lee¹, Danielle Green¹, Benjamin Adler¹, Gabriel Pagnotti¹, Vihitaben Patel¹, Clinton Rubin². ¹Stony Brook University, USA, ²State 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 and Its Bone Anabolic Action**
Leila Revollo^{*1}, Jacqueline Kading², Jiemin Li², Sung Yeop Jeong², Gabriel Mbalaviele³, Roberto Civitelli³. ¹Washington University, Division of Bone & Mineral Diseases, USA, ²Washington University, USA, ³Washington 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 Sinnesael¹, Ludo Deboel¹, Peter Delisser², Vanessa Dubois¹, Evelien Gielen³, Lance Lanyon⁴, Joanna Price², Geert Carmeliet¹, Frank Claessens¹, Dirk Vanderschueren¹. ¹Katholieke Universiteit Leuven, Belgium, ²University Of Bristol, United Kingdom, ³University Hospitals Leuven, Belgium, ⁴Royal Veterinary College, United Kingdom
Disclosures: Michaël Laurent, None

- 2:15 pm 1010 Synovial insulin resistance is linked to osteoarthritis in type 2 diabetes**
 Sharon Ansboro*¹, Robert Maynard², Daisuke Hamada², Christopher Farnsworth², Robert Mooney³, Michael Zuscik⁴. ¹The Center for Musculoskeletal Research, USA, ²Center for Musculoskeletal Research, USA, ³University of Rochester Medical Center, USA, ⁴University 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 Lord², Stephanie Studenski³, Stuart Warden⁴, Roger Fielding⁵, Christopher Recknor⁶, Marc Hochberg⁷, Serge Ferrari⁸, Hubert Blain⁹, Ellen Binder¹⁰, Yves Rolland¹¹, Leijun Hu¹², Qasim Ahmad¹², Kelli Pacuch¹², Elisa Gomez¹², Olivier Benichou¹³. ¹Robert-Bosch-Krankenhaus, Germany, ²NeuRA, UNSW, Australia, ³University of Pittsburgh (at the time the work was done), USA, ⁴Indiana University School of Health & Rehabilitation Sciences, USA, ⁵Jean Mayer USDA HNRCA At Tufts University, USA, ⁶United Osteoporosis Center, USA, ⁷University of Maryland School of Medicine, USA, ⁸Geneva University Hospital & Faculty of Medicine, Switzerland, ⁹Montpellier University Hospital, University Montpellier 1, MacVia-LR, France, ¹⁰Washington University School of Medicine, USA, ¹¹Gérontopôle de Toulouse, Centre Hospitalo-Universitaire de Toulouse (CHU Toulouse), France, ¹²Eli Lilly & Company, USA, ¹³Eli 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 Eriksson², Anders Odén³, Helena Johansson⁴, Mattias Lorentzon⁵. ¹Centre for Bone & Arthritis Research At the Sahlgrenska Academy, Sweden, ²Centre for Bone & Arthritis Research, Sweden, ³Consulting Statistician, Sweden, ⁴Geriatric Medicine, Department of Internal Medicine & Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ⁵Geriatric 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 Poole², Graham Treece², Andrew Gee², Carol Tonkin², Winston Rennie³, Jonathan Folland¹, Greg Summers⁴, Katherine Brooke-Wavell¹. ¹Loughborough University, United Kingdom, ²University of Cambridge, United Kingdom, ³University Hospitals of Leicester, United Kingdom, ⁴Derby 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 Patil², Saija Karinkanta², Kari Tokola², Pekka Kannus², Christel Lamberg-Allardt³, Harri Sievanen². ¹UKK Institute for Health Promotion Research, Finland, ²The UKK Institute for Health Promotion Research, Finland, ³University 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 Nilsson², Joel Eriksson³, Dan Mellstrom⁴, Mattias Lorentzon⁵.
¹"Institute of Medicine, Sahlgrenska Academy", Sweden, ²Centre for Bone & Arthritis Research At the Sahlgrenska Academy, Sweden, ³Centre for Bone & Arthritis Research, Sweden, ⁴Sahlgrenska University Hospital, Sweden, ⁵Geriatric 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 Makinistoglu¹, Gerard Karsenty². ¹Columbia University, Medical Center, USA, ²Columbia 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 Yi², Yajuan Xiao², Yumei Lai¹, Pingping Song¹, Wei Zheng¹, Hongli Jiao¹, Di Chen¹, Jingsong Zhou², Guozhi Xiao¹. ¹Department of Biochemistry, Rush University Medical Center, USA, ²Department of Molecular Biophysics & Physiology, Rush University Medical Center, USA**
Disclosures: Ke Zhu, None
- 2:00 pm** **PPAR β Deficiency Decreases Bone Formation Concomitantly to Increased Bone Marrow Fat Infiltration and Muscle Weakness**
1019 **Nicolas Bonnet^{*1}, He Fu², Beatrice Desvergne², Serge Ferrari³. ¹University Geneva Hospital (HUG), Switzerland, ²Center for integrative Genomics, Faculty of Biology & Medicine, University of Lausanne, Switzerland, ³Geneva 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 Dumont¹, Sébastien Dufresne¹, Patrice Bouchard¹, Éliane Lavergne¹, Charles Godbout¹, Antoine Boulanger-Piette¹, Sandrine-Aurélien Kake-Guena², Paul C. Pape², Renu Sarao³, Josef M. Penninger³, Jérôme Frenette^{*4}. ¹Université Laval, Canada, ²Université Sherbrooke, Canada, ³IMBA, Austria, ⁴Université 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

Friday

ORAL POSTER PRESENTATIONS: TRANSLATIONAL

4:30 pm - 5:30 pm

George R. Brown Convention Center

Grand Ballroom A

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 Heterozygosity for *TGF β R3* Alters Osteoblast and Osteoclast Differentiation and Signaling, Increases Peak Bone Mass, and Sensitizes Mice to OVX-Induced Bone Loss.

FR0363

Nicole Fleming¹, Vanessa Bray², James Butler³, Tristan Fowler⁴, Joey Barnett⁵, Dana Gaddy⁶, Erick Fleming¹, Jeffry Nyman⁷, Rashmi Pandey³, Daniel Perrien^{*7}. ¹VUIIS, Vanderbilt University, USA, ²Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, ³Department of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, ⁴Universität Wien, Aut, ⁵Department of Pharmacology, Vanderbilt University, USA, ⁶University of Arkansas for Medical Sciences, USA, ⁷Vanderbilt University Medical Center, USA
Disclosures: Daniel Perrien, None

4:40 pm Sirtuin 1 Suppresses Mitochondrial ATP and Osteoclastogenesis via FoxO-Mediated Stimulation of Heme Oxygenase 1

FR0269

Ha-Neui Kim^{*1}, Shoshana Bartel², Li Han², Aaron Warren³, Srividhya Iyer², Rafael de Cabo⁴, Stavros Manolagas², Maria Jose Almeida². ¹Univ. Arkansas for Medical Sciences, USA, ²Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ³Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, ⁴Translational Gerontology Branch, National Institute on Aging, National Institutes of Health, USA
Disclosures: Ha-Neui Kim, None

4:45 pm GILZ Protects TNF-alpha-induced Bone Loss in Mice

FR0367

Nianlan Yang^{*1}, Babak Baban¹, William Hill², Mark Hamrick³, Carlos Isaacs¹, Xing-Ming Shi¹. ¹Georgia Regents University, USA, ²Georgia Regents University & Charlie Norwood VAMC, USA, ³Georgia Health Sciences University, USA
Disclosures: Nianlan Yang, None

4:50 pm Chondrocyte-specific Deletion of *Sod2* Exacerbates Cartilage Degeneration Associated with Low Mitochondrial Membrane Potential in Mice

FR0087

Masato Koike^{*1}, Nojiri Hidetoshi², Yusuke Ozawa³, Kenji Watanabe³, Isao Masuda³, Yuta Muramatsu⁴, Haruka Kaneko², Daichi Morikawa², Keiji Kobayashi³, Yoshitomo Saita⁵, Takahisa Sasho⁴, Takuji Shirasawa⁶, Koutaro Yokote⁷, Kazuo Kaneko², Takahiko Shimizu³. ¹Juntendo University, Japan, ²Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, ³Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, ⁴Department of Orthopedics, Chiba University Graduate School of Medicine, Japan, ⁵Department of Orthomedics, Juntendo University Graduate School of Medicine, Japan, ⁶Department of Aging Control Medicine, Juntendo University Graduate School of Medicine, Japan, ⁷Department of Clinical Cell Biology & Medicine Chiba University Graduate School of Medicine, Japan
Disclosures: Masato Koike, None

4:55 pm Elucidating Molecular Mechanisms leading to Post Traumatic Osteoarthritis in Sost KO Mice

FR0200

Jiun Chiun Chang^{*1}, Blaine Christiansen², Nicole Collette³, Aimy Sebastian¹, Deepa Muruges⁴, SARAH HATSELL⁵, Aris Economides⁶, Craig Blanchette⁴, Gabriela Loots⁷. ¹University of California, Merced, USA, ²University of California - Davis Medical Center, USA, ³Lawrence Livermore National Laboratory, USA, ⁴Lawrence Livermore National Laboratories, USA, ⁵REGENERON PHARMACEUTICALS, USA, ⁶Regeneron Pharmaceuticals, Inc., USA, ⁷Lawrence Livermore National Laboratory, UC Merced, USA
Disclosures: Jiun Chiun Chang, None

- 5:00 pm** **Roquin Is A Novel Regulator of Bone Homeostasis**
FR0068 Bay Sie Lim*, Euphemie Landao, Shek Man (Jacky) Chim, Jennifer Tickner, Nathan Pavlos, Jake Xu. University of Western Australia, Australia
Disclosures: Bay Sie Lim, None
- 5:05 pm** **Elevated TGF- β in Subchondral Bone Causes Joint Degeneration of Rheumatoid Arthritis and Osteoarthritis**
FR0199 Xin Xu*¹, Liwei Zheng², Qin Bian³, Xuedong Zhou⁴, Xu Cao⁵. ¹Johns Hopkins University, Medical Institute, USA, ²West China School of Stomatology, Sichuan University, Peoples Republic of China, ³USA, ⁴West China School of Stomatology, Sichuan University, China, ⁵Johns Hopkins University, USA
Disclosures: Xin Xu, None
- 5:10 pm** **Protein Phosphatase 5 (PP5) regulates both energy metabolism and bone mass by reciprocal regulation of PPAR γ and Runx2 activities**
FR0103 Lance Stechschulte*¹, Chunxi Ge², Piotr Czernik³, Edwin Sanchez¹, Renny Franceschi⁴, Beata Lecka-Czernik³. ¹University of Toledo Health Science Campus, USA, ²Pom Univ of Michigan School of Dentistry, USA, ³University of Toledo College of Medicine, USA, ⁴University of Michigan, USA
Disclosures: Lance Stechschulte, None
- 5:15 pm** **Strong Correlation Between BMD Associated Transcripts in Postmenopausal Iliac Bone Biopsies and DNA Methylation Levels at Specific CpGs**
FR0135 Sjur Reppe*¹, Runa M. Grimholt¹, Robert Lyle¹, Ole K. Olstad¹, Vigdis T. Gautvik², Kaare M. Gautvik³. ¹Oslo University Hospital, Ullevaal, Norway, ²University of Oslo, IMB, Norway, ³Oslo University Hospital, Oslo Deacon Hospital, University of Oslo, Norway
Disclosures: Sjur Reppe, None
- 5:20 pm** **A Novel Sequestosome-1 / p62 ZZ Domain Inhibitor Blocks TNF α Induced Suppression of OBL Differentiation in MM**
FR0071 Rebecca Silbermann*¹, Jumpei Teramachi¹, Khalid Mohammad¹, Wei Zhao¹, Dan Zhou¹, Peng Yang², Julie L. Eiseman², Xiang-Qun Xie², G. David Roodman¹, Noriyoshi Kurihara¹. ¹Indiana University, USA, ²University 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** **Are Biochemical Markers of Bone Turnover Representative of Bone Turnover Assessed with Histomorphometry? An Analysis in a Sample of 370 Postmenopausal Women with Osteoporosis**
FR0284 Pascale Chavassieux*¹, Nathalie Portero-Muzy¹, Jean-Paul Roux², Patrick Garnero³, Roland Chapurlat⁴. ¹INSERM UMR1033, Université De Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM Research Unit, France, ⁴E. Herriot Hospital, France
Disclosures: Pascale Chavassieux, None
- 4:40 pm** **ASBMR 2014 Annual Meeting Young Investigator Award**
FR0455 **Simple Functional Tests Predict Hip Fracture and Mortality in Postmenopausal Women: A 15 – Year Follow-Up**
 Toni Rikkonen*¹, Kenneth Poole², Joonas Sirola³, Reijo Sund⁴, Risto Honkanen⁵, Heikki Kroger⁶. ¹Finland, ²University of Cambridge, United Kingdom, ³University of Eastern Finland / Kuopio, Finland, ⁴University of Helsinki, Finland, ⁵University of Eastern Finland, Finland, ⁶Kuopio University Hospital, Finland
Disclosures: Toni Rikkonen, None

- 4:45 pm** **Percentage of Women Achieving Non-osteoporotic BMD T-scores at the Spine and Hip Over 8 Years of Denosumab Treatment**
FR0391 S Ferrari^{*1}, C Libanati², CJF Lin², S Adami³, JP Brown⁴, F Cosman⁵, C Czerwiński⁶, LH de Gregório⁷, J Malouf⁸, J-Y Reginster⁹, NS Daizadeh², A Wang², RB Wagman², EM Lewiecki¹⁰, S Cummings¹¹. ¹Geneva University Hospital, Switzerland, ²Amgen Inc., USA, ³University of Verona, Italy, ⁴Laval University & CHU de Québec Research Centre, Canada, ⁵Helen Hayes Hospital, USA, ⁶Krakow Medical Center, Poland, ⁷CCBR, Brazil, ⁸Universitat Autònoma de Barcelona, Spain, ⁹University of Liège, Belgium, ¹⁰New Mexico Clinical Research & Osteoporosis Center, USA, ¹¹San Francisco Coordinating Center, CPMC Research Institute, & UCSF, USA
Disclosures: S Ferrari, Amgen, MSD, Eli Lilly, GSK, Bioiberica, 5; Amgen, MSD, 2
- 4:50 pm** **Zoledronic Acid in Frail Elders to Strengthen Bone: Three Year Results from ZEST Trial**
FR0398 Susan Greenspan^{*1}, Mary Anne Ferchak¹, Subashan Perera¹, Dave Nace¹, Neil Resnick². ¹University of Pittsburgh, USA, ²University of Pittsburgh, USA
Disclosures: Susan Greenspan, Eli Lilly, Amgen, 2
- 4:55 pm** **Visceral Adipose Tissue is Associated with Better Trabecular Density and Architecture but Increased Cortical Porosity: The Framingham Osteoporosis Study**
FR0338 Douglas Kiel^{*1}, Kerry Broe², Adrienne Cupples³, Serkalem Demissie³, Caroline Fox⁴, Marian Hannan⁵, Yi-Hsiang Hsu⁶, David Karasik⁷, Ching-Ti Liu³, Robert McLean⁸, Ching-An Meng⁹, Elizabeth (Lisa) Samelson¹⁰, Xiaochun Zhang⁹, Mary Bouxsein¹¹. ¹Hebrew SeniorLife, USA, ²Institute for Aging Research, Hebrew SeniorLife, USA, ³Boston University School of Public Health, USA, ⁴National Institutes of Health, USA, ⁵HSL Institute for Aging Research & Harvard Medical School, USA, ⁶Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁷Hebrew SeniorLife; Bar Ilan University, USA, ⁸Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁹Institute for Aging Research, Hebrew SeniorLife, USA, ¹⁰Hebrew SeniorLife, Harvard Medical School, USA, ¹¹Beth 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** **The Longitudinal Relationship Between Visceral Fat and Bone Development: The Iowa Bone Development Study**
FR0060 Natalie Glass^{*1}, James Torner¹, Elena Letuchy¹, Trudy Burns¹, Kathleen Janz¹, Janet Schlechte², Julie Eichenberger Gilmore¹, Steven Levy¹. ¹University of Iowa, USA, ²University of Iowa Hospital, USA
Disclosures: Natalie Glass, None
- 5:05 pm** **Determining Peak Bone Mineral Density in 16 to 24 year olds: A Longitudinal HR-pQCT Study**
FR0057 Lauren Burt^{*}, Sarah Manske, Jenn Bhatla, David Hanley, Steven Boyd. University of Calgary, Canada
Disclosures: Lauren Burt, None
- 5:10 pm** **Novel Mass Spectrometry Measurements of Circulating Myostatin Levels in Relation to Sarcopenia, Lean Mass and Bone Parameters in Women and Men**
FR0451 Joshua Farr^{*1}, Patrick Vanderboom¹, H. Robert Bergen¹, Sundee Khosla², Nathan LeBrasseur¹. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA
Disclosures: Joshua Farr, None
- 5:15 pm** **Pro-Resorptive Therapy for Heterotopic Ossification**
FR0155 Song Xue^{*1}, Roberto Fajardo², Kevin McHugh¹. ¹University of Florida, USA, ²UT Health Science Center, San Antonio, USA
Disclosures: Song Xue, None
- 5:20 pm** **Enzyme-Replacement Therapy in Life-Threatening Hypophosphatasia: The 3-Year Experience with Asfotase Alfa**
FR0435 Michael Whyte^{*1}, Jill H. Simmons², Richard E. Lutz³, Scott Moseley⁴, Agustin Melian⁴, Tatjana Odrlić⁴, Nicholas Bishop⁵. ¹Shriners Hospital for Children-Saint Louis, USA, ²Vanderbilt Children's Hospital, USA, ³Nebraska Medical Center, USA, ⁴Alexion Pharmaceuticals Inc, USA, ⁵University of Sheffield, Academic Unit of Child Health, United Kingdom
Disclosures: Michael Whyte, Alexion Pharmaceuticals Inc, 5; Alexion Pharmaceuticals Inc, 2

ORAL POSTER PRESENTATIONS: BASIC

4:30 pm - 5:30 pm

George R. Brown Convention Center

Room 310

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 Orphan Nuclear Receptor Nur77 Decreases Osteoclast Differentiation by Promoting NFATc1 Degradation via Ubiquitin E3 Ligase Cbl-b

FR0266

Xiaoxiao Li^{*1}, Wei Wei², HoangDinh Huynh², Yihong Wan³. ¹USA, ²UT southwestern, USA, ³University of Texas Southwestern Medical Center, USA

Disclosures: Xiaoxiao Li, None

4:40 pm Snx10-Dependent Osteoclastic Activity and Gastric Acidification is Required for Bone and Calcium Homeostasis

FR0254

Liang Ye^{*1}, Leslie Morse², Li Zhang³, Hajime Sasaki³, Jason Mills⁴, Greg Sibbel⁴, Ariane Zamarioli⁵, Ricardo Battaglini³. ¹The Forsyth Institute & Harvard School of Dental Medicine, USA, ²Harvard Medical School, USA, ³The Forsyth Institute, USA, ⁴Washington University School of Medicine, USA, ⁵University of Sao Paulo, Brazil

Disclosures: Liang Ye, None

4:45 pm 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

FR0256

Liang Hao^{*}, Wei Chen, Yi-Ping Li. University of Alabama at Birmingham, USA

Disclosures: Liang Hao, None

4:50 pm Unique Distal Enhancers Linked to the Mouse *Tnfrsf11* Gene Direct Tissue-Specific Expression and Inflammation induced Regulation of RANKL Expression

FR0233

Melda Onal^{*1}, Hillary St John², Allison Danielson³, Charles O'Brien⁴, J. Pike². ¹university of wisconsin, USA, ²University of Wisconsin-Madison, USA, ³undergraduate student, USA, ⁴Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA

Disclosures: Melda Onal, None

4:55 pm 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

FR0468

William O'Brien^{*1}, Julia Charles², Kelly Tsang¹, Kenichi Nagano³, Gary Shull⁴, Roland Baron⁵, Antonios Aliprantis¹. ¹Brigham & Women's Hospital, USA, ²Brigham & Women's Hospital & Harvard School of Medicine, USA, ³Harvard School of Dental Medicine, USA, ⁴University of Cincinnati College of Medicine, USA, ⁵Harvard School of Medicine & of Dental Medicine, USA

Disclosures: William O'Brien, None

5:00 pm Is MMP-13 the Critical Mediator for the Effects of HDAC4 Deletion in Mice?

FR0184

Teruyo Nakatani^{*1}, Tiiffany Chen², Shoshana Yakar³, Nicola Partridge⁴. ¹New York University College of Dentistry, USA, USA, ²New York University, USA, ³New York University College of Dentistry, David B. Kriser Dental Center, USA, ⁴New York University College of Dentistry, USA

Disclosures: Teruyo Nakatani, None

5:05 pm Znf9 Plays an Indispensable Role in Skeletal Development by Upregulating the Expression of Indian Hedgehog (Ihh) and Multiple Limb Development Regulator Genes

FR0478

Yun Lu^{*1}, Guiqian Chen², Wei Chen², Guochun Zhu³, Yi-Ping Li². ¹USA, ²University of Alabama at Birmingham, USA, ³The University of Alabama at Birmingham, USA

Disclosures: Yun Lu, None

Friday

5:10 pm **Deletion of Ror β , a Novel Regulator of Osteoblast Function, Slows Trabecular Bone Loss**
FR0212 **During Aging in Mice**

Qian Xing¹, Kristy Nicks¹, Joshua Farr¹, Daniel Fraser¹, Sundeep Khosla², David Monroe³. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 Nicks¹, Daniel Fraser¹, Sundeep Khosla², David Monroe³. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 David², Hanna Mawad¹, Hartmut Malluche³. ¹University of Kentucky, USA, ²University of Miami, Miller School of Medicine, USA, ³University 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 Sun¹, G. David Roodman², Deborah Galson¹. ¹University of Pittsburgh, USA, ²Indiana University, USA

Disclosures: Juraj Adamik, None

- FR0007 Atypical Femoral Fractures: Radiographic and Histomorphometric Features in 19 Patients**
Aliya Khan^{*1}, Angela M. Cheung², Osama Ahmed Khan¹, Mohammed Zohair Rahman¹, Ken Pritzker³, Brian Lentle⁴. ¹McMaster University, Canada, ²University Health Network-University of Toronto, Canada, ³University of Toronto, Canada, ⁴University 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 Lakshminarayan², Stuart Ralston¹. ¹University of Edinburgh, United Kingdom, ²University 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 Sundaram², Takamitsu Saigusa¹, Sudhaker Rao³, William Ries¹, Sakamuri Reddy². ¹Medical University of South Carolina, USA, ²Charles P. Darby Children's Research Institute, USA, ³Henry 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 Mannstadt², Dolores M. Shoback³, Tamara J. Vokes⁴, Mark L. Warren⁵, Michael A. Levine⁶, Hjalmar Lagast⁷, John P. Bilezikian⁸. ¹Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, & Nutrition, USA, ²Massachusetts General Hospital & Harvard Medical School, USA, ³SF Department of Veterans Affairs Medical Center, University of California, USA, ⁴University of Chicago Medicine, USA, ⁵Endocrinology & Metabolism, Physicians East, USA, ⁶Children's Hospital of Philadelphia, USA, ⁷NPS Pharmaceuticals, Inc, USA, ⁸College 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 Nishiyama¹, Elaine Cong², James Lee³, Anna Kepley¹, Chiyuan Zhang¹, X Guo¹, Shonni Silverberg¹. ¹Columbia University, USA, ²Columbia Presbyterian Medical Center, USA, ³Columbia University College of Physicians & Surgeons, USA

Disclosures: Marcella Walker, None

Friday

- FR0015 PTH(1-84) Treatment is Safe and Effective in Hypoparathyroidism for Six Years**
 Mishaela Rubin^{*1}, Natalie Cusano², Laura Beth Anderson¹, Dinaz Irani³, James Sliney¹, Elizabeth Levy¹, Wen-wei Fan¹, Donald McMahon², John Bilezikian². ¹Columbia University, USA, ²Columbia University College of Physicians & Surgeons, USA, ³Columbia 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}, Chiyan Zhang², Wen-Wei Fan¹, Aline Costa², Elizabeth Levy¹, John Bilezikian¹. ¹Columbia University College of Physicians & Surgeons, USA, ²Columbia University, USA
Disclosures: Natalie Cusano, None
- FR0020 Accurate Quantification of Bone Fragility Requires Inclusion of Pores of all Sizes**
 Afrodite Zendeli^{*1}, Yohann Bala², Mariana Kersh³, Ali Ghasem-Zadeh⁴, Ego Seeman⁴, Roger Zebaze⁴. ¹Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, ²University of Melbourne, Dept. of Medicine, Australia, ³Department of Mechanical Engineering, Melbourne School of Engineering, University of Melbourne, Australia, Australia, ⁴Austin 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 Rubin², Danielle Frechette³. ¹SUNY Stony Brook University, USA, ²State University of New York at Stony Brook, USA, ³Stony 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 Nikel¹, Atharva Poundarik², Caren Gundberg³, Deepak Vashishth¹. ¹Rensselaer Polytechnic Institute, USA, ²Rensselaer Polytechnic University, USA, ³Yale 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 Christiansen². ¹UC Davis Medical Center, USA, ²University 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 Karlsson², Bjorn Rosengren², Magnus Dencker², Caroline Karlsson². ¹Sweden, ²Skåne 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**
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¹Deakin University, Aus, ²University of Jyväskylä, Finland, ³Deakin University, Australia, ⁴Centre 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 Fritz¹, Magnus Dencker², Susanna Stenevi-Lundgren², Jan-Ake Nilsson², Bjorn Rosengren², Magnus Karlsson². ¹Sweden, ²Skåne 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 Fan¹, Cassidy Powers², Lynda Stranix-Chibanda³, Mary Glenn Fowler⁴, Linda Dimeglio⁵, Cynthia Mukwasi⁶, Kathy George⁷, George K Siberry⁸.
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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 Jackowski¹, Rita Gruodyte-Raciene², Saija Kontulainen¹, Adam Baxter-Jones¹. ¹University of Saskatchewan, Canada, ²Lithuanian Sports University, Lithuania
Disclosures: Marta Erlandson, None
- FR0059 The Association of Child Bone Measures Across Ages with Parent Bone Measures**
Steven Levy*¹, Elena Letuchy², Julie Eichenberger Gilmore³, Kathleen Janz¹, Trudy Burns⁴, James Torner⁵. ¹University of Iowa, USA, ²Univ. of Iowa Dept. of Epidemiology, USA, ³Univ. of Iowa College of Medicine, USA, ⁴Univ of Iowa College of Epidemiology, USA, ⁵Univ. 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 Torner¹, Elena Letuchy¹, Trudy Burns¹, Kathleen Janz¹, Janet Schlechte², Julie Eichenberger Gilmore¹, Steven Levy¹. ¹University of Iowa, USA, ²University 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 Goodman¹, Mary Georger¹, Michael Becker¹, Laura Calvi².
¹University of Rochester School of Medicine & Dentistry, USA, ²University of Rochester School of Medicine, USA
Disclosures: Benjamin Frisch, None
- FR0064 Fibrillin-1 Regulates Marrow Stem Cell Lineage Commitment and Differentiation**
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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 Myers¹, Lara Longobardi², Ping Ye², Tieshi Li², Joseph Temple¹, Alessandra Esposito¹, Billie Moats-Staats³, Anna Spagnoli². ¹University of North Carolina, USA, ²University of North Carolina at Chapel Hill, USA, ³University 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 Berry², Rose Webb², Tracy Nelson², Yougen Xi², Casey R. Doucette³, Jackie A Fretz², Chris D. Church², Clifford J. Rosen³, Matthew S. Rodeheffer². ¹Yale University School of Medicine, USA, ²Yale School of Medicine, USA, ³Maine 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 Inzana², Hani Awad³, Regis J. O'Keefe⁴, Xinping Zhang³, Edward Schwarz¹. ¹University of Rochester, USA, ²USA, ³University of Rochester Medical Center, USA, ⁴University of Rochester, 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 Adapala¹, Vanessa Piccullio², Hector Aguila², Joseph Lorenzo², Archana Sanjay*³. ¹Texas Scottish Rite Hospital for Children, USA, ²University of Connecticut Health Center, USA, ³UCHC, USA
Disclosures: Archana Sanjay, None
- FR0070 CTLA4-Ig Protects Against PTH Induced Bone Loss by Inhibiting T Cell Production of TNF α**
Abdul Malik*¹, Jerid Robinson², Jau-Yi Li¹, Michael Reott¹, Jonathan Adams², M. Neale Weitzmann¹, Roberto Pacifici¹. ¹Emory University School of Medicine, USA, ²Emory University, USA
Disclosures: Abdul Malik, None
- FR0071 A Novel Sequestosome-1 / p62 ZZ Domain Inhibitor Blocks TNF α Induced Suppression of OBL Differentiation in MM**
Rebecca Silberman*¹, Jumpei Teramachi¹, Khalid Mohammad¹, Wei Zhao¹, Dan Zhou¹, Peng Yang², Julie L. Eiseman², Xiang-Qun Xie², G. David Roodman¹, Noriyoshi Kurihara¹. ¹Indiana University, USA, ²University of Pittsburgh, USA
Disclosures: Rebecca Silberman, None
- FR0072 Alternatively Activated Monocyte and Macrophage Efferocytosis Support Prostate Cancer Skeletal Metastasis**
Jacqueline Jones*¹, Fabiana Soki², Hernan Roca¹, Stefanie Thiele³, Yusuke Shiozawa¹, Yugang Wang¹, Todd Morgan¹, Lorenz Hofbauer³, Kenneth Pienta⁴, Laurie McCauley². ¹University of Michigan, USA, ²University of Michigan School of dentistry, USA, ³Dresden University Medical Center, Germany, ⁴John Hopkins University, USA
Disclosures: Jacqueline Jones, None
- FR0073 Critical Role of Pim-2 in NF- κ B-mediated Suppression of Osteoblastogenesis and Stimulation of Osteoclastogenesis: Therapeutic Impact of Pim Inhibition on Myeloma Bone Disease.**
Jumpei Teramachi*¹, Masahiro Hiasa², Asuka Oda³, Ryota Amachi³, Takeshi Harada³, Shingen Nakamura³, Kumiko Kagawa³, Hirokazu Miki³, Shiro Fujii³, Keiichiro Watanabe⁴, Itsuro Endo⁵, Toshio Matsumoto⁵, Masahiro Abe⁶. ¹The University of Tokushima, Japan, ²Indiana University School of Medicine, USA, ³Department of Medicine & Bioregulatory Sciences, Institute of Health Biosciences, The University of Tokushima Graduate School, Japan, ⁴Tokushima University Hospital, Japan, ⁵University of Tokushima Graduate School of Medical Sciences, Japan, ⁶University 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 Tanaka², Kenji Hata³, Masahiro Hiasa⁴, Riko Nishimura³, Toshiyuki Yoneda⁴. ¹Indiana University-Purdue University Indianapolis, USA, ²Osaka University, Japan, ³Osaka University Graduate School of Dentistry, Japan, ⁴Indiana University School of Medicine, USA
Disclosures: Yuki Nagata, None
- FR0077 Targeting Dickkopf-Related Protein 1 (Dkk1) Reduces Extraskelatal Tumor Growth by Novel Immunomodulatory Effects**
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Disclosures: Lucia D'Amico, None
- FR0078 The Unexpected Role of Hemoglobin Beta (HBB) in Breast Cancer**
Nadia Rucci^{*1}, Mattia Capulli¹, Luca Ventura², Patrizia Sanità¹, Simona Delle Monache¹, Adriano Angelucci¹, Anna Teti¹. ¹University of L'Aquila, Italy, ²San Salvatore Hospital, Italy
Disclosures: Nadia Rucci, None
- FR0079 CXCL14, An Inhibitor of CXCL12/CXCR4 Signaling, Is Upregulated in Prostate Cancer Bone Metastasis**
Alexander Dowell¹, Katrina Clines², Colm Morrissey³, Shi Wei¹, Gregory Clines^{*2}. ¹University of Alabama at Birmingham, USA, ²University of Michigan, USA, ³University 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 Ferreras², Delphine Goerhig², Marie Brevet³, Philippe A.R. Clezardin⁴. ¹INSERM Unité 1033, UFR de Médecine Lyon-Est (domaine Laënnec), Fra, ²INSERM U1033, France, ³Hospices Civils de Lyon, France, ⁴INSERM & 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 Pantano¹, Martine Croset², Keltouma Driouch³, Edith Bonnelye⁴, Michele Iuliani¹, Marco Fioramonti¹, Daniele santini¹, Giuseppe Tonini⁵, Philippe A.R. Clezardin^{*6}. ¹Medical Oncology Division, University Campus-Bio-Medico, Italy, ²INSERM Research Unit U1033, University of Lyon1, France, ³Institute Curie, France, ⁴Faculte de Medecine RTH Laennec, France, ⁵Medical Oncology Division, University Campus-Bio-Medico, France, ⁶INSERM & 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 Eckel², Vincent Gonin², Delphine Goehrig², Chantal Diaz-Latoud², Philippe A.R. Clezardin³. ¹France, ²INSERM U1033, France, ³INSERM & 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 Hidetoshi², Yusuke Ozawa³, Kenji Watanabe³, Isao Masuda³, Yuta Muramatsu⁴, Haruka Kaneko², Daichi Morikawa², Keiji Kobayashi³, Yoshitomo Saita⁵, Takahisa Sasho⁴, Takuji Shirasawa⁶, Koutaro Yokote⁷, Kazuo Kaneko², Takahiko Shimizu³. ¹Juntendo University, Japan, ²Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, ³Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, ⁴Department of Orthopedics, Chiba University Graduate School of Medicine, Japan, ⁵Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, ⁶Department of Aging Control Medicine, Juntendo University Graduate School of Medicine, Japan, ⁷Department of Clinical Cell Biology & Medicine Chiba University Graduate School of Medicine, Japan
Disclosures: Masato Koike, None
- FR0088 HIF-1 α is Essential for Articular Cartilage Homeostasis Through Induction of Anabolic Factors and Suppression of Catabolic Factors**
 Keita Okada*¹, Song Ho Chang¹, Yoko Hosaka², Hiroshi Kobayashi³, Shurei Sugita⁴, Haruhiko Akiyama⁵, Ung-Il Chung⁶, Hiroshi Kawaguchi⁷, Taku Saito². ¹The University of Tokyo, Japan, ²University of Tokyo, Graduate School of Medicine, Japan, ³The University of Tokyo Hospital, Japan, ⁴Japan, ⁵Gifu University, Japan, ⁶University of Tokyo Schools of Engineering & Medicine, Japan, ⁷JCHO 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- κ B-Sox9 Pathway**
 Mian Guo*¹, Jia Shen², Jinny Kwak², Xinli Zhang², Aaron James³, Kevork Khadarian², Kang Ting², Chia Soo⁴, Robert Chiu⁵. ¹Dental & 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, ²Dental & Craniofacial Research Institute & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, USA, ³Department of Pathology & Laboratory Medicine, David Geffen School of Medicine, University of California, Los Angeles, USA, ⁴Division 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, ⁵Dental & 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 Tian², Edward Schwarz³, Matthew Hilton⁴, Yufeng Dong³. ¹University of Rochester Medical Center, USA, ²Shengjing Hospital, China Medical University, China, ³University of Rochester, USA, ⁴Duke University Musculoskeletal Research Center, USA
Disclosures: Martin Chang, None
- FR0095 Smad2/3 Mediated TGF β Signaling Controls Postnatal Chondrocyte Proliferation and Differentiation by Inhibiting *Ihh* Transcription**
 Weiguang Wang*¹, Karen Lyons¹, Teni Anbarchian². ¹University of California, Los Angeles, USA, ²University 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 Hata¹, Maokoto Wakabayashi², Yoshiaki Yura¹, Toshiyuki Yoneda³, Riko Nishimura¹. ¹Osaka University Graduate School of Dentistry, Japan, ²Asahi Kasei Pharma, Japan, ³Indiana 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 Hata¹, Sachiko Iseki², Teruko Takano-Yamamoto³, Riko Nishimura¹, Toshiyuki Yoneda⁴. ¹Osaka University Graduate School of Dentistry, Japan, ²Tokyo Medical & Dental University, Japan, ³Tohoku University Graduate School of Dentistry, Japan, ⁴Indiana 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 Katchburian², Hannan Davis³, Lilian Plotkin³, Rejane Reginato⁴. ¹Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, ²Federal University of São Paulo, Brazil, ³Indiana University School of Medicine, USA, ⁴Unifesp - Federal University of São Paulo, Brazil
Disclosures: Rafael Pacheco Da Costa, None
- FR0102 ASXL2 Regulates Skeletal, Glucose and Lipid Homeostasis**
 Nidhi Rohatgi^{*1}, Takashi Izawa², Tomohiro Fukunaga³, Qun-Tian Wang⁴, Matthew Silva³, Michael Gardner⁵, Michael McDaniel⁶, Clay Semenkovich⁵, Wei Zou³, Steven Teitelbaum³. ¹Washington University in St. Louis, USA, ²University of Tokushima Grad Sch, Japan, ³Washington University in St. Louis School of Medicine, USA, ⁴UIC Biological Sciences, USA, ⁵Washington University School of Medicine, USA, ⁶Washington University 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 Ge², Piotr Czernik³, Edwin Sanchez¹, Renny Franceschi⁴, Beata Lecka-Czernik³. ¹University of Toledo Health Science Campus, USA, ²Pom Univ of Michigan School of Dentistry, USA, ³University of Toledo College of Medicine, USA, ⁴University of Michigan, USA
Disclosures: Lance Stechschulte, None
- FR0104 Gsa-deficient osteoblasts and osteocytes induce beige adipogenesis and a lean phenotype via interactions with skeletal muscle**
 Keertik Fulzele^{*1}, Vaibhav Saini², Padrig Tuck³, Xiaolong Liu³, Christopher Dedie³, Jenna Garr³, Vladimir Zoubine³, Pankaj Shah³, Evan Rosen⁴, Paola Divieti Pajevic⁵. ¹Massachusetts General Hospital; Harvard Medical School, USA, ²MGH, Harvard Medical School, USA, ³Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, USA, ⁴Division Of Endocrinology, Diabetes, & Metabolism, Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁵Massachusetts 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 Ward², Xing Chen³, David Karasik⁴, Adrienne L Cupples⁵, Hans Hauner⁶, Douglas Kiel⁷, Manolis Kellis², Yi-Hsiang Hsu⁸. ¹Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, ²Computer Science & Artificial Intelligence Laboratory, Massachusetts Institute of Technology (MIT), USA, ³Harvard University, USA, ⁴Hebrew SeniorLife; Bar Ilan University, USA, ⁵Department of Biostatistics, Boston University School of Public Health, USA, ⁶Else Kröner-Fresenius-Zentrum for Nutritional Medicine, Technical University Munich, Germany, ⁷Hebrew SeniorLife, USA, ⁸Hebrew 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 Le¹, Daniel Brooks², Casey Doucette¹, Mary Bouxsein³, Clifford Rosen⁴. ¹Maine Medical Center Research Institute, USA, ²Beth Israel Deaconess Medical Center, USA, ³Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁴Maine Medical Center, USA
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- FR0109 Effect of Prolonged Caloric Restriction on Bone Metabolism and Bone Mineral Density in Non-obese Younger Adults**
Dennis Villareal^{*1}, Lugi Fontana², Sai Krupa Das³, Leanne Redman⁴, Steven Smith⁵, Edward Saltzman³, Connie Bales⁶, James Rochon⁷, Carl Pieper⁸, Megan Huang⁹, Michael Lewis¹⁰, Ann V Schwartz¹¹. ¹University of New Mexico School of Medicine, USA, ²Washington University School of Medicine, USA, ³Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, USA, ⁴Pennington Biomedical Research Center, USA, ⁵Florida Hospital & Sanford Burnham Medical Research Institute, USA, ⁶Duke University School of Medicine, USA, ⁷Rho Federal Systems, USA, ⁸Duke University School of Medicine, USA, ⁹Duke Clinical Research Institute, USA, ¹⁰University of Vermont College of Medicine, USA, ¹¹University 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 Szulc², Olivier Borel³, Annie Varennes⁴, Joelle Goudable⁵, Roland Chapurlat⁶. ¹INSERM UMR1033 - Université de Lyon, France, ²INSERM UMR 1033, University of Lyon, Hôpital E. Herriot, Pavillon F, France, ³INSERM U1033 - Université de Lyon, France, ⁴Laboratoire Central de Biochimie, Hospices Civils de Lyon, France, ⁵INSERM UMR1060 - Université de Lyon, Hospices Civils de Lyon, France, ⁶E. 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 Lim², Jae Hoon Moon², A Ram Hong², Hak Chul Jang², Sung Hee Choi². ¹Seoul National University Bundang Hospital, South Korea, ²Seoul 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'Riley¹, Amie Gray¹, Dena Acton¹, Jian Feng², Michael Econs¹. ¹Indiana University School of Medicine, USA, ²Texas 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 Khor¹, Bruce Fanashawe², Yue Qi³, Peter Croucher¹, Herbert Herzog³, Paul Baldock^{*4}. ¹Osteoporosis & Bone Biology Division, Garvan Institute of Medical Research, Australia, ²Osteoporosis & Bone Biology Division, Garvan Institute of Medical Research, Australia, ³Neuroscience Division, Garvan Institute of Medical Research, Australia, ⁴Garvan Institute of Medical Research, Australia
Disclosures: Paul Baldock, None
- FR0119 The anti-osteoblastic function of Sost is blunted in mice carrying the high bone mass mutation of *Lrp5***
Timur Yorgan^{*1}, Stephanie Boerms², Peggy Benisch³, Franz Jakob⁴, Michael Amling⁵, Thorsten Schinke⁶. ¹University of Hamburg, University Medical Center Hamburg-Eppendorf, Germany, ²Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, ³University of Würzburg, Germany, ⁴Orthopedic Center for Musculoskeletal Research, University of Würzburg, Germany, ⁵University Medical Center Hamburg-Eppendorf, Germany, ⁶Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, 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 Brown¹, R. Scott Pearsall², Charlotte Phillips³. ¹University of Missouri, USA, ²Accelaron Pharma, USA, ³University of Missouri-Columbia, USA
Disclosures: Young Jeong, None

- FR0121 THE F508DEL-CFTR MUTATION INHIBITS OSTEOBLAST DIFFERENTIATION AND FUNCTION THROUGH CONSTITUTIVE ACTIVATION OF NF- κ B 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*, Yi-Chien Lee¹, Ming-Ming Jiang¹, Terry Bertin¹, Yuqing Chen¹, Annie Mary Abraham², Hao Ding², Xiaohong Bi³, Catherine Ambrose², Brendan Lee¹. ¹Baylor College of Medicine, USA, ²University of Texas Health Science Center at Houston, USA, ³University of Texas Health Science Center at Houston, 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 Adams¹, Renata Rydzik¹, Li Chen¹, Seung-Hyun Hong², Dana Godfrey³, Xi Jiang¹, Zhihua Wu¹, Vilmaris Diaz-Doran¹, Caibin Zhang¹, Dong-Guk Shin², David Rowe¹, Cheryl Ackert-Bicknell*. ¹University of Connecticut Health Center, USA, ²University of Connecticut, USA, ³The Jackson Laboratory, USA, ⁴University of Rochester, USA
Disclosures: Cheryl Ackert-Bicknell, None
- FR0128 Novel Causes of Bone Dysplasias Identified through Whole Exome Sequencing**
Emily Farrow*, Serdar Ceylaner², Zafer Bicakci³, Ergun Cetinkaya⁴, Melanie Patterson¹, Lisa Krivohavek¹, Margaret Gibson¹, Katie Barger¹, Carol Saunders¹, Neil Miller¹, Neil Mardis¹, Stephen Kingsmore¹. ¹Children's Mercy Hospital, USA, ²Intergen Genetics Diagnosis & Research Centre, Turkey, ³Pediatrics, Kafkas University, Turkey, ⁴Pediatrics 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*^L Mouse Model of Infantile Hypophosphatasia**
Jin Liu¹, Hwa Kyung Nam¹, Cassandra Campbell¹, Kellen Da Silva Gasque², Jose Luis Millan², Nan Hatch*. ¹University of Michigan, USA, ²Sanford-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*, Perry Evans², Mahdi Sarmady², Kurt Hankenson³, Andrew Wells⁴, Struan Grant⁵. ¹Children's Hospital of Philadelphia, USA, ²The Children's Hospital of Philadelphia, USA, ³University of Pennsylvania, USA, ⁴Children's Hospital of Philadelphia, USA, ⁵Children'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*, Runa M. Grimholt¹, Robert Lyle¹, Ole K. Olstad¹, Vigdis T. Gautvik², Kaare M. Gautvik³. ¹Oslo University Hospital, Ullevaal, Norway, ²University of Oslo, IMB, Norway, ³Oslo 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*, Collin Homer-Bouthiette¹, Erxia Du¹, Marja Marie Hurley². ¹University of Connecticut Health Center, USA, ²University of Connecticut Health Center School of Medicine, USA
Disclosures: Liping Xiao, None

- FR0139 Role of XLas in phosphate and vitamin D metabolism during early postnatal development**
 Qing He*¹, Cumhur Aydin², Braden Corbin³, Regina Goetz⁴, Moosa Mohammadi⁴, Antonius Plagge⁵, Murat Bastepe³. ¹Endocrine Unit, Department of Medicine, Massachusetts General Hospital & Harvard Medical School, USA, ²Gulhane School of Medicine, Ankara, TURKEY, Turkey, ³Massachusetts General Hospital, Harvard Medical School, USA, ⁴Department of Biochemistry & Molecular Pharmacology, New York University School of Medicine, USA, ⁵Department 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 Endo¹, Takeshi Kondo², Yukiyo Ohnishi², Masahiro Abe², Seiji Fukumoto³, Tomoka Hasegawa⁴, Norio Amizuka⁵, Shin-ichi Aizawa⁶, Toshio Matsumoto¹. ¹University of Tokushima Graduate School of Medical Sciences, Japan, ²University of Tokushima, Japan, ³University of Tokyo Hospital, Japan, ⁴Hokkaido University, Japan, ⁵Hokkaido University School of Dentistry, Japan, ⁶RINKEN 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 Johnson¹, Joseph Tamasi², Nicola Partridge³. ¹New York University, USA, ²Bristol-Myers Squibb, USA, ³New 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 Lee², Eun-Jin Lee³, Seokchan Hong², Bin Yoo², Tae-Hwan Kim⁴, Soo-Hyun Kim⁵, Eun-Ju Chang³, Yong-Gil Kim². ¹University of Ulsan College of Medicine, South Korea, ²Department of Rheumatology, University of Ulsan College of Medicine, Asan Medical Center, South Korea, ³Department of Biomedical Sciences, Cell Dysfunction Research Center & BMIT, University of Ulsan College of Medicine, Asan Medical Center, South Korea, ⁴Hanyang University Hospital for Rheumatic Diseases, South Korea, ⁵Department of Biomedical Science & Technology, Konkuk University, South Korea
Disclosures: Chang Keun Lee, None
- FR0155 Pro-Resorptive Therapy for Heterotopic Ossification**
 Song Xue*¹, Roberto Fajardo², Kevin McHugh¹. ¹University of Florida, USA, ²UT 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 Hasegawa², Kiyo Sasaki², Daisuke Seki², Shunrou Miyashita², Ikuko Takano², Yuuki Miyajima², Teruko Takano-Yamamoto¹. ¹Tohoku University, Japan, ²Division 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 Batra², Jean Jiang³. ¹University of Texas Science Center, San Antonio, USA, ²University of Texas Health Science Center at San Antonio (UTHSCSA), USA, ³University 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 Zhu¹, Jiao Li², XiaoDong Chen¹, Xiaoling Zhang³. ¹Department of Orthopedic Surgery, Xinhua Hospital, Shanghai JiaoTong University School of Medicine (SJTUM), China, ²The 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 (SJTUM), China, ³Institute of Health Sciences, Peoples Republic of China
Disclosures: Bin Zuo, None
- FR0167 Osteoblast mechanoresponse: the role of Lipocalin 2**
 Mattia Capulli*¹, Sara Gemini Piperni¹, Patrick Lau², Petra Frings-Meuthen², Martina Heer³, Anna Teti¹, Nadia Rucci¹. ¹University of L'Aquila, Italy, ²German Aerospace Center (DLR), Germany, ³PROFIL - 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 Cui², Long Wang², Lingling Xian³, Zhuying Xia⁴, Yin Hu⁴, Changjun Li², Liang Xie², Janet Crane⁵, Mei Wan³, Gehua Zhen⁶, Tao Qiu³, Weizhong Chang⁵, Maureen Pickarski⁷, Le Duong⁸, Xu Cao⁵. ¹Johns Hopkins Medical Institution, USA, ²Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, USA, ³Johns Hopkins University School of Medicine, USA, ⁴Institute of Endocrinology & Metabolism, Second Xiangya Hospital of Central South University, China, ⁵Johns Hopkins University, USA, ⁶The Johns Hopkins Hospital, USA, ⁷Merck & Co., Inc., USA, ⁸Merck Research Laboratories, USA
Disclosures: Hui Xie, None
- FR0171 Role of the STING cytosolic DNA sensor pathway in bone remodeling**
 Rebecca Baum*¹, Shruti Sharma¹, Yukiko Maeda¹, Catherine Manning¹, Jason Organ², David Burr², Ann Rothstein¹, Kate Fitzgerald¹, Ellen Gravalles¹. ¹University of Massachusetts Medical School, USA, ²Indiana 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. Pitel², Gino W. Gaddini³, Xiaodong Li⁴, Hua Zhu Ke⁵, Russell T. Turner³, Nalini M. Rajamannan⁶, Urszula T. Iwaniec³, Thomas C. Spelsberg², Malayannan Subramaniam², John R. Hawse⁷. ¹Mayo Clinic School of Medicine, USA, ²Mayo Clinic, USA, ³Oregon State University, USA, ⁴Amgen, Inc., USA, ⁵Amgen, USA, ⁶Mayo Clinic, Rochester MN, USA, ⁷Mayo 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 Chen², Shoshana Yakar³, Nicola Partridge⁴. ¹New York University College of Dentistry, USA, USA, ²New York University, USA, ³New York University College of Dentistry, David B. Kriser Dental Center, USA, ⁴New 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 Bryant¹, Yanfei Ma¹, Charles Benson², Prabhakar Jadhav², Judith Henck², Nita Patel², Heather Bullock², Alan Chiang¹, Timothy Waterhouse², Masahiko Sato³, George Zeng², Benjamin Yaden², Pamela Shetler². ¹Eli Lilly & Company, USA, ²Lilly Research laboratories, USA, ³Indiana University School of Medicine, USA
Disclosures: Venkatesh Krishnan, Eli Lilly & Company, 3
- FR0192 Activation of Prostaglandin E₂ EP₄ signaling promotes primary myoblast proliferation via regulation of cell cycle progression and MyoD expression**
Chenglin Mo^{*1}, Lori Wetmore², Julian Vallejo³, Leticia Brotto³, Lynda Bonewald⁴, Marco Brotto⁴. ¹University of Missouri-Kansas City, USA, ²William Jewell College, USA, ³Muscle Biology Research Group, School of Nursing & Health Studies, University of Missouri-Kansas City, USA, ⁴University 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 Ohte², Masashi Shin², Katsumi Yoneyama³, Kenji Osawa², Sho Tsukamoto², Arei Miyamoto⁴, Takato Mizuta², Shoichiro Kokabu², Akihiko Okuda², Naoto Suda⁵, Takenobu Katagiri². ¹Saitama Medical University Research Center for Genomic Medicine, Jpn, ²Saitama Medical University Research Center for Genomic Medicine, Japan, ³Saitama Medical University Research Center for Genomic Medicine, Japan, ⁴Saitama Medical University, Research Center for Genomic Medicine, Japan, ⁵Meikai 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-Thandavan¹, Samuel Herberg², Phonepasong Arounleut³, Sunil Upadhyay⁴, Galina Kondrikova⁴, Amy Dukes⁴, Colleen Davis⁴, Maribeth Johnson⁴, Xing-Ming Shi⁴, Carlos Isales⁴, Mark Hamrick⁵, William Hill^{*6}. ¹Georgia Regents University & Charlie Norwood VAMC, USA, ²Case Western Reserve University, USA, ³Georgia Regents University (formally Georgia Health Sciences University), USA, ⁴Georgia Regents University, USA, ⁵Georgia Health Sciences University, USA, ⁶Georgia 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 Mitchell¹, Sung-Hee Yoon^{*1}, Jinghan Chen², Ariana delaCruz¹, Kim Sugamori², Marc Grynepas³. ¹University of Toronto, Canada, ²University of Toronto, Canada, ³Lunenfeld-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 Miyakoshi², Michio Hongo², Yuji Kasukawa², Koji Nozaka², Yoichi Shimada³. ¹Akita University, Japan, ²Akita University Graduate School of Medicine, Japan, ³Akita 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-Thandavan², Phonepasong Arounleut³, Sunil Upadhyay⁴, Amy Dukes⁴, Colleen Davis⁴, Galina Kondrikova⁴, Maribeth Johnson⁴, Carlos Isales⁴, William Hill⁵, Mark Hamrick⁶. ¹Case Western Reserve University, USA, ²Georgia Regents University & Charlie Norwood VAMC, USA, ³Georgia Regents University (formally Georgia Health Sciences University), USA, ⁴Georgia Regents University, USA, ⁵Georgia Regents University & Charlie Norwood VAMC, USA, ⁶Georgia Health Sciences University, USA
Disclosures: Samuel Herberg, None

- FR0199 Elevated TGF- β in Subchondral Bone Causes Joint Degeneration of Rheumatoid Arthritis and Osteoarthritis**
Xin Xu^{*1}, Liwei Zheng², Qin Bian³, Xuedong Zhou⁴, Xu Cao⁵. ¹Johns Hopkins University, Medical Institute, USA, ²West China School of Stomatology, Sichuan University, Peoples Republic of China, ³USA, ⁴West China School of Stomatology, Sichuan University, China, ⁵Johns Hopkins University, USA
Disclosures: Xin Xu, None
- FR0200 Elucidating Molecular Mechanisms leading to Post Traumatic Osteoarthritis in Sost KO Mice**
Jiun Chiun Chang^{*1}, Blaine Christiansen², Nicole Collette³, Aimy Sebastian¹, Deepa Muruges⁴, SARAH HATSELL⁵, Aris Economides⁶, Craig Blanchette⁴, Gabriela Loots⁷. ¹University of California, Merced, USA, ²University of California - Davis Medical Center, USA, ³Lawrence Livermore National Laboratory, USA, ⁴Lawrence Livermore National Laboratories, USA, ⁵REGENERON PHARMACEUTICALS, USA, ⁶Regeneron Pharmaceuticals, Inc., USA, ⁷Lawrence Livermore National Laboratory, UC Merced, USA
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**
Yangli Xie^{*1}, Wei Xu², Junlan Huang², Xiaolan Du², Siru Zhou², Lin Chen³, Zuqiang Wang². ¹Trauma Center, Daping Hospital, Third Military Medical University, Chn, ²Center 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, ³Daping Hospital, Peoples Republic of China
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 Rabelo¹, Jean-Paul Roux^{*2}, Nathalie Portero-Muzy¹, Stephanie Boutroy³, Roland Chapurlat⁴, Pascale Chavassieux¹. ¹INSERM UMR1033, Université de Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM U1033 & Université de Lyon, France, ⁴E. 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 Canalis². ¹St. Francis Hospital & Medical Center, USA, ²University of Connecticut Health Center, USA
Disclosures: Stefano Zanotti, None
- FR0210 Cannabinoid CB1 Receptor in Sympathetic Nerves Regulates Bone Mass**
Saif Deis^{*1}, Natalya Kogan¹, Lital Goldfine¹, Raj Kamal Srivastava², Saja Baraghithy¹, Esther Shohami¹, Beat Lutz², Itai Bab³. ¹Hebrew University of Jerusalem, Israel, ²Johannes Gutenberg University, Germany, ³The 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 Usas¹, Aiping Lu¹, Ying Tang¹, Minakashi Poddar¹, Adam Kozemchak¹, James Cummins¹, Johnny Huard². ¹University of Pittsburgh, USA, ²Orthopaedic Surgery, USA
Disclosures: Xueqin Gao, None
- FR0212 Deletion of Ror β , a Novel Regulator of Osteoblast Function, Slows Trabecular Bone Loss During Aging in Mice**
Qian Xing¹, Kristy Nicks¹, Joshua Farr¹, Daniel Fraser¹, Sundeep Khosla², David Monroe^{*3}. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 Khedgikar², Jyoti Gautam², Anirudha Karvande², Nasser Ahmed², Deepika Mishra³, Prabodh Kumar Trivedi³, Ritu Trivedi². ¹Central Drug Research -CSIR, India, ²CSIR-CDRI, India, ³CSIR-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 Fraser¹, Sundeep Khosla², David Monroe³. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 Hurley², Liping Xiao¹. ¹University of Connecticut Health Center, USA, ²University of Connecticut Health Center School of Medicine, USA
Disclosures: Collin Homer-Bouthiette, None
- FR0229** **Regulation of Bone Mass by Lrp4 and Secreted Wnt Antagonists**
Youngwook Ahn^{*1}, Jesús Fuentes-Antrás¹, Mark Dallas², Mark Johnson², Robb Krumlauf¹. ¹Stowers Institute for Medical Research, USA, ²University of Missouri, Kansas City Dental School, USA
Disclosures: Youngwook Ahn, None
- FR0233** **Unique Distal Enhancers Linked to the Mouse *Tnfrsf11* Gene Direct Tissue-Specific Expression and Inflammation induced Regulation of RANKL Expression**
Melda Onal^{*1}, Hillary St John², Allison Danielson³, Charles O'Brien⁴, J. Pike². ¹university of wisconsin, USA, ²University of Wisconsin-Madison, USA, ³undergraduate student, USA, ⁴Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Melda Onal, None
- FR0234** **Cbfb 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 Chen², Yi-Ping Li². ¹The University of Alabama at Birmingham, USA, ²University of Alabama at Birmingham, USA
Disclosures: Mengrui Wu, None
- 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 Henry², Benoit de Crombrughe³, Klaus von der mark⁴, Henry adams⁵. ¹MD Anderson Cancer Center, USA, ²University of Texas MD Anderson, USA, ³UT MD Andrsn cancer center, USA, ⁴University of Erlangen-Nuremberg, Germany, ⁵UT MD Anderson, USA
Disclosures: Xin Zhou, None
- FR0237** **EP1 Deletion Enhances Mitochondrial Activity in Mesenchymal Stem Cell and Promotes Osteogenicity**
Marina Feigenson^{*1}, Jennifer Jonason², Alayna Loiselle², Roman Eliseev², Regis O'Keefe². ¹USA, ²University of Rochester, USA
Disclosures: Marina Feigenson, None

- FR0238 ER Stress Signaling Molecule IRE1 α Regulates Bone Development and Confers Genetic Risk for Human Osteoporosis**
Shankar Revu*¹, Kai Liu², Fengming Wang¹, Konstantinos Verdelis¹, Mariana Bezamat¹, Alexandre Vieira¹, Hong-Jiao Ouyang¹. ¹University of Pittsburgh, USA, ²USA
Disclosures: Shankar Revu, None
- FR0241 Circulating Microvesicles from Elderly Donors impact on Osteogenic Differentiation of Mesenchymal Stem Cells**
Sylvia Weilner¹, Elisabeth Schraml¹, Matthias Wieser², Paul Messner³, Andrea Maier⁴, Heinz Redl⁵, Peter Pietschmann⁶, Matthias Hackl⁷, Regina Grillari-Voglauer², Johannes Grillari*⁸. ¹Department of Biotechnology, University of Natural Resources & Life Sciences Vienna, Austria, ²Evercyte GmbH, Austria, ³Department of Nanobiotechnology, University of Natural Resources & Life Sciences Vienna, Austria, ⁴Department of Gerontology & Geriatrics, Leiden University Medical Center, Leiden, Austria, ⁵Ludwig Boltzmann Institute for Experimental & Clinical Traumatology, AUVA Research Center, Austria, ⁶Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, ⁷TAmiRNA GmbH, Austria, ⁸University 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 Lwin¹, Marcela Morales¹, Ashley Urrutia¹, Hannah Kim¹, Christina Theodoris², Mark P. White³, Deepak Srivastava⁴, Edward Hsiao¹. ¹University of California, San Francisco, USA, ²Gladstone Institute of Cardiovascular Disease, USA, ³Gladstone Institute of Cardiovascular Disease, San Francisco, CA, USA, ⁴Gladstone Institutes, USA
Disclosures: Emilie Barruet, None
- FR0246 Neural Origin of Osteoblasts during Heterotopic Ossification**
ZaWaunya Lazard*, Elizabeth Salisbury, Eric Beal II, Elizabeth Olmsted-Davis, Alan Davis. Baylor College of Medicine, USA
Disclosures: ZaWaunya Lazard, None
- FR0251 Choline Kinase Beta is an Important Regulator of Bone Homeostasis**
Jennifer Tickner*¹, Jasreen Kular¹, Nathan Pavlos¹, Tamara Abel², BaySie Lim¹, Ming Hao Zheng¹, Jiake Xu¹. ¹University of Western Australia, Australia, ²Centre 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-Amer², Sheri Bonar², Jacqueline Kading¹, Yousef Abu-Amer³, Roberto Civitelli³, Gabriel Mbalaviele³. ¹Washington University in St Louis, USA, ²Washington University in St. Louis, USA, ³Washington 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 Zhou², Shiqiao Ye¹, Stavros Manolagas¹, Haibo Zhao¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²UAMS, USA
Disclosures: Toshifumi Fujiwara, None
- FR0254 Snx10-dependent osteoclastic activity and gastric acidification is required for bone and calcium homeostasis**
Liang Ye*¹, Leslie Morse², Li Zhang³, Hajime Sasaki³, Jason Mills⁴, Greg Sibbel⁴, Ariane Zamarioli⁵, Ricardo Battaglini³. ¹The Forsyth Institute & Harvard School of Dental Medicine, USA, ²Harvard Medical School, USA, ³The Forsyth Institute, USA, ⁴Washington University School of Medicine, USA, ⁵University of Sao Paulo, Brazil
Disclosures: Liang Ye, None
- FR0255 Specific *Ostm1* ablation in the hematopoietic mature osteoclast induce severe osteopetrosis**
Jean Vacher*¹, Monica Pata². ¹Institut De Recherches Cliniques De Montréal, Canada, ²IRCM, 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 Mukai², Teruhito Yoshitaka³, Yasuyoshi Ueki⁴. ¹University of Missouri-Kansas City, School of Dentistry, USA, ²University of Missouri - Kansas City, USA, ³University Missouri-Kansas City, School of Dentistry, USA, ⁴University 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 Dixon², Stephen M. Sims². ¹The University of Western Ontario, Can, ²The University of Western Ontario, Canada
Disclosures: Benjamin Wheal, None
- FR0259 mTORC1 Activity in Osteoclasts is Regulated by Lysosomal pH**
Luciene Carraro-Lacroix¹, Yingwei Hu², Celeste Owen³, Irina Voronov*⁴. ¹Faculty of Dentistry, University of Toronto, Canada, ²Institute of Dental Medicine, Qilu Hospital, Shandong University, China, ³Centre for Modeling Human Disease, Samuel Lunenfeld Research Institute, Mt Sinai Hospital, Canada, ⁴University of Toronto, Canada
Disclosures: Irina Voronov, None
- FR0260 CHMP5 Is a Novel Risk Factor of Paget's Disease of Bone Regulating the NF-κB Pathway in Osteoclasts**
Jae Hyuck Shim*¹, Kwang Hwan Park², Matthew Greenblatt³. ¹Weill Cornell Medical College, USA, ²Yonsei University College of Medicine, USA, ³Weill 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 Ruiz¹, Marta Martin-Millan², Shoshana Bartell³, Maria Jose Almeida³, Marian Ros⁴, Jesús Gonzalez-Macias*⁵. ¹Fundación Instituto de Investigación Marqués de Valdecilla, Spain, ²University of Cantabria, IDIVAL, HUMV, Spain, ³Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ⁴Instituto de Biomedicina y Biotecnología de Cantabria, Spain, ⁵University of Cantabria, HUMV, IDIVAL, RETICEF., Spain
Disclosures: Jesús Gonzalez-Macias, None
- FR0264 Deletion of Wnt Receptors Lrp5 and Lrp6 or β-catenin in osteoclast precursors differentially affects skeletal development**
Megan Weivoda*¹, Ming Ruan¹, Christine Hachfeld¹, Larry Pederson¹, Rachel Davey², Jeffrey Zajac³, Yasuhiro Kobayashi⁴, Bart Williams⁵, Sundeep Khosla⁶, Jennifer Westendorf¹, Merry Jo Oursler¹. ¹Mayo Clinic, USA, ²University of Melbourne, Australia, ³Austin Hospital, Australia, ⁴Japan, ⁵Van Andel Research Institute, USA, ⁶Mayo 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 Wei², HoangDinh Huynh², Yihong Wan³. ¹USA, ²UT southwestern, USA, ³University 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 Bartell², Li Han², Aaron Warren³, Srividhya Iyer², Rafael de Cabo⁴, Stavros Manolagas², Maria Jose Almeida². ¹Univ. Arkansas for Medical Sciences, USA, ²Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ³Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, ⁴Translational 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 Rosauer¹, Mohammed Akhter*², Donald Kimmel³, Joan Lappe², Robert Recker¹. ¹Creighton University, USA, ²Creighton University Osteoporosis Research Center, USA, ³Kimmel 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 Canalis². ¹St. Francis Hospital & Medical Center, USA, ²University 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 Chia¹, Nicole Walsh², T. John Martin³, Natalie Sims*⁴. ¹Department of Bone Cell Biology & Disease, Australia, ²St Vincent's Institute of Medical Research, Australia, ³St. Vincent's Institute of Medical Research, Australia, ⁴St. 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 Nagata², Jesus Delgado-Calle¹, Yohance M Allette², Matthew S Ripsch², Teresita Bellido¹, G. David Roodman², Fletcher A White², Toshiyuki Yoneda¹. ¹Indiana University School of Medicine, USA, ²Indiana 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-Muzy¹, Jean-Paul Roux², Patrick Garnero³, Roland Chapurlat⁴. ¹INSERM UMR1033, Université De Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM Research Unit, France, ⁴E. Herriot Hospital, France
Disclosures: Pascale Chavassieux, None
- FR0285 Circulating Periostin: a Determinant of Cortical Bone Structure Heritability**
Nicolas Bonnet*¹, Claire Durosier², Emmanuel Biver², Thierry Chevalley³, Rene Rizzoli⁴, Serge Ferrari⁵. ¹University Geneva Hospital (HUG), Switzerland, ²Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, Switzerland, ³University Hospitals of Geneva Division of Bone Diseases, Switzerland, ⁴Geneva University Hospitals & Faculty of Medicine, Switzerland, ⁵Geneva 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 Bonaretti¹, Isra Saeed¹, Roy Harnish¹, Robert Recker², Andrew Burghardt¹, Joyce Keyak³, Tamara Harris⁴, Sundeep Khosla⁵, Thomas Lang¹.
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Disclosures: Julio Carballido-Gamio, None
- FR0288 Cortical Bone Water in Renal Transplant Patients**
 Wenli Sun^{*1}, Mary Leonard², Hamidreza Saligheh Rad³, Chamith Rajapakse⁴, Felix Werner Wehrli⁵. ¹University of Pennsylvania, USA, ²Stanford School of Medicine, USA, ³Osteoporosis Research Center, Endocrinology & Metabolism Research Institute, Tehran University of Medical Sciences, Iran, ⁴University of Pennsylvania School of Medicine, USA, ⁵University of Pennsylvania Medical Center, USA
Disclosures: Wenli Sun, None
- FR0289 Impact of lumbar syndesmophyte on bone health as assessed by Bone density (BMD) and Bone Texture (TBS) in men with axial spondyloarthritis**
 Berengere Aubry-rozier^{*1}, Laura Wildberger¹, Vladimira Boiadjeva², Didier Hans¹, Nikolay Stoilov², Mariana Ivanova², Rumen Stoilov², Rasho Rashkov². ¹Lausanne University Hospital, Switzerland, ²Clinic 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 Malgo², Socrates Papapoulos¹, Neveen Hamdy¹.
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Disclosures: Natasha Appelman-dijkstra, None
- FR0291 Multi-modality in vivo Imaging Identifies Marrow and Vasculature within Pathological Cortical Porosity**
 Robin Parrish^{*1}, Julien Rivoire², Misung Han², Anne Schafer³, Thomas Link⁴, Roland Krug², Galatea Kazakia⁴. ¹UC Berkeley, USA, ²UC San Francisco, USA, ³University of California, San Francisco & the San Francisco VA Medical Center, USA, ⁴University 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 Geel², Joop Van Den Bergh³, Sabine Landewe⁴, Debby Vosse⁵, Piet Geusens⁶. ¹Maastricht University Medical Centre, The Netherlands, ²Maastricht University, The Netherlands, ³VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, ⁴Department of Internal Medicine, subdivision of Endocrinology, Maastricht University Medical Centre, Netherlands, ⁵Department of Internal Medicine, subdivision of Rheumatology, Maastricht University Medical Centre, Netherlands, ⁶University 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 Winzenrieth², Sumit Majumdar³, Lisa Lix¹, Didier Hans⁴.
¹University of Manitoba, Canada, ²Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, ³University of Alberta, Canada, ⁴Lausanne University Hospital, Switzerland
Disclosures: William Leslie, None
- 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 longobardi², Florencia Costa², julio cesar bai². ¹Instituto de Investigaciones Metabolicas (IDIM), Argentina, ²md, Argentina
Disclosures: Maria Belen Zanchetta, None

- FR0309 Endochondral ossification, mesenchymal stem cell and Wnt pathway specific loci predict differential skeletal effects in High Bone Mass**
 Celia Gregson¹, John Kemp², Mhairi Marshall³, Graeme Clarke³, George Davey Smith², Matthew Brown⁴, Emma Duncan⁵, Jon Tobias^{*6}. ¹University of Bristol, United Kingdom, ²MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, ³University of Queensland Diamantina Institute, Australia, ⁴Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, ⁵Royal Brisbane & Women's Hospital, Australia, ⁶Musculoskeletal 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 Majumdar², Suzanne Morin³, Lisa Lix¹, Didier Hans⁴. ¹University of Manitoba, Canada, ²University of Alberta, Canada, ³McGill University, Canada, ⁴Lausanne 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 Lapidus¹, Aaron Baraff¹, Christine Lee¹, Arie Baratt¹, Shannon McWeeney¹, Vladislav Petyuk², Douglas Bauer³, Nancy Lane⁴, Eric Orwoll¹. ¹Oregon Health & Science University, USA, ²Pacific Northwest National Laboratory, USA, ³University of California, San Francisco, USA, ⁴University 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 Marshall², Jian Shen², Steven Cummings³, Peggy Cawthon⁴, Kristine Ensrud⁵, Rena Singleton⁶, Jane Cauley⁷, Elizabeth Barrett-Connor⁸, Nancy Lane⁹, Deborah Kado⁸, John Schousboe¹⁰. ¹GRECC, Minneapolis VA Medical Center, USA, ²Oregon Health & Science University, USA, ³San Francisco Coordinating Center, USA, ⁴California Pacific Medical Center Research Institute, USA, ⁵University of Minnesota & Minneapolis VA Health Care System, USA, ⁶University of Minnesota, USA, ⁷University of Pittsburgh Graduate School of Public Health, USA, ⁸University of California, San Diego, USA, ⁹University of California, Davis Medical Center, USA, ¹⁰Park Nicollet Clinic, University of Minnesota, USA
Disclosures: Howard Fink, None
- FR0317 Atypical femoral fractures: Sensitivity and specificity of radiographic characteristics**
 Annette Adams^{*1}, Fei Xue², Jean Chandra¹, Richard Dell³, Susan Ott⁴, Stuart Silverman⁵, Joseph Giacon⁶, Cathy Critchlow⁷. ¹Kaiser Permanente Southern California, USA, ²Amgen, Inc., USA, ³Kaiser, USA, ⁴University of Washington Medical Center, USA, ⁵Cedars-Sinai/UCLA, USA, ⁶Cedars Sinai Medical Center, USA, ⁷Amgen 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 Harrison², Peggy Cawthon³, Deborah Kado⁴, Una Makris⁵, Richard Deyo¹, Hans Carlson¹, Michael Nevitt⁶. ¹Oregon Health & Science University, USA, ²San Francisco Coordinating Center, USA, ³California Pacific Medical Center Research Institute, USA, ⁴University of California, San Diego, USA, ⁵University of Texas Southwestern Medical Center, USA, ⁶University 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 Hawker¹, Cathy Cameron², Ruth Croxford³. ¹University of Toronto, Canada, ²Women's College Research Institute, Canada, ³Institute 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 Jarraay^{*1}, Yanhua Zhou², L Adrienne Cupples², Ali Guermazi¹, Ching-An Meng³, Elana Borchin³, Douglas Kiel³, Mary Bouxsein⁴, Elizabeth (Lisa) Samelson⁵.
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Disclosures: Mohamed Jarraay, None
- FR0329 Serum Bioavailable Estradiol Adds Information Beyond FRAX® for Hip Fracture Reclassification in Elderly Swedish Men – MrOS Sweden**
 Liesbeth Vandenput¹, Maria Nilsson², Maria Nethander³, Joel Eriksson⁴, Osten Ljunggren⁵, Andreas Kindmark⁵, Mattias Lorentzon⁶, Helena Johansson⁷, Jodi Lapidus⁸, Ying Wang⁸, Eric Orwoll⁸, Magnus Karlsson⁹, Dan Mellstrom¹⁰, Claes Ohlsson^{*11}.
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Disclosures: Claes Ohlsson, None
- FR0332 Associations of 25OHD and 1,25(OH)₂D with BMD, BMD Loss and Fracture**
 Christine Swanson^{*1}, Priya Srikanth², Christine Lee¹, Steven Cummings³, Ivo Jans⁴, Jane Cauley⁵, Roger Bouillon⁶, Dirk Vanderschueren⁶, Eric Orwoll¹, Carrie Nielson¹. ¹Oregon Health & Science University, USA, ²Department of Public Health & Preventive Medicine, Oregon Health & Science University, USA, ³San Francisco Coordinating Center, USA, ⁴Laboratory of Diagnostic Medicine, KU Leuven, University of Leuven, Belgium, ⁵University of Pittsburgh Graduate School of Public Health, USA, ⁶Katholieke 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 Broe², Adrienne Cupples³, Serkalem Demissie³, Caroline Fox⁴, Marian Hannan⁵, Yi-Hsiang Hsu⁶, David Karasik⁷, Ching-Ti Liu³, Robert McLean⁸, Ching-An Meng⁹, Elizabeth (Lisa) Samelson¹⁰, Xiaochun Zhang⁹, Mary Bouxsein¹¹.
¹Hebrew SeniorLife, USA, ²Institute for Aging Research, Hebrew SeniorLife, USA, ³Boston University School of Public Health, USA, ⁴National Institutes of Health, USA, ⁵HSL Institute for Aging Research & Harvard Medical School, USA, ⁶Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁷Hebrew SeniorLife; Bar Ilan University, USA, ⁸Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁹Institute for Aging Research, Hebrew SeniorLife, USA, ¹⁰Hebrew SeniorLife, Harvard Medical School, USA, ¹¹Beth 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 Cabana¹, Marie-Claude Beaulieu², Nathalie Carrier¹, Sophie Roux³, Gilles Boire^{*1}. ¹Centre hospitalier universitaire de Sherbrooke, Canada, ²Université de Sherbrooke, Canada, ³University 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 Hubbard², Belinda Operskalski², Do Peterson², Kelly Hansen², Andrea Lacroix³, Delia Scholes⁴. ¹University of Washington Medical Center, USA, ²Group Health Research Institute, USA, ³Fred Hutchinson Cancer Research Center, USA, ⁴Group 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 Paudel², Brent Taylor³, Allyson Kats⁴, Beth Virnig⁵, Bryan Dowd⁵, Kristine Ensrud⁶. ¹Park Nicollet Clinic, University of Minnesota, USA, ²Division of Epidemiology University of Minnesota, USA, ³University of Minnesota, USA, ⁴Chronic Disease Research Group, USA, ⁵Division of Health Policy & Management, University of Minnesota, USA, ⁶University 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 Rothberg¹, Andrew Kraftson¹, Nicole Miller¹, Katherine Zurales¹, Charles Burant¹, Catherine Van Poznak², Mark Peterson¹. ¹University of Michigan, USA, ²University of Michigan Comprehensive Cancer Center, USA
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- FR0352 High Vitamin D is Associated with Low Fasting Insulin in Non-diabetic Men**
Anna Nilsson*¹, Ewa Waern¹, Mattias Lorentzon², Magnus Karlsson³, Claes Ohlsson⁴, Dan Mellström¹. ¹Sahlgrenska University Hospital, Sweden, ²Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ³Skåne University Hospital Malmö, Lund University, Sweden, ⁴Center 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 Berger², Brent Richards³, Christopher Kovacs⁴, William Leslie⁵, David Hanley⁶, Jonathan Adachi⁷, Jerilynn Prior⁸, Suzanne Morin³, K. Shawn Davison⁹, Stephanie Kaiser¹⁰, Robert Josse¹¹, David Goltzman³. ¹Canadian Multicenter Osteoporosis Study, Canada, ²CaMos, McGill University, Canada, ³McGill University, Canada, ⁴Memorial University of Newfoundland, Canada, ⁵University of Manitoba, Canada, ⁶University of Calgary, Canada, ⁷St. Joseph's Hospital, Canada, ⁸University of British Columbia, Canada, ⁹University of Victoria, Canada, ¹⁰Dalhousie University, Canada, ¹¹St. 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 Buchwald², Chang Yang³, Suman Nellore², Elena Sashkova², Deborah Novack⁴, Richard Di Paolo². ¹Saint Louis University University, USA, ²Saint Louis University School of Medicine, USA, ³Washington University in St Louis School of Medicine, USA, ⁴Washington 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 Eldecacitol, a new-generation vitamin D₃ analog, increases trabecular bone via "minimodeling" in ovariectomized cynomolgus monkeys.**
Tomoka Hasegawa*¹, Saito Mitsuru², Doyle Nancy³, Chouinard Luc³, Smith Susan³, Yamamoto Tomomaya¹, Oda Kimimitsu⁴, Saito Hitoshi⁵, Amizuka Norio¹. ¹Hokkaido University, Japan, ²Jikei University School of Medicine, Japan, ³Charles River Laboratories, Canada, ⁴Niigata University, Japan, ⁵Chugai 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**
Holger Henneicke*¹, Jingbao Li², Sylvia Jane Gasparini³, Markus Seibel⁴, Hong Zhou⁴.
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Disclosures: Holger Henneicke, None
- FR0362 Deletion of TRAF3 Specifically in Mesenchymal Progenitor Cells Results in Age-related Osteoporosis Through Effects on both Osteoblasts and Osteoclasts**
Jinbo Li*¹, Zhenqiang Yao², Yan Xiu³, Xiaoxiang Yin³, Lianping Xing², Brendan Boyce³.
¹USA, ²University of Rochester, USA, ³University of Rochester Medical Center, USA
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- FR0363 Heterozygosity for *TGFBR3* Alters Osteoblast and Osteoclast Differentiation and Signaling, Increases Peak Bone Mass, and Sensitizes Mice to OVX-Induced Bone Loss.**
Nicole Fleming¹, Vanessa Bray², James Butler³, Tristan Fowler⁴, Joey Barnett⁵, Dana Gaddy⁶, Erick Fleming¹, Jeffry Nyman⁷, Rashmi Pandey³, Daniel Perrien*⁷. ¹VUIIS, Vanderbilt University, USA, ²Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, ³Department of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, ⁴Universität Wien, Aut, ⁵Department of Pharmacology, Vanderbilt University, USA, ⁶University of Arkansas for Medical Sciences, USA, ⁷Vanderbilt 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 Muschitz², Minh Bui³, Lukas Fischer⁴, Wolfgang Schima⁵, Fritz Lomoschitz⁶, Norbert Laimer⁷, Ali Ghasem-Zadeh⁸, Roger Zebaze⁸, Ego Seeman⁸.
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Disclosures: Afrodite Zendeli, None
- FR0365 Pulsatile delivery of parathyroid hormone from an implantable device promotes bone regeneration in vivo**
Ming Dang*¹, Amy Koh², Laurie McCauley³, Peter Ma⁴. ¹Macromolecular Science & Engineering Center, University of Michigan, USA, ²Department of Periodontics & Oral Medicine, University of Michigan, USA, ³University of Michigan School of Dentistry, USA, ⁴Department of Biologic & Materials Sciences, University of Michigan, USA
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 Baban¹, William Hill², Mark Hamrick³, Carlos Isales¹, Xing-Ming Shi¹, ¹Georgia Regents University, USA, ²Georgia Regents University & Charlie Norwood VAMC, USA, ³Georgia 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**
Charles Castro¹, Marina Eloi^{*1}, Daniela Horvath¹, João Carlos Ortega¹, João Bosco Pesquero¹, Vera Szejnfeld², ¹Universidade Federal de São Paulo, Brazil, ²UNIFESP/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. Hogan¹, Marilina Piemontese², Jinhu Xiong¹, Charles A O'Brien¹, Stavros Manolagas¹, ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²University 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 Jans², Marco Blokland³, Frederike van Tricht³, Saskia Sterk³, Leen Antonio¹, Brigitte Decallonne¹, Geert Carmeliet¹, Geoffrey Hammond⁴, Frank Claessens¹, Dirk Vanderschueren¹, ¹Katholieke Universiteit Leuven, Belgium, ²University Hospitals Leuven, Belgium, ³RIKILT, Wageningen UR, Netherlands, ⁴University of British Columbia, Canada
Disclosures: Michaël Laurent, None
- FR0371 H₂O₂ generation in osteoclast mitochondria is indispensable for endocortical, but not cancellous, bone resorption in estrogen or androgen deficiency**
Shoshana Bartell^{*1}, Li Han¹, Aaron Warren¹, Julie Crawford¹, Semahat Serra Ucer², Srividhya Iyer¹, Maria Jose Almeida¹, Stavros Manolagas¹, ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²University 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 Diem², Kristine Ruppert³, YinJuan Lian³, Chih-Chin Liu⁴, Alyssa Wohlfahrt⁴, Gail Greendale⁵, Joel Finkelstein⁶, ¹Harvard Medical School, USA, ²University of Minnesota, USA, ³University of Pittsburgh, USA, ⁴Brigham & Women's Hospital, USA, ⁵University of California, Los Angeles, USA, ⁶Massachusetts 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 Singh², Jack Cuzick³, Glen Blake⁴, Rajesh Patel⁵, Rob Coleman⁶, Mitch Dowsett⁷, John F. Forbes⁸, Anthony Howell⁹, Richard Eastell¹⁰, ¹Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University London, United Kingdom, ²Centre for Cancer Prevention, United Kingdom, ³Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London, United Kingdom, ⁴King's College London, United Kingdom, ⁵Imperial College London, United Kingdom, ⁶Department of Oncology, Cancer Clinical Trials Centre, Academic Unit of Clinical Oncology, United Kingdom, ⁷Royal Marsden Hospital, United Kingdom, ⁸University of Newcastle, Calvary Mater Hospital, Australia, ⁹Paterson Institute for Cancer Research, United Kingdom, ¹⁰University of Sheffield, United Kingdom
Disclosures: Ivana Sestak, None
- FR0377 Acute Skeletal Effects of PTH in Combination with Denosumab or Alendronate**
Joy Tsai^{*1}, Hang Lee², Yuli Zhu³, Katelyn Foley³, Sherri-Ann Burnett-Bowie¹, Robert Neer¹, Benjamin Leder⁴, ¹Massachusetts General Hospital, USA, ²Massachusetts General Hospital, Biostatistics Center, USA, ³Massachusetts General Hospital, Endocrine Unit, USA, ⁴Massachusetts 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 Banks², Louis O'Dea², C.R. Lyttle², John Yates³, Gary Hattersley². ¹Massachusetts General Hospital Harvard Medical School, USA, ²Radius, USA, ³Radius 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-QTCT Analyses of Randomized Controlled Trial Results in Postmenopausal Women with Low BMD**
T Damm*¹, C Libanati², J Peña¹, G Campbell¹, R Barkmann¹, DA Hanley³, S Goemaere⁴, MA Bolognese⁵, C Recknor⁶, C Mautalen⁷, YC Yang², CC Glüer¹. ¹Christian-Albrechts-Universität zu Kiel, Germany, ²Amgen Inc., USA, ³University of Calgary, Canada, ⁴Ghent University Hospital, Belgium, ⁵Bethesda Health Research Center, USA, ⁶United Osteoporosis Centers, USA, ⁷Centro de Osteopatías 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 Dimai², Roland Kocijan³, Heinrich Resch⁴, Peter Pietschmann⁵, Martina Kostic⁶, Alexandra Kaider⁷, Michael Szivak⁸, Matthias Schilling⁹, Heinrich W. Thaler¹⁰. ¹St. Vincent's Hospital, Austria, ²Medical University of Graz – Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, ³St. Vincent Hospital Vienna, Austria, ⁴Medical University Vienna, Austria, ⁵Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, ⁶St. Vincent Hospital – Medical Department II - Academic Teaching Hospital of Medical University of Vienna, Austria, ⁷Center for Medical Statistics, Informatics & Intelligent Systems, Medical University of Vienna, Austria, ⁸Austrian Trauma Insurance Agency (AUVA), Austria, ⁹Institute for Medical Radiology, Diagnostics, Intervention; Clinical Center of Lower Austria, Austria, ¹⁰Trauma 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. Grbic², Michael McClung³, Socrates Papapoulos⁴, David Kendler⁵, Christence S. Teglbjaerg⁶, Lawrence O'Connor⁷, Rachel B. Wagman², Eric Ng⁷, Nadia S. Daizadeh⁷, Pei-Ran Ho⁷. ¹Mercy Health, USA, ²Columbia University, USA, ³Oregon Osteoporosis Center, USA, ⁴Leiden University Medical Center, Netherlands, ⁵University of British Columbia, Canada, ⁶CCBR, Denmark, ⁷Amgen 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 Geller¹, RB Wagman*¹, PR Ho¹, S Siddhanti¹, C Stehman-Breen¹, NB Watts², S Papapoulos³. ¹Amgen Inc., USA, ²Mercy Health Osteoporosis & Bone Health Services, USA, ³Leiden 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 Libanati², CJF Lin², S Adami³, JP Brown⁴, F Cosman⁵, C Czerwiński⁶, LH de Gregório⁷, J Malouf⁸, J-Y Reginster⁹, NS Daizadeh², A Wang², RB Wagman², EM Lewiecki¹⁰, S Cummings¹¹. ¹Geneva University Hospital, Switzerland, ²Amgen Inc., USA, ³University of Verona, Italy, ⁴Laval University & CHU de Québec Research Centre, Canada, ⁵Helen Hayes Hospital, USA, ⁶Krakow Medical Center, Poland, ⁷CCBR, Brazil, ⁸Universitat Autònoma de Barcelona, Spain, ⁹University of Liège, Belgium, ¹⁰New Mexico Clinical Research & Osteoporosis Center, USA, ¹¹San 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. Cheung², Jonathan Adachi³, Leon Lenchik⁴, Aliya Khan⁵, Earl Bogoch⁶, Robert Josse⁷, Catherine Lang⁸, R Bleakney⁹. ¹University of Toronto, Sunnybrook Health SC, Dept. Medical Imaging, Canada, ²University Health Network-University of Toronto, Canada, ³St. Joseph's Hospital, Canada, ⁴Wake Forest University, USA, ⁵McMaster University, Canada, ⁶St. Michael's Hospital, Canada, ⁷St. Michael's Hospital, University of Toronto, Canada, ⁸University of Toronto, Canada, ⁹Mount 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 Vittinghoff², NS Daizadeh³, M Austin³, A Wang³, RB Wagman³. ¹San Francisco Coordinating Center, CPMC Research Institute, USA, ²University of California San Francisco, USA, ³Amgen 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 Ferchak¹, Subashan Perera¹, Dave Nace¹, Neil Resnick². ¹University of Pittsburgh, USA, ²University 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 Aizawa², Satoshi Sasaki³, Shigeru Ando⁴, Shigeto Maekawa⁵, Hiroshi Aonuma¹, Hiroyuki Tsuchie⁶, Hiroshi Sasaki⁷, Yuji Kasukawa¹, Yoichi Shimada¹. ¹Akita University Graduate School of Medicine, Japan, ²Northern Akita Municipal Hospital, Japan, ³Higashinaruse National Health Insurance Clinic, Japan, ⁴Yamamoto-Kumiai General Hospital, Japan, ⁵Ogachi Central Hospital, Japan, ⁶Nakadori General Hospital, Japan, ⁷Akita 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 Soe², Haoran Cui³, Xin Du⁴, Jean-Marie Delaisse⁵, Dieter Bromme⁶. ¹University of British Columbia, Canada, ²Vejle Hospital, University of Southern Denmark, Denmark, ³Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, ⁴Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, ⁵Vejle Hospital, IRS, University of Southern Denmark, Denmark, ⁶The 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 Dempster², Tobias de Villiers³, Bente Langdahl⁴, Paul Miller⁵, Ivo Valter⁶, Cristiano AF Zerbinì⁷, Dosinda Cohn⁸, Steven Doleckyj⁸, Le Duong⁹, Boyd Scott⁸, Nadia Verbruggen¹⁰, Arthur Santora¹¹. ¹Creighton University, USA, ²Columbia University, USA, ³Stellenbosch University, South Africa, ⁴Aarhus University Hospital, Denmark, ⁵Colorado Center for Bone Research, USA, ⁶CCBR, Estonia, ⁷Centro Paulista de Investigações Clínicas, Brazil, ⁸Merck & Co., Inc., USA, ⁹Merck Research Laboratories, USA, ¹⁰MSD Europe Inc., Belgium, ¹¹Merck & 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 Lu¹, Nicholas Oyster¹, Ying Tang¹, Bing Wang¹, Johnny Huard². ¹University of Pittsburgh, USA, ²Orthopaedic 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 Furst², Chiyuan Zhang³, Laura Beth Anderson³, Hongfeng Jiang⁴, Serge Cremers³, Kyle Nishiyama³, Hua Zhou⁵, David Dempster³, Atharva Poundarik⁶, Shonni Silverberg³, Deepak Vashishth⁷, Mishaela Rubin³. ¹NYP-Columbia, USA, ²Columbia University College of Physicians & Surgeons, USA, ³Columbia University, USA, ⁴Columbia University College of Physician & Surgeons, USA, ⁵Helen Hayes Hospital, USA, ⁶Rensselaer Polytechnic University, USA, ⁷Rensselaer Polytechnic Institute, USA
Disclosures: Dorothy Fink, None
- FR0415 Effect of Teriparatide in Patients with Osteoporosis and Type 2 Diabetes Mellitus**
Ann Schwartz^{*1}, John Krege², Jahangir Alam², Dara Schuster². ¹University of California, San Francisco, USA, ²Eli Lilly & Company, USA
Disclosures: Ann Schwartz, Merck, 5
- FR0416 Predictors of Mortality Subsequent to A Fracture in Diabetes Mellitus Patients**
Jakob Linde^{*1}, Søren Gregersen¹, Peter Vestergaard². ¹Aarhus University Hospital, Denmark, ²Aalborg 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 Forsen², Mari Hoff³, Arnulf Langhammer⁴, Siri Forsmo⁵, Berit Schei⁶, Kristian Midthjell⁴, Haakon E. Meyer². ¹MD PHD, Norway, ²Norwegian Institute of Public Health/University of Oslo, Norway, ³Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, ⁴HUNT Research Centre, Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, ⁵Norwegian University of Science & Technology, Norway, ⁶Women'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 Hackl², Susanna Skalicky², Janina Patsch³, Thomas Baum⁴, Andrew Burghardt⁵, Ann Schwartz⁵, Johannes Grillari⁶, Thomas Link⁵. ¹University of California San Francisco, USA, ²AmiRNA GmbH, Austria, ³Medical University of Vienna, Austria, ⁴Klinikum rechts der Isar, TU Muenchen, Germany, ⁵University of California, San Francisco, USA, ⁶University 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 Kepley¹, Fernando Rosete¹, Claire Keating¹, Emily DiMango¹, Elizabeth Shane². ¹Columbia University, USA, ²Columbia 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 Myers², Alessandra Esposito³, Joseph Temple³, Tieshi Li¹, Helen Willcockson², Billie Moats-Staats⁴, Lara Longobardi¹, Anna Spagnoli¹. ¹University of North Carolina at Chapel Hill, USA, ²University of North Carolina, USA, ³The University of North Carolina at Chapel Hill, USA, ⁴University 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 Wang², Jeffrey Tsai³, Nisan Bhattacharyya⁴, Alison Boyce⁵, Rachel Gafni¹, Andrea Estrada¹, Alfredo Molinolo⁴, Pamela Robey⁶, Michael Collins¹.
¹National Institutes of Health, USA, ²University of Maryland, USA, ³SUNY Buffalo, USA, ⁴NIH, USA, ⁵Children's National Medical Center, USA, ⁶National Institute of Dental & Craniofacial Research, USA
Disclosures: Andrea Burke, None
- FR0434 Adult Hypophosphatasia: Clinical Presentation and Diagnostic Findings**
 Lothar Seefried*¹, Franca Genest¹, Christine Hofmann², Sebastian v. d. Assen¹, Maximilian Rudert¹, Franz Jakob¹. ¹Orthopedic Center for Musculoskeletal Research, Germany, ²University 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. Simmons², Richard E. Lutz³, Scott Moseley⁴, Agustin Melian⁴, Tatjana Odrlić⁴, Nicholas Bishop⁵. ¹Shriners Hospital for Children-Saint Louis, USA, ²Vanderbilt Children's Hospital, USA, ³Nebraska Medical Center, USA, ⁴Alexion Pharmaceuticals Inc, USA, ⁵University 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 Zhang¹, William McAlister², Deborah Wenkert³, Karen Mack¹, Marci Benigno¹, Stephen P. Coburn⁴, Susan Wagy¹, Donna M. Griffin¹, Karen Erickson⁴, Steven Mumm⁵. ¹Shriners Hospital for Children-Saint Louis, USA, ²Department of Pediatric Radiology, Mallinckrodt Institute of Radiology at St. Louis Children's Hospital, Washington University School of Medicine, USA, ³Amgen, Inc., USA, ⁴Department of Chemistry, Indiana University – Perdue University, USA, ⁵Washington 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-Zarrabeitia¹, Mayte García-Unzueta², Juan Gomez-Gerique², Jose Riancho*³. ¹Hospital U.M.Valdecilla, Spain, ²Hospital U.M. Valdecilla, Spain, ³University 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 Bainbridge², Meghan Towne³, Nicholas Marinakis³, Pankaj Agarwal³, Alan Beggs³, David Margulies³, Gang-Qing Yao⁴, Karl Insogna⁴, Thomas Carpenter⁴. ¹Boston Children's Hospital & Harvard Medical School, USA, ²Codified Genomics, USA, ³Boston Children's Hospital, USA, ⁴Yale 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. Yue², Guang Zhou¹, Edward Greenfield¹, Shunichi Murakami¹. ¹Case Western Reserve University, USA, ²Department 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 Wang², Alyssa Dufour³, Douglas Kiel³, Emelia Benjamin⁴, Joanne Murabito⁵, Joseph Vita⁶, Marian Hannan⁷, Paul Jacques⁸, Robert McLean⁹, Roger Fielding¹⁰, Vasan Ramachandran¹¹, Gary Mitchell¹², Naomi Hamburg⁶. ¹Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, ²Boston University School of Public Health, USA, ³Hebrew SeniorLife, USA, ⁴Framingham Heart Study, Boston University School of Public Health, Boston University School of Medicine, USA, ⁵Framingham Heart Study & Boston University School of Medicine, USA, ⁶Boston University School of Medicine, USA, ⁷HSL Institute for Aging Research & Harvard Medical School, USA, ⁸Jean Mayer USDA HNRCA, Tufts University, USA, ⁹Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ¹⁰Jean Mayer USDA HNRCA At Tufts University, USA, ¹¹Framingham Heart Study, Boston University School of Medicine, USA, ¹²Cardiovascular 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 Ikegami², Keijiro Mukaiyama², Yukio Nakamura³, Mikio Kamimura⁴, Hiroyuki Kato². ¹Shinshu University, School of Medicine, Japan, ²Department of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, ³Dept of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, ⁴Kamimura 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 Vanderboom¹, H. Robert Bergen¹, Sundeep Khosla², Nathan LeBrasseur¹. ¹Mayo Clinic, USA, ²Mayo 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 Marvdashti², Christina C Lemon², Kaitlin R Chambers², Erin Johnson², Karen Hansen³. ¹University of Wisconsin, Madison, USA, ²Department of Medicine, University of Wisconsin School of Medicine & Public Health, USA, ³University 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 Rikonen*¹, Kenneth Poole², Joonas Sirola³, Reijo Sund⁴, Risto Honkanen⁵, Heikki Kroger⁶. ¹Finland, ²University of Cambridge, United Kingdom, ³University of Eastern Finland / Kuopio, Finland, ⁴University of Helsinki, Finland, ⁵University of Eastern Finland, Finland, ⁶Kuopio University Hospital, Finland
Disclosures: Toni Rikonen, None
- FR0456 The effect of acute exercise on undercarboxylated osteocalcin and insulin sensitivity in obese men**
 Itamar Levinger*¹, George Jerums², Nigel Stepto³, Lewan Parker³, Fabio Serpiello³, Glenn McConell³, Mitchell Anderson³, David Hare², Elizabeth Byrnes⁴, Peter Ebeling⁵, Ego Seeman⁶. ¹Victoria University, Australia, ²Austin Health, Australia, ³Institute of Sport, Exercise & Active Living (ISEAL), Victoria University, Australia, ⁴PathWest QEII Medical Centre, Australia, ⁵Department of Medicine, School of Clinical Sciences, Monash University, Australia, ⁶Austin Health, University of Melbourne, Australia
Disclosures: Itamar Levinger, None
- FR0461 Hdac3 regulates osteoblastic glucocorticoid and lipid metabolism during aging**
 Meghan McGee-Lawrence*¹, Lomeli Carpio¹, Ryan Schulze¹, Mark McNiven¹, Sundeep Khosla², Merry Jo Oursler¹, Jennifer Westendorf¹. ¹Mayo Clinic, USA, ²Mayo 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. Roth², Thi A. Nguyen³, Ping Zhou³, Jiasheng Zhang⁴, Mary Nakamura⁵, Eric J. Huang⁶, Robert V. Farese Jr.⁷, Robert Nissenson⁸. ¹VA Medical Center, San Francisco, USA, ²Endocrine Unit, VA Medical Center, USA, ³Gladstone Institute of Cardiovascular Disease, USA, ⁴Pathology, University of California, USA, ⁵University of California, San Francisco/San Francisco VA Medical Center, USA, ⁶Pathology, University of California / Pathology Service, VA Medical Center, USA, ⁷Gladstone Institute of Cardiovascular Disease / Medicine & Biochemistry & Biophysics, University of California, USA, ⁸VA 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. Lazarenko², Kelly Mercer³, Michael L. Blackburn³, Thomas M. Badger³, Martin J. J. Ronis⁴. ¹University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, ²Arkansas Children's Nutrition Center & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, ³Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, ⁴Arkansas 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 Baldi², Eleonora Piccirilli², Maurizio Feola², Cecilia Rao², Elena Gasbarra². ¹Università degli Studi di Roma Tor Vergata, Italy, ²Università degli Studi di Roma "Tor Vergata", Italy
Disclosures: Umberto Tarantino, None
- FR0467 Asx1 loss alters histone methylation status, leading to skeletal deficits**
Feng-Chun Yang^{*1}, Peng Zhang², Zhaomin Li¹, Yongzheng He¹, Lihn Nguyen¹, Jiapeng Wang¹, Khalid S. Mohammad¹, Theresa A. Guise¹, Mingjiang Xu³. ¹Indiana University, USA, ²Indiana University, USA, ³Indiana 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 Charles², Kelly Tsang¹, Kenichi Nagano³, Gary Shull⁴, Roland Baron⁵, Antonios Aliprantis¹. ¹Brigham & Women's Hospital, USA, ²Brigham & Women's Hospital & Harvard School of Medicine, USA, ³Harvard School of Dental Medicine, USA, ⁴University of Cincinnati College of Medicine, USA, ⁵Harvard School of Medicine & of Dental Medicine, USA
Disclosures: William O'Brien, None
- FR0469 Dllard1/Ctdnpl regulates endochondral ossification via suppression of TGF- β signaling**
Tadayoshi Hayata^{*1}, Yoichi Ezura², Makoto Asashima³, Ryuichi Nishinakamura⁴, Masaki Noda⁵. ¹Medical Research Institute, Tokyo Medical & Dental University, Japan, ²Tokyo Medical & Dental University, Medical Research Institute, Japan, ³Research Center of Stem Cell Engineering, National Institute of Advanced Industrial Science & Technology (AIST), Japan, ⁴Department of Kidney Development, Institute of Molecular Embryology & Genetics, Kumamoto University, Japan, ⁵Tokyo 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 Lyons². ¹Graduate Student, USA, ²University 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 Xing², Sheila Pourteymoor³, Subburaman Mohan⁴, Jan Schulte³, Bo Liu³. ¹VA Loma Linda Health Care Systems, USA, ²Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, ³Musculoskeletal Disease Center, Jerry L. Pettis VA Medical Center, USA, ⁴Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Shaohong Cheng, None
- FR0474 RECQL4 regulates p53 function *in vivo* during skeletogenesis**
 Linchao Lu^{*1}, Karine Harutyunyan², Weidong Jin¹, Jianhong Wu¹, Tao Yang³, Yuqing Chen¹, Kyu Sang Joeng¹, Yangjin Bae¹, Jianning Tao¹, Brian Dawson¹, Ming-Ming Jiang¹, Brendan Lee¹, Lisa Wang¹. ¹Baylor College of Medicine, USA, ²University of Texas M. D. Anderson Cancer Center, USA, ³Van Andel Research Institute, USA
Disclosures: Linchao Lu, None
- FR0476 The homeobox gene *DLX4* promotes generation of human induced pluripotent stem cells.**
 Naritaka Tamaoki^{*1}, Kazutoshi Takahashi², Hitomi Aoki³, Kazuki Iida¹, Tomoko Kawaguchi¹, Daijiro Hatakeyama¹, Masatoshi Inden⁴, Naoyuki Chosa⁵, Akira Ishisaki⁵, Takahiro Kunisada³, Toshiyuki Shibata¹, Naoki Goshima⁶, Shinya Yamanaka², Ken-Ichi Tezuka⁷. ¹Department of Oral & Maxillofacial Science, Gifu University Graduate School of Medicine, Japan, ²Center for iPS Cell Research & Application, Japan, ³Department of Tissue & Organ Development, Gifu University Graduate School of Medicine, Japan, ⁴Laboratory of Medical Therapeutics & Molecular Therapeutics, Gifu Pharmaceutical University, Japan, ⁵Division of Cellular Biosignal Sciences, Department of Biochemistry, Iwate Medical University, Japan, ⁶Biomedical Information Research Center, National Institute of Advanced Industrial Science & Technology, Japan, ⁷Gifu 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 Chen², Wei Chen², Guochun Zhu³, Yi-Ping Li². ¹USA, ²University of Alabama at Birmingham, USA, ³The 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 test 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 Goings, 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, HBSce, 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, HBSce, McMaster University, Canada

James (J.D.) Johnston, Ph.D., University of Saskatchewan, Canada

Friday

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
6:45 am - 8:00 am	51
ASBMR Networking Breakfast	
Grand Ballroom A	
7:00 am - 5:00 pm	51
ASBMR Registration Open	
Discovery Hall-Hall E	
8:00 am - 9:30 am	51
Gerald D. Aurbach Lecture	
Presentation of the William F. Neuman Award, Lawrence G. Raisz Award and Shirley Hohl Service Award	
General Assembly Theater	
8:00 am - 6:00 pm	51
Posters Open	
Discovery Hall-Hall E	
9:30 am - 4:30 pm	51
Discovery Hall Open	
Discovery Hall-Hall E	
9:30 am - 10:00 am	51
Coffee Break	
Discovery Hall-Hall E	
10:00 am - 11:30 am	52
Plenary Orals: Basic Bone Biology 1	
Grand Ballroom BC	
10:00 am - 11:30 am	53
Plenary Orals: Translational Science 1	
General Assembly Theater	
11:30 am - 12:30 pm	54
Meet-the-Professor Sessions	
Room 351A - Room 351F	
11:30 am - 12:30 pm	55
Clinical Roundtable - Management of Premenopausal Women with Low Bone Density	
Grand Ballroom A	
11:30 am - 12:30 pm	55
Breaking Through: Closing the Gap in Secondary Fracture Prevention	
Room 320	
11:30 am - 12:30 pm	56
To Mars and Beyond - How Will We Preserve the Musculoskeletal System in Long-Term Space Flights?	
Room 310	
12:30 pm - 2:30 pm	57
Poster Session I & Poster Tours	
Discovery Hall-Hall E	
2:30 pm - 4:00 pm	123
Concurrent Oral Session: Greg Mundy Memorial Session: Bone and Cancer	
Grand Ballroom A	

Saturday

2:30 pm - 4:00 pm.....	124
Concurrent Orals: Immune System and Bone	
<i>Room 320</i>	
2:30 pm - 4:00 pm.....	125
Concurrent Orals: Osteoporosis Treatment	
<i>Grand Ballroom BC</i>	
2:30 pm - 4:00 pm.....	126
Concurrent Orals: Signaling Pathways in Skeletal Development	
<i>Room 310</i>	
4:00 pm - 4:30 pm.....	127
Coffee Break	
<i>Discovery Hall-Hall E</i>	
4:30 pm - 6:00 pm.....	127
Concurrent Orals: Bone Remodeling and Mineral Homeostasis	
<i>Room 310</i>	
4:30 pm - 6:00 pm.....	128
Concurrent Orals: Fracture Risk Assessment	
<i>Grand Ballroom A</i>	
4:30 pm - 6:00 pm.....	129
Concurrent Orals: New Perspectives in Bone	
<i>Room 320</i>	
4:30 pm - 6:00 pm.....	130
Concurrent Orals: Nutrition and Secondary Bone Loss	
<i>Grand Ballroom BC</i>	
6:30 pm - 8:30 pm.....	131
Basic Evening - Getting the Best Out of Your Animal Models	
<i>Grand Ballroom A</i>	
6:30 pm - 8:30 pm.....	132
Clinical Evening - Personalizing Treatment of Osteoporosis	
<i>Hilton Americas - Grand Ballroom</i>	
8:30 pm - 11:30 pm.....	132
ASBMR Networking Event	
<i>Hilton Americas - Americas Ballroom</i>	

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

Saturday

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 Spatz², Shigeki Nishimori¹, John Doench³, David Root³, Daniel Brooks⁴, Mary Bouxsein⁵, Paola Divieti Pajevic⁶, Henry Kronenberg¹. ¹Massachusetts General Hospital, USA, ²Harvard-MIT Division of Health Sciences & Technology (HST), USA, ³Broad Institute, USA, ⁴Beth Israel Deaconess Medical Center, USA, ⁵Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁶Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Marc Wein, None

10:30 am ASBMR 2014 Annual Meeting Young Investigator Award

1023 Ifit80 balances canonical and non-canonical hedgehog signaling pathways during osteoblast differentiation and bone development

Xue Yuan*¹, Shuying Yang². ¹University At Buffalo, USA, ²State 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 source of new osteoblasts during fracture repair *in vivo*

1024 Dongsu Park*¹, Joel A. Spencer², Charles P. Lin², David T. Scadden³. ¹Baylor College of Medicine, USA, ²Wellman Center for Photomedicine & Center for Systems Biology, Massachusetts General Hospital, USA, ³Center 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 (DGK ζ) is a critical regulator of bone homeostasis by modulating c-FOS levels in osteoclasts

Ali Zamani*¹, Pamela Hesker², Justus Katungi³, Roberta Faccio². ¹Department of Orthopedics, Washington University, St. Louis, Missouri, USA, ²Washington University in St. Louis School of Medicine, USA, ³Washington 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

PLENARY ORALS: TRANSLATIONAL SCIENCE 1

10:00 am - 11:30 am

George R. Brown Convention Center

General Assembly Theater

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 Estrada², Paul Leo³, Alexander Teumer⁴, Ching-Ti Liu⁵, Emma Duncan⁶, HouFeng Zheng⁷, Ryan Minster⁸, Leo-Pekka Lyytikäinen⁹, Najaf Amin¹⁰, Ruben Pengelly¹¹, Raquel Cruz Guerrero¹², Janja Marc¹³, Carrie Nielson¹⁴, Laura Yerges-Armstrong¹⁵, Melina Claussnitzer¹⁶, Ling Oei¹⁷, NM van Schoor¹⁸, Carolina Medina-Gomez¹⁹, Yanhua Zhou²⁰, Chao-Ho Cheng²¹, Yongmei Liu²², Uwe Völker⁴, Mika Kahonen²³, Cyrus Cooper²⁴, Andre Uitterlinden²⁵, Anke Hannemann²⁶, David Karasik²⁷, Simona Mencej-Bedrac²⁸, Jose Antonio Riancho Moral²⁹, John Holloway¹¹, Terho Lehtimäki⁹, Rebecca Jackson³⁰, L Adrienne Cupples⁵, Tamara Harris³¹, Henri Wallaschofski³², Fernando Rivadeneira³³, Brent Richards³⁴, Daniel Chasman³⁵, Matthew Brown³⁶, Douglas Kiel³⁷. ¹Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ²Analytic & Translational Genetics Unit, Massachusetts General Hospital, USA, ³University of Queensland Diamantina Institute, Brisbane, Australia, Australia, ⁴Interfaculty Institute for Genetics & Functional Genomics, University of Greifswald, Germany, ⁵Biostatistics Dept. Boston University, USA, ⁶Royal Brisbane & Women's Hospital, Australia, ⁷Departments of Medicine, Human Genetics, Epidemiology & Biostatistics, McGill University, Canada, ⁸Department of Human Genetics & Epidemiology, Graduate School of Public Health, University of Pittsburgh, USA, ⁹Department of Clinical Chemistry, Fimlab Laboratories, Finland, ¹⁰Department of Epidemiology, Erasmus Medical Center, Netherlands, ¹¹Human Genetics & Genomic Medicine, University of Southampton Faculty of Medicine, United Kingdom, ¹²University of Santiago de Compostela, Spain, ¹³Division of Clinical Biochemistry, University of Ljubljana, Slovenia, ¹⁴Oregon Health & Science University, USA, ¹⁵University of Maryland School of Medicine, USA, ¹⁶Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, ¹⁷Erasmus University Medical Center, The Netherlands, ¹⁸Department of Epidemiology & Biostatistics, the EMGO Institute of Health & Care Research, Netherlands, ¹⁹Erasmus Medical Center, The Netherlands, ²⁰Boston University, USA, ²¹Hebrew SeniorLife Institute for Aging Research, USA, ²²Center for Human Genetics, Division of Public Health Sciences, Wake Forest School of Medicine, USA, ²³Department of Clinical Physiology, University of Tampere School of Medicine, Finland, ²⁴University of Southampton, United Kingdom, ²⁵Rm Ee 575, Genetic Laboratory, The Netherlands, ²⁶Institute of Clinical Chemistry & Laboratory Medicine, University Medicine, Germany, ²⁷Hebrew SeniorLife; Bar Ilan University, USA, ²⁸Faculty of Pharmacy, University of Ljubljana, Slovenia, ²⁹Hospital U.M. Valdecilla-IFIMAV, University of Cantabria, Spain, ³⁰The Ohio State University, USA, ³¹Intramural Research Program, National Institute on Aging, USA, ³²Institute of Clinical Chemistry & Laboratory Medicine, Institute for Community Medicine, University Medicine Greifswald, University of Greifswald, Germany, ³³Erasmus University Medical Center, The Netherlands, ³⁴McGill University, Canada, ³⁵Brigham & Women's Hospital & Harvard Medical School, USA, ³⁶Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia, ³⁷Hebrew SeniorLife, USA

Disclosures: Yi-Hsiang Hsu, None

Saturday

- 10:15 am** **Osteoblast-specific Overexpression of Human WNT16 Increases both Cortical and Trabecular Bone Density and Improves Bone Structure in Mice**
1028 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** **Gut Microbiota Plays a Pivotal Role in the Bone Loss Induced by Sex Steroid Deficiency**
1029 Jau-Yi Li*¹, Benoit Chassaing², Michael Reott¹, Jonathan Adams¹, M. Neale Weitzmann¹, Andrew Gewirtz², Roberto Pacifici¹. ¹Emory University School of Medicine, USA, ²Center for Inflammation, Immunity & Infection, Georgia State University, USA
Disclosures: Jau-Yi Li, None
- 10:45 am** **ASBMR 2014 Annual Meeting Young Investigator Award**
1030 **Blood-circulating microRNAs are indicative of Fractures at the Femoral Neck in post-menopausal Women**
 Matthias Hackl*¹, Susanna Skalicky¹, Sylvia Weilner², Peter Dovjak³, Peter Pietschmann⁴, Johannes Grillari². ¹TAmiRNA GmbH, Austria, ²Department of Biotechnology, University of Natural Resources & Life Sciences Vienna, Austria, ³Salzkammergut-Klinikum Bad Ischl, Gmunden, Vöcklabruck, Austria, ⁴Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria
Disclosures: Matthias Hackl, TAmiRNA GmbH, 4
- 11:00 am** **Wnt-Lrp5 signaling regulates fatty acid metabolism in the osteoblast**
1031 Julie Frey¹, Zhu Li¹, Jessica Ellis¹, Charles Farber², Susan Aja¹, Michael Wolfgang¹, Thomas Clemens³, Ryan Riddle*¹. ¹Johns Hopkins University School of Medicine, USA, ²University of Virginia, USA, ³Johns Hopkins University, USA
Disclosures: Ryan Riddle, None
- 11:15 am** **The GABA_BR1 Modulates Skeletal Actions of Chronic Hyperparathyroidism by Controlling PTH Secretion and Ca²⁺-responsiveness of The Parathyroid Glands**
1032 Hanson Ho¹, Jenna Hwang¹, Alfred Li¹, Christian Santa Maria¹, Zhiqiang Cheng¹, Amanda Herberger¹, Chia-Ling Tu¹, Jean-Pierre Vilardaga², Wenhan Chang*¹. ¹Endocrine Research Unit, Department of Veterans Affairs Medical Center, University of California San Francisco, USA, ²University 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-Universitätsmedizin 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

Saturday

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

POSTER SESSION I & 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

- SA0001 In Postmenopausal Women with Stage 3 CKD, Fractures are Associated with Abnormalities in Both Trabecular and Cortical Bone**
Emily Stein^{*1}, Kyle Nishiyama², Thomas Nickolas¹, Stephanie Sutter³, Donald McMahon¹, X Guo², Elizabeth Shane¹. ¹Columbia University College of Physicians & Surgeons, USA, ²Columbia University, USA, ³Columbia 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 David², Hanna Mawad¹, Hartmut Malluche³. ¹University of Kentucky, USA, ²University of Miami, Miller School of Medicine, USA, ³University 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 Sun¹, G. David Roodman², Deborah Galson¹. ¹University of Pittsburgh, USA, ²Indiana 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 [²H₃] 3-epi-25OHD₃ internal standard and NIST traceable commercial 3-epi-25OHD calibrators.**
Jonathan Tang^{*1}, Christopher Washbourne², Isabelle Piec³, William Fraser². ¹University of East Anglia, Norwich, UK, United Kingdom, ²University of East Anglia, United Kingdom, ³BioAnalytical 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 Schwarz², Lona Christrup¹, Bent Lind³, Anne-Marie Heegaard⁴. ¹Department of Drug Design & Pharmacology, Faculty of Health & Medical Sciences, University of Copenhagen, Denmark, ²Glostrup Hospital, Denmark, ³The Elective Laboratory of the Capital Region, Denmark, ⁴Faculty 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-Palka². ¹Innsbruck Medical University, Austria, ²physician, Austria
Disclosures: Manfred Herold, None

Saturday

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. Cheung², Osama Ahmed Khan¹, Mohammed Zohair Rahman¹, Ken Pritzker³, Brian Lentle⁴. ¹McMaster University, Canada, ²University Health Network-University of Toronto, Canada, ³University of Toronto, Canada, ⁴University 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 Bandeira², Sirley Vasconcelos³, Luiz Griz⁴, Vanessa Machado⁵. ¹Brazil, ²University of Pernambuco, Brazil, ³Hospital Agamenon Magalhães - Recife, Brazil, ⁴Endocrinology & diabetes Unit of Agamenon Magalhães Hospital, University of Pernambuco, Recife-PE-Brasil, Brazil, ⁵Endocrinology & Diabetes Unit of Agamenon Magalhães, Brazil
Disclosures: Larissa Pimentel, None
- SA0009 Progressive diffuse osteosclerosis in systemic lupus erythematosus**
Nuria Guanabens^{*1}, Steven Mumm², Laia Gifre³, Silvia Ruiz-Gaspá⁴, Michael P. Whyte⁵. ¹Universitat De Barcelona, Spain, ²Washington University School of Medicine, USA, ³Hospital Clinic Barcelona, Spain, ⁴CIBERehd. IDIBAPS, Spain, ⁵Shriners 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 Lakshminarayan², Stuart Ralston¹. ¹University of Edinburgh, United Kingdom, ²University of Liverpool, United Kingdom
Disclosures: Omar Albagha, None
- SA0011 Gene-gene Interactions in Paget's Disease of Bone**
Sabrina Guay-Bélanger^{*1}, David Simonyan², Edith Gagnon², Jean Morissette², Jacques P. Brown², Laetitia Michou³. ¹Centre de recherche du CHU de Québec-CHUL, Canada, ²CHU de Québec Research Centre, Canada, ³Université 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 Sundaram², Takamitsu Saigusa¹, Sudhaker Rao³, William Ries¹, Sakamuri Reddy². ¹Medical University of South Carolina, USA, ²Charles P. Darby Children's Research Institute, USA, ³Henry 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 Mannstadt², Dolores M. Shoback³, Tamara J. Vokes⁴, Mark L. Warren⁵, Michael A. Levine⁶, Hjalmar Lagast⁷, John P. Bilezikian⁸. ¹Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, & Nutrition, USA, ²Massachusetts General Hospital & Harvard Medical School, USA, ³SF Department of Veterans Affairs Medical Center, University of California, USA, ⁴University of Chicago Medicine, USA, ⁵Endocrinology & Metabolism, Physicians East, USA, ⁶Children's Hospital of Philadelphia, USA, ⁷NPS Pharmaceuticals, Inc, USA, ⁸College 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 Nishiyama¹, Elaine Cong², James Lee³, Anna Kepley¹, Chiyuan Zhang¹, X Guo¹, Shonni Silverberg¹. ¹Columbia University, USA, ²Columbia Presbyterian Medical Center, USA, ³Columbia 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 Cusano², Laura Beth Anderson¹, Dinaz Irani³, James Sliney¹, Elizabeth Levy¹, Wen-wei Fan¹, Donald McMahon², John Bilezikian². ¹Columbia University, USA, ²Columbia University College of Physicians & Surgeons, USA, ³Columbia 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 Zhang², Wen-Wei Fan¹, Aline Costa², Elizabeth Levy¹, John Bilezikian¹. ¹Columbia University College of Physicians & Surgeons, USA, ²Columbia University, USA
Disclosures: Natalie Cusano, None
- SA0017 Vitamin D Deficiency is Less Common in Mild Primary Hyperparathyroidism**
 Elaine Cong^{*1}, Marcella Walker², Anna Kepley², Chiyuan Zhang², Donald McMahon³, Shonni Silverberg². ¹Columbia Presbyterian Medical Center, USA, ²Columbia University, USA, ³Columbia 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 Hegazy². ¹Center for Chronic Disorders of Aging, PCOM, USA, ²Agoza 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 Bala², Mariana Kersh³, Ali Ghasem-Zadeh⁴, Ego Seeman⁴, Roger Zebaze⁴. ¹Endocrine Centre, Austin Health, University of Melbourne, Australia, ²University of Melbourne, Dept. of Medicine, Australia, ³Department of Mechanical Engineering, Melbourne School of Engineering, University of Melbourne, Australia, ⁴Austin 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 Cvejkus², Joseph Zmuda³, Clareann Bunker², Yahtyng Sheu³, Alan Patrick⁴, Christopher Gordon⁵, Victor Wheeler⁴. ¹Pitt Public Health, University of Pittsburgh, USA, ²University of Pittsburgh, USA, ³University of Pittsburgh Graduate School of Public Health, USA, ⁴Tobago Health Studies Office, Trinidad & tobago, ⁵McMaster 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 Willems², Jacobus Arts², Sandrine Bours³, Peter Brink⁴, Piet Geusens⁵, Bert van Rietbergen⁶, Joop van den Bergh⁷. ¹Maastricht University Medical Center, The Netherlands, ²Department of Orthopaedics & CAPRHI, Maastricht University Medical Center, Netherlands, ³Department of Internal Medicine, Maastricht University Medical Center, Netherlands, ⁴Department of Surgery, Maastricht University Medical Center, Netherlands, ⁵Department of Internal Medicine & CAPHRI, Maastricht University Medical Center, Netherlands, ⁶Faculty of Biomedical Engineering, Eindhoven University of Technology, Netherlands, ⁷Department 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 Fischer¹, Alexander Valentinitzsch², Thomas Gross³, Daniela Kienzl¹, Claudia Schueller-Weidekamm¹, Franz Kainberger¹, Janina Patsch¹, Georg Langs¹, Matthew DiFranco^{*1}. ¹Medical University of Vienna, Austria, ²Klinikum rechts der Isar, Technische Universität München, Germany, ³Technical University of Vienna, Austria
Disclosures: Matthew DiFranco, None
- SA0024 Can bone quality markers predict nonunion?**
Koji Nozaka^{*1}, Naohisa Miyakoshi¹, Michio Hongo¹, Yuji Kasukawa¹, Hiroshi Aonuma¹, Hiroyuki Tsuchie², Kentaro Ohuchi¹, Hayato Kinoshita³, Chie Sato⁴, Masashi Fujii⁴, Yoichi Shimada⁴. ¹Akita University Graduate School of Medicine, Japan, ²Nakadori General Hospital, Japan, ³Akita University, Japan, ⁴Dept. 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 PTH₁₋₃₄ and Vitamin K₂ Using FTIR Imaging**
Teppei Ito^{*1}, Tomohiro Shimizu², Masahiro Todoh³, Masahiko Takahata⁴, Hiromi Kimura-Suda¹. ¹Chitose Institute of Science & Technology, Japan, ²Department of Orthopedic Surgery, School of Medicine, Hokkaido University, Japan, ³Division of Human Mechanical Systems & Design, Faculty of Engineering, Hokkaido University, Japan, ⁴Hokkaido 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 Rubin², Danielle Frechette³. ¹SUNY Stony Brook University, USA, ²State University of New York at Stony Brook, USA, ³Stony 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 Simonian², Karen Troy³, Thomas Schnitzer². ¹University of Calgary, Canada, ²Northwestern University, USA, ³Worcester Polytechnic Institute, USA
Disclosures: William Edwards, None
- SA0029 Effect of Variations in Tissue-Level Ductility on Femoral Strength**
Shashank Nawathe^{*1}, Nasim Barzanian², Mary Bouxsein³, Tony Keaveny². ¹University Of California at Berkeley, USA, ²University of California, Berkeley, USA, ³Beth 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 Sroga², Mishaela Rubin³, Deepak Vashishth². ¹Rensselaer Polytechnic University, USA, ²Rensselaer Polytechnic Institute, USA, ³Columbia University, USA
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- SA0031 MRI-derived porosity index provides quantitative insight into cortical pore architecture**
 Mahdieh Bashoor-Zadeh*¹, Chamith Rajapakse², Cheng Li³, Wenli Sun¹, Mona Al Mukaddam¹, Alexander Wright¹, Felix Werner Wehrli⁴. ¹University of Pennsylvania, USA, ²University of Pennsylvania School of Medicine, USA, ³University of Pennsylvania Health System, USA, ⁴University of Pennsylvania Medical Center, USA
Disclosures: Mahdieh Bashoor-Zadeh, None
- SA0032 Nanomechanical Behavior of Extrafibrillar Matrix in Bone**
 Xiaodu Wang*¹, Liqiang Lin², Xiaowei Zeng², Haoran Xu², Anne Sheldrake³, Jean Jiang⁴. ¹UTSA, USA, ²Mechanical Engineering, UTSA, USA, ³Biomedical Engineering, UTSA, USA, ⁴University 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 Lau², Eric Livingston³, Rachel Ellman⁴, Jordan Spatz⁵, Louis Stodieck⁶, Mary Boussein⁷, Virginia Ferguson⁶, Ted Bateman⁸. ¹UNC Chapel Hill, USA, ²University of North Carolina at Chapel Hill, USA, ³Department of Biomedical Engineering, University of North Carolina, USA, ⁴Beth Israel Deaconess Medical Center, USA, ⁵Harvard-MIT Division of Health Sciences & Technology (HST), USA, ⁶University of Colorado, USA, ⁷Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁸University 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 Kuriakose¹, Weidong Zhang², Leah Rae Donahue³, Stefan Judex¹. ¹Stony Brook University, USA, ²The Jackson Laboratory, USA, ³Jackson 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 Hu¹, Liangjun Lin², Jesse Muir¹, Yi-Xian Qin². ¹STONY BROOK UNIVERSITY, USA, ²State 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 Rizzo¹, Julie Hemar², Laurent Venet³, Thierry Sauvigne³, Estelle Franca⁴, Georges Boivin⁵. ¹INSERM UMR 1033, Université de Lyon, France, ²Université de Lyon, France, ³Centre Hospitalier Lyon Sud, France, ⁴Noraker, France, ⁵INSERM, UMR1033 ; Université 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 Bodhak², Sergei Kuznetsov³, Tina Kilts³, Marian Young⁴, Sheng Lin-Gibson², Carl Simon², Pamela Robey⁵. ¹NIDCR (NIH), Spain, ²NIST, USA, ³NIH, USA, ⁴National Institutes of Health, USA, ⁵National Institute of Dental & Craniofacial Research, USA
Disclosures: Luis Fernandez De Castro, None
- SA0039 Genetic regulation of skeletal robustness**
Lauren Smith^{*1}, Erin M.R. Bigelow², Bonnie T. Nolan², Meghan Faillace³, Joseph H. Nadeau⁴, Karl Jepsen⁵. ¹University of Michigan Health System, USA, ²Department of Orthopaedic Surgery, The University of Michigan, USA, ³GE Inspection Technologies, USA, ⁴Pacific Northwest Research Institute, USA, ⁵University 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 Baptista², Brigitte Burt-Pichat¹, Capucine Rondot³, Antoine Alves⁴, Catherine Wittmann⁵, Christian Gagnieu⁵, Patricia Forest³, Georges Boivin⁶, Jean-Pierre Bernard⁷. ¹INSERM UMR 1033, Université de Lyon, France, ²Faculté d'Odontologie, Université de Lorraine, France, ³Biom'up, France, ⁴NAMSA, France, ⁵MATEIS, INSA de Lyon, Université Claude Bernard Lyon1, France, ⁶INSERM, UMR1033 ; Université De Lyon, France, ⁷Faculté 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 Nikel¹, Atharva Poundarik², Caren Gundberg³, Deepak Vashishth¹. ¹Rensselaer Polytechnic Institute, USA, ²Rensselaer Polytechnic University, USA, ³Yale 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 Morgan², Lewis Francis³, Mary Farach-Carson¹, Liyun Wang⁴, Ashutosh Parajuli⁵. ¹Rice University, USA, ²College of Medicine Swansea University, United Kingdom, ³College of Medicine Swansea University, Uzbekistan, ⁴University of Delaware, USA, ⁵University 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 Karasaki², Yuichi Okazaki³, Nobukazu Okimoto⁴, Yushi Kato², Kiyoshi Ohura⁵, Masaki Noda⁶, Toshitaka Nakamura⁷, Masashige Suzuki². ¹GCOE, Tokyo Medical & Dental University, Japan, ²University of Tsukuba, Japan, ³University of Occupational & Environmental Health, Japan, ⁴Okimoto Clinic, Japan, ⁵Department of Pharmacology, Osaka Dental University, Japan, ⁶Tokyo Medical & Dental University, Japan, ⁷National 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 Christiansen², ¹UC Davis Medical Center, USA, ²University 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 Hargens², Jeffrey Lotz¹. ¹University of California, San Francisco, USA, ²University 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 Karlsson², Bjorn Rosengren², Magnus Dencker², Caroline Karlsson², ¹Sweden, ²Skåne 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 after 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 Rantalainen², Gaelle Ducher³, Prisca Eser³, Robin Daly⁴. ¹Deakin University, Aus, ²University of Jyväskylä, Finland, ³Deakin University, Australia, ⁴Centre 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 Sokoloff², Giovana Maffazioli³, Vibha Singhal⁴, Meghan Slattery², Hannah Clarke², Nicholas Derrico⁵, Madhusmita Misra⁶. ¹Division of Sports Medicine, Department of Orthopedics, Boston Children's Hospital & Harvard Medical School & Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, ²Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, ³Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, ⁴Neuroendocrine Unit, Massachusetts General Hospital & Harvard Medical School & Pediatric Endocrine Unit, Massachusetts General Hospital for Children & Harvard Medical School, USA, ⁵Endocrine Unit, Department of Medicine, Massachusetts General Hospital, USA, ⁶Neuroendocrine 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 Scott¹, Peter Ebeling*², Kerrie Sanders³, Dawn Aitken⁴, Tania Winzenberg⁵, Graeme Jones⁶. ¹The University of Melbourne, Australia, ²Department of Medicine, School of Clinical Sciences, Monash University, Australia, ³NorthWest Academic Centre, The University of Melbourne, Western Health, Australia, ⁴Menzies Research Institute, University of Tasmania, Australia, ⁵Menzies Research Institute Tasmania, Australia, ⁶Menzies 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 Fritz¹, Magnus Dencker², Susanna Stenevi-Lundgren², Jan-Ake Nilsson², Bjorn Rosengren², Magnus Karlsson². ¹Sweden, ²Skåne 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 Fan¹, Cassidy Powers², Lynda Stranix-Chibanda³, Mary Glenn Fowler⁴, Linda Dimeglio⁵, Cynthia Mukwasi⁶, Kathy George⁷, George K Siberry⁸.

¹University of California, San Francisco, USA, ²UCSF, USA, ³Department of Paediatrics & Child Health College of Health Sciences University of Zimbabwe, Zimbabwe, ⁴Makerere University(MU)-Johns Hopkins University(JHU) Research Collaboration, Uganda,

⁵Indiana University School of Medicine, USA, ⁶University of Zimbabwe, Zimbabwe, ⁷FHI 360, USA, ⁸NICHD/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 Jackowski¹, Rita Gruodyte-Raciene², Saija Kontulainen¹, Adam Baxter-Jones¹. ¹University of Saskatchewan, Canada, ²Lithuanian Sports University, Lithuania

Disclosures: Marta Erlandson, None

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

Steven Levy*¹, Elena Letuchy², Julie Eichenberger Gilmore³, Kathleen Janz¹, Trudy Burns⁴, James Torner⁵. ¹University of Iowa, USA, ²Univ. of Iowa Dept. of Epidemiology, USA, ³Univ. of Iowa College of Medicine, USA, ⁴Univ of Iowa College of Epidemiology, USA, ⁵Univ. 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 Torner¹, Elena Letuchy¹, Trudy Burns¹, Kathleen Janz¹, Janet Schlechte², Julie Eichenberger Gilmore¹, Steven Levy¹. ¹University of Iowa, USA,

²University 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 Mäkitie², Suvi Vallius², Mervi Mäyränpää³, Outi Mäkitie⁴.

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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 Glorieux², Frank Rauch³. ¹UNIFESP Sao Paulo, Shriners Hospital for Children, McGill University, Canada, Brazil, ²Shriners Hospital for Children & McGill University, Canada, ³Shriners 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 Goodman¹, Mary Georger¹, Michael Becker¹, Laura Calvi². ¹University of Rochester School of Medicine & Dentistry, USA, ²University 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 Ramirez². ¹USA, ²Icahn 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 Myers¹, Lara Longobardi², Ping Ye², Tieshi Li², Joseph Temple¹, Alessandra Esposito¹, Billie Moats-Staats³, Anna Spagnoli². ¹University of North Carolina, USA, ²University of North Carolina at Chapel Hill, USA, ³University 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 Berry², Rose Webb², Tracy Nelson², Yougen Xi², Casey R. Doucette³, Jackie A Fretz², Chris D. Church², Clifford J. Rosen³, Matthew S. Rodeheffer². ¹Yale University School of Medicine, USA, ²Yale School of Medicine, USA, ³Maine 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 Inzana², Hani Awad³, Regis J. O'Keefe⁴, Xiping Zhang³, Edward Schwarz¹. ¹University of Rochester, USA, ²USA, ³University of Rochester Medical Center, USA, ⁴University 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 Adapala¹, Vanessa Piccullio², Hector Aguila², Joseph Lorenzo², Archana Sanjay*³. ¹Texas Scottish Rite Hospital for Children, USA, ²University of Connecticut Health Center, USA, ³UCHC, 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 TNF α**
 Abdul Malik*¹, Jerid Robinson², Jau-Yi Li¹, Michael Reott¹, Jonathan Adams², M. Neale Weitzmann¹, Roberto Pacifici¹. ¹Emory University School of Medicine, USA, ²Emory University, USA
Disclosures: Abdul Malik, None
- BONE TUMORS AND METASTASIS: BONE TUMOR
MICROENVIRONMENT**
- SA0071 A Novel Sequestosome-1 / p62 ZZ Domain Inhibitor Blocks TNF α Induced Suppression of OBL Differentiation in MM**
 Rebecca Silbermann*¹, Jumpei Teramachi¹, Khalid Mohammad¹, Wei Zhao¹, Dan Zhou¹, Peng Yang², Julie L. Eisman², Xiang-Qun Xie², G. David Roodman¹, Noriyoshi Kurihara¹. ¹Indiana University, USA, ²University of Pittsburgh, USA
Disclosures: Rebecca Silbermann, None
- SA0072 Alternatively Activated Monocyte and Macrophage Efferocytosis Support Prostate Cancer Skeletal Metastasis**
 Jacqueline Jones*¹, Fabiana Soki², Hernan Roca¹, Stefanie Thiele³, Yusuke Shiozawa¹, Yugang Wang¹, Todd Morgan¹, Lorenz Hofbauer⁴, Kenneth Pienta⁵, Laurie McCauley². ¹University of Michigan, USA, ²University of Michigan School of dentistry, USA, ³Dresden University Medical Center, Germany, ⁴Dresden University Medical Center, Germany, ⁵John Hopkins University, USA
Disclosures: Jacqueline Jones, None
- SA0073 Critical role of Pim-2 in NF- κ B-mediated suppression of osteoblastogenesis and stimulation of osteoclastogenesis: Therapeutic impact of Pim inhibition on myeloma bone disease.**
 Jumpei Teramachi*¹, Masahiro Hiasa², Asuka Oda³, Ryota Amachi³, Takeshi Harada³, Shingen Nakamura³, Kumiko Kagawa³, Hirokazu Miki³, Shiro Fujii³, Keiichiro Watanabe⁴, Itsuro Endo⁵, Toshio Matsumoto⁵, Masahiro Abe⁶. ¹The University of Tokushima, Japan, ²Indiana University School of Medicine, USA, ³Department of Medicine & Bioregulatory Sciences, Institute of Health Biosciences, The University of Tokushima Graduate School, Japan, ⁴Tokushima University Hospital, Japan, ⁵University of Tokushima Graduate School of Medical Sciences, Japan, ⁶University 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 Harhash¹, David Waning², Khalid Mohammad¹, Andrew Marks³, Theresa Guise¹. ¹Indiana University, USA, ²Indiana University School of Medicine, USA, ³Columbia 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 Tanaka², Kenji Hata³, Masahiro Hiasa⁴, Riko Nishimura³, Toshiyuki Yoneda⁴. ¹Indiana University-Purdue University Indianapolis, USA, ²Osaka University, Japan, ³Osaka University Graduate School of Dentistry, Japan, ⁴Indiana 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 Alvares². ¹Northwestern University Feinberg School of Medicine Department of Molecular Phar, USA, ²Northwestern University, USA
Disclosures: Paula Stern, Exelixis, 2

BONE TUMORS AND METASTASIS: GENERAL

- SA0077 Targeting Dickkopf-related protein 1 (Dkk1) reduces extraskelatal tumor growth by novel immunomodulatory effects**
 Lucia D'Amico*¹, Ali Zamani², Aude-Helene CAPIETTO¹, Roberta Faccio³. ¹Washington University School of Medicine, USA, ²Department of Orthopedics, Washington University, St. Louis, Missouri, USA, ³Washington 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 Capulli¹, Luca Ventura², Patrizia Sanità¹, Simona Delle Monache¹, Adriano Angelucci¹, Anna Teti¹. ¹University of L'Aquila, Italy, ²San 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 Dowell¹, Katrina Clines², Colm Morrissey³, Shi Wei¹, Gregory Clines*².
¹University of Alabama at Birmingham, USA, ²University of Michigan, USA, ³University 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 Ferreras², Delphine Goerhig², Marie Brevet³, Philippe A.R. Clezardin⁴. ¹INSERM Unité 1033, UFR de Médecine Lyon-Est (domaine Laënnec), Fra, ²INSERM U1033, France, ³Hospices Civils de Lyon, France, ⁴INSERM & 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 Wang², Zhijian Duan³, June X Zou³, Hongwu Chen³, Wei He², Junjian Wang³. ¹First School of Clinical Medicine, Guangzhou University of Chinese Medicine/Cancer center, University of California at Davis, USA, ²First Affiliated Hospital of Guangzhou University of Chinese Medicine, China, ³Cancer 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 Pantano¹, Martine Croset², Keltouma Driouch³, Edith Bonnelye⁴, Michele Iuliani¹, Marco Fioramonti¹, Daniele santini¹, Giuseppe Tonini⁵, Philippe A.R. Clezardin*⁶. ¹Medical Oncology Division, University Campus-Bio-Medico, Italy, ²INSERM Research Unit U1033, University of Lyon1, France, ³Institute Curie, France, ⁴Faculte de Medecine RTH Laennec, France, ⁵Medical Oncology Division, University Campus-Bio-Medico, France, ⁶INSERM & 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 Eckel², Vincent Gonin², Delphine Goehrig², Chantal Diaz-Latoud², Philippe A.R. Clezardin³. ¹France, ²INSERM U1033, France, ³INSERM & 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 Roening², Serhan Zenger³, Ken-ichi Takeyama³, Francesca Gori⁴, Roland Baron⁵. ¹Harvard University, USA, ²Massachusetts College of Pharmacy & Health Sciences, USA, ³Harvard School of Dental Medicine, USA, ⁴Harvard School of Dental Medicine, Massachusetts General Hospital, USA, ⁵Harvard 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 Hidetoshi², Yusuke Ozawa³, Kenji Watanabe³, Isao Masuda³, Yuta Muramatsu⁴, Haruka Kaneko², Daichi Morikawa², Keiji Kobayashi³, Yoshitomo Saita⁵, Takahisa Sasho⁴, Takuji Shirasawa⁶, Koutaro Yokote⁷, Kazuo Kaneko², Takahiko Shimizu³. ¹Juntendo University, Japan, ²Department of Orthopedics, Juntendo University Graduate School of Medicine, Japan, ³Department of Advanced Aging Medicine, Chiba University Graduate School of Medicine, Japan, ⁴Department of Orthopedics, Chiba University Graduate School of Medicine, Japan, ⁵Department of Orthomedics, Juntendo University Graduate School of Medicine, Japan, ⁶Department of Aging Control Medicine, Juntendo University Graduate School of Medicine, Japan, ⁷Department of Clinical Cell Biology & Medicine Chiba University Graduate School of Medicine, Japan
Disclosures: Masato Koike, None
- SA0088 HIF-1 α is essential for articular cartilage homeostasis through induction of anabolic factors and suppression of catabolic factors**
Keita Okada*¹, Song Ho Chang¹, Yoko Hosaka², Hiroshi Kobayashi³, Shurei Sugita⁴, Haruhiko Akiyama⁵, Ung-II Chung⁶, Hiroshi Kawaguchi⁷, Taku Saito². ¹The University of Tokyo, Japan, ²University of Tokyo, Graduate School of Medicine, Japan, ³The University of Tokyo Hospital, Japan, ⁴Japan, ⁵Gifu University, Japan, ⁶University of Tokyo Schools of Engineering & Medicine, Japan, ⁷JCHO 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- κ B-Sox9 Pathway**
Mian Guo*¹, Jia Shen², Jinny Kwak², Xinli Zhang², Aaron James³, Kevork Khadarian², Kang Ting², Chia Soo⁴, Robert Chiu⁵. ¹Dental & 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, ²Dental & Craniofacial Research Institute & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, USA, ³Department of Pathology & Laboratory Medicine, David Geffen School of Medicine, University of California, Los Angeles, USA, ⁴Division 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, ⁵Dental & 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 Tian², Edward Schwarz³, Matthew Hilton⁴, Yufeng Dong³.

¹University of Rochester Medical Center, USA, ²Shengjing Hospital, China Medical University, China, ³University of Rochester, USA, ⁴Duke 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 Callaci². ¹Loyola University Medical Center, USA, ²Loyola 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 Carpio¹, Eric Olson², Jennifer Westendorf¹. ¹Mayo Clinic, USA, ²University 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 Lyons¹, Teni Anbarchian². ¹University of California, Los Angeles, USA, ²University 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 Kohn², Anthony Mirando³, Deepika Sharma², Ryoichiro Kageyama⁴, Michael Zuscik⁵, Matthew Hilton⁶. ¹University of Rochester, USA, ²Graduate Student, USA, ³Lab Manager, USA, ⁴Collaborator, Japan, ⁵University of Rochester School of Medicine & Dentistry, USA, ⁶Duke 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 Hata¹, Maokoto Wakabayashi², Yoshiaki Yura¹, Toshiyuki Yoneda³, Riko Nishimura¹. ¹Osaka University Graduate School of Dentistry, Japan, ²Asahi Kasei Pharma, Japan, ³Indiana 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 Hata¹, Sachiko Iseki², Teruko Takano-Yamamoto³, Riko Nishimura¹, Toshiyuki Yoneda⁴. ¹Osaka University Graduate School of Dentistry, Japan, ²Tokyo Medical & Dental University, Japan, ³Tohoku University Graduate School of Dentistry, Japan, ⁴Indiana 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 Katchburian², Hannan Davis³, Lilian Plotkin³, Rejane Reginato⁴. ¹Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, ²Federal University of São Paulo, Brazil, ³Indiana University School of Medicine, USA, ⁴Unifesp - 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 Perosky¹, Basma Khoury¹, Kenneth Kozloff², Andrea Alford¹. ¹University of Michigan, USA, ²University 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 Izawa², Tomohiro Fukunaga³, Qun-Tian Wang⁴, Matthew Silva³, Michael Gardner⁵, Michael McDaniel⁶, Clay Semenkovich⁵, Wei Zou³, Steven Teitelbaum³. ¹Washington University in St. Louis, USA, ²University of Tokushima Grad Sch, Japan, ³Washington University in St. Louis School of Medicine, USA, ⁴UIC Biological Sciences, USA, ⁵Washington University School of Medicine, USA, ⁶Washington University School of Medicine, USA
Disclosures: Nidhi Rohatgi, None
- SA0103 Protein Phosphatase 5 (PP5) regulates both energy metabolism and bone mass by reciprocal regulation of PPAR γ and Runx2 activities**
Lance Stechschulte*¹, Chunxi Ge², Piotr Czernik³, Edwin Sanchez¹, Renny Franceschi⁴, Beata Lecka-Czernik³. ¹University of Toledo Health Science Campus, USA, ²Pom Univ of Michigan School of Dentistry, USA, ³University of Toledo College of Medicine, USA, ⁴University of Michigan, USA
Disclosures: Lance Stechschulte, None

ENERGY METABOLISM AND BONE: FAT AND BONE

- SA0104 Gsa-deficient osteoblasts and osteocytes induce beige adipogenesis and a lean phenotype via interactions with skeletal muscle**
Keertik Fulzele*¹, Vaibhav Saini², Padrig Tuck³, Xiaolong Liu³, Christopher Dedie³, Jenna Garr³, Vladimir Zoubine³, Pankaj Shah³, Evan Rosen⁴, Paola Divieti Pajevic⁵. ¹Massachusetts General Hospital; Harvard Medical School, USA, ²MGH, Harvard Medical School, USA, ³Endocrine Unit, Massachusetts General Hospital, Harvard Medical School, USA, ⁴Division Of Endocrinology, Diabetes, & Metabolism, Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁵Massachusetts 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 Bartelt¹, Till Koehne¹, Till Koehne¹, Reimer Rudolph², Brigitte Mueller¹, Joerg Heeren¹, Ludger Scheja³, Andreas Niemeier*¹. ¹University Medical Center Hamburg-Eppendorf, Germany, ²Heinrich Pette Institut Hamburg, Germany, ³UKE 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 Magnusson², Staffan Mårild³, Monica Leu⁴, Verena Schwetz⁵, Isabelle Sioen⁶, Diana Herrmann⁷, Barbara Obermayer-Pietsch⁸, Lauren Lissner⁴, Diana Swolin-Eide⁹. ¹Gothenburg University, Sweden, ²Linköping University, Sweden, Sweden, ³Department of Pediatrics, The Queen Silvia Children's Hospital, Sweden, ⁴Department of Public Health & Community Medicine, University of Gothenburg, Sweden, ⁵Division of Endocrinology & Metabolism, University of Graz, Austria, ⁶Department of Public Health, Ghent University, Belgium, ⁷Leibniz Institute for Prevention Research & Epidemiology, Bremen, Germany, ⁸Medical University Graz, Austria, ⁹Queen 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 Ward², Xing Chen³, David Karasik⁴, Adrienne L Cupples⁵, Hans Hauner⁶, Douglas Kiel⁷, Manolis Kellis², Yi-Hsiang Hsu⁸, ¹Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, ²Computer Science & Artificial Intelligence Laboratory, Massachusetts Institute of Technology (MIT), USA, ³Harvard University, USA, ⁴Hebrew SeniorLife; Bar Ilan University, USA, ⁵Department of Biostatistics, Boston University School of Public Health, USA, ⁶Else Kröner-Fresenius-Zentrum für Nutritionale Medizin, Technical University Munich, Germany, ⁷Hebrew SeniorLife, USA, ⁸Hebrew 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 Le¹, Daniel Brooks², Casey Doucette¹, Mary Bouxsein³, Clifford Rosen⁴, ¹Maine Medical Center Research Institute, USA, ²Beth Israel Deaconess Medical Center, USA, ³Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁴Maine 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, Luigi Fontana², Sai Krupa Das³, Leanne Redman⁴, Steven Smith⁵, Edward Saltzman³, Connie Bales⁶, James Rochon⁷, Carl Pieper⁸, Megan Huang⁹, Michael Lewis¹⁰, Ann V Schwartz¹¹, ¹University of New Mexico School of Medicine, USA, ²Washington University School of Medicine, USA, ³Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, USA, ⁴Pennington Biomedical Research Center, USA, ⁵Florida Hospital & Sanford Burnham Medical Research Institute, USA, ⁶Duke University School of Medicine, USA, ⁷Rho Federal Systems, USA, ⁸Duke University School of Medicine, USA, ⁹Duke Clinical Research Institute, USA, ¹⁰University of Vermont College of Medicine, USA, ¹¹University 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 Gennari¹, Domenico Rendina², Konstantinos Stolkakis³, Claudio Corallo³, Riccardo Muscariello², Stefano Rotatori³, Maria Beatrice Franci³, Barbara Lucani³, Stefano Gonnelli¹, Nicola Giordano³, Piero Tanganelli⁴, Carlo Setacci³, Pasquale Strazzullo², Ranuccio Nuti¹, ¹University of Siena, Italy, ²Department of Clinical & Experimental Medicine, Federico II University, Italy, ³Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, ⁴Department 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 Walker², Richard Cohn³, Kristen Neville², ¹Prince of Wales Hospital, Australia, ²Sydney Children's Hospital Randwick, Australia, ³Sydney Children'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 Kamat², Neetu Tyagi³, ¹PhD, USA, ²University of Louisville, USA, ³USA
Disclosures: Anuradha Kalani, None

SA0113 Sclerostin is associated with metabolic syndrome in older men from the MINOS cohort
Cyrille Confavreux^{*1}, Pawel Szulc², Olivier Borel³, Annie Varennes⁴, Joelle Goudable⁵, Roland Chapurlat⁶. ¹INSERM UMR1033 - Université de Lyon, France, ²INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, ³INSERM U1033 - Université de Lyon, France, ⁴Laboratoire Central de Biochimie, Hospices Civils de Lyon, France, ⁵INSERM UMR1060 - Université de Lyon, Hospices Civils de Lyon, France, ⁶E. 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 Lim², Jae Hoon Moon², A Ram Hong², Hak Chul Jang², Sung Hee Choi². ¹Seoul National University Bundang Hospital, South Korea, ²Seoul 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 Zhao¹, Hiroko Segawa², Bernard Thorens³, Michael Mannstadt⁴. ¹Massachusetts general hospital, USA, ²University of Tokushima Graduate School, Japan, ³University of Lausanne, Switzerland, ⁴Massachusetts 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'Riley¹, Amie Gray¹, Dena Acton¹, Jian Feng², Michael Econs¹. ¹Indiana University School of Medicine, USA, ²Texas 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 Phillips², Yong Wang¹. ¹University of Missouri-Kansas City, USA, ²University 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 Khor¹, Bruce Fanashawe², Yue Qi³, Peter Croucher¹, Herbert Herzog³, Paul Baldock^{*4}. ¹Osteoporosis & Bone Biology Division, Garvan Institute of Medical Research, Australia, ²Osteoporosis & Bone Biology Division, Garvan Institute of Medical Research, Australia, ³Neuroscience Division, Garvan Institute of Medical Research, Australia, ⁴Garvan Institute of Medical Research, Australia
Disclosures: Paul Baldock, None

SA0119 The anti-osteoblastic function of Sost is blunted in mice carrying the high bone mass mutation of *Lrp5*
Timur Yorgan^{*1}, Stephanie Boerms², Peggy Benisch³, Franz Jakob⁴, Michael Amling⁵, Thorsten Schinke⁶. ¹University of Hamburg, University Medical Center Hamburg-Eppendorf, Germany, ²Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, ³University of Wuerzburg, Germany, ⁴Orthopedic Center for Musculoskeletal Research, University of Wuerzburg, Germany, ⁵University Medical Center Hamburg-Eppendorf, Germany, ⁶Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, 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 Brown¹, R. Scott Pearsall², Charlotte Phillips³. ¹University of Missouri, USA, ²Accelaron Pharma, USA, ³University of Missouri-Columbia, USA
Disclosures: Young Jeong, None

- SA0121 THE F508DEL-CFTR MUTATION INHIBITS OSTEOBLAST DIFFERENTIATION AND FUNCTION THROUGH CONSTITUTIVE ACTIVATION OF NF- κ B 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 Joeng¹, Yi-Chien Lee¹, Ming-Ming Jiang¹, Terry Bertin¹, Yuqing Chen¹, Annie Mary Abraham², Hao Ding², Xiaohong Bi³, Catherine Ambrose², Brendan Lee¹. ¹Baylor College of Medicine, USA, ²University of Texas Health Science Center at Houston, USA, ³University of Texas Health Science Center at Houston, 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- κ B Activation**
 Fayez Safadi¹, Thomas Mbimba², Gregory Sondag¹, Fouad Moussa¹, Samir Abdelmagid¹. ¹Northeast Ohio Medical University, USA, ²Kent 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 Adams¹, Renata Rydzik¹, Li Chen¹, Seung-Hyun Hong², Dana Godfrey³, Xi Jiang¹, Zhihua Wu¹, Vilmaris Diaz-Doran¹, Caibin Zhang¹, Dong-Guk Shin², David Rowe¹, Cheryl Ackert-Bicknell⁴. ¹University of Connecticut Health Center, USA, ²University of Connecticut, USA, ³The Jackson Laboratory, USA, ⁴University 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 Ovejero¹, Nisan Bhattacharyya¹, Andrea Burke¹, Laura Tosi², Larry Fisher³, Edward McCarthy⁴, Young Lim⁵, Keith Choate⁶, Michael Collins¹. ¹National Institutes of Health, USA, ²Children's National Medical Center, USA, ³National Institute of Dental & Craniofacial Research, USA, ⁴Johns Hopkins Medical Institutions, USA, ⁵Yale University School of Medicine, USA, ⁶Yale 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 OSSIFICANS PROGRESSIVA.**
 Yoshihisa Matsumoto¹, Makoto Ikeya¹, Takanobu Otsuka², Junya Toguchida¹. ¹Kyoto University, Japan, ²Nagoya city university, Japan
Disclosures: Yoshihisa Matsumoto, None
- SA0127 Identification of the Third LRP4 Mutation in a Patient Diagnosed with Sclerosteosis.**
 Igor Fijalkowski¹, Eveline Boudin¹, João Silva², Wim Van Hul¹. ¹University of Antwerp, Belgium, ²Instituto de Genética Médica, Portugal
Disclosures: Igor Fijalkowski, None
- SA0128 Novel Causes of Bone Dysplasias Identified through Whole Exome Sequencing**
 Emily Farrow¹, Serdar Ceylaner², Zafer Bicakci³, Ergun Cetinkaya⁴, Melanie Patterson¹, Lisa Krivohlavek¹, Margaret Gibson¹, Katie Barger¹, Carol Saunders¹, Neil Miller¹, Neil Mardis¹, Stephen Kingsmore¹. ¹Children's Mercy Hospital, USA, ²Intergen Genetics Diagnosis & Research Centre, Turkey, ³Pediatrics, Kafkas University, Turkey, ⁴Pediatrics 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 Choi¹, David Musson², Pelin Özlem Simsek Kiper³, Gulen Eda Utine³, Koray Boduroglu³, Munro Peacock⁴, Linda Dimeglio⁵, Tim Cundy⁶. ¹University of Auckland, New Zealand, ²University of Auckland, New Zealand, ³Hacettepe University, Turkey, ⁴Indiana University Medical Center, USA, ⁵Indiana University School of Medicine, USA, ⁶Faculty 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 Madson¹, William McAlister², Angela Nenninger¹, Steven Mumm², Michael Whyte¹. ¹Shriners Hospital for Children-Saint Louis, USA, ²Washington 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 Collins², Shenghui Duan¹, Margaret Huskey¹, William McAlister¹, David Sillence³, Michael Whyte⁴. ¹Washington University School of Medicine, USA, ²The Children's Hospital at Westmead & Sydney University Medical School, Australia, ³The Children's Hospital at Westmead & Sydney University Medical School, Australia, ⁴Shriners 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 Liu¹, Hwa Kyung Nam¹, Cassandra Campbell¹, Kellen Da Silva Gasque², Jose Luis Millan², Nan Hatch*¹. ¹University of Michigan, USA, ²Sanford-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 Evans², Mahdi Sarmady², Kurt Hankenson³, Andrew Wells⁴, Struan Grant⁵. ¹Children's Hospital of Philadelphia, USA, ²The Children's Hospital of Philadelphia, USA, ³University of Pennsylvania, USA, ⁴Children's Hospital of Philadelphia, USA, ⁵Children'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 Rendina², Maria De Lucia³, Laetitia Michou⁴, Daniela Merlotti¹, Stuart Ralston⁵, Giuseppina Divisato³, Laura Pazzaglia⁶, Maria Serena Benassi⁶, Riccardo Muscariello², Gianpaolo De Filippo², Ranuccio Nuti¹, Pasquale Strazzullo², Teresa Esposito³, Fernando Gianfrancesco⁷. ¹University of Siena, Italy, ²Department of Clinical & Experimental Medicine, Federico II University, Italy, ³Institute of Genetics & Biophysics, National Research Council of Italy, Italy, ⁴Université Laval, Canada, ⁵University of Edinburgh, United Kingdom, ⁶Laboratory of Experimental Oncology, Rizzoli Orthopaedic Institute, Italy, ⁷National 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. Grimholt¹, Robert Lyle¹, Ole K. Olstad¹, Vigdis T. Gautvik², Kaare M. Gautvik³. ¹Oslo University Hospital, Ullevaal, Norway, ²University of Oslo, IMB, Norway, ³Oslo 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-Bouthiette¹, Erxia Du¹, Marja Marie Hurley². ¹University of Connecticut Health Center, USA, ²University 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 Ito¹, Asiri Wijenayaka², Matthew Prideaux³, Masakazu Kogawa¹, Renee Ormsby², Lynda Bonewald⁴, David Findlay⁵, Gerald Atkins^{*5}. ¹The university of Adelaide, Australia, ²Centre for Orthopaedic & Trauma Research, University of Adelaide, Australia, ³Centre for Orthopaedic & Trauma Research, University of Adelaide, Azerbaijan, ⁴University of Missouri - Kansas City, USA, ⁵University of Adelaide, Australia

Disclosures: Gerald Atkins, None

SA0139 **Role of XLas in phosphate and vitamin D metabolism during early postnatal development**

Qing He^{*1}, Cumhur Aydin², Braden Corbin³, Regina Goetz⁴, Moosa Mohammadi⁴, Antonius Plagge⁵, Murat Bastepe³. ¹Endocrine Unit, Department of Medicine, Massachusetts General Hospital & Harvard Medical School, USA, ²Gulhane School of Medicine, Ankara, TURKEY, Turkey, ³Massachusetts General Hospital, Harvard Medical School, USA, ⁴Department of Biochemistry & Molecular Pharmacology, New York University School of Medicine, USA, ⁵Department 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 Endo¹, Takeshi Kondo², Yukiyo Ohnishi², Masahiro Abe², Seiji Fukumoto³, Tomoka Hasegawa⁴, Norio Amizuka⁵, Shin-ichi Aizawa⁶, Toshio Matsumoto¹. ¹University of Tokushima Graduate School of Medical Sciences, Japan, ²University of Tokushima, Japan, ³University of Tokyo Hospital, Japan, ⁴Hokkaido University, Japan, ⁵Hokkaido University School of Dentistry, Japan, ⁶RINKEN 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 Schwarz², Niklas Jorgensen³. ¹Capital Region of Denmark, Denmark, ²Glostrup Hospital, Denmark, ³Copenhagen 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 Teng¹, Ying Zhang¹, Zhen Gu¹, Lin Chen², Baojie Li³, David Goltzman⁴, Andrew Karaplis⁴, Dengshun Miao⁵. ¹Nanjing Medical University, China, ²Daping Hospital, Peoples Republic of China, ³Shanghai Jiao Tong University, Peoples Republic of China, ⁴McGill University, Canada, ⁵Nanjing 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 Johnson¹, Joseph Tamasi², Nicola Partridge³. ¹New York University, USA, ²Bristol-Myers Squibb, USA, ³New York University College of Dentistry, USA

Disclosures: Jawed Siddiqui, None

SA0144 Stapled Peptides as Long-Acting, Selective Parathyroid Hormone Antagonists
 Manoj Samant*¹, Karen Olson¹, Aditi Mukherjee¹, Hubert Chen², Thomas Gardella³, Allen Annis¹. ¹Aileron Therapeutics, Inc., USA, ²USA, ³Massachusetts General Hospital, USA
Disclosures: Manoj Samant, Aileron Therapeutics, Inc., 3

SA0145 TSH elevation as first laboratory evidence for pseudohypoparathyroidism type Ib (PHP-Ib)
 Harald Jueppner¹, Angelo Molinaro*², Dov Tiosano³, William Russell⁴, Dionisios Chrysos⁵, Outi Makitie⁶, Rieko Takatani⁷, Massimo Tonacchera⁸. ¹Massachusetts General Hospital, USA, ²Endocrine Unit, Massachusetts General Hospital, USA, ³Division of Pediatric Endocrinology, Meyer Children's Hospital, Rambam Health Care Campus, Israel, ⁴Division of Pediatric Endocrinology & Diabetes, Vanderbilt University School of Medicine, USA, ⁵Division of Endocrinology, Department of Pediatrics, Medical School, University of Patras, Greece, ⁶Children's Hospital, Helsinki University Central Hospital, Finland, ⁷Massachusetts General Hospital & Harvard Medical School, USA, ⁸Endocrinology 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 Calabrese¹, Larry Mesner², Patricia Foley², Clifford Rosen³, Charles Farber*². ¹USA, ²University of Virginia, USA, ³Maine 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 Hofer¹, Julia Münzker², Matthias Ulbing², Philipp Stiegler³, Karla Hutz⁴, Richard Zigeuner⁴, Thomas Pieber², Helmut Müller³, Barbara Obermayer-Pietsch*⁵. ¹Division of Endocrinology & Metabolism, Medical University Graz, Austria, Austria, ²Department of Internal Medicine, Division of Endocrinology & Metabolism, Medical University Graz, Austria, Austria, ³Department of Surgery, Division of Transplantation Surgery, Medical University Graz, Austria, Austria, ⁴Department of Urology, Medical University Graz, Austria, Austria, ⁵Medical 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 Gastonguay², Joseph Lorenzo³, Matthew Riggs². ¹University of Connecticut, USA, ²Metrum Research Group LLC, USA, ³University 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-Arnaud², David Goltzman³. ¹Calcium Research Lab, McGill University, Canada, ²Shriners Hospital for Children & McGill University, Canada, ³McGill University, Canada
Disclosures: Yingben Xue, None

SA0151 Withdrawn

SA0152 Vitamin D3 Regulates Frizzled 1 Expression in Osteoblasts
 Shibing Yu¹, Yanxia Chu², Joseph Zmuda³, Yingze Zhang*⁴. ¹University of Pittsburgh Medical Center, USA, ²University of Pittsburgh Department of Medicine, USA, ³University of Pittsburgh Graduate School of Public Health, USA, ⁴University 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 Lee², Eun-Jin Lee³, Seokchan Hong², Bin Yoo², Tae-Hwan Kim⁴, Soo-Hyun Kim⁵, Eun-Ju Chang³, Yong-Gil Kim². ¹University of Ulsan College of Medicine, South Korea, ²Department of Rheumatology, University of Ulsan College of Medicine, Asan Medical Center, South Korea, ³Department of Biomedical Sciences, Cell Dysfunction Research Center & BMIT, University of Ulsan College of Medicine, Asan Medical Center, South Korea, ⁴Hanyang University Hospital for Rheumatic Diseases, South Korea, ⁵Department 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 Laing¹, Norman Pollock², Stuart Warden³, Kathleen Hill Gallant⁴, Dorothy Hausman¹, Ralph Tripp¹, Linda McCabe⁴, George McCabe⁴, Connie Weaver⁴, Munro Peacock⁵, Richard Lewis¹. ¹The University of Georgia, USA, ²Georgia Regents University, USA, ³Indiana University School of Health & Rehabilitation Sciences, USA, ⁴Purdue University, USA, ⁵Indiana University Medical Center, USA
Disclosures: Paige Berger, None
- SA0155 Pro-Resorptive Therapy for Heterotopic Ossification**
 Song Xue*¹, Roberto Fajardo², Kevin McHugh¹. ¹University of Florida, USA, ²UT 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 Robinson¹, Jonathan Soboloff², Harry Blair*¹, John Barnett³. ¹University of Pittsburgh, USA, ²Temple University, USA, ³West 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 Begonia¹, Mark Dallas¹, Mark Johnson², Ganesh Thiagarajan*³. ¹University of Missouri Kansas City, USA, ²University of Missouri, Kansas City Dental School, USA, ³University 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 Hasegawa², Kiyo Sasaki², Daisuke Seki², Shunrou Miyashita², Ikuko Takano², Yuuki Miyajima², Teruko Takano-Yamamoto¹. ¹Tohoku University, Japan, ²Division 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 Sun², Junqing Ma³, Yongchu Pan³, Lin Wang³, Wei-Bing Zhang⁴. ¹Institute of Stomatology, Peoples Republic of China, ²Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, ³Institute of Stomatology, Nanjing Medical University, China, ⁴School 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 Smith², Jennifer Owen³. ¹Department of Biology, The University of Scranton, USA, ²The University of Scranton, USA, ³Michigan 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 Castro², Helena Bonciani Nader², Ana Paula Mayumi Kawachi², Keico Okino Nonaka³, Rejane Reginato⁴. ¹Luis Alves Moura, Ana lina de Almeida Moura, Brazil, ²Federal University of São Paulo, Brazil, ³Federal University of São Carlos, Brazil, ⁴Unifesp - 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 Batra², Jean Jiang³. ¹University of Texas Science Center, San Antonio, USA, ²University of Texas Health Science Center at San Antonio (UTHSCSA), USA, ³University 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 Zhu¹, Jiao Li², XiaoDong Chen¹, Xiaoling Zhang³. ¹Department of Orthopedic Surgery, Xinhua Hospital, Shanghai JiaoTong University School of Medicine (SJTUSM), China, ²The 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, ³Institute of Health Sciences, Peoples Republic of China
Disclosures: Bin Zuo, None
- SA0167 Osteoblast mechanoresponse: the role of Lipocalin 2**
 Mattia Capulli*¹, Sara Gemini Piperni¹, Patrick Lau², Petra Frings-Meuthen², Martina Heer³, Anna Teti¹, Nadia Rucci¹. ¹University of L'Aquila, Italy, ²German Aerospace Center (DLR), Germany, ³PROFIL - 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 Ezura², Tadayoshi Hayata³, Kiyoshi Harada¹, Masaki Noda¹. ¹Tokyo Medical & Dental University, Japan, ²Tokyo Medical & Dental University, Medical Research Institute, Japan, ³Organization 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 Salazar², Susan Grimston³, Leila Revollo⁴, Marcus Watkins³, Gabriel Mbalaviele³, Roberto Civitelli³. ¹Washington University In St Louis, USA, ²Harvard School of Dental Medicine, USA, ³Washington University in St. Louis School of Medicine, USA, ⁴Washington 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 Cui², Long Wang², Lingling Xian³, Zhuying Xia⁴, Yin Hu⁴, Changjun Li², Liang Xie², Janet Crane², Mei Wan³, Gehua Zhen⁶, Tao Qiu³, Weizhong Chang⁷, Maureen Pickarski⁷, Le Duong⁸, Xu Cao⁵. ¹Johns Hopkins Medical Institution, USA, ²Department of Orthopaedic Surgery, Johns Hopkins University School of Medicine, USA, ³Johns Hopkins University School of Medicine, USA, ⁴Institute of Endocrinology & Metabolism, Second Xiangya Hospital of Central South University, China, ⁵Johns Hopkins University, USA, ⁶The Johns Hopkins Hospital, USA, ⁷Merck & Co., Inc., USA, ⁸Merck Research Laboratories, USA
Disclosures: Hui Xie, None
- SA0171 Role of the STING cytosolic DNA sensor pathway in bone remodeling**
Rebecca Baum*¹, Shruti Sharma¹, Yukiko Maeda¹, Catherine Manning¹, Jason Organ², David Burr², Ann Rothstein¹, Kate Fitzgerald¹, Ellen Gravalles¹. ¹University of Massachusetts Medical School, USA, ²Indiana 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 Woo², Jeong Hwa Baik², Young Ku³, van Wijnen Andre J.⁴, Hyun Mo Ryoo². ¹Seoul National University, South Korea, ²Department of Molecular Genetics, School of Dentistry, Seoul National University, South Korea, ³Department of Periodontology, School of Dentistry, Seoul National University, South Korea, ⁴Departments 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. Pitel², Gino W. Gaddini³, Xiaodong Li⁴, Hua Zhu Ke⁵, Russell T. Turner³, Nalini M. Rajamannan⁶, Urszula T. Iwaniec³, Thomas C. Spelsberg², Malayannan Subramaniam², John R. Hawse⁷. ¹Mayo Clinic School of Medicine, USA, ²Mayo Clinic, USA, ³Oregon State University, USA, ⁴Amgen, Inc., USA, ⁵Amgen, USA, ⁶Mayo Clinic, Rochester MN, USA, ⁷Mayo 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 Takeda¹, Masanori Sugimoto², Masaru Shimizu¹, Koichi Endo¹.
¹Chugai Pharmaceutical Co., Ltd., Japan, ²Taisho 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 Shimamoto¹, Olga Bezouglaia¹, Flavia Pirihi¹, Sara Dry², Paul Kostenuik³, Denise Dwyer⁴, Rogely Waite Boyce⁴, Tara Aghaloo⁵, Sotirios Tetradis⁵.
¹UCLA School of Dentistry, USA, ²UCLA School of Medicine, USA, ³Amgen Inc., USA, ⁴Amgen Inc, USA, ⁵University 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 Lee², Hae-Ri Baek², Hyun-Kyung Lee². ¹Seoul National University, College of Medicine, South Korea, ²Department 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 Du¹, Nobuhiro Kamiya², Harry Kim³. ¹Texas Scottish Rite Hospital, USA, ²Texas Scottish Rite Hospital for Children, USA, ³Scottish Rite Hospital for Children, USA
Disclosures: Olumide Aruwajoye, None
- SA0181 Brain-Specific PTEN Deletion Induces Abnormal Skeletal Activity in Mice**
Marjorie Thompson*¹, Philippe Huber², Gregory Smith³, Andrew Holley³, Steven Bain², Edith Gardiner², Joaquin Lugo³, Ronald Kwon². ¹USA, ²University of Washington, USA, ³Baylor University, USA
Disclosures: Marjorie Thompson, None
- SA0182 Effects of Circulating Osteocalcin on Bone Remodelling**
Tara Brennan-Speranza*¹, Katharina Blankenstein², Hong Zhou², Markus Seibel².
¹University of Sydney, Australia, ²Bone 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 Soung¹, Vanessa Piccullo¹, Archana Sanjay², Marc Hansen¹, Hicham Drissi*¹.
¹University of Connecticut Health Center, USA, ²UCHC, USA
Disclosures: Hicham Drissi, None

- SA0184 Is MMP-13 the critical mediator for the effects of HDAC4 deletion in mice?**
Teruyo Nakatani*¹, Tiiffany Chen², Shoshana Yakar³, Nicola Partridge⁴. ¹New York University College of Dentistry, USA, USA, ²New York University, USA, ³New York University College of Dentistry, David B. Kriser Dental Center, USA, ⁴New 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 Boskey², Caren Gundberg³, Marjolein Van Der Meulen⁴, Olga Berezovska⁵. ¹Brooklyn College of the City University of New York, USA, ²Hospital for Special Surgery, USA, ³Yale University School of Medicine, USA, ⁴Cornell University, USA, ⁵Department 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 Kitaura², Keisuke Kimura², Jafari Saeed³, Haruki Sugisawa², Haruhiko Takada², Teruko Takano-Yamamoto². ¹Tohoku University, Graduate School of Dentistry, Japan, ²Tohoku University, Japan, ³Tohoku University Graduate School of Dentistry, Japan
Disclosures: Masahiko Ishida, None
- SA0187 Scleraxis modulates fracture healing and callus formation**
Megan L Killian*¹, Jennifer A McKenzie², Evan G Buettmann², Benjamin D Havelka³, Matthew J Silva², Michael J Gardner². ¹USA, ²Washington University School of Medicine, USA, ³Saint 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**
Maria José Ortuño*, Patricia Ducey. Columbia University, USA
Disclosures: Maria José Ortuño, None
- SA0189 Strontium ranelate leads to bone matrix modifications and increases bone formation in ovariectomized and osteopenic rats**
Jenifer Campos*¹, Mariana Freitas², Keico Okino Nonaka³, Helena Nader⁴, Eduardo Katchburian⁴, Marise Lazaretti-Castro², Rejane Reginato⁵. ¹Universidade Federal de São Paulo, Brazil, ²Federal University of São Paulo, Brazil, ³Federal University of São Carlos, Brazil, ⁴UNIFESP, Brazil, ⁵Unifesp - 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, Yoshio Takano², Takeshi Todo³, Akira Kudo¹. ¹Tokyo Institute of Technology, Japan, ²Tokyo Medical & Dental University, Japan, ³Osaka 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 Bryant¹, Yanfei Ma¹, Charles Benson², Prabhakar Jadhav², Judith Henck², Nita Patel², Heather Bullock², Alan Chiang¹, Timothy Waterhouse², Masahiko Sato², George Zeng², Benjamin Yaden², Pamela Shetler². ¹Eli Lilly & Company, USA, ²Lilly Research laboratories, USA, ³Indiana University School of Medicine, USA
Disclosures: Venkatesh Krishnan, Eli Lilly & Company, 3
- SA0192 Activation of Prostaglandin E₂ EP4 signaling promotes primary myoblast proliferation via regulation of cell cycle progression and MyoD expression**
Chenglin Mo*¹, Lori Wetmore², Julian Vallejo³, Leticia Brotto³, Lynda Bonewald⁴, Marco Brotto⁴. ¹University of Missouri-Kansas City, USA, ²William Jewell College, USA, ³Muscle Biology Research Group, School of Nursing & Health Studies, University of Missouri-Kansas City, USA, ⁴University 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 Ohte², Masashi Shin², Katsumi Yoneyama³, Kenji Osawa², Sho Tsukamoto², Arei Miyamoto⁴, Takato Mizuta², Shoichiro Kokabu², Akihiko Okuda², Naoto Suda⁵, Takenobu Katagiri². ¹Saitama Medical University Research Center for Genomic Medicine, Jpn, ²Saitama Medical University Research Center for Genomic Medicine, Japan, ³Saitama Medical University Research Center for Genomic Medicine, Japan, ⁴Saitama Medical University, Research Center for Genomic Medicine, Japan, ⁵Meikai 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-Thandavan¹, Samuel Herberg², Phonepasong Arounleut³, Sunil Upadhyay⁴, Galina Kondrikova⁴, Amy Dukes⁴, Colleen Davis⁴, Maribeth Johnson⁴, Xing-Ming Shi⁴, Carlos Isales⁴, Mark Hamrick⁵, William Hill*⁶. ¹Georgia Regents University & Charlie Norwood VAMC, USA, ²Case Western Reserve University, USA, ³Georgia Regents University (formally Georgia Health Sciences University), USA, ⁴Georgia Regents University, USA, ⁵Georgia Health Sciences University, USA, ⁶Georgia 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 Mitchell¹, Sung-Hee Yoon*¹, Jinghan Chen², Ariana delaCruz¹, Kim Sugamori², Marc Grynepas³. ¹University of Toronto, Canada, ²University of Toronto, Canada, ³Lunenfeld-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 Miyakoshi², Michio Hongo², Yuji Kasukawa², Koji Nozaka², Yoichi Shimada³. ¹Akita University, Japan, ²Akita University Graduate School of Medicine, Japan, ³Akita 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-Thandavan², Phonepasong Arounleut³, Sunil Upadhyay⁴, Amy Dukes⁴, Colleen Davis⁴, Galina Kondrikova⁴, Maribeth Johnson⁴, Carlos Isales⁴, William Hill⁵, Mark Hamrick⁶. ¹Case Western Reserve University, USA, ²Georgia Regents University & Charlie Norwood VAMC, USA, ³Georgia Regents University (formally Georgia Health Sciences University), USA, ⁴Georgia Regents University, USA, ⁵Georgia Regents University & Charlie Norwood VAMC, USA, ⁶Georgia 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 Wang², Qiang Luo³, Chunyi Wen³, Haobo Pan², Songlin James Peng⁴, KwongYuen Chiu⁵, Xu Cao⁵, William Lu⁵. ¹The University of Hong Kong, Hong Kong, ²Centre for Human Tissues & Organs Degeneration, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China, ³Department of Orthopaedics & Traumatology, The University of Hong Kong, China, ⁴Shenzhen People's Hospital, Jinan University School of Medicine, Peoples Republic of China, ⁵Johns Hopkins University, USA
Disclosures: Weiwei Zhao, None

SA0199 Elevated TGF- β in Subchondral Bone Causes Joint Degeneration of Rheumatoid Arthritis and Osteoarthritis

Xin Xu^{*1}, Liwei Zheng², Qin Bian³, Xuedong Zhou⁴, Xu Cao⁵. ¹Johns Hopkins University, Medical Institute, USA, ²West China School of Stomatology, Sichuan University, Peoples Republic of China, ³USA, ⁴West China School of Stomatology, Sichuan University, China, ⁵Johns 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 Christiansen², Nicole Collette³, Aimy Sebastian¹, Deepa Muruges⁴, SARAH HATSELL⁵, Aris Economides⁶, Craig Blanchette⁴, Gabriela Loots⁷. ¹University of California, Merced, USA, ²University of California - Davis Medical Center, USA, ³Lawrence Livermore National Laboratory, USA, ⁴Lawrence Livermore National Laboratories, USA, ⁵REGENERON PHARMACEUTICALS, USA, ⁶Regeneron Pharmaceuticals, Inc., USA, ⁷Lawrence 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 Xu², Junlan Huang², Xiaolan Du², Siru Zhou², Lin Chen³, Zuqiang Wang². ¹Trauma Center, Daping Hospital, Third Military Medical University, Chn, ²Center 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, ³Daping 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 Veien¹, Hong Zhang¹, David Ayers², Jie Song¹. ¹University of Massachusetts Medical School, USA, ²UMass 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 Bouvard¹, Elie Abed^{*2}, Méliissa Yéléhé-Okouma¹, Arnaud Bianchi¹, Didier Mainard³, Patrick Netter³, Jean-Yves Jouzeau³, Daniel Lajeunesse⁴, Pascal Reboul⁵. ¹UMR 7365, CNRS-Université de Lorraine, IMoPA, France, France, ²Crchum-hôpital Notre-dame, Canada, ³Centre Hospitalier Universitaire, Nancy, France, France, ⁴CRCHUM, Canada, ⁵UHP Nancy 1 / CNRS UMR7561, France

Disclosures: Elie Abed, None

SA0205 Inhibition of TGF β activity in Nucleus Pulposus Attenuate Disc Degeneration

Qin Bian^{*1}, Liwei Zheng¹, Xin Xu², Amit Jain², Khaled Kebaish², Gehua Zheng², Hui Xie³, Janet Crane², Mei Wan⁴, Paul Sponseller², zhengdong zhang⁵, Edward Guo³, Lee Riley², Yongjun Wang⁶, Xu Cao². ¹USA, ²Johns Hopkins University, USA, ³Johns Hopkins Medical Institution, USA, ⁴Johns Hopkins University School of Medicine, USA, ⁵Bone Bioengineering Laboratory, Columbia University, USA, ⁶Orthopedic 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 Peng¹, Katja Fagerlund¹, Yvonne Konkol¹, Jukka Rissanen¹, Jenni Bernoulli¹, Jussi Hallee². ¹Pharmatest Services Ltd, Finland, ²Pharmatest Services Ltd, Fin

Disclosures: Jukka Morko, Pharmatest Services Ltd, 3

SA0207 The influence of osteophytes on femoral neck microcracks in osteoarthritis
 Gustavo Davi Rabelo¹, Jean-Paul Roux^{*2}, Nathalie Portero-Muzy¹, Stephanie Boutroy³, Roland Chapurlat⁴, Pascale Chavassieux¹. ¹INSERM UMR1033, Université de Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM U1033 & Université de Lyon, France, ⁴E. 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 Xu², Elena Kozhemyakina³, Klaus Kaestner⁴, Yefu Li², Andrew Lassar³. ¹Harvard Medical School, USA, ²HSDM, USA, ³HMS, USA, ⁴University 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 Canalis². ¹St. Francis Hospital & Medical Center, USA, ²University 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 Kogan¹, Lital Goldfine¹, Raj Kamal Srivastava², Saja Baraghithy¹, Esther Shohami¹, Beat Lutz², Itai Bab³. ¹Hebrew University of Jerusalem, Israel, ²Johannes Gutenberg University, Germany, ³The 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 Usas¹, Aiping Lu¹, Ying Tang¹, Minakashi Poddar¹, Adam Kozemchak¹, James Cummins¹, Johnny Huard². ¹University of Pittsburgh, USA, ²Orthopaedic 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 Xing¹, Kristy Nicks¹, Joshua Farr¹, Daniel Fraser¹, Sundeep Khosla², David Monroe^{*3}. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 Khedgikar², Jyoti Gautam², Anirudha Karvande², Nasser Ahmed², Deepika Mishra³, Prabodh Kumar Trivedi³, Ritu Trivedi². ¹Central Drug Research -CSIR, India, ²CSIR-CDRI, India, ³CSIR-NBRI, India
Disclosures: Priyanka Kushwaha, None

SA0215 Possible role of RANKL-RANK signal in osteoblast differentiation
 Midori Nakamura¹, Teruhito Yamashita¹, Yuko Nakamichi¹, YURIKO FURUYA², Hisataka Yasuda³, Nobuyuki Udagawa^{*1}. ¹Matsumoto Dental University, Japan, ²Oriental Yeast Co.,Ltd, Japan, ³Oriental 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 Hu², Yulong Sun³, Dijie Li², Zhihao Chen², Peng Shang¹, Ge Zhang⁴. ¹Northwestern Polytechnical University, Peoples Republic of China, ²Northwestern Polytechnical University, China, ³Northwestern Polytechnical University, China, ⁴Ge 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 Fraser¹, Sundeep Khosla², David Monroe³. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 Hayata², Toru Suzuki³, Takayuki Yamada⁴, Junpei Shirakawa⁴, Kazuo Kaneko⁵, Tadashi Yamamoto³, Yoichi Ezura⁶, Masaki Noda⁴. ¹Dept. of Molecular Pharmacology, Medical Research Institute Tokyo Medical & Dental University, Japan, ²Organization for Educational Initiatives, University of Tsukuba, Japan, ³Okinawa Institute of Science & Technology Graduate University, Japan, ⁴Tokyo Medical & Dental University, Japan, ⁵Department of Orthopedics, Juntendo University School of Medicine, Japan, Japan, ⁶Tokyo Medical & Dental University, Medical Research Institute, 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 Lucchesi¹, Matthew Hamang¹, Qianqiang Zeng¹, Rick Cain¹, Mary Adrian¹, Masahiko Sato², Venkatesh Krishnan³, Yanfei Ma³. ¹Eli Lilly & Co., USA, ²Indiana University School of Medicine, USA, ³Eli Lilly & Company, USA
Disclosures: Nicoletta Bivi, Eli Lilly and Company, 3

OSTEOBLASTS - FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

- SA0222 Rest/Nr5f Suppresses Osteoblast Differentiation by Down Regulating Osterix Expression**
 Subburaman Mohan¹, Bo Liu*², Shaohong Cheng³, Sheila Pouteymoor². ¹Jerry L. Pettis Memorial VA Medical Center, USA, ²VALLHCS, USA, ³VA Loma Linda Health Care Systems, USA
Disclosures: Bo Liu, None
- SA0223 Carbamazepine Inhibits Native Sodium Currents In Murine Osteoblasts**
 Sandra Petty*¹, Carol Milligan², Marian Todaro¹, Terence O'Brien¹, John Wark³, Eleanor Mackie⁴, Steven Petrou². ¹The University of Melbourne, Australia, ²The Florey Institute of Neuroscience & Mental Health, Australia, ³University of Melbourne, Department of Medicine, Australia, ⁴University of Melbourne, Australia
Disclosures: Sandra Petty, None
- SA0224 Cbfb upregulates Atf4 promoter activity and plays an indispensable role in skeletal development and homeostasis**
 Guochun Zhu*¹, Wei Chen², Junqing Ma², Mengrui Wu¹, Matthew McConnell², Joel Jules², Christie Paulson², Yi-Ping Li². ¹The University of Alabama at Birmingham, USA, ²University 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 HMWGF2 Isoforms in Mice Modulates Bone and Phosphate Homeostasis**
Collin Homer-Bouthiette^{*1}, Marja Marie Hurley², Liping Xiao¹. ¹University of Connecticut Health Center, USA, ²University 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 Shin², Hwanhee Oh³, Dou Liu⁴, Bo Zhai⁵, Sutada Lotinun⁶, Roland Baron⁷, Steven Gygi⁸, Laurie Glimcher², Bing Su⁴, Jae Hyuck Shim². ¹Weill Cornell Medical College/ Brigham & Women's Hospital, USA, ²Weill Cornell Medical College, USA, ³Weill Medical College of Cornell University, USA, ⁴Yale University, USA, ⁵Harvard University, USA, ⁶Chulalongkorn University, Thailand, ⁷Harvard School of Medicine & of Dental Medicine, USA, ⁸Harvard 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 Lee², Han-sol Bae¹, Young-Dan Cho¹, Won-Joon Yoon², Hyun-Mo Ryoo³. ¹Seoul National University, South Korea, ²School of Dentistry Seoul National University, Korea, democratic people's republic of, ³Seoul 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-Antrás¹, Mark Dallas², Mark Johnson², Robb Krumlauf¹. ¹Stowers Institute for Medical Research, USA, ²University of Missouri, Kansas City Dental School, USA
Disclosures: Youngwook Ahn, None
- SA0230 Smad8 negatively regulates BMP signaling in a dominant negative fashion**
Sho Tsukamoto^{*1}, Takato Mizuta², Mai Fujimoto³, Satoshi Ohte², Kenji Osawa², Arei Miyamoto⁴, Katsumi Yoneyama², Eiko Murata⁵, Eijiro Jimi⁶, Shoichiro Kokabu⁶, Takenobu Katagiri². ¹Saitama Medical University RCGM, Japan, ²Saitama Medical University Research Center for Genomic Medicine, Japan, ³Saitama Medical University Research Center for Genomic Medicine, Jpn, ⁴Saitama Medical University, Research Center for Genomic Medicine, Japan, ⁵Faculty of Health & Medical Care, Saitama Medical University, Japan, ⁶Kyushu 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 Park², Kyunghwa Baek³, Hyung-Ryong Kim⁴. ¹Seoul National University, School of Dentistry, South Korea, ²Department of Molecular Genetics, Seoul National University School of Dentistry, South Korea, ³Gangneung-Wonju national university, School of dentistry, South Korea, ⁴Department 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 Lee¹, So-Jeong Lee^{*1}, Eun-Hye Lee¹, Yeo Hyang Kim², Je-Yong Choi³, Jung-Eun Kim¹. ¹Kyungpook National University School of Medicine, South Korea, ²Kyungpook National University Hospital, South Korea, ³Kyungpook National University, School of Medicine, South Korea
Disclosures: So-Jeong Lee, None

- SA0233 Unique Distal Enhancers Linked to the Mouse *Tnfrsf11* Gene Direct Tissue-Specific Expression and Inflammation induced Regulation of RANKL Expression**
Melda Onal*¹, Hillary St John², Allison Danielson³, Charles O'Brien⁴, J. Pike². ¹University of Wisconsin, USA, ²University of Wisconsin-Madison, USA, ³undergraduate student, USA, ⁴Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA

Disclosures: Melda Onal, None

OSTEOBLASTS - ORIGIN AND CELL FATE: REGULATION OF DIFFERENTIATION

- SA0234 Cbfb 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 Chen², Yi-Ping Li². ¹The University of Alabama at Birmingham, USA, ²University 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 Henry², Benoit de Crombrughe³, Klaus von der mark⁴, Henry adams⁵. ¹MD Anderson Cancer Center, USA, ²University of Texas MD Anderson, USA, ³UT MD Anderson cancer center, USA, ⁴University of Erlangen-Nuremberg, Germany, ⁵UT MD Anderson, USA
Disclosures: Xin Zhou, None
- SA0237 EP1 Deletion Enhances Mitochondrial Activity in Mesenchymal Stem Cell and Promotes Osteogenicity**
Marina Feigenson*¹, Jennifer Jonason², Alayna Loiselle², Roman Eliseev², Regis O'Keefe². ¹USA, ²University of Rochester, USA
Disclosures: Marina Feigenson, None
- SA0238 ER Stress Signaling Molecule IRE1 α Regulates Bone Development and Confers Genetic Risk for Human Osteoporosis**
Shankar Revu*¹, KAI LIU², Fengming Wang¹, Konstantinos Verdelis¹, Mariana Bezamat¹, Alexandre Vieira¹, Hong-Jiao Ouyang¹. ¹University of Pittsburgh, USA, ²USA
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 Peyroche², Marie-Thérèse Linossier², Laurence Vico³, Alain Guignandon². ¹Inserm U1059, France, ²Unit of Integrative Biology of Bone Tissue, INSERM U1059, France, ³University 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 Weilner¹, Elisabeth Schraml¹, Matthias Wieser², Paul Messner³, Andrea Maier⁴, Heinz Redl⁵, Peter Pietschmann⁶, Matthias Hackl⁷, Regina Grillari-Voglauer², Johannes Grillari⁸. ¹Department of Biotechnology, University of Natural Resources & Life Sciences Vienna, Austria, ²Evercyte GmbH, Austria, ³Department of Nanobiotechnology, University of Natural Resources & Life Sciences Vienna, Austria, ⁴Department of Gerontology & Geriatrics, Leiden University Medical Center, Leiden, Austria, ⁵Ludwig Boltzmann Institute for Experimental & Clinical Traumatology, AUVA Research Center, Austria, ⁶Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, ⁷TAmiRNA GmbH, Austria, ⁸University 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 Lybrand², Louis Gerstenfeld³. ¹Boston University School of Medicine Department of Orthopaedics, USA, ²Boston University Dept of Orthopaedic Surgery, USA, ³Boston 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 Varticovski¹, Bethrice Thompson^{*2}, Songjoon Baek³, Jay Shapiro⁴, Gordon Hager³. ¹NCI, National Institutes of Health, USA, ²Howard U, USA, ³LRBGE, NCI, NIH, USA, ⁴Kennedy Krieger Institute, Johns Hopkins, USA
Disclosures: Bethrice 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 Dymant, 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 Lwin¹, Marcela Morales¹, Ashley Urrutia¹, Hannah Kim¹, Christina Theodoris², Mark P. White³, Deepak Srivastava⁴, Edward Hsiao¹. ¹University of California, San Francisco, USA, ²Gladstone Institute of Cardiovascular Disease, USA, ³Gladstone Institute of Cardiovascular Disease, San Francisco, CA, USA, ⁴Gladstone Institutes, USA
Disclosures: Emilie Barruet, None
- SA0246 Neural Origin of Osteoblasts during Heterotopic Ossification**
 ZaWaunya Lazard^{*}, Elizabeth Salisbury, Eric Beal II, Elizabeth Olmsted-Davis, Alan Davis. Baylor College of Medicine, USA
Disclosures: ZaWaunya 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 Gordon¹, Troy Whitfield², Phillip Tai³, Andre Van Wijnen⁴, Gary Stein⁵, Janet Stein⁶, Jane Lian⁷. ¹University of Vermont, USA, ²Department of Cell & Developmental Biology, University of Massachusetts Medical School, USA, ³University of Vermont, College of Medicine, Department of Biochemistry, USA, ⁴Mayo Clinic, USA, ⁵University of Vermont, College of Medicine, USA, ⁶Department of Biochemistry, University of Vermont College of Medicine, USA, ⁷University of Vermont College of Medicine, USA
Disclosures: Hai Wu, None
- 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 Degheid², Steven Bauer², Pamela Robey³, Kenn Holmbeck³.
¹National Institutes of Health, National Cancer Institute, USA, ²Laboratory of Stem Cell Biology, Division of Cell & Gene Therapies, Center for Biologics Evaluation & Research, Food & Drug Administration, USA, ³National 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 Wang¹, Alicia T. Menendez¹, Chak Fong¹, Yongmei Wang¹, Shunichi Murakami², Daniel Bikle¹. ¹Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA, ²Case 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 Kular¹, Nathan Pavlos¹, Tamara Abel², BaySie Lim¹, Ming Hao Zheng¹, Jake Xu¹. ¹University of Western Australia, Australia, ²Centre 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-Amer², Sheri Bonar², Jacqueline Kading¹, Yousef Abu-Amer³, Roberto Civitelli³, Gabriel Mbalaviele³. ¹Washington University in St Louis, USA, ²Washington University in St. Louis, USA, ³Washington 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 Zhou², Shiqiao Ye¹, Stavros Manolagas¹, Haibo Zhao¹.
¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²UAMS, USA
Disclosures: Toshifumi Fujiwara, None
- SA0254 *Snx10*-dependent osteoclastic activity and gastric acidification is required for bone and calcium homeostasis**
 Liang Ye^{*1}, Leslie Morse², Li Zhang³, Hajime Sasaki³, Jason Mills⁴, Greg Sibbel⁴, Ariane Zamarioli⁵, Ricardo Battaglini³. ¹The Forsyth Institute & Harvard School of Dental Medicine, USA, ²Harvard Medical School, USA, ³The Forsyth Institute, USA, ⁴Washington University School of Medicine, USA, ⁵University of Sao Paulo, Brazil
Disclosures: Liang Ye, None
- SA0255 Specific *Ostm1* ablation in the hematopoietic mature osteoclast induce severe osteopetrosis**
 Jean Vacher^{*1}, Monica Pata². ¹Institut De Recherches Cliniques De Montréal, Canada, ²IRCM, 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 Mukai², Teruhito Yoshitaka³, Yasuyoshi Ueki⁴. ¹University of Missouri-Kansas City, School of Dentistry, USA, ²University of Missouri - Kansas City, USA, ³University Missouri-Kansas City, School of Dentistry, USA, ⁴University of Missouri-Kansas City, School of Dentistry, USA
Disclosures: Mizuho Kittaka, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

- SA0258 Cytosolic Calcium Flickers Orchestrate Steering during Osteoclast Migration**
Benjamin Wheal*¹, S. Jeffrey Dixon², Stephen M. Sims². ¹The University of Western Ontario, Can, ²The University of Western Ontario, Canada
Disclosures: Benjamin Wheal, None
- SA0259 mTORC1 Activity in Osteoclasts is Regulated by Lysosomal pH**
Luciene Carraro-Lacroix¹, Yingwei Hu², Celeste Owen³, Irina Voronov*⁴. ¹Faculty of Dentistry, University of Toronto, Canada, ²Institute of Dental Medicine, Qilu Hospital, Shandong University, China, ³Centre for Modeling Human Disease, Samuel Lunenfeld Research Institute, Mt Sinai Hospital, Canada, ⁴University 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- κ B Pathway in Osteoclasts**
Jae Hyuck Shim*¹, Kwang Hwan Park², Matthew Greenblatt³. ¹Weill Cornell Medical College, USA, ²Yonsei University College of Medicine, USA, ³Weill 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 Ruiz¹, Marta Martin-Millan², Shoshana Bartell³, Maria Jose Almeida³, Marian Ros⁴, Jesus Gonzalez-Macias*⁵. ¹Fundación Instituto de Investigación Marqués de Valdecilla, Spain, ²University of Cantabria, IDIVAL, HUMV, Spain, ³Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ⁴Instituto de Biomedicina y Biotecnología de Cantabria, Spain, ⁵University 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 Uehara¹, Nobuyuki Udagawa¹, Feng Li², Shigetoshi Kadota², Hiroyasu Esumi³, Yasuhiro Kobayashi¹, Naoyuki Takahashi¹. ¹Matsumoto Dental University, Japan, ²University of Toyama, Japan, ³Tokyo University of Science, Japan
Disclosures: Teruhito Yamashita, None
- SA0263 Caspase-2 Plays a Role in Osteoclastogenesis by Regulating Reactive Oxygen Species**
Danielle Callaway*¹, Manuel Riquelme², Jean Jiang¹. ¹University of Texas Health Science Center at San Antonio, USA, ²University of Texas Science Center, San Antonio, USA
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- SA0264 Deletion of Wnt Receptors Lrp5 and Lrp6 or β -catenin in osteoclast precursors differentially affects skeletal development**
Megan Weivoda*¹, Ming Ruan¹, Christine Hachfeld¹, Larry Pederson¹, Rachel Davey², Jeffrey Zajac³, Yasuhiro Kobayashi⁴, Bart Williams⁵, Sundeep Khosla⁶, Jennifer Westendorf¹, Merry Jo Oursler¹. ¹Mayo Clinic, USA, ²University of Melbourne, Australia, ³Austin Hospital, Australia, ⁴Japan, ⁵Van Andel Research Institute, USA, ⁶Mayo Clinic College of Medicine, USA
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- SA0265 Inhibition of a cholesterol regulator, Srebp2, prevents bone loss induced by RANKL**
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- SA0266 Orphan Nuclear Receptor Nur77 Decreases Osteoclast Differentiation by Promoting NFATc1 Degradation via Ubiquitin E3 Ligase Cbl-b**
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- SA0267 Pathway analysis of microRNA profile during early, mid and late osteoclastogenesis**
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- SA0268 Rhinacanthin C Inhibits RANKL-induced Osteoclast Differentiation by Suppressing MAPKs/NF- κ B/NFATc1 Pathways through Preventing TRAF6-TAK1 Formation**
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- SA0269 Sirtuin 1 suppresses mitochondrial ATP and osteoclastogenesis via FoxO-mediated stimulation of Heme oxygenase 1**
Ha-Neui Kim^{*1}, Shoshana Bartell², Li Han², Aaron Warren³, Srividhya Iyer², Rafael de Cabo⁴, Stavros Manolagas⁵, Maria Jose Almeida². ¹Univ. Arkansas for Medical Sciences, USA, ²Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ³Center for Osteoporosis & Metabolic Bone Diseases, Univ. Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, ⁴Translational Gerontology Branch, National Institute on Aging, National Institutes of Health, USA
Disclosures: Ha-Neui Kim, None
- SA0270 Soluble silica: an osteoclast-macrophage lineage regulator in early RAW264.7 osteoclastogenesis**
Pamela Uribe-Trespalcacios^{*1}, Zivko Mladenovic², Kaveh Shahabi³, Anders Johnsson³, Maria Ransjö⁴. ¹University of Gothenburg, Sweden, ²Gothenburg University, Sweden, ³Umeå University, Sweden, ⁴University of Gothenburg, Sahlgrenska academy, Sweden
Disclosures: Pamela Uribe-Trespalcacios, 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 Yamaguchi², Tadahiro Iimura⁵. ¹Ehime University, (Department of Medicine), Japan, ²Tokyo Medical & Dental University, Japan, ³Ehime 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**
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- SA0273 Mechanical Loading and High Glucose Modify the Chemokine Secretion Profile of Osteocytes Affecting Osteoclast Differentiation and Activity**
Arancha Gortazar^{*1}, Maria Teresa Portoles², Maria Concepcion Matesanz², Javier Linares², Maria Jose Feito², Daniel Arcos³, Maria Vallet³, Lilian Plotkin⁴, Pedro Esbrit⁵. ¹Universidad San Pablo-CEU School of Medicine Madrid Spain, Spain, ²Department of Biochemistry & Molecular Biology I, Faculty of Chemistry, UCM, Spain, ³Department of Inorganic & Bioinorganic Chemistry, Faculty of Pharmacy, UCM, Instituto de Investigación Sanitaria Hospital 12 de Octubre i+12, Spain, ⁴Indiana University School of Medicine, USA, ⁵Instituto de Investigación Sanitaria (IIS)-Fundación Jiménez Díaz, Spain
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- SA0274 Microdamage and Mechanical Loading Have an Interactive Effect on Remodeling Signals Produced by Osteocyte**
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- SA0275 Osteocyte Lacunar Density is Breed Related in Mice**
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³Kimmel Consulting Services, USA
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- 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**
 Stefano Zanotti^{*1}, Ernesto Canalis². ¹St. Francis Hospital & Medical Center, USA,
²University of Connecticut Health Center, USA
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- SA0278 The Importance of Activated Vitamin D for the Mineralization by the Osteocyte in Patients with Renal Hyperparathyroidism**
 Aiji Yajima^{*1}, Ken Tsuchiya², Kosaku Nitta², Masaaki Inaba³, Yoshihiro Tominaga⁴, Norio Amizuka⁵, Akemi Ito⁶, Hironari Shindo⁷. ¹Akebono Clinic, Japan, ²Tokyo Women's Medical University, Japan, ³Osaka City University, Japan, ⁴Nagoya Second Red Cross Hospital, Japan, ⁵Hokkaido University School of Dentistry, Japan, ⁶Ito Bone Histomorphometry Institute, Japan, ⁷Otsuki Municipal Central Hospital, Japan
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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. Farina², Matt Prideaux³, Gary Stein⁴, Jane Lian², Lynda Bonewald⁵. ¹Institut Hospital del Mar d'Investigacions Mèdiques, USA,
²University of Vermont College of Medicine, USA, ³University of Adelaide, Australia,
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- SA0280 Morphological analysis of Dentin Matrix Protein 1 (DMP1) phosphorylation by Fam20C in the bone**
 Kaori Oya^{*1}, Sunao Sato², Satoru Toyosawa³. ¹Osaka University Dental Hospital, Japan,
²Osaka University Graduate School of Dentistry, Japan, ³Osaka University, Japan
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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 Chia¹, Nicole Walsh², T. John Martin³, Natalie Sims^{*4}. ¹Department of Bone Cell Biology & Disease, Australia, ²St Vincent's Institute of Medical Research, Australia,
³St. Vincent's Institute of Medical Research, Australia, ⁴St. Vincent's Institute of Medical Research, Australia
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- 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
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- SA0283 Osteocytes directly communicate with sensory neuronal cells via cell-cell networks that are modulated under an acidic microenvironment**
 Masahiro Hiasa^{*1}, Yuki Nagata², Jesus Delgado-Calle¹, Yohance M Allette², Matthew S Ripsch², Teresita Bellido¹, G. David Roodman², Fletcher A White², Toshiyuki Yoneda¹.
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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-Muzy¹, Jean-Paul Roux², Patrick Garnero³, Roland Chapurlat⁴. ¹INSERM UMR1033, Université De Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM Research Unit, France, ⁴E. Herriot Hospital, France

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- SA0285 Circulating Periostin: a Determinant of Cortical Bone Structure Heritability**

Nicolas Bonnet^{*1}, Claire Durosier², Emmanuel Biver², Thierry Chevalley³, Rene Rizzoli⁴, Serge Ferrari⁵. ¹University Geneva Hospital (HUG), Switzerland, ²Division of Bone Diseases, Geneva University Hospital & Faculty of Medicine, Switzerland, ³University Hospitals of Geneva Division of Bone Diseases, Switzerland, ⁴Geneva University Hospitals & Faculty of Medicine, Switzerland, ⁵Geneva 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 Bonaretti¹, Isra Saeed¹, Roy Harnish¹, Robert Recker², Andrew Burghardt¹, Joyce Keyak³, Tamara Harris⁴, Sundeep Khosla⁵, Thomas Lang¹.

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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 Burghardt¹, Ko Chiba², Makoto Osaki³, Sharmila Majumdar¹. ¹University of California, San Francisco, USA, ²Nagasaki University School of Medicine, Japan, ³Nagasaki University, Japan

Disclosures: Narihiro Okazaki, None

- SA0288 Cortical Bone Water in Renal Transplant Patients**

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Disclosures: Wenli Sun, None

- SA0289 Impact of lumbar syndesmophyte on bone health as assessed by Bone density (BMD) and Bone Texture (TBS) in men with axial spondyloarthritis**

Berengere Aubry-rozier^{*1}, Laura Wildberger¹, Vladimira Boiadjeva², Didier Hans¹, Nikolay Stoilov², Mariana Ivanova², Rumen Stoilov², Rasha Rashkov². ¹Lausanne University Hospital, Switzerland, ²Clinic 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

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SA0291 Multi-modality in vivo Imaging Identifies Marrow and Vasculature within Pathological Cortical Porosity
 Robin Parrish*¹, Julien Rivoire², Misung Han², Anne Schafer³, Thomas Link⁴, Roland Krug², Galateia Kazakia⁴. ¹UC Berkeley, USA, ²UC San Francisco, USA, ³University of California, San Francisco & the San Francisco VA Medical Center, USA, ⁴University 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 Varathan¹, Helene Buffat¹, Christoph Röder², Didier Hans³, Kurt Lippuner¹. ¹Department of Osteoporosis, University Hospital & University of Berne, Switzerland, ²Institute for Evaluative Research in Orthopaedic Surgery, University of Berne, Switzerland, ³Lausanne University Hospital, Switzerland
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OSTEOPOROSIS - ASSESSMENT: DXA

SA0293 Age-Related Changes in Lumbar Spine Trabecular Bone Score in Chinese-American Men
 Barbara Silva*¹, Rajeev Babbar², George Liu², Chiyuan Zhang³, Donald McMahon⁴, Wen-Wei Fan⁵, Didier Hans⁶, John Bilezikian⁴, Marcella Walker³. ¹Columbia University Medical Center, Brazil, ²Weill Cornell Medical college, NYP Lower Manhattan Hospital, USA, ³Columbia University, USA, ⁴Columbia University College of Physicians & Surgeons, USA, ⁵Columbia University Medical Center, USA, ⁶Lausanne University Hospital, Switzerland
Disclosures: Barbara Silva, None

SA0294 Clinical aspect of patients with and without vertebral fractures presenting at a fracture liaison service
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SA0295 Unusual Cause of Increased Lumbar Bone Mineral Density - Case Report
 Miro Cokolic*¹, Matej Rakusa². ¹medical doctor, Slovenia, ²Slovenia
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SA0296 Volumetric Bone Mineral Content changes assessed by 3D-DXA after two years of Alendronate Treatment.
 Luis Del Rio*¹, Silvana Di Gregorio², Ludovic Humbert³, Yves Martelli⁴. ¹Cetir Centre Medical, Spain, ²MD, Spain, ³PhD, Spain, ⁴Eng, Spain
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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 Burghardt², Afrodite Zendeli³, Serana Bonaretti², Ashild Bjornerem⁴, Xiao-Fang Wang⁵, Yohann Bala⁶, Galateia Kazakia², Roger Zebaze¹, Ego Seeman¹. ¹Austin Health, University of Melbourne, Australia, ²University of California, San Francisco, USA, ³Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, ⁴UiT The Arctic University of Norway, Norway, ⁵University of Melbourne, Austin Health, Australia, ⁶University of Melbourne, Dept. of Medicine, Australia
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- SA0298 Assessing the performances of the Trabecular Bone Score (TBS) on EOS™ images for the discrimination of osteoporotic fractures**
Karine Briot*¹, Anabela Darbon², Adrien Etchet³, Renaud Winzenrieth⁴, Sami Kolta⁵, Franck Michelet⁶, Nor-Eddine Regnard⁷, Antoine Feydy⁸, Christian Roux⁹. ¹Paris Descartes University, Cochin hospital, Rheumatology Hospital, France, ²EOS imaging, France, ³Hopital Cochin, France, ⁴Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, ⁵Centre D'Evaluation, Des Maladies Osseuses, France, ⁶Med-Imaps, Plateforme Technologique d'Innovation Biomédicale (PTIB), France, ⁷EOS imaging, R&D, Paris, France, France, ⁸Université Paris Descartes, Service de Radiologie, Hôpital Cochin. INSERM U 1153, France, ⁹Hospital Cochin, France
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- SA0299 Clinical Performance of an Updated Version of Trabecular Bone Score in Men and Women: The Manitoba BMD Cohort**
William Leslie*¹, Renaud Winzenrieth², Sumit Majumdar³, Lisa Lix¹, Didier Hans⁴. ¹University of Manitoba, Canada, ²Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France, ³University of Alberta, Canada, ⁴Lausanne University Hospital, Switzerland
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- SA0300 Concordance in Paired QCT and DXA at the Lumbar Spine**
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- 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 longobardi², Florencia Costa², julio cesar bai². ¹Instituto de Investigaciones Metabolicas (IDIM), Argentina, ²md, Argentina
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- SA0302 Osteoporosis treatment decision based on combining Bindex® and FRAX®**
Janne Karjalainen*¹, Ossi Riekkinen², Juha Töyräs³, Jukka Jurvelin³, Heikki Kroger⁴. ¹Bone Index Finland Ltd., Finland, ²Bone Index Finland, Ltd., Finland, ³University of Eastern Finland, Finland, ⁴Kuopio 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 Johansson², Anders Oden³, Douglas Bauer⁴, Claus-C Glueer⁵, Didier Hans⁶, Stephen Kaptoge⁷, Marc-Antoine Krieg⁸, Timothy Kwok⁹, Fernando Marin¹⁰, Alireza Moayyeri¹¹, Terry O'Neill¹², Eric Orwoll¹³, John Kanis¹⁴, Eugene McCloskey¹⁵. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ²Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, ³Consulting Statistician, Sweden, ⁴University of California, San Francisco, USA, ⁵Christian Albrechts Universitaet zu Kiel, Germany, ⁶Lausanne University Hospital, Switzerland, ⁷University of Cambridge Bone Research Group, United Kingdom, ⁸University Hospital, Switzerland, ⁹The Chinese University of Hong Kong, Hong Kong, ¹⁰Eli Lilly & Company, Spain, ¹¹King's College London, United Kingdom, ¹²University of Manchester, United Kingdom, ¹³Oregon Health & Science University, USA, ¹⁴University of Sheffield, Belgium, ¹⁵University of Sheffield, United Kingdom
Disclosures: Nicholas Harvey, None
- SA0304 Prediction of fracture risk by trabecular bone score (TBS)**
Tuan Nguyen*¹, Didier Hans², Jacqueline Center¹, John Eisman¹. ¹Garvan Institute of Medical Research, Australia, ²Lausanne University Hospital, Switzerland
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 Fujita¹, Junko Tamaki², Yuho Sato³, Renaud Winzenrieth⁴, Katsuyasu Kouda⁵, Akiko Yura⁵, Jong Seong Moon⁶, Nozomi Okamoto⁷, Norio Kurumatani⁷. ¹Kinki University Faculty of Medicine, Japan, ²Department of Hygiene & Public Health, Osaka Medical College, Japan, ³Jin-ai University, Japan, ⁴Med-Imaps, France, ⁵Department of Public Health, Kinki University Faculty of Medicine, Japan, ⁶Kio University, Japan, ⁷Department 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 Fujita², Mutsumi Ohue², Tsuyoshi Jotoku³, Yoshio Fujii⁴, Akimitsu Miyauchi⁵, Yasuyuki Takagi⁶. ¹Takaishi Dental Clinic, Japan, ²Katsuragi Hospital, Japan, ³Department of Orthopedic Surgery, Japan, ⁴Calcium Research Institute Kobe Branch, Japan, ⁵Miyauchi Medical Center, Japan, ⁶National 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

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SA0309

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

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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

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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 Ding², Alison Venn², Terence Dwyer³, Graeme Jones⁴. ¹Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, ²Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, ³Murdoch Childrens Research Institute, Australia, ⁴Menzies Research Institute, Australia
Disclosures: Benny Samuel Eathakkattu Antony, None

- SA0312 Identification of Novel Serum Peptides and Proteins That Are Associated with Hip Bone Loss in Older Men**
 Jian Shen^{*1}, Jodi Lapidus¹, Aaron Baraff¹, Christine Lee¹, Arie Baratt¹, Shannon McWeeney¹, Vladislav Petyuk², Douglas Bauer³, Nancy Lane⁴, Eric Orwoll¹. ¹Oregon Health & Science University, USA, ²Pacific Northwest National Laboratory, USA, ³University of California, San Francisco, USA, ⁴University 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**
 Barbara Rubek Nielsen^{*1}, Peter Schwarz², Allan Linneberg³, Kaare Christensen⁴. ¹Research Centre of Ageing & Osteoporosis, Department of Medicine, Copenhagen University Hospital, Glostrup, Denmark, Denmark, ²Research Centre of Ageing & Osteoporosis, Department of Medicine, Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark, Denmark, ³Research Centre for Prevention & Health, Capital Region of Denmark, Glostrup, Denmark, Denmark, ⁴Danish Aging Research Center, University of Southern Denmark, Denmark
Disclosures: Barbara Rubek Nielsen, None

OSTEOPOROSIS - EPIDEMIOLOGY:ENVIRONMENTAL AND LIFESTYLE FACTORS

- SA0314 Determinants of bone outcomes in obese and normal-weight young adults**
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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 Marshall², Jian Shen², Steven Cummings³, Peggy Cawthon⁴, Kristine Ensrud⁵, Rena Singleton⁶, Jane Cauley⁷, Elizabeth Barrett-Connor⁸, Nancy Lane⁹, Deborah Kado⁸, John Schousboe¹⁰. ¹GRECC, Minneapolis VA Medical Center, USA, ²Oregon Health & Science University, USA, ³San Francisco Coordinating Center, USA, ⁴California Pacific Medical Center Research Institute, USA, ⁵University of Minnesota & Minneapolis VA Health Care System, USA, ⁶University of Minnesota, USA, ⁷University of Pittsburgh Graduate School of Public Health, USA, ⁸University of California, San Diego, USA, ⁹University of California, Davis Medical Center, USA, ¹⁰Park Nicollet Clinic, University of Minnesota, USA
Disclosures: Howard Fink, None

- SA0317 Atypical femoral fractures: Sensitivity and specificity of radiographic characteristics**
Annette Adams*¹, Fei Xue², Jean Chandra¹, Richard Dell³, Susan Ott⁴, Stuart Silverman⁵, Joseph Giacomini⁶, Cathy Critchlow⁷. ¹Kaiser Permanente Southern California, USA, ²Amgen, Inc., USA, ³Kaiser, USA, ⁴University of Washington Medical Center, USA, ⁵Cedars-Sinai/UCLA, USA, ⁶Cedars Sinai Medical Center, USA, ⁷Amgen 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 Harrison², Peggy Cawthon³, Deborah Kado⁴, Una Makris⁵, Richard Deyo¹, Hans Carls¹, Michael Nevitt⁶. ¹Oregon Health & Science University, USA, ²San Francisco Coordinating Center, USA, ³California Pacific Medical Center Research Institute, USA, ⁴University of California, San Diego, USA, ⁵University of Texas Southwestern Medical Center, USA, ⁶University 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 Iki², Yuho Sato³, RENAUD WINZENRIETH⁴, Etsuko Kajita⁵, Sadanobu Kagamimori⁶, Yoshiko Kagawa⁷, Hideo Yoneshima⁸. ¹Department of Hygiene & Public Health, Osaka Medical College, Japan, ²Kinki University Faculty of Medicine, Japan, ³Department of Domestic Sciences, Jin-ai University, Japan, ⁴Center of Bone diseases, Lausanne University Hospital, Lausanne, Switzerland, France, ⁵Department of Public Health & Home Nursing, Nagoya University School of Health Sciences, Japan, ⁶University of Toyama, Japan, ⁷Kagawa Nutrition University, Japan, ⁸Shuuwa 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 Hawker¹, Cathy Cameron², Ruth Croxford³. ¹University of Toronto, Canada, ²Women's College Research Institute, Canada, ³Institute for Clinical Evaluative Sciences, Canada
Disclosures: Susan Jaglal, None
- SA0321 FRAX (Aus) as a predictor of falls risk in men**
Kara Holloway*¹, Mark Kotowicz², Stephen Lane³, Sharon Brennan⁴, Julie Pasco⁴. ¹Barwon Health, Australia, ²Deakin University School of Medicine, Australia, ³Barwon Health Biostatistics Unit, Australia, ⁴Deakin 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 Wade², Robert Adler³, Celia Lin⁴, Michael Maricic⁵, Cynthia O'Malley⁶, Kenneth Saag⁷, Jeffrey Curtis⁷. ¹Amgen Inc., USA, ²Wade Outcomes Research & Consulting, USA, ³McGuire VA Medical Center, USA, ⁴Amgen, USA, ⁵Catalina Pointe Rheumatology, USA, ⁶Amgen, Inc, USA, ⁷University 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 Zhou², L Adrienne Cupples², Ali Guermazi¹, Ching-An Meng³, Elana Borchin³, Douglas Kiel³, Mary Bouxsein⁴, Elizabeth (Lisa) Samelson⁵. ¹Boston University School of Medicine, USA, ²Boston University School of Public Health, USA, ³Hebrew SeniorLife, USA, ⁴Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁵Hebrew 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 Kärrholm², Sabine Sten³, Magnus Karlsson⁴, Maria Vretemark⁵, Valter Sundh¹, Mattias Lorentzon⁶, Dan Mellstrom⁷. ¹Department of Geriatrics, Sweden, ²department of orthopedic surgery, Sweden, ³Department of Archaeology & Ancient History, Sweden, ⁴Skåne University Hospital Malmö, Lund University, Sweden, ⁵Västergötland Museum, Sweden, ⁶Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ⁷Sahlgrenska 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 Chan², Tuan Nguyen¹, John Eisman¹, Jacqueline Center¹. ¹Garvan Institute of Medical Research, Australia, ²Osteoporosis & 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 Harvey¹, Etienne Belzile², Jacques P. Brown³, Sonia Jean⁴. ¹McGill University, Canada, ²Université Laval, Canada, ³CHU de Québec Research Centre, Canada, ⁴Institut 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 Harvey², Etienne Belzile³, Jacques P. Brown⁴, Suzanne Morin². ¹Institut National De Santé Publique Du Québec, Canada, ²McGill University, Canada, ³Université Laval, Canada, ⁴CHU 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 Choi², Sang Wan Kim³, Nam H. Cho⁴, Chan Soo Shin⁵. ¹Seoul National University College of Medicine, South Korea, ²Chungbuk National University Hospital, South Korea, ³Seoul National University College of Medicine, Boramae Hospital, South Korea, ⁴Ajou University School of Medicine, South Korea, ⁵Seoul 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 Vandenput¹, Maria Nilsson², Maria Nethander³, Joel Eriksson⁴, Osten Ljunggren⁵, Andreas Kindmark⁵, Mattias Lorentzon⁶, Helena Johansson⁷, Jodi Lapidus⁸, Ying Wang⁸, Eric Orwoll⁸, Magnus Karlsson⁹, Dan Mellstrom¹⁰, Claes Ohlsson*¹¹. ¹University of Gothenburg, Sweden, ²Centre for Bone & Arthritis Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ³Bioinformatics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden, ⁴Centre for Bone & Arthritis Research, Sweden, ⁵Uppsala University Hospital, Sweden, ⁶Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ⁷Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, ⁸Oregon Health & Science University, USA, ⁹Skåne University Hospital Malmö, Lund University, Sweden, ¹⁰Sahlgrenska University Hospital, Sweden, ¹¹Center 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 Schousboe², Kristine Ensrud³, Dennis Black⁴, Jane Cauley⁵, Steven Cummings⁶, Erin LeBlanc⁷, Gail Laughlin⁸, Carrie Nielson⁹, Deborah Kado¹⁰, Andrew Hoffman¹¹, Elizabeth Barrett-Connor¹⁰, Eric Orwoll⁹. ¹California Pacific Medical Center Research Institute, USA, ²Park Nicollet Clinic, University of Minnesota, USA, ³University of Minnesota & Minneapolis VA Health Care System, USA, ⁴University of California, San Francisco, USA, ⁵University of Pittsburgh Graduate School of Public Health, USA, ⁶San Francisco Coordinating Center, USA, ⁷Kaiser, USA, ⁸UCSD, USA, ⁹Oregon Health & Science University, USA, ¹⁰University of California, San Diego, USA, ¹¹Stanford, USA

Disclosures: Peggy Cawthon, None

OSTEOPOROSIS - EPIDEMIOLOGY:RISK FACTORS**SA0331 A good self-estimated health lowers hip fracture risk independent of FRAX and BMD**

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Disclosures: Hans Lundin, None

SA0332 Associations of 25OHD and 1,25(OH)₂D with BMD, BMD Loss and Fracture

Christine Swanson^{*1}, Priya Srikanth², Christine Lee¹, Steven Cummings³, Ivo Jans⁴, Jane Cauley⁵, Roger Bouillon⁶, Dirk Vanderschueren⁶, Eric Orwoll¹, Carrie Nielson¹. ¹Oregon Health & Science University, USA, ²Department of Public Health & Preventive Medicine, Oregon Health & Science University, USA, ³San Francisco Coordinating Center, USA, ⁴Laboratory of Diagnostic Medicine, KU Leuven, University of Leuven, Belgium, ⁵University of Pittsburgh Graduate School of Public Health, USA, ⁶Katholieke 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 Vranken², Robert Van Der Velde³, Heinrich Janzing⁴, Wim Morrenhof⁵, Piet Geusens⁶, Joop Van Den Bergh⁷. ¹Maastricht University, VieCuri Medical Centre, The Netherlands, ²VieCuri Medical Centre, The Netherlands, ³VieCuri Medical Center Venlo, the Netherlands, The Netherlands, ⁴VieCuri Medical Centre, Department of Surgery, Netherlands, ⁵VieCuri Medical Centre, Department of Orthopedic Surgery, Netherlands, ⁶University Hasselt, Belgium, ⁷VieCuri 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 Kennedy², George Ioannidis², Karen Beattie², Christopher Gordon², Laura Pickard², Alexandra Papaioannou³, David Goltzman⁴, Jerilynn Prior⁵, Heather Macdonald⁵, Maureen Ashe⁵, Leigh Gabel⁵, Danmei Liu⁵, Saija Kontulainen⁶, Andrew Frank⁶, Wojciech Olszynski⁶, K. Shawn Davison⁷, Lora Giangregorio⁸, Robert Josse⁹, Eva Szabo¹⁰, Marta Erlandson⁶, Tassos Anastassiades¹¹, Norma MacIntyre², Angela M. Cheung¹², Jonathan Adachi¹³. ¹McMaster University, University Health Network, Canada, ²McMaster University, Canada, ³Hamilton Health Sciences, Canada, ⁴McGill University, Canada, ⁵University of British Columbia, Canada, ⁶University of Saskatchewan, Canada, ⁷University of Victoria, Canada, ⁸University of Waterloo, Canada, ⁹St. Michael's Hospital, University of Toronto, Canada, ¹⁰University Health Network, Canada, ¹¹Queen's University, Canada, ¹²University Health Network-University of Toronto, Canada, ¹³St. Joseph's Hospital, Canada

Disclosures: Andy Kin On Wong, None

SA0335 Increased risk for hip fracture after bereavement
 Dan Mellstrom*¹, Valter Sundh², Magnus Karlsson³, Claes Ohlsson⁴, Mattias Lorentzon⁵, John Kanis⁶, Boo Johansson⁷, Anders Odén⁸. ¹Sahlgrenska University Hospital, Sweden, ²Department of Geriatrics, Gothenburg University, Sweden, ³Skåne University Hospital Malmö, Lund University, Sweden, ⁴Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, ⁵Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ⁶University of Sheffield, Belgium, ⁷Department of Psychology, Gothenburg University, Sweden, ⁸Department of biostatistics, Chalmers University, Sweden

Disclosures: Dan Mellstrom, None

SA0336 Persistent low grade inflammation is associated with bone loss in elderly women
 Kristina Akesson¹, Sofia Berglundh*¹, Linnea Malmgren², Fiona McGuigan³, Paul Gerdhem⁴, Holger Luthman⁵. ¹Skåne University Hospital, Malmö, Sweden, ²Skane University Hospital, Sweden, ³University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, ⁴Karolinska Institutet, Sweden, ⁵Lund 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 Yan², Lisa Lix², Suzanne Morin³, Sumit Majumdar⁴, William Leslie². ¹Deakin University, Australia, ²University of Manitoba, Canada, ³McGill University, Canada, ⁴University 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 Broe², Adrienne Cupples³, Serkalem Demissie³, Caroline Fox⁴, Marian Hannan⁵, Yi-Hsiang Hsu⁶, David Karasik⁷, Ching-Ti Liu³, Robert McLean⁸, Ching-An Meng⁹, Elizabeth (Lisa) Samelson¹⁰, Xiaochun Zhang⁹, Mary Bouxsein¹¹. ¹Hebrew SeniorLife, USA, ²Institute for Aging Research, Hebrew SeniorLife, USA, ³Boston University School of Public Health, USA, ⁴National Institutes of Health, USA, ⁵HSL Institute for Aging Research & Harvard Medical School, USA, ⁶Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁷Hebrew SeniorLife; Bar Ilan University, USA, ⁸Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁹Institute for Aging Research, Hebrew SeniorLife, USA, ¹⁰Hebrew SeniorLife, Harvard Medical School, USA, ¹¹Beth 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 Cabana¹, Marie-Claude Beaulieu², Nathalie Carrier¹, Sophie Roux³, Gilles Boire*¹. ¹Centre hospitalier universitaire de Sherbrooke, Canada, ²Université de Sherbrooke, Canada, ³University of Sherbrooke, Canada

Disclosures: Gilles Boire, None

SA0340 Implementation of FLS in the Province of Quebec (Canada): perseverance and creativity

Marie-Claude Beaulieu*¹, Hélène Corriveau¹, Isabelle Gaboury¹, François Cabana², Gilles Boire³. ¹Université de Sherbrooke, Canada, ²CHUS, Canada, ³Centre 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 Min², Hyoung-Moo Park³, Deog-Yoon Kim⁴, Ho-Yeon Chung⁵, Yong-Chan Ha⁶. ¹Seoul National University Bundang Hospital, South Korea, ²Samsung Medical Center, South Korea, ³Chung-Ang University College of Medicine, South Korea, ⁴Kyung Hee University Hospital, South Korea, ⁵Kyung Hee University, South Korea, ⁶Chung-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 Hubbard², Belinda Operskalski², Do Peterson², Kelly Hansen², Andrea Lacroix³, Delia Scholes⁴. ¹University of Washington Medical Center, USA, ²Group Health Research Institute, USA, ³Fred Hutchinson Cancer Research Center, USA, ⁴Group 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 Paudel², Brent Taylor³, Allyson Kats⁴, Beth Virnig⁵, Bryan Dowd⁵, Kristine Ensrud⁶. ¹Park Nicollet Clinic, University of Minnesota, USA, ²Division of Epidemiology University of Minnesota, USA, ³University of Minnesota, USA, ⁴Chronic Disease Research Group, USA, ⁵Division of Health Policy & Management, University of Minnesota, USA, ⁶University 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 Cong², Benedict Nwachukwu³, Minda Patt⁴, Pingal Desai³, Kara Gasiorowski⁴, Jin Chen³, Jonathan Jo⁵, Joseph Lane³. ¹Weill Medical College of Cornell University, USA, ²Weill Cornell Medical College, USA, ³Hospital for Special Surgery, USA, ⁴New York Presbyterian-Weill Cornell Medical Center, USA, ⁵Weill 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 Rothberg¹, Andrew Kraftson¹, Nicole Miller¹, Katherine Zuraes¹, Charles Burant¹, Catherine Van Poznak², Mark Peterson¹. ¹University of Michigan, USA, ²University 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-Torres², Antonia Garcia-Martin³, Santiago Palacios⁴, Nancy Salas⁴, Nicolas Mendoza⁵, Miguel Quesada-Charneco⁶, Federico Lara-Villoslada⁷, Juristo Fonolla⁸. ¹Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada. Endocrinology Unit. Hospital General Universitario Rafael Mendez, Lorca, Murcia., Spain, ²Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada., Spain, ³Bone 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, ⁴Palacios Institute of Women's Health, Spain, ⁵Department of Obstetrics & Gynecology, University of Granada, Spain, ⁶Endocrinology Division, Hospital Universitario San Cecilio, Spain, ⁷Departamento de Investigación y Desarrollo. Lactalis Puleva, Spain, ⁸Nutrition Department, Biosearch S.A, Spain
Disclosures: Rebeca Reyes-Garcia, None
- SA0349 Elcalcitol, 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 Ito², Tatsushi Tomomitsu³, Hiroshi Tsurukami⁴, SATOSHI IKEDA⁵, Fumio Fukuda⁶, Hideki Mizunuma⁷, Tomoyuki Inoue⁸, Hitoshi Saito⁹, Toshitaka Nakamura¹⁰. ¹University of Occupational & Environmental Health, Japan, ²Nagasaki University Hospital, Japan, ³Department of Radiological Technology, Kawasaki College of Allied Health Professions, Japan, ⁴Tsurukami Clinic of Orthopedics & Rheumatology, Japan, ⁵Ken-Ai Memorial Hospital, Japan, ⁶Kitakyushu General Hospital, Japan, ⁷Department of Obstetrics & Gynecology, Hirosaki University School of Medicine, Japan, ⁸Taisho Pharmaceutical Co., Ltd., Japan, ⁹Chugai Pharmaceutical Company, Limited, Japan, ¹⁰National 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 Manson², Julie Buring², Nancy Cook², Patricia Copeland¹, Meryl Leboff³. ¹Brigham & Women's Hospital, USA, ²Brigham & Women's Hospital Professor of Medicine, Harvard Medical School, USA, ³Brigham & 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**
 Ronald Hamdy*. East Tennessee State University, USA
Disclosures: Ronald Hamdy, None
- SA0352 High Vitamin D is Associated with Low Fasting Insulin in Non-diabetic Men**
 Anna Nilsson^{*1}, Ewa Waern¹, Mattias Lorentzon², Magnus Karlsson³, Claes Ohlsson⁴, Dan Mellstrom¹. ¹Sahlgrenska University Hospital, Sweden, ²Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ³Skåne University Hospital Malmö, Lund University, Sweden, ⁴Center 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 Murray¹, Myra O'Keane², Mark Kilbane². ¹St. Michael's Hospital, Ireland, ²St. 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 Berger², Brent Richards³, Christopher Kovacs⁴, William Leslie⁵, David Hanley⁶, Jonathan Adachi⁷, Jerilynn Prior⁸, Suzanne Morin³, K. Shawn Davison⁹, Stephanie Kaiser¹⁰, Robert Josse¹¹, David Goltzman³. ¹Canadian Multicenter Osteoporosis Study, Canada, ²CaMos, McGill University, Canada, ³McGill University, Canada, ⁴Memorial University of Newfoundland, Canada, ⁵University of Manitoba, Canada, ⁶University of Calgary, Canada, ⁷St. Joseph's Hospital, Canada, ⁸University of British Columbia, Canada, ⁹University of Victoria, Canada, ¹⁰Dalhousie University, Canada, ¹¹St. 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 Tubic², Cecilia Pettersson², Per Magnusson³, Björn Wettergren⁴, Diana Swolin-Eide². ¹Sweden, ²Queen Silvia Children's Hospital, Sweden, ³Linköping University, Sweden, ⁴Paediatric 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 Buchwald², Chang Yang³, Suman Nellore², Elena Sashkova², Deborah Novack⁴, Richard Di Paolo². ¹Saint Louis University University, USA, ²Saint Louis University School of Medicine, USA, ³Washington University in St Louis School of Medicine, USA, ⁴Washington 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 Eldecacitol, a new-generation vitamin D₃ analog, increases trabecular bone via "minimodeling" in ovariectomized cynomolgus monkeys.**
 Tomoka Hasegawa^{*1}, Saito Mitsuru², Doyle Nancy³, Chouinard Luc³, Smith Susan³, Yamamoto Tomomaya¹, Oda Kimimitsu⁴, Saito Hitoshi⁵, Amizuka Norio¹. ¹Hokkaido University, Japan, ²Jikei University School of Medicine, Japan, ³Charles River Laboratories, Canada, ⁴Niigata University, Japan, ⁵Chugai 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 Li², Sylvia Jane Gasparini³, Markus Seibel⁴, Hong Zhou⁴.
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Disclosures: Holger Henneicke, None
- SA0362 Deletion of TRAF3 Specifically in Mesenchymal Progenitor Cells Results in Age-related Osteoporosis Through Effects on both Osteoblasts and Osteoclasts**
 Jinbo Li*¹, Zhenqiang Yao², Yan Xiu³, Xiaoxiang Yin³, Lianping Xing², Brendan Boyce³.
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Disclosures: Jinbo Li, None
- SA0363 Heterozygosity for *TGFBR3* Alters Osteoblast and Osteoclast Differentiation and Signaling, Increases Peak Bone Mass, and Sensitizes Mice to OVX-Induced Bone Loss.**
 Nicole Fleming¹, Vanessa Bray², James Butler³, Tristan Fowler⁴, Joey Barnett⁵, Dana Gaddy⁶, Erick Fleming¹, Jeffry Nyman⁷, Rashmi Pandey³, Daniel Perrien*⁷. ¹VUIIS, Vanderbilt University, USA, ²Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, ³Department of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA, ⁴Universität Wien, Aut, ⁵Department of Pharmacology, Vanderbilt University, USA, ⁶University of Arkansas for Medical Sciences, USA, ⁷Vanderbilt 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 Muschitz², Minh Bui³, Lukas Fischer⁴, Wolfgang Schima⁵, Fritz Lomoschitz⁶, Norbert Laimer⁷, Ali Ghasem-Zadeh⁸, Roger Zebaze⁸, Ego Seeman⁸.
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Disclosures: Afrodite Zendeli, None
- SA0365 Pulsatile delivery of parathyroid hormone from an implantable device promotes bone regeneration in vivo**
 Ming Dang*¹, Amy Koh², Laurie McCauley³, Peter Ma⁴. ¹Macromolecular Science & Engineering Center, University of Michigan, USA, ²Department of Periodontics & Oral Medicine, University of Michigan, USA, ³University of Michigan School of Dentistry, USA, ⁴Department 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: GLUCOCORTICIDS AND OTHER DRUGS

- SA0367 GILZ Protects TNF-alpha-induced Bone Loss in Mice**
 Nianlan Yang*¹, Babak Baban¹, William Hill², Mark Hamrick³, Carlos Isales¹, Xing-Ming Shi¹. ¹Georgia Regents University, USA, ²Georgia Regents University & Charlie Norwood VAMC, USA, ³Georgia 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**
 Charles Castro¹, Marina Eloi*¹, Daniela Horvath¹, João Carlos Ortega¹, João Bosco Pesquero¹, Vera Szejnfeld². ¹Universidade Federal de São Paulo, Brazil, ²UNIFESP/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. Hogan¹, Marilina Piemontese², Jinhu Xiong¹, Charles A O'Brien¹, Stavros Manolagas¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²University 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 Jans², Marco Blokland³, Frederike van Tricht³, Saskia Sterk³, Leen Antonio¹, Brigitte Decallonne¹, Geert Carmeliet¹, Geoffrey Hammond⁴, Frank Claessens¹, Dirk Vanderschueren¹. ¹Katholieke Universiteit Leuven, Belgium, ²University Hospitals Leuven, Belgium, ³RIKILT, Wageningen UR, Netherlands, ⁴University of British Columbia, Canada
Disclosures: Michaël Laurent, None
- SA0371 H₂O₂ generation in osteoclast mitochondria is indispensable for endocortical, but not cancellous, bone resorption in estrogen or androgen deficiency**
 Shoshana Bartell*¹, Li Han¹, Aaron Warren¹, Julie Crawford¹, Semahat Serra Ucer², Srividhya Iyer¹, Maria Jose Almeida¹, Stavros Manolagas¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²University 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 demonstrate no effect on pediatric bone mineral density**
 Purpose: Kevin Hoover*¹, Colin Miller², Craig Langman³, Rick Gilbert⁴, Jason Gross⁵. ¹Virginia Commonwealth University, USA, ²BioClinica, Inc., USA, ³Ann & Robert H Lurie Childrens Hospital of Chicago, USA, ⁴TKL Research, USA, ⁵Cipher 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 Diem², Kristine Ruppert³, YinJuan Lian³, Chih-Chin Liu⁴, Alyssa Wohlfahrt⁴, Gail Greendale⁵, Joel Finkelstein⁶. ¹Harvard Medical School, USA, ²University of Minnesota, USA, ³University of Pittsburgh, USA, ⁴Brigham & Women's Hospital, USA, ⁵University of California, Los Angeles, USA, ⁶Massachusetts 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 Weidner¹, Albrecht Popp*², Sandra Grifone², Helene Buffat², Christian Boyl¹, Thomas Krause¹, Kurt Lippuner². ¹Department of Nuclear Medicine, Inselspital, University Hospital Berne, Switzerland, ²Department 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 Singh², Jack Cuzick³, Glen Blake⁴, Rajesh Patel⁵, Rob Coleman⁶, Mitch Dowsett⁷, John F. Forbes⁸, Anthony Howell⁹, Richard Eastell¹⁰. ¹Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University London, United Kingdom, ²Centre for Cancer Prevention, United Kingdom, ³Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London, United Kingdom, ⁴King's College London, United Kingdom, ⁵Imperial College London, United Kingdom, ⁶Department of Oncology, Cancer Clinical Trials Centre, Academic Unit of Clinical Oncology, United Kingdom, ⁷Royal Marsden Hospital, United Kingdom, ⁸University of Newcastle, Calvary Mater Hospital, Australia, ⁹Paterson Institute for Cancer Research, United Kingdom, ¹⁰University 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 Sugioka², Kenji Mamoto³, Tadashi Okano³, Masahiro Tada³, Kentaro Inui⁴. ¹Search Institute for Bone & Arthritis Disease (SINBAD), Japan, ²Center for Senile Degenerative Disorder, Osaka City University Medical School, Japan, ³Orthopaedic Surgery, Osaka City University Medical School, Japan, ⁴Osaka 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 Lee², Yuli Zhu³, Katelyn Foley³, Sherri-Ann Burnett-Bowie¹, Robert Neer¹, Benjamin Leder¹. ¹Massachusetts General Hospital, USA, ²Massachusetts General Hospital, Biostatistics Center, USA, ³Massachusetts General Hospital, Endocrine Unit, USA, ⁴Massachusetts 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 Banks², Louis O'Dea², C.R. Lyttle², John Yates³, Gary Hattersley². ¹Massachusetts General Hospital Harvard Medical School, USA, ²Radius, USA, ³Radius 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 Libanati², J Peña¹, G Campbell¹, R Barkmann¹, DA Hanley³, S Goemaere⁴, MA Bolognese⁵, C Recknor⁶, C Mautalen⁷, YC Yang², CC Glüer¹. ¹Christian-Albrechts-Universität zu Kiel, Germany, ²Amgen Inc., USA, ³University of Calgary, Canada, ⁴Ghent University Hospital, Belgium, ⁵Bethesda Health Research Center, USA, ⁶United Osteoporosis Centers, USA, ⁷Centro de Osteopatías Medicas, Argentina

Disclosures: T Damm, Amgen, 2

- SA0381 Teriparatide Treatment for Sacral Insufficiency Fractures**
 Yuji Kasukawa^{*1}, Naohisa Miyakoshi¹, Toshihito Ebina², Michio Hongo¹, Koji Nozaka¹, Yoshinori Ishikawa¹, Daisuke Kudo¹, Hayato Kinoshita³, Kentaro Ohuchi¹, Masashi Fujii¹, Chie Sato¹, Yoichi Shimada¹. ¹Akita University Graduate School of Medicine, Japan, ²Dept. of Orthopedic Surgery, Kakunodate General Hospital, Japan, ³Akita University, Japan
Disclosures: Yuji Kasukawa, None

OSTEOPOROSIS - TREATMENT: ANTIRESORPTIVE AGENTS

- SA0382 Antiresorptive Therapy – Yes, It is Sometimes ‘Too Late’**
 Roger Zebaze¹, Cherie Chiang², Sandra Iuliano-Burns¹, Yohann Bala³, Afrodite Zendeli⁴, Negar Shahmoradi⁵, Yu Peng⁶, Ali Ghasem-Zadeh¹, Ego Seeman^{*1}. ¹Austin Health, University of Melbourne, Australia, ²Austin Health, Australia, ³University of Melbourne, Dept. of Medicine, Australia, ⁴Endocrine Centre, Austin Health, University of Melbourne, Australia, Australia, ⁵Department of Endocrinology, Austin Health, Australia, ⁶Straxcorp 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 Dimai², Roland Kocijan³, Heinrich Resch⁴, Peter Pietschmann⁵, Martina Kostic⁶, Alexandra Kaider⁷, Michael Szivak⁸, Matthias Schilling⁹, Heinrich W. Thaler¹⁰. ¹St. Vincent's Hospital, Austria, ²Medical University of Graz – Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, ³St. Vincent Hospital Vienna, Austria, ⁴Medical University Vienna, Austria, ⁵Department of Pathophysiology & Allergy Research, Medical University of Vienna, Austria, ⁶St. Vincent Hospital – Medical Department II - Academic Teaching Hospital of Medical University of Vienna, Austria, ⁷Center for Medical Statistics, Informatics & Intelligent Systems, Medical University of Vienna, Austria, ⁸Austrian Trauma Insurance Agency (AUVA), Austria, ⁹Institute for Medical Radiology, Diagnostics, Intervention; Clinical Center of Lower Austria, Austria, ¹⁰Trauma 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 Albaum², Mina Tadrous², Andrea Burden², Salimah Shariff³, Suzanne Cadarette². ¹Western University, Canada, ²University of Toronto, Canada, ³University 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 Shirazaki², Masaru Ishii³. ¹Immunology Frontier Research Center, Osaka University, Japan, ²Graduate School of Medicine, Osaka University, Japan, ³Graduate 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. Grbic², Michael McClung³, Socrates Papapoulos⁴, David Kendler⁵, Christence S. Teglbjaerg⁶, Lawrence O'Connor⁷, Rachel B. Wagman⁷, Eric Ng⁷, Nadia S. Daizadeh⁷, Pei-Ran Ho⁷. ¹Mercy Health, USA, ²Columbia University, USA, ³Oregon Osteoporosis Center, USA, ⁴Leiden University Medical Center, Netherlands, ⁵University of British Columbia, Canada, ⁶CCBR, Denmark, ⁷Amgen 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 Geller¹, RB Wagman^{*1}, PR Ho¹, S Siddhanti¹, C Stehman-Breen¹, NB Watts², S Papapoulos³. ¹Amgen Inc., USA, ²Mercy Health Osteoporosis & Bone Health Services, USA, ³Leiden 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 Jaworowicz², Stefan Zajic¹, Rebecca Humphrey², Arthur Santora³, Aubrey Stoch⁴. ¹Merck Research Laboratories, USA, ²Cognigen Corporation, USA, ³Merck & Co. Inc., USA, ⁴Merck & 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 KIM², Sung-Kil Lim², Yumie Rhee³. ¹Yonsei University Health System, South Korea, ²Yonsei University College of Medicine, South Korea, ³Department 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 Libanati², CJF Lin², S Adami³, JP Brown⁴, F Cosman⁵, C Czerwiński⁶, LH de Gregório⁷, J Malouf⁸, J-Y Reginster⁹, NS Daizadeh², A Wang², RB Wagman², EM Lewiecki¹⁰, S Cummings¹¹. ¹Geneva University Hospital, Switzerland, ²Amgen Inc., USA, ³University of Verona, Italy, ⁴Laval University & CHU de Québec Research Centre, Canada, ⁵Helen Hayes Hospital, USA, ⁶Krakow Medical Center, Poland, ⁷CCBR, Brazil, ⁸Universitat Autònoma de Barcelona, Spain, ⁹University of Liège, Belgium, ¹⁰New Mexico Clinical Research & Osteoporosis Center, USA, ¹¹San 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 D₃ versus Calcitriol for Treatment of Osteoporosis in Chinese Women**
Zhen Lin Zhang^{*1}, Er Yuan Liao², WeiBo Xia³, Hua Lin⁴, Qun Cheng⁵, Li Wang⁶, Yong Qiang Hao⁷, De Cai Chen⁸, Hai Tang⁹, Yong De Peng¹⁰, Li You¹⁰, Liang He¹¹, Zhao Heng Hu¹², Chun Li Song¹³, Fang Wei¹⁴, Jue Wang¹⁴, Lei Zhang¹⁴, Arthur Santora¹⁵. ¹Shanghai Sixth People's Hospital, Shanghai Jiaotong University School of Medicine, China, ²The Second Xiangya Hospital, Central South University, China, ³Peking Union Medical College Hospital, Department of Endocrinology, Chn, ⁴Peking Union Medical College Hospital, China, ⁵Huadong Hospital Affiliated to Fudan University, China, ⁶TianJin Hospital, China, ⁷Shanghai Ninth People's Hospital, China, ⁸West China Hospital, West China School of Medicine, Sichuan University, China, ⁹Beijing Friendship Hospital, Capital Medical University, China, ¹⁰Shanghai First People's Hospital, China, ¹¹Beijing Jishuitan Hospital, China, ¹²Peking University People's Hospital, China, ¹³Peking University Third Hospital, China, ¹⁴MSD China, China, ¹⁵Merck 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 Ishijima², Yuko Sakamoto³, Hidetoshi Nojiri⁴, Liu Liz⁵, Haruka Kaneko⁶, Ryo Sadatsuki¹, Shinnosuke Hada¹, Kazuo Kaneko¹. ¹Department of Orthopaedics & Motor Organ, Juntendo University Graduate School of Medicine, Tokyo, JAPAN, Japan, ²Juntendo University Graduate School of Medicine, Japan, ³Department of Orthopaedics, Juntendo Nerima Hospital, Tokyo, JAPAN, Japan, ⁴Juntendo University, School of Medicine, Japan, ⁵University Graduate School of Medicine, Tokyo, JAPAN, Japan, ⁶Department of Orthopaedics & Motor Organ, Juntendo University Graduate School of Medicine, Tokyo, JAPAN, Japan
Disclosures: Mayuko Kinoshita, None

- SA0394 Sustained P1NP suppression with monthly 150 mg risedronate treatment of postmenopausal women with low bone mass during 1 year treatment**
 Gregorio Riera-Espinoza^{*1}, Yamila Cordero², Sandra Mendoza³, Yunceli Gonzalez³, Jeny Ramos³. ¹Unidad Metabolica. CEAM, Venezuela, ²Unidad Metabolica., Venezuela, ³Unidad 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 Nakamura², Masako Ito³, Tetsuo Nakano⁴, Junko Hashimoto⁵, Masato Tobinai⁶, Hideki Mizunuma⁷. ¹Tottori University, Japan, ²National Center for Global Health & Medicine, Japan, ³Nagasaki University Hospital, Japan, ⁴Tamana Central Hospital, Japan, ⁵Chugai Pharmaceutical Corporation Limited, Japan, ⁶Chugai Pharmaceutical Co. Ltd., Japan, ⁷Hirosaki 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. Cheung², Jonathan Adachi³, Leon Lenchik⁴, Aliya Khan⁵, Earl Bogoch⁶, Robert Josse⁷, Catherine Lang⁸, R. Bleakney⁹. ¹University of Toronto, Sunnybrook Health SC, Dept. Medical Imaging, Canada, ²University Health Network-University of Toronto, Canada, ³St. Joseph's Hospital, Canada, ⁴Wake Forest University, USA, ⁵McMaster University, Canada, ⁶St. Michael's Hospital, Canada, ⁷St. Michael's Hospital, University of Toronto, Canada, ⁸University of Toronto, Canada, ⁹Mount 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 Vittinghoff², NS Daizadeh³, M Austin³, A Wang³, RB Wagman³. ¹San Francisco Coordinating Center, CPMC Research Institute, USA, ²University of California San Francisco, USA, ³Amgen 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 Ferchak¹, Subashan Perera¹, Dave Nace¹, Neil Resnick². ¹University of Pittsburgh, USA, ²University 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 Kyer², Charlotte Moss³, Paul Mitchell⁴, Dominique Pierroz⁵, Judy Stenmark², Kristina Akesson⁶, Cyrus Cooper⁷, and the IOF Fracture Working Group⁵. ¹University of Oxford, United Kingdom, ²IOF, Switzerland, ³MRC Lifecourse Epidemiology Unit, United Kingdom, ⁴Synthesis Medical, New Zealand, ⁵International Osteoporosis Foundation, Switzerland, ⁶Skåne University Hospital, Malmö, Sweden, ⁷University of Southampton, United Kingdom
Disclosures: Muhammad Javaid, None
- SA0400 Factors Associated with Sub-optimal Adherence to Bisphosphonate Therapy among Patients with Postmenopausal Osteoporosis**
 Maral DerSarkissian¹, Cynthia O'Malley^{*2}, Irene Ferreira³, Stuart Silverman⁴, Deborah Gold⁵, Rachel Wagman⁶, Andreas Grauer⁷. ¹Amgen Incorporated, USA, ²Amgen, Inc, USA, ³Amgen Limited, United Kingdom, ⁴Cedars-Sinai/UCLA, USA, ⁵Duke University Medical Center, USA, ⁶Amgen, Incorporated, USA, ⁷Amgen Inc., USA
Disclosures: Cynthia O'Malley, Amgen, Inc., 3

SA0401 More Than 90% Two Year Adherence to 6-Monthly Denosumab Injections in Patients with Different Forms of Osteoporosis
 Johann Ringe*¹, Parvis Farahmand², ¹Klinikum Leverkusen, University of Cologne, Germany, ²West German Osteoporosis Center (WOC), Klinikum Leverkusen, University of Cologne, Germany
Disclosures: Johann Ringe, None

SA0402 National Bone Health Alliance: A Multi-Sector Public-Private Partnership Working Together to Improve America's Bone Health
 Debbie Zeldow¹, David Lee*², ¹National Bone Health Alliance, USA, ²NBHA, USA
Disclosures: David Lee, None

SA0403 Real-World Evidence on Treatment Initiation and Discontinuation in Canadian Osteoporotic Patients
 Marie-Claude Meilleur*¹, Martin Cloutier², Jimmy Royer³, Arun Krishna⁴, ¹Merck Canada Inc., Canada, ²Analysis Group Inc., Canada, ³Analysis Group Inc. & Université de Sherbrooke, Canada, ⁴Merck, 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 Kashii², Kazuma Kitaguchi³, Masayuki Furuya¹, Tokimitsu Morimoto¹, Yohei Matsuo⁴, Takahiro Makino¹, Kousuke Ebina³, Takashi Kaito¹, Motoki Iwasaki¹, Hideki Yoshikawa², ¹Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, ²Osaka University Graduate School of Medicine, Japan, ³Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, ⁴Japan
Disclosures: Tsuyoshi Sugiura, None

SA0405 Teriparatide Accelerates Healing of Bisphosphonate-Associated Atypical Femoral Fractures in Patients with Osteoporosis
 Naohisa Miyakoshi*¹, Toshiaki Aizawa², Satoshi Sasaki³, Shigeru Ando⁴, Shigeto Maekawa⁵, Hiroshi Aonuma¹, Hiroyuki Tsuchie⁶, Hiroshi Sasaki⁷, Yuji Kasukawa¹, Yoichi Shimada¹, ¹Akita University Graduate School of Medicine, Japan, ²Northern Akita Municipal Hospital, Japan, ³Higashinaruse National Health Insurance Clinic, Japan, ⁴Yamamoto-Kumiai General Hospital, Japan, ⁵Ogachi Central Hospital, Japan, ⁶Nakadori General Hospital, Japan, ⁷Akita 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 Miyakoshi², Yuji Kasukawa², Tomio Nishi³, Hidekazu Abe³, Toyohito Segawa², Yoichi Shimada², ¹Nakadori General Hospital, Japan, ²Akita University Graduate School of Medicine, Japan, ³Ugo 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 Li², Xuejun Cui², Dongfeng Zhao², Xiaofeng Li², Qin Bian², Bing Shu², Jing Wang², Weiwei Da², Wen Mo², Qi Shi², Yongjun Wang³, ¹Spine Research Institute, Shanghai University of Traditional Chinese Medicine, Peoples Republic of China, ²Longhua Hospital, Shanghai University of Traditional Chinese Medicine, China, ³Orthopedic 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 Soe², Haoran Cui³, Xin Du⁴, Jean-Marie Delaisse⁵, Dieter Bromme⁶. ¹University of British Columbia, Canada, ²Vejle Hospital, University of Southern Denmark, Denmark, ³Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, ⁴Department of Oral Biological & Medical Sciences, University of British Columbia, Canada, ⁵Vejle Hospital, IRS, University of Southern Denmark, Denmark, ⁶The 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 Graham². ¹EndoRheum Consultants, USA, ²Shionogi 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 Dempster², Tobias de Villiers³, Bente Langdahl⁴, Paul Miller⁵, Ivo Valter⁶, Cristiano AF Zerbini⁷, Dosinda Cohn⁸, Steven Doleckyj⁸, Le Duong⁹, Boyd Scott⁸, Nadia Verbruggen¹⁰, Arthur Santora¹¹. ¹Creighton University, USA, ²Columbia University, USA, ³Stellenbosch University, South Africa, ⁴Aarhus University Hospital, Denmark, ⁵Colorado Center for Bone Research, USA, ⁶CCBR, Estonia, ⁷Centro Paulista de Investigações Clínicas, Brazil, ⁸Merck & Co., Inc., USA, ⁹Merck Research Laboratories, USA, ¹⁰MSD Europe Inc., Belgium, ¹¹Merck & 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 Lu¹, Nicholas Oyster¹, Ying Tang¹, Bing Wang¹, Johnny Huard². ¹University of Pittsburgh, USA, ²Orthopaedic 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 Sikjaer², Leif Mosekilde³, Lars Rejnmark³. ¹Aarhus University, Denmark, ²Department of Medicine & Endocrinology, MEA Aarhus University Hospital, Denmark, ³Aarhus 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 Zhang¹, Susan Olender¹, David Ferris², Mariana Bucovsky¹, Ivelisse Colon³, Nientara Anderson², Cosmina Zeana⁴, Elizabeth Shane⁵. ¹Columbia University, USA, ²Mt Sinai St Lukes & Mt Sinai Roosevelt, USA, ³Columbia University Medical Center, USA, ⁴Bronx Lebanon Hospital Center, USA, ⁵Columbia 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 Furst², Chiyuan Zhang³, Laura Beth Anderson³, Hongfeng Jiang⁴, Serge Cremers³, Kyle Nishiyama³, Hua Zhou⁵, David Dempster³, Atharva Poundarik⁶, Shonni Silverberg³, Deepak Vashishth⁷, Mishaela Rubin³. ¹NYP-Columbia, USA, ²Columbia University College of Physicians & Surgeons, USA, ³Columbia University, USA, ⁴Columbia University College of Physician & Surgeons, USA, ⁵Helen Hayes Hospital, USA, ⁶Rensselaer Polytechnic University, USA, ⁷Rensselaer Polytechnic Institute, USA
Disclosures: Dorothy Fink, None

- SA0415 Effect of Teriparatide in Patients with Osteoporosis and Type 2 Diabetes Mellitus**
Ann Schwartz^{*1}, John Krege², Jahangir Alam², Dara Schuster². ¹University of California, San Francisco, USA, ²Eli Lilly & Company, USA
Disclosures: Ann Schwartz, Merck, 5
- SA0416 Predictors of mortality subsequent to a fracture in diabetes mellitus patients**
Jakob Linde^{*1}, Søren Gregersen¹, Peter Vestergaard². ¹Aarhus University Hospital, Denmark, ²Aalborg 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 Forsen², Mari Hoff³, Arnulf Langhammer⁴, Siri Forsmo⁵, Berit Schei⁶, Kristian Midthjell⁴, Haakon E. Meyer². ¹MD PHD, Norway, ²Norwegian Institute of Public Health/University of Oslo, Norway, ³Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, ⁴HUNT Research Centre, Department of Public Health & General Practice, Faculty of Medicine, Norwegian University of Science & Technology, Norway, ⁵Norwegian University of Science & Technology, Norway, ⁶Women'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 Hackl², Susanna Skalicky², Janina Patsch³, Thomas Baum⁴, Andrew Burghardt⁵, Ann Schwartz⁵, Johannes Grillari⁶, Thomas Link⁵. ¹University of California San Francisco, USA, ²AmiRNA GmbH, Austria, ³Medical University of Vienna, Austria, ⁴Klinikum rechts der Isar, TU Muenchen, Germany, ⁵University of California, San Francisco, USA, ⁶University 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 Kepley¹, Fernando Rosete¹, Claire Keating¹, Emily DiMango¹, Elizabeth Shane². ¹Columbia University, USA, ²Columbia 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 Liu², Allison Martin Nguyen³, Marc Rosenman¹, Joel Martin⁴, Katie Allen⁴, Siu Lui Hui¹, Erik Imel¹. ¹Indiana University School of Medicine, USA, ²Department of Biostatistics, Indiana School of Medicine & Public Health, USA, ³Merck & Co, USA, ⁴Regenstrief Institute, USA
Disclosures: Brian Decker, None

- SA0423 Risk and Prevalence of Vertebral Fractures among Breast Cancer Survivors in China**
 Evelyn Hsieh^{*1}, Qin Wang², Renzhi Zhang², Chun-Wu Zhou², Youlin Qiao², Liana Fraenkel³, Weibo Xia⁴, Karl Insogna⁵, Jennifer Smith⁶, Pin Zhang². ¹Yale School of Medicine, Section of Rheumatology, USA, ²Cancer Institute & Hospital, Chinese Academy of Medical Sciences, China, ³Section of Rheumatology, Yale School of Medicine, USA, ⁴Peking Union Medical College Hospital, Department of Endocrinology, Chn, ⁵Yale University School of Medicine, USA, ⁶Gillings 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 Lee², Sung-Kil Lim¹, Yumie Rhee³. ¹Yonsei University College of Medicine, South Korea, ²Yonsei University Health System, South Korea, ³Department 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 Garg¹, Anthony Hodsman¹, David Rush², William Leslie². ¹Western University, Canada, ²University 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 Diessel¹, Andy Wu², Wendy Kelly¹, Nigel Morrison³. ¹Griffith University, Australia, ²Mater Medical Research Institute, Australia, ³Griffith University, Gold Coast Campus, Australia
Disclosures: Mark Forwood, None
- SA0428 sCSF-1 Maintains Cortical Bone Thickness During Aging**
 Ramaswamy Sharma^{*1}, Diane Horn², Kathleen Woodruff², Jean Jiang², Roberto Fajardo³, Sherry Abboud Werner². ¹University of Texas Health Sciences Center At San Antonio, USA, ²University of Texas Health Science Center at San Antonio, USA, ³UT 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 Myers², Alessandra Esposito³, Joseph Temple³, Tieshi Li¹, Helen Willcockson², Billie Moats-Staats⁴, Lara Longobardi¹, Anna Spagnoli¹. ¹University of North Carolina at Chapel Hill, USA, ²University of North Carolina, USA, ³The University of North Carolina at Chapel Hill, USA, ⁴University 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 Keller², Athena Chalaris³, Stefan Rose-John³, Michael Amling¹, Thorsten Schinke⁴. ¹University Medical Center Hamburg-Eppendorf, Germany, ²Department of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, ³Biochemical Institute, University of Kiel, Germany, ⁴Department 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 Choudhary², Carol Pilbeam². ¹University of Connecticut, USA, ²University 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 Aquino¹, Morgana Rodrigues Guimaraes¹, Ligia Araujo Barbosa², Bruna C S Rodrigues², Debora Emy Miyazaki Lopes², Carlos Rossa^{*2}. ¹School of Dentistry at Araraquara-Univ Estadual Paulista (UNESP), Brazil, ²School 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 Wang², Jeffrey Tsai³, Nisan Bhattacharyya⁴, Alison Boyce⁵, Rachel Gafni¹, Andrea Estrada¹, Alfredo Molinolo⁴, Pamela Robey⁶, Michael Collins¹. ¹National Institutes of Health, USA, ²University of Maryland, USA, ³SUNY Buffalo, USA, ⁴NIH, USA, ⁵Children's National Medical Center, USA, ⁶National 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 Genest¹, Christine Hofmann², Sebastian v. d. Assen¹, Maximilian Rudert¹, Franz Jakob¹. ¹Orthopedic Center for Musculoskeletal Research, Germany, ²University 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. Simmons², Richard E. Lutz³, Scott Moseley⁴, Agustin Melian⁴, Tatjana Odrliin⁴, Nicholas Bishop⁵. ¹Shriners Hospital for Children-Saint Louis, USA, ²Vanderbilt Children's Hospital, USA, ³Nebraska Medical Center, USA, ⁴Alexion Pharmaceuticals Inc, USA, ⁵University 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 Zhang¹, William McAlister², Deborah Wenkert³, Karen Mack¹, Marci Benigno¹, Stephen P. Coburn⁴, Susan Wagy¹, Donna M. Griffin¹, Karen Erickson⁴, Steven Mumm⁵. ¹Shriners Hospital for Children-Saint Louis, USA, ²Department of Pediatric Radiology, Mallinckrodt Institute of Radiology at St. Louis Children's Hospital, Washington University School of Medicine, USA, ³Amgen, Inc., USA, ⁴Department of Chemistry, Indiana University – Perdue University, USA, ⁵Washington 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-Zarrabeitia¹, Mayte García-Unzueta², Juan Gomez-Gerique², Jose Riancho³, ¹Hospital U.M.Valdecilla, Spain, ²Hospital U.M. Valdecilla, Spain, ³University 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 Brownstein¹, Matthew Bainbridge², Meghan Towne³, Nicholas Marinakis³, Pankaj Agarwal³, Alan Beggs³, David Margulies³, Gang-Qing Yao⁴, Karl Insogna⁴, Thomas Carpenter⁴. ¹Boston Children's Hospital & Harvard Medical School, USA, ²Codified Genomics, USA, ³Boston Children's Hospital, USA, ⁴Yale University School of Medicine, USA

Disclosures: Catherine Brownstein, None

RARE BONE DISEASES: OTHER RARE BONE DISEASES**SA0439 Altered pyrophosphate homeostasis contributes to NF1 hyperosteoridosis and bone fragility.**

Jean De La Croix Ndong¹, Alexander Makowski², Sasidhar Uppuganti¹, Guillaume Vignaux¹, Koichiro Ono⁵, Daniel Perrien⁴, Simon Joubert⁵, Serena R. Baglio⁶, donatella granch⁶, david A. stevenson⁷, Jonathan J. Rios⁸, Jeffry Nyman⁴, Florent Elefteriou¹. ¹Vanderbilt University, USA, ²Department of Veterans Affairs, Vanderbilt University, USA, ³Center for Bone Biology, USA, ⁴Vanderbilt University Medical Center, USA, ⁵Alexion Montreal Corp, Canada, ⁶Laboratorio di Fisiopatologia Ortopedica e Medicina Rigenerativa, Istituto Ortopedico Rizzoli Via di Barbiano 1/10, Italy, ⁷Department of Pediatrics, Division of Medical Genetics, University of Utah, USA, ⁸Sarah 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 Lee¹, Sung-Kil Lim², Yumie Rhee³. ¹Yonsei University Health System, South Korea, ²Yonsei University College of Medicine, South Korea, ³Department 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 Ramnitz¹, Pravitt Gourh¹, Jaydira Del Rivero¹, Diana Ovejero¹, Nisan Bhattacharyya¹, Lori Guthrie¹, Raphaela Goldbach-Mansky¹, Felasfa Wodajo², Shoji Ichikawa³, Erik Imel³, Michael Econs⁴, Kenneth White³, Brian Kirmse⁵, Adele Boskey⁶, Alfredo Molinolo¹, Rachel Gafni¹, Michael Collins¹. ¹National Institutes of Health, USA, ²Virginia Hospital Center, USA, ³Indiana University School of Medicine, USA, ⁴Indiana University, USA, ⁵Children's National Medical Center, USA, ⁶Hospital for Special Surgery, USA

Disclosures: Mary Ramnitz, None

SA0442 Loss of ERK1 and ERK2 in osteochondro progenitor cells causes metachondromatosis by enhancing chondrogenesis

Zhijun Chen¹, Susan X. Yue², Guang Zhou¹, Edward Greenfield¹, Shunichi Murakami¹. ¹Case Western Reserve University, USA, ²Department 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 Picc¹, Jonathan Tang², Christopher Washbourne³, Emily Fisher³, Julie Greeves⁴, Sarah Jackson⁵, Stuart Ralston⁶, Philip Riches⁷, William Fraser³. ¹BioAnalytical Facility, University of East Anglia, United Kingdom, ²University of East Anglia, Norwich, UK, United Kingdom, ³University of East Anglia, United Kingdom, ⁴HQ Army Recruiting & Training Division, United Kingdom, ⁵MOD, United Kingdom, ⁶University of Edinburgh, United Kingdom, ⁷Rheumatic Disease Unit, Institute of Genetics & Molecular Medicine, United Kingdom

Disclosures: Isabelle Picc, 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 Miura², Wei Wang², Keiko Yamamoto², Makoto Fujiwara², Yasuhisa Ohata², Makiko Tachibana², Taichi Kitaoka², Yoko Miyoshi², Noriyuki Namba², Keiichi Ozono². ¹Osaka University Graduate School of Medicine & Dentistry, Japan, ²Osaka 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 Wyers², Kenneth Meijer³, Robert Van Der Velde⁴, Heinrich Janzing⁵, Wim Morrenhof⁶, Piet Geusens⁷, Joop Van Den Bergh⁸. ¹VieCuri Medical Centre, The Netherlands, ²Maastricht University, The Netherlands, ³Department of Human Movement Sciences, NUTRIM, Maastricht University, Netherlands, ⁴VieCuri Medical Center Venlo, the Netherlands, The Netherlands, ⁵VieCuri Medical Centre, Department of Surgery, Netherlands, ⁶VieCuri Medical Centre, Department of Orthopedic Surgery, Netherlands, ⁷University Hasselt, Belgium, ⁸VieCuri 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 Hashimoto². ¹Osaka Minami Medical Center, Japan, ²National 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 Daya², Robert Boudreau¹, Jane Cauley³. ¹University of Pittsburgh, USA, ²University of Pittsburgh Medical Center (UPMC), USA, ³University 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 Wang², Alyssa Dufour³, Douglas Kiel³, Emelia Benjamin⁴, Joanne Murabito⁵, Joseph Vita⁶, Marian Hannan⁷, Paul Jacques⁸, Robert McLean⁹, Roger Fielding¹⁰, Vasan Ramachandran¹¹, Gary Mitchell¹², Naomi Hamburg⁶. ¹Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, ²Boston University School of Public Health, USA, ³Hebrew SeniorLife, USA, ⁴Framingham Heart Study, Boston University School of Public Health, Boston University School of Medicine, USA, ⁵Framingham Heart Study & Boston University School of Medicine, USA, ⁶Boston University School of Medicine, USA, ⁷HSL Institute for Aging Research & Harvard Medical School, USA, ⁸Jean Mayer USDA HNRCA, Tufts University, USA, ⁹Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ¹⁰Jean Mayer USDA HNRCA At Tufts University, USA, ¹¹Framingham Heart Study, Boston University School of Medicine, USA, ¹²Cardiovascular 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 Ikegami², Keiji Mukaiyama², Yukio Nakamura³, Mikio Kamimura⁴, Hiroyuki Kato². ¹Shinshu University, School of Medicine, Japan, ²Department of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, ³Dept of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, ⁴Kamimura Clinic, Japan
Disclosures: Shigeharu Uchiyama, None

- SA0450 Muscle, Fat and Bone tissues in Patients with Hip Fracture**
 M^a José Montoya*¹, Mercè Giner², M^a Angeles Vázquez³, Marta Rey⁴, Aurora Gil-Bernal³, David García-Romero³, M^a Carmen Cañamero⁵, Presentación Zambrano⁵, Ramón Pérez-Cano⁶. ¹University of Seville, Spain, ²Bone Metabolism Unit, Internal Medicine, “Virgen Macarena” University Hospital, Spain, ³Medicine Department, University of Seville, Spain, ⁴ViaMed Sta. Angela de la Cruz Hospital, Spain, ⁵Traumatology & Orthopaedic Unit, “Virgen Macarena” University Hospital, Spain, ⁶Bone 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 Vanderboom¹, H. Robert Bergen¹, Sundeep Khosla², Nathan LeBrasseur¹. ¹Mayo Clinic, USA, ²Mayo 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 Olszynski², Saija Kontulainen¹. ¹University of Saskatchewan, Canada, ²Saskatoon 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 Marvdashti², Christina C Lemon², Kaitlin R Chambers², Erin Johnson², Karen Hansen³. ¹University of Wisconsin, Madison, USA, ²Department of Medicine, University of Wisconsin School of Medicine & Public Health, USA, ³University 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 Dalgas², Hanne Primdahl³, Jørgen Johansen⁴, Jens Overgaard⁵, Kristian Overgaard², Kim Henriksen⁶, Simon Lønbro². ¹Nordic Bioscience, Denmark, ²Department of Public Health - Sport Science, Aarhus University, Denmark, ³Department of Clinical Medicine - The Department of Oncology, Denmark, ⁴Department of Oncology, Odense University Hospital, Denmark, ⁵Dept. Experimental Clinical Oncology, Aarhus University Hospital, Denmark, ⁶Nordic 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 Rikonen*¹, Kenneth Poole², Joonas Sirola³, Reijo Sund⁴, Risto Honkanen⁵, Heikki Kroger⁶. ¹Finland, ²University of Cambridge, United Kingdom, ³University of Eastern Finland / Kuopio, Finland, ⁴University of Helsinki, Finland, ⁵University of Eastern Finland, Finland, ⁶Kuopio University Hospital, Finland
Disclosures: Toni Rikonen, None
- SA0456 The effect of acute exercise on undercarboxylated osteocalcin and insulin sensitivity in obese men**
 Itamar Levinger*¹, George Jerums², Nigel Stepto³, Lewan Parker³, Fabio Serpiello³, Glenn McConell³, Mitchell Anderson³, David Hare², Elizabeth Byrnes⁴, Peter Ebeling⁵, Ego Seeman⁶. ¹Victoria University, Australia, ²Austin Health, Australia, ³Institute of Sport, Exercise & Active Living (ISEAL), Victoria University, Australia, ⁴PathWest QEII Medical Centre, Australia, ⁵Department of Medicine, School of Clinical Sciences, Monash University, Australia, ⁶Austin Health, University of Melbourne, Australia
Disclosures: Itamar Levinger, None

SKELETAL AGING: CELLULAR AND MOLECULAR MECHANISMS

- SA0457 Caloric Restriction and the Adipokine Leptin alter the SDF-1 signaling axis and autophagy in Bone and MSCs**
 Sudharsan Periyasamy-Thandavan^{*1}, Samuel Herberg², Phonepasong Arounleut³, Sunil Upadhyay⁴, Amy Dukes⁴, Colleen Davis⁴, Maribeth Johnson⁴, Mark Hamrick⁵, Carlos Isaacs⁴, William Hill⁶. ¹Georgia Regents University & Charlie Norwood VAMC, USA, ²Case Western Reserve University, USA, ³Georgia Regents University (formally Georgia Health Sciences University), USA, ⁴Georgia Regents University, USA, ⁵Georgia Health Sciences University, USA, ⁶Georgia 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- β and WNT Signaling**
 Shen-chin Hsu¹, I-HUI SHU², Shanshan shi^{*3}, Hsin-chu Ho⁴, Tzong-Jen Sheu³, Wei Hsu⁵, J. Edward Puzas⁶. ¹Chung Shan Medical University Hospital Dept of Pharmacy, Taiwan, ²Fanglio General Hospital, Taiwan, ³University of Rochester, USA, ⁴Wan-Chuan Clinics, Fangliao General Hospital, Taiwan, ⁵University of Rochester Medical Center, USA, ⁶University of Rochester School of Medicine, USA
Disclosures: Shanshan shi, None
- SA0459 Aromatic Amino Acids Ameliorate Ovariectomy Induced Bone Loss**
 Kehong Ding^{*1}, Aleena Lakhanpal¹, Qing Zhong¹, Wendy Bollag¹, Jianrui Xu¹, William Hill², Xing-Ming Shi¹, Mona El Refaey¹, Monte Hunter¹, Mark Hamrick³, Carlos Isaacs¹. ¹Georgia Regents University, USA, ²Georgia Regents University & Charlie Norwood VAMC, USA, ³Georgia 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 Carpio¹, Ryan Schulze¹, Mark McNiven¹, Sundeep Khosla², Merry Jo Oursler¹, Jennifer Westendorf¹. ¹Mayo Clinic, USA, ²Mayo 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. Roth², Thi A. Nguyen³, Ping Zhou³, Jiasheng Zhang⁴, Mary Nakamura⁵, Eric J. Huang⁶, Robert V. Farese Jr.⁷, Robert Nissenson⁸. ¹VA Medical Center, San Francisco, USA, ²Endocrine Unit, VA Medical Center, USA, ³Gladstone Institute of Cardiovascular Disease, USA, ⁴Pathology, University of California, USA, ⁵University of California, San Francisco/San Francisco VA Medical Center, USA, ⁶Pathology, University of California / Pathology Service, VA Medical Center, USA, ⁷Gladstone Institute of Cardiovascular Disease / Medicine & Biochemistry & Biophysics, University of California, USA, ⁸VA 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. Lazarenko², Kelly Mercer³, Michael L. Blackburn³, Thomas M. Badger³, Martin J. J. Ronis⁴. ¹University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, ²Arkansas Children's Nutrition Center & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, ³Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, ⁴Arkansas 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 Han¹, Shoshana Bartell¹, Ha-Neui Kim², Aaron Warren³, Julie Crawford⁴, Igor Gubrij⁵, Charles O'Brien¹, Stavros Manolagas¹, Maria Jose Almeida¹.
¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA,
²Univ. Arkansas for Medical Sciences, Central Arkansas VA Healthcare System, USA,
³University of Arkansas for Medical Sciences, & Central Arkansas Veterans Healthcare System, USA, ⁴University of Arkansas for Medical Sciences, USA, ⁵Central 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 Baldi², Eleonora Piccirilli², Maurizio Feola², Cecilia Rao², Elena Gasbarra². ¹Università degli Studi di Roma Tor Vergata, Italy, ²Università 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 Alamri², Alexandra Papaioannou³. ¹McMaster University, Canada, ²King Abdulaziz University, Saudi Arabia, ³Hamilton Health Sciences, Canada

Disclosures: Sara Mursleen, None

SKELETAL DEVELOPMENT: BONE MODELING

SA0467 Asx1 loss alters histone methylation status, leading to skeletal deficits

Feng-Chun Yang^{*1}, Peng Zhang², Zhaomin Li¹, Yongzheng He¹, Lihn Nguyen¹, Jiapeng Wang¹, Khalid S. Mohammad¹, Theresa A. Guise¹, Mingjiang Xu³. ¹Indiana University, USA, ²Indiana University, USA, ³Indiana 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 Charles², Kelly Tsang¹, Kenichi Nagano³, Gary Shull⁴, Roland Baron⁵, Antonios Aliprantis¹. ¹Brigham & Women's Hospital, USA, ²Brigham & Women's Hospital & Harvard School of Medicine, USA, ³Harvard School of Dental Medicine, USA, ⁴University of Cincinnati College of Medicine, USA, ⁵Harvard School of Medicine & of Dental Medicine, USA

Disclosures: William O'Brien, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

SA0469 Dllar1/Ctdnep1 regulates endochondral ossification via suppression of TGF- β signaling

Tadayoshi Hayata^{*1}, Yoichi Ezura², Makoto Asashima³, Ryuichi Nishinakamura⁴, Masaki Noda⁵. ¹Medical Research Institute, Tokyo Medical & Dental University, Japan, ²Tokyo Medical & Dental University, Medical Research Institute, Japan, ³Research Center of Stem Cell Engineering, National Institute of Advanced Industrial Science & Technology (AIST), Japan, ⁴Department of Kidney Development, Institute of Molecular Embryology & Genetics, Kumamoto University, Japan, ⁵Tokyo 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 Lyons². ¹Graduate Student, USA, ²University 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 Xing², Sheila Pourteymoor³, Subburaman Mohan⁴, Jan Schulte³, Bo Liu³. ¹VA Loma Linda Health Care Systems, USA, ²Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, ³Musculoskeletal Disease Center, Jerry L Pettis VA Medical Center, USA, ⁴Jerry 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 Menendez², Chak Fong³, Daniel Bikle⁴. ¹Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, ²Endocrine Unit, University of California, San Francisco/Veterans Affairs Medical Center, USA, ³Endocrine Unit, University of California San Francisco/Veterans Affairs Medical Center, USA, ⁴Endocrine 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 Harutyunyan², Weidong Jin¹, Jianhong Wu¹, Tao Yang³, Yuqing Chen¹, Kyu Sang Joeng¹, Yangjin Bae¹, Jianning Tao¹, Brian Dawson¹, Ming-Ming Jiang¹, Brendan Lee¹, Lisa Wang¹. ¹Baylor College of Medicine, USA, ²University of Texas M. D. Anderson Cancer Center, USA, ³Van 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 homeobox gene *DLX4* promotes generation of human induced pluripotent stem cells.**
 Naritaka Tamaoki^{*1}, Kazutoshi Takahashi², Hitomi Aoki³, Kazuki Iida¹, Tomoko Kawaguchi¹, Daijiro Hatakeyama¹, Masatoshi Inden⁴, Naoyuki Chosa⁵, Akira Ishisaki⁵, Takahiro Kunisada³, Toshiyuki Shibata¹, Naoki Goshima⁶, Shinya Yamanaka², Ken-Ichi Tezuka⁷. ¹Department of Oral & Maxillofacial Science, Gifu University Graduate School of Medicine, Japan, ²Center for iPS Cell Research & Application, Japan, ³Department of Tissue & Organ Development, Gifu University Graduate School of Medicine, Japan, ⁴Laboratory of Medical Therapeutics & Molecular Therapeutics, Gifu Pharmaceutical University, Japan, ⁵Division of Cellular Biosignal Sciences, Department of Biochemistry, Iwate Medical University, Japan, ⁶Biomedical Information Research Center, National Institute of Advanced Industrial Science & Technology, Japan, ⁷Gifu 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 Chen², Wei Chen², Guochun Zhu³, Yi-Ping Li². ¹USA, ²University of Alabama at Birmingham, USA, ³The 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 **ERRalpha, a pro-Bone metastatic factor : Implication in metastatic Niche and prostate Cancer Stem Cells phenotype**

1033

Mathilde Bouchet¹, Anais Fradet¹, Carine Delliaux², Lamia Bouazza¹, Francesco Pantano¹, Xavier Leroy³, Akeila Bellahcene⁴, Vincent Castonovo⁴, Philippe A.R. Clezardin⁵, Martine Duterque-Coquillaud², Edith Bonnelye^{*6}. ¹INSERM1033, France, ²CNRS UMR8161, France, ³Institut de Pathologie-Centre de Biologie-Pathologie, France, ⁴University of Liege, Belgium, ⁵INSERM & University of Lyon, France, ⁶Faculte de Medecine RTH Laennec, France

Disclosures: Edith Bonnelye, None

2:45 pm **ASBMR 2014 Annual Meeting Young Investigator Award**

1034

WNT5A Inhibits Skeletal Metastases of Prostate Cancer in Mice and Is Associated with a Longer Patient Survival

Stefanie Thiele^{*1}, Andy Göbel², Sandra Hippauf², Tilman D. Rachner², Michael Muders², Susanne Fuessel², Ricardo Bernhardt³, Franz Jakob⁴, Martina Rauner⁵, Lorenz Hofbauer⁶. ¹Germany, ²Uniklinikum Dresden, Germany, ³Technische Universität Dresden, Germany, ⁴University of Würzburg, Germany, ⁵Medical Faculty of the TU Dresden, Germany, ⁶Dresden University Medical Center, Germany

Disclosures: Stefanie Thiele, None

3:00 pm **Modeling osteogenic sarcoma: insight into tumor initiation and progression**

1035

Jianning Tao^{*}, Brendan Lee. Baylor College of Medicine, USA

Disclosures: Jianning Tao, None

3:15 pm **Runx2 Phosphorylation Increases Migration and Invasive Activity of Prostate Cancer Cells and is Associated with Metastatic Disease**

1036

Chunxi Ge^{*1}, Guisheng Zhao², Xiang Zhao³, Yan Li⁴, Hui Li⁴, Binbin Li⁴, Giuseppe Pannone⁵, Pantaleo Bufo⁵, Angela Santoro⁵, Francesca Sanguedolce⁵, Simona Tortorella⁵, Marilena Mattoni⁵, Silvana Papagerakis⁶, Evan Keller⁴, Renny Franceschi⁴. ¹Pom Univ of Michigan School of Dentistry, USA, ²University of Michigan School of Dentistry, USA, ³University of Michigan, School of Dentistry, USA, ⁴University of Michigan, USA, ⁵University of Foggia, Italy, ⁶University of Michigan School of Medicine, USA

Disclosures: Chunxi Ge, None

3:30 pm **Micro-RNA-mediated Targeting of Runx2 Reduces Breast Cancer Metastasis and Progression of Osteolytic Disease**

1037

Hanna Taipaleenmaki^{*1}, Gillian Browne², Jacqueline Akech³, Andre Van Wijnen⁴, Janet Stein⁵, Eric Hesse⁶, Gary Stein⁷, Jane Lian⁸. ¹University Medica Center Hamburg-Eppendorf, Germany, ²Department of Biochemistry & Vermont Cancer Center, University of Vermont College of Medicine, USA, ³University of Massachusetts Medical School, USA, ⁴Mayo Clinic, USA, ⁵Vermont Cancer Center, University of Vermont College of Medicine, USA, ⁶University Medical Center Hamburg-Eppendorf, Deu, ⁷University of Vermont, College of Medicine, USA, ⁸University of Vermont College of Medicine, USA

Disclosures: Hanna Taipaleenmaki, None

Saturday

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 Junankar¹, Charles E McKenna², Shuting Sun², Tri Giang Phan¹. ¹Garvan Institute of Medical Research, Australia, ²University 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 Wu¹, Anna Borjesson², Anna Wilhelmson³, Åsa Tivesten³, Sofia Moverare Skrtic*⁴, Claes Ohlsson⁴. ¹Sahlgrenska Academy, University of Gothenburg, Sweden, ²Center for Bone & Arthritis Research, Sahlgrenska Academy, Sweden, ³Wallenberg Laboratory for Cardiovascular & Metabolic Research, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, ⁴Center 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 Li², Abdul Malik², Michael Reott², Lindsey Walker¹, Jonathan Adams¹, M. Neale Weitzmann², Roberto Pacifici². ¹Emory University, USA, ²Emory 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 Walker², Abdul Malik¹, Michael Reott¹, Jonathan Adams¹, M. Neale Weitzmann¹, Roberto Pacifici¹. ¹Emory University School of Medicine, USA, ²Emory 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 Ca²⁺ mobilization in osteoclasts

Corinne Decker*¹, Deborah Novack², Roberta Faccio³. ¹Washington University in St. Louis, USA, ²Washington University in St. Louis School of Medicine, USA, ³Washington 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 Scurvy Mice; the Animal Model For Heritable Autoimmune Disease IPEX

Yousef Abu-Amer¹, Tim Hung-Po Chen*², Gaurav Swarnkar², Gabriel Mbalaviele¹. ¹Washington University in St. Louis School of Medicine, USA, ²Washington 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-Amer², Susan Grimston³, Sheri Bonar⁴, Jacqueline Kading², Gaurav Swarnkar², Monika Fey⁵, Michael Hottiger⁵, Yousef Abu-Amer³, Roberto Civitelli³, Gabriel Mbalaviele³. ¹Washington University in St Louis, USA, ²Washington University School of Medicine, USA, ³Washington University in St. Louis School of Medicine, USA, ⁴Washington University in St. Louis, USA, ⁵University 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 Adams², Marsha Raebel³, Beth Tang², Jennifer Kuntz⁴, Vinutha Vijayadeva⁵, Elizabeth McGlynn², Wendolyn Gozansky³. ¹Kaiser Permanente Southern California, USA, ²Kaiser Permanente Center for Effectiveness & Safety Research, USA, ³Kaiser Permanente Colorado, USA, ⁴Kaiser Permanente Northwest, USA, ⁵Kaiser 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 Uihlein², Sherri-Ann Burnett-Bowie¹, Robert Neer¹, Yuli Zhu³, Nicholas Derrico³, Katelyn Foley³, Hang Lee⁴, Mary Boussein⁵, Benjamin Leder⁶.

¹Massachusetts General Hospital, USA, ²Northwestern Memorial Faculty Foundation, USA, ³Massachusetts General Hospital, Endocrine Unit, USA, ⁴Massachusetts General Hospital, Biostatistics Center, USA, ⁵Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁶Massachusetts 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 Benhamou², Celia J.F. Lin³, Jacques P. Brown⁴, Nadia S. Daizadeh³, Peter R. Ebeling⁵, Astrid Fahrleitner-Pammer⁶, Edward Franek⁷, Nigel Gilchrist⁸, Paul D. Miller⁹, James A. Simon¹⁰, Ivo Valter¹¹, Cristiano A.F. Zerbini¹², Cesar Libanati³. ¹Columbia University, USA, ²Orléans Hospital, France, ³Amgen Inc., USA, ⁴CHU de Québec Research Centre, Canada, ⁵The University of Melbourne, Australia, ⁶Medical University, Austria, ⁷Medical Research Center Polish Academy of Sciences, Poland, ⁸The Princess Margaret Hospital, New Zealand, ⁹Colorado Center for Bone Research, USA, ¹⁰George Washington University, USA, ¹¹CCBR, Estonia, ¹²Centro Paulista de Investigação Clínica, 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 Teriparatide Stimulates Bone Formation Rapidly in the Human Femoral Neck

1048 Felicia Cosman^{*1}, David Dempster², Jeri Nieves³, Hua Zhou¹, Marsha Zion¹, Catherine Roimisher¹, Yvonne Houle⁴, Robert Lindsay¹, Mathias Bostrom⁴. ¹Helen Hayes Hospital, USA, ²Columbia University, USA, ³Columbia University & Helen Hayes Hospital, USA, ⁴Hospital for Special Surgery, USA

Disclosures: Felicia Cosman, Amgen, Lilly, Merck, 2; Lilly, Amgen, 8; Lilly, Amgen, Merck, Pfizer, 5

Saturday

- 3:30 pm 1049 ASBMR 2014 Annual Meeting Young Investigator Award**
Romosozumab and Teriparatide Effects on Vertebral Cortical Mass, Thickness, and Density in Postmenopausal Women With Low Bone Mineral Density (BMD)
 Tristan Whitmarsh^{*1}, Graham Treece¹, Andrew Gee¹, Michael Bolognese², Jacques P. Brown³, Stefan Goemaere⁴, Andreas Grauer⁵, David Hanley⁶, Carlos Mautalen⁷, Christopher Recknor⁸, Yu-Ching Yang⁵, Cesar Libanati⁵, Kenneth Poole¹. ¹University of Cambridge, United Kingdom, ²Bethesda Health Research Center, USA, ³CHU de Québec Research Centre, Canada, ⁴Ghent University Hospital, Belgium, ⁵Amgen Inc., USA, ⁶University of Calgary, Canada, ⁷Centro de Osteopatías Médicas, Argentina, ⁸United Osteoporosis Center, USA
Disclosures: Tristan Whitmarsh, Amgen, Eli Lilly and Co., 2
- 3:45 pm 1050 The Long Term Effects Of Abaloparatide (BA058) On Micro-CT and Histomorphometry in Osteopenic Cynomolgus Monkeys**
 Aureore Varela^{*1}, Solomon Haile², Nancy Doyle², Susan Y. Smith¹, Robert Guldberg³, Gary Hattersley⁴. ¹Charles River Laboratories, Canada, ²Charles River, Canada, ³School of Mechanical Engineering, Georgia Institute of Technology, USA, ⁴Radius, USA
Disclosures: Aureore 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 1051 Heterozygous deletion of Wntless in the osteoclast lineage causes osteopenia demonstrating that osteoclasts are a critical source of Wnt proteins in the developing skeleton**
 Megan Weivoda^{*1}, Ming Ruan¹, Christine Hachfeld¹, Larry Pederson¹, Rachel Davey², Jeffrey Zajac³, Jean Vacher⁴, Richard Lang⁵, Bart Williams⁶, Sundeep Khosla⁷, Jennifer Westendorf¹, Merry Jo Oursler¹. ¹Mayo Clinic, USA, ²University of Melbourne, Australia, ³Austin Hospital, Australia, ⁴Institut De Recherches Cliniques De Montréal, Canada, ⁵Cincinnati Children's Hospital Medical Center, USA, ⁶Van Andel Research Institute, USA, ⁷Mayo Clinic College of Medicine, USA
Disclosures: Megan Weivoda, None
- 2:45 pm 1052 Deletion of LRP6 in Different Stages of Osteoblastic Lineage of Cells Impairs Bone Formation at Different Postnatal Stages**
 Changjun Li^{*1}, Hui Xie², Janet Crane³, Xu Cao³, Mei Wan¹. ¹Johns Hopkins University School of Medicine, USA, ²Johns Hopkins Medical Institution, USA, ³Johns Hopkins University, USA
Disclosures: Changjun Li, None
- 3:00 pm 1053 Hedgehog Induces Osteoblast Differentiation through IGF-mTORC2 Signaling**
 Yu Shi^{*1}, Jianquan Chen², Courtney Karner³, Fanxin Long³. ¹Washington University in St. Louis, USA, ²Washington University, USA, ³Washington University School Of Medicine, USA
Disclosures: Yu Shi, None
- 3:15 pm 1054 ASBMR 2014 Annual Meeting Young Investigator Award**
BMP-*Alk3* signaling exerts opposite effects on trabecular versus cortical bone formation in postnatal mice
 Joohyun Lim^{*1}, Fanxin Long². ¹Washington University in St. Louis, USA, ²Washington University School of Medicine, USA
Disclosures: Joohyun Lim, None

- 3:30 pm 1055 TGIF Is Required for Canonical Wnt Signaling-induced Bone Formation**
 Ming-zhu Zhang^{*1}, Eric Hesse², Celine Prunier³, Mutsuko Ohnishi⁴, Harikiran Nistala⁵, Yun-feng Yang⁶, Guang-rong Yu⁶, Santosh Kumar⁷, William Horne⁸, Roland Baron⁹, Azeddine Atfi⁷. ¹Harvard dental school, Chn, ²Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, Boston, United States, 02115, USA, ³Laboratory of Cell Signaling & Carcinogenesis, INSERM UMRS938, 184 Rue du Faubourg St-Antoine, 75571, France, ⁴Department of Oral Medicine, Infection & Immunity, Harvard School of Dental Medicine, 02115, USA, ⁵Harvard University, USA, ⁶Department of Orthopedics, Tongji Hospital, School of Medicine Tongji University, Shanghai, China, 200065, China, ⁷Cancer Institute, University of Mississippi Medical Center, 2500 N. State St, Jackson, MS 39216., USA, ⁸Harvard School of Dental Medicine, USA, ⁹Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Ming-zhu Zhang, None

- 3:45 pm 1056 PTH/PTHrP Receptor Signaling in Osteoprogenitors is Essential for B Lymphocyte Differentiation, Maturation, and Mobilization in Mice**
 Cristina Panaroni^{*1}, Keertik Fulzele², Vaibhav Saini³, Rhiannon Chubb⁴, Paola Divieti Pajevic⁵, Joy Wu¹. ¹Stanford University School of Medicine, USA, ²Massachusetts General Hospital; Harvard Medical School, USA, ³MGH, Harvard Medical School, USA, ⁴Endocrine Unit, Massachusetts General Hospital, USA, ⁵Massachusetts 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 1057 ASBMR 2014 Annual Meeting Young Investigator Award**
FGF23 regulates bone mineralization in a vitamin D and Klotho-independent fashion
 Sathish Kumar Murali^{*1}, Paul Roschger², Ute Zeitz¹, Klaus Klaushofer³, Olena Andrukhova¹, Reinhold Erben⁴. ¹Dept. of Biomedical Sciences, University of Veterinary Medicine, Austria, ²L. Boltzmann Institute of Osteology, Austria, ³Hanusch Hospital, Ludwig Boltzmann Institute of Osteology, Austria, ⁴University of Veterinary Medicine, Austria
Disclosures: Sathish Kumar Murali, None

- 4:45 pm 1058 ASBMR 2014 Annual Meeting Young Investigator Award**
Deletion of PTH1R expression from limb mesenchyme affects systemic mineral ion homeostasis
 Yi Fan^{*1}, Beate Lanske², Tatsuya Kobayashi³, Tadatoshi Sato¹, Michael Densmore¹. ¹Harvard School of Dental Medicine, USA, ²Harvard School of Dental Medicine, Harvard Medical School, USA, ³Massachusetts General Hospital, USA
Disclosures: Yi Fan, None

- 5:00 pm 1059 Phosphate-induced signaling cascade is regulated by Trps1 in mineralizing cells.**
 Maria Kuzynski¹, Morgan Goss¹, Callie Mobley¹, Dobrawa Napierala*². ¹University of Alabama at Birmingham, USA, ²University 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 Ii¹, Sumeeta Warraich¹, Neil Tenn¹, Diana Quinonez¹, David Holdsworth¹, James Hammond², S. Jeffrey Dixon*¹, Cheryle Séguin¹. ¹The University of Western Ontario, Canada, ²University 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 Hojo², Yuske Komiyama³, Tsuyoshi Takato³, Ung-Il Chung⁴, Shinsuke Ohba³. ¹Japan, ²The Center for Disease Biology & Integrative Medicine, USA, ³The university of Tokyo, Japan, ⁴University 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 Johnson², Emma Walker¹, Gordon Smyth³, Nicos Nicola³, T. John Martin², Natalie Sims⁴. ¹St Vincent's Institute of Medical Research, Australia, ²St. Vincent's Institute of Medical Research, Australia, ³Walter & Eliza Hall Institute, Australia, ⁴St. 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 Rouzi², Nawal Al-Senani², Mohammed Qari³, Shaker Mousa⁴. ¹Center of Excellence for Osteoporosis Research & Department of Clinical Biochemistry & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, ²Center of Excellence for Osteoporosis Research & Department of Obstetrics & Gynecology & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, ³Center of Excellence for Osteoporosis Research & Department of Haematology & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, ⁴The 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 Hamdy², Socrates Papapoulos², Natasha Appelman-dijkstra³. ¹Leiden University Medical Center, Netherlands, ²Leiden University Medical Center, The Netherlands, ³LUMC 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 Morin², Lisa Lix¹, Sumit Majumdar³, Didier Hans⁴. ¹University of Manitoba, Canada, ²McGill University, Canada, ³University of Alberta, Canada, ⁴Lausanne 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 Feskanich², Walter Willett², Heather Eliassen², Tianying Wu³. ¹University of Cincinnati, USA, ²Departments of Nutrition & Epidemiology, USA, ³Department 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 Awale¹, Douglas Kiel¹, Ann Schwartz², Deborah Kado³, Eric Orwoll⁴, Mary Bouxsein⁵, Marian Hannan⁶. ¹Hebrew SeniorLife, USA, ²University of California, San Francisco, USA, ³University of California, San Diego, USA, ⁴Oregon Health & Science University, USA, ⁵Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁶HSL 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 Oheim², Peter Krawitz¹, Tomasz Zemojtel³, Michael Amling², Stefan Mundlos¹, Peter N. Robinson¹. ¹Charité-Universitätsmedizin Berlin, Germany, ²University Medical Center Hamburg-Eppendorf, Germany, ³Labor Berlin - Charité Vivantes GmbH, Germany
Disclosures: Uwe Kornak, None

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 Xiong², Rajamani Selvam¹, Priscilla Baltz¹, Stuart Berryhill¹, Erin Hogan¹, Robert Weinstein², Stavros Manolagas², Charles O'Brien². ¹University of Arkansas for Medical Sciences, USA, ²Central 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 Warren², Shoshana Bartell³, Srividhya Iyer³, Li Han³, Julie Crawford², Charles O'Brien³, Maria Jose Almeida³, Stavros Manolagas³. ¹University of Arkansas for Medical Sciences, USA, ²Center for Osteoporosis & Metabolic Bone Diseases, Central Arkansas Veterans Healthcare System, University of Arkansas for Medical Sciences, USA, ³Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Semahat Serra Ucer, None

- 5:00 pm 1071 ASBMR 2014 Annual Meeting Young Investigator Award**
Prolyl Hydroxylase 2 (PHD2) controls Bone Homeostasis through increasing Erythropoietin Production via HIF2a
 Martina Rauner*¹, Kristin Franke², Lorenz Hofbauer³, Ben Wielockx⁴. ¹Medical Faculty of the TU Dresden, Germany, ²Technische Universität Dresden, Germany, ³Dresden University Medical Center, Germany, ⁴Technische Universität Dresden, Germany
Disclosures: Martina Rauner, None
- 5:15 pm 1072 ASBMR 2014 Annual Meeting Young Investigator Award**
An O-glycosylation on Fibronectin Mediates Hepatic Osteodystrophy by Interacting with α4β1 Integrin
 Carla Sens*¹, Nina Kawelke¹, Anja von Au¹, Inaam Nakhbandi². ¹University of Heidelberg & Max-Planck Institute of Biochemistry, Germany, ²Max-Planck Institute of Biochemistry & University of Heidelberg, Germany
Disclosures: Carla Sens, None
- 5:30 pm 1073 What generates porosity in cortical bone?**
 Nicolai Lassen*¹, Thomas Andersen², Jean-Marie Delaisse³, Søren Harving⁴, Ellen Hauge⁵, Gete Eschen⁶, Jesper Thomsen⁷, Annemarie Brüel⁸. ¹Vejle Hospital, Denmark, ²Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, ³Vejle Hospital, IRS, University of Southern Denmark, Denmark, ⁴Department of Orthopaedic Surgery, Aalborg Hospital, Denmark, ⁵Aarhus University Hospital, Denmark, ⁶Department of Plastic Surgery, Aarhus Hospital, Denmark, ⁷Aarhus University, Denmark, ⁸University of Aarhus, Denmark
Disclosures: Nicolai Lassen, None
- 5:45 pm 1074 Dysregulated innate immune responses mediate chronic inflammation leading to osteoarthritis.**
 Evangelia Kalaitzoglou*¹, Mary Beth Humphrey². ¹OUHSC, USA, ²University 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 1075 Increasing 25-hydroxyvitamin D levels over time: The Study of Women's Health Across the Nation (SWAN)**
 DEBORAH MITCHELL*¹, Hang Lee¹, Gail Greendale², Jane Cauley³, Sherri-Ann Burnett-Bowie¹, Joel Finkelstein¹. ¹MASSACHUSETTS GENERAL HOSPITAL, USA, ²University of California, Los Angeles, USA, ³University of Pittsburgh Graduate School of Public Health, USA
Disclosures: DEBORAH MITCHELL, None
- 4:45 pm 1076 Serum 25 Hydroxyvitamin D (25(OH)D), Bone Mineral Density (BMD) and Fracture Risk across the Menopausal Transition: Study of Women's Health Across the Nation (SWAN)**
 Jane Cauley*¹, Gail Greendale², Kristine Ruppert³, Yinyuan Lian³, John Randolph⁴, Joan Lo⁵, Robert Neer⁶, Sherri-Ann Burnett-Bowie⁶, Joel Finkelstein⁶. ¹University of Pittsburgh Graduate School of Public Health, USA, ²University of California, Los Angeles, USA, ³University of Pittsburgh, USA, ⁴University of Michigan, USA, ⁵Kaiser Permanente, USA, ⁶Massachusetts General Hospital, USA
Disclosures: Jane Cauley, None

- 5:00 pm 1077 ASBMR 2014 Annual Meeting Young Investigator Award**
Intestinal Calcium Absorption Decreases Dramatically After Gastric Bypass Surgery, Despite Optimization of Vitamin D Status
 Anne Schafer*¹, Deborah Sellmeyer², Connie Weaver³, Amber Wheeler⁴, Lygia Stewart⁵, Stanley Rogers⁴, Jonathan Carter⁴, Andrew Posselt⁴, Dennis Black⁴, Dolores Shoback⁶.
¹University of California, San Francisco & the San Francisco VA Medical Center, USA, ²The Johns Hopkins Bayview Medical Center, USA, ³Purdue University, USA, ⁴University of California, San Francisco, USA, ⁵San Francisco VA Medical Center & the University of California, San Francisco, USA, ⁶VA Medical Center, USA
Disclosures: Anne Schafer, None
- 5:15 pm 1078 ASBMR 2014 Annual Meeting Young Investigator Award**
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 Hu¹, Olga Gajic-Veljanoski¹, Judy Scher¹, Angela M. Cheung².
¹University Health Network, Canada, ²University Health Network-University of Toronto, Canada
Disclosures: Maryam Hamidi, None
- 5:30 pm 1079 Trabecular Plate-Rod Morphology and Connectivity are Abnormal and Associated with Reduced Bone Stiffness in Women Treated with Glucocorticoids**
 Ji Wang¹, Bin Zhou¹, Kyle Nishiyama¹, Stephanie Sutter², X Guo¹, Emily Stein*³.
¹Columbia University, USA, ²Columbia University Medical Center, USA, ³Columbia University College of Physicians & Surgeons, USA
Disclosures: Emily Stein, None
- 5:45 pm 1080 Medical Comorbidity and Osteoporosis Are Associated with Subsequent Initiation of Proton 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
7:30 am - 5:00 pm	135
ASBMR Registration Open	
<i>Discovery Hall-Hall E</i>	
8:00 am - 9:30 am	135
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	
<i>General Assembly Theater</i>	
8:00 am - 6:00 pm	135
Posters Open	
<i>Discovery Hall-Hall E</i>	
9:30 am - 4:30 pm	135
Discovery Hall Open	
<i>Discovery Hall-Hall E</i>	
9:30 am - 10:00 am	135
Coffee Break	
<i>Discovery Hall-Hall E</i>	
10:00 am - 11:30 am	136
Plenary Orals: Metabolic Bone Disorders	
<i>General Assembly Theater</i>	
10:00 am - 11:30 am	137
Plenary Orals: Translational Science II	
<i>Grand Ballroom BC</i>	
11:30 am - 12:30 pm	138
Meet-the-Professor Sessions	
<i>Room 351A - Room 351F</i>	
11:30 am - 12:30 pm	139
The Role of ENCODE in Advancing Musculoskeletal Research	
<i>Room 320</i>	
11:30 am - 12:30 pm	139
Clinical Roundtable - Management of Bone Health in CKD-MBD	
<i>Grand Ballroom A</i>	
11:30 am - 12:00 pm	139
The Clinical Diagnosis of Osteoporosis: Report of an NBHA Working Group	
<i>Room 310</i>	
12:00 pm - 12:30 pm	140
International ONJ Task Force - 2014 Consensus on Diagnosis and Management	
<i>Room 310</i>	
12:30 pm - 2:30 pm	140
Poster Session II & Poster Tours	
<i>Discovery Hall-Hall E</i>	
2:30 pm - 4:00 pm	200
Concurrent Orals: Bone Disease in Children and Adolescents	
<i>Room 310</i>	

2:30 pm - 4:00 pm.....	202
Concurrent Orals: Diabetes and Skeletal Health	
<i>Grand Ballroom BC</i>	
2:30 pm - 4:00 pm.....	203
Concurrent Orals: Novel Targets and Treatments	
<i>Grand Ballroom A</i>	
2:30 pm - 4:00 pm.....	204
Concurrent Orals: Transcriptional Regulation of the Skeleton	
<i>Room 320</i>	
4:00 pm - 4:30 pm.....	205
Coffee Break	
<i>Discovery Hall-Hall E</i>	
4:30 pm - 5:45 pm.....	205
Symposium - Falls and Fall-Related Injuries	
<i>Grand Ballroom BC</i>	
4:30 pm - 5:45 pm.....	205
Symposium - Heterotopic Ossification	
<i>General Assembly Theater</i>	
6:00 pm - 7:00 pm.....	206
ASBMR Town Hall Meeting & Reception	
<i>Room 320</i>	
7:15 pm - 9:30 pm.....	206
Nutrition Working Group	
<i>Room 332E</i>	
7:15 pm - 9:45 pm.....	207
Bone Strength Working Group	
<i>Room 342B</i>	
7:15 pm - 10:00 pm.....	207
Adult Bone and Mineral Working Group	
<i>Room 332D</i>	
7:30 pm - 9:15 pm.....	208
Working Group on Musculoskeletal Rehabilitation in Patients with Osteoporosis	
<i>Room 342A</i>	

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

Sunday

PLENARY ORALS: METABOLIC BONE DISORDERS

10:00 am - 11:30 am

George R. Brown Convention Center

General Assembly Theater

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 Asfotase Alfa: Sustained Improvements in Hypophosphatasia-related Rickets, Physical

1081 Function, and Pain During 3 Years of Treatment for Severely Affected Children

Katherine Madson^{*1}, Cheryl Rockman-Greenberg², Agustin Melian³, Scott Moseley³, Amy L. Reeves⁴, Tatjana Odrlić³, Michael Whyte¹. ¹Shriners Hospital for Children-Saint Louis, USA, ²University of Manitoba, Canada, ³Alexion Pharmaceuticals Inc, USA, ⁴Shriners Hospitals for Children, USA

Disclosures: Katherine Madson, Alexion Pharmaceuticals, 5

10:15 am Efficacy and Safety of a Human Monoclonal Anti-FGF23 Antibody (KRN23) in Cumulative

1082 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 Zhang², Erik Imel³, Mary Ruppe⁴, Thomas Weber⁵, Mark A. Klausner⁶, Takahiro Ito⁶, Maria Vergeire⁶, Jeffrey S. Humphrey⁶, Francis Glorieux⁷, Anthony Portale⁸, Karl Insogna¹, Munro Peacock⁹. ¹Yale University School of Medicine, USA, ²Kyowa Hakko Kirin Pharma Inc, USA, ³Indiana University School of Medicine, USA, ⁴The Methodist Hospital, USA, ⁵Duke University Medical Center, USA, ⁶Kyowa Hakko Kirin Pharma Inc., USA, ⁷Shriners Hospital for Children & McGill University, Canada, ⁸University of California San Francisco, USA, ⁹Indiana University Medical Center, USA

Disclosures: Thomas Carpenter, Kyowa Hakko Kirin Pharma Inc., 5

10:30 am Deficits in Cortical Bone Density and Microstructure in Type 2 Diabetes: Framingham HR-

1083 pQCT Study

Elizabeth (Lisa) Samelson^{*1}, Mary Bouxsein², Elana Brochin³, Xiaochun Zhang³, Ching-An Meng³, Kerry Broe³, Mary Hogan³, Danette Carroll³, Robert McLean⁴, Marian Hannan⁵, L. Adrienne Cupples⁶, Caroline Fox⁷, Douglas Kiel⁸. ¹Hebrew SeniorLife, Harvard Medical School, USA, ²Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ³Institute for Aging Research, Hebrew SeniorLife, USA, ⁴Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁵HSL Institute for Aging Research & Harvard Medical School, USA, ⁶Boston University School of Public Health; NHLBI Framingham Heart Study, USA, ⁷National Heart Lung & Blood Institute, National Institutes of Health, USA, ⁸Hebrew SeniorLife, USA

Disclosures: Elizabeth (Lisa) Samelson, None

10:45 am High Incidence of Osteoporotic Fractures Following Hematopoietic Stem Cell

1084 Transplantation

Xerxes Pundole¹, Heather Lin², Andrea Barbo², Huifang Lu^{*3}. ¹The University of Texas MD Anderson Cancer Center, USA, ²UT MD Anderson.org, USA, ³UT MD Anderson Cancer Center, USA

Disclosures: Huifang Lu, None

11:00 am Bone Microarchitecture assessed by HR-pQCT as Predictor of Fracture Risk in

1085 Postmenopausal Women: The OFELY Study

Elisabeth Sornay-Rendu¹, Stephanie Boutroy², François DUBOEU³, Roland Chapurlat^{*4}. ¹INSERM UMR1033, Université de Lyon, France, ²INSERM U1033 & Université de Lyon, France, ³INSERM UMR1033 & Université de Lyon, France, ⁴E. Herriot Hospital, France

Disclosures: Roland Chapurlat, None

11:15 am Clinical Presentation of Primary Hyperparathyroidism: a Five-Year Study

1086 Cristiana Cipriani^{*1}, Federica Biamonte², Daniele Diacinti³, Piergianni Biondi², Orlando Raimo⁴, Sara Piemonte⁵, Jessica Pepe⁶, Elisabetta Romagnoli⁷, John Bilezikian⁸, Salvatore Minisola¹. ¹"Sapienza", University of Rome, Italy, ²Department of Internal Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, ³Department of Radiology, "Sapienza" University of Rome, Italy, ⁴Department of Internal Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, ⁵Department of Internal Medicine & Medical Disciplines, "Sapienza", Italy, ⁶Department of Internal Medicine & Medical Disciplines, "Sapienza" University of Rome, Italy, ⁷"Sapienza", University of Rome, Italy, ⁸Columbia 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 Zayzafoon², Joan Cadillac². ¹The University of Alabama At Birmingham, USA, ²University of Alabama at Birmingham, USA

Disclosures: Paul Daft, None

10:15 am Foxo1 Expressed in Osteoblasts Promotes the Leukemogenic Properties of β -Catenin by Activating Notch Signaling

1088 Aruna Kode^{*1}, Ioanna Mosialou¹, Sanil J Manavalan¹, Julie Teruya Feldstein², Govind Bhagat¹, Ellin Berman², Stavroula Kousteni¹. ¹Columbia University Medical Center, USA, ²Memorial Sloan-Kettering Cancer Center, USA

Disclosures: Aruna Kode, None

10:30 am Large-scale Temporal Gene Expression Profiling Reveals Potential NOTCH1 Target Genes Responsible for Cartilage Fibrosis and Degradation

1089 Zhaoyang Liu^{*1}, Anthony Mirando², Regis O'Keefe², Michael Zuscik³, Matthew Hilton⁴. ¹University of Rochester Medical Center, USA, ²Department of Orthopaedics & Rehabilitation, Center for Musculoskeletal Research, University of Rochester Medical Center, USA, ³University of Rochester School of Medicine & Dentistry, USA, ⁴Duke 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-Mediated Elevation of Central Neuropeptide Y Expression and Reduced Sympathetic Tone.

1091 Amy Nguyen¹, Herbert Herzog¹, Paul Baldock^{*2}. ¹Neuroscience Division, Garvan Institute of Medical Research, Australia, ²Garvan 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 PPAR γ agonist treatment

Maya Styner*¹, Xin Wu², William Thompson², Gunes Uzer², Zhihui Xie², Buer Sen³, Andrew Romaine², Gabriel Pagnotti⁴, Clinton Rubin⁵, Martin Styner², Mark Horowitz⁶, Janet Rubin¹.

¹University of North Carolina, Chapel Hill, School of Medicine, USA, ²University of North Carolina, USA, ³University of North Carolina At Chapel Hill, USA, ⁴Stony Brook University, USA,

⁵State University of New York at Stony Brook, USA, ⁶Yale 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

Sunday

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 Lok², Roxana Bucur³, Angela M. Cheung⁴, Eva Szabo², Dawn Pearce⁵, Sophie Jamal⁶. ¹University of Toronto, Canada, ²University Health Network, Canada, ³Canada, ⁴University Health Network-University of Toronto, Canada, ⁵St Michael's Hospital, Canada, ⁶The 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 Narita², Yoshiko Iwasaki³, Masafumi Fukagawa⁴. ¹Niigata University Medical & Dental Hospital, Japan, ²Niigata University, Japan, ³Oita University of Nursing & Health Sciences, Japan, ⁴Tokai University School of Medicine, Japan

Disclosures: Junichiro Kazama, None

SU0003 Inflammation and iron deficiency stimulate FGF23 production

Valentin David^{*1}, Aline Martin², Kimberly Zumbrennen-Bullough³, Chia Chi Sun³, Herbert Lin³, Tamara Isakova⁴, Jodie Babitt³, Myles Wolf⁴. ¹University of Miami, Miller School of Medicine, USA, ²University of Miami, USA, ³Massachusetts General Hospital, USA, ⁴Feinberg 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 Zhang², Xiaoming Zha², Jianling Bai³, Lina Zhang², Guang Yang², Changying Xing². ¹Nanjing Medical University, Peoples Republic of China, ²First Affiliated Hospital of Nanjing Medical University, China, ³Nanjing 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 Dempster¹, Hua Zhou², Elzbieta Dworakowski³, Mafo Kamanda-Kosse¹, Thomas Nickolas⁴. ¹Columbia University, USA, ²Helen Hayes Hospital, USA, ³Columbia University Medical Center, USA, ⁴Columbia 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, Vasil Gnyubkin¹, Myriam Lessard², Norbert Laroche¹, Christophe Mariat³, Luc Malaval⁴, Laurence Vico⁵, Marie-Helene Lafage-Proust⁶. ¹INSERM-U1059, France, ²Hôpital du Sacré-Coeur, Service de Néphrologie, France, ³Service de Néphrologie-CHU, France, ⁴INSERM U1059-Université de Lyon-Université Jean Monnet, Saint-Etienne, France, ⁵University of St-Etienne, France, ⁶INSERM Unit 1059, France
Disclosures: Martin Jannot, None
- SU0007 Uremia exacerbates bone mechanical property in chronic kidney disease model rats with secondary hyperparathyroidism**
 Yoshiko Iwasaki¹, Junichiro Kazama², Masafumi Fukagawa*³. ¹Oita University of Nursing & Health Sciences, Japan, ²Niigata University Medical & Dental Hospital, Japan, ³Tokai 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 Roux², Nathalie Portero-Muzy³, Patrick Garnero⁴, Roland Chapurlat⁵. ¹INSERM UMR1033, Université De Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM UMR 1033, Université de Lyon, France, ⁴INSERM Research Unit, France, ⁵E. 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 Gallagher², Lynette Smith³. ¹Creighton University School of Medicine, USA, ²Creighton University Medical Center, USA, ³University 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 Pardi², Simona Borsari², Federica Saponaro², Chiara Banti², Edda Vignali¹, Antonella Picone², Antonella Meola², Claudio Marcocci³. ¹University Hospital of Pisa, Italy, ²Department of Clinical & Experimental Medicine, University of Pisa, Italy, ³University of Pisa, Italy
Disclosures: Filomena Cetani, None

- SU0012 Urinary Calcium Excretion in Postmenopausal Women of African Ancestry**
Mageda Mikhail^{*1}, shahidul islam¹, Albert Shieh², John Aloia¹. ¹Winthrop University Hospital, USA, ²University 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 Sultana², John Walsh², Nathan Pavlos³, Jiake Xu³, Lynley Ward², Robert Layfield⁴, Thomas Ratajczak². ¹Sir Charles Gairdner Hospital, Australia, ²Dept Endocrinology & Diabetes, Sir Charles Gairdner Hospital, Australia, ³University of Western Australia, Australia, ⁴University 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 Cacciatore², Elena Pardi², Simona Borsari², Claudio Marcocci³, Filomena Cetani⁴. ¹M.D., Italy, ²U.O. Endocrinology 2, Italy, ³University of Pisa, Italy, ⁴University 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 Silva², Natalie Cusano³, Aline Costa⁴, Dinaz Irani⁵, Alice Abraham⁴, Donald McMahon³, Laura Beth Anderson⁴, Elizabeth Levy⁴, Mishaela Rubin⁴, John Bilezikian³. ¹"Sapienza", University of Rome, Italy, ²Federal University of Minas Gerais, Brazil, Brazil, ³Columbia University College of Physicians & Surgeons, USA, ⁴Columbia University, USA, ⁵Columbia University Medical Center, USA
Disclosures: Cristiana Cipriani, None
- SU0016 Parathyroidectomy-Associated Thyrotoxicosis: A Prospective Cohort Study**
Lisa-Ann Fraser^{*1}, Stan Van Uum², Terri Paul³, John Yoo². ¹Western University, Canada, ²University of Western Ontario, Canada, ³St. 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 Kim², Chan Soo Shin³, Seong Yeon Kim¹, Hye Sook Min¹, Sang Wan Kim⁴. ¹Seoul National University Hospital, South Korea, ²Seoul National University College of Medicine, South Korea, ³Seoul National University College of Medicine, South Korea, ⁴Seoul 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 Scharnag², Astrid Van Tubergen³, Joop Van Den Bergh⁴, Chris Arts³, Bert Rietbergen⁵, Piet Geusens⁶. ¹Maastricht University, The Netherlands, ²Maastricht University, Netherlands, ³MUMC, Netherlands, ⁴VieCuri MC Noord-Limburg & Maastricht UMC, The Netherlands, ⁵Eindhoven University of Technology, The Netherlands, ⁶University Hasselt, Belgium
Disclosures: Michiel Peters, None
- SU0019 Age Related Changes in the Structure, Composition and Properties of Porcine Cortical Bone**
Iwona Jasiuk^{*1}, Michael Chittenden². ¹University of Illinois at Urbana-Champaign, USA, ²University 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-Muzy², Daniel Brooks³, Evelyne Gineyts², Pascale Chavassieux⁴, Roland Chapurlat⁵, Mary Boussein¹. ¹Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ²Universite de Lyon, France, ³Beth Israel Deaconess Medical Center, USA, ⁴INSERM UMR1033, Université De Lyon, France, ⁵E. Herriot Hospital, France
Disclosures: Lamya Karim, None
- SU0021 Brittle Bone Explained?: Multivariate Polarization Raman Spectroscopy for Assessing Bone Toughness**
 Alexander Makowski^{*1}, Sasidhar Uppuganti², Meredith Huszagh², Ahbid Zein-Sabbato², Anita Mahadevan-Jansen², Jeffry Nyman³. ¹Department of Veterans Affairs, Vanderbilt University, USA, ²Vanderbilt University, USA, ³Vanderbilt University Medical Center, USA
Disclosures: Alexander Makowski, None
- SU0022 Clinical Applicability of Trabecular Microarchitecture Class (TMAC) Assesment using Multi-Detector Computed Tomography**
 Alexander Valentinitich^{*1}, Lukas Fischer², Janina Patsch², Jan Bauer³, Franz Kainberger², Georg Langs⁴, Matthew DiFranco². ¹Klinikum rechts der Isar, Technische Universität München, Neuro-Kopf-Zentrum, Germany, ²Medical University of Vienna, Austria, ³Klinikum rechts der Isar, Technische Universität München, Germany, ⁴Medical University of Vienna, Computational Imaging Research Lab, Austria
Disclosures: Alexander Valentinitich, None
- SU0023 Differences in Assessment of Micro-Indentation Resistance between BioDent and OsteoProbe**
 Mathilde Granke^{*1}, Sasidhar Uppuganti², Mary Katherine Manhard², Mark Does², Donald Lee², Daniel Perrien¹, Jeffry Nyman¹. ¹Vanderbilt University Medical Center, USA, ²Vanderbilt 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 Falcinelli², Luca Balistreri³, Fabio Baruffaldi³, Sigurdur Sigurdsson⁴, Vilmundur Gudnason⁵, Roswitha Dietzel⁶, Gabriele Armbricht⁷, Stephanie Boutroy⁸, Fulvia Taddei³. ¹Istituto Ortopedico Rizzoli, Bologna, Italy, ²Istituto Ortopedico Rizzoli & University of Rome Tor Vergata, Italy, ³Istituto Ortopedico Rizzoli, Italy, ⁴Icelandic Heart Association, Iceland, ⁵Icelandic Heart Association Research Institute, Iceland, ⁶Charité, Germany, ⁷Centre of Muscle & Bone Research, Charite-CBF, Germany, ⁸INSERM 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 Bi², Annie Abraham¹, Catherine Ambrose¹, Karen Posey¹, Jacqueline Hecht¹. ¹University of Texas Health Science Center at Houston, USA, ²University of Texas Health Science Center at Houston, 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 Hoffmann¹, Aurore Varela², Paul Kostenuik³, Michael Ominsky³, Tony Keaveny⁴. ¹O.N. Diagnostics, USA, ²Charles River Laboratories, Canada, ³Amgen Inc., USA, ⁴University 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 Wang¹, Eric Yu¹, Zhendong Zhang¹, Kyle Nishiyama¹, Elizabeth Shane², X Guo¹. ¹Columbia University, USA, ²Columbia 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 Allen¹, Christopher Newman*¹, Neal Chen¹, Sharon Moe¹, Jeffry Nyman², Mathilde Granke². ¹Indiana University School of Medicine, USA, ²Vanderbilt 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 Bui², Sandra Iulliano³, Tamara Rozental⁴, Quinju Wang³, Xiao-Fang Wang⁵, Tara Sepehrizadeh³, Ali Ghasem-Zadeh⁶, Mary Boussein⁷, Roger Zebaze⁶, Ego Seeman⁶. ¹University of Melbourne, Dept. of Medicine, Australia, ²Mega Center for Epidemiology, Australia, ³Dept. Of Medicine, University of Melbourne, Australia, ⁴Harvard Medical School, Beth Israel Deaconess Medical Center, USA, ⁵University of Melbourne, Austin Health, Australia, ⁶Austin Health, University of Melbourne, Australia, ⁷Beth 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 Poole¹, Graham Treece¹, Mary Boussein². ¹University of Cambridge, United Kingdom, ²Beth 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 Fontaine¹, Chris Chen*¹, Lawrence Lavery¹, Ed Jude². ¹UT Southwestern Medical Center, USA, ²Tameside 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-White¹, Michael Morris¹, Blake Roessler². ¹University of Michigan, USA, ²University 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**
Chuheee LEE*¹, Miguel Debono², Richard Eastell², Priyan Landham³, Michael Adams³, Patricia Dolan³, Lang Yang². ¹United Kingdom, ²University of Sheffield, United Kingdom, ³University of Bristol, United Kingdom
Disclosures: Chuheee 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 Brezicha¹, Ray Boudreaux¹, Cameron Schaefer¹, Susan Bloomfield¹, Matthew Allen², Harry Hogan¹. ¹Texas A&M University, USA, ²Indiana 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 Livingston², Rachel Ellman³, Jordan Spatz⁴, Louis Stodieck⁵, Mary Boussein⁶, Virginia Ferguson⁵, Ted Bateman⁷, Anthony Lau¹. ¹University of North Carolina at Chapel Hill, USA, ²University of North Carolina-Chapel Hill, USA, ³Beth Israel Deaconess Medical Center, USA, ⁴Harvard-MIT Division of Health Sciences & Technology (HST), USA, ⁵University of Colorado, USA, ⁶Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁷University 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 Zhang², Jinshong Huang³, Valentin David², Weikuan Gu¹.
¹University of Tennessee Health Science Center, USA, ²UTHSC, USA, ³UTHSC.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 Hassan², Chad Sorenson², Hannah Davis², Max Hammond³, Rejane Reginato⁴, Eduardo Katchburian⁴, Joseph Wallace⁵, Teresita Bellido², Lilian Plotkin². ¹Indiana University School of Medicine, Federal University of São Paulo, USA, ²Indiana University School of Medicine, USA, ³Purdue University, USA, ⁴Federal University of São Paulo, Brazil, ⁵Indiana 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-Chinchón¹, David Guede², Jose Caeiro³, Manuel Díaz-Curiel⁴, Concepcion De La Piedra Gordo⁵. ¹Bioquímica Investigación, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, ²Trabeculae, Technology Based Firm, Technological Park of Galicia, Spain, ³Orthopaedic Surgeon, Spain, ⁴Medicina Interna, Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, ⁵Instituto 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 Giangregorio², Deena Lala², Angela M. Cheung³, Eva Szabo⁴, Harri Sievanen⁵, Jari Hyttinen⁶. ¹Tampere University of Technology, Finland, ²University of Waterloo, Canada, ³University Health Network-University of Toronto, Canada, ⁴University Health Network, Canada, ⁵The UKK Institute for Health Promotion Research, Finland, ⁶Department 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-Kawabata², Yu Peng³, Ali Ghasem-Zadeh¹, Aya Shimomura⁴, Hiroshi Yamane⁴, Kyoko Hirano⁴, Yukihiro Isogai⁴, Toshinori Ishizuya⁴, Ego Seeman¹, ¹Austin Health, University of Melbourne, Australia, ²Asahi Kasei Pharma Co., Japan, ³StraxCorp Pty Ltd, Australia, ⁴Asahi 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 Pinholt², Niklas Rye Jørgensen³. ¹PhD student, Denmark, ²DDS, M Sci, dr. odont, Professor & Head, Denmark, ³MD, 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 Sun², Lin Wang³, Wei-Bing Zhang⁴. ¹Institute of Stomatology, Nanjing Medical University, Peoples Republic of China, ²Nanjing Medical University, The Research Center for Bone & Stem Cells, Peoples Republic of China, ³Institute of Stomatology, Nanjing Medical University, China, ⁴School 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 Anderson², Xiangjie Meng³, Mary Bouxsein⁴. ¹Harvard-MIT, USA, ²Beth Israel Deaconess Medical Center, USA, ³Tsinghua University, China, ⁴Beth 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 Duckham¹, Katherine Brooke-Wavell*², Tahir Masud³, Rachael Taylor³, Denise Kendrick⁴, Hannah Carpenter⁴, Dawn A Skelton⁵, Susann Dinan⁶, Heather Gage⁷, Richard Morris⁶, Steve Iliffe⁶. ¹Deakin University, Aus, ²Loughborough University, United Kingdom, ³Nottingham University Hospitals NHS Trust, United Kingdom, ⁴University of Nottingham, United Kingdom, ⁵Glasgow Caledonian University, United Kingdom, ⁶University College London, United Kingdom, ⁷University 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 Tubic², Staffan Mårild³, Göran Wennergren⁴, Jovanna Dahlgren⁴, Per Magnusson⁵, Diana Swolin-Eide⁶. ¹Sweden, ²Department of Pediatrics, Gothenburg University, Sweden, ³The Queen Silvia Children's Hospital, Sahlgrenska Academy at the University of Gothenburg, Sweden, ⁴The Queen Silvia Children's Hospital, Sweden, ⁵Linköping University, Sweden, ⁶Queen 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 Schwraz¹, Niklas Rye Joergensen², Barbara Rubek Nielsen^{*3}, Anne Sofie Dam Laursen⁴, Allan Linneberg⁴, Mette Aadahl⁴. ¹Research Centre of Ageing & Osteoporosis, Department of Medicine, Copenhagen University Hospital, Glostrup, Denmark. Faculty of Health Sciences, University of Copenhagen, Copenhagen, Denmark, ²Research Centre of Ageing & Osteoporosis, Department of Medicine & Diagnostics, Copenhagen University Hospital, Glostrup, Denmark, ³Research Centre of Ageing & Osteoporosis, Department of Medicine, Copenhagen University Hospital, Glostrup, Denmark, ⁴Research 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 Cervinka², Charity Ntansah³, Harri Sievanen⁴, Tamara Scerpella⁵. ¹SUNY Upstate Medical University, Syracuse University, USA, ²Tampere University of Technology, Finland, ³Syracuse University, USA, ⁴The UKK Institute for Health Promotion Research, Finland, ⁵University 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 Cerame², Eileen Poletick³, Tim Leier³, Sherri Luxenberg³, Lior Fusman³, Jonathan Chevinsky³, Nicole Formoso³, Renee Eng³, Samantha Easton⁵, Scott Musial³, Ben Lee². ¹Pediatric Orthopaedics, USA, ²Goryeb Children's Hospital, USA, ³Morristown 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 Vanstone¹, Jonathon Maguire², Hope Weiler³, Paula Lavery¹, Neil Brett^{*1}. ¹McGill University, Canada, ²University of Toronto, Canada, ³McGill 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 Whitney¹, Freeman Miller², Christopher Knight¹, Christopher Modlesky¹. ¹University of Delaware, USA, ²AI 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 Jackowski¹, Ashlee McLardy², Carol Rodgers¹. ¹University of Saskatchewan, Canada, ²College of Kinesiology, University of Saskatchewan, 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 Bailey¹, Joey Eisenmann², Lauren Sherar³, Adam Baxter-Jones¹. ¹University of Saskatchewan, Canada, ²Michigan State University, USA, ³Loughborough University, United Kingdom
- Disclosures: Stefan Jackowski, None*

- SU0060 Risk of vitaminD insufficiency 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 Martin², Emma Laing³, George McCabe⁴, Linda McCabe⁵, Dorothy Hausman⁶, Ligia Martini⁷, Richard Lewis³, Connie Weaver², Munro Peacock⁸, Kathleen Hill Gallant². ¹Department of Nutrition, School of Public Health, University of São Paulo, Brazil, ²Purdue University, USA, ³The University of Georgia, USA, ⁴Department of Statistics, College of Science, Purdue University, USA, ⁵Department of Nutrition Science, College of Health & Human Sciences, Purdue University, USA, ⁶Department of Foods & Nutrition, University of Georgia, USA, ⁷University of São Paulo, Brazil, ⁸Indiana 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 Goodman¹, Olga Bromberg¹, Xiaolin Tu², Teresita Bellido², Laura Calvi³. ¹University of Rochester School of Medicine & Dentistry, USA, ²Indiana University School of Medicine, USA, ³University 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 Sens¹, Anja von Au¹, Inaam Nakchbandi². ¹University of Heidelberg & Max-Planck Institute of Biochemistry, Germany, ²Max-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 Johansson², Ulf Lerner³, Magnus Karlsson⁴, Mattias Lorentzon⁵, Elizabeth Barrett-Connor⁶, Ulf Smith⁷, Claes Ohlsson⁸, Dan Mellstrom⁹. ¹Västra Götaland, Sweden, ²Center for Bone & Arthritis Research, Sweden, ³Sahlgrenska University Hospital, Sweden, ⁴Skåne University Hospital Malmö, Lund University, Sweden, ⁵Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ⁶University of California, San Diego, USA, ⁷Department of Molecular & Clinical Medicine, Sahlgrenska Academy, Sweden, ⁸Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, ⁹Sahlgrenska 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 Bakker¹, Tiao Lin¹, Wei Tong², Haoruo Jia¹, L. Scott Levin³, Ling Qin¹, Xiaowei Liu¹. ¹University of Pennsylvania, USA, ²Perelman school of medicine, USA, ³Hospital 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 Lybrand², Anthony De Giacomo², Kamolnat Tabattanon¹, Brenna Hogue², Chantal De Bakker¹, Marie Demay³, Elise Morgan¹, Louis Gerstenfeld². ¹Boston University, USA, ²Boston University School of Medicine, USA, ³Massachusetts 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 Jia², Antonios Mikos³, Daniel Harrington³, Mary Farach-Carson³. ¹BioScience Research Collaborative, USA, ²University of Delaware, USA, ³Rice 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 Chan¹, Julie Allen¹, Robert Schreiber¹, Roberta Faccio². ¹Washington University School of Medicine, USA, ²Washington 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 Shimo², Hiromasa Kuroda³, Kenichi Matsumoto³, Tatsuo Okui³, Akira Sasaki³. ¹Japan, ²Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, ³Okayama 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**
 Jesus Delgado-Calle^{*1}, Judith Anderson², Lilian Plotkin¹, G. David Roodman², Teresita Bellido¹. ¹Indiana University School of Medicine, USA, ²Indiana University, USA
Disclosures: Jesus Delgado-Calle, None
- SU0073 Diagnostic microRNA Biomarkers Differentiate Benign Osteblastoma and Malignant Osteosarcoma**
 Scott Riester^{*1}, Amel Dudakovic¹, Eric Lewallen¹, Jorge Torres-Morra¹, Emily Camilleri¹, Peter Rose¹, Michael Yaszemski², Franklin Sim¹, Thomas Shives¹, Sanjeev Kakar¹, Andre Van Wijnen¹. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA
Disclosures: Scott Riester, None
- SU0074 NELL-1 expression in benign and malignant bone tumors and correlation with malignant potential**
 Jia Shen¹, Kevork Khadarian², Greg Asatryan², Xinli Zhang¹, Sarah Dry², Kang Ting¹, Chia Soo², Aaron James^{*1}. ¹University of California, Los Angeles, USA, ²UCLA, USA
Disclosures: Aaron James, None

- SU0075 Serum Dickkopf-1 is a prognostic marker in prostate cancer**
 Tilman Rachner*¹, Stefanie Thiele¹, Andy Göbel¹, Susanne Füssel¹, Martina Rauner², Lorenz Hofbauer³, ¹University Hospital Dresden, Germany, ²Medical Faculty of the TU Dresden, Germany, ³Dresden 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 Jeschke², Vincent Kanbach², Philip Catala-Lehnen², Peter Nollau³, Michael Amling⁴, Sheila Harroch⁵, Thorsten Schinke⁶, ¹University of Hamburg, Germany, ²Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, ³Department of Clinical Chemistry, University Medical Center Hamburg Eppendorf, Hamburg, Germany, ⁴University Medical Center Hamburg-Eppendorf, Germany, ⁵Department of Neuroscience, Institute Pasteur, France, ⁶Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, 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 Watanabe¹, Chiho Matsumoto¹, Michiko Hirata¹, Takayuki Maruyama², Masaki Inada¹, Chisato Miyaura*¹, ¹Tokyo University of Agriculture & Technology, Japan, ²Ono 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 Chen¹, Patrick Rowan¹, Qianying Pan¹, Mei Li¹, Larry Suva², Amjad Javed¹, Yang Yang³, ¹University of Alabama at Birmingham, USA, ²University of Arkansas for Medical Sciences, USA, ³The 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, Lidian You², ¹University of Toronto, Canada, ²Mechanical & 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 Morrison², Newell Johnson³, Jin Gao⁴, ¹Guanghua Dental Hospital of Sun Yat-sen University, Peoples Republic of China, ²Griffith University, Gold Coast Campus, Australia, ³Griffith University, Australia, ⁴James Cook University, Australia
Disclosures: Jingjing Quan, None
- SU0081 PTHrP Abrogates CARP-1 Functional Mimetics (CFMs) Induced Growth Inhibition of Differentiated Osteoblasts**
 Sahiti Chukkapalli¹, Arun Rishi², Nabanita Datta*¹, ¹Wayne State University School of Medicine, USA, ²Wayne 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 Thiele², Andrew Browne², Martina Rauner³, Lorenz Hofbauer⁴, Tilman Rachner⁵, ¹University Hospital Carl Gustav Carus, Germany, ²Division of Endocrinology, Diabetes & Metabolic Bone Diseases, Germany, ³Medical Faculty of the TU Dresden, Germany, ⁴Dresden University Medical Center, Germany, ⁵University 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 Weivoda², Seint Lwin³, James Edwards³, Claire Edwards³.
¹University of Oxford, GBR, ²Mayo Clinic, USA, ³University 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 Zonefrati¹, Carmelo Mavilia¹, Anna Maria Carossino¹, Annalisa Tanini¹, Maria Luisa Brandi². ¹University of Florence, Italy, ²Direttore Malattie Del Metabolismo Minerale E Osseo, Azienda Ospedaliera Univers, Italy
Disclosures: Cecilia Romagnoli, None
- SU0085 A potential role for TGF β -RII/MCP-5/ PTHrP axis in post-traumatic osteoarthritis**
 Lara Longobardi*¹, Nunzia D'Onofrio², Tieshi Li¹, Joseph Temple³, Huseyin Ozkan⁴, Alessandra Esposito³, Helen Willcockson⁵, Timothy Myers⁵, Ping Ye¹, Billie Moats-Staats⁶, Lidia Tagliafierro³, Marialuisa Balestrieri², Anna Spagnoli¹. ¹University of North Carolina at Chapel Hill, USA, ²Second University of Naples, Italy, ³UNC-Chapel Hill, USA, ⁴Gulhane Military Medical Academy, Etlik, Turkey, ⁵University of North Carolina, USA, ⁶University of North Carolina- Chapel Hill, USA
Disclosures: Lara Longobardi, None
- SU0086 Evaluation of cartilage based on second harmonic generation microscopy**
 Hiroshi Kiyomatsu*¹, Takeshi Imamura², Atsuhiko Hikita³, Tadahiro Iimura⁴, Tsuyoshi Miyazaki⁵, Yusuke Ohsima⁶, Takashi Saitou⁷, Hiromasa Miura⁸. ¹Ehime University Hospital, Japan, ²Ehime University Graduate School of Medicine, Japan, ³Ehime University, Japan, ⁴Ehime University, Proteo-Science Center (PROS), Japan, ⁵Tokyo Metropolitan Geriatric Hospital & Institute of Gerontology, Japan, ⁶Translational Research Center, Ehime University Hospital, Japan, ⁷Department of Molecular Medicine for Pathogenesis, Ehime University Graduate School of Medicine, Japan, ⁸Department 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 Lu², Andrew Miller², Clayton Theleman², Jinxi Wang².
¹Department of Orthopedic Surgery, University of Kansas Medical Center, USA, ²University 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 Lobo¹, Farshid Guilak², Jorge Piedrahita¹, Sehwon Koh¹, John Williams¹. ¹North Carolina State University, USA, ²Duke University, USA
Disclosures: Liliana Mellor, None
- SU0090 Epigenetic Regulatory Role of KDM4B in TGF β -Mediated Chondrogenic Differentiation of Human MSCs**
 Christine Hong*¹, Hyelim Lee², Cun-Yu Wang³. ¹UCLA School of Dentistry, USA, ²Seoul National University, South Korea, ³UCLA, USA
Disclosures: Christine Hong, None
- SU0091 Osteoclasts regulate chondrocyte metabolism through the inhibition of the Wnt canonical pathway.**
 Chahrazad Cherifi*¹, Wafa Bouaziz², Martine Cohen-solal³, Eric Hay¹. ¹Inserm U1132, France, ²INSERM U606, France, ³Hôpital 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 Hayata², Takuya Notomi³, Ichiro Sekiya⁴, Masaki Noda⁴.
¹Tokyo Medical & Dental University, Medical Research Insititute, Japan, ²Organization for Educational Initiatives, University of Tsukuba, Japan, ³Department of Pharmacology, Osaka Dental University, Japan, ⁴Tokyo Medical & Dental University, Japan
Disclosures: Yoichi Ezura, None
- SU0093 The enzymatic activity of IRE1a modulates chondrocyte differentiation**
 Fengjin Guo^{*1}, Zhangyuan Xiong², Peng Zhang³, Xiaofeng Han³. ¹Chongqing Medical University, Peoples Republic of China, ²Department of Cell Biology & Genetics, Core Facility of Development Biology, Chongqing Medical University, China, ³Department 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 Mera², Maki Itokazu³, Hiroaki Nakamura⁴, Kohji Uchida⁵, Shigeyuki Wakitani², Hisataka Yasuda⁶. ¹Oriental Yeast Co.,Ltd, Japan, ²Mukogawa Women's University, Japan, ³Osaka City University Graduate School of Medicine, Japan, ⁴Osaka City University Graduate School of Medicine, Japan, ⁵Oriental Yeast Co., Ltd., Japan, ⁶Oriental 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 Yang², Jui-Chieh Chen³, Chih-Hsin Tang³. ¹China Medical University Hospital, Taiwan, ²China Medical University Hospital, Taiwan, ³China Medical University, Taiwan
Disclosures: Yi-chin Fong, None

CONNECTIVE TISSUE MATRIX: COLLAGEN AND PROTEINASES

- SU0096 Influence of Beta-Aminopropionitrile on Morphology of Type I Collagen Produced by MC3T3-E1 Osteoblasts and Measured Using Atomic Force Microscopy**
 Silvia Canelon^{*1}, Joseph Wallace². ¹Purdue University, USA, ²Indiana 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 Besio¹, Patrizio Castagnola², Milena Dimori¹, Yuqing Chen³, Dana Gaddy¹, Larry Suva¹. ¹University of Arkansas for Medical Sciences, USA, ²IRCCS AOU San Martino – IST, Italy, ³Baylor 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 thiazolidazone, which fails to activate PPAR γ , does not cause bone loss**
 Tomohiro Fukunaga^{*1}, Wei Zou¹, Nidhi Rohatgi², Jerry Colca³, Steven Teitelbaum¹.
¹Washington University in St. Louis School of Medicine, USA, ²Washington University in St. Louis, USA, ³Metabolic 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 Brown¹, Lynda Bonewald². ¹Children's Mercy Hospital, USA, ²University 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 Graef¹, Stan Lightfoot², Jerry Ritchey³, Stephen Clarke¹, Edralin Lucas¹, Brenda Smith¹. ¹Oklahoma State University, USA, ²Center for Cancer Prevention & Drug Development, University of Oklahoma Health Sciences Center, USA, ³Department 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 Kasinath¹, Kavithalakshmi Sataranatarajan², Hanna E Abboud², Jameela Banu³, Goutam Ghosh Choudhury². ¹University of Texas Health Science Center at San Antonio, USA, ²University of Texas Health Science Center, USA, ³University 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 Ururahy², Flávio S Silva², Angelica A S Batista³, Giselle Oliveira³, Karla S C Souza², Melina B Loureiro², Valeria M G Duarte⁴, Bento J Abreu², Maria G Almeida², Luciana A Rezende³, Adriana Rezende³. ¹Federal University of Rio Grande do Norte, USA, ²Federal University of Rio Grande do Norte, Brazil, ³University of Ribeirão Preto, Brazil, ⁴State University of Paraíba, Brazil, ⁵Federal 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 Maynard¹, Edward Schwarz¹, Michael Zuscik², Robert Mooney³. ¹University of Rochester, USA, ²University of Rochester School of Medicine & Dentistry, USA, ³University 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 Ebina², Masafumi Kashii³, Yohei Matsuo⁴, Tsuyoshi Sugiura⁵, Jun Hashimoto⁶, Hideki Yoshikawa³. ¹Osaka university, Japan, ²Osaka University, Graduate School of Medicine, Japan, ³Osaka University Graduate School of Medicine, Japan, ⁴Japan, ⁵Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, ⁶National 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 Schwartz², Dennis Black², Amber Wheeler², Lygia Stewart³, Stanley Rogers², Jonathan Carter², Andrew Posselt², Dolores Shoback⁴, Xiaojuan Li². ¹University of California, San Francisco & the San Francisco VA Medical Center, USA, ²University of California, San Francisco, USA, ³San Francisco VA Medical Center & the University of California, San Francisco, USA, ⁴VA 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 Ross¹, Emma Laing¹, Christopher Modlesky², Norman Pollock³, Clifton Baile⁴, Mark Punyanitya⁵, Richard Lewis¹. ¹The University of Georgia, USA, ²University of Delaware, USA, ³Georgia Regents University, USA, ⁴University of Georgia, USA, ⁵Image 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 Vliet², Leeann Louis², Christine Conlon², Mary Bouxsein³. ¹University of Michigan, USA, ²Beth Israel Deaconess Medical Center, USA, ³Beth 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 Hasegawa², Kunihiko Aya³, Hiroyuki Tanaka⁴, Yoichi Kondoh¹, Nobuyuki Kodani¹. ¹Dept. of Pediatrics, Matsuyama Red Cross Hosp., Japan, ²Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, ³Kurashiki Chuou Hospital, Japan, ⁴Okayama 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 Devaney², Heather Gordish-Dressman², Leticia Ryan³, Laura Tosi¹. ¹Children's National Medical Center, USA, ²Children's National Health System, USA, ³Johns 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 Huang², Liqin Xie³, Trikaladarshi Persaud², Peter Yang², Lili Wang², Xialing Wen², Kalyan Nannuru², Vincent Idone², Aris Economides⁴. ¹Regeneron Pharmaceuticals, USA, ²Regeneron Pharmaceuticals Inc, USA, ³Regeneron Pharmaceutical company, USA, ⁴Regeneron 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 Lietman¹, Ming Ming Jiang¹, Elda Munivez¹, Brian Dawson¹, Terry Bertin¹, Yuqin Chen¹, MaryAnn Weis², David Eyre³, Brendan Lee¹. ¹Baylor College of Medicine, USA, ²University of Washington, USA, ³University 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 Beadlescomb², Miguel Sena-Esteves³, Ashley Randle⁴, Aime Johnson⁵, D. Ray Wilhite⁶, Douglas Martin². ¹Louisiana State University School of Veterinary Medicine, USA, ²Auburn University College of Veterinary Medicine, Scott-Ritchey Research Center, Dept. of Anatomy, Physiology, & Pharmacology, USA, ³University of Massachusetts Medical School, Department of Neurology & Gene Therapy Center, USA, ⁴Auburn University College of Veterinary Medicine, Scott-Ritchey Research Center, USA, ⁵Auburn University College of Veterinary Medicine, Department of Clinical Sciences, Scott-Ritchey Research Center, USA, ⁶Auburn 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 Yamazaki², Masanobu Kawai², Takao Koshimizu², Jin Nishino², Yasuhisa Ohata³, Kanako Tachikawa², Yuko Mikuni-Takagaki⁴, Mikihiro Kogo⁵, Keiichi Ozono³, Toshimi Michigami². ¹Osaka University, Japan, ²Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, ³Osaka University Graduate School of Medicine, Japan, ⁴Kanagawa Dental University Graduate School of Dentistry, Japan, ⁵Osaka 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 Fleming¹, Satoru Hayano², Yuji Mishina², Charles Hong³, Paul Yu⁴, Daniel Perrien^{*5}. ¹VUIIS, Vanderbilt University, USA, ²Dept. of Biologic & Materials Sciences, University of Michigan School of Dentistry, USA, ³Department of Cardiovascular Medicine, Vanderbilt University, USA, ⁴Division of Cardiology, Harvard Medical School & Brigham & Women's Hospital, USA, ⁵TVHS, Department of Veterans Affairs; Dept of Orthopaedic Surgery & Rehabilitation, Vanderbilt University, USA
Disclosures: Daniel Perrien, None
- SU0118 Dystrophic Systemic Milieu Plays an Important Role in the Muscle and Bone Abnormalities in Duchenne Muscular Dystrophy**
Hongshuai Li^{*1}, Aiping Lu¹, Ying Tang¹, Bing Wang¹, Johnny Huard². ¹University of Pittsburgh, USA, ²Orthopaedic Surgery, USA
Disclosures: Hongshuai Li, None
- SU0119 Enhanced TLR-MYD88 Signaling Stimulates Autoinflammation in SH3BP2 Cherubism Mice and Defines the Etiology of Cherubism**
Teruhito Yoshitaka¹, Tomoyuki Mukai², Mizuho Kittaka³, Bjorn Olsen⁴, Ernst Reichenberger⁵, Yasuyoshi Ueki^{*6}. ¹University Missouri-Kansas City, School of Dentistry, USA, ²University of Missouri - Kansas City, USA, ³University of Missouri-Kansas City, School of Dentistry, USA, ⁴Harvard School of Dental Medicine, USA, ⁵University of Connecticut Health Center, USA, ⁶University 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 Gaborit², Wint Lwin¹, Edward Hsiao¹. ¹University of California, San Francisco, USA, ²Inserm 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 Wang², Helen King², Catherine Skinner², Carolyn Macica³. ¹Yale School of Medicine, USA, ²Yale University, USA, ³Frank 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 Perosky², M. Helen Rajpar¹, Kenneth Kozloff³, Joan Marini⁴. ¹NICHD/NIH, USA, ²University of Michigan, USA, ³University of Michigan Department of Orthopaedic Surgery, USA, ⁴National 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 Farber¹, Larry Mesner^{*1}, Gina Calabrese², Steven Tommasini³, Mark Horowitz⁴, Clifford Rosen⁵. ¹University of Virginia, USA, ²USA, ³Yale University, USA, ⁴Yale University School of Medicine, USA, ⁵Maine 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 Zhang¹, Lei Dang^{*2}, Baosheng Guo², Defang Li³, Jin Liu², Chao Liang², Xiaojuan He⁴, Heng Wu², Zhijun Yang², Zicai Liang³, Aiping Lu². ¹Ge Zhang' S Lab, Hong Kong, ²Hong Kong Baptist University, China, ³Kunshan Industrial Technology Research Institute, China, ⁴China 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 Huesa², Eri Yokoi³, Chika Endo⁴, Yumi Obi⁴, Kei Ogawa⁵, Takehiko Shimizu³, Takashi Shimada⁶, Jose Luis Millan⁷. ¹Nihon University, Japan, ²University of the West of Scotland, United Kingdom, ³Nihon University School of Dentistry at Matsudo Department of Pediatric Dentistry, Japan, ⁴Nihon University School of Dentistry at Mastudo Department of Pediatric Dentistry, Japan, ⁵Nihon University School of Dentistry at Mastudo Department of Pediatric Dentistry, Japan, ⁶Nippon Medical School, Japan, ⁷Sanford-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 Kikugawa², Hidehito Inagaki³, Tatsuya Kobayashi⁴, Hiroki Kurahashi³, Hiroyuki Kato⁵. ¹Dept of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, ²DNA Chip Research Inc., Japan, ³Fujita Health University, Japan, ⁴Massachusetts General Hospital, USA, ⁵Shinshu 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 Boyde², Lakshminarayan Ranganath¹, James Gallagher¹, Nathan Jeffery¹, Jonathan Jarvis¹, Adam Taylor³. ¹University of Liverpool, United Kingdom, ²Barts & The London School of Medicine & Dentistry, Queen Mary University of London., United Kingdom, ³Lancaster 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 alvarez², marjorie andrade³, M^a Jose Trujillo⁴, Ignacio Mahillo Fernandez⁵, Camilo Velez⁶, Nerea Carvajal⁷. ¹Jimenez Diaz Fundacion, Spain, ²Department of Internal Medicine. Metabolic Bone Disease. Hospital Infanta Leonor., Spain, ³Bone Diseases Service. IIFJD., Spain, ⁴Genetic Department IIFJD, Spain, ⁵IIFJD. Epidemiology Research, Spain, ⁶Genetic Department. IIFJD, Spain, ⁷Genetic 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 Mesner¹, Yi-Hsiang Hsu², Ani Manichaikul¹, Elizabeth Bryda³, Guanqing Wu⁴, Stephen Rich¹, Clifford Rosen⁵, Michael Criqui⁶, Matthew Allison⁶, Matthew Budoff⁷, Thomas Clemens⁸, Charles Farber^{*1}. ¹University of Virginia, USA, ²Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ³University of Missouri, USA, ⁴Vanderbilt University, USA, ⁵Maine Medical Center, USA, ⁶University of California at San Diego, USA, ⁷Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center, USA, ⁸Johns 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 K₂) in Bone Originates from Menadiolone (Vitamin K₃) Released from Oral Phylloquinone (Vitamin K₁) During Intestinal Absorption

Kimie Nakagawa*, Yoshihisa Hirota¹, Naoko Tsugawa¹, Yuri Uchino¹, Yoshitomo Suhara², Toshio Okano¹. ¹Kobe Pharmaceutical University, Japan, ²Shibaura Institute of Technology, Japan

Disclosures: Kimie Nakagawa, None

SU0134 Regulation of Osteocytic Osteolysis by the Calcitonin Receptor During Lactation in Mice.

Rachel Davey*, Michele Clarke², Patricia Russell², David Findlay³, Jeffrey Zajac⁴.

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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*, Tomoko Minamizaki², Yoko Fujino¹, Yuichiro Takei², Hirotaka Yoshioka³, Mitsugi Okada², Katsuyuki Kozai², Yuji Yoshiko². ¹Hiroshima University Graduate School of Biomedical & Health Sciences, Japan, ²Hiroshima University Institute of Biomedical & Health Sciences, Japan, ³Hiroshima 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 Li¹, Chuanlong Zhu¹, Jun Guo¹, Marie Demay², Harald Jueppner¹, Clemens Bergwitz*, ¹Massachusetts General Hospital, USA, ²Massachusetts 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*, Akira Maeda², Monica Reyes², Thomas Dean², Ernestina Schipani³, Paola Divieti Pajevic⁴, Robert Neer², Paul Kostenuik⁵, John Potts², Thomas Gardella². ¹MGH & HMS, USA, ²Massachusetts General Hospital, USA, ³University of Michigan, USA, ⁴Massachusetts General Hospital & Harvard Medical School, USA, ⁵Amgen 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*, Kristi Milley², Peter Little¹, Jeffrey Zajac³, Mathis Grossmann⁴, Janine Danks¹. ¹School of Medical Sciences, RMIT University, Australia, ²RMIT University, Australia, ³Austin Hospital, Australia, ⁴The 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 Gidon², Thomas Dean¹, John Potts¹, Jean-Pierre Vilardaga², Thomas Gardella¹, ¹Massachusetts General Hospital, USA, ²University 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 Koh¹, Ming Dang¹, Xue Mi², Wenhan Chang³, Peter X. Ma¹, Laurie McCauley⁴, ¹University of Michigan, USA, ²Tianjin University, China, ³Endocrine Unit, VA Medical Center, University of California, San Francisco, USA, ⁴University 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 Lai¹, Daniel Brooks², Joel Finkelstein¹, Mary Bouxsein³, Henry Kronenberg¹, ¹Massachusetts General Hospital, USA, ²Beth Israel Deaconess Medical Center, USA, ³Beth 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}, Cumhuri Aydin², Isabelle Rubera³, Michel Tauc³, Min Chen⁴, Lee Weinstein⁴, Vladimir Marshansky⁵, Murat Bastepe¹, ¹Massachusetts General Hospital, Harvard Medical School, USA, ²Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, ³LP2M CNRS 7370 Université de Nice Sophia Antipolis, France, ⁴National Institute of Diabetes & Digestive & Kidney Diseases, USA, ⁵Program 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 VanHouten², Karena Swan¹, John Wysolmerski², ¹Yale School of Medicine, USA, ²Yale 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 Partridge², ¹New York University College of Dentistry, USA, USA, ²New 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 Jan¹, David Robbins¹, Dennis Villareal², Reina Armamento-Villareal², ¹New Mexico VA Health Care System, USA, ²University 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 Casella², Michael Levine³, ¹The Childrens Hospital of Philadelphia, USA, ²Division of Endocrinology & Diabetes, The Children's Hospital of Philadelphia, Philadelphia, PA, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, United States, 19104, USA, ³Children's Hospital of Philadelphia, USA
Disclosures: Jeff Roizen, None
- SU0148 Anabolic Bone Effect Of PGE₁ 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 volumetric 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 Haroon¹, Eva Szabo², Janet Raboud³, Robert Josse⁴, Robert. D. Inman⁵, Angela M. Cheung⁶. ¹University of Toronto, Canada, ²Osteoporosis Program, University Health Network, Canada, ³Dept of Biostatistics, University of Toronto & Toronto General Research Institute, Canada, ⁴St. Michael's Hospital, University of Toronto, Canada, ⁵Department of Medicine, University of Toronto, Canada, ⁶University 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 Stepan¹, Kristyna Brabnikova Maresova², Katerina Jarosova³, Karel Pavelka³. ¹Charles University, Czech Republic, ²Institute of Rheumatology, Czech Republic, ³Institute 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 Ebina¹, Jun Hashimoto², Masafumi Kashii³, Takaaki Noguchi⁴, Yohei Matsuo⁵, Tsuyoshi Sugiura⁶, Hideki Yoshikawa³. ¹Osaka University, Graduate School of Medicine, Japan, ²National Hospital Organization, Osaka Minami Medical Center, Japan, ³Osaka University Graduate School of Medicine, Japan, ⁴Osaka University, Graduate school of medicine, Department of Orthopaedic Surgery, Japan, ⁵Japan, ⁶Faculty 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 Rheumatoid Arthritis**
Lauren Mangano¹, Dana Dauks², Shannon Carroll³, Katya Ravid⁴, Louis Gerstenfeld⁴, Elise Morgan². ¹Boston University, USA, ²Boston University, USA, ³Boston University, USA, ⁴Boston 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 McCumber¹, Bryan Hackfort¹, Mohammed Akhter², Diane Cullen¹. ¹Creighton University, USA, ²Creighton 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 Guignandon², Norbert Laroche², Arnaud Vanden-Bossche², Fiona Louis², Marie-Helene Lafage-Proust³, Laurence Vico⁴. ¹Laboratoire de Biologie du Tissu Osseux, Inserm U1059, France, ²INSERM U1059, LBTO, Faculty of Medicine, University of Lyon, France, ³INSERM Unit 1059, France, ⁴University 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 Brodt², Matthew Silva³. ¹Washington University Department of Orthopaedic Surgery, USA, ²Washington University in St Louis, USA, ³Washington 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 Picklo². ¹USDA ARS, USA, ²Grand 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 Massicotte¹, Michele Harris¹, Paul W Fisher², Steven Popoff¹, Mary Barbe^{*1}. ¹Temple University School of Medicine, USA, ²Temple University, USA
Disclosures: Mary Barbe, None

MECHANOBIOLOGY: GENERAL

- SU0160 Congenic Strains Confirm a Pleiotropic Bone QTL on Mouse Chromosome 4**
 Jasmin Kristianto^{*1}, Michael Johnson², Suzanne Litscher³, Forum Patel³, Robert Blank⁴. ¹University of Wisconsin–Madison, USA, ²University of Wisconsin, USA, ³University of Wisconsin Madison, USA, ⁴Medical 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 Dong¹, Takashi Omatsu¹, Yukiyo Ohnishi¹, Itsuro Endo², Masahiro Abe³, Shinichi Aizawa⁴, Hiroshi Sakaue⁵, Toshio Matsumoto². ¹Department of Medicine & Bioregulatory Sciences, University of Tokushima Graduate School of Medical Sciences, Japan, ²University of Tokushima Graduate School of Medical Sciences, Japan, ³University of Tokushima, Japan, ⁴not yet, Japan, ⁵Department 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 Kou², Yanheng Zhou³. ¹Department of Orthodontics, Peking University School & Hospital of Stomatology, Peoples Republic of China, ²Orthodontic Department, Peking University School of Stomatology, Beijing, China, ³Orthodontic 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 Yotani², Hikari Kirimoto³, Kazuhiro Sugawara¹, Atsuhiro Tsubaki¹, Hideaki Onishi¹, Noriaki Yamamoto⁴, Norikatsu Kasuga⁵. ¹Niigata University of Health & Welfare, Japan, ²National Institute of Fitness & Sports in Kanoya, Japan, ³Niigata University of Health & Welfare, Japan, ⁴Niigata Rehabilitation Hospital, Japan, ⁵Aichi University of Education, Japan
Disclosures: Hiroyuki Tamaki, None

- SU0164 Structured Fibronectin Surfaces to Guide Migration of Mesenchymal Stem Cells**
Annika Kasten¹, Rolf Brenner², Tamara Naser², Jörg Fiedler², Petra Müller¹, Jürgen Groll³, Joachim Rychly*⁴. ¹Rostock University Medical Center, Germany, ²Department of Orthopaedics, Germany, ³Department of Functional Materials in Medicine, Germany, ⁴University of Rostock, Germany
Disclosures: Joachim Rychly, None

- SU0165 β 2-adrenergic Receptor Plays an Important Role in Sympathetic Nervous System-regulated Orthodontic Tooth Movement**
Haifeng Cao*¹, Xiaoxing Kou², Yanheng Zhou³. ¹Peking University School & Hospital of Stomatology, Peoples Republic of China, ²Peking University School & Hospital of Stomatology, China, ³Department 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 Chen¹, Christopher Newman², Jason Organ¹, Vincent Gattone¹, Michaela Kneissel³, Ina Kramer³, Matthew Allen¹. ¹Indiana University School of Medicine, USA, ²Indiana University, USA, ³Novartis 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 Brl/+ mouse**
David Barton*¹, Benjamin Sinder¹, Yuchen Yang¹, Joan Marini², Michelle Caird¹, Kenneth Kozloff³. ¹University of Michigan, USA, ²National Institute of Child Health & Human Development, USA, ³University 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 Teramachi¹, Yukio Kitagawa², Jolene Windle³, Laetitia Michou⁴, Jacques P. Brown⁵, Noriyoshi Kurihara*², G. David Roodman². ¹The University of Tokushima, Japan, ²Indiana University, USA, ³Virginia Commonwealth University, USA, ⁴Université Laval, Canada, ⁵CHU 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 Belfast², Brenda Pennypacker³, Le Duong³. ¹Merck & Co., Inc., USA, ²Merck & Company, USA, ³Merck 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 Pickarski², Nancy Doyle³, Aureo Varela³, Le Duong¹. ¹Merck Research Laboratories, USA, ²Merck & Co., Inc., USA, ³Charles 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 Duong², Serge Ferrari³. ¹University Geneva Hospital (HUG), Switzerland, ²Merck Research Laboratories, USA, ³Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None
- SU0173 Osteoactivin/Gpmb, A Negative Regulator of Osteoclastogenesis**
 Hilary Stinnett*¹, Samir Abdelmagid¹, Fouad Moussa¹, Gregory Sondag¹, Matthew Matthew Khol¹, Kimberly Novak¹, Nagat Frara², Fayeze Safadi¹. ¹Northeast Ohio Medical University, USA, ²Temple 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 Sun², Xuchen Duan³, Charles McKenna⁴, Gwyn Jeans⁵, Roy Dobson⁵, Michael Quijano⁶, James Triffitt⁶, R Graham Russell⁷, Frank Ebetino⁸. ¹Indiana University School of Medicine, USA, ²BioVinc LLC, USA, ³Department of Developmental Biology, Harvard School of Dental Medicine, USA, ⁴Department of Chemistry, University of Southern California, USA, ⁵Procter & Gamble, USA, ⁶University of Oxford Nuffield Orthopaedic Centre, United Kingdom, ⁷University of Oxford, United Kingdom, ⁸University 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 Kean¹, Kristina Bernardi¹, Feng Lin², Jim Dennis³. ¹Benaroya Research Institute, USA, ²Cleveland Clinic Foundation, USA, ³Baylor 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 Jeyabalan¹, Mark Hopkinson¹, Mark Cleasby¹, Pascale Chavassieux², Jean Paul Roux³, Chantal Chenu¹. ¹Royal Veterinary College, United Kingdom, ²INSERM UMR1033, Université De Lyon, France, ³INSERM UMR1033 & Université de Lyon, France
Disclosures: Marie Pereira, None
- SU0177 Combination Treatment of 1-34 PTH and Eldecacitol Showed Synergistic Effect on BMD without Severe Hypercalcemia**
 Sadaoki Sakai*¹, Satoshi Takeda¹, Tomomaya Yamamoto², Tomoka Hasegawa², Norio Amizuka³, Koichi Endo¹. ¹Chugai Pharmaceutical Co., Ltd., Japan, ²Hokkaido University, Japan, ³Hokkaido 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 Rauch², Reggie Hamdy³. ¹McGill University, Canada, ²Shriners Hospital for Children, Montreal, Canada, ³Shriners 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 Nelson², Yougen Xi², Mark Horowitz¹. ¹Yale University School of Medicine, USA, ²Yale School of Medicine, USA
Disclosures: Jackie Fretz, None
- SU0181 Methylphenidate Impairs Skeletal Development In Female Rats**
 David Komatsu*¹, Lisa Robison², Melissa Vitale², Junho Lee², Michalis Michaelos², Jason Gandhi³, Soyeh Paeng², Panayotis Thanos², Michael Hadjiargyrou⁴. ¹Stony Brook University, Dept. of Orthopaedics, USA, ²Department of Psychology, Stony Brook University, USA, ³Department of Physiology & Biophysics, Stony Brook University, USA, ⁴New 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 Kwak², Juyoung Park², Chirag Chawan², Omar Velasco³, Kambiz Khalilinejad⁴, Jia Shen⁵, Eric Chen², Pia Bayani², Sepideh Dolatyar², Greg Asatrian², Xinli Zhang², Chia Soo⁶, Benjamin Wu⁷, Kang Ting³. ¹University of California, Los Angeles, USA, ²Department of Craniofacial Research Institute, School of Dentistry, University of California, Los Angeles, USA, ³UCLA & Orthopaedic Hospital Department of Orthopaedic Surgery & the Orthopaedic Hospital Research Center, University of California, Los Angeles, USA, ⁴Division of Associated Clinical Specialties & Section of Orthodontics, School of Dentistry, University of California, Los Angeles, USA, ⁵University of California, Los Angeles, USA, ⁶Division of Plastic & Reconstructive Surgery, Department of Surgery, David Geffen School of Medicine, University of California, Los Angeles, USA, ⁷Weintraub 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-Lehnen², Sabrina Sieber³, Michaela Schweizer⁴, Kristofer Wintges², Thomas Bickert², Michael Amling⁵, Hans-Jürgen Keienkamp³, Thorsten Schinke⁶. ¹Department of Osteology & Biomechanics, Germany, ²Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, ³Department of Human Genetics, University Medical Center Hamburg Eppendorf, Germany, ⁴Center of Molecular Neurobiology, University Medical Center Eppendorf, Germany, ⁵University Medical Center Hamburg-Eppendorf, Germany, ⁶Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, 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. Lazarenko², Michael L. Blackburn³, Thomas M. Badger³, Martin J. J. Ronis³. ¹University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, ²Arkansas Children's Nutrition Center, & The Department of Pediatrics, University of Arkansas for Medical Sciences, USA, ³Arkansas 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 Kim², Cheol-Heui Yun², Seung Hyun Han³. ¹School of Dentistry, Seoul National University, South Korea, ²Seoul National University, South Korea, ³Seoul 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 Zhang², Hani Awad³, Matthew Hilton⁴, Zhenqiang Yao¹, Michael Zuscik⁵, Brendan Boyce³, Lianping Xing¹. ¹University of Rochester, USA, ²University of Rochester, USA, ³University of Rochester Medical Center, USA, ⁴Duke University Musculoskeletal Research Center, USA, ⁵University 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 Mo², Lynda Bonewald³, Marco Brotto³. ¹University of Missouri Kansas city, USA, ²University of Missouri-Kansas City, USA, ³University 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 Moore¹, B. Catharine Craven², Lehana Thabane³, Jonathan Adachi⁴, Alexandra Papaioannou⁵, Lindsie Blencowe², Milos Popovic⁶, Lora Giangregorio^{*7}. ¹University Health Network, Canada, ²Toronto Rehabilitation Institute, Canada, ³McMaster University, Canada, ⁴St. Joseph's Hospital, Canada, ⁵Hamilton Health Sciences, Canada, ⁶University Health Network - Toronto Rehabilitation Institute, University of Toronto, Canada, ⁷University 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 Craven², Cameron Moore¹, Lehana Thabane³, Alexandra Papaioannou⁴, Jonathan Adachi⁵, Milos Popovic², Neil McCartney⁶, Lora Giangregorio¹. ¹University of Waterloo, Canada, ²University Health Network - Toronto Rehab - Lyndhurst Centre, Canada, ³McMaster University, Canada, ⁴Hamilton Health Sciences, Canada, ⁵St. Joseph's Hospital, Canada, ⁶Brock 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 Lam¹, Robbin Yeh¹, Morgan Teeratananon¹, Yi-Xian Qin². ¹Stony Brook University, USA, ²State 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 Bouaziz², Caroline Marty¹, Valerie Geoffroy³, Eric Hay¹, Martine Cohen-solal⁴. ¹Inserm U1132, France, ²INSERM U606, France, ³INSERM Unit 1132, France, ⁴Hôpital 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 Chi¹, Gyoung-Ho Cho¹, Na-Rae Park², Min-Su Han¹, Clara Park³, Seung-Hee Han¹, Gyoung-Hwa Kim¹, Byung-Heon Lee¹, Je-Yong Choi⁴.

¹Kyungpook National University, School of Medicine, South Korea, ²Kyungpook National University School of Medicine, South Korea, ³Kyungpook National University School of Medicine, South Korea, ⁴Kyungpook 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 Xie², Christopher Raskett², David Ayers³. ¹University of Massachusetts Medical School, USA, ²UMass Medical School, USA, ³UMass Memorial Medical Center, USA

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SU0198 Subchondral Bone Health is Compromised in Post-Traumatic Osteoarthritis

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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 Riestler¹, Carolina Bonin¹, Amel Dudakovic¹, Emily Camilleri¹, Noelle Larson¹, Aaron Krych¹, Jay Smith¹, Sanjeev Kakar¹, Jennifer Westendorf¹, Hee-Jeong Im Sampen², Andre Van Wijnen¹. ¹Mayo Clinic, USA, ²Rush 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 Guan², Frankie Leung³, Xu Cao⁴, Xiaohua Pan⁵, William Lu¹. ¹The University of Hong Kong, Hong Kong, ²Center for Human Tissues & Organs Degeneration, Shenzhen Institutes of Advanced Technology, CAS, China, ³Department of Orthopaedics & Traumatology, Faculty of Medicine, the University of Hong Kong, Hong Kong, China, ⁴Johns Hopkins University, USA, ⁵Department 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 Karlsson², Håkan Magnusson³, Maria Cöster⁴, Jan-Åke Nilsson³, Björn Rosengren¹. ¹Skåne University Hospital Malmö, Lund University, Sweden, ²Department of Clinical Sciences, Lund University, SUS, Sweden, ³Department of Orthopedics & Clinical Sciences, Lund University, SUS, Sweden, ⁴Department of Orthopedics & 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 Kontulainen¹, Tuhina Neogi², Bassam Masri³, David Wilson³. ¹University of Saskatchewan, Canada, ²Boston University, USA, ³University of British Columbia, Canada

Disclosures: James Johnston, None

- SU0204 TBRII/IL36 α Axis is Involved in the Osteoarthritic Process in Mice and Humans**
Tieshi Li¹, Joseph D. Temple², Lara Longobardi¹, Susan Chubinskaya³, Helen Willcockson⁴, Timothy Myers⁴, Ping Ye¹, Billie Moats-Staats⁵, Alessandra Esposito¹, Arnavaz A Hakimiyan³, Daniel J. Del Gaizo¹, Christopher W. Olcott¹, Anna Spagnoli¹.
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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 Chan¹, Vincent Bhandal¹, Clinton Rubin². ¹Stony Brook University, USA, ²State 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 α 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 Dallas², Ganesh Thiagarajan². ¹University of Missouri Kansas City, USA, ²University 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 Hayata², Yoichi Ezura³, Masaki Noda¹. ¹Tokyo Medical & Dental University, Japan, ²Organization for Educational Initiatives, University of Tsukuba, Japan, ³Tokyo Medical & Dental University, Medical Research Institute, Japan
Disclosures: Makiri Kawasaki, None
- SU0210 Dock7 is a Novel Regulator of Osteoblast Differentiation and Function**
Kathleen Bishop^{*1}, David Maridas¹, Katherine Motyl¹, Clifford Rosen². ¹Maine Medical Center Research Institute, USA, ²Maine 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 Wergedal¹, Robert Brommage², Subburaman Mohan¹. ¹Jerry L. Pettis Memorial VA Medical Center, USA, ²Lexicon Pharmaceuticals, USA
Disclosures: Chandrasekhar Kesavan, None
- SU0213 Mechanisms for Specificity of Wnt16 Actions on the Periosteum**
Jon Wergedal^{*1}, Chandrasekhar Kesavan¹, Karthikeyan Muthusamy², Robert Brommage³, Subburaman Mohan¹. ¹Jerry L. Pettis Memorial VA Medical Center, USA, ²Alagappa University, India, ³Lexicon 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 Lassila², Christine O'Neil³, Mark Swanson⁴, Paula Witt-Enderby⁵.
¹Duquesne University Division of Pharmaceutical Sciences, USA, ²Duquesne University Division of Clinical, Social & Administrative Science, USA, ³Duquesne University Division of Clinical, Social & Administrative Sciences, USA, ⁴Private practice, Heart Preventics, LLC, USA, ⁵Duquesne University, School of Pharmacy, USA
Disclosures: Sifat Maria, None

- SU0215 PEPTIDE-MEDIATED $\alpha 5 \beta 1$ INTEGRIN ACTIVATION INTEGRATES WNT/ β -CATENIN SIGNALING TO PROMOTE MESENCHYMAL CELL OSTEOGENIC DIFFERENTIATION**
Zuzana Saidak*¹, Sofia Azzi¹, Caroline Marty¹, Sophie Da Nascimento², Pascal Sonnet², Isabelle Dupin-Roger¹, Pierre J. Marie¹. ¹UMR-1132 Inserm, Paris, France, Université Paris Diderot, Sorbonne Paris Cité, France, ²Equipe Théra, Laboratoire des Glucides-UMR-CNRS 6219, Université de Picardie Jules Verne, France, ³Institut De Recherche Servier, France
Disclosures: Zuzana Saidak, None

- SU0216 Pre-clinical screening of novel two-photon photopolymerized biomaterials for bone implantation**
Oskar Hoffmann¹, Tristan Fowler*², Carina Kamplaitner³, Leander Poocha⁴, Andrea Markus⁵, Christian Dullin⁵, Gerhard Hildebrand⁴, Frauke Alves⁵, Klaus Liefelth⁴.
¹University of Vienna, Austria, ²Universität Wien, Aut, ³Universität Wien, Austria, ⁴Institute for Bioprocessing & Analytical Measurement Techniques (iba), Germany, ⁵University 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 Honma², Genki Kato¹, Yukihiko Tamura¹, YURIKO FURUYA³, Hisataka Yasuda⁴, Yasuhiko Tabata⁵, Nobuyuki Udagawa⁶, Keiichi Ohya¹, Hiroshi Suzuki², Kazuhiro Aoki¹. ¹Tokyo Medical & Dental University, Japan, ²The University of Tokyo Hospital, Japan, ³Oriental Yeast Co., Ltd, Japan, ⁴Oriental Yeast Company, Limited, Japan, ⁵Kyoto University, Japan, ⁶Matsumoto Dental University, Japan
Disclosures: Yasutaka Sugamori, None

- SU0218 Runx2 Deficiency in Committed Osteoblasts Impairs Postnatal Skeletogenesis**
Mitra Adhami*¹, Harunur Rashid², Haiyan Chen³, Amjad Javed³. ¹UAB, USA, ²University of Alabama Birmingham, USA, ³University of Alabama at Birmingham, USA
Disclosures: Mitra Adhami, None

- SU0219 Static Magnetic Fields Affect Biological Behaviors of Bone Cells**
Peng Shang*¹, Jian Zhang², Chong Ding², Airong Qian³, Zhe Wang², Lifang Hu².
¹Northwestern Polytechnical University, Xi'an, Shaanxi 710072, China, Peoples Republic of China, ²Key Laboratory for Space Bioscience & Biotechnology, Institute of Special Environmental Biophysics, School of Life Sciences, Northwestern Polytechnical University, China, ³Northwestern 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 B₁₂-dependent liver taurine synthesis regulates growth and bone mass**
 Isabel Quiros-Gonzalez*¹, Pablo Roman-Garcia², Liesbet Lieben¹, Vijay K. Yadav¹.
¹Wellcome Trust Sanger Institute, United Kingdom, ²Systems 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 Gholami¹, Judith Garcia-Gonzalez¹, Roser Urreiziti¹, Natalia Garcia-Giralto², Robert Guerri Fernandez³, Leonardo Mellibovsky⁴, Xavier Nogues⁴, Adolfo Diez-Perez⁵, Daniel Grinberg⁶. ¹Dept. Genetics, Univ. Barcelona, CIBERER, IBUB, Spain, ²IMIM, Spain, ³Fundacio IMIM, Spain, ⁴Institut Municipal d'Investigació Mèdica, Spain, ⁵Autonomous University of Barcelona, Spain, ⁶The University of Barcelona, Spain
Disclosures: Susana Balcells, None
- SU0224 Bio-active silica nanoparticles promote osteoblast differentiation through stimulation of autophagy and direct association with LC3 and p62**
 Shin Ha¹, M. Neale Weitzmann², George Beck*². ¹Emory University, USA, ²Emory 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 Cha², Kang-Yell Choi². ²Yonsei University, South Korea
Disclosures: Muhammad Zahoor, None
- SU0226 MAPK-Mediated Epigenetic Regulation of Gene Expression During Osteoblast Differentiation**
 Yan Li*¹, Chunxi Ge², Guisheng Zhao³, Renny Franceschi¹. ¹University of Michigan, USA, ²Pom Univ of Michigan School of Dentistry, USA, ³University 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 Chen², Ching-Fang Chang², Krishna Sinha³, Benoit DeCrombrughe³, Amjad Javed². ¹University of Alabama Birmingham, USA, ²University of Alabama at Birmingham, USA, ³UT 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 Caverzasio². ¹University Hospital of Geneva, Switzerland, ²Division Bone Diseases, Switzerland
Disclosures: Cyril Thouverey, None
- SU0229 Transcription factor SP1 regulates Frizzled 1 expression in osteoblasts**
 Shibing Yu*¹, Laura Yerges-Armstrong², Yanxia Chu³, Joseph Zmuda⁴, Yingze Zhang⁵. ¹University of Pittsburgh Medical Center, USA, ²University of Maryland School of Medicine, USA, ³University of Pittsburgh Department of Medicine, USA, ⁴University of Pittsburgh Graduate School of Public Health, USA, ⁵University 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 Xiao², Jianning Tao², Margarita Bonilla-Claudio², Brian Dawson², Eric Olson³, Brendan Lee², James Martin². ¹USA, ²Baylor College of Medicine, USA, ³University 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 Rakian², Jelica Gluhak-Heinrich¹, Marie Harris¹, Yong Cui³, Ivo Kalajzic⁴. ¹University of Texas Health Science Center at San Antonio, USA, ²USA, ³UTHSCSA, USA, ⁴University of Connecticut Health Center, USA
Disclosures: Stephen Harris, None
- SU0233 Connectivity Map-Based Discovery Of Parabendazole As A Novel Osteogenic Compound**
Andrea Brum^{*1}, Jeroen van de Peppel², Cindy van der Leije², Marco Eijken³, Johannes Van Leeuwen⁴, Bram Van Der Eerden¹. ¹Erasmus MC, The Netherlands, ²Erasmus MC, Netherlands, ³Arcarios, Netherlands, ⁴Erasmus 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 Virdi², D. Rick Sumner². ¹University of Washington, USA, ²Rush 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-Ruedy², Jarrod King³, Robert Cichewicz⁴, Edralin Lucas¹, Brenda Smith¹. ¹Oklahoma State University, USA, ²Vanderbilt University Medical Center, USA, ³Natural Products Discovery Group, University of Oklahoma, USA, ⁴Natural Products Discovery Group, Department of Chemistry & Biochemistry, University of Oklahoma, USA
Disclosures: Jennifer Graef, None
- SU0236 Foxp1 Regulates Osteogenic/Adipogenic Cell Fate Commitment in Bone Marrow Mesenchymal Stem Cell**
Xizhi Guo¹, Hanjun Li^{*2}, Sixia Huang². ¹Shanghai Jiao Tong University, Peoples Republic of China, ²Bio-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 Wai¹, Victoria Demambro², Clifford Rosen³, David Clemmons¹. ¹Department of Medicine, University of North Carolina at Chapel Hill, USA, ²Maine Medical Center Research Institute, USA, ³Maine 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 Ono², Henry Kronenberg³. ¹Massachusetts General Hospital & Harvard Medical School, USA, ²University of Michigan School of Dentistry, USA, ³Massachusetts 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 Yeh², Xuechun Xia³, Yuji Mishina⁴, Aijun Hao⁵, Baojie Li⁶, Huijuan Liu³. ¹Bio-X institute, Key laboratory for the Genetics of Developmental & neuropsychiatric Disorders, Ministry of Education, Shanghai Jiao Tong University, China, ²Winthrop University Hospital, USA, ³The Bio-X Institutes, Key Laboratory for the Genetics of Developmental & Neuropsychiatric Disorders, Ministry of Education, Shanghai Jiao Tong University, China, ⁴University of Michigan School of Dentistry, USA, ⁵Key Laboratory of the Ministry of Education for Experimental Teratology, Shandong University, China, ⁶Shanghai 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, ZaWaunya 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 Abdelgawad¹, Jean-Marie Delaisse^{*2}, Maja Hinge¹, Ragad Walid Hamid¹, Lars Rolighed³, Lars H Engelholm⁴, Niels Marcussen⁵, Thomas Levin Andersen¹. ¹Department of Clinical Cell Biology (KCB), Vejle Hospital – Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, Denmark, ²Vejle Hospital, IRS, University of Southern Denmark, Denmark, ³Aarhus University Hospital, Denmark, ⁴The Finsen Laboratory, Rigshospitalet/Biotech Research & Innovation Centre (BRIC), University of Copenhagen, Denmark, ⁵Department 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 Gastel¹, Karen Moermans¹, Ingrid Stockmans¹, Geert Carmeliet². ¹Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, Belgium, ²Katholieke 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 Yen¹, Gunes Uzer¹, Zhihui Xie¹, Buer Sen², Maya Styner³, Keith Burrige¹, Janet Rubin³. ¹University of North Carolina, USA, ²University of North Carolina At Chapel Hill, USA, ³University 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 Le¹, Jeremy Stubblefield², Carla Green², Clifford Rosen³. ¹Maine medical center research institute, USA, ²Department of Neuroscience, University of Texas Southwestern Medical Center, USA, ³Maine Medical Center, USA
Disclosures: Anyonya Guntur, None

OSTEOCLASTS - FUNCTION: BONE RESORPTION MECHANISMS

- SU0248 Dibenazepine, a gamma-secretase inhibitor, inhibits osteoclastic bone resorption by suppressing c-Src activation**
 Bong Jun Kim*¹, Won Jong Jin¹, Hong-Hee Kim², Hyunil Ha³, Zang Hee Lee⁴.
¹Department of Cell & Developmental Biology, School of Dentistry, Seoul National University, South Korea, ²Seoul National University, South Korea, ³Korean Medicine-Based Herbal Drug Development Group, Korea Institute of Oriental Medicine, South Korea, ⁴Seoul 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 Hakami¹, Keisuke Kimura¹, Masahiko Ishida², Jafari Saeed¹, Haruki Sugisawa¹, Teruko Takano-Yamamoto¹. ¹Tohoku University, Japan, ²Tohoku 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 Kadoyama², Mineo Watanabe², Takashi Uchida². ¹Hiroshima University Institute of Biomedical & Health Sciences, Japan, ²Hiroshima 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 Osdoby¹, Patricia Collin-Osdoby*¹, Linda Rothe², Xuefeng Yu³. ¹Washington University in St. Louis, USA, ²Washington University, USA, ³Tongji Hospital, China
Disclosures: Patricia Collin-Osdoby, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

- SU0252 BMP Responsive Smads Are Required for Osteoclast Differentiation**
 Amy Tasca*¹, Melissa Stemig², Aaron Broege¹, Brandon Huang¹, Eric Jensen¹, Kim Mansky¹, Raj Gopalakrishnan¹. ¹University of Minnesota, USA, ²University 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 Hill², Steven Goldring¹, Tania Crotti³, Gerald Nabozny², Kevin McHugh⁴. ¹Hospital for Special Surgery, USA, ²Boehringer Ingelheim Pharmaceuticals, Inc., USA, ³University of Adelaide, Australia, ⁴University of Florida, USA
Disclosures: Ed Purdue, None
- SU0255 The microRNA-26a regulates RANKL- induced osteoclast differentiation**
 Kabsun Kim*¹, Jung Ha Kim², Nacksung Kim³. ¹Chonnam National University Medical School, South Korea, ²South Korea, ³Chonnam 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

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

- SU0257 A critical role of *Tet2* in osteoclastogenesis by maintaining the level of 5-hydroxymethylcytosine in the genome**
Mingjiang Xu*¹, Ling Li¹, Zhigang Zhao², Feng-Chun Yang². ¹Indiana University School of Medicine, USA, ²Indiana 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 Yoon², Shin-Yoon Kim³, Young-Ran Yoon². ¹South Korea, ²Kyungpook National university, South Korea, ³Kyungpook 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 Chung¹, In-Jin Cho*¹, Kyung Hee Choi¹, Yoo-Chul Hwang¹, In-kyung Jeong¹, Kyu Jeung Ahn¹, Hyoung-moo Park². ¹Kyung Hee University, South Korea, ²Chung-ang University, South Korea
Disclosures: In-Jin Cho, None
- SU0260 Feedback regulation of osteoclastogenesis by exosomes**
Lexie Holliday*¹, Lindsay VonMoss¹, Nancy Huynh¹, Pooja Patel¹, Wellington Rody¹, Kevin McHugh². ¹University of Florida College of Dentistry, USA, ²University of Florida, USA
Disclosures: Lexie Holliday, None
- SU0261 Identification and analysis of function of a novel splicing variant of receptor activator of NF-κB**
Riko Kitazawa*¹, Ryuma Haraguchi¹, Yosuke Mizuno², Sohei Kitazawa¹. ¹Ehime University, Japan, ²Ehime University Hospital, Japan
Disclosures: Riko Kitazawa, None
- SU0262 Iron Homeostasis is Critical for Osteoclast Differentiation**
Toshifumi Fujiwara*¹, Jian Zhou², Shiqiao Ye¹, Stavros Manolagas¹, Haibo Zhao¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²UAMS, 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 Ahn², Hyeonmok Kim³, Sun-Young Lee⁴, Ji-Eun Baek⁴, Sook-Young Park¹, Su-Youn Lee⁴, Young-Sun Lee¹, Beom-Jun Kim⁵, Seung Hun Lee², Jung-Min Koh⁵, Ghi Su Kim². ¹Asan Institute for Life Sciences, South Korea, ²Asan Medical Center, University of Ulsan College of Medicine, South Korea, ³Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South Korea, ⁴Asan Institute for Life Science, South Korea, ⁵Asan 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 Tomomura². ¹Meikai University, School of Dentistry, Japan, ²Meikai 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 Kim¹, Youngil Seo². ¹Konkuk University Medical Center, South Korea, ²Hallym University Sacred Heart Hospital, South Korea
Disclosures: Sang-Heon Lee, None

OSTEOCYTES: BONE REMODELING REGULATION

- 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 Piemontese², Priscilla Baltz², Stavros Manolagas¹, Charles O'Brien¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²University 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 Rumpler², Ines Sturmlechner², Silvia Spitzer², Klaus Klaushofer³, Amel Dudakovic⁴, Andre Van Wijnen⁴, Franz Varga². ¹Ludwig Boltzmann Institute of Osteology, USA, ²Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Austria, ³Hanusch Hospital, Ludwig Boltzmann Institute of Osteology, Austria, ⁴Mayo 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 Zhu¹, Joanne Walker*², Benhua Sun³, Steven Tommasini¹, Christine Simpson³, Joshua VanHouten³, Karl Insogna³. ¹Yale University, USA, ²Yale School of Medicine, USA, ³Yale 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 Duan², Ning Zhao³, Mark Johnson⁴, Lynda Bonewald⁵. ¹Department of Oral & Craniofacial Sciences, USA, ²Oral & Craniofacial Sciences, USA, ³univ of missouri kansas city, USA, ⁴University of Missouri, Kansas City Dental School, USA, ⁵University 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 Pitsillides². ¹United Kingdom, ²Royal Veterinary College, United Kingdom
Disclosures: Ahmed Aljazzar, None
- SU0272 Mutual Enhancement of Differentiation of Osteoblasts and Osteocytes Occurs Through Direct Cell-cell Communication**
Qian Xing¹, Koji Fujita¹, Sundeep Khosla², David Monroe*³. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA, ³Mayo 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 Scemes², David Spray², Jelena Basta-Pljakic¹, Robert Majeska³, Mitchell Schaffler¹. ¹City College of New York, USA, ²Albert Einstein College of Medicine, USA, ³City College of New York, USA
Disclosures: Wing-Yee Cheung, None
- SU0274 Strontium Ranelate is more efficient when combined with physical activity**
Priscilla Aveline¹, Eric Lespessailles², Claude Laurent Benhamou³, Thomas M Best⁴, Hechmi Toumi*¹. ¹Univ. Orléans, I3MTO Laboratory, EA 4708, Hospital of Orléans, 1 rue Porte Madeleine, F-45032 Orléans, France, ²Centre Hospitalier Regional Orleans, France, ³CHR ORLEANS, France, ⁴Division 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 Miyagawa², Masanobu Kawai¹, Miwa Yamazaki¹, Kanako Tachikawa¹, Yuko Mikuni-Takagaki³, Mikihiro Kogo², Keiichi Ozono⁴, Toshimi Michigami¹. ¹Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, ²Osaka University Graduate School of Dentistry, Japan, ³Kanagawa Dental University Graduate School of Dentistry, Japan, ⁴Osaka 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, Vladimir 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 Gortazar², Keith Condon¹, Hugo Gabilondo¹, Marta Maycas¹, Teresita Bellido¹. ¹Indiana University School of Medicine, USA, ²Universidad 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 Kubota¹, Wataru Yashiro², Atsushi Momose², Makoto Morikawa³, Koichi Matsuo⁴. ¹Ratoc System Engineering Co., Ltd., Japan, ²Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, ³Laboratory of Cell & Tissue Biology, School of Medicine, Keio University, Japan, ⁴School 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.**

Manuel Muñoz-Torres^{*1}, Cristina Novo-Rodríguez², Rebeca Reyes-García³, Pedro Rozas-Moreno⁴, Antonia García-Martin⁵, Veronica Avila-Rubio², Sonia Morales-Santana², Beatriz García-Fontana², Fernando Escobar-Jimenez². ¹Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada., Spain, ²Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada, Spain, ³Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada. Endocrinology Unit. Hospital General Universitario Rafael Mendez, Lorca, Murcia., Spain, ⁴Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada. Endocrinology. Hospital General de Ciudad Real, Spain, ⁵Bone Metabolic Unit (RETICEF), Endocrinology Division, Hospital Universitario San Cecilio, Instituto de Investigación de Granada. Endocrinology. Hospital Comarcal de Moroste, Caravaca de la Cruz, Murcia., Spain

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 Ahn², Beom-Jun Kim³, Seung Hun Lee², Ghi Su Kim², Jung-Min Koh³. ¹South Korea, ²Asan Medical Center, University of Ulsan College of Medicine, South Korea, ³Asan Medical Center, South Korea

Disclosures: HyeonMok Kim, None

- SU0281 How accurate is your sclerostin measurement? Comparison between two commercially available sclerostin ELISA kits.**
Isabelle Picc*¹, Emily Fisher², Christopher Washbourne², Jonathan Tang³, William Fraser². ¹BioAnalytical Facility, University of East Anglia, United Kingdom, ²University of East Anglia, United Kingdom, ³University of East Anglia, Norwich, UK, United Kingdom
Disclosures: Isabelle Picc, None
- SU0282 LC-MS/MS Measurement of Urine Free Collagen Crosslinks Pyridinoline and Deoxypyridinoline: Urine Markers of Bone Resorption.**
Jonathan Tang*¹, John Dutton², Darrell Green³, Isabelle Picc⁴, Emily Fisher³, Christopher Washbourne³, William Fraser³. ¹University of East Anglia, Norwich, UK, United Kingdom, ²Royal Liverpool & Broadgreen University Hospital, United Kingdom, ³University of East Anglia, United Kingdom, ⁴BioAnalytical 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 Vittinghoff², Ann Schwartz², Douglas Bauer², Kristine Ensrud³, Elizabeth Barrett-Connor⁴, Richard Eastell⁵, Dennis Black². ¹San Francisco VA Medical Center, University of California, San Francisco, USA, ²University of California, San Francisco, USA, ³University of Minnesota & Minneapolis VA Health Care System, USA, ⁴University of California, San Diego, USA, ⁵University 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 Burghardt², Narihiro Okazaki², Makoto Osaki³, Sharmila Majumdar². ¹Nagasaki University School of Medicine, Japan, ²University of California, San Francisco, USA, ³Nagasaki 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 Yamaguchi², Nobuaki Kiyohara¹, Noriko Nakata¹, Toshitsugu Sugimoto³. ¹Shimane University Faculty of Medicine, Japan, ²Shimane University Faculty of Medicine, Jpn, ³Shimane 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 Kienzl¹, Lukas Fischer¹, Thomas Gross², Matthew DiFranco¹, Michael Weber¹, Alexander Valentinitzsch³, Peter Jaksch¹, Walter Klepetko¹, Rodrig Marculescu¹, Peter Pietschmann⁴, Claudia Schueller-Weidekamm¹, Franz Kainberger¹, Georg Langs¹, Janina Patsch*¹. ¹Medical University of Vienna, Austria, ²Vienna University of Technology, Austria, ³Klinikum rechts der Isar, Technische Universität München, Germany, ⁴Department 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 Englbrecht², Arnd Kleyer², Judith Haschka³, David Simon², Stephanie Finzel², Sebastian Kraus², Christian Muschitz⁴, Heinrich Resch⁵, Klaus Engelke⁶, Juergen Rech², Georg Schett². ¹St. Vincent Hospital Vienna, Austria, ²Department of Internal Medicine 3 & Institute of Clinical Immunology, University of Erlangen-Nurnberg, Germany, ³University Hospital Erlangen-Nuremberg, Deu, ⁴St. Vincent's Hospital, Austria, ⁵Medical University Vienna, Austria, ⁶University of Erlangen, Germany
Disclosures: Roland Kocijan, None

- SU0289 Trabecular Bone Microarchitecture of lumbar spine is Deteriorated in Patients with Type 2 Diabetes Mellitus.**
 Kenichiro Matsuzaki*¹, Toshihide Kawai², Takeshi Miyamoto³, Kensuke Mio⁴, Hironori Kaneko⁵, Keisuke Horiuchi⁶, Morio Matsumoto⁶, Koichi Nemoto⁴. ¹National Defense Medical College, Japan, ²Dept. of Internal Medicine, Keio Univ., Japan, ³Keio University School of Medicine, Japan, ⁴Dept. of Orthopaedic Surgery, National Defense Medical College, Japan, ⁵Keio University, Japan, ⁶Dept. 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 Barbosa², Didier Hans³, Manuel Bicho⁴. ¹Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN,EPE, Portugal, ²Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, ³Lausanne University Hospital, Switzerland, ⁴Genetic 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 Winzenrieth², Margarita Deleze³, Fidencio Cons-Molina⁴, Jorge Morales⁵, Didier Hans⁶, Bruno Muzzi Camargos⁷. ¹Hospital Infantil Federico Gomez-Facultad de Medicina UNAM, Mexico, ²Med-imaps, Hôpital X. Arnoz, PTIB, Pessac, France, ³Hospital Angeles Puebla, Mexico, ⁴Centro de Investigacion en Artritis y Osteoporosis, Mexico, ⁵Hospital Aranda de la Parra, Mexico, ⁶Lausanne University Hospital, Switzerland, ⁷Densimeter Hospital Mater Dei, Brazil
Disclosures: Patricia Clark, None

- SU0292 Glucocorticoid-induced osteoporosis in patients with pulmonary diseases, 4-year observation of treatment compliance**
 Vaclav Vyskocil*¹, Monika Honnerova². ¹Center for Metabolic Bone Diseases, Czech Republic, ²Metabolic Bone Disease Center, Czech Republic
Disclosures: Vaclav Vyskocil, None

- SU0293 Subject Position on Accuracy of Vertebral Measurement**
 Bo Fan*¹, Meng Lian², Cassidy Powers², Neda Sarafrazi Isfahani³, Mita Patel⁴, John Shepherd¹. ¹University of California, San Francisco, USA, ²University of California San Francisco, USA, ³Nutritional Epidemiologist National Health & Nutrition Examination Survey National Center for Health Statistics Centers for Disease Control & Prevention, USA, ⁴Westat, 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 Riekkinen², John Schousboe³. ¹Bone Index Finland Ltd., Finland, ²Bone Index Finland, Ltd., Finland, ³Park 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 Steiger², Patricia Garrett³, Marsha Zion³, Robert Lindsay³, Felicia Cosman³. ¹Columbia University & Helen Hayes Hospital, USA, ²Paroxel, United Kingdom, ³Helen Hayes Hospital, USA
Disclosures: Jeri Nieves, None
- SU0298 Clinical Ultrasonic Bone Assessment of the 1/3 Radius**
 Emily Stein*¹, Fernando Rosete¹, Gangming Luo², Mariana Bucovsky¹, Jonathan Kaufman², Elizabeth Shane¹, Robert Siffert³. ¹Columbia University College of Physicians & Surgeons, USA, ²CyberLogic, Inc., USA, ³The 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 Sugino¹, Shinichiro Yamada¹, Yae Iwamoto¹, Keiichi Uchida¹, Mikio Kamimura². ¹Matsumoto Dental University, Japan, ²Center 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 Faria¹, Renata Diniz¹, Alan Brett², Keenan Brown³. ¹Hospital Mater Dei, Brazil, ²Mindways Software, Inc., USA, ³Mindways Software, USA
Disclosures: Bruno Camargos, None
- SU0301 Self-directed Training for Recognition of Vertebral Fractures**
 Sharon Chou*¹, Jessica Hwang¹, Peter Steiger², Tamara Vokes¹. ¹University of Chicago, USA, ²PAREXEL 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 Arentsen¹, Keenan Brown², patrick Bolan¹, Rahel Ghebre¹, Levi Downs¹, Ryan Shanley¹, Karen Hansen³, Anne Minenko¹, Yutaka Takahashi¹, Masashi Yagi¹, Yan Zhang⁴, Sharon Allen¹, Bruno Beomonte Zobel⁵, Chap Le¹, Jerry Froelich¹, Clifford Rosen⁶, Douglas Yee¹. ¹University of Minnesota, USA, ²Mindways Software, USA, ³University of Wisconsin, USA, ⁴Medtronic, USA, ⁵Campus Bio-Medico University, Italy, ⁶Maine 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 Leoncini², Francesco Franceschelli², Maria Luisa Brandi³. ¹University of Florence, Italy, ²Department of Surgery & Translational Medicine, University Hospital of Florence, Italy, ³Direttore Malattie Del Metabolismo Minerale E Osseo, Azienda Ospedaliera Univers, Italy
Disclosures: Laura Masi, None

- SU0304 Association of C6orf97 and ESRI region with Bone mineral density in postmenopausal Mexican women**
 Alma Parra-Torres¹, Humberto García-Ortiz², Manuel Castillejos-López³, Rogelio Jiménez-Ortega⁴, Nelly Patiño⁵, Quiterio Manuel⁶, Lorena Orozco⁷, Jorge Salmerón⁸, Rafael Velazquez-Cruz^{*4}. ¹Laboratorio Genómica del Metabolismo Óseo, Instituto Nacional de Medicina Genómica, Mexico, ²Laboratorio de Inmunogenómica y Enfermedades Metabólicas, Instituto Nacional de Medicina Genómica, Mexico, ³Unidad de Vigilancia Epidemiológica Hospitalaria, Instituto Nacional de Enfermedades Respiratorias, Mexico, ⁴Laboratorio de Genómica del Metabolismo Óseo, Instituto Nacional de Medicina Genómica, Mexico, ⁵Subdirección de Desarrollo de Aplicaciones Clínicas, Instituto Nacional de Medicina Genómica, Mexico, ⁶Centro de Investigación en Salud Poblacional, Instituto Nacional de Salud Pública, Mexico, ⁷Laboratorio de Inmunogenómica y Enfermedades Metabólicas, Instituto Nacional de Medicina Genómica, Mexico, ⁸Unidad de Investigación Epidemiológica y en Servicios de Salud, Instituto Mexicano del Seguro Social, Mexico
Disclosures: Rafael Velazquez-Cruz, None
- SU0305 Association of P2Y₂ Receptor Single-Nucleotide Polymorphism with Bone Mineral Density in Elderly Men**
 Maria Ellegaard^{*1}, Magnus Karlsson², Mattias Lorentzon³, Claes Ohlsson⁴, Dan Mellstrom⁵, Osten Ljunggren⁶, Peter Schwarz⁷, Niklas Jorgensen¹. ¹Copenhagen University Hospital Glostrup, Denmark, ²Skåne University Hospital Malmö, Lund University, Sweden, ³Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ⁴Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, ⁵Sahlgrenska University Hospital, Sweden, ⁶Uppsala University Hospital, Sweden, ⁷Glostrup 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 McGuigan¹, Holger Luthman², Kristina Akesson³. ¹University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, ²Medical Genetics Unit, Department of Clinical Sciences, Malmö, Lund University, Sweden, ³Skåne 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 Kang², Seong Hee Ahn¹, Kyeong-Hye Lim¹, Gun Eui Lee³, Eun-Soon Shin³, Jong-Eun Lee³, Beom-Jun Kim⁴, Eun-Hee Cho⁵, Sang-Wook Kim⁵, Tae-Ho Kim⁶, Hyun-Ju Kim⁷, Kun-Ho Yoon², Won Chul Lee⁸, Ghi Su Kim¹, Jung-Min Koh⁴, Shin-Yoon Kim⁹. ¹Asan Medical Center, University of Ulsan College of Medicine, South Korea, ²Seoul St. Mary's Hospital, The Catholic University of Korea, South Korea, ³DNA Link, South Korea, ⁴Asan Medical Center, South Korea, ⁵Kangwon National University College of Medicine, South Korea, ⁶Kyungpook National University School of Medicine, South Korea, ⁷Skeletal Diseases Genome Research Center & Kyungpook National University School of Medicine, South Korea, ⁸The Catholic University of Korea, South Korea, ⁹Kyungpook 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 Trynka², David Karasik³, Douglas Kiel¹, Yi-Hsiang Hsu⁴. ¹Hebrew SeniorLife, USA, ²Broad Institute, USA, ³Hebrew SeniorLife; Bar Ilan University, USA, ⁴Hebrew 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 Schlammerl², William Mercer³, David Hanley⁴, Jonathan Adachi⁵, Christopher Kovacs⁶. ¹University of British Columbia, Canada, ²Technical University of Munich, Germany, ³Centre for Menstrual Cycle & Ovulation Research, Canada, ⁴University of Calgary, Canada, ⁵St. Joseph's Hospital, Canada, ⁶Memorial 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 Lee¹, Hyeonmok Kim¹, Beom-Jun Kim², Jung-Min Koh². ¹Asan Medical Center, University of Ulsan College of Medicine, South Korea, ²Asan 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 Cheng², Marian Hannan³, Yi-Hsiang Hsu⁴, Lisa Strano-Paul¹, Michael Lavalley⁵, Thomas Beck⁶, Douglas Kiel², David Karasik⁷. ¹Stony Brook University, USA, ²Hebrew SeniorLife, USA, ³HSL Institute for Aging Research & Harvard Medical School, USA, ⁴Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁵Biostatistics, Boston University Sch of Public Health, USA, ⁶Beck Radiological Innovations, Inc., USA, ⁷Hebrew SeniorLife; Bar Ilan University, USA
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- SU0312 Idiopathic and Secondary Osteoporosis in Premenopausal Women**
 Alicia Bagur*¹, Silvina Mastaglia², Beatriz Oliveri³, Diana González⁴, Elizabeth Sarnacki³, Candela Fernández³, Carlos Mautalen⁵. ¹Mautalen Salud e Investigacion, Argentina, ²SECCIÓN OSTEOPATÍAS MÉDICAS, HOSPITAL DE CLÍNICAS, Argentina, ³Mautalen, Salud e Investigación, Argentina, ⁴Mautalen Salud e Investigación, Argentina, ⁵Centro 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 Choi¹, Sun-Seog Kweon², Jin-Su Choi², Jung-Ae Rhee², Young-Hoon Lee³, Hae-Sung Nam⁴, Hee Nam Kim⁵, Min-Ho Shin*⁶. ¹Department of Preventive Medicine, Chosun University Medical School, Gwangju, Republic of Korea, South Korea, ²Department of Preventive Medicine, Chonnam National University Medical School, South Korea, ³Department of Preventive Medicine & Institute of Wonkwang Medical Science, Wonkwang University College of Medicine, South Korea, ⁴Department of Preventive Medicine, Chungnam National University Medical School, South Korea, ⁵Center for Creative Biomedical Scientists, Chonnam National University, South Korea, ⁶Chonnam 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**
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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**
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- SU0317 Degree of Trauma Differs for Major Osteoporotic Fracture Events in Older Men vs. Older Women**
Kristine Ensrud^{*1}, Terri Blackwell², Peggy Cawthon², Dawn Mackey³, Douglas Bauer⁴, Howard Fink⁵, John Schousboe⁶, Dennis Black⁴, Eric Orwoll⁷, Deborah Kado⁸, Jane Cauley⁹. ¹University of Minnesota & Minneapolis VA Health Care System, USA, ²California Pacific Medical Center Research Institute, USA, ³Simon Fraser University, Canada, ⁴University of California, San Francisco, USA, ⁵GRECC, Minneapolis VA Medical Center, USA, ⁶Park Nicollet Clinic, University of Minnesota, USA, ⁷Oregon Health & Science University, USA, ⁸University of California, San Diego, USA, ⁹University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Kristine Ensrud, Merck Sharpe & Dohme, 5
- 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. Brown², Philippe Gamache³, Suzanne Morin⁴, Siobhan O'Donnell⁵, William Leslie⁶, Louis Bessette⁷. ¹Institut National De Santé Publique Du Québec, Canada, ²CHU de Québec Research Centre, Canada, ³INSPQ, Canada, ⁴McGill University, Canada, ⁵PHAC, Canada, ⁶University of Manitoba, Canada, ⁷CHU de Quebec Research Centre, Canada
Disclosures: Sonia Jean, None
- SU0320 Serum 25-hydroxy vitamin D levels and fracture risk: The Dubbo Osteoporosis Epidemiology Study**
Weiwen Chen^{*1}, Nguyen Nguyen², Tuan Nguyen², Jacqueline Center², John Eisman². ¹St Vincent's Hospital (Sydney), Australia, ²Garvan Institute of Medical Research, Australia
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 Reyes², Manuel Munoz-Torres³, Antonia Garcia-Martin⁴, Ines Luque-Fernandez⁴, Verónica Avila-Rubio⁴, Beatriz Garcia-Fontana⁴, Sonia Morales-Santana⁴. ¹Endocrinology Division. Hospital General de Ciudad Real. Ciudad Real, Spain., Spain, ²Bone Metabolic Unit., Spain, ³Hospital Universitario San Cecilio, Spain, ⁴Bone Metabolic Unit, Spain
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- SU0323 Hypothyroidism, thyroxine replacement and major osteoporotic fractures – The OPENTHYRO register cohort.**
Bo Abrahamsen^{*1}, Henrik L Jørgensen², Anne Sofie Laulund², Mads Nybo³, Douglas Bauer⁴, Thomas H Brix³, Laszlo Hegedüs³. ¹University of Southern Denmark, Denmark, ²Bispebjerg Hospital, Denmark, ³Odense University Hospital, Denmark, ⁴University 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 Harrison², Kristine Ensrud³, Peggy Cawthon⁴, Nancy Lane⁵, Thuy-Tien Dam⁶, Joseph Zmuda⁷, Steven Cummings², Jane Cauley⁷. ¹CDC, USA, ²San Francisco Coordinating Center, USA, ³University of Minnesota & Minneapolis VA Health Care System, USA, ⁴California Pacific Medical Center Research Institute, USA, ⁵University of California, Davis Medical Center, USA, ⁶Division of Geriatric Medicine & Aging, Columbia University, USA, ⁷University 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 Odén², Mattias Lorentzon³, Eugene McCloskey⁴, Nicholas Harvey⁵, John Kanis⁶, Magnus Karlsson⁷, Dan Mellström⁸. ¹Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, ²Sheffield University, United Kingdom, ³Geriatric Medicine, Center for Bone Research at the Sahlgrenska Academy, Sweden, ⁴University of Sheffield, United Kingdom, ⁵MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁶University of Sheffield, Belgium, ⁷Skåne University Hospital Malmö, Lund University, Sweden, ⁸Sahlgrenska 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 Tran¹, Carol Zapalowski², Nadia Daizadeh¹, Thomas Olingenski³, Jane Cauley⁴. ¹Amgen Inc., USA, ²Amgen, USA, ³Geisinger Health System, USA, ⁴University 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 Kweon², Jin-Su Choi², Jung-Ae Rhee², Min-Ho Shin³. ¹Center for Creative Biomedical Scientists, Chonnam National University, South Korea, ²Department of Preventive Medicine, Chonnam National University Medical School, South Korea, ³Chonnam National University Medical School, South Korea
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- SU0329 Serum 25-Hydroxvitamin D, Skin Phototype, Sun Exposure and the Metabolic Risk in a Large Sample of Subjects Living in the Tropics**
Francisco Bandeira¹, Maria Azevedo², ALINE CORREIA³, Larissa Pimentel^{*4}, Sirley Vasconcelos⁵. ¹University of Pernambuco, Brazil, ²endocrinology & diabetes, Brazil, ³Endocrinology & diabetes unit of agamenon Magalhães Hospital, Brazil, ⁴Brazil, ⁵Hospital 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 Moriawaki², Kiyoshi Tanaka³, Yoshitaka Ikeda⁴, Kazuhiro Uenishi⁵, Shunpei Niida². ¹Saitama Medical University, Japan, ²Biobank, National Center for Geriatrics & Gerontology, Japan, ³Kyoto Women's University, Japan, ⁴Department of Biomolecular Sciences, Faculty of Medicine, Saga University, Japan, ⁵Kagawa 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 Choi², Eu Jeong Ku¹, Kyoung Min Kim³, Sang Wan Kim⁴, Nam H. Cho⁵, Chan Soo Shin⁶. ¹Seoul National University College of Medicine, South Korea, ²Chungbuk National University Hospital, South Korea, ³Seoul National University Bundang Hospital, South Korea, ⁴Seoul National University College of Medicine, Boramae Hospital, South Korea, ⁵Ajou University School of Medicine, South Korea, ⁶Seoul 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 Wyman², Stephen Gehlbach³, Nelson Watts⁴, Ethel Siris⁵, Coen Netelenbos⁶, Adolfo Diez-Perez⁷, Cyrus Cooper⁸, Roland Chapurlat⁹, Silvano Adami¹⁰, Jonathan Adachi¹¹, Gordon FitzGerald². ¹University of Cambridge School of Clinical Medicine, United Kingdom, ²UMASS Medical School, USA, ³University of Massachusetts, USA, ⁴Mercy Health Osteoporosis & Bone Health Services, USA, ⁵Columbia University College of Physicians & Surgeons, USA, ⁶VU Medical Center, The Netherlands, ⁷Autonomous University of Barcelona, Spain, ⁸University of Southampton, United Kingdom, ⁹E. Herriot Hospital, France, ¹⁰University of Verona, Italy, ¹¹St. 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 Recknor², Norma MacIntyre³. ¹United Osteoporosis Center, USA, ²United Osteoporosis Centers, USA, ³McMaster 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 Zeldow¹, David Lee*². ¹National Bone Health Alliance, USA, ²NBHA, USA
Disclosures: David Lee, None

SU0335 Differences in Characteristics of Osteoporosis Patients Treated by Endocrine and Non-Endocrine Specialties
 Leyda Callejas*¹, Philip Orlander², Kelly Wirfel³, Nahid Rianon⁴. ¹University of Texas at Health Science Center, USA, ²Department of Endocrinology Diabetes & Metabolism, University of Texas Health Science Center, USA, ³Department of Endocrinology Diabetes & Metabolism, University of Texas Health Science Center, USA, ⁴UTHealth The University of Texas Medical School at Houston, USA
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SU0336 Factors Associated with Non-Receipt of Osteoporosis Therapy Following an Osteoporotic Fracture
 Delia Scholes*¹, Do Peterson², Akhila Balasubramanian³, Cynthia O'Malley⁴, Jane Grafton², Jackie Saint-Johnson², Denise Boudreau². ¹Group Health Cooperative, Group Health Research Institute, USA, ²Group Health Research Institute, USA, ³Amgen Inc., USA, ⁴Amgen, 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 Kendler², Kelly Krohn³, Harry Genant⁴, Pierre-Yves Berclaz¹, Corina Loghini¹. ¹Eli Lilly & Company, USA, ²Associate Professor, University of British Columbia, Canada, ³Lilly USA, LLC, USA, ⁴UCSF/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 Pearson², Kenneth Lyles³, Patricia Jenkins², Cathleen Colon-Emeric³. ¹Duke University, USA, ²Durham VAMC, USA, ³Duke 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 Levesque², Andrea Gershon³, Guoyuan Liu², Yan Yun Liu¹, Suzanne Cadarette¹. ¹University of Toronto, Canada, ²Queen's University, Canada, ³Sunnybrook 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

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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 Layton¹, Joel Farley¹, Alan Brookhart¹, Chad Deal², Margaret Gourlay¹. ¹University of North Carolina, USA, ²Cleveland Clinic Foundation, USA
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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 Weiler², Michelle Wall¹, Rouba Haddad³, Emily Rose Hamilton-Leavitt³, Stella Daskalopoulou⁴, David Goltzman⁴, Suzanne Morin⁴. ¹McGill University Health Centre Research Institute, Canada, ²McGill University, USA, ³School of Dietetics & Human Nutrition, McGill University, Canada, ⁴McGill 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 Saarnio¹, Virpi Kemi², Heini Karp², Minna Pekkinen³, Juha Risteli⁴, Marja-Kaisa Koivula⁵, Harri Sievanen⁶, Christel Lamberg-Allardt¹. ¹University of Helsinki, Finland, ²Calcium Research Unit, Department of Food & Environmental Sciences, University of Helsinki, Finland, ³Folkhälsan Institute of Genetics, University of Helsinki, Finland, ⁴University of Oulu, Finland, ⁵Northern Finland Laboratory Centre Nordlab & Department of Clinical Chemistry, Institute of Diagnostics, University of Oulu, Finland, ⁶The 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
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OSTEOPOROSIS - NUTRITION AND DIETARY SUPPLEMENTS: VITAMIN D

SU0345 A New Paradigm for Vitamin D Supplementation: Treat to Target Using a Vitamin D Panel

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- SU0346 Association Between Serum Levels of Vitamin D and Osteocalcin In Older Patients with Osteoporosis**
Matthew Hnatow^{*1}, Jonash Loh², Catherine Ambrose³, Nahid Rianon⁴, ¹Univeristy of Texas Health Science Center at Houston - Medical School, USA, ²UT Medical School - Houston, USA, ³University of Texas Health Science Center at Houston, USA, ⁴UTHealth The University of Texas Medical School at Houston, USA
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- SU0347 BMD changes in accordance with serum vitamin D changes in postmenopausal Korean women**
Duck Joo Lee¹, Sanghyun Je^{*2}, Beomtek Kim², ¹Ajou University School of Medicine, South Korea, ²Ajou 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-Attas¹, Soundararajan Krishnaswamy¹, Hanan Alfawaz¹, Naji Aljohani², Shaun Sabico¹, Majed Alokail¹, ¹King Saud University, Saudi Arabia, ²King 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 Güven², Fevziye UNSAL MALAS³, Murat KARA⁴, Lale AKTEKIN³, Murat ERSOZ⁴, Levent OZCAKAR⁵, ¹Hacettepe University, Turkey, ²Hacettepe University School of Medicine, Turkey, ³Ankara PMR Training & Research Hospital, Turkey, ⁴Ankara PMR Training & Rehabilitation Center, Turkey, ⁵Hacettepe 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 Fuleihan², Asma Arabi³, Sara El-Ghandour¹, Elie Akh¹, Khaled Shawwa¹, ¹American University of Beirut, Lebanon, ²American University of Beirut-Medical Center, Lebanon, ³Calcium 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 Green¹, Emily Fisher¹, Isabelle Picc², Jonathan Tang³, William Fraser¹, ¹University of East Anglia, United Kingdom, ²BioAnalytical Facility, University of East Anglia, United Kingdom, ³University of East Anglia, Norwich, UK, United Kingdom
Disclosures: Christopher Washbourne, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: BONE AND THE MICROBIOME, BONE INFECTIONS

- SU0352 Probiotic treatment prevents bone loss in type 1 diabetic mice.**
Laura McCabe¹, Sandi Raehtz^{*1}, Katherine Motyl², Jing Zhang¹, Robert Britton¹, Narayanan Parameswaran¹, Regina Irwin¹, ¹Michigan State University, USA, ²Maine 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 Fontas², Roland Chapurlat³, Patricia Panaia-Ferrari², Hedi Ben Yahia⁴, Sylvie Faure², Yacine Allam², Liana Euler-Ziegler², Ez Zoubir Amri⁴, Pawel Szulc⁵, ¹Chu De Nice, France, ²Nice University Hospital, France, ³E. Herriot Hospital, France, ⁴CNRS, iBV UMR 7277, France, ⁵INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France
Disclosures: Veronique Breuil, None

- SU0354 Pathologically Altered Osteocytes (Ocy)s are Responsible for Osteoporosis**
Yinshi Ren^{*1}, Baozhi Yuan², Ying Liu¹, Marc Drezner², Jian Feng¹. ¹Baylor college of dentistry, Texas A&M Health Science Center, USA, ²University 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 D₃, and Parathyroid Hormone in Ovariectomized Rat Bones**
Tomomaya Yamamoto^{*1}, Tomoka Hasegawa¹, Sadaoki Sakai², Satoshi Takeda³, Kimimitsu Oda⁴, Minqi Li⁵, Koichi Endo², Norio Amizuka⁶. ¹Hokkaido University, Japan, ²Chugai Pharmaceutical Co., Ltd., Japan, ³Chugai Pharmaceutical Co., LTD, Japan, ⁴Niigata University, Japan, ⁵The School of Stomatology, Shandong University, Japan, ⁶Hokkaido 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 Cunha², Leandra Ramalho², Ariane Ariane², Antonio Shimano², Marcello Nogueira-Barbosa², Ingrid Dick-de-Paula², Vanda Jorgetti³, Sandra Fukada⁴, Adriano Spirlandeli². ¹School of Medicine of Ribeirao Preto - USP, Brazil, ²Ribeirao Preto Medical School, USP, Brazil, ³University of São Paulo, Brazil, ⁴School 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 Zhang¹, Jian Li¹, Yu-Ping Wang¹, Ji-Gang Zhang¹, Jie Shen¹, Yan-Fang Guo¹, Hong-Wen Deng². ¹Center of Genomics & Bioinformatics, Tulane University, USA, ²Tulane 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 Monroe², Sundeep Khosla³. ¹Mayo Clinic, USA, ²Mayo Foundation, USA, ³Mayo 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 Shen², Jodi Lapidus³, Peggy Cawthon⁴, Andy Hoffman⁵, Steven Cummings⁶, Eric Orwoll². ¹University of California, San Francisco, USA, ²Oregon Health & Science University, USA, ³OHSU, USA, ⁴California Pacific Medical Center Research Institute, USA, ⁵Stanford, USA, ⁶San 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 Lucia², Felliipe Augusto Tocchini de Figueiredo³, Junia Ramos⁴, Daniela Mizusaki Iyomasa³, Mamie Mizusaki Iyomasa⁵, Ana Paula Macedo⁴, Roberta Carminati Shimano³. ¹USP- University of São Paulo, Brazil, ²Professor, Brazil, ³University of São Paulo, Brazil, ⁴Technician of University of São Paulo, Brazil, ⁵Professor of University of São Paulo, Brazil
Disclosures: João Paulo Mardegan Issa, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GLUCOCORTICIDS 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 Miyakoshi¹, Yuji Kasukawa¹, Hayato Kinoshita², Yoichi Shimada¹. ¹Akita University Graduate School of Medicine, Japan, ²Akita University, Japan
Disclosures: Kentaro Ohuchi, None

- SU0362 Osteole inhibits osteoclast formation and exerts an osteoprotective effect in mice model of 5/6 nephrectomy**
 Bing Shu*¹, Xiaofeng Li², Chunhuan Xue², Yongjian Zhao², Weiwei Da², Sheng Lu², Dezhi Tang³, Qi Shi², Yongjun Wang⁴. ¹Longhua Hospital, Peoples Republic of China, ²Longhua Hospital, Spine Research Institute, Shanghai University of TCM, China, ³Shanghai University of Traditional Chinese Medicine, Peoples Republic of China, ⁴Othopedic 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 Qiu², Hans-Jürgen Guber³, Dajin Li². ¹Fudan University, Institute of Obstetrics & Gynecology, Obstetrics & Gynecology, Peoples Republic of China, ²Laboratory for Reproductive Immunology, Hospital & Institute of Obstetrics & Gynecology, China, ³Department 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 Shea², Pamela Wolfe², Robert Schwartz², Wendy Kohrt³. ¹University of Colorado - Denver, USA, ²University of Colorado Anschutz Medical Center, USA, ³University 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 Kim², JO EUN KIM³, Yumie Rhee⁴, Sung-Kil Lim³. ¹Yonsei University Health System, South Korea, ²Severance Hospital, South Korea, ³Yonsei University College of Medicine, South Korea, ⁴Department 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 Monegal¹, Silvia Ruiz-Gaspà², Laia Gifre¹, Albert Pares³, Rosa Miquel⁴, Pilar Peris⁵, Marta Dubreuil⁶, Ana Arias⁷, Nuria Guanabens*⁸. ¹Hospital Clinic Barcelona, Spain, ²Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd). Hospital Clínic Barcelona., Spain, ³Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd). Hospital Clínic Barcelona. 3Liver Unit. Hospital Clínic of Barcelona.University of Barcelona., Spain, ⁴Department of Pathology, Hospital Clínic of Barcelona, Spain, ⁵Hospital Clínic of Barcelona, Spain, ⁶Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd). Hospital Clínic Barcelona, Spain, ⁷Department of Rheumatology. Metabolic Bone Diseases Unit. Hospital Clínic of Barcelona, Spain, ⁸Universitat 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 Ushikubo², Harumi Kuda², Yuki Takane², Kumiko Akiya², Shigenori Tamaki², Hisaji Oshima³. ¹NAGOYA Rheumatology Clinic, Japan, ²National Tokyo Medical Center, Japan, ³Tokyo 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 Kuda¹, Yuki Takane¹, Kumiko Akiya¹, Shigenori Tamaki², Ikuko Tanaka², Hisaji Oshima³. ¹National Tokyo Medical Center, Japan, ²Nagoya Rheumatology Clinic, Japan, ³Tokyo 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 Mori¹, Takatoshi Aoki², Tatsuya Atsumi³, Yutaka Kawahito⁴, Hisanori Nakayama⁵, Shigeto Tohma⁶, Hitoshi Hasegawa⁷, Kazuhide Tanimura⁸, Nobuo Negoro⁹, Yuji Yamanishi¹⁰, Yukitaka Ueki¹¹, Atsushi Kawakami¹², Katsumi Eguchi¹³, Kazuyoshi Saito¹⁴, Yosuke Okada¹⁵. ¹University of Occupational & Environmental Health, Japan, Japan, ²Department of Radiology, University of Occupational & Environmental Health, Japan, Japan, ³Hokkaido University School of Medicine, Japan, ⁴Kyoto Prefectural University of Medicine, Department of Inflammation & Immunology, Japan, ⁵Samihara National Hospital, Department of Rheumatology, Japan, ⁶Sagamihara National Hospital, National Hospital Organization, Department of Rheumatology, Clinical Research Center for Allergy & Rheumatology, Japan, ⁷Ehime University Graduate School of Medicine, Department of Rheumatology, Japan, ⁸Hokkaido Medical Center for Rheumatic Diseases, Japan, ⁹Clinical Immunology & Rheumatology, Osaka City University, Japan, ¹⁰Department of Rheumatology, Hiroshima Rheumatology Clinic, Japan, ¹¹Sasebo Chuo Hospital, Rheumatic & Collagen Disease Center, Japan, ¹²Nagasaki University Graduate School of Biomedical Sciences, Department of Immunology & Rheumatology, Japan, ¹³Sasebo Municipal Hospital, Department of Internal Medicine, Japan, ¹⁴The First Department of Internal medicine, University of Occupational & Environmental Health, Japan, Japan, ¹⁵University 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 Lesage², Susan Y. Smith¹, Gary Hattersley³. ¹Charles River Laboratories, Canada, ²Charles River, Canada, ³Radius, 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 Varela¹, Susan Y. Smith¹, Gary Hattersley². ¹Charles River Laboratories, Canada, ²Radius, USA
Disclosures: Nancy Doyle, Charles River Laboratories, 3
- 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-Kosse², Robert Recker³, Joan Lappe⁴, David Dempster², Hua Zhou⁵, Serge Cremers², Mariana Bucovsky², Julie Stubby³, Elizabeth Shane⁶. ¹Columbia University Medical Center, USA, ²Columbia University, USA, ³Creighton University, USA, ⁴Creighton University Osteoporosis Research Center, USA, ⁵Helen Hayes Hospital, USA, ⁶Columbia 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 Hans², Richard Bockman³. ¹New York Presbyterian Hospital/Weill-Cornell Medical Center, USA, ²Lausanne University Hospital, Switzerland, ³Hospital 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 Dai¹, Yu-An Lay², Li Jiang², Xiaodong Li³, Hua Zhu (David) Ke⁴, Nancy Lane⁵, Wei Yao^{*5}. ¹Longhua Hospital Shanghai University of Traditional Chinese Medicine, USA, ²UC Davis Medical center, USA, ³Amgen, Inc., USA, ⁴Amgen Inc., USA, ⁵University 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 Monegal¹, Xavier Filella², Africa Muxi³, Nuria Guanabens⁴, Pilar Peris⁵. ¹Hospital Clinic Barcelona, Spain, ²Department of Biochemistry & Molecular Genetics, Hospital Clinic., Spain, ³Nuclear Medicine Department. Hospital Clinic, Spain, ⁴Universitat De Barcelona, Spain, ⁵Hospital Clinic of Barcelona, Spain
Disclosures: Laia Gifre, None
- SU0377 FRAX and the effect of teriparatide on vertebral and non-vertebral fracture**
 John Kanis¹, Anders Oden², Helena Johansson³, Russel Burge⁴, Bruce Mitlak⁴, Eugene McCloskey^{*2}. ¹University of Sheffield, Belgium, ²University of Sheffield, United Kingdom, ³Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, ⁴Eli 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 Katikaneni¹, Robyn Goforth², Andrew Seymour³, Robert Gensure⁴, Tulasi Ponnappakkam^{*5}. ¹Childrens Hospital at Montefiore/Albert Einstein College of Medicine, USA, ²BiologicsMD, Inc, USA, ³Department of Pathology, Montefiore Medical Center, USA, ⁴Children's Hospital at Montefiore, Albert Einstein College of Medicine, USA, ⁵Childrens Hospital at Montefiore, New York/Albert Einstein College of Medicine, USA
Disclosures: Tulasi Ponnappakkam, 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 Tsujimoto², Hideaki Sowa³. ¹Eli Lilly, Japan, ²Asia Pacific Statistical Science, Eli Lilly Japan K.K., Japan, ³Lilly 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 Li², Brendan Boyce³, Lianping Xing². ¹Univeristy of Rochester, USA, ²University of Rochester, USA, ³University 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 Morkry¹, Lee O'Brien², Bente Langdahl³, Brent Richards¹. ¹McGill University, Canada, ²Eli Lilly & Company, USA, ³Aarhus University Hospital, Denmark
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SU0384 TREATMENT OF SEVERE OSTEOPOROSIS IN YOUNGS WITH TERIPARATIDE AND DENOSUMAB

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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

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Disclosures: Adrian LeBlanc, None

SU0387 Bone Benefit of Fish Oil Supplementation Depends on Its EPA and DHA Content

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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

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- SU0392 Effects of denosumab on microarchitecture and bone mineral density in a Swiss outpatient women population**
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- SU0393 Effects of local administration of zoledronate for the local osteoporotic lesion of ovariectomized rats**
Yohei Matsuo*¹, Masafumi Kashii², Tsuyoshi Sugiura³, Masayuki Furuya⁴, Tokimitsu Morimoto⁴, Takahiro Makino⁴, Takaaki Noguchi⁴, Kosuke Ebina⁵, Takashi Kaito⁴, Motoki Iwasaki⁴, Hideki Yoshikawa². ¹Japan, ²Osaka University Graduate School of Medicine, Japan, ³Faculty of Medicine, Graduate School of Medicine, Osaka University, Japan, ⁴Department of Orthopaedic Surgery, Osaka University Graduate School of Medicine, Japan, ⁵Osaka 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 Cadarette², Wilson Smith¹, Andrea Burden², Amy Warriner¹, P. Jeffrey Foster¹, Huifeng Yun¹, Mary Melton¹, Jeffrey Curtis¹, Kenneth Saag¹. ¹University of Alabama at Birmingham, USA, ²University 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**
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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 Zambrana², Saad Hasan², Joseph Nguyen¹, Libi Galmer¹, Joseph Lane¹. ¹Hospital for special surgery, USA, ²Weil 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 Rotman², Bradley Stolshek³, Harold Luft⁴. ¹Palo Alto Medical Foundation, Sutter Health, USA, ²Palo Alto Medical Foundation, USA, ³Amgen, USA, ⁴Palo Alto Medical Foundation Research Institute, USA
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OSTEOPOROSIS - TREATMENT: FRACTURE REPAIR

- SU0398 Factors associated with Hardware Failure, Non-union and other Complications of Atypical Femoral Fractures**
R Bleakney*¹, Linda Probyn², Leon Lenchik³, Jonathan Adachi⁴, Aliya Khan⁵, Earl Bogoch⁶, Catherine Lang⁷, Robert Josse⁸, Angela M. Cheung⁹. ¹Mount Sinai Hospital, Canada, ²University of Toronto, Sunnybrook Health Sciences Centre, Dept Medical Imaging, Canada, ³Wake Forest University, USA, ⁴St. Joseph's Hospital, Canada, ⁵McMaster University, Canada, ⁶St. Michael's Hospital, Canada, ⁷University of Toronto, Canada, ⁸St. Michael's Hospital, University of Toronto, Canada, ⁹University Health Network-University of Toronto, Canada
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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 Iida², Masato Tobinai², Junko Hashimoto³, Takehiko Kawanishi², Yoshiaki Matsumoto⁴. ¹Japan, ²Chugai Pharmaceutical CO., LTD., Japan, ³Chugai Pharmaceutical Corporation Limited, Japan, ⁴Nihon University, Japan

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SU0402 The Effect of Food on Olanacatib Pharmacokinetics

Stefan Zajic*¹, Aubrey Stoch², David Hreniuk³, Filipos Kesiosoglou⁴, Fang Liu⁴, Deborah Panebianco⁴, Stefaan Rossenu⁵, Julie Stone⁴, Rose Witter⁴, Sachiko Yama⁶, Randall Stoltz⁷. ¹Merck Research Laboratories, USA, ²Merck & Co., Inc., USA, ³Akros Pharma, USA, ⁴Merck Research Labs, USA, ⁵Merck Research Labs, Netherlands, ⁶Merck Research Labs, Japan, ⁷Covance, 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

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Disclosures: Fatma Gossiel, None

SU0404 The effects of combination therapy of Raloxifene with Eldecacitol in postmenopausal osteoporosis switch from Alfacalcidol to Eldecacitol

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Disclosures: Kozaburo Inoue, None

OSTEOPOROSIS - TREATMENT: QUALITY OF LIFE

SU0405 Age and gender differences in the treatment of different osteoporotic fractures

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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 Jantrapakde², Anchalee Avihingsanon³, Reshmie Ramautarsing³, Nipat Teeratakulpisarn², Tanate Jadwattanakul⁴, Nittaya Phanuphak², Praphan Phanuphak³. ¹Kingchulalongkorn memorial hospital, Thailand, ²Thai Red Cross AIDS Research Centre, Thailand, ³The HIV Netherlands Australia Thailand Research Collaboration (HIV-NAT), Thai Red Cross AIDS Research Centre, Thailand, ⁴Queen Savang Vadhana Memorial Hospital, Thailand

Disclosures: Lalita Wattanachanya, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: DIABETES

SU0407 Adequate Glucose Control Attenuates the Effects of Longstanding Type 2 Diabetes on Bone
Tomaz Kocjan*¹, Ana Tomc², Jan Zmuc², Mojca Jensterle², Andrej Janez², Ajda Bicek², Janez Prezelj². ¹University Medical Centre Ljubljana, Slovenia, ²University Medical Centre Ljubljana, Slovenia

Disclosures: Tomaz Kocjan, None

SU0408 Defects in cortical microarchitecture among postmenopausal African-American women with DM2
Elaine Yu*¹, Melissa Putman², Nicolas Derrico³, Gabriela Abrishamian-Garcia³, Joel Finkelstein¹, Mary Bouxsein⁴. ¹Massachusetts General Hospital, USA, ²Massachusetts General Hospital, Children's Hospital Boston, USA, ³MGH, USA, ⁴Beth 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
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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-Read², Ralph Marino¹, Christina Oleson¹, Benjamin Leiby¹, Christopher Modlesky³. ¹Thomas Jefferson University, USA, ²Magee Rehabilitation Hospital, USA, ³University of Delaware, USA
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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]
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Disclosures: Jean Sibonga, None

SU0412 Cortical and trabecular bone microarchitecture after severe burn injury
Christian Muschitz*¹, Gabriela Katharina Muschitz², Roland Kocijan³, Gerald Ihra⁴, Heinrich Resch⁵, Lukas A. Fischer⁶, Thomas Rath². ¹St. Vincent's Hospital, Austria, ²Division of Plastic & Reconstructive Surgery Department of Surgery, Medical University Vienna, Austria, ³St. Vincent Hospital Vienna, Austria, ⁴Department of Anesthesia & Intensive Care, Medical University Vienna, Austria, ⁵Medical University Vienna, Austria, ⁶CIR Lab, Department of Radiology, Medical University of Vienna, Austria
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SU0413 Hepatitis C Infection is Associated with Lower Bone Mineral Density
Naim Maalouf*¹, Xilong Li², Beverley Huet², James Cutrell³, Roger Bedimo³. ¹University of Texas Southwestern Medical Center, Dallas, USA, ²University of Texas Southwestern Medical Center, USA, ³VA 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 Chen², Wenjun Li³, Carolyn Crandall⁴, Marilyn Kwan⁵, Meryl Leboff⁶, Jane Cauley⁷. ¹MD Anderson Cancer Center, USA, ²University of Arizona College of Public Health, USA, ³University of California, San Francisco, USA, ⁴University of California, Los Angeles, USA, ⁵Kaiser Permanente, USA, ⁶Brigham & Women's Hospital, Professor of Medicine, Harvard Medical School, USA, ⁷University 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 Kim², Joo Young Han³, So Hun Kim⁴, Moonsuk Nam⁴, Yong Seong Kim⁴. ¹INHA University, South Korea, ²Department of Nursing, Inha University, South Korea, ³Inha University hospital, South Korea, ⁴Inha 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 Leslie², Amit Garg¹, Guangyong Zou¹, Lisa-Ann Fraser¹, Suzanne Morin³, Jonathan Adachi⁴, Brian Lentle⁵, David Goltzman³, Stuart Jackson⁶, Sophie Jamal⁷. ¹Western University, Canada, ²University of Manitoba, Canada, ³McGill University, Canada, ⁴St. Joseph's Hospital, Canada, ⁵University of British Columbia, Canada, ⁶University of Alberta, Canada, ⁷The 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 Suzuki², Izumi Hiratsuka³, Mizuho Kondo-Ando³, Hiroyuki Hirai⁴, Sahoko Sekiguchi-Ueda², Takeshi Takayanagi⁵, Masaki Makino⁶, Hitomi Sasaki⁷, Mamoru Kusaka⁷, Taihei Itoh⁸, Takashi Kenmochi⁸, Kiyotaka Hoshinaga⁷, Mitsuyasu Itoh⁹. ¹Fujita Health University Division of Endocrinology, Japan, ²Fujita Health University, Division of Endocrinology, Japan, ³Division of Endocrinology & Metabolism, Department of Internal Medicine, Fujita Health University School of Medicine, Toyoake, Japan, ⁴Fujita Health University Division of Endocrinology, Japan, Japan, ⁵Division of Endocrinology & Metabolism, Department of Internal Medicine, Fujita Health University School of Medicine, Toyoake, Japan, ⁶Division of Endocrinology & Metabolism, Department of Internal Medicine, Fujita Health University School of Medicine, Toyoake, Japan, ⁷Department of Urology, Fujita Health University School of Medicine, Toyoake, Japan, ⁸Department of Organ Transplant Surgery, Fujita Health University School of Medicine, Toyoake, Japan, ⁹Division 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 Suzuki¹, Hitomi Sasaki², Midori Hasegawa³, Hiroyuki Hirai⁴, Megumi Shibata⁵, Tamotsu Sugita⁶, Masashi Sugimoto⁷, Yutaka Kinomura⁷, Hiroshi Toyama⁷, Yukio Yuzawa⁸, Kiyotaka Hoshinaga², Mitsuyasu Itoh⁹. ¹Fujita Health University, Division of Endocrinology, Japan, ²Department of Urology Fujita Health University, Japan, ³Division of Nephrology, Department of Internal Medicine Fujita Health University, Japan, ⁴Fujita Health University Division of Endocrinology, Japan, Japan, ⁵Fujita Health University Division of Endocrinology, Japan, ⁶Department Radiology Fujita Health University, Japan, ⁷Department of Radiology Fujita Health University, Japan, ⁸Department of Nephrology Fujita Health University, Japan, ⁹Division of Endocrinology & Metabolism, Japan
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PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

SU0419 SDF-1 β / BMP-2 Co-Therapy Augments BMSC-Mediated Healing of Critical-Size Mouse Calvarial Defects

Samuel Herberg*¹, Alexandra Aguilar², Sudharsan Periyasamy-Thandavan³, R. Nicole Howie¹, Mohammed Elsalanty¹, Xing-Ming Shi¹, Mark Hamrick⁴, Carlos Isaacs¹, William Hill⁵, James Cray⁶. ¹Georgia Regents University, USA, ²UCC School of Medicine, Georgia Regents University, USA, ³Georgia Regents University & Charlie Norwood VAMC, USA, ⁴Georgia Health Sciences University, USA, ⁵Georgia Regents University & Charlie Norwood VAMC, USA, ⁶Medical 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 Sterer², Tamar Liron¹, David Kohavi², Yankel Gabet³. ¹Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Tel Aviv University, Israel, ²Department of Prosthodontics, Goldschleger School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University, Israel, ³Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel
Disclosures: Michal Eger, None
- SU0421 Inflammatory Factors in the Circulation of Patients with Active Rheumatoid Arthritis Stimulate Osteoclastogenesis via Endogenous Cytokine Production by Osteoblasts**
 Janak L Pathak¹, Nathalie Bravenboer², Patrick Verschueren³, Willem F Lems⁴, Frank P Luyten³, Jenneke Klein-Nulend*⁵, Astrid D Bakker⁶. ¹ACTA-University of Amsterdam & VU University Amsterdam, Dept Oral Cell Biology, MOVE Research Institute Amsterdam, Netherlands, ²VU University Medical Center, The Netherlands, ³Skeletal Biology & Engineering Research Center, KU Leuven, Belgium, ⁴Department of Rheumatology, VU University Medical Center, MOVE Research Institute Amsterdam, Netherlands, ⁵ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The Netherlands, ⁶Department 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 Xiong¹, Wen-Fang Xia², Fu-Lei Tang¹, Shan Xiong¹, Wen-Cheng Xiong*³. ¹Georgia Health Sciences University, Charlie Norwood VA Medical Center, USA, ²Georgia Health Sciences University, Charlie Norwood VA Medical Center, Union Hospital, Tongji Medical College, Huazhong University of Science & Technology, USA, ³Georgia Regents University, USA
Disclosures: Wen-Cheng Xiong, None
- 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-Granic², Pamela Dann¹, Christina Marmol¹, Alexandrea Buscarello¹, John Wysolmerski³. ¹Yale University, School of Medicine, USA, ²Yale School of Medicine, USA, ³Yale University School of Medicine, USA
Disclosures: Farzin Takyar, None
- SU0424 PTHrP-Induced BMP Signaling Contributes to Specification of The Mammary Mesenchyme**
 Minoti Hiremath¹, Pamela Dann², Wei Shi³, John Wysolmerski*⁴. ¹Boise State University, USA, ²Yale University, USA, ³Children's Hospital Los Angeles, USA, ⁴Yale University School of Medicine, USA
Disclosures: John Wysolmerski, None
- SU0425 Regulation of bone metabolism by Semaphorin 3A derived from osteoblast lineage cells.**
 Mikihiro Hayashi*¹, Tomoki Nakashima¹, Hiroshi Takayanagi². ¹Tokyo Medical & Dental University, Japan, ²The University of Tokyo, Japan
Disclosures: Mikihiro Hayashi, None

RARE BONE DISEASES: HYPOPHOSPHATEMIC RICKETS

- SU0426 Quality of life assessment of adults patients with X-Linked Hypophosphemia.**
 Hélène Che¹, Adrien Etchet², Anya Rothenbuhler³, Peter Kamenicky³, Agnès Lingart³, Christian Roux⁴, Karine Briot*⁵. ¹Paris Descartes University, Cochin Hospital, France, ²Paris Descartes University, Cochin Hospital, France, ³Hôpital Bicêtre, France, ⁴Hospital Cochin, France, ⁵Paris 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**
 Carolyn Albert^{*1}, John Jameson², Peter Smith³, Gerald Harris¹. ¹Marquette University, USA, ²Lawrence Berkeley National Lab, USA, ³Shriners Hospitals for Children, USA
Disclosures: Carolyn 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 Scheres², Guus Janus³, Fleur van Dijk⁴. ¹Isala clinics, The Netherlands, ²Isala clinics, Netherlands, ³Isala, Netherlands, ⁴VU medical center, Netherlands
Disclosures: Anton Franken, None
- SU0429 HSP47 and FKBP65 cooperate in the synthesis of type I procollagen**
 Ivan Duran^{*1}, Lisette Nevarez², Anna Sarukhanov³, Sulin Wu³, Katrina Lee⁴, Maryann Weis⁵, David Eyre⁵, Deborah Krakow⁶, Daniel H. Cohn². ¹University of California Los Angeles, USA, ²Department of Molecular, Cell, & Developmental Biology, UCLA, USA, ³Orthopaedic Surgery, USA, ⁴Department of Molecular, Cell, & Developmental Biology, USA, ⁵Department of Orthopaedics & Sports Medicine, University of Washington, USA, ⁶Orthopaedic Surgery, UCLA, USA
Disclosures: Ivan Duran, None
- SU0430 Improved Bone Density in a patient with Osteogenesis Imperfecta using Denosumab**
 Jessica Abramowitz^{*1}, Stuart Weinerman². ¹Hofstra North Shore LIJ, USA, ²Division 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 Kanayama², Taichi Kitaoka¹, Takahiro Makino¹, Takashi Kaito², Kosuke Ebina³, Tsuneo Shigi⁴, Takuo Kubota⁵, Noriyuki Namba¹, Motoki Iwasaki¹, Takehisa Yamamoto⁴, Keiichi Ozono¹, Hideki Yoshikawa¹. ¹Osaka University Graduate School of Medicine, Japan, ²Osaka University, Graduate School of Medicine, Japan, ³Osaka University, Graduate School of Medicine, Japan, ⁴Minoh City Hospital, Japan, ⁵Osaka 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-Laforte², Martin Lemay², Frank Rauch³. ¹McGill University/Shriners Hospital for Children, Canada, ²Université du Québec à Montréal; Marie Enfant Rehabilitation Center, Canada, ³Shriners Hospital for Children, Montreal, Canada
Disclosures: Louis-Nicolas Veilleux, None

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 Weber², Heather Bodenstab³, Kelly Hummel³, Paige Kaplan³, Jaya Ganesh³, Michael Levine¹. ¹Children's Hospital of Philadelphia, USA, ²Golisano Children's Hospital, The University of Rochester, USA, ³The 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 Minagawa², Kaori Kinoshita³, Tomozumi Takatani³, Angelo Molinaro¹, Harald Jueppner⁴. ¹Massachusetts General Hospital & Harvard Medical School, USA, ²Chiba Children's Hospital, Japan, ³Chiba University, Japan, ⁴Massachusetts 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 Pedrini², Jonathan Bradfield³, Tricia Bhatti³, Pio D'Adamo⁴, John Dormans³, Aruni Gunawardena³, Hakon Hakonarson³, Jacqueline Hecht⁵, Luca Sangiorgi², Maurizio Pacifici³, Motomi Enomoto-Iwamoto³, Struan Grant⁶. ¹Children's Hospital of Philadelphia, USA, ²Rizzoli Orthopaedic Institute, Italy, ³Children's Hospital of Philadelphia, USA, ⁴Institute for Maternal & Child Health, IRCCS "Burlo Garofolo", Italy, ⁵UTHealth School of Dentistry, USA, ⁶Children'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 Ushida¹, Vera Szejnfeld^{*2}, Marcelo Pinheiro³. ¹Universidade Federal de São Paulo, Brazil, ²UNIFESP/EPM, Brazil, ³Sao 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 Liu¹, Jasminka Z. Ilich^{*2}. ¹University of Akron, USA, ²Florida State University, USA
Disclosures: Jasminka Z. Ilich, None
- SU0440 Development of a QCT- and MRI-compatible Muscle Phantom**
 Andy Kin On Wong^{*1}, Zamir Merali², Jonathan Adachi³. ¹McMaster University, University Health Network, Canada, ²University of Toronto, Canada, ³St. 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 Sahni², Robert McLean³, Alyssa Dufour⁴, Douglas Kiel⁴, Katherine Tucker⁵, Marian Hannan⁶. ¹Institute for Aging Research, Hebrew SeniorLife, Harvard Medical School, USA, ²Hebrew SeniorLife, Institute for Aging Research & Harvard Medical School, USA, ³Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁴Hebrew SeniorLife, USA, ⁵University of Massachusetts Lowell, USA, ⁶HSL Institute for Aging Research & Harvard Medical School, USA
Disclosures: Kelsey Mangano, None
- SU0442 Do Strong Women Have Strong Bones?**
 Julie Pasco^{*1}, Sharon Brennan¹, Kara Holloway¹, David Moloney¹, Mark Kotowicz². ¹Deakin University, Australia, ²Deakin 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 Ioannidis¹, Jonathan Adachi², Lehana Thabane¹, Kenneth Rockwood³, Susan Kirkland³, Andy Kin On Wong⁴, Laura Pickard¹, Alexandra Papaioannou⁵. ¹McMaster University, Canada, ²St. Joseph's Hospital, Canada, ³Dalhousie University, Canada, ⁴McMaster University, University Health Network, Canada, ⁵Hamilton 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 Suriyaarachchi², Piumali Gunawardene², Oddom Demontiero³, Gustavo Duque⁴. ¹University of New South Wales, Australia, ²Ageing Bone Research Program, The University of Sydney, Australia, ³The University of Sydney Nepean Clinical School, Australia, ⁴Ageing 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 Reid², Mélanie Hars¹, François Herrmann¹, Roger Fielding². ¹Division of Bone Diseases, Geneva University Hospitals & Faculty of Medicine, Switzerland, ²Jean 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 Nedergaard², Morten Karsdal¹, Kim Henriksen¹, Gabriele Armbrrecht³, Daniel L. Belavý⁴, Dieter Felsenberg⁵. ¹Nordic Bioscience A/S, Denmark, ²Nordic Bioscience Biomarkers & Research, Denmark, ³Centre of Muscle & Bone Research, Charite-CBF, Germany, ⁴Center for Muscle & Bone Research, Charite Campus Benjamin Franklin, Free University & Humboldt-University Berlin, Germany, ⁵Charité - 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 Marvdashti², Christina Lemon², Kaitlin Chambers², R. Erin Johnson², Bjoern Buehring³. ¹University of Wisconsin, USA, ²University of Wisconsin School of Medicine & Public Health, USA, ³University 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 Edwards², Rebecca Moon², MA Clynes³, Celia Gregson⁴, Ellen Fidler⁵, Nicholas Harvey², Elaine Dennison⁶, Neil Binkley¹, Cyrus Cooper⁷. ¹University of Wisconsin, Madison, USA, ²MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ³MRC Lifecourse Epidemiology Unit, University of Southampton, UK, United Kingdom, ⁴University of Bristol, United Kingdom, ⁵University of Wisconsin, USA, ⁶MRC Lifecourse Epidemiology Unit, United Kingdom, ⁷University 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 MacDermid¹, Julie Richardson¹, Ruby Grewal², Christopher Recknor³. ¹McMaster University, Canada, ²St Joseph's Health Care, Canada, ³United 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 Motyl¹, Kathleen Bishop¹, David Maridas¹, Daniel Brooks², Mary Bouxsein³, Clifford Rosen⁴. ¹Maine Medical Center Research Institute, USA, ²Beth Israel Deaconess Medical Center, USA, ³Beth Israel Deaconess Medical Center, Harvard Medical School, USA, ⁴Maine 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 Xiong¹, Marilina Piemontese², Stuart Berryhill¹, Priscilla Baltz¹, Robert Weinstein¹, Maria Jose Almeida¹, Stavros Manolagas¹, Robert Jilka¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²University of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None
- SU0452 Galectin-3: A novel regulator of bone mass**
Kevin Maupin^{*1}, John Wang², Bart Williams³. ¹Van Andel Institute Graduate School, USA, ²Michigan State University, USA, ³Van 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 Xiong², Priscilla Baltz¹, Rajamani Selvam¹, Li Han², Stuart Berryhill¹, Stavros Manolagas², Charles O'Brien². ¹University of Arkansas for Medical Sciences, USA, ²Central 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 Baht², Marc Grynpas³, Benjamin Alman². ¹University of Toronto Samuel Lunenfeld Research Institute, Canada, ²Program in Developmental & Stem Cell Biology, Hospital for Sick Children, Canada, ³Lunenfeld-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 Fulzele², Xiaolong Liu³, Christopher G Dedic³, Vladimir Zoubine³, Jordan Spatz⁴, Hiroaki Saito⁵, Katharina Jahn⁵, Saman F Khaled³, Kathryn D Held³, Eric Hesse⁶, Paola Divieti Pajevic⁷. ¹MGH, Harvard Medical School, USA, ²Massachusetts General Hospital; Harvard Medical School, USA, ³MGH, USA, ⁴Harvard-MIT Division of Health Sciences & Technology (HST), USA, ⁵University Medical Center Hamburg-Eppendorf, Germany, ⁶University Medical Center Hamburg-Eppendorf, Deu, ⁷Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Vaibhav Saini, None
- SU0456 TNF α modulates cholesterol transport protein synthesis and efflux in osteocytes.**
Kent Wehmeier^{*1}, Salma Makhoul-Ahwach², Melanie Thomas³, William Kurban³, Harshit Shah³, Aiham Chamseddin⁴, Michael Haas⁵, Arshag Mooradian⁶, Luisa M. Onstead-Haas⁶. ¹University of Florida, College of Medicine, Jacksonville, USA, ²Division of Endocrinology, Diabetes & Metabolism, University of Florida, College of Medicine Jacksonville, USA, ³Division of Endocrinology, Diabetes & Metabolism, University of Florida, College of Medicine Jacksonville, USA, ⁴Division of Endocrinology, Diabetes & Metabolism, University of Florida, College of Medicine Jacksonville, USA, ⁵Division of Endocrinology, Department of Medicine, University of Florida, College of Medicine Jacksonville, USA, ⁶Department of Medicine, University of Florida, College of Medicine Jacksonville, USA
Disclosures: Kent Wehmeier, None
- SKELETAL AGING: FRAILITY AND SARCOPENIA**
- SU0457 Factors Associated with Kyphosis and Kyphosis Progression in Older Men: the MrOS Study**
Deborah Kado^{*1}, Mei-Hua Huang², Peggy Cawthon³, Howard Fink⁴, John Schousboe⁵, Elizabeth Barrett-Connor¹. ¹University of California, San Diego, USA, ²UCLA, USA, ³California Pacific Medical Center Research Institute, USA, ⁴GRECC, Minneapolis VA Medical Center, USA, ⁵Park 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 Kado¹, Gina Woods², Mei-Hua Huang³, Corinne McDaniels-Davidson⁴, Peggy Cawthon⁵, Howard Fink⁶. ¹University of California, San Diego, USA, ²UCSD, USA, ³UCLA, USA, ⁴SDSU/UCSD Joint Doctoral Program in Public Health (Epidemiology), USA, ⁵California Pacific Medical Center Research Institute, USA, ⁶GRECC, Minneapolis VA Medical Center, USA
Disclosures: Gina Woods, None

- SU0459 Statement of Changes in Muscle Mass during Life by DXA**
Silvana Di Gregorio¹, Jorge Malouf², Luis Del Rio³, Beatriz Oliveri⁴. ¹Ph, Spain, ²Hospital de la Santa Creu i Sant Pau, Spain, ³Cetir Centre Medical, Spain, ⁴Mautalen, 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 Raygorodskaya¹, Arkady Torchinsky², Yankel Gabet³, Eugene Kobylansky², David Karasik⁴. ¹Faculty of Medicine, Bar Ilan University, Israel, ²Department of Anatomy & Anthropology Sackler Faculty of Medicine, Israel, ³Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel, ⁴Hebrew SeniorLife; Bar Ilan University, USA
Disclosures: Maria Raygorodskaya, None
- SU0463 Ephrin Reverse Signaling Mediates Palatal Fusion and Epithelial-to-Mesenchymal Transition Independently of Tgfb3**
Maria Serrano¹, Jingpeng Liu², Kathy Svoboda¹, Ali Nawshad², M. Douglas Benson³. ¹Baylor College of Dentistry, USA, ²University of Nebraska Medical Center College of Dentistry, USA, ³TA&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 Bae¹, Won-Joon Yoon², Young-Dan Cho¹, Rabia Islam³, Hea-rim SHIN¹, Bong-Soo Kim², Kyung-Mi Woo², Jeong-Hwa Baek⁴, Hyun-Mo Ryoo². ¹Seoul National University, South Korea, ²Seoul National University School of Dentistry, South Korea, ³School of Dentistry, Seoul National University, South Korea, ⁴Seoul National University, School of Dentistry, South Korea
Disclosures: Han-sol Bae, None
- SU0465 Involvement of Pit-1 (Slc20a1) function during endochondral ossification**
Manisha Yadav¹, Pia Kuss², Campbell Sheen², Laurent Beck³, Colin Farquharson⁴, Jose Luis Millan¹. ¹Sanford-Burnham Medical Research Institute, USA, ²Sanford Burnham Medical Research Institute, USA, ³Inserm U791, France, ⁴Roslin 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 Liu². ¹School of dentistry, University of Michigan, USA, ²University 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 Henke², Kelly Tsang³, Ruby Russell⁴, Matthew P. Harris², Jeffrey Duryea³, Antonios Aliprantis⁶. ¹Brigham & Women's Hospital & Harvard School of Medicine, USA, ²Department of Genetics Harvard Medical School, Department of Orthopedics, Boston Children's Hospital, USA, ³Department of Medicine, Brigham & Women's Hospital & Harvard Medical School, USA, ⁴. Department of Radiology, Brigham & Women's Hospital, USA, ⁵Department of Radiology, Brigham & Women's Hospital, USA, ⁶Brigham & 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 Vuppapapati^{*1}, Thibault Boudier², Vitaliy Kaminsky³, Phillip Newton², Lars Sävdahl⁴, Boris Zhivotovsky³, Andrei Chagin⁵. ¹Karolinska Institutet, Sweden, ²Department of Physiology & Pharmacology, Karolinska Institutet, Sweden, ³Institute of Environmental Medicine, Karolinska Institutet, Sweden, ⁴Department of Women's & Children's Health, Karolinska Institutet, Sweden, ⁵Karolinska Institutet, Swe
Disclosures: Karuna Vuppapapati, 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 Holroyd¹, Clive Osmond¹, David Barker¹, Susan Ring², Deborah Lawlor², J.H. Tobias³, George Davey Smith², Cyrus Cooper⁴, Nicholas Harvey^{*5}. ¹MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, UK, United Kingdom, ²MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK, United Kingdom, ³Avon Orthopaedic Centre, United Kingdom, ⁴University of Southampton, United Kingdom, ⁵MRC 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 Siminoski², Shayne Taback³, Celia Rodd³, Robert Stein⁴, Annie M Sbrocchi⁵, Josephine Ho⁶, Ronald M Grant⁷, Elizabeth A Cummings⁸, Robert Couch², David A Cabral⁹, Stephanie Atkinson¹⁰, Nathalie Alos¹¹, Nazih Shenouda¹, Mary Ann Matzinger¹, Brian Lentle⁹, Frank Rauch⁵, Jinhui Ma¹², and the Canadian STOPP Consortium¹³. ¹University of Ottawa, Canada, ²University of Alberta, Canada, ³University of Manitoba, Canada, ⁴University of Western Ontario, Canada, ⁵McGill University, Canada, ⁶University of Calgary, Canada, ⁷University of Toronto, Canada, ⁸Dalhousie University, Canada, ⁹University of British Columbia, Canada, ¹⁰McMaster University, Canada, ¹¹Université de Montréal, Canada, ¹²Children's Hospital of Eastern Ontario, Canada, ¹³National 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 Makareeva², Masaki Ishikawa³, Aileen Barnes¹, MaryAnn Weis⁴, Felicitas Lacbawan⁵, David Eyre⁶, Yoshihiko Yamada³, Sergey Leikin⁷, Joan Marini⁸.

¹Bone & Extracellular Matrix Branch, NICHD, NIH, USA, ²Section on Physical Biochemistry, NICHD, NIH, USA, ³Molecular Biology Section, NIDCR, NIH, USA,

⁴Department of Orthopaedics & Sports Medicine, University of Washington, USA,

⁵Department of Medical Genetics, Children's National Medical Center, USA, ⁶University of Washington Orthopaedic Research Labs, USA, ⁷National Institutes of Health, USA,

⁸National 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-Greenberg², Christine Hofmann³, Edward C.W. Leung², Scott Moseley⁴, Kenji P Fujita⁴, Agustin Melian⁵, David Thompson⁴, Johannes Liese³. ¹Shriners Hospital for Children-Saint Louis, USA, ²University of Manitoba, Canada, ³University Children's Hospital, University of Wurzburg, Germany, ⁴Alexion Pharmaceuticals, USA, ⁵USA

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 Neumeyer¹, Julia O'Rourke¹, Alexandra Massa¹, Hang Lee², Elizabeth Lawson³, Christopher McDougle¹, Madhusmita Misra*⁴. ¹Lurie Center for Autism, Massachusetts General Hospital & Harvard Medical School, USA, ²Biostatistics Center, Massachusetts General Hospital, USA, ³Massachusetts General Hospital, Harvard Medical School, USA, ⁴Pediatric Endocrine & Neuroendocrine Units, Massachusetts General Hospital & Harvard Medical School, USA

Disclosures: Madhusmita Misra, None

CONCURRENT ORALS: DIABETES AND SKELETAL HEALTH

2:30 pm - 4:00 pm

George R. Brown Convention Center

Grand Ballroom BC

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 Pentosidine and degree of mineralization are increased in bone from fractured-patients with type 1 diabetes mellitus

1099 Delphine Farlay*¹, Laura Armas², Evelyne Gineyts³, Robert Recker², Georges Boivin⁴.

¹INSERM, UMR1033; Université De Lyon, France, ²Creighton University, USA,

³INSERM U1033, Université de Lyon, France, ⁴INSERM, UMR1033 ; Université De Lyon, France

Disclosures: Delphine Farlay, None

2:45 pm Elevated Sphingosine 1-Phosphate Levels are Associated with Vertebral Fractures in Patients with Type 2 Diabetes Mellitus

1100 Mohammed-Salleh Ardawi*¹, Daad Akbar², Abdulrahim Rouzi³, Nawal Senani⁴, Ali

Ahmad⁵, Mohammed Qari⁶. ¹Center of Excellence for Osteoporosis Research &

Department of Clinical Biochemistry & KAU Hospital, Faculty of Medicine, King

Abdulaziz University, Saudi Arabia, ²Center of Excellence for Osteoporosis Research &

Department of Internal Medicine & KAU Hospital, Faculty of Medicine, King Abdulaziz

University, Saudi Arabia, ³Center of Excellence for Osteoporosis Research & Department

of Obstetrics & Gynaecology & KAU Hospital, Faculty of Medicine, King Abdulaziz

University, Saudi Arabia, ⁴Center of Excellence for Osteoporosis Research & Department

of Obstetrics & Gynaecology, Faculty of Medicine & KAU Hospital, King Abdulaziz

University, Saudi Arabia, ⁵Center of Excellence for Osteoporosis Research, King Abdulaziz

University, Saudi Arabia, ⁶Center 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 Does Diabetes Modify the Effect of FRAX Risk Factors for Major Osteoporotic and Hip Fracture Prediction? The Manitoba BMD Cohort

1101 William Leslie*¹, Suzanne Morin², Lisa M. Lix¹, Sumit Majumdar³. ¹University of

Manitoba, Canada, ²McGill University, Canada, ³University of Alberta, Canada

Disclosures: William Leslie, None

3:15 pm Cortical Bone Laminar Analysis reveals Increased Midcortical Porosity in Type 2 Diabetics with History of Fragility Fractures

1102 Ursula Heilmeier*¹, Karen Cheng², Robin Parrish², Jasmine Nirody³, Janina Patsch⁴,

Thomas Baum⁵, Andrew Burghardt³, Gabby B. Joseph³, Ann Schwartz³, Thomas Link³,

Galatea Kazakia³. ¹University of California San Francisco, USA, ²University of

California, Berkeley, USA, ³University of California, San Francisco, USA, ⁴Medical

University of Vienna, Austria, ⁵Klinikum rechts der Isar, TU Muenchen, Germany

Disclosures: Ursula Heilmeier, None

3:30 pm Type 2 Diabetes and Obesity Each Contribute Separately to Adverse Skeletal Health: Adverse Effects on Cortical Bone Microarchitecture

1103 Jessica Furst*¹, Laura Beth Anderson², Chiyuan Zhang², Kyle Nishiyama², Dorothy

Fink³, Shonni Silverberg², Mishaela Rubin². ¹Columbia University Medical Center, USA,

²Columbia University, USA, ³NYP-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 Vittinghoff², Nicola Pannacciulli³, Daria Crittenden³, Jang Yun³, Andrea Wang⁴, Rachel Wagman⁵, Ann Schwartz⁶. ¹University Campus Bio-Medico di Roma, Italy, ²UCSF, USA, ³Amgen, Inc., USA, ⁴Amgen Inc., USA, ⁵Amgen, Incorporated, USA, ⁶University 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 Radcliff², Michael Johnson¹, Robert Blank³, Marc Drezner¹.

¹University of Wisconsin, USA, ²University of Wisconsin-Madison, USA, ³Medical 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 Zhang², Baosheng Guo³, Heng Wu⁴, Liangqiang Zhang⁵, Aiping Lu³.

¹Hong Kong, ²Ge Zhang' S Lab, Hong Kong, ³Hong Kong Baptist University, Hong Kong, ⁴HKBU, Hong Kong, ⁵Beijing 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 Maurizi², Nadia Rucci², Anna Teti². ¹Department of experimental Medicine, University of L'Aquila, Italy, ²University 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 Zhang², Ge Zhang³. ¹Prince of Wales Hospital, Hong Kong,

²Price of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, ³Ge 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 Adamik¹, Jolene Windle², G. David Roodman³, Deborah Galson¹.

¹University of Pittsburgh, USA, ²Virginia Commonwealth University, USA, ³Indiana 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 Kode¹, Ioanna Mosialou¹, Mattia Capulli², Stavroula Kousteni¹.

¹Columbia University Medical Center, USA, ²University 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 Wu¹, Troy Whitfield², Coralee Tye³, Andre Van Wijnen⁴, Janet Stein³, Gary Stein⁵, Jane Lian⁶. ¹University of Vermont, USA, ²Department of Cellular & Developmental Biology, University of Massachusetts Medical School, Worcester, MA, USA, ³Vermont Cancer Center & Department of Biochemistry, University of Vermont, Burlington, VT., USA, ⁴Mayo Clinic, USA, ⁵University of Vermont, College of Medicine, USA, ⁶University 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 Wang², Jason Meyers¹, John Ashton¹, Tzong-Jen Sheu¹, Jennifer Jonason¹, Regis O'Keefe¹. ¹University of Rochester, USA, ²University 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 Mirzamohammadi², Shigeki Nishimori¹, Marc Wein¹, Henry Kronenberg¹, Eric N. Olson³, Tatsuya Kobayashi¹. ¹Massachusetts General Hospital, USA, ²Massachusetts General Hospital & Harvard Medical School, USA, ³University 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 XU², Emily Camilleri¹, Meghan McGee-Lawrence¹, Eric Lewallen¹, Scott Riester¹, John R. Hawse³, Gary Stein⁴, Martin Montecino⁵, Jennifer Westendorf¹, Andre Van Wijnen¹. ¹Mayo Clinic, USA, ²New Jersey Medical School, UMDNJ, USA, ³Mayo Clinic College of Medicine, USA, ⁴University of Vermont, College of Medicine, USA, ⁵Universidad 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 Nistala², William Addison¹, Satya Kota¹, Genri Kawahara³, Louis Kunkel³, Julian Mintseris⁴, Steven Gygi⁴, Francesca Gori³, Roland Baron⁶. ¹Harvard school of dental medicine, USA, ²Harvard University, USA, ³Harvard Medical School, Boston Children's Hospital, USA, ⁴Harvard Medical School, USA, ⁵Harvard School of Dental Medicine, Massachusetts General Hospital, USA, ⁶Harvard 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-Krankenhaus, 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 Athletes 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 Threshold 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 Wilczynski

Loyola Medical Center, USA

Sunday

- 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 (Hypophosphatemic 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 Rikkinen, 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 due to Osteoporosis: A Review of Clinical Trials**
Michael Pfeifer, 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 Pfeifer, M.D.
German Osteology Foundation, Germany

MONDAY, SEPTEMBER 15, 2014

DAY-AT-A-GLANCE

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<i>Discovery Hall-Hall E</i>	
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Closing Reception
Grand Ballroom Lobby

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 PPAR γ and p38 MAPK activities in adipocytes and marrow mesenchymal stem cells

Lance Stechschulte^{*1}, Edwin Sanchez¹, Piotr Czernik², Beata Lecka-Czernik². ¹University of Toledo Health Science Campus, USA, ²University 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 Li², Sylvia Jane Gasparini³, Markus Seibel⁴, Hong Zhou⁴. ¹ANZAC Research Institute, The University of Sydney, Australia, ²Key Laboratory for Space Bioscience & Biotechnology, Institute of Special Environmental Biophysics, Faculty of Life Sciences, Northwestern Polytechnical University, China, ³Bone Biology Program, ANZAC Research Institute, The University of Sydney, Australia, ⁴Bone 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 Δ FosB-mediated regulation of glucose and energy homeostasis but not for bone homeostasis

Kazusa Sato^{*1}, Anna Idelevich², Glenn Rowe³, Francesca Gori⁴, Roland Baron⁵. ¹Harvard School of Dental Medicine, USA, ²Harvard University, USA, ³Harvard Medical School, USA, ⁴Harvard School of Dental Medicine, Massachusetts General Hospital, USA, ⁵Harvard 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 Ditzel², Gerard Karsenty³, Moustapha Kassem⁴. ¹Odense University Hospital, University of South Denmark, Denmark, ²Odense University Hospital, Denmark, ³Columbia 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 Kobayashi², Keita Okada¹, Shurei Sugita³, Tomotake Okuma¹, Sakae Tanaka¹, Taku Saito⁴. ¹The University Of Tokyo, Japan, ²The University of Tokyo Hospital, Japan, ³Japan, ⁴University of Tokyo, Graduate School of Medicine, Japan

Disclosures: Song Ho Chang, None

8:15 am Cellular Tension Regulates TGF β Receptor Spatial Organization and Induction of Chondrogenic Gene Expression

1124 Joanna Rys^{*1}, Christopher DuFort², Michelle Baird³, Michael Davidson³, Tamara Alliston². ¹UC Berkeley - UCSF, USA, ²University of California, San Francisco, USA, ³National 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 Homeostasis

1125 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 β catenin and its nuclear transport

1126 Gunes Uzer^{*1}, Buer Sen², William Thompson¹, Zhihui Xie¹, Sherwin Yen¹, Guniz Bas¹, Maya Styner³, Clinton Rubin⁴, Janet Rubin³. ¹University of North Carolina, USA, ²University of North Carolina At Chapel Hill, USA, ³University of North Carolina, Chapel Hill, School of Medicine, USA, ⁴State 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

Monday

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- κ B Controls Mitochondrial Biogenesis Independent of Osteoclast Differentiation

Rong Zeng^{*1}, Deborah Novack², Chang Yang³. ¹Washington University in St. Louis, USA, ²Washington University in St. Louis School of Medicine, USA, ³Washington 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 patterning in osteoclasts and bone resorption in vivo and in vitro

1130 Detina Zalli^{*1}, Kenichi Nagano², Lynn Neff³, Ken-ichi Takeyama², Walter Witke⁴, Francesca Gori⁵, Roland Baron⁶. ¹USA, ²Harvard School of Dental Medicine, USA, ³Harvard School of Dental Medicine 188 Longwood Ave Boston MA 02115, USA, ⁴Prof. Dr. Walter Witke Institute of Genetics University Bonn Karloerbert Kreiten Str. 13 D - 53115 Bonn/Germany, Germany, ⁵Harvard School of Dental Medicine, Massachusetts General Hospital, USA, ⁶Harvard 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 Teguh², Nathan Pavlos³, Jennifer Tickner³, Jiake Xu³. ¹The University of Western Australia, Australia, ²Research personnel, Australia, ³University 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 Horowitz², Masaru Ishii³, Joao Pereira². ¹Yale School of Medicine, USA, ²Yale University School of Medicine, USA, ³Graduate 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 Zheng², Yuqing Chen³, Terry Bertin³, Yibin Kang⁴, Brendan Lee¹. ¹Baylor College of Medicine, USA, ²Department of Molecular Biology, Princeton University, USA, ³Departments of Molecular & Human Genetics, Baylor College of Medicine, USA, ⁴Princeton 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 Li², Yi-Xian Qin³, Chuanju Liu⁴. ¹New York University Medical Center, USA, ²Stony Brook University, USA, ³State University of New York at Stony Brook, USA, ⁴New 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 Johansson², Anders Oden³, Nicholas Harvey⁴, Juliet Compston⁵, John Kanis⁶. ¹University of Sheffield, United Kingdom, ²Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sweden, ³Consulting Statistician, Sweden, ⁴MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom, ⁵University of Cambridge School of Clinical Medicine, United Kingdom, ⁶University 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 Orwoll², Peggy Cawthon³, Kristine Ensrud⁴, Douglas Bauer⁵, Steven Cummings⁶, Jane Cauley⁷. ¹University of Pittsburgh, USA, ²Oregon Health & Science University, USA, ³California Pacific Medical Center Research Institute, USA, ⁴University of Minnesota & Minneapolis VA Health Care System, USA, ⁵University of California, San Francisco, USA, ⁶San Francisco Coordinating Center, USA, ⁷University 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 Yan², Lisa Lix², Sumit Majumdar³, William Leslie². ¹McGill University, Canada, ²University of Manitoba, Canada, ³University 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 Durden¹, Lung-I Cheng^{*2}, Elnara Eynullayeva¹, Larry Radbill¹, Paul Juneau¹, Leslie Spangler³, Faisal Mirza³, Bradley Stolshek². ¹Truven Health Analytics, USA, ²Amgen, Inc., USA, ³Amgen, 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. Bleakney², Linda Probyn³, Angela M. Cheung⁴. ¹University Health Network, Canada, ²Mount Sinai Hospital, Canada, ³University of Toronto, Sunnybrook HSC, Dept. of Medical Imaging, Canada, ⁴University Health Network-University of Toronto, Canada

Disclosures: Olga Gajic-Veljanoski, None

Monday

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 Larson², Nelson Watts³, Margaret Gourlay⁴, Meghan Donaldson⁵, Andrea Lacroix⁶, Jane Cauley⁷, Jean Wactawski-Wende⁸, Margery L.S. Gass⁹, John Robbins¹⁰, Kristine Ensrud¹¹. ¹University of California, Los Angeles, USA, ²Fred Hutchinson Cancer Research Center, Seattle, WA, USA, ³Mercy Health Osteoporosis & Bone Health Services, USA, ⁴University of North Carolina, USA, ⁵San Francisco Coordinating Center, USA, ⁶Fred Hutchinson Cancer Research Center, USA, ⁷University of Pittsburgh Graduate School of Public Health, USA, ⁸University at Buffalo, USA, ⁹The North American Menopause Society, USA, ¹⁰University of California, Davis Medical Center, USA, ¹¹University 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- β Signaling
 Fatemeh Mirzamohammadi*¹, Garyfallia Papaioannou², Elena Paltrinieri², Tatsuya Kobayashi². ¹Massachusetts General Hospital & Harvard Medical School, USA, ²Massachusetts 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 Torreggiani¹, Danka Greevic², Ivo Kalajcic¹. ¹University of Connecticut Health Center, USA, ²University 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*, Yousef Abu-Amer¹, Kannan Karuppaiah³, Gabriel Mbalaviele¹.

¹Washington University in St. Louis School of Medicine, USA, ²Washington University School of Medicine, USA, ³Washington 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. Results from the Phase III Long-Term Odanacatib Fracture Trial (LOFT)

1147 Michael McClung*¹, Bente Langdahl², Socrates Papapoulos³, Kenneth Saag⁴, Silvano Adami⁵, Henry Bone⁶, Tobias de Villiers⁷, Douglas Kiel⁸, Annie Kung⁹, Prasanna Kumar¹⁰, Sung-Kil Lim¹¹, Xu Ling¹², Kurt Lippuner¹³, Carlos Mautalen¹⁴, Toshitaka Nakamura¹⁵, Jean-Yves Reginster¹⁶, Ian Reid¹⁷, Jose Rodriguez Portales¹⁸, Christian Roux¹⁹, Jesus Walliser²⁰, Nelson Watts²¹, Jose Ruben Zanchetta²², Cristiano Zerbinì²³, Andrea Rybak-Feiglin²⁴, Dosinda Cohn²⁴, Carolyn DaSilva²⁴, Rachid Massaad²⁵, Arthur Santora²⁶, Boyd Scott²⁴, Nadia Verbruggen²⁵, Albert Leung²⁷, Antonio Lombardi²⁴.

¹Oregon Osteoporosis Center, USA, ²Aarhus University Hospital, Denmark, ³Leiden University Medical Center, The Netherlands, ⁴University of Alabama at Birmingham, USA, ⁵University of Verona, Italy, ⁶Michigan Bone & Mineral Clinic, USA, ⁷Stellenbosch University, South Africa, ⁸Hebrew SeniorLife, USA, ⁹Dr. Kung-Wai Chee Clinic, Hong Kong, ¹⁰Bangalore Diabetes Centre, India, ¹¹Yonsei University, Korea, democratic people's republic of, ¹²Peking Union Medical College Hospital, Peoples Republic of China, ¹³Department of Osteoporosis, University Hospital & University of Berne, Switzerland, ¹⁴Centro de Osteopatías Médicas, Argentina, ¹⁵University of Occupational & Environmental Health, Japan, ¹⁶CHU Centre Ville, Belgium, ¹⁷University of Auckland, New Zealand, ¹⁸Catholic University of Chile, Chile, ¹⁹Hospital Cochin, France, ²⁰Bone Metabolism Clinic, Hospital Angeles del Pedregal, Mexico, ²¹Mercy Health Osteoporosis & Bone Health Services, USA, ²²Instituto de Investigaciones Metabólicas (IDIM), Argentina, ²³Centro Pualista de Investigación Clínica, Brazil, ²⁴Merck & Co., Inc., USA, ²⁵MSD Europe Inc., Brussels, Belgium, ²⁶Merck & Co. Inc., USA, ²⁷USA

Disclosures: Michael McClung, Merck, 5; Merck, 2; Merck, 8

Monday

10:15 am Safety and Tolerability of Odanacatib Therapy in Postmenopausal Women with Osteoporosis:

1148 Results from the Phase III Long-Term Odanacatib Fracture Trial (LOFT)

Socrates Papapoulos^{*1}, Michael McClung², Bente Langdahl³, Kenneth Saag⁴, Silvano Adami⁵, Henry Bone⁶, Tobias de Villiers⁷, Douglas Kiel⁸, Annie Kung⁹, Prasanna Kumar¹⁰, Sung-Kil Lim¹¹, Xu Ling¹², Kurt Lippuner¹³, Carlos Mautalen¹⁴, Toshitaka Nakamura¹⁵, Jean-Yves Reginster¹⁶, Ian Reid¹⁷, Jose Adolfo Rodriguez-Portales¹⁸, Christian Roux¹⁹, Jesus Walliser²⁰, Nelson Watts²¹, Jose Ruben Zanchetta²², Christiano AF Zerbinì²³, Andrea Fybak-Feiglin²⁴, Dosinda Cohn²⁴, Carolyn A da Silva²⁴, Celine Le Bailly De Tilleghe²⁵, Arthur Santora²⁶, Boyd Scott²⁷, Nadia Verbruggen²⁵, Albert Leung²⁸, Antonio Lombardi²⁷, Deborah Gurner²⁷. ¹Leiden University Medical Center, The Netherlands, ²Oregon Osteoporosis Center, USA, ³Aarhus University Hospital, Denmark, ⁴University of Alabama at Birmingham, USA, ⁵University of Verona, Italy, ⁶Michigan Bone & Mineral Clinic, USA, ⁷Stellenbosch University, South Africa, ⁸Hebrew SeniorLife, USA, ⁹Dr. Kung-Wai Chee Clinic, Hong Kong, ¹⁰Bangalore Diabetes Centre, India, ¹¹Yonsei University College of Medicine, South Korea, ¹²Peking Union Medical College Hospital, Peoples Republic of China, ¹³Department of Osteoporosis, University Hospital & University of Berne, Switzerland, ¹⁴Centro de Osteopatías Médicas, Argentina, ¹⁵National Center for Global Health & Medicine, Japan, ¹⁶CHU Centre Ville, Belgium, ¹⁷University of Auckland, New Zealand, ¹⁸Pontificia Universidad Católica de Chile, Chile, ¹⁹Hospital Cochin, France, ²⁰Bone Metabolism Clinic, Hospital Angeles del Pedregal, Mexico, ²¹Mercy Health Osteoporosis & Bone Health Services, USA, ²²Instituto de Investigaciones Metabólicas (IDIM), Argentina, ²³Centro Paulista de Investigações, Brazil, ²⁴Merck Sharp & Dohme Corp, USA, ²⁵MSD Europe Inc., Belgium, ²⁶Merck & Co. Inc., USA, ²⁷Merck & Co., Inc., USA, ²⁸USA

Disclosures: Socrates Papapoulos, GSK, 5; Novartis, 5; Axsome, 5; Merck, 5; Amgen, 5

10:30 am Randomized Controlled Trial to Assess the Safety and Efficacy of Odanacatib in the Treatment of Men with Osteoporosis

1149 Eric Orwoll^{*1}, Silvano Adami², Neil Binkley³, Roland Chapurlat⁴, Bente Langdahl⁵, Steven Doleck⁶, Hilde Giezek⁷, Boyd Scott⁶, Arthur Santora⁸. ¹Oregon Health & Science University, USA, ²University of Verona, Italy, ³University of Wisconsin, Madison, USA, ⁴E. Herriot Hospital, France, ⁵Aarhus University Hospital, Denmark, ⁶Merck & Co., Inc., USA, ⁷MSD Europe Inc., Brussels, Belgium, ⁸Merck & Co. Inc., USA

Disclosures: Eric Orwoll, Merck, 2; Merck, 5

10:45 am The Transition from Denosumab to Teriparatide or from Teriparatide to Denosumab in Postmenopausal Women with Osteoporosis: The DATA-Switch Study

1150 Benjamin Leder^{*1}, Joy Tsai², Alexander Uihlein³, Yuli Zhu², Katelyn Foley², Robert Neer², Sherri-Ann Burnett-Bowie². ¹Massachusetts General Hospital Harvard Medical School, USA, ²Massachusetts General Hospital, USA, ³Northwestern Memorial Faculty Foundation, USA

Disclosures: Benjamin Leder, Lilly, Merck, Amgen, 5; Lilly, Merck, Amgen, 2; Radius, 5

11:00 am Effect of Blosozumab on Bone Mineral Density: 52-Week Follow-up of a Phase 2 Study of Postmenopausal Women with Low Bone Mineral Density

1151 Charles Benson^{*1}, Alan Chiang¹, Leijun Hu¹, Alam Jahangir¹, Bruce Mitlak¹, Robert Recker², Deborah Robins¹, Hideaki Sowa³, Adrien Sipos¹. ¹Eli Lilly & Company, USA, ²Creighton University, USA, ³Lilly 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 Effects of 2 Years of Treatment With Romosozumab Followed by 1 Year of Denosumab or Placebo in Postmenopausal Women With Low Bone Mineral Density

1152 MR McClung^{*1}, A Chines², JP Brown³, A Diez-Perez⁴, H Resch⁵, J Caminis⁶, MA Bolognese⁷, S Goemaere⁸, HG Bone⁹, JR Zanchetta¹⁰, J Maddox², O Rosen², S Bray¹¹, A Grauer². ¹Oregon Osteoporosis Center, USA, ²Amgen Inc., USA, ³Laval University & CHU de Québec Research Centre, Canada, ⁴Autonomous University of Spain, Spain, ⁵St. Vincent Hospital, Austria, ⁶UCB, USA, ⁷Bethesda Health Research Center, USA, ⁸Ghent University Hospital, Belgium, ⁹Michigan Bone & Mineral Clinic, USA, ¹⁰Instituto de Investigaciones Metabólicas, Argentina, ¹¹Amgen 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 Iljka, Ph.D.
Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA
Disclosures: Robert Iljka, 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

Monday

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 Kiener², Peggy Perrin², Sophie Caillard², Bruno Moulin².

¹Department of Rheumatology, University Hospital, France, ²Nephrology-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 Hafez², Mourad Ali³, Osama Yasin³, Tarek El-Ghandour³.

¹Center for Chronic Disorders of Aging, PCOM, USA, ²Inspire, Egypt, ³Ain Shams University, Egypt

Disclosures: Abdulhafez Selim, None

Monday

- MO0004 Low Bone Mineral Density and Fractures in Stages 3-5 CKD: An Updated Systematic Review and Meta-Analysis**
 Roxana Bucur*¹, Dilshaan Panjwani², Lucy Turner³, Tamara Rader⁴, Sarah West⁵, Sophie Jamal⁶. ¹Canada, ²Women's College Research Institute, Women's College Hospital, The University of Toronto, Canada, ³Ottawa Hospital Research Institute, Canada, ⁴Cochrane Musculoskeletal Group, Centre for Global Health, University of Ottawa, Canada, ⁵University of Toronto, Canada, ⁶The 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*, Amy Evans¹, Kim Naylor², Fatma Gossiel¹, Simon Bowles¹, Richard Jacques¹, Richard Eastell¹. ¹University of Sheffield, United Kingdom, ²The 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*, Manisha C. Yadav¹, Sonoko Narisawa¹, Jose Luis Millan². ¹Sanford Burnham Medical Research Institute, USA, ²Sanford-Burnham Medical Research Institute, USA
Disclosures: Pia Kuss, None

- MO0008 Direct and indirect effect of cytokines on osteoclast differentiation**
 Enver Aydilek¹, Martina Blaschke¹, Regine Koepf¹, Ute Hempel², Sabine Blaschke³, Heide Siggelkow*. ¹Clinic of Gastroenterology, Germany, ²Institute of Physiological Chemistry, Greenland, ³Clinic for Nephrology & Rheumatology, Germany, ⁴University 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*, Luigi Gennari¹, Fernando Gianfrancesco², Niccolò Pengo³, Domenico Rendina⁴, Riccardo Muscariello⁴, Laura Oliva⁵, Teresa Esposito⁶, Stefano Rotatori⁷, Maria Beatrice Franci⁷, Barbara Lucani⁷, Maria Stella Campagna⁷, Ranuccio Nuti¹, Simone Cenci⁸. ¹University of Siena, Italy, ²National Research Council of Italy, Italy, ³MRC LMCB; University College London, United Kingdom, ⁴Department of Clinical & Experimental Medicine, Federico II University, Italy, ⁵Division of Genetics & Cell Biology; San Raffaele Scientific Institute & University Vita-Salute San Raffaele, Italy, ⁶Institute of Genetics & Biophysics, National Research Council of Italy, Italy, ⁷Department of Medicine, Surgery & Neurosciences, University of Siena, Italy, ⁸Fondazione 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 Conceição², Laetitia Michou³, M. Leonor Cancela⁴. ¹University of Algarve - PhD program in Biomedical Sciences; Dept of Biomedical Sciences & Medicine, Portugal, ²University of Algarve - Centre of Marine Sciences (CCMAR), Portugal, ³Université Laval, Canada, ⁴University 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 Zhang², Barbara Silva³, Fan Wen-Wei⁴, Didier Hans⁵, Natalie Cusano⁴, John Bilezikian⁴. ¹Endocrinology fellow, USA, ²Columbia University, USA, ³Federal University of Minas Gerais, Brazil, Brazil, ⁴Columbia University College of Physicians & Surgeons, USA, ⁵Lausanne University Hospital, Switzerland
Disclosures: Alice Abraham, None
- MO0013 No Seasonal Variation in 25-Hydroxyvitamin D in Mild Primary Hyperparathyroidism**
 Elaine Cong^{*1}, Marcella Walker², Anna Kepley², Chiyuan Zhang², Donald McMahon³, Shonni Silverberg². ¹Columbia Presbyterian Medical Center, USA, ²Columbia University, USA, ³Columbia 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 Viccica¹, Simona Borsari¹, Elena Pardi¹, Filomena Cetani², Roberta Centoni², Sonia Albertini², Silvia Chiavistelli³, Giordano Fumagalli¹, Adamasco Cupisti¹, Claudio Marcocci^{*4}. ¹Department of Clinical & Experimental Medicine, University of Pisa, Italy, ²University Hospital of Pisa, Italy, ³Azienda Ospedaliera Pisana, Italy, ⁴University of Pisa, Italy
Disclosures: Claudio Marcocci, None
- MO0015 Predictors of Depression Response in Primary Hyperparathyroidism**
 Ann Kearns^{*1}, Rachel Espiritu², Kristin Vickers Douglas¹, Clive Grant¹, Euijung Ryu¹, Robert Wermers¹. ¹Mayo Clinic, USA, ²Summa Physicians, Inc., USA
Disclosures: Ann Kearns, None
- MO0016 Primary Hyperparathyroidism Not Confounded by Coexisting Vitamin D Deficiency**
 Anna Kepley^{*1}, Marcella Walker¹, Elaine Cong², Chiyuan Zhang¹, James Lee¹, Shonni Silverberg¹. ¹Columbia University, USA, ²Columbia 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}, Mishaella Rubin², Donald McMahon¹, Dinaz Irani³, Laura Beth Anderson², Elizabeth Levy¹, John Bilezikian¹. ¹Columbia University College of Physicians & Surgeons, USA, ²Columbia University, USA, ³Columbia University Medical Center, USA
Disclosures: Natalie Cusano, None
- MO0018 Vitamin D Status in Hyperthyroidism**
 Ana Paula Barbosa^{*1}, Mário Rui Mascarenhas², Manuel Bicho³. ¹Endocrinology, Santa Maria Hospital & Faculty of Medicine, Portugal, ²Lisbon's Faculty of Medicine, Santa Maria University Hospital, CHLN,EPE, Portugal, ³Environmental 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 Yu¹, Ji Wang¹, Zhengdong Zhang¹, Fernando Rosete², Kyle Nishiyama¹, Elizabeth Shane³, X Guo¹. ¹Columbia University, USA, ²Columbia University Medical Center, USA, ³Columbia University College of Physicians & Surgeons, USA
Disclosures: Bin Zhou, None
- MO0020 Bone Density, Geometry, and Strength Changes after Lower Limb Amputation**
 Debra Bembem^{*1}, Vanessa Sher², Michael Bembem¹, William Ertl³. ¹University of Oklahoma, USA, ²University of Colorado - Denver, USA, ³University of Oklahoma Health Sciences Center, USA
Disclosures: Debra Bembem, 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 Johnston¹, David Cooper¹, W.P. Olszynski², Saija Kontulainen¹. ¹University of Saskatchewan, Canada, ²Midtown 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 Nicholls¹, Don Moravits¹, Jennifer Harris², Shayna Levine², Travis Eliason¹, Jeffry Nyman³, Todd Bredbenner¹, Lorena Havill². ¹Southwest Research Institute, USA, ²Texas Biomedical Research Institute, USA, ³Vanderbilt 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 Farlay², Audrey Doublier¹, Georges Boivin³. ¹INSERM, UMR 1033, Université de Lyon, France, ²INSERM, UMR1033; Université De Lyon, France, ³INSERM, UMR1033 ; Université 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 Ahlborg², Ola Svejme³, Jan-Åke Nilsson⁴, Bjorn Rosengren¹. ¹Skåne University Hospital Malmö, Lund University, Sweden, ²Malmö University Hospital, Sweden, ³Lunds Universitet, Sweden, ⁴Department 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 Khadri¹, Ghislain Maquer¹, Jasmin Wandel², Philippe Zysset*¹. ¹University of Bern, Switzerland, ²Bern 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 Ding², Ingo Grafe³, Stefanie Alexander³, Elda Munivez³, Ming-Ming Jiang³, Brian Dawson³, Annie Abraham⁴, Brendan Lee⁵, Catherine Ambrose⁶. ¹University of Texas Health Science Center at Houston, USA, ²Department of Nanomedicine & Biomedical Engineering, University of Texas Health Science Center, USA, ³Department of Molecular & Human Genetics, Baylor College of Medicine, USA, ⁴Department of Orthopaedic Surgery, University of Texas Health Science Center, USA, ⁵Baylor College of Medicine, USA, ⁶University 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 Eriksen². ¹Ph.D., Norway, ²Oslo 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 Kaneko², Sundeep Khosla³, Shreyasee Amin⁴. ¹Department of Radiological Sciences, University of California, Irvine, USA, ²University of California, USA, ³Mayo Clinic College of Medicine, USA, ⁴Mayo 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**
Mahdiah Bashoor-Zadeh*¹, Mona Al Mukaddam¹, Wenli Sun¹, Eual Phillips¹, Chamith Rajapakse², Felix Werner Wehrli³. ¹University of Pennsylvania, USA, ²University of Pennsylvania School of Medicine, USA, ³University of Pennsylvania Medical Center, USA
Disclosures: Mahdiah Bashoor-Zadeh, None
- MO0031 The Effect of Diabetes on Bone Strength and Collagen Cross-linking**
Stephen Warner*¹, Heather Hunt², Jonathan Jo¹, Kate Meyers¹, Edward DiCarlo¹, Joseph Lane¹, Eve Donnelly². ¹Hospital for Special Surgery, USA, ²Cornell 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 Tang², Avinesh Agarwalla³. ¹Washington University at St.Louis, USA, ²Washington University in St Louis, USA, ³Washington 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 Kaftandjian², Delphine Farlay³, Daniel Brau⁴, Georges Boivin⁵, Helene Follet⁵. ¹INSERM UMR 1033, Université de Lyon, France, ²Laboratoire Vibrations Acoustique, INSA de Lyon, France, ³INSERM, UMR1033; Université De Lyon, France, ⁴Photonic Science, France, ⁵INSERM, UMR1033 ; Université 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 Choisine*¹, Christophe Travert¹, Jean-Marc Valiadis², Anabela Darbon³, Philippe Rouch², Wafa Skalli¹. ¹Arts et Metiers ParisTech, France, ²Arts et Metiers ParisTech, LBM, France, ³EOS imaging, France
Disclosures: Julie Choisine, 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 Tuthill¹, Leah Rae Donahue², Stefan Judex¹. ¹Stony Brook University, USA, ²Jackson 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 Tong², Abhishek Chandra¹, Shao-Yun Hsu³, Haoruo Jia¹, Wei-Ju Tseng¹, Ji Zhu⁴, Xiaowei Liu¹, Dongming Sun³, Wise Young³, Ling Qin¹. ¹University of Pennsylvania, USA, ²Perelman school of medicine, USA, ³Rutgers, The State University of New Jersey, USA, ⁴University of Pennsylvania, School of Medicine, USA
Disclosures: Tiao Lin, None
- MO0038 Age-related calcification may increase the stiffness of costal cartilage**
Dennis Anderson*¹, Daniel Brooks¹, Alexander Bruno², Mary Bouxsein³. ¹Beth Israel Deaconess Medical Center, USA, ²Harvard-MIT, USA, ³Beth 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-Johansen¹, Lionel Metz¹, James Graham², Kimber Stanhope², Peter Havel², Jeffrey Lotz¹. ¹University of California, San Francisco, USA, ²University of California, Davis, USA
Disclosures: Aaron Fields, None
- 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 Fernandez², María Silvina Molinuevo², León Schurman², Ana María Cortizo², Anthony Desmond McCarthy². ¹Universidad Nacional de La Plata, La Plata, Hospital Cesar Milstein, Buenos Aires, Argentina, ²LIOMM, 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 Sievanen², Jörn Rittweger³, Jari Hyttinen⁴. ¹Tampere University of Technology, Finland, ²The UKK Institute for Health Promotion Research, Finland, ³Institute of Aerospace Medicine, German Aerospace Center, Germany, ⁴Department 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*, Li Sun², Jianhua Li³. ¹KUB Technologies, Inc, USA, ²Mount Sinai School of Medicine, USA, ³Tount Sinai School of Medicine, USA
Disclosures: Chester Lowe, KUB Technologies, Inc., 5
- MO0044 The Role of Osteocalcin Carboxylation on Bone Fragility**
 Timothy Cleland*¹, Caren Gundberg², Deepak Vashishth¹. ¹Rensselaer Polytechnic Institute, USA, ²Yale 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 Cullen², John Danforth², Gwendolin Alvarez², Bryan Hackfort², Robert Recker². ¹Creighton University Osteoporosis Research Center, USA, ²Creighton University, USA
Disclosures: Mohammed Akhter, None
- MO0046 Cyclooxygenase Response to Multiple Mechanical Loads**
 Bryan Hackfort*¹, Mohammed Akhter², Diane Cullen¹. ¹Creighton University, USA, ²Creighton 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 Alwood¹, Alesha Castillo², Ruth Globus¹. ¹NASA Ames Research Center, USA, ²VA Palo Alto Health Care System, USA
Disclosures: Yasaman Shirazi-Fard, None

- MO0048 Tamoxifen does not affect the anabolic response to tibial compression in male mice 3 weeks after initial injection**
 Heather Zannit*¹, Michael Brodt², Matthew Silva³, ¹Washington University St. Louis, USA, ²Washington University in St Louis, USA, ³Washington University in St. Louis School of Medicine, USA
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 Ireland¹, Ricardo Capozza², Gustavo Cointry², Jose Ferretti*³, Jorn Rittweger⁴.
¹Manchester Metropolitan University, United Kingdom, ²Center of P-Ca Metabolism Studies (CEMFOC); National University of Rosario, Argentina, ³National University of Rosario, Argentina, ⁴Division 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**
 Anna Middleton*, Craig Munns, John Christodoulou, Hiran Selvadurai. The Children's Hospital at Westmead, Australia
Disclosures: Anna Middleton, None
- MO0052 Increasing Bone and Reducing Fat with Modified Capoeira in the Primary School Setting: The CAPO Kids Trial**
 Rossana Nogueira*¹, Benjamin Weeks², Belinda Beck². ¹Griffith University, School of Allied Health Sciences, Centre of Musculoskeletal Research, Australia, ²Griffith University, Australia
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 Suominen², Tapio Senne³, Johanna Edgren³, Anu Salpakoski³, Maija Pesola⁴, Maria Arkela⁵, Markku Kauppinen³, Mauri Kallinen⁶, Sarianna Sipilä³.
¹Department of Health Sciences, University of Jyväskylä, Finland, ²Gerontology Research Center, Department of Health Sciences, University of Jyväskylä, Finland, ³Gerontology Research Center Department of Health Sciences, University of Jyväskylä, Finland, ⁴Department of Orthopedic, Central Finland Central Hospital, Finland, ⁵Department of Physical & Rehabilitation Medicine, Central Finland Central Hospital, Finland, ⁶Department of Medical Rehabilitation, Oulu University Hospital, Finland
Disclosures: Ari Heinonen, None
- MO0054 Overhand Throwing Athletes as a Model for Exploring the Skeletal Benefits of Exercise during Growth**
 Alyssa Weatherholt*¹, Robyn Fuchs¹, Stuart Warden². ¹Indiana University, USA, ²Indiana University School of Health & Rehabilitation Sciences, USA
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 Biedermann¹, Natasja Van Schoor², Mirjam Oosterwerff¹, Nathalie Bravenboer³, Mireille Van Poppel², Dorly Deeg², Elisabeth Eekhoff*⁴. ¹Department of Internal Medicine, Section Endocrinology, VU University Medical Center, Netherlands, ²EMGO Institute for Health & Care Research, VU University Medical Center, Netherlands, ³VU University Medical Center, The Netherlands, ⁴VU 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 Andersen², Peter Friedman³, Isidro Salusky⁴, Katherine Wesseling-Perry⁵. ¹UCLA, USA, ²Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, ³University of Pittsburgh School of Medicine, USA, ⁴University of California, Los Angeles School of Medicine, USA, ⁵UCLA 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 Chesi², Okan Elci², Shana McCormack², Heidi Kalkwarf³, Joan Lappe⁴, Vicente Gilsanz⁵, Sharon Oberfield⁶, John Shepherd⁷, Andrea Kelly⁸, Babette Zemel², Struan Grant⁸. ¹University of Pennsylvania, USA, ²Children's Hospital of Philadelphia, USA, ³Cincinnati Children's Hospital Medical Center, USA, ⁴Creighton University Osteoporosis Research Center, USA, ⁵Children's Hospital Los Angeles, USA, ⁶Columbia University Medical Center, USA, ⁷University of California, San Francisco, USA, ⁸Children'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**
Colby Vorland*¹, Berdine Martin², Connie Weaver², Munro Peacock³, Kathleen Hill Gallant². ¹USA, ²Purdue University, USA, ³Indiana University Medical Center, USA
Disclosures: Colby Vorland, None

- MO0060 Preeclampsia and gestational hypertension are associated with adolescent offspring bone mineral density in a UK population based cohort**
Kim Hannam*, Jon Tobias, Debbie Lawlor. University of Bristol, United Kingdom
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 Herndon², Phuong Le³, Debra Benjamin², Clark Andersen², Clifford Rosen⁴. ¹University of Texas Medical Branch, USA, ²University of Texas Medical Branch & Shriners Burns Hospital, USA, ³Maine Medical Center Research Institute, USA, ⁴Maine 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 Arponen², Helena Valta¹, Outi Tiesalo², Marja Ekholm², Outi Makitie³, Janna Waltimo-Sirén². ¹Hospital for Children & Adolescents, University of Helsinki, Helsinki Finland, Finland, ²Institute of Dentistry, University of Helsinki, Helsinki, Finland, ³Children'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 Uzer², Janet Rubin³, Stefan Judex¹. ¹Stony Brook University, USA, ²University of North Carolina, USA, ³University of North Carolina, Chapel Hill, School of Medicine, USA
Disclosures: Suphannee Pongkitwitoon, None

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**
Vihitaben Patel^{*1}, Meilin Chan¹, Clinton Rubin². ¹Stony Brook University, USA, ²State University of New York at Stony Brook, USA
Disclosures: Vihitaben Patel, None
- MO0065 Regional Variability in Radius Marrow Density- A pQCT Study in Females Aged 8 to 58**
Jodi Dowthwaite^{*1}, Tomas Cervinka², Charity Ntansah³, Paula F. Rosenbaum⁴, Harri Sievanen⁵, Tamara Scerrella⁶. ¹SUNY Upstate Medical University, Syracuse University, USA, ²Tampere Institute of Technology, Finland, ³Syracuse University, USA, ⁴SUNY Upstate Medical University, USA, ⁵The UKK Institute for Health Promotion Research, Finland, ⁶University of Wisconsin, USA
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 Hinge², Jean-Marie Delaisse³. ¹Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, ²Department of Clinical Cell Biology (KCB), Vejle Hospital - Lillebaelt Hospital, IRS, University of Southern Denmark, Denmark, ³Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Thomas Andersen, None
- MO0067 The Other Side of Osteoimmunology: Osteoclasts as Myeloid Derived Immune Regulator**
Ichiro Nishimura^{*1}, Keiichi Kanayama², Han-Ching Tseng², Shuting Sun³, Charles McKenna³, Sil Park⁴, Anahid Jewett². ¹University of California, Los Angeles, USA, ²UCLA School of Dentistry, USA, ³USC Department of Chemistry, USA, ⁴UCLA, School of Dentistry, USA
Disclosures: Ichiro Nishimura, None

BONE TUMORS AND METASTASIS: BONE TUMOR MICROENVIRONMENT

- MO0068 Diet-induced obesity promotes a myeloma-like disorder *in vivo***
Saint Lwin^{*1}, Sam Olechnowicz², Jessica Fowler³, Claire Edwards¹. ¹University of Oxford, United Kingdom, ²University of Oxford, GBR, ³University of California, Los Angeles, USA
Disclosures: Saint Lwin, None
- MO0069 Expression and role of sonic hedgehog in oral squamous cell carcinoma induced jaw bone destruction**
Tsuyoshi Shimo^{*1}, Naito Kurio², Masahiro Iwamoto³, Tatsuo Okui⁴, Hiromasa Kuroda⁵, Kenichi Matsumoto⁵, Soichiro Ibaragi⁵, Norie Yoshioka⁵, Yuichirou Takebe⁵, Hitoshi Nagatsuka⁵, Akira Sasaki⁴. ¹Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, ²Japan, ³Children's Hospital of Philadelphia, USA, ⁴Okayama University, Japan, ⁵Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan
Disclosures: Tsuyoshi Shimo, None
- MO0070 Increased Expression of TAF12 in the Bone Microenvironment in Multiple Myeloma Enhances Tumor Cell Growth and Osteoclast Formation**
Yukiko Kitagawa¹, Jumpei Teramachi², Jolene Windle³, John Chirgwin¹, G. David Roodman¹, Noriyoshi Kurihara^{*1}. ¹Indiana University, USA, ²The University of Tokushima, Japan, ³Virginia Commonwealth University, USA
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 Hiasa², Jumpei Teramachi³, Keiichiro Watanabe⁴, Takeshi Harada⁵, Shiro Fujii⁵, Shingen Nakamura⁵, Hirokazu Miki⁵, Asuka Oda⁵, Eiji Tanaka⁶, Itsuro Endo⁷, Toshio Matsumoto⁷, Masahiro Abe¹. ¹University of Tokushima, Japan, ²Indiana University School of Medicine, USA, ³The University of Tokushima, Japan, ⁴Tokushima University Hospital, Japan, ⁵Dept. of Medicine & Bioregulatory Sciences, Tokushima Univ., Japan, ⁶Dept. of Orthodontics & Dentofacial Orthopedics, Tokushima Univ., Japan, ⁷University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Ryota Amachi, None
- MO0072 C-11-Acetate Metabolic PET Imaging uncovers a Role for Acetate Metabolism in Multiple Myeloma**
 Francesca Fontana*¹, Michelle Hurchla², Kooresh Shoghi³, Walter Akers³, Simone Cenci⁴, Michael Tomasson⁵, Andre D'Avignon⁶, Monica Shokeen⁷, Roberto Civitelli⁸, Katherine Weilbaecher⁸. ¹Bone & Mineral Diseases, USA, ²Washington University in St. Louis, USA, ³Washington University School of Medicine Department of Radiology, USA, ⁴Fondazione Centro San Raffaele, Italy, ⁵Division of Oncology - Washington University School of Medicine, USA, ⁶Department of Chemistry - Washington University in St Louis, USA, ⁷Washington University School of Medicine - Department of Radiology, USA, ⁸Washington 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)**
 Jacquelin Jolette*¹, Aurore Varela², Bassem Attalla³, Susan Y. Smith², Gary Hattersley⁴. ¹Charles River Laboratories, Preclinical Services Montreal, Canada, ²Charles River Laboratories, Canada, ³Charles River, Canada, ⁴Radius, USA
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 Kuchuk², Monzur Murshed³, Nathaniel Bouganim², Natasha Kekre², Susan Robertson², Lisa Vandermeer², Jin Li³, Christina Addison², Roanna Segal², Mark Clemons². ¹McGill University, Royal Victoria Hospital, Canada, ²Ottawa Hospital Research Institute, Canada, ³McGill University, Canada
Disclosures: Richard Kremer, None
- MO0075 Human CD138+ myeloma cells suppress osteoblastogenesis when co-cultured with human mesenchymal stem cells**
 Wei Zhang¹, Moustapha Kassem², Matthew Drake*³. ¹Mayo Clinic, USA, ²Odense University Hospital, Denmark, ³College of Medicine, Mayo Clinic, USA
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 Plotkin¹, Teresita Bellido¹, G. David Roodman². ¹Indiana University School of Medicine, USA, ²Indiana University, USA
Disclosures: Jesus Delgado-Calle, None

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 Gonzales², Jonathan Page³, Scott Guelcher⁴, Julie Sterling⁵.
¹USA, ²UT Health Science Center, USA, ³Department of Chemical & Biomolecular Engineering, Vanderbilt University, USA, ⁴Vanderbilt University, USA, ⁵Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA
Disclosures: Shellese Cannonier, None

BONE TUMORS AND METASTASIS: THERAPEUTIC TARGETS FOR BONE TUMORS

- MO0079 Withdrawn**

- MO0080 Inhibition of Autophagy Increases Cytotoxic Effects in Chondrosarcoma Cells**
 Stephan Reumann, Kristen Shogren, Michael Yaszemski, Avudaiappan Maran*. Mayo Clinic College of Medicine, USA
Disclosures: Avudaiappan Maran, None

- MO0081 Withdrawn**

- MO0082 Interleukin-6 receptor inhibitor suppresses bone metastases in a breast cancer cell line HIROKI WAKABAYASHI*¹**, Takahiko Hamaguchi², Takahiro Iino², Akihiko Matsumine², Akihiro Sudo². ¹Mie University Graduate School of Medicine, Japan, ²Mie University, Japan
Disclosures: HIROKI WAKABAYASHI, None

- MO0083 Osteopenia and Osteolysis Resulting from Multiple Myeloma Partially Suppressed through Low Intensity Mechanical Signals**
 Gabriel Pagnotti*¹, Benjamin Adler¹, M. Ete Chan¹, Mallory Korman², Kenneth R Shroyer², Clinton Rubin³. ¹Stony Brook University, USA, ²Stony Brook Medicine Department of Pathology, USA, ³State University of New York at Stony Brook, USA
Disclosures: Gabriel Pagnotti, None

CHONDROCYTES: ARTICULAR CARTILAGE

- MO0084 Connexin 43 Regulates Chondrocyte Differentiation**
 Yue Zhang¹, Alayna Loisel², Yanghui Xing³, Jun You¹, Henry Donahue*¹. ¹The Pennsylvania State University College of Medicine, USA, ²University of Rochester, USA, ³Pennsylvania 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 Bradshaw², Dezba Couglin², Jeffrey Lotz². ¹University of California, San Francisco, USA, ²UCSF, USA
Disclosures: Stephanie Miller, None

- MO0086 The dynamics of mineralized cartilage formation**
 David Rowe¹, Nathaniel Dymment*^P, Yusuke Hagiwara¹, Andrew Breidenbach², David Butler², Thomas Thomopoulos³, Andrea Schwartz³, Lindsey Aschbacher-Smith⁴, Han Liu⁴, Rulang Jiang⁴. ¹University of Connecticut Health Center, USA, ²University of Cincinnati School of Engineering, USA, ³Washington University, Department of Orthopedics, USA, ⁴Cincinnati Children's Hospital Research Foundation, USA
Disclosures: Nathaniel Dymment, None

- MO0087 The Effects of Reduced Gravity On Subchondral Bone And Articular Cartilage: Are They Good Neighbors?**
 Liliana Mellor*¹, Elizabeth Lobo¹, Julia Oxford², Travis Baker², Minoti Hiremath².
¹North Carolina State University, USA, ²Boise State University, USA
Disclosures: Liliana Mellor, None

CHONDROCYTES: ORIGIN, DIFFERENTIATION, APOPTOSIS

- MO0088 An *in Vitro* Chondrogenic Differentiation Model Using KS483 Mouse Mesenchymal Progenitor Cell Line**
 Katja Fagerlund*¹, Natalia Hailainen-Kirillov¹, Clemens Lowik², Alan Chan³, Jussi Hallee⁴. ¹Pharmatest Services Ltd, Finland, ²Department of Radiology, Leiden University Medical Center, Netherlands, ³Percuros BV, Netherlands, ⁴Pharmatest Services Ltd, Finland
Disclosures: Katja Fagerlund, Pharmatest Services Ltd, 4; Pharmatest Services Ltd, 3
- MO0089 Antiangiogenic Drug, TNP-470, Inhibited Early Chondrocyte Condensation During Ectopic Bone Formation**
 Beth Bragdon*¹, Stephanie Lam², Sherif Aly², Elise Morgan³, Louis Gerstenfeld⁴. ¹Boston University School of Medicine Department of Orthopaedics, USA, ²Department of Orthopaedic Surgery, Boston University School of Medicine, USA, ³Boston University, USA, ⁴Boston University School of Medicine, USA
Disclosures: Beth Bragdon, None
- MO0090 Environmental Stress Promotes Chondrogenic Commitment of Skeletal Progenitor Cells by Activating Autophagy**
 Nick Van Gastel*¹, Sophie Torrekens¹, Patrizia Agostinis², Geert Carmeliet³. ¹Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, Belgium, ²Laboratory of Cell Death Research & Therapy, KU Leuven, Belgium, Belgium, ³Katholieke 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 Pichler¹, Giuseppe Musumeci², Egon Marth³, Annelie Weinberg¹. ¹Medical University Graz, Austria, ²University of Catania, Italy, ³Medical 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 Hirata¹, Sakae Tanaka², Hiroshi Kawaguchi³, Taku Saito⁴. ¹University of Tokyo, Japan, ²The University of Tokyo, Japan, ³JCHO Tokyo Shinjuku Medical Center, Japan, ⁴University 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 Nebbaki¹, Hassan Afif², Johanne Martel-Pelletier², Jean-Pierre Pelletier², Mohamed Benderdour³, Hassan Fahmi². ¹Research Center-CHUM, Canada, ²Osteoarthritis Research Unit, CR-CHUM, Canada, ³Hopital 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 Lai¹, Marc Wein¹, Elena Kozhemyakina², Andrew Lassar², Eric Olson³, Henry Kronenberg¹. ¹Massachusetts General Hospital, USA, ²Harvard Medical School, USA, ³UT 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 Costa¹, Iraj Hassan², Eduardo Katchburian³, Hannah Davis², Lilian Plotkin², Rejane Reginato*⁴. ¹Indiana University/Universidade Federal de Sao Paulo - Brazil, Brazil, ²Indiana University School of Medicine, USA, ³Federal University of São Paulo, Brazil, ⁴Unifesp - 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 Street², Michael Dray³, Ashvin Thambayah², Karen Callon², Donna Tuari², Brendan Coleman⁴, Jillian Cornish². ¹University of Auckland, New Zealand, ²University of Auckland, New Zealand, ³Waikato District Health Board, New Zealand, ⁴Counties 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 Wang¹, Tian Meng¹, Chunlin Qin², Yongbo Lu*¹. ¹Texas A&M University Baylor College of Dentistry, USA, ²Texas 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 Krumpel², Barbro Ek-Rylander², Göran Andersson², Per Magnusson¹. ¹Department of Clinical Chemistry, Linköping University, Sweden, ²Division 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 Chouinard², Ousmane-Noel Diallo¹, Angela Keightley¹, Lewis Gruber³, Susan Y. Smith¹. ¹Charles River Laboratories, Canada, ²Charles River Laboratories, PCS Montreal, Canada, ³SIWA 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**
John Stabley*¹, Abraham Berhmann², Karen Krchma², Su-Li Cheng², Bindu Ramachandran², Megan Mead², Bart Williams³, Dwight Towler¹. ¹Sanford-Burnham Medical Research Institute, USA, ²Sanford-Burnham Medical Research Institute at Lake Nona, USA, ³Van Andel Research Institute, USA
Disclosures: John Stabley, None
- MO0101 The Effect of PTH Treatment on Bone Tissue Mechanics, Mineral Density and Non-enzymatic Glycation in Rats with Type 2 Diabetes Mellitus**
Graeme Campbell*¹, Christine Hamann², Ann-Kirstin Picke², Martina Rauner³, Sanjay Tiwari⁴, Gerd Huber⁵, Jaime Peña¹, Timo Damm¹, Reinhard Barkmann⁶, Michael Morlock⁵, Lorenz Hofbauer⁷, Claus-C Glueer⁸. ¹University Hospital Schleswig-Holstein, Kiel Campus, Germany, ²Dresden Technical University Medical Center, Germany, ³Medical Faculty of the TU Dresden, Germany, ⁴University Hospital Schleswig-Holstein, Campus Kiel, Germany, ⁵Technical University of Hamburg, Germany, ⁶Universitätsklinikum Kiel, Germany, ⁷Dresden University Medical Center, Germany, ⁸Christian Albrechts Universität zu Kiel, Germany
Disclosures: Graeme Campbell, None

ENERGY METABOLISM AND BONE: FAT AND BONE

- MO0102 Induction of Heterotopic Ossification is Severely Curtailed in Mice lacking Apolipoprotein E**
Eric Beal*¹, Elizabeth Salisbury¹, Zbigniew Gugala², Elizabeth Olmsted-Davis¹, Alan Davis¹. ¹Baylor College of Medicine, USA, ²University of Texas Medical Branch, USA
Disclosures: Eric Beal, None

- MO0103 Influence of obesity on the prevalence of osteoporosis and low-impact fractures in Brazilian women**
 Marcelo Pinheiro¹, Bruna Castro^{*2}, Edgard Reis Neto², Jacob Szejnfeld², Vera Szejnfeld³.
¹Sao Paulo Federal University/ Unifesp/ Escola Paulista De Medicina, Brazil, ²Federal University of Sao Paulo (Unifesp/ EPM), Brazil, ³UNIFESF/EPM, Brazil
Disclosures: Bruna Castro, None
- MO0104 Mechanisms of reduced bone mineral density are diet- and strain-dependent**
 Casey Doucette^{*1}, Clifford Rosen². ¹Maine Medical Center Research Institute, USA, ²Maine Medical Center, USA
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 Cannone², Elena Conte², Domenico Tricarico². ¹University of Bari, Italy, USA, ²Dept. of Pharmacy-Drug Sciences, University of Bari, Italy
Disclosures: Claudia Camerino, None
- 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 Spruyt¹, Jessica Berlier¹, Sabrina Rigutto¹, Antoine Dalla Valle¹, Caroline Louis², Cathy Debier², Nathalie Gaspard¹, Willy J Malaisse¹, Valerie Gangji³, Joanne Rasschaert⁴. ¹Université libre de Bruxelles, Belgium, ²Université catholique de Louvain, Belgium, ³Hôpital Erasme, Université Libre de Bruxelles, Belgium, ⁴Laboratory 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 Massaro², Marcello Nogueira-Barbosa², Carlos Salmon², Belinda Simões², Maria Carolina Rodrigues², Clifford Rosen³, Francisco Jose De Paula⁴.
¹Brazil, ²University of São Paulo, Brazil, ³Maine Medical Center, USA, ⁴School 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 Calcitropic Signals**
 Robert Fredericks*. Endocrine Associates, USA
Disclosures: Robert Fredericks, None
- MO0109 Insulin Resistance and Bone Strength in Children**
 Joseph Kindler^{*1}, Norman Pollock², Emma Laing¹, Kathleen Hill Gallant³, Stuart Warden⁴, Berdine Martin³, Connie Weaver³, Munro Peacock⁵, Richard Lewis¹. ¹The University of Georgia, USA, ²Georgia Regents University, USA, ³Purdue University, USA, ⁴Indiana University School of Health & Rehabilitation Sciences, USA, ⁵Indiana University Medical Center, USA
Disclosures: Joseph Kindler, None
- MO0110 Protection from Fracture Risk in Long Term Type 1 Diabetes: 50- Year Medalist Study**
 Hillary Keenan^{*1}, Stephanie Hastings², George King². ¹Joslin Diabetes Center, Harvard Medical School, USA, ²Joslin Diabetes Center, USA
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, Matthew Hamang, Venkatesh Krishnan, Henry Bryant, Vincent L Reynolds, Malgorzata Gonciarz, Libbey O'Farrell, Alexei Kharitonov, 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 Liberton¹, Fernando de Villena², Benedikt Hallgrímsson¹.
¹University of Calgary, Canada, ²University of North Carolina, USA
Disclosures: Hayley Britz, None
- MO0114 Altered osteoclast homeostasis responsible for bone changes in progressive myoclonus epilepsy EPM1**
Otto Manninen*¹, Elina Harittu², Tiina Laitala², Riku Kiviranta³, Anna-Elina Lehesjoki⁴, Outi Kopra⁴. ¹Folkhalsan Institute of Genetics, Finland, ²University of Turku, Finland, ³Medical Biochemistry & Genetics & Turku PET Centre, University of Turku, Finland, ⁴Folkhalsan Research Center, Finland
Disclosures: Otto Manninen, None
- MO0115 An Fkbp10 mouse model recapitulates joint contractures found in Bruck syndrome**
Caressa Lietman*¹, Keren Machol¹, Elda Munivez¹, Brian Dawson¹, Terry Bertin¹, Yuqing Chen¹, Deborah Krakow², Brendan Lee¹. ¹Baylor College of Medicine, USA, ²UCLA, 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 Tomlinson¹, Brian Goh², Stuart Mitchell¹, Rachel Yung¹, Sarvesh Kumar³, Eric Tan¹, Harry Dietz¹, Thomas Clemens¹, Paul Sponseller¹. ¹Johns Hopkins University, USA, ²Johns Hopkins University School of Medicine, USA, ³Johns 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 Li², Jay Cao³, Lauren Collier¹, Yuanzhen Peng⁴, Jerry Feng⁵, Jiliang Li⁶, Yiwen Qin¹, Tom Brown⁷, Hua Zhu (David) Ke⁷, William A. Bauman¹, Christopher Cardozo¹. ¹James J. Peters Va Medical Center, USA, ²Amgen, Inc., USA, ³USDA ARS, USA, ⁴The Mount Sinai School of Medicine, USA, ⁵Baylor College of Dentistry, TX A&M, USA, ⁶Indiana University Purdue University Indianapolis, USA, ⁷Amgen 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 Steiner², Uwe Kornak¹, Michael Amling³, Stefan Mundlos², Björn Busse³, Jan Pestka⁴, Thorsten Schinke⁵, Till Köhne³, Danny Chan⁶.
¹Charité-Universitätsmedizin Berlin, Germany, ²Institut für Medizinische Genetik und Humangenetik, Germany, ³University Medical Center Hamburg-Eppendorf, Germany, ⁴Department f.Orthopädie u.Traumatologie, Universitätsklinikum Freiburg, Germany, ⁵Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, ⁶Department 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**
 Sonja Kuehn^{*1}, Thorsten Schinke², Michael Amling³, Till Koehne³, Thomas Bräulke⁴, Kerstin Cornils⁵, Boris Fehse⁵, Sandra Breyer⁶, Ralf Stuecker⁶, Nicole Muschol⁴.
¹University of Hamburg, Germany, ²Department of Osteology & Biomechanics, University Medical Center Hamburg Eppendorf, Germany, ³University Medical Center Hamburg-Eppendorf, Germany, ⁴Department of Biochemistry, Childrens Hospital, University Medical Center Hamburg Eppendorf, Germany, ⁵Department of Stem Cell Transplantation, University Medical Center Hamburg Eppendorf, Germany, ⁶Childrens Hospital Hamburg-Altona, Germany
Disclosures: Sonja Kuehn, None
- MO0121 Previously unsuspected defects in the cranial base of a mouse model of Hereditary Multiple Exostoses**
 Federica Sgariglia^{*1}, Paul Billings², Hyo-bin Um², Kevin Jones³, Eiki Koyama², Maurizio Pacifici². ¹Children's Hospital of Philadelphia, USA, ²Children's Hospital of Philadelphia, USA, ³University of Utah, USA
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 Ii², Tomoyuki Matsumoto³, Atsuhiko Kawamoto⁴, Yutaka Mifune⁵, Ryosuke Kuroda⁶, Takayuki Asahara⁴, Masahiro Kurosaka⁶. ¹Kobe University Graduate School of Medicine, Japan, ²Department of Pharmacology, Faculty of Medicine, Osaka Medical College, Japan, ³University of Pittsburgh, USA, ⁴Group of Vascular Regeneration, Institute of Biomedical Research & Innovation, Japan, ⁵Kobe university, Japan, ⁶Department 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 RAR γ agonist treatment**
 Salin Chakkalakal^{*1}, Kenta Uchibe², Deyu Zhang¹, Andria Culbert¹, Michael Convente³, Frederick Kaplan¹, Maurizio Pacifici⁴, Masahiro Iwamoto⁴, Eileen Shore¹. ¹University of Pennsylvania, USA, ²Division of Orthopaedic Surgery, Children's Hospital of Philadelphia, USA, ³University of Pennsylvania School of Medicine, USA, ⁴Children'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**
 Eva Liu^{*1}, Adalbert Raimann², Daniel Brooks³, Mary Bouxsein³, Marie Demay⁴.
¹Brigham & Women's Hospital & Massachusetts General Hospital, USA, ²Medical University Vienna, Austria, ³Beth Israel Deaconess Medical Center, USA, ⁴Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Eva Liu, None
- MO0125 Dysosteosclerosis: Evidence for Genetic Heterogeneity**
 Gary Gottesman^{*1}, Steven Mumm², William McAlister², Serap Turan³, Katherine Madson¹, Angela Nenninger¹, Murat Bastepe⁴, Harald Jueppner⁵, Michael Whyte¹.
¹Shriners Hospital for Children-Saint Louis, USA, ²Washington University School of Medicine, USA, ³Marmara University Istanbul-Turkey, Turkey, ⁴Massachusetts General Hospital, Harvard Medical School, USA, ⁵Massachusetts General Hospital, USA
Disclosures: Gary Gottesman, None
- MO0126 R990G mutation of CASR gene in the autosomal dominant hypocalcemia**
 JO EUN KIM^{*1}, Hanseok Choi², Sihoon Lee³, Yumie Rhee⁴, Sung-Kil Lim¹. ¹Yonsei University College of Medicine, South Korea, ²Dongguk University Ilsan Hospital, South Korea, ³Gachon University School of Medicine, Rok, ⁴Department of Internal Medicine, College of Medicine, Yonsei University, South Korea
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 Chung², Yi-Hsiang Hsu³, L. Adrienne Cupples⁴, Izhak Haviv⁵, Douglas Kiel⁶, Ching-Ti Liu⁴. ¹Hebrew SeniorLife; Bar Ilan University, USA, ²Bioinformatics Program, Boston U, USA, ³Hebrew SeniorLife Institute for Aging Research & Harvard Medical School, USA, ⁴Biostatistics, Boston U Sch Public Health, USA, ⁵Faculty of Medicine, Bar-Ilan University, Israel, ⁶Hebrew SeniorLife, USA
Disclosures: David Karasik, None

MO0128 Characterization of small molecule activators and inhibitors of the mutated G_sα responsible for Fibrous Dysplasia of Bone
Nisan Bhattacharyya^{*1}, Marek Kucka², Catherine Z. Chen³, Xin Hu³, Noel T. Southall³, Andrea Estrada⁴, Michael T. Collins¹. ¹NIDCR, NIH, USA, ²NICHHD, NIH, USA, ³NCATS, NIH, USA, ⁴National Institutes Of Health, USA
Disclosures: Nisan Bhattacharyya, None

MO0129 Somatic Neurofibromin Deficiency and Transcriptional Dysregulation in Tibial Pseudoarthrosis with Neurofibromatosis Type 1
Nandina Paria¹, Tae-Joon Cho², In Ho Choi³, Nobuhiro Kamiya¹, Kay Kayembe⁴, Rong Mao⁵, Rebecca Margraf⁵, Gerlinde Obermosser⁴, Ila Oxendine¹, David Sant⁵, Mi Hyun Song⁶, David Stevenson⁷, David Viskochil⁷, Carol Wise¹, Harry Kim⁸, Jonathan Rios^{*1}. ¹Texas Scottish Rite Hospital for Children, USA, ²Seoul National University Hospital, South Korea, ³Seoul National University Children's Hospital, South Korea, ⁴Baylor Institute for Immunology Research, USA, ⁵ARUP Institute for Clinical & Experimental Pathology, USA, ⁶Jeju National University Hospital, South Korea, ⁷University of Utah, USA, ⁸Scottish 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
Maheva Valett¹, Dinesh Soares¹, Sachin Wani¹, Jon Warner², Stuart Ralston¹, Omar Albagha^{*1}. ¹University of Edinburgh, United Kingdom, ²south east Scotland Clinical Genetics Service, Western General Hospital, United Kingdom
Disclosures: Omar Albagha, None

MO0131 Unraveling the Skeletal Pathophysiology in Gaucher Disease and Gba2 as a Therapeutic Target
Mone Zaidi^{*1}, Li Sun², Tony Yuen², Ping Lu³, Se-Min Kim², Peng Liu⁴, Kate Zhang⁵, Ruhua Yang⁶, Jianhua Li⁷, Yiaoting Ji², Wei-Lien Chuang⁸, Joan Keutzer⁵, Agens Stachnik⁶, Albert Mennone⁵, James Boyer⁶, Dhanpat jain⁶, Roscoe Btady⁹, Maria New¹⁰, Jun Liu⁶, Pramod Mistry⁶. ¹Mount Sinai Medical Center, USA, ²Mount Sinai School of Medicine, USA, ³Bone Program, USA, ⁴USA, ⁵Genzyme, USA, ⁶Yale University School of Medicine, USA, ⁷Tount Sinai School of Medicine, USA, ⁸Genzyme Corporation, a Sanofi Company, USA, ⁹National Institute of Neurological Disorders & Stroke, National Institutes of Health, USA, ¹⁰Mount 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 Demambro², Phuong Le², Casey Doucette², Clifford Rosen³. ¹Rosen Laboratory, USA, ²Maine Medical Center Research Institute, USA, ³Maine 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 Yokoyama², Rina Onishi², Shiori Fukuda², Otoki Nakahashi², Yuichiro Takei³, Yutaka Taketani², Eiji Takeda². ¹University of Jin-ai, Japan, ²University of Tokushima School of Medicine, Japan, ³Hiroshima University, Japan
Disclosures: Hironori Yamamoto, None
- MO0134 FGF23 deficiency ameliorates progression of chronic kidney disease in mice**
OLENA ANDRUKHOVA^{*1}, Svetlana Slavic², Sathish Kumar Murali², Reinhold Erben³. ¹INST. OF PHYSIOLOGY, PATHOPHYSIOLOGY & BIOPHYSICS, Austria, ²Dept. of Biomedical Sciences, University of Veterinary Medicine, Austria, ³University of Veterinary Medicine, Austria
Disclosures: OLENA ANDRUKHOVA, None
- MO0135 HMW FGF2 isoforms mediate renal phosphate wasting by modulating FGF23/FGFR/ MAPKinase signaling in kidney**
Erxia Du^{*1}, Liping Xiao², Marja Marie Hurley³. ¹USA, ²University of Connecticut Health Center, USA, ³University of Connecticut Health Center School of Medicine, USA
Disclosures: Erxia Du, None

HORMONAL REGULATORS: PARATHYROID HORMONE AND CALCIUM SENSING RECEPTORS

- MO0136 Calcemic actions of a long-acting PTH analog in PTH knockout mice**
Tomoyuki Watanabe^{*1}, Monica Reyes¹, David Goltzman², John Potts¹, Thomas Gardella¹. ¹Massachusetts General Hospital, USA, ²McGill University, Canada
Disclosures: Tomoyuki Watanabe, None
- MO0137 Evolution of a Long-Acting Parathyroid Hormone Analog for the Treatment of Hypoparathyroidism**
Henry Bryant^{*1}, Charles Benson¹, Venkatesh Krishnan¹, Masahiko Sato², Ricky Cain¹, Qianqiang Zeng¹, Deborah Robins¹, Nora Yang³, Yanfei Ma¹. ¹Eli Lilly & Company, USA, ²Indiana University School of Medicine, USA, ³NIH, Therapeutics for Rare & Neglected Diseases, National Center for Advancing Translational Sciences, USA
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 GLUCOCORTICIDS

- 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 D₀ (AUF1) and estrogen receptor- α in osteoblasts**
Alejandro Garcia^{*1}, John Adams², Martin Hewison², Rui Zhou². ¹Univ. of California, Los Angeles, USA, ²University 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 Isaksson², Riccardo Chiusaroli³, Christina Perdikouri², Neashan Mathavan², Maria Norgård⁴, Antti Koskela⁵, Juha Tuukkanen⁶, Claes Ohlsson⁷, Goran Andersson⁸, Sara Windahl⁹. ¹Karolinska Institutet, Sweden, ²Department of Solid Mechanics & Orthopedics, Lund University, Sweden, ³Rottapharm Biotech, Italy, ⁴Department of Laboratory Medicine, Karolinska Institutet, Sweden, ⁵Department of Anatomy & Cell Biology, Institute of Biomedicine, University of Oulu, Finland, ⁶University of Oulu, Finland, ⁷Center for Bone & Arthritis Research at the Sahlgrenska Academy, Sweden, ⁸Karolinska Institute, Sweden, ⁹Center 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. Jørgensen², Jane Christensen³, Anne Tjønneland³, Anja Olsen³, Jytte Halkjær³, Bent Lind⁴, Anne-Marie Heegaard⁵, Peter Schwarz⁶. ¹Faculty of Pharmaceutical Sciences, University of Copenhagen, Denmark, ²Department of Clinical Biochemistry, Copenhagen University Hospital Bispebjerg, Denmark, ³Danish Cancer Society Research Center, Denmark, ⁴The Elective Laboratory of the Capital Region, Denmark, ⁵Faculty of Health & Medical Sciences, University of Copenhagen, Denmark, ⁶Glostrup 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)₂D₃**
 Shengyu Lv*¹, Jian Cui¹, Hongrui Liu¹, Wei Feng¹, Juan Li¹, Bao Sun¹, Kefeng Wang², Xiong Lu³, Minqi Li⁴. ¹Shandong University, China, ²Sichuan University, China, ³Southwest Jiaotong University, China, ⁴The 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 D₃ regulation of innate immune responses in lung epithelial cells**
 Puneet Dhawan*¹, Ran Wei¹, Cheng Sun¹, Adrian F. Gombart², H. Phillip Koeffler³, Gill Diamond⁴, Sylvia Christakos¹. ¹Rutgers - New Jersey Medical School, USA, ²Oregon State University, USA, ³Cedars Sinai Medical Center, USA, ⁴University of Florida, USA
Disclosures: Puneet Dhawan, None
- 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 Dhawan¹, Tanya Seth¹, Kiin Kim¹, Angela Porta², Patricia Soteropoulos¹, Saleena Ghanny¹, Sylvia Christakos¹. ¹Rutgers - New Jersey Medical School, USA, ²Kean 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 Fisceletti*¹, Marie-Jeanne Lebel¹, Nathalie Alos², Prevost Jantchou³, Geneviève Benoit⁴. ¹University of Montreal, Canada, ²CHU Sainte Justine, Canada, ³University of Montreal, Canada, ⁴University of Montreal, Canada
Disclosures: Melissa Fisceletti, 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 Pekkinen², Suvi Itkonen¹, Virpi Kemi³, Heini Karp³, Christel Lamberg-Allardt¹. ¹University of Helsinki, Finland, ²Folkhälsan Institute of Genetics, University of Helsinki, Finland, ³Calcium 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-Saleh², Abdulaziz Al-Othman¹, Majed Alokail¹, Omar Al-Attas¹, Abdullah Alnaami¹, Shaun Sabico¹, George Chrousos³. ¹King Saud University, Saudi Arabia, ²King Saud University for Health Sciences, Saudi Arabia, ³Athens 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 Ginawi², Philip O'Connor³, Philip Bearcroft⁴, Steven Garber⁵, Shweta Bhagat⁶, Andrew Grainger³, Hill Gaston⁷. ¹Addenbrooke's Hospital, United Kingdom, ²Basildon University Hospital, United Kingdom, ³NIHR Biomedical Research Unit, United Kingdom, ⁴Cambridge University Hospitals NHS Foundation Trust, United Kingdom, ⁵The Ipswich Hospital NHS Foundation Trust, United Kingdom, ⁶West Suffolk NHS Foundation Trust, United Kingdom, ⁷University 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 Weber², Patrick Moebius², Raimund Preidl², Phillip Stockmann², Friedrich W. Neukam², Kerstin Amann³. ¹University of Erlangen-Nuremberg, Germany, ²Dept. of Oral & Maxillofacial Surgery, University hospital of Erlangen-Nuernberg, Germany, ³Institute 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-Pires², Claudia Bigueti², Ana Paula Trombone³, Andrew Glowacki⁴, Sayuri Yoshizawa⁴, Steven Little⁵, Charles Sfeir⁴. ¹School of Dentistry of Bauru, São Paulo University -FOB/USP, Brazil, ²FOB/USP, Brazil, ³USC, Brazil, ⁴University of Pittsburgh, USA, ⁵University 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

Rahel Meinen^{*}, Inna Galli-Lysak, Daniel Aeberli. Dept. of Rheumatology & Clinical Immunology/Allergology University Hospital, Switzerland

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 Laudier¹, Robert Majeska², Stefan Judex³, Mitchell Schaffler¹. ¹City College of New York, USA, ²City College of New York, USA, ³Stony 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 Wagner², Benson George³, Philipp Leucht⁴, Daniel Hunter³, Gary Beaupre², Jill Helms³, Alesha Castillo². ¹Department of Bioengineering, Stanford University, USA, ²VA Palo Alto Health Care System, USA, ³Department of Surgery, Stanford University School of Medicine, USA, ⁴Department 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 Cole², Ian Mahaffey², Philipp Leucht³, James Chang⁴, Alesha Castillo⁵. ¹Technische Universität München, Germany, ²VA Palo Alto Health Care System, USA, ³USA, ⁴Department 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 Mantoku¹, Kazuhiro Takeyama¹, Kazuhiro Aoki², Yasutaka Sugamori², Keiichi Ohya², Satoko Uchida³, Hiromi Suzuki³, Toru Sakimura³, Yasushi Kono⁴, Fumiaki Tanigaki³, Masaki Shirakawa⁵, Keiji Inohaya¹, Dawud Abduweri², Yoshiro Takano², Akira Kudo¹. ¹Tokyo Institute of Technology, Japan, ²Tokyo Medical & Dental University, Japan, ³Japan Space Forum, Japan, ⁴Mitsubishi Heavy Industries, Japan, ⁵Japan 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 Maung², Xiaonan Wang², Jelena Basta-Pljakic¹, Mitchell Schaffler¹, David C. Spray², Sylvia O. Suadican², Mia M. Thi². ¹City College of New York, USA, ²Albert 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 Beutal², Matin Lendhey². ¹New York University School of Medicine, USA, ²Department 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 Cheng¹, Neville Bethel¹, Frederick Serra-Hsu², Suzanne Ferreri¹, Liangjun Lin², Yi-Xian Qin². ¹Stony Brook University, USA, ²State University of New York At Stony Brook, USA
Disclosures: Minyi Hu, None
- MO0163 Load Represses TGF β 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 L₁**
Oleg Ardatov¹, Vidmantas Alekna*², Algirdas Maknickas³, Marija Tamulaitiene⁴, Rimantas Kacianauskas³. ¹Department of Biomechanics, Vilnius Gediminas Technical University, Lithuania, ²Vilnius University, Lithuania, ³Institute of Mechanics, Vilnius Gediminas Technical University, Lithuania, ⁴Faculty 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 Page², Alyssa Merkel³, Michael Kessler⁴, Julie Sterling⁵, Scott Guelcher⁶. ¹Vanderbilt Center for Bone Biology, Vanderbilt University Medical Center, USA, ²Department of Chemical & Biomolecular Engineering, Vanderbilt University, USA, ³Department of Veterans Affairs (TVHS), USA, ⁴School for Math & Science, Vanderbilt University, USA, ⁵Department of Veterans Affairs (TVHS)/Vanderbilt University Medical Center, USA, ⁶Vanderbilt 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-Núñez¹, Irene Gutierrez-Rojas¹, Daniel Lozano¹, Ana Lopez-Herradon¹, Francisca Mulero², Maria Vallet-Regi³, Pedro Esbrit⁴. ¹Instituto de Investigación Sanitaria-Fundación Jiménez Díaz, Spain, ²Centro Nacional de Investigaciones Oncológicas (CNIO), Spain, ³Universidad Complutense de Madrid, Spain, ⁴IIS-Fundación Jiménez Díaz, Spain

Disclosures: Juan Antonio Ardura, None

MO0168 Improving Parathyroid Hormone (PTH) Therapy In An Osteoporotic Mouse Model

Joseph Bidwell¹, Paul Childress*¹, Yu Shao¹, Selene Hernandez-Buquer¹, Yongzheng He¹, Daniel Horan¹, Alexander Robling², Stuart Warden³, Feng-Chun Yang², Matthew Allen¹. ¹Indiana University School of Medicine, USA, ²Indiana University, USA, ³Indiana University School of Health & Rehabilitation Sciences, USA

Disclosures: Paul Childress, None

MO0169 Inactivation of Tgfr2 in osteoclasts causes osteopenia due to impaired coupling of bone formation to bone-resorption

Megan Weivoda*¹, Ming Ruan¹, Christine Hachfeld¹, Larry Pederson¹, Rachel Davey², Jeffrey Zajac³, Jennifer Westendorf¹, Sundeep Khosla⁴, Merry Jo Oursler¹. ¹Mayo Clinic, USA, ²University of Melbourne, Australia, ³Austin Hospital, Australia, ⁴Mayo 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 Georger², Alexandra Goodman², Laura Calvi³. ¹University of Rochester Medical Center, USA, ²University of Rochester, USA, ³University 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 Xie², Deepa Muruges³, Sarah Hatsell⁴, Aris Economides⁵, Gabriela Loots⁶, Nicole Collette³. ¹University of California, Merced, USA, ²Regeneron Pharmaceutical company, USA, ³Lawrence Livermore National Laboratory, USA, ⁴Regeneron Pharmaceuticals, USA, ⁵Regeneron Pharmaceuticals, Inc., USA, ⁶Lawrence 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 Agrawal², Solveig Petersen³, Jens-Erik Beck Jensen⁴, Peter Schwarz¹, Alison Gartland², Michael Bös⁵, Niklas Jorgensen⁶. ¹Glostrup Hospital, Denmark, ²The Mellanby Centre for Bone Research, The University of Sheffield, United Kingdom, ³Research Centre for Ageing & Osteoporosis, Departments of Diagnostics & Medicine, Copenhagen University Hospital Glostrup, Denmark, ⁴Department of Endocrinology, Copenhagen University Hospital Hvidovre, Denmark, ⁵Affectis Pharmaceuticals AG, Fraunhoferstrasse 13, Germany, ⁶Copenhagen 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 Artsi¹, Einav Cohen-Kfir², Irina Gurt¹, Yankel Gabet³, Ron Shahar⁴, Teresita Bellido⁵, Rivka Dresner-Pollak^{*1}. ¹Hadassah-Hebrew University Medical Center, Israel, ²HEBREW UNIVERSITY Medicine Faculty, Israel, ³Department of Anatomy & Anthropology, Sackler Faculty of Medicine, Israel, ⁴The Hebrew University, Israel, ⁵Indiana 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, Patricia Saraiva. Sagrado Coração University, Brazil
Disclosures: Mariza Matsumoto, None
- MO0176 Effects of Risedronate, Alendronate and Minodronate in Combination with Eldecacitol in Ovariectomized rats**
 Hirotaka Wagatsuma^{*1}, Tetsuo Yano², Mei Yamada², Daisuke Inoue³. ¹Ajinomoto Pharmaceuticals Co., Ltd., Japan, ²Ajinomoto Pharmaceuticals Co., LTD, Japan, ³Teikyo 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 Islam¹, William Danchanko², Min Zhai¹, Joan Smith¹, Rossitsa Owens¹, Juliann Kiang¹, Sibyl Swift¹, Matthew Allen³. ¹Armed Forces Radiobiology Research Institute, USA, ²Uniformed Services University of the Health Sciences, USA, ³Indiana 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 Lehr², F. Hal Ebetino³, Jeffrey D. Neighbors⁴, R Graham Russell⁵, Sylvie Ferrari-Lacraz⁶, Serge Ferrari⁷. ¹Switzerland, ²Institute of Pathology, Medicine Campus Bodensee, Germany, ³Structural Genomics Consortium, Oxford University, United Kingdom, ⁴Terpenoid Therapeutics Inc., USA, ⁵University of Oxford, United Kingdom, ⁶Departments of Paediatrics & Internal Medicine & the Transplantation Immunology Unit, Geneva University Hospital, Switzerland, ⁷Geneva 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
 Gaëlle Cres^{*2}, Anne Blangy¹, Virginie Vives², Christian Richard². ¹CNRS CRBM Montpellier University, France, ²CNRS CRBM Montpellier University, France
Disclosures: Gaëlle 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 Qi², Qian Cong¹, Ping Li¹, Micheal Schneider³, Baojie Li⁴. ¹The Bio-X Institutes, Key Laboratory for the Genetics of Developmental & Neuropsychiatric Disorders, Ministry of Education, Shanghai Jiao Tong University, China, ²School of Biological Science, Taishan Medical University, China, ³Cardiovascular Science National Heart & Lung Institute, United Kingdom, ⁴Shanghai 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 Kilts², Kenn Holmbeck², Marian Young¹. ¹National Institutes of Health, USA, ²NIH/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 Cui², Jing Sun³. ¹"shandong University jinan Central Hospital", , ²Shandong University, Jinan Central Hospital, China, ³Binzhou 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 Yu², Heather Watt¹, Catrina Alarcon¹, Subburaman Mohan². ¹VALLHCS, USA, ²Jerry 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 Hogue², Heather Matheny², Amira Hussein², Anthony De Giacomo¹, Elise Morgan³, Thomas Einhorn⁴, Louis Gerstenfeld². ¹Boston University Dept of Orthopaedic Surgery, USA, ²Boston University School of Medicine, USA, ³Boston University, USA, ⁴Boston 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 Swift¹, Shukla Biswas², Merriline Satyamitra², Venkataraman Srinivasan², Sanchita Ghosh². ¹Armed Forces Radiobiology Research Institute, USA, ²AFRRI, USA
Disclosures: Sibyl Swift, None
- MO0186 Mushroom polysaccharides improve bone microarchitecture and strength in diabetic rats**
Chung-Hwan Chen*¹, Hui-Chen Lo², Yi-Shan Lin³, Zai-Jie Wang³, Lin Kang⁴, Chwan-Li Shen⁵. ¹Kaohsiung Medical University Hospital & Kaohsiung Medical University, Taiwan, ²Fu Jen Catholic University, Taiwan, ³Kaohsiung Medical University, Taiwan, ⁴National Cheng Kung University, Taiwan, ⁵Texas 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 Bigueti*¹, Andreia Vieira², Priscila Maria Colavite¹, Carlos Eduardo Repeke¹, Franco Cavalla¹, Ana Paula Trombone³, Gustavo Garlet⁴. ¹Universidade de São Paulo, Brazil, ²Bauru School of Dentistry - University of Sao Paulo (FOB - USP), Brazil, ³Universidade do Sagrado Coração, Brazil, ⁴School of Dentistry of Bauru, São Paulo University -FOB/USP, Brazil
Disclosures: Claudia Bigueti, None

- MO0188 Sheep Model Reflecting Glucocorticoid-induced Osteoporosis in Postmenopausal Women**
Christina Andreassen^{*}¹, Søren Overgaard², Ming Ding³, Peter Bollen⁴, Thomas Levin Andersen⁵. ¹Odense University Hospital, Institute of Clinical Research, Denmark, ²Department of Orthopedics & Traumatology, Institute of Clinical Research, University of Southern Denmark, Denmark, ³Department of Orthopedics & Traumatology, Institute of Clinical Health, University of Southern Denmark, Denmark, ⁴Biomedicine Laboratory, University of Southern Denmark, Denmark, ⁵Department of Clinical Cell Biology, Institute of Regional Health Services Research, University of Southern Denmark, Denmark
Disclosures: Christina Andreassen, None

- MO0189 WISPI/CCN4 controls bone mass by uncoupling osteoblast and osteoclast function potentially by regulation of Wnt signaling**
Azusa Maeda^{*}¹, Mitsuaki Ono², Tina Kilts², Li Li², Kenn Holmbeck², Pamela Robey³, Marian Young². ¹Nih/nidcr, USA, ²National Institutes of Health, USA, ³National 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 Rizzi², Claudio Molinari³, Carlo Cisarì⁴, Stefano Carda⁵, Filippo Renò². ¹University of Eastern Piedmont, Novara, Italy, ²Innovative Research Laboratory for Wound Healing, Department of Health Sciences, University of Eastern Piedmont "A.Avogadro", Novara, Italy, ³Human Physiology, Department of Translational Medicine, University of Eastern Piedmont "A.Avogadro", Novara, Italy, ⁴Physical & Rehabilitation Medicine, Department of Health Sciences, University of Eastern Piedmont "A.Avogadro", Novara, Italy, ⁵Department 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 Khalid², Graeme Finnie², Selina Chiu², David Baker³, Richard Aspden², Ruth Ross¹. ¹University of Toronto, Canada, ²University of Aberdeen, United Kingdom, ³Blizard 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**
Arian Oestreich^{*}¹, Marcus McCray¹, William Kamp¹, Laura Schulz¹, Charlotte Phillips². ¹University of Missouri, USA, ²University of Missouri-Columbia, USA
Disclosures: Arian Oestreich, None

- MO0193 Musculoskeletal effects of a 246-km ultramarathon race**
Peter Pietschmann^{*}¹, Elisabeth Weiss², Ursula Föger-Samwald², Markus Thalmann³, Maria Tsironi⁴, Katerina Skenderi⁵, Katharina Kersch-Schindl⁶. ¹Institut fuer Pathophysiologie und Allergieforschung, Austria, ²Department of Pathophysiology & Allergy Research, Center for Pathophysiology, Infectiology & Immunology, Medical University of Vienna, Austria, ³Department of Cardiovascular Surgery, Hospital-Hietzing, Austria, ⁴School of Nursing, University of Peloponnese, Greece, ⁵Department of Nutrition & Dietetics, Harokopio University, Greece, ⁶Department 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 Refaey¹, Colleen Davis^{*}¹, Phonepasong Arounleut², Sunil Upadhyay¹, Amy Dukes¹, Maribeth Johnson¹, William Hill³, Carlos Isaacs¹, Mark Hamrick⁴. ¹Georgia Regents University, USA, ²Georgia Regents University (formally Georgia Health Sciences University), USA, ³Georgia Regents University & Charlie Norwood VAMC, USA, ⁴Georgia 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 Falcai¹, Ariane Zamarioli^{*2}, Francisco Jose de Paula¹, Graziela Leoni³, Manoel Sousa Neto³, Jose Batista Volpon¹. ¹School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, ²University of Sao Paulo, Brazil, ³Dental 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 Liu¹, Lifan Liao¹, Kai Jiao¹, Hongyun Zhang¹, Lei Lu¹, Mian Zhang¹, Jing Zhang¹, Jianjun He¹, Yaoping Wu², Meiqing Wang^{*1}. ¹College of Stomatology, Fourth Military Medical University, China, ²Xijing 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 Vääräniemi¹, Katja Fagerlund¹, Jukka Rissanen¹, Jenni Bernoulli¹, Jussi Hallee², Jukka Morko¹. ¹Pharmatest Services Ltd, Finland, ²Pharmatest 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 Nishimura¹, Akihiro Sudo², Hiroki Yokota¹. ¹Indiana University Purdue University Indianapolis, USA, ²Mie 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 Xiao¹, Caroline Dealy¹, Marja Marie Hurley². ¹University of Connecticut Health Center, USA, ²University 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 Eriksen², Janne Reseland¹, Jarle Vik³. ¹University of Oslo, Norway, ²Oslo University Hospital, Norway, ³Martina Hansens Hospital, Norway
Disclosures: Maziar Shabestari, None
- MO0203 Correlates of Knee Bone Marrow Lesions in Younger Adults**
 Benny Samuel Eathakkattu Antony^{*1}, Graeme Jones², Alison Venn³, Lyn March⁴, Leigh Blizzard³, Andrew Halliday⁵, Terence Dwyer⁶, Flavia Cicuttini⁷, Changhai Ding³.
¹Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, ²Menzies Research Institute, Australia, ³Menzies Research Institute Tasmania, University of Tasmania, Australia, Australia, ⁴Institute of Bone & Joint Research, University of Sydney, Australia, ⁵Department of Radiology, Royal Hobart Hospital, Australia, ⁶Murdoch Childrens Research Institute, Australia, ⁷Department 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 Kontulainen¹, Christine McLennan², Diane Hazel³, Carl Talmo³, David Hunter⁴, David Wilson⁵, James Johnston¹. ¹University of Saskatchewan, Canada, ²Hebrew SeniorLife, USA, ³New England Baptist Hospital, USA, ⁴University of Sydney, Australia, ⁵University of British Columbia, Canada
Disclosures: Wadena Burnett, None
- MO0205 Structure of Femoral Neck in Hip Osteoarthritis: Texture Analysis Improvement in Cortical Evaluation**
Gustavo Davi Rabelo¹, Jean-Paul Roux^{*2}, Nathalie Portero-Muzy¹, Stephanie Boutroy³, Roland Chapurlat⁴, Pascale Chavassieux¹. ¹INSERM UMR1033, Université de Lyon, France, ²INSERM, UMR 1033, Université de Lyon, France, ³INSERM U1033 & Université de Lyon, France, ⁴E. 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 Lee². ¹Chief of Rheumatology, South Korea, ²M.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 Cho¹, Jin Ook Chung¹, Min Young Chung¹, Kwang Youl Lee². ¹Chonnam National University Medical School, South Korea, ²College 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. Roth², Robert Nissenson³. ¹VA Medical Center, San Francisco, USA, ²Endocrine Unit, VA Medical Center, USA, ³VA 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-Carle¹, Marie Nollet¹, Sabine Santucci-Darmanin¹, Véronique Breuil², Rasha Al-Sahlane¹, Michel Samson¹, Sophie Pagnotta³, Séverine Battaglia⁴, Delphine Farlay⁵, Romain Dacquin⁶, Pierre Jurdic⁷, Georges Boivin⁸, Dominique Heymann⁹, Shi Shou Lu¹⁰, David Dempster¹¹, Georges Carle^{*12}. ¹Université Nice-Sophia Antipolis, CEA, UMR E4320 MATOs, France, ²CHU Nice, Université Nice-Sophia Antipolis, CEA, UMR E4320 MATOs, France, ³Université Nice Sophia-Antipolis, CCMA, France, ⁴INSERM UMR 957, Université de Nantes, France, ⁵INSERM, UMR1033; Université De Lyon, France, ⁶IGFL, Université de Lyon, CNRS, Ecole Normale Supérieure de Lyon, France, ⁷Ecole Normale Supérieure de Lyon, France, ⁸INSERM, UMR1033; Université De Lyon, France, ⁹INSERM U957, University of Nantes, France, ¹⁰Regional Bone Center, Helen Hayes Hospital, USA, ¹¹Columbia University, USA, ¹²CNRS, 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 Kristianto², Baozhi Yuan¹, Everett Smith¹, Luisa Meyer³, Caitlin Collins¹, Heidi Ploeg¹, Robert Blank⁴. ¹University of Wisconsin, USA, ²University of Wisconsin–Madison, USA, ³University of Wisconsin - Madison, USA, ⁴Medical College of Wisconsin, USA
Disclosures: Michael Johnson, None
- MO0214 Evidence that adiponectin negatively regulates skeletal homeostasis by direct panacrine effects on osteoblasts**
Linh Ho^{*1}, Marcia J Abbott², Dylan O'Carroll³, Liping Wang³, Theresa Roth³, Robert Nissenson⁴. ¹UCSF, USA, ²SFSU, USA, ³SF VAMC, USA, ⁴VA Medical Center & University of California, San Francisco, USA
Disclosures: Linh Ho, None
- MO0215 miR-665 Regulates Dentinogenesis by miRNA and Epigenetic Mechanism**
Mohammad Hassan^{*1}, Austin Kemper², Harunur Rashid³, Amjad Javed², Austin Kemper², CHRISTOPHER CLARKE⁴. ¹University of Alabama, USA, ²University of Alabama at Birmingham, USA, ³University of Alabama Birmingham, USA, ⁴UNIVERSITY OF ALABAMA, SCHOOL OF DENTISTRY, USA
Disclosures: Mohammad Hassan, None
- MO0216 Naringenin stimulates mineral formation by human osteoblast-like cells at levels attainable by consuming fruits and vegetables**
Bryan D. Johnston^{*}, Dylan W. Johnston, 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
- MO0217 N-linked Glycosylation: a Critical Mechanism of PTH-Resistance in Osteoblasts under High Glucose Conditions**
Ann-Kristin Picke^{*1}, Christine Hofbauer², Martina Rauner³, Lorenz Hofbauer⁴. ¹Dresden University Medical Center, Germany, ²Dresden Technical University Medical Center, Germany, ³Medical Faculty of the TU Dresden, Germany, ⁴Dresden University Medical Center, Germany
Disclosures: Ann-Kristin Picke, None
- MO0218 Parathyroid Hormone Regulates Osteoblast Bioenergetics Through its Actions on Glycolysis.**
Anyonya Guntur^{*1}, Phuong Le¹, Clifford Rosen². ¹Maine medical center research institute, USA, ²Maine Medical Center, USA
Disclosures: Anyonya Guntur, None
- MO0219 Role for Chloride and Potassium Channels Supporting Na/H Exchange in Bone Formation**
Harry Blair¹, Li Liu^{*1}, Deborah Nelson², Peter Friedman³, Paul Schlesinger⁴. ¹University of Pittsburgh, USA, ²University of Chicago, USA, ³University of Pittsburgh School of Medicine, USA, ⁴Washington University, USA
Disclosures: Li Liu, None
- 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 Morris², Paul Anderson³. ¹the University of Adelaide, SA Pathology/IMVS, Australia, ²SA Pathology, Australia, ³Musculoskeletal Biology Research, University of South Australia, Australia
Disclosures: Rahma Triliana, None

OSTEOBLASTS - FUNCTION: HORMONAL AND LOCAL REGULATION

- MO0222 Membrane-bound prostaglandin E synthase (mPGES)-1-mediated prostaglandin E₂ (PGE₂) 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-Specific IGF-1 signaling deficiency causes delayed endochondral bone formation during fracture healing**
Tao Wang^{*1}, Yongmei Wang², Candice GT Tahimic³, Chak Fong¹, Alicia Menendez¹, Daniel Bikle³. ¹University of California, San Francisco, USA, ²Endocrine Unit, University of California, San Francisco/VA Medical Center, USA, ³Endocrine Research Unit, Division of Endocrinology UCSF & VAMC, USA
Disclosures: Tao Wang, None
- MO0224 Use Of MC3T3 Cells For Native High-Level Production Of Carboxylated Mouse Osteocalcin**
Patricia Buckendahl^{*1}, Daniel Benjamin². ¹Rutgers University, USA, ²Cenoxys Corporation, USA
Disclosures: Patricia Buckendahl, None

OSTEOBLASTS - FUNCTION: SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION

- MO0225 Cation activation of G-class signalling in human osteoblasts**
Mark Rybchyn¹, Wendy Green¹, Arthur Conigrave², Rebecca Mason², Tara Brennan-Speranza^{*2}. ¹Bosch Institute, Physiology & School of Medical Sciences, University of Sydney, Australia, ²University of Sydney, Australia
Disclosures: Tara Brennan-Speranza, None
- MO0226 HIF-1 α Dependent Metabolic Reprogramming of Periosteal Cells Improves Bone Repair**
Steve Stegen^{*1}, Nick Van Gastel², Guy Eelen³, Annelies Quaegebeur⁴, Riet Van Looveren⁵, Peter Carmeliet⁴, Geert Carmeliet³. ¹Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, ²Laboratory of Clinical & Experimental Endocrinology, KU Leuven, Belgium, ³Katholieke Universiteit Leuven, Belgium, ⁴Angiogenesis & Neurovascular Link, Vesalius Research Center, KU Leuven, Belgium, ⁵KU 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 Ali¹, Jan Rune Larsen^{*2}, Solveig Petersen², Niklas Jorgensen³, Ole Vang⁴, Susanne Syberg⁵. ¹Denmark, ²Research Center for Ageing & Osteoporosis, Diagnostic Department, Glostrup Hospital, Denmark, ³Copenhagen University Hospital Glostrup, Denmark, ⁴Department of Science, Systems & Models, 18.1 Roskilde University, Denmark, ⁵Research Centre for Ageing & Osteoporosis, Denmark
Disclosures: Jan Rune Larsen, None
- MO0228 Mice Deficient in Osteoblast Smad4 Exhibit Impaired Collagen Fibrillogenesis**
Cynthia Brecks^{*1}, Gabriel Mbalaviele², Roberto Civitelli². ¹Washington University In St Louis, USA, ²Washington University in St. Louis School of Medicine, USA
Disclosures: Cynthia Brecks, None
- MO0229 Odd-skipped related 1 transcription factor modulates skull closure and cranial bone formation**
Shinji Kawai^{*}, Masashi Yamauchi, Ikumi Michikami. Osaka University Graduate School of Dentistry, Japan
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/PKC δ /ERK**
Kazuhiko Matsuoka, Kyoji Ikeda, Sunao Takeshita*. National Center for Geriatrics & Gerontology, Japan
Disclosures: Sunao Takeshita, None
- MO0232 RUNX2 O-GlcNAcylation Links Osteogenesis and Nutrient Metabolism in Mesenchymal Stem Cells**
Alexis Nagel*¹, Lauren Ball². ¹Medical University of South Carolina, USA, ²The Medical University of South Carolina, USA
Disclosures: Alexis Nagel, None
- MO0233 Sr stimulating effect on mineralization is modified by calcimimetic R568 in UMR 106.1 osteoblast like cells**
Nicole Nijs-De Wolf*¹, Rafik Karmali², Pierre Bergmann³. ¹Université Libre de Bruxelles, Belgium, ²CHU Brugmann, Université Libre de Bruxelles, Belgium, ³Centre Hospitalier Universitaire Brugmann, Belgium
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 Herberg², Sudharsan Periyasamy-Thandavan³, Brian Volkman⁴, Galina Kondrikova⁵, Xing-Ming Shi⁵, Mark Hamrick⁶, Carlos Isaacs⁵, William Hill⁷. ¹UCC School of Medicine, Georgia Regents University, USA, ²Case Western Reserve University, USA, ³Georgia Regents University & Charlie Norwood VAMC, USA, ⁴Medical College of Wisconsin, USA, ⁵Georgia Regents University, USA, ⁶Georgia Health Sciences University, USA, ⁷Georgia 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 Xiong², Peng Zhang³, Xiaofeng Han³, Meiling Li³, Fei Xia³. ¹Chongqing Medical University, Peoples Republic of China, ²Department of Cell Biology & Genetics, Core Facility of Development Biology, Chongqing Medical University, China, ³Department 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**
Abhishek Chandra*¹, Tiao Lin¹, Ji Zhu², Wei Tong³, Xiaowei Liu¹, Keith Cengel¹, Bing Xia⁴, Ling Qin¹. ¹University of Pennsylvania, USA, ²University of Pennsylvania, School of Medicine, USA, ³Perelman school of medicine, USA, ⁴Rutgers Cancer Institute of New Jersey & Robert Wood Johnson Medical School, USA
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 Hassan². ¹University of Alabama at Birmingham, USA, ²University of Alabama, USA
Disclosures: Austin Kemper, None
- MO0238 Bisphosphonate Suppress Mesenchymal Cells Proliferation and Differentiation into Osteoblast via Attenuation of Wnt Signaling**
Seungwoo Han¹, Hye-Ri Park*², Min-Su Han², Youn-Kwan Jung², Eun-Ju Lee², Ji-Ae Jang², Gun-Woo Kim². ¹Daegu Fatima Hospital, South Korea, ²Laboratory 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**
 Eui Kyun Park¹, Young-Ae Choi^{*2}, Hye Jung Ihn³, Jiwon Lim², Ju Ang Kim².
¹Kyungpook National University, South Korea, ²Department of Oral Pathology & Regenerative Medicine, School of Dentistry, Kyungpook National University, South Korea, ³Department of pharmacology, School of medicine, Kyungpook National University, South Korea
Disclosures: Young-Ae Choi, None
- MO0240 Comprehensive profiling of gene expression temporal dynamics during osteoblastogenesis in the context of differing genetic backgrounds.**
 Kwangbom Choi¹, Dana Godfrey¹, Matthew Hibbs², Cheryl Ackert-Bicknell^{*2}. ¹The Jackson Laboraotry, USA, ²The Jackson Laboratory, USA
Disclosures: Cheryl Ackert-Bicknell, None
- MO0241 COUP-TFII suppression by miR-194 determinates fate of mesenchymal stromal cells**
 Jeong-Tae Koh^{*1}, Byung-Chul Jeong², In-Hong Kang³, Hyuck Choi⁴, Sin-Hye Oh⁵, Yu-Ri Kim⁵. ¹Chonnam National University, South Korea, ²Chonnam National University School of Dentistry, South Korea, ³Department of Pharmacology & Dental Therapeutics, School of Dentistry, Chonnam National University, South Korea, ⁴Research Center for Biomaterialization Disorders & Dental Science Research Institute, School of Dentistry, Chonnam National University, South Korea, ⁵South Korea
Disclosures: Jeong-Tae Koh, None
- MO0242 Genome-wide DNase hypersensitivity analysis reveals novel transcriptionally active regions during osteoblastogenesis**
 Phillip Tai^{*1}, Hai Wu², Jonathan Gordon², Troy Whitfield³, Andre Van Wijnen⁴, Jane Lian⁵, Gary Stein⁶, Janet Stein². ¹University of Vermont, College of Medicine, Department of Biochemistry, USA, ²University of Vermont, USA, ³University of Massachusetts Medical School, USA, ⁴Mayo Clinic, USA, ⁵University of Vermont College of Medicine, USA, ⁶University of Vermont, College of Medicine, USA
Disclosures: Phillip Tai, None
- MO0243 High Osteogenic Potential of fibroblast from FOP Patients**
 Nathalie Bravenboer^{*1}, Dimitra Micha², Huib van Essen³, Coen Netelenbos⁴, Gerard Pals², Marelise Eekhoff⁵. ¹VU University Medical Center, The Netherlands, ²Department Clinical Genetics, VU University Medical Center, Netherlands, ³Department Clinical Chemistry, VU University Medical Center, Netherlands, ⁴VU Medical Center, The Netherlands, ⁵Department Internal Medicine, VU University Medical Center, Netherlands
Disclosures: Nathalie Bravenboer, None
- MO0244 IL-17 inhibits osteoblast differentiation and bone regeneration in rat**
 Youngkyun Lee^{*1}, Yong-Gun Kim², Jae-Young Kim³. ¹Kyungpook National University School of Dentistry, South Korea, ²School of Dentistry, Kyungpook National University, South Korea, ³Kyungpook National University, South Korea
Disclosures: Youngkyun Lee, None
- MO0245 Inhibition of Adipogenic and Osteogenic Differentiation of hBM-MSCs by FGF1 and FGF2 in 3D Collagen Gels**
 Solange Le Blanc^{*1}, Meike Simann², Franz Jakob³, Norbert Schuetze³, Tatjana Schilling⁴. ¹Universitat Wurzburg, Germany, ²University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, ³University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, ⁴University of Wuerzburg, Germany
Disclosures: Solange Le Blanc, None
- MO0246 Microarray Analysis of Pulsed Electromagnetic Field (PEMF) Stimulatory Effects on Human Bone Marrow Stromal Cells**
 Nicola Partridge¹, Zhiming He^{*2}, Nagarajan Selvamurugan³. ¹New York University College of Dentistry, USA, ²New York University, USA, ³University of Medicine & Dentistry of New Jersey, USA
Disclosures: Zhiming He, Orthofix, Inc., 2

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 Wang², Sara Strecker¹, Yaling Liu¹, Mark Kronenberg¹, Spenser Smith¹, Liping Wang¹, Fayekah Assanah¹. ¹University of Connecticut Health Center, USA, ²University of Connecticut, USA
Disclosures: Peter Maye, None
- MO0248** **3D Scaffolding with Adipose Derived Mesenchymal Stem Cells – Their Osteogenicity and Osteoblast Mineralization**
 Morten Dahl*¹, Susanne Syberg², Niklas Jorgensen³, Else Marie Pinholt⁴. ¹Denmark, ²Research Centre for Ageing & Osteoporosis, Denmark, ³Copenhagen University Hospital Glostrup, Denmark, ⁴Department 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 Inzana², Michael Zuscik³, Regis O’Keefe⁴, Hani Awad¹, Matthew Hilton⁵. ¹University of Rochester Medical Center, USA, ²USA, ³University of Rochester School of Medicine & Dentistry, USA, ⁴University of Rochester, USA, ⁵Duke 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 Gandhi², Rahman MD Mizanur³, Mark R. Appleford⁴, Lian-Wen Sun⁵, Xiaodu Wang⁶. ¹University of Texas at San Antonio & Beihang University, USA, ²Department of Mechanical Engineering, University of Texas at San Antonio, USA, ³Department of Medicine - Clinical Immunology & Rheumatology, University of Texas Health Science Center at San Antonio, USA, ⁴Department of Biomedical Engineering, University of Texas at San Antonio, USA, ⁵School of Biological Science & Medical Engineering, Beihang University, China, ⁶UTSA, USA
Disclosures: Xiao Yang, None
- MO0251** **Effect of Zoledronate on Particle-Induced Osteolysis In Vitro and In Vivo**
 Yue Ding*¹, Maolin Zhang², Huiyong Shen², Changchuan Li², Chi Zhang². ¹Sun Yat-sen Memorial Hospital, ²Sun Yat-sen Memorial Hospital, China
Disclosures: Yue Ding, None
- MO0252** **Glucocorticoids Enhance Mature Osteoclast Activity Without Affecting RANKL Induced Osteoclast Formation**
 Ulf Lerner¹, Petra Henning*², Jan Tuckermann³, Howard Conaway⁴. ¹Sahlgrenska University Hospital, Sweden, ²Centre for Bone & Arthritis Research, Sahlgrenska Academy, University of Gothenburg, Sweden, ³University of Ulm, Germany, ⁴University of Arkansas for Medical Sciences, USA
Disclosures: Petra Henning, None
- MO0253** **Kinase Activity of Leucine Rich Repeat Kinase 1 (LRRK1) Is Essential for Osteoclast Resorptive Activity**
 Weirong Xing*¹, Bo Liu², Shaohong Cheng³, Robert Brommage⁴, Subburaman Mohan⁵. ¹Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran’s Admin., USA, ²VALLHCS, USA, ³VA Loma Linda Health Care Systems, USA, ⁴Lexicon Pharmaceuticals, USA, ⁵Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Weirong Xing, None
- MO0254** **WASH complex subunit FAM21 is required for efficient osteoclast formation**
 Jian Zuo¹, Edgardo Toro², John Neubert¹, Kevin McHugh², Lexie Holliday*¹. ¹University of Florida College of Dentistry, USA, ²University of Florida, USA
Disclosures: Lexie Holliday, None

OSTEOCLASTS - FUNCTION: SIGNAL TRANSDUCTION

- MO0255 Exosome-encapsulated miR-214 secreted from osteoclast to inhibit osteoblastic activity**
Defang Li^{*1}, Chao Liang¹, Baosheng Guo¹, Jin Liu¹, Lei Dang¹, Liang Xu², Xiaojuan He³, Zicai Liang⁴, Aiping Lu¹, Ge Zhang¹. ¹Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong SAR, China, ²Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong SAR, China, ³Institute of Basic Research in Clinical Medicine, China Academy of Chinese Medical Sciences, Beijing, China, ⁴Academician Chen Xinzi Workroom for Advancing Translational Medicine in Bone & Joint Diseases, Kunshan RNAi Institute, Kunshan Industrial Technology Research Institute, Kunshan, Jiangsu, China
Disclosures: Defang Li, None

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**
ERI KATSUYAMA^{*1}, Takeshi Miyamoto², Yoshiaki Toyama³. ¹Keio University, Japan, ²Keio University School of Medicine, Japan, ³Keio uni., Japan
Disclosures: ERI KATSUYAMA, None
- MO0257 Lhx2 regulates bone remodeling in mice by modulating RANKL signaling in osteoclasts**
Jung Ha Kim^{*1}, Bang Ung Youn², Kabsun Kim², Nacksung Kim³. ¹South Korea, ²Chonnam National University, South Korea, ³Chonnam National University Medical School, South Korea
Disclosures: Jung Ha Kim, None

OSTEOCLASTS - ORIGIN AND CELL FATE: FUSION AND CELL ADHESION

- MO0258 The elementary fusion modalities of osteoclasts**
Kent Soe^{*1}, Anne-Sofie Hobolt-Pedersen¹, Jean-Marie Delaisse². ¹Vejle Hospital, University of Southern Denmark, Denmark, ²Vejle Hospital, IRS, University of Southern Denmark, Denmark
Disclosures: Kent Soe, None

OSTEOCLASTS - ORIGIN AND CELL FATE: GENERAL

- MO0259 Connexin 43 Hemichannels are Important Regulators of Osteoclast Differentiation**
Danielle Callaway^{*1}, Manuel Riquelme², Jean Jiang¹. ¹University of Texas Health Science Center at San Antonio, USA, ²University of Texas Science Center, San Antonio, USA
Disclosures: Danielle Callaway, None
- MO0260 Duffy Antigen Receptor for Chemokines (DARC) Modulates Inflammation-induced Recruitment of Osteoclast Precursors**
Mohamed Elgendy¹, Yan Hu¹, Subburaman Mohan², Bouchra Edderkaoui^{*2}. ¹Jerry L Pettis Memorial Veterans Administration Medical Center, USA, ²Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Bouchra Edderkaoui, None
- MO0261 Withdrawn**
- MO0262 Loss of HDAC7 in Osteoclasts Increases Bone Mass Through Interactions with MITF and PU.1**
Melissa Stemig¹, Kristina Astleford², Ann Emery², Tsang-hai Huang³, Janice Cho², Raj Gopalakrishnan², Kim Mansky^{*2}, Eric Jensen². ¹University of Minnesota School of Dentistry, USA, ²University of Minnesota, USA, ³National Cheng-Kung University, Taiwan
Disclosures: Kim Mansky, None
- MO0263 RANK cytoplasmic IVVY535-538 motif activates C/EBP α which plays a crucial role in osteoclast lineage commitment**
Joel Jules^{*}, Wei Chen, Xu Feng, Yi-Ping Li. University of Alabama at Birmingham, USA
Disclosures: Joel Jules, None

- MO0264 RANKL Enhances TNF Induced Osteoclast Differentiation by Degrading TRAF3 in the Absence of TRAF6**
Zhenqiang Yao*¹, Yanyun Li², Bryant Darnay³, Lianping Xing¹, Brendan Boyce².
¹University of Rochester, USA, ²University of Rochester Medical Center, USA, ³University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Zhenqiang Yao, None
- MO0265 Regulation of Osteoclastogenesis by Integrated Signals from Toll-Like Receptors**
Tamar Krisher*¹, Zvi Bar-Shavit². ¹Hebrew University of Jerusalem, Israel, ²Hebrew University of Jerusalem, Faculty of Medicine, Israel
Disclosures: Tamar Krisher, None
- MO0266 SUMOylation of NEMO Differentially Regulates Osteoclastogenesis and Bone Loss**
Yousef Abu-Amer¹, Kyuhwan Shim*², Kuljeet Seehra², Yi-Ping Li³. ¹Washington University in St. Louis School of Medicine, USA, ²Washington University school of medicine, USA, ³University of Alabama at Birmingham, USA
Disclosures: Kyuhwan Shim, None
- MO0267 The Notch modulators Lnx2, Tspan5/10, and Msi2 play a critical role in osteoclast differentiation**
Toshifumi Fujiwara*¹, Jian Zhou², Shiqiao Ye¹, Haibo Zhao¹. ¹Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ²UAMS, USA
Disclosures: Toshifumi Fujiwara, None
- MO0268 The stimulation-dependent internalization of RANK is crucial for osteoclast differentiation**
Yuu Taguchi*, Jun-ichiro Inoue. The Inst. of Med. Sci., Univ. of Tokyo, Japan
Disclosures: Yuu Taguchi, None

OSTEOCYTES: BONE REMODELING REGULATION

- MO0269 A Microfluidic System to Study the Effects of Mechanically Loaded Osteocytes on Osteoclast recruitment and formation**
Kevin Middleton*¹, Lidan You². ¹University of Toronto, Canada, ²Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Kevin Middleton, None
- MO0270 Connexin 43 Hemichannels are Important in Maintaining Normal Bone Structure and Osteocyte Viability**
Huiyun Xu¹, Sumin Gu², Manuel Riquelme³, Sirisha Burra⁴, Danielle Callaway², Hongyun Cheng², Teja Guda⁵, James Schmitz⁴, Roberto Fajardo⁶, Sherry Abboud Werner², Hong Zhao⁷, Peng Shang⁸, Mark Johnson⁹, Lynda Bonewald¹⁰, Jean Jiang*². ¹Peoples Republic of China, ²University of Texas Health Science Center at San Antonio, USA, ³University of Texas Science Center, San Antonio, USA, ⁴University of Texas Health Science Center, USA, ⁵University of Texas at San Antonio, USA, ⁶UT Health Science Center, San Antonio, USA, ⁷University of Missouri, USA, ⁸Northwestern Polytechnical University, Peoples Republic of China, ⁹University of Missouri, Kansas City Dental School, USA, ¹⁰University of Missouri - Kansas City, USA
Disclosures: Jean Jiang, None
- MO0271 Estrogen loss causes mitochondrial stress in Osteocytes in vivo**
Dorra Frikha-Benayed*¹, Jelena Basta-Plajkic², Robert J Majeska², Mitchell Schaffler³.
¹The City University of New York, USA, ²City Collage New York, USA, ³City College of New York, USA
Disclosures: Dorra Frikha-Benayed, None
- MO0272 IDG-SW3 early osteoblasts in mineralising 3D collagen gels differentiate to osteocytes that respond to mechanical loading**
Nicole Scully*¹, Lynda Bonewald², Sam Evans¹, Deborah Mason¹, Bronwen Evans¹.
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Disclosures: Nicole Scully, None

MO0273 Local Bone Tissue Mechanical Properties Change Without Remodeling: A Study Of Lactating Mice

Serra Kaya*¹, Jelena Basta-Pljakic¹, Zeynep Seref-Ferlengez¹, Wing-Yee Cheung¹, Robert Majeska², Susannah Fritton³, Shoshana Yakar⁴, Mitchell Schaffler¹. ¹City College of New York, USA, ²City College of New York, USA, ³USA, ⁴New York University College of Dentistry, David B. Krisei Dental Center, USA

Disclosures: Serra Kaya, None

MO0274 Osteocyte Signaling and Perilacunar Remodeling during Exercise

Joseph Gardinier*, Alexander Khmaladze, Michael Morris, David Kohn. University of Michigan, USA

Disclosures: Joseph Gardinier, None

MO0275 Pigment epithelium derived factor reduces sclerostin expression by osteocytes

Feng Li*¹, Na Song¹, Joyce Tombran-Tink¹, Christopher Niyibizi². ¹Penn State College of Medicine, USA, ²The Pennsylvania State University College of Medicine, USA

Disclosures: Feng Li, None

OSTEOCYTES: ORIGIN, CELL CYCLE AND APOPTOSIS**MO0276 E11 protein stabilisation promotes osteocyte differentiation and protects against osteoarthritis pathology**

Katherine Staines*¹, Matt Prideaux², Nigel Loveridge³, David Buttle⁴, Andrew Pitsillides⁵, Colin Farquharson⁶. ¹The Roslin Institute & R(D)SVS, The University of Edinburgh, United Kingdom, ²University of Adelaide, Australia, ³University of Cambridge, United Kingdom, ⁴University of Sheffield, United Kingdom, ⁵Royal Veterinary College, United Kingdom, ⁶Roslin Institute, University of Edinburgh, United Kingdom

Disclosures: Katherine Staines, None

OSTEOCYTES: PARACRINE AND ENDOCRINE FUNCTION**MO0277 Deletion of ephrinB2 in osteocytes leads to increased trabecular bone mass, but reduced bone strength**

Christina Vrahnas¹, Stephen Tonna², Huynh Nguyen³, Mark Forwood³, T John Martin⁴, Natalie Sims*⁵. ¹Australia, ²St Vincent's Institute, Australia, ³Griffith University, Australia, ⁴St. Vincent's Institute of Medical Research, Australia, ⁵St. Vincent's Institute of Medical Research, Australia

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MO0278 Osteocyte differentiation is delayed by low dose TNF

Mark Nanes*¹, Linda Gilbert². ¹VA Medical Center & Emory University, USA, ²Atlanta 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 Wang¹, Yasuhisa Ohata¹, Kouji Miura¹, Taichi Kitaoka¹, Takuo Kubota², Yasuji Kitabatake¹, Noriyuki Namba¹, Toshimi Michigami³, Keiichi Ozono¹.

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Disclosures: Makoto Fujiwara, None

MO0280 Sclerostin is Mechanically and Hormonally Regulated in a Novel *in vitro* Osteocyte Model

William Thompson*¹, Gunes Uzer¹, Sherwin Yen¹, Buer Sen², Zhihui Xie¹, Kaitlyn Brobst¹, Maya Styner³, Janet Rubin³. ¹University of North Carolina, USA, ²University of North Carolina At Chapel Hill, USA, ³University of North Carolina, Chapel Hill, School of Medicine, USA

Disclosures: William Thompson, None

OSTEOPOROSIS - ASSESSMENT: BIOCHEMICAL TESTS**MO0281 Withdrawn**

MO0282 Free Circulating Mirnas and Bone Tissue Mirnas are Noval Biomarkers for Osteoporosis
 Mohammed-Salleh Ardawi*¹, Mohammed Qari², Talal Bahksh³, Abdulrahman Sibiani⁴, Ali Ahmad⁵, Mohammad Noaman⁵, Abdulrahim Rouzi⁶. ¹Center of Excellence for Osteoporosis Research & Department of Clinical Biochemistry & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, ²Center of Excellence for Osteoporosis Research & Department of Haematology & KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, ³Center of Excellence for Osteoporosis Research & Department of General Surgery, Faculty of Medicine & KAU Hospital, King Abdulaziz University, Saudi Arabia, ⁴Center of Excellence for Osteoporosis Research & Department of General Surgery and KAU Hospital, Faculty of Medicine, King Abdulaziz University, Saudi Arabia, ⁵Center of Excellence for Osteoporosis Research, King Abdulaziz University, Saudi Arabia, ⁶Center of Excellence for Osteoporosis Research & Faculty of Medicine, Saudi Arabia

Disclosures: Mohammed-Salleh Ardawi, None

MO0283 Very Early Responses of Biochemical Markers of Bone Turnover to Teriparatide
 Deborah Robins¹, Benjamin Leder*², Kelly Krohn³, Jahangir Alam³, Heather Murphy⁴, Alan Chiang¹, John Krege¹. ¹Eli Lilly & Company, USA, ²Massachusetts General Hospital Harvard Medical School, USA, ³Lilly USA, LLC, USA, ⁴InVentiv Health Clinical, LLC, USA

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 Borchardt², Diane Krueger¹, Ravinder Singh³, Donald Wiebe². ¹University of Wisconsin, Madison, USA, ²University of Wisconsin, USA, ³Mayo Clinic, USA

Disclosures: Neil Binkley, None

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 Stein², Bin Zhou¹, Kyle Nishiyama¹, Elizabeth Shane², X Guo¹.

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Disclosures: Ji Wang, None

MO0286 Advanced In Vivo Bone Quality Assessment Using the Next Generation of HR-pQCT

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Disclosures: Sarah Manske, None

MO0287 Comparability of HR-pQCT Bone Quality Measures Improved by Scanning Anatomically Standardized Regions

Serana Bonaretti¹, Margaret Holets², Isra Saeed¹, Louise McCready², Thomas Lang¹, Sundeep Khosla², Andrew Burghardt*¹. ¹University of California, San Francisco, USA, ²Mayo Clinic College of Medicine, USA

Disclosures: Andrew Burghardt, None

MO0288 Focal Osteoporosis in the Trabeculae of the Femoral Head in Hip Fracture

Linda Skingle¹, Fjola Johannesdottir², Paul Mayhew², Karen Blesic¹, Kenneth Poole*².

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MO0289 Intra- and Inter-Operator Variability in HR-pQCT Scan Positioning

Serana Bonaretti*¹, Margaret Holets², Nicholas P. Derrico³, Kyle Nishiyama⁴, Danmei Liu⁵, Stephanie Boutroy⁶, Roland Chapurlat⁷, Heather McKay⁵, Elizabeth Shane⁸, Mary Bouxsein⁹, Thomas Lang¹, Sundeep Khosla², Andrew Burghardt¹. ¹University of California, San Francisco, USA, ²Mayo Clinic College of Medicine, USA, ³Beth Israel Deaconess Medical Center, USA, ⁴Columbia University, USA, ⁵University of British Columbia, Canada, ⁶INSERM U1033 & Université de Lyon, France, ⁷E. Herriot Hospital, France, ⁸Columbia University College of Physicians & Surgeons, USA, ⁹Beth 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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MO0291 Static postural stability and hip fracture in elderly individuals

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Disclosures: Hua Lin, None

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)

Giuseppe Guglielmi¹, Claudia Battista², Francesca di Chio¹, Antonio Salcuni², Michelangelo Nasuto¹, Renaud Winzenrieth³, Alfredo Scillitani^{*4}. ¹Department of Radiology, University of Foggia, Italy, ²Department of Endocrinology, Scientific Institute Hospital "Casa Sollievo della Sofferenza", Italy, ³Department of Clinical Research, Medimaps Group, Switzerland, ⁴Casa Sollievo Della Sofferenza Scientific Institute, Italy

Disclosures: Alfredo Scillitani, None

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

Kayoko Furukawa^{*1}, Akinori Sakai². ¹Japan, ²University of Occupational & Environmental Health, Japan

Disclosures: Kayoko Furukawa, None

MO0294 Normative Spine TBS Data For Latin American Women

Bruno Camargos^{*1}, Luis Jaime Elizondo-Alanis², Ben-Hur Albergaria³, Patricia Clark⁴, Carlos Eduardo Magro⁵, Fidencio Cons-Molina⁶, Jorge Morales-Torres⁷, Renaud Winzenrieth⁸. ¹Hospital Mater Dei, Brazil, ²Centro de Investigación Clínica, Mexico, ³CEDOES, Brazil, ⁴Laboratorios Clínicos De Puebla, Mexico, ⁵Clinica Densito, Brazil, ⁶Centro de Investigación en Artritis y Osteoporosis, Mexico, ⁷Hospital Aranda de la Parra, Mexico, ⁸Med-imaps, Hôpital X. Arnozan, PTIB, Pessac, France, France

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 Resch², Roland Kocijan³, Olivier Lamy⁴, Angela Trubrich⁵, Dieter Pahr⁶, Wolfgang Schima⁷, Fritz Lomoschitz⁷, Stylianos Kapiotis⁸, Didier Hans⁹. ¹St. Vincent's Hospital, Austria, ²Medical University Vienna, Austria, ³St. Vincent Hospital Vienna, Austria, ⁴University Hospital, Switzerland, ⁵BHS, Austria, ⁶Institute of Lightweight Design & Structural Biomechanics, Vienna University of Technology, Austria, ⁷Department of Diagnostic & Interventional Radiology, St. Vincent Hospital Vienna, Austria, ⁸Labcon – Medical Laboratories Ltd., St. Vincent Group, Austria, ⁹Lausanne University Hospital, Switzerland

Disclosures: Christian Muschitz, None

MO0296 Characterization of the osteocyte lacuno-canalicular network using ptychographic X-ray nanotomography

Cameron Kewish¹, Antonia Ciani^{*1}, Manuel Guizar-Sicairos², Ana Diaz², Mirko Holler², Stephane Pallu³, Zahra Achiou⁴, Rachid Jennane⁵, Hechmi Toumi⁵, Eric Lespessailles⁶, Claude Laurent Benhamou⁷, Jean-Pierre Samama¹. ¹Synchrotron Soleil, France, ²Paul Scherrer Institut, Switzerland, ³EA 4708 - I3MTO Orléans, France, ⁴Univ Orléans, I3MTO, Ea 4708, France, ⁵Univ Orléans, I3MTO, Ea 4708, France, ⁶Centre Hospitalier Regional Orleans, France, ⁷CHR ORLEANS, France

Disclosures: Antonia Ciani, None

- MO0297 Cushing Disease: Gain in Bone Mineral Density and also Bone texture assessed by Trabecular Bone Score after cure of Cushing Disease**
 Eugenie Koumakis^{*1}, Renaud Winzenrieth², Laurence Guignat³, Catherine Cormier⁴.
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³Service d'Endocrinologie, Hôpital Cochin, France, ⁴AP-HP Groupe Hospitalier Cochin,
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- MO0298 Diagnosis of vertebral fractures by the EOS X-ray imaging system**
 Karine Briot^{*1}, Jacques Fechtenbaum², Adrien Etcheto³, Sami Kolta², Antoine Feydy³,
 Christian Roux⁴. ¹Paris Descartes University, Cochin hospital, Rheumatology Hospital,
 France, ²Centre D'Evaluation, Des Maladies Osseuses, France, ³Paris Descartes University,
 Cochin Hospital, France, ⁴Hospital Cochin, France
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- MO0299 Effects of Glucocorticoid Treatment on Bone BMD and TBS in Men**
 Edward Leib^{*1}, Renaud Winzenrieth². ¹University of Vermont, USA, ²Center of Bone
 diseases, Lausanne University Hospital, Lausanne, Switzerland, France
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- MO0300 Evaluation of Patients' Intervention Following Osteoporosis Screenings at Health Fairs**
 Frances Tepolt^{*1}, Susan Hassenbein², Edward Fox³. ¹Penn State Hershey Bone & Joint
 Institute, USA, ²Penn State Bone & Joint Institute, USA, ³Pennsylvania State Hershey
 Medical Center, USA
Disclosures: Frances Tepolt, None
- MO0301 HR-pQCT, Finite Element Analysis, and Machine Learning with Support Vector Machines
 Improved Classification of Postmenopausal Women with Fragility Fractures**
 Kyle Nishiyama^{*1}, Emily Stein², Stephanie Sutter³, Donald McMahon², Edward Guo¹,
 Elizabeth Shane². ¹Columbia University, USA, ²Columbia University College of Physicians
 & Surgeons, USA, ³Columbia University Medical Center, USA
Disclosures: Kyle Nishiyama, None
- MO0302 Multimodality Radiographic Characteristics and Complications of Atypical Femoral
 Fractures: the Ontario AFF Cohort**
 R Bleakney^{*1}, Linda Probyn², Jonathan Adachi³, Leon Lenchik⁴, Aliya Khan⁵, Earl
 Bogoch⁶, Robert Josse⁷, Catherine Lang⁸, Angela M. Cheung⁹. ¹Mount Sinai Hospital,
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 Canada, ⁶St. Michael's Hospital, Canada, ⁷St. Michael's Hospital, University of Toronto,
 Canada, ⁸University of Toronto, Canada, ⁹University Health Network-University of
 Toronto, Canada
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- MO0303 Normative Data of TBS for Healthy Postmenopausal African American Women**
 John Aloia¹, Mageda Mikhail¹, Gianina Usera^{*1}, Ruban Dhaliwal², Shah Islam¹.
¹Winthrop University Hospital, USA, ²SUNY Upstate Medical University, USA
Disclosures: Gianina Usera, None
- MO0304 Osteoporosis assessment at hip with Bindex®**
 Janne Karjalainen^{*1}, Ossi Riekkinen², Heikki Kroger³. ¹Bone Index Finland Ltd., Finland,
²Bone Index Finland, Ltd., Finland, ³Kuopio University Hospital, Finland
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

OSTEOPOROSIS - EPIDEMIOLOGY: GENETIC STUDIES

- 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 Mitchell², Heidi Kalkwarf³, Jonathan Bradfield¹, Joan Lappe⁴, Shana McCormack¹, Vicente Gilsanz⁵, Sharon Oberfield⁶, Hakon Hakonarson¹, John Shepherd⁷, Andrea Kelly¹, Babette Zemel¹, Struan Grant⁸. ¹Children's Hospital of Philadelphia, USA, ²University of Pennsylvania, USA, ³Cincinnati Children's Hospital Medical Center, USA, ⁴Creighton University Osteoporosis Research Center, USA, ⁵Children's Hospital Los Angeles, USA, ⁶Columbia University Medical Center, USA, ⁷University of California, San Francisco, USA, ⁸Children'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**
 Lan T Ho-Pham*¹, Bich Tran², Sing Nguyen², Tuan Nguyen². ¹Pham Ngoc Thach University of Medicine, Vietnam, ²Garvan Institute of Medical Research, Australia
Disclosures: Lan T Ho-Pham, None
- 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 Kumar², Fiona McGuigan³, Mattias Callréus⁴, Maria F. Gomez⁵, Paul Gerdhem⁶, Holger Luthman⁷, Valeriya Lyssenko⁸, Leif Groop⁹, Kristina Akesson¹⁰. ¹Clinical Research Center, Lund University, Sweden, ²Dept of Medical Sciences, Molecular Epidemiology & Science for Life Laboratory, Uppsala University, Sweden, Sweden, ³University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, ⁴Skåne University Hospital, Sweden, ⁵Department of Clinical Sciences, University Hospital Malmö, Lund University, Sweden, ⁶Dept of Clinical Science, Intervention & Technology, Karolinska Institutet, Sweden, ⁷Medical Genetics Unit, Dept. of Clinical Sciences Malmö, Lund University, Sweden, ⁸Department of Clinical Sciences, Diabetes & Endocrinology, University Hospital Malmö, Lund University, Sweden, ⁹Department of Clinical Sciences, Diabetes, & Endocrinology, University Hospital Malmö, Lund University, Sweden, ¹⁰Skåne University Hospital, Malmö, Sweden
Disclosures: Gaurav Garg, None
- MO0309 Association of VDR, COL1A1 and LCT gene polymorphisms with bone mineral density in Lithuanian women with postmenopausal osteoporosis**
 Pavel Marozik¹, Marija Tamulaitiene*², Irma Mosse¹, Vaidile Strazdiene³, Vidmantas Alekna². ¹Institute of Genetics & Cytology NAS Belarus, Belarus, ²Faculty of Medicine, Vilnius University, Lithuania, ³National Osteoporosis Center, Lithuania
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- MO0310 Genome-wide Association Study of Trabecular Bone Score Reveals Several Candidate Loci for Bone Quality**
 Hyung Jin Choi*¹, Jung Hee Kim², Nam H Cho³, Chan Soo Shin⁴. ¹Chungbuk National University Hospital, South Korea, ²Seoul National University College of Medicine, South Korea, ³Preventive Medicine, Ajou University School of Medicine, South Korea, ⁴Seoul National University College of Medicine, South Korea
Disclosures: Hyung Jin Choi, None
- MO0311 Polymorphisms in Cannabinoid Receptors Genes and Bone Mineral Density in Postmenopausal Korean Women**
 Jung-Gu Kim*¹, Jae Hee Woo², Hoon Kim³, Jong Hak Kim². ¹Seoul National University Hospital, South Korea, ²Department of Anesthesiology & Pain Medicine, School of Medicine, Ewha Womans University, South Korea, ³Department of Obstetrics & Gynecology, Seoul National University College of Medicine, South Korea
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 Ruppert², Zhenping Zhao², YinJuan Lian², Gail Greendale³, Joel Finkelstein⁴. ¹Harvard Medical School, USA, ²University of Pittsburgh, USA, ³University of California, Los Angeles, USA, ⁴Massachusetts General Hospital, USA
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- MO0313 Explaining gender difference in fracture risk: the role of volumetric bone mineral density**
Hanh Pham*¹, Nguyen Nguyen¹, Mei Chan², Jacqueline Center¹, John Eisman¹, Tuan Nguyen¹. ¹Garvan Institute of Medical Research, Australia, ²Osteoporosis & Bone Biology, Australia
Disclosures: Hanh Pham, None
- MO0314 Influence of degenerative disorders on the lumbar spine BMD and TBS with age: the Cohort OsteoLaus**
Olivier Lamy*¹, Ivan Padlina², Berengère Aubry-rozier², Delphine Stoll³, Marie Metzger², Didier Hans⁴. ¹Chief of the Bone Unit, Switzerland, ²Bone Unit, Switzerland, ³Centre a bone diseases, Che, ⁴Lausanne University Hospital, Switzerland
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 Foster², Linda Dimeglio³, Katherine Manseau⁴, Viral Shah⁴, Julie Kittelsrud⁵, Jill Simmons⁶, Lucy Mastrandrea⁷, Maya Styner⁸, Roy Beck², Ruth Weinstock⁹. ¹SUNY Upstate Medical University, USA, ²Jaeb Center for Health Research, USA, ³Indiana University School of Medicine, USA, ⁴Barbara Davis Center for Childhood Diabetes, USA, ⁵Avera McKennan Hospital & University Health Center, USA, ⁶Vanderbilt University Medical Center, USA, ⁷SUNY at Buffalo, School of Medicine, USA, ⁸University of North Carolina, Chapel Hill, School of Medicine, USA, ⁹State University of New York Health Science Center, USA
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OSTEOPOROSIS - EPIDEMIOLOGY:FALLS AND FRACTURES

- MO0317 A small population-wide increase in BMD is associated with substantial reduction in fracture incidence**
Mei Chan*¹, Dana Bluc², Jacqueline Center², John Eisman², Tuan Nguyen². ¹Osteoporosis & Bone Biology, Australia, ²Garvan Institute of Medical Research, Australia
Disclosures: Mei Chan, None
- MO0318 Correlation of Other Fracture Types with Hip Fracture: Toward a Rational Combined Hip Fracture Endpoint**
Cathleen Colon-Emeric*¹, Carl Pieper², Janet Grubber³, Courtney VanHoutven³, Joanne LaFleur⁴, Kenneth Lyles¹, Robert Adler⁵. ¹Duke University Medical Center, USA, ²Duke University, USA, ³Durham VA Medical Center, USA, ⁴University of Utah, USA, ⁵McGuire VA Medical Center, USA
Disclosures: Cathleen Colon-Emeric, None
- MO0319 FALL IN ELDERLY CARED BY UNDEGRADUATE MEDICAL STUDENTS BELONGING TO THE INTERNAL MEDICINE ACADEMIC LEAGUE**
Fabiana Fonseca¹, Layla Bonfim Faleiros*², Renan Rodrigues Neves Ribeiro do Nascimento², Stéfano Franco Minohara Minohara², Estela Mion Petrillo Mion Petrillo², Tiago Marques Agostinho Marques Agostinho², Egidio Lima Dórea Lima Dórea². ¹PUC - SP, Brazil, ²UNICID, Brazil
Disclosures: Layla Bonfim Faleiros, None

- 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**
 Claudia Beaudoin^{*1}, Sonia Jean², Louis Bessette¹, Louis-Georges Ste-Marie³, Jacques P. Brown⁴. ¹Chu de Quebec Research Centre, Canada, ²Institut National De Santé Publique Du Québec, Canada, ³Chum, University of Montreal, Canada, ⁴Chu de Québec Research Centre, Canada
Disclosures: Claudia Beaudoin, Actavis, Amgen, Eli Lilly, Merck, Novartis, 2
- MO0321 Is Fall Risk Indirectly Captured by FRAX?**
 Shreyasee Amin^{*1}, Kenton Kaufman¹, Jeremy Crenshaw¹, Sara Achenbach¹, Elizabeth Atkinson¹, Sundeep Khosla², L. Joseph Melton¹. ¹Mayo Clinic, USA, ²Mayo Clinic College of Medicine, USA
Disclosures: Shreyasee Amin, None
- MO0322 Low Rate of Osteoporosis Treatment in Nursing Home Men at High-risk for Fractures**
 Alexandra Papaioannou^{*1}, Carly Skidmore², George Ioannidis², Courtney Kennedy², Denis O'Donnell³, Hrishikesh Navare³, Lora Giangregorio⁴, Sharon Marr², Sid Feldman⁵, Angela M. Cheung⁶, Richard Crilly⁷, Sophie Jamal⁸, Robert Josse⁹, Sadhana Prasad², Anne Braun², Ravi Jain¹⁰, Lehana Thabane², Jonathan Adachi¹¹. ¹Hamilton Health Sciences, Canada, ²McMaster University, Canada, ³Medical Pharmacies Group Limited, Canada, ⁴University of Waterloo, Canada, ⁵Baycrest, Canada, ⁶University Health Network-University of Toronto, Canada, ⁷University of Western Ontario, Canada, ⁸The University of Toronto, Canada, ⁹St. Michael's Hospital, University of Toronto, Canada, ¹⁰Osteoporosis Canada, Canada, ¹¹St. Joseph's Hospital, Canada
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**
 Marie-Claude Meilleur^{*1}, Martin Cloutier², Jimmy Royer², Arun Krishna³. ¹Merck Canada Inc, Canada, ²The Analysis Group, Canada, ³Merck, USA
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- MO0324 The Epidemiology of Distal Forearm Fractures in Austria Between 1989 and 2010**
 Hans P. Dimai^{*1}, Axel Svedbom², Astrid Fahrleitner-Pammer³, Thomas Pieber⁴, Heinrich Resch⁵, Christian Muschitz⁶, Heinrich Thaler⁷, Michael Szivak⁸, Karin Amrein¹, Fredrik Borgström⁹. ¹Medical University of Graz, Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, ²OptumInsight, Sweden, ³Medical University Graz, Austria, ⁴Medical University of Graz, Department of Internal Medicine, Division of Endocrinology & Metabolism, Austria, ⁵Medical University Vienna, Austria, ⁶St. Vincent's Hospital, Austria, ⁷Trauma Center Meidling, Austria, ⁸Austrian Worker's Compensation Board (AUVA), Austria, ⁹Quantify Research, Sweden
Disclosures: Hans P. Dimai, None
- MO0325 What is the Bone Metabolic State of Patients With High Energy Trauma Fractures**
 Debra Sietsema^{*1}, Michael Koets², Clifford Jones¹. ¹Orthopaedic Associates of Michigan; Michigan State University, USA, ²Wayne State University School of Medicine, USA
Disclosures: Debra Sietsema, Lilly USA, 8

OSTEOPOROSIS - EPIDEMIOLOGY:RISK FACTORS

- MO0326 Assessment of the Fracture Risk by Age Distribution in Korean Using FRAX with and without BMD**
 JI WAN Kim^{*1}, Young-Jee Jeon², Jae Suk Chang³. ¹Haeundae Paik Hospital, Inje University, South Korea, ²Department of Family Medicine, Haeundae Paik Hospital, Inje University, South Korea, ³Department of Orthopedic Surgery, University of Ulsan, College of Medicine, Asan Medical Center, South Korea
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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²University of Massachusetts Lowell, USA, ³Framingham Heart Study, National Heart,
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 Institute for Aging Research & Harvard Medical School, USA
*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 Lofthus², Haakon E. Meyer³, Anne Johanne
 Sogaard⁴, Grethe Tell⁵, Ellen M Apalset⁶, Clara Gjesdal⁷, Guri Grimnes⁸, Berit Schei⁹,
 Rune Blomhoff¹⁰, Sven Ove Samuelsen¹¹, Kristin Holvik¹². ¹Sykehuset Innlandet Thrust,
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¹¹Department of Mathematics, University of Oslo, Norway, ¹²Norwegian Institute of
 Public Health, Norway
Disclosures: Trine Elisabeth Finnes, None
- MO0329 Brown adipose tissue (BAT) activity is inversely associated with bone mineral density (BMD)
 in healthy young adults**
 Robert McLean*¹, Lauren Weiner², Aaron Cypess², Douglas Kiel¹. ¹Hebrew SeniorLife
 Institute for Aging Research & Harvard Medical School, USA, ²Joslin Diabetes Center &
 Harvard Medical School, USA
Disclosures: Robert McLean, None
- MO0330 Cancer Rates in Men With and Without Osteoporosis in a US Healthcare System**
 Cynthia O'Malley*¹, Nguyet Tran¹, Carol Zapalowski², Nadia Daizadeh³, Thomas
 Olenginski⁴, Jane Cauley⁵. ¹Amgen Inc., USA, ²Amgen, USA, ³Amgen Inc, USA,
⁴Geisinger Medical Center, USA, ⁵University of Pittsburgh Graduate School of Public
 Health, USA
Disclosures: Cynthia O'Malley, Amgen Inc., 1
- MO0331 Co-morbidities in patients with a recent fracture at the Fracture Liaison Service**
 Lisanne Vranken*¹, Caroline Wyers², Robert Van Der Velde³, Heinrich Janzing⁴, Wim
 Morrenhof⁵, Marcel Janssen⁶, Piet Geusens⁷, Joop Van Den Bergh⁸. ¹VieCuri Medical
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 Surgery, Netherlands, ⁵VieCuri Medical Centre, Department of Orthopedic Surgery,
 Netherlands, ⁶VieCuri Medical Centre, Laboratory of Clinical Chemistry & Haematology,
 Netherlands, ⁷University Hasselt, Belgium, ⁸VieCuri MC Noord-Limburg & Maastricht
 UMC, The Netherlands
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

Zhongjian Xie¹, Zhenlin Zhang², Eryuan Liao¹, Wen Wu³, Chunyan Lu⁴, Shuqing Tao⁵, Lijun Wu⁶, Julie Chandler⁷, Senaka Peter⁸, Ting Wu⁹, Weibo Xia^{*10}. ¹Institute of Endocrinology & Metabolism, the second Xiangya Hospital of Central South University, China, ²Department of Osteoporosis & Bone Diseases, Shanghai Jiao Tong University, Affiliated Sixth People's Hospital, China, ³Department of Endocrinology, Guangdong General Hospital, China, ⁴Department of Endocrinology, West China Hospital, Sichuan University, China, ⁵Department of Orthopedics, the Second Affiliated Hospital of Garbin Medical University, China, ⁶Department of Rheumatism & Immunology, People's Hospital of Xinjiang Uygur Autonomous Region, China, ⁷Merck Research Laboratories, USA, ⁸Department of Epidemiology, Merck Research Laboratories, USA, ⁹Department of Epidemiology, Merck Research Laboratories, China, ¹⁰Department of Endocrinology, Key Laboratory of Endocrinology, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, China

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 Lui², Peggy Cawthon³, Jane Cauley⁴, Susan Diem⁵, Teresa Hillier⁶, Kristine Ensrud⁷. ¹San Francisco Coordinating Center, USA, ²UCSF, USA, ³California Pacific Medical Center Research Institute, USA, ⁴University of Pittsburgh Graduate School of Public Health, USA, ⁵University of Minnesota, USA, ⁶Kaiser Center for Health Research, USA, ⁷University 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 Srikanth¹, Ying Wang¹, Christine Swanson¹, Christine Lee¹, Rene Chun², Martin Hewison³, John Adams³, Dirk Vanderschueren⁴, Roger Bouillon⁴, Jodi Lapidus¹, Jane Cauley⁵, Eric Orwoll¹. ¹Oregon Health & Science University, USA, ²UCLA/Orthopedic Hospital Research Center, USA, ³University of California, Los Angeles, USA, ⁴Katholieke Universiteit Leuven, Belgium, ⁵University 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 Cawthon², Kathy Peters², Steven Cummings³, Kristine Ensrud⁴, Douglas Bauer⁵, Brent Taylor⁶, James M. Shikany⁷, Andrew Hoffman⁸, Nancy Lane⁹, Deborah Kado¹⁰, Eric Orwoll¹¹. ¹University of Pittsburgh Graduate School of Public Health, USA, ²California Pacific Medical Center Research Institute, USA, ³San Francisco Coordinating Center, USA, ⁴University of Minnesota & Minneapolis VA Health Care System, USA, ⁵University of California, San Francisco, USA, ⁶University of Minnesota, USA, ⁷University of Alabama, Birmingham, USA, ⁸Stanford University, USA, ⁹University of California, Davis Medical Center, USA, ¹⁰University of California, San Diego, USA, ¹¹Oregon Health & Science University, USA

Disclosures: Jane Cauley, None

MO0336 Systematic evaluation of loss of renal function over 10 years in elderly Swedish women

Linnea Malmgren^{*1}, Fiona McGuigan², Sofia Berglundh¹, Kerstin Westman¹, Anders Christensson¹, Kristina Akesson³. ¹Skane University Hospital, Sweden, ²University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, ³Skåne University Hospital, Malmö, Sweden

Disclosures: Linnea Malmgren, None

OSTEOPOROSIS - HEALTH CARE DELIVERY: GENERAL

MO0337 A Fracture Liaison Service specifically designed to address local government concerns can be effective

Diane Theriault^{*}, Carla Purcell. Dartmouth General Hospital, Canada

Disclosures: Diane Theriault, None

- MO0338 Clinical evaluation of the appropriateness of referrals for dual energy X-ray absorptiometry: 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 Foster¹, Nicole Wright¹, Amy Mudano¹, Cora Lewis¹, Sebastian Sattui¹, Mary E. Melton¹, Wilson Pace², Walter Calmbach³, Laura Nichols², Susan Booth⁴, T. Michael Harrington¹, Jeffrey Curtis¹, Kenneth Saag¹. ¹University of Alabama At Birmingham, USA, ²University of Colorado Denver, USA, ³University of Texas San Antonio, USA, ⁴Mytrus, 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-Rehaillia¹, Daciana Ursu¹, Isabelle Henry-Desailly¹, Patrice Fardellone^{*2}, Julien Paccou³. ¹Department of Rheumatology, Amiens University Hospital, France, ²Service de rhumatologie, CHU Hôpital Nord, France, ³University 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.**
Eamonn Brankin^{*1}, Wendy Feeney², Robin Munro¹. ¹NHS Lanarkshire / University of Glasgow, United Kingdom. ²NHS Lanarkshire, United Kingdom
Disclosures: Eamonn Brankin, None
- MO0342 Zoledronic Acid and Denosumab Use in Ontario, Canada**
Andrea Burden^{*1}, Mina Tadrout¹, Andrew Calzavara², Suzanne Cadarette¹. ¹University of Toronto, Canada, ²Institute for Clinical Evaluative Sciences, Canada
Disclosures: Andrea Burden, None

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 Ohue¹, Ryuji Aoyama¹, Tomohiro Tanaka¹, Yoshio Fujii², Tsuyoshi Jotoku³, Akimitsu Miyauchi⁴, Yasuyuki Takagi⁵. ¹Katsuragi Hospital, Japan, ²Calcium Research Institute Kobe Branch, Japan, ³Dept of Orthopedic Surgery, Osaka Medical College, Japan, ⁴Miyauchi Medical Center, Japan, ⁵National 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 Johnston¹, Paul LeBlanc¹, Sandra Peters¹, Gregory Wohl², Wendy Ward¹. ¹Brock University, Canada, ²McMaster 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 Erkkola², Essi Skaffari³, Pilvi Saaristo³, Elisa Saarnio¹, Christel Lamberg-Allardt¹. ¹University of Helsinki, Finland, ²Division of Nutrition, Department of Food & Environmental Sciences, University of Helsinki, Finland, ³Calcium 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)**
Amy Yue¹, JoAnn Manson², Julie Buring², Nancy Cook², Douglas Bauer³, Peggy Cawthon⁴, Dennis Black³, Meryl Leboff^{*3}. ¹Brigham & Women's Hospital, USA, ²Brigham & Women's Hospital Professor of Medicine, Harvard Medical School, USA, ³University of California, San Francisco, USA, ⁴California Pacific Medical Center Research Institute, USA, ⁵Brigham & Women's Hospital, Professor of Medicine, Harvard Medical School, USA
Disclosures: Meryl Leboff, None
- MO0349 High prevalence of vitamin D deficiency in patients with xeroderma pigmentosum (XP)- A under strict sun-protection**
Akiko Kuwabara^{*1}, Naoko Tsugawa², Kiyoshi Tanaka³, Yasuyo Uejima¹, Junko Ogawa¹, Natsumi Otao¹, Nanae Yamada¹, Taro Masaki⁴, Chikako Nishigori⁴, Shinichi Moriwaki⁵, Toshio Okano². ¹Department of Health & Nutrition, Osaka Shoin Women's University, Japan, ²Kobe Pharmaceutical University, Japan, ³Kyoto Women's University, Japan, ⁴Division of Dermatology, Clinical Molecular Medicine, Graduate School of Medicine, Kobe University, Japan, ⁵Department of Dermatology, Osaka Medical College, Japan
Disclosures: Akiko Kuwabara, None
- MO0350 Measurement of Serum 1,25-dihydroxyvitamin D Levels: An Exercise 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**
Hanne Gulseth^{*1}, Cecilie Wium², Erik Fink Eriksen³, Kåre I. Birkeland⁴. ¹National Institute of Public Health/ Oslo University Hospital, Norway, ²Department of Endocrinology, Morbid Obesity & Preventive Medicine, Oslo University Hospital / University of Oslo, Norway, ³Oslo University Hospital, Norway, ⁴Department of Endocrinology, Morbid Obesity & Preventive Medicine, Oslo University Hospital/ University of Oslo, Norway
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**
L. Claudia Pop^{*1}, Deeptha Sukumar², Christopher Gordon³, Stephen Schneider⁴, Yvette Schluskel¹, Theodore Stahl⁴, Sue Shapses¹. ¹Rutgers University, USA, ²Drexel University, USA, ³McMaster University, Canada, ⁴Rutgers-Robert Wood Johnson Medical School, USA
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 Fuleihan², Elie Akk¹, Nancy Nakhoul¹, Bassem Safadi¹. ¹American University of Beirut, Lebanon, ²American 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**
 Elisabeth Sornay-Rendu^{*1}, Pawel Szulc², Stephanie Boutroy³, Olivier Borel⁴, Roland Chapurlat⁵. ¹INSERM UMR1033, Université de Lyon, France, ²INSERM UMR 1033, University of Lyon, Hopital E. Herriot, Pavillon F, France, ³INSERM U1033 & Université de Lyon, France, ⁴INSERM UMR 1033, France, ⁵E. Herriot Hospital, France
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 Duong². ¹Merck & Co., Inc., USA, ²Merck Research Laboratories, USA
Disclosures: Tara Cusick, Merck & Co., 1; Merck & Co., 3
- MO0357 Regulating osteogenesis via Bcl6**
 Takeshi Miyamoto¹, Yoshiaki Toyama², Atsuhiko Fujie^{*3}. ¹Keio University School of Medicine, Japan, ²Department of Orthopaedics Surgery, School of Medicine, Keio University, Japan, ³Department of Orthopaedic Surgery, School of Medicine, Keio University, Japan
Disclosures: Atsuhiko Fujie, None
- MO0358 RNA Seq-based Gene Expression in Mouse Cortical and Cancellous Bone**
 Natalie Kelly^{*1}, John Schimenti¹, F Patrick Ross², Marjolein Van Der Meulen¹. ¹Cornell University, USA, ²Hospital for Special Surgery, USA
Disclosures: Natalie Kelly, None
- MO0359 Tissue Heterogeneity Determined by FTIR Imaging Decreases with Increasing Fracture Count**
 Adele Boskey^{*1}, Lyudmila Spevak¹, Patrice Watson², Susan Bare², Robert Recker². ¹Hospital for Special Surgery, USA, ²Creighton University, USA
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**
 Mélanie Spilmont^{*1}, Yohann Wittrant², Veronique Coxam³, Laurent Rios⁴. ¹Equipe Alimentation, Squelette et Métabolisme, France, ²Equipe Alimentation, Squelette et Métabolismes, INRA, UMR 1019, UNH, CRNH Auvergne, France, ³INRA Theix, France, ⁴Greentech SA Biopôle Clermont-Limagne, France
Disclosures: Mélanie Spilmont, None

OSTEOPOROSIS - PATHOPHYSIOLOGY: GENERAL

- MO0361 Bone Loss in a New Rodent Model Combining Spinal Cord Injury and Cast Immobilization**
 Joshua Yarrow^{*1}, Fan Ye², Alexander Balazs³, Jillian Mantione³, Dana Otzel³, Cong Chen⁴, Luke Beggs², Celine Baligand⁴, Jonathan Keener³, Wootae Lim⁴, Ravneet Vohra⁴, Abhinandan Batra⁴, Stephen Borst², Prodip Bose², Krista Vandendorne⁴. ¹Malcom Randall VA Medical Center, University of Florida, USA, ²VA Medical Center, University of Florida, USA, ³VA Medical Center, USA, ⁴University of Florida, USA
Disclosures: Joshua Yarrow, None
- MO0362 Effects of alendronate for bone loss and pain-related behavior in the hindlimb-unloaded mouse model of osteoporosis**
 Taro Nakagawa^{*1}, Hiroki Wakabayashi², Yohei Naito², Takahiro Iino², Sho Kato², Akihiro Sudo². ¹Mie University Graduate School of Medicine, Japan, ²Department of Orthopaedic Surgery, Mie University Graduate School of Medicine, Japan
Disclosures: Taro Nakagawa, None

- MO0363 MiRNAs Involved in the Osteoblastic Function are Altered in Human Osteoporotic Bone**
 Natalia Garcia-Giralt^{*1}, Laura De-Ugarte², Susana Balcells³, Sergi Ariño-Ballester², Guy Yoskovitz⁴, Santos Martinez-Diaz⁵, Robert Guerri Fernandez⁶, Leonardo Mellibovsky⁷, Roser Urreiziti³, Xavier Nogues⁸, Daniel Grinberg⁹, Adolfo Diez-Perez¹⁰. ¹IMIM, Spain, ²MSRU,IMIM (Institut Hospital del Mar d'Investigacions Mèdiques), Spain, ³Departament de Genètica, Universitat de Barcelona, IBUB, Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), ISCIII, Spain, ⁴IMIM, Parc de salut Mar, RETICEF, Spain, ⁵Department Orthopaedic Surgery & Traumatology, Hospital del Mar, Spain, ⁶Fundacio IMIM, Spain, ⁷Servei de Medicina Interna, Hospital del Mar, Universitat Autònoma de Barcelona, Spain, ⁸Institut Municipal D'Investigació Mèdica, Spain, ⁹The University of Barcelona, Spain, ¹⁰Servei 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
Disclosures: Natalia Garcia-Giralt, None

- MO0364 Understanding Low Bone Mass In Down Syndrome Patients**
 Archana Kamalakar^{*1}, Diarra Williams¹, Nisreen Akel¹, Tristan Fowler², Frances Swain³, Kent McKelvey³, Dana Gaddy¹, Larry Suva¹. ¹University of Arkansas for Medical Sciences, USA, ²Universität Wien, Aut, ³Department 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 Bartell², Ha-Neui Kim³, Srividhya Iyer², Li Han², Aaron Warren⁴, Julie Crawford⁴, Maria Jose Almeida², Stavros Manolagas². ¹University of Arkansas for Medical Sciences, USA, ²Central Arkansas VA Healthcare System, Univ of Arkansas for Medical Sciences, USA, ³Univ. Arkansas for Medical Sciences, Central Arkansas VA Healthcare System, USA, ⁴Center 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 Brozek¹, Robert Recker², Klaus Klaushofer³, Eleftherios Paschalis⁴. ¹Ludwig Boltzmann Institute of Osteology at the Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 1st Medical Department, Hanusch Hospital, Austria, ²Creighton University, USA, ³Hanusch Hospital, Ludwig Boltzmann Institute of Osteology, Austria, ⁴Ludwig 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. Phua², Prakesh S. Shah³, Angela M. Cheung⁴. ¹University Health Network, Canada, ²Division of Hematology, Dept of Medicine, University of Toronto, Canada, ³Departments of Paediatrics & IHPME, University of Toronto, Canada, ⁴University 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 Pasco², Michael Berk³, Amanda Stuart², Risto Honkanen¹, Heli Koivumaa-Honkanen⁴, Jason Hodge⁵, Lana Williams⁶. ¹University of Eastern Finland, Finland, ²Deakin University, Australia, ³Deakin University; The University of Melbourne, Australia, ⁴University of Eastern Finland; Kuopio University Hospital; University of Oulu, Finland, ⁵Deakin University; The Geelong Hospital, Australia, ⁶The University of Melbourne, Australia
Disclosures: Päivi Rauma, None

OSTEOPOROSIS - SECONDARY CAUSES: GLUCOCORTICIDS

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-Barbosa², Iana Mizumukai de Araújo², Adriana Lélis Carvalho², Carlos Ernesto Garrido Salmon³, Ayrton Custódio Moreira², Margaret de Castro², Francisco José Albuquerque de Paula². ¹School of Medicine of Ribeirão Preto, University of São Paulo, Brazil, ²School of Medicine of Ribeirão Preto, University of São Paulo, Brazil, ³Faculty 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 Okano¹, Kousaku Tsuda¹, Yuzuru Yamamoto¹, Daisuke Sugiyama², Goh Tsuji³, Shunichi Kumagai³, Akio Morinobu⁴. ¹Kobe University Hospital, Japan, ²Keio University, Japan, ³Shinko Hospital, Japan, ⁴Kobe University Hospital, 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 Tanaka¹, Keisuke Aita¹, Masaaki Hagiya¹, Nobuyuki Tai¹, Junko Hirano¹, Kyoko Yokosuka², Hisami Yamakawa³, Tsutomu Yaritha², Toshiaki Homma¹, Ryo Okazaki¹. ¹Teikyo University Chiba Medical Center, Japan, ²Yaritha Hospital, Japan, ³Yaritha 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 Roschger², Barbara M. Misof³, Hua Zhou⁴, Eleftherios Paschalis⁵, Fangqiu Zhang⁶, Jahangir Alam⁷, Valerie A. Ruff⁸, Klaus Klaushofer⁹, Kathleen Taylor⁸, For the SHOTZ Investigators USA. ¹Columbia University, USA, ²L. Boltzmann Institute of Osteology, Austria, ³Ludwig Boltzmann Institute of Osteology, Austria, ⁴Helen Hayes Hospital, USA, ⁵Ludwig Boltzmann Institute for Osteology, Austria, ⁶inVentiv Health Clinical, Canada, ⁷Lilly USA, USA, ⁸Eli Lilly & Company, USA, ⁹Hanusch Hospital, Ludwig Boltzmann 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 Manavalan², Stavroula Kousteni¹, Robert Recker³, Joan Lappe⁴, David Dempster², Donald McMahon⁵, Mariana Bucovsky², Mafo Kamanda-Kosseh², Julie Stubby³, Elizabeth Shane⁵. ¹Columbia University Medical Center, USA, ²Columbia University, USA, ³Creighton University, USA, ⁴Creighton University Osteoporosis Research Center, USA, ⁵Columbia 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 Ulllyatt¹, Fiona Vickers, George M. Tsoukas¹ 1 Division of Endocrinology, 2 Division of Rheumatology, McGill University Health Center; 3 Department of Medicine, University College Dublin

Georges Tsoukas^{*}, McGill University, Canada

Disclosures: Georges Tsoukas, None

- 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 Gao², Shelly Hurwitz¹, Meryl Leboff³. ¹Brigham & Women's Hospital, USA, ²Case Western Reserve University School of Medicine, USA, ³Brigham & 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 Wang². ¹USA, ²Orthopedic 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 Galitzer², Christopher Washbourne³, Isabelle Picc⁴, Naifang Wang⁵, Gregory Burshtein², Phillip Schwartz², Yoseph Caraco⁶, Ehud Arbit², William Fraser³. ¹University of East Anglia, Norwich, UK, United Kingdom, ²Entera Bio, Israel, ³University of East Anglia, United Kingdom, ⁴BioAnalytical Facility, University of East Anglia, United Kingdom, ⁵Enter Bio, Israel, ⁶Hadassah Hospital, Israel
Disclosures: Jonathan Tang, None
- MO0378 Flavonoid class compounds abrogating sclerostin induced inhibition of Wnt/beta catenin signaling**
Sung-Kil Lim¹, Eun Jin Kim^{*2}, Bo Mi Park², Dongdong Zhang², Nam Hee Kim², Joohyun Bae⁻. ¹Yonsei University College of Medicine, South Korea, ²Yonsei University, South Korea
Disclosures: Eun Jin Kim, None
- MO0379 Increased Serum Undercarboxylated Osteocalcin in use of Teriparatides could be reduced with concurrent use of vitaminK**
Yoichi Kishikawa^{*1}, Taro Mawatari². ¹Kishikawa Orthopedics, Japan, ²Hamanomachi 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 Cohen², Chantal De Bakker¹, Joan Lappe³, Robert Recker⁴, Kyle Nishiyama⁵, Mishaela Rubin⁵, John Bilezikian⁶, Elizabeth Shane⁶, Xiaowei Liu¹. ¹University of Pennsylvania, USA, ²Columbia University Medical Center, USA, ³Creighton University Osteoporosis Research Center, USA, ⁴Creighton University, USA, ⁵Columbia University, USA, ⁶Columbia University College of Physicians & Surgeons, USA
Disclosures: Mary Beth Tribble, None
- 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 Isogai¹, Nobuo Urushibara², Harumi Nakayama³, Ryutaro Adachi⁴, Shigeru Kitagawa⁴, Naoto Kato^{*5}, Tatsuhiko Kuroda⁵. ¹Japan, ²Nukada Memorial Hospital, Japan, ³Harumi clinic, Japan, ⁴Hitachi Aloka Medical, Ltd, Japan, ⁵Asahi 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 Hu¹, Timothy Chu¹, Liangjun Lin², Xiaodong Li³, Hua Zhu (David) Ke⁴, Yi-Xian Qin². ¹Stony Brook University, USA, ²State University of New York at Stony Brook, USA, ³Amgen, Inc., USA, ⁴Amgen 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.**
Costantino Corradini^{*1}, Francesca Boisio¹, Vittorio Macchi², Francesca Ingegnoli¹. ¹State University of Milan, Italy, ²State Univrsity of Milan, Italy
Disclosures: Costantino Corradini, None

- MO0385 The Long Term Effects Of Abaloparatide (BA058) On Bone Histomorphometry in Osteopenic Rats**
 Luc Chouinard*¹, Elisabeth Lesage², Susan Y. Smith³, Gary Hattersley⁴. ¹Charles River Laboratories, PCS Montreal, Canada, ²Charles River, Canada, ³Charles River Laboratories, Canada, ⁴Radius, USA
Disclosures: Luc Chouinard, Charles River, 3

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 Capigliani², Victor Montangero², Alicia Marino², Claudia Gomez Acotto². ¹Gador S.A., Argentina, ²Maimonides 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 Bisphosphonate Treatment**
 Arun Krishna¹, Debra Eisenberg², Tao Gu², Hillary Placzek², Ankita Modi*³. ¹Merck, USA, ²Healthcore, USA, ³Merck & Co., Inc., USA
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 Rizzoli². ¹Division of Bone Diseases, Switzerland, ²Geneva University Hospitals & Faculty of Medicine, Switzerland
Disclosures: Patrick Ammann, Servier, 5
- MO0389 Differentiating effects of treatments on TBS**
 Renaud Winzenrieth*¹, Luis Del Rio², Silvana Di Gregorio³, E Bonel³, M Garcia³. ¹Med-imaps, Hôpital X. Arnoz, PTIB, Pessac, France, France, ²Cetir Centre Medical, Spain, ³Cetir Grup Medic, Spain
Disclosures: Renaud Winzenrieth, Med-Imaps, 3
- MO0390 Efficacy and Safety of Bazedoxifene in Postmenopausal Latino Women with Osteoporosis**
 Jose A. Hernández Bueno¹, Lizbeth Arias², Ching-Ray Yu³, Robert Williams³, Barry S. Komm*³. ¹Unknown, Mexico, ²Pfizer Inc, Mexico, ³Pfizer 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 Ho², CJF Lin², MA Bolognese³, HG Bone⁴, P Hadji⁵, S Papapoulos⁶, C Recknor⁷, NS Daizadeh², P Dakin², RB Wagman², S Ferrari⁸. ¹McMaster University, Canada, ²Amgen Inc., USA, ³Bethesda Health Research Center, USA, ⁴Michigan Bone & Mineral Clinic, USA, ⁵Philipps-University of Marburg, Germany, ⁶Leiden University Medical Center, Netherlands, ⁷United Osteoporosis Centers, USA, ⁸Geneva 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**
 Fuxing Pei*¹, Xun Liu², Yingxu Gao². ¹West China Hospital, Sichuan University, Peoples Republic of China, ²Novartis Pharmaceuticals (China), China
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 Bandeira², Alyne Loureiro³, Ana Catarina Araújo³, Severino dos Santos⁴, Larissa Pimentel⁵. ¹Hospital Agamenon Magalhães - Recife, Brazil, ²University of Pernambuco, Brazil, ³Agamenon Magalhães Hospital, Brazil, ⁴Oswaldo Cruz Hospital, Brazil, ⁵Brazil
Disclosures: Sirley Vasconcelos, None

MO0394 Osteoporosis Treatment with Denosumab: Our Experience in the Real Clinical Practice
 Diana González^{*1}, Beatriz Oliveri², Alicia Bagur³, Carlos Mautalen⁴. ¹Mautalen Salud e Investigación, Argentina, ²Mautalen, Salud e Investigación, Argentina, ³Mautalen Salud e Investigación, Argentina, ⁴Centro de Osteopatías Médicas, Argentina
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 Muraoka², Yukihide Iwamoto³. ¹Hamanomachi Hospital, Japan, ²Ajinomoto Pharmaceuticals Co, Ltd., Japan, ³Dept. 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 Seibel². ¹Concord Hospital, Australia, ²Bone Research Program, ANZAC Research Institute, University of Sydney, Australia
Disclosures: Kirtan Ganda, None

MO0397 DEVIDE-Study: DENosumab Versus Intravenous IbanDronatE – a 24 months retrospective head to head real life study – Baseline Data
 Astrid Fahrleitner-Pammer^{*1}, Christian Muschitz², Doris Wagner³, Karin Amrein³, Thomas Pieber³, Heinrich Resch⁴, Hans Dimai⁵. ¹Medical University Graz, Austria, ²St. Vincent's Hospital, Austria, ³Medical University, Austria, ⁴Medical University Vienna, Austria, ⁵Medical 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 Siris², DL Kendler³, D Belazi⁴, JP Brown⁵, DT Gold⁶, EM Lewiecki⁷, A Papaioannou⁸, C Simonelli⁹, G Quinn¹⁰, A Balasubramanian¹¹, FM Mirza¹¹, P Ho¹¹, S Siddhanti¹¹, B Stolshek¹¹, C Recknor¹². ¹Cedars-Sinai Bone Center for Excellence, UCLA School of Medicine, & OMC Clinical Research Center, USA, ²Columbia University Medical Center, USA, ³University of British Columbia, Canada, ⁴AlchemiPharma LLC, USA, ⁵Laval University & CHU de Québec Research Centre, Canada, ⁶Duke University Medical Center, USA, ⁷New Mexico Clinical Research & Osteoporosis Center & University of New Mexico School of Medicine, USA, ⁸McMaster University, Canada, ⁹Health East Osteoporosis Care, USA, ¹⁰Sarnia Statistics LTD, United Kingdom, ¹¹Amgen Inc., USA, ¹²United Osteoporosis Centers, USA
Disclosures: SL Silverman, Cedars-Sinai Medical Center, 3; Amgen, Lilly, Pfizer, 8; Amgen, Lilly, Medtronic, Pfizer, 2; Amgen, Genentech, Lilly, Novartis, Pfizer, 5

MO0399 Preferences for Osteoporosis Treatment in Japan
 Ikuko Tanaka^{*1}, Marco DiBonaventura². ¹NAGOYA Rheumatology Clinic, Japan, ²Kantar Health, USA
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 Rotman², Bradley Stolshek³, Harold Luft². ¹Palo Alto Medical Foundation, Sutter Health, USA, ²Palo Alto Medical Foundation Research Institute, USA, ³Amgen, USA
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MO0401 Understanding Physicians Perceptions of Patients Barriers to Osteoporosis Medication Initiation

Stuart Silverman*¹, Haiyan Qu², Jeffrey Curtis², Susan Greenspan³, Sarah Morgan², Jeri Nieves⁴, Ryan Outman², Richard Shewchuk², Ethel Siris⁵, Amy Warriner², Nelson Watts⁶, Kenneth Saag². ¹Cedars-Sinai/UCLA, USA, ²University of Alabama at Birmingham, USA, ³University of Pittsburgh, USA, ⁴Columbia University & Elen Hayes Hospital, USA, ⁵Columbia University College of Physicians & Surgeons, USA, ⁶Mercy 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

Elliott Schwartz*¹, Patricia Schwartz¹, George Tischenko². ¹Northern California Institute for Bone Health, Inc., USA, ²Muir Orthopaedic Specialists, USA

Disclosures: Elliott Schwartz, Lilly, 5

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, Sadaaki Sakai², Yoshihito Tashiro³, Michinori Hirata⁴, Ken-ichi Serizawa⁴, Kenji Yogo⁴, Koichi Endo². ¹"Chugai Pharmaceutical Co., Ltd.", Japan, ²Chugai Pharmaceutical Co., Ltd., Japan, ³Chugai Pharmaceutical Co., Ltd., Japan, ⁴Chugai 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 Farlay², Georges Boivin³. ¹INSERM U1033 Université de Lyon, France, ²INSERM, UMR1033; Université De Lyon, France, ³INSERM, UMR1033; Université 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 Waldorff², James Ryaby³, Maciej Zborowski⁴, Ronald Midura⁵. ¹Lerner Research Institute, Cleveland Clinic, USA, ²Orthofix, USA, ³Orthofix Inc, USA, ⁴Cleveland Clinic, USA, ⁵Lerner Research Institute of Cleveland Clinic, USA

Disclosures: Caroline Androjna, Orthofix Inc, 2

MO0407 The role of the renin-angiotensin system in the bone metabolic response to mental stress

Norman Pollock*¹, Laura Carbone¹, Monique Bethel², Yanbin Dong¹, Luiz Ortiz¹, Obioma Nwobi¹, Coral Hanevold³, Deborah Stewart¹, Gregory Harshfield¹. ¹Georgia Regents University, USA, ²Indiana University School of Medicine, USA, ³Seattle 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 Budhram², Raymond Chu³, George Ioannidis¹, Alexandra Papaioannou⁴, Arthur Lau¹, Jonathan Adachi⁵. ¹McMaster University, Canada, ²Michael G. DeGroote School of Medicine, McMaster University, Canada, ³Faculty of Medicine, University of Toronto, Canada, ⁴Hamilton Health Sciences, Canada, ⁵St. 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 Gregersen¹, Ellen Hauge¹, Bente Langdahl², Peter Vestergaard³.
¹Aarhus University Hospital, Denmark, ²Aarhus University Hospital, Denmark, ³Aalborg University Hospital, Denmark
Disclosures: Jakob Linde, None
- MO0410 FRAX Underestimates Fracture Risk in Patients with Type 1 Diabetes Mellitus**
Tayyab Khan*¹, Tamara Spaic², Lisa-Ann Fraser². ¹Department of Medicine, Western University, Canada, ²Western 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 Nagai¹, Tomoyasu Fukui², Takuma Kuroda¹, Katsunori Inagaki¹. ¹Department of Orthopaedic Surgery, Showa University School of Medicine, Japan, ²Department 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 Vidal², Josep Lluís Carrasco³, Xavier Filella⁴, Silvia Ruiz-Gaspà⁵, Enric Portell², Ana Monegal¹, Africa Muxi⁶, Nuria Guanabens⁷, Pilar Peris⁸. ¹Hospital Clinic Barcelona, Spain, ²Guttmann Neurorehabilitation Institute, Spain, ³Public Health Department, University of Barcelona, Spain, ⁴Department of Biochemistry & Molecular Genetics, Hospital Clinic, Spain, ⁵CIBERehd, Hospital Clinic, Spain, ⁶Nuclear Medicine Department, Hospital Clinic, Spain, ⁷Universitat De Barcelona, Spain, ⁸Hospital Clínic of Barcelona, Spain
Disclosures: Laia Gifre, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: OTHER POPULATIONS

- MO0413 Bone Turnover Markers and Different Dialysis Procedures**
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- MO0414 Increased marrow adipose tissue following Spinal Cord Injury**
Tiffany Butler*¹, Thomas Schnitzer², William Edwards³, Karen Troy¹. ¹Worcester Polytechnic Institute, USA, ²Northwestern University, USA, ³University of Calgary, Canada
Disclosures: Tiffany Butler, None
- MO0415 Proximal Femur Strength and Cortical Thickness Estimates in Klinefelter Syndrome and Post-Menopausal Women**
Enrico Schileo*¹, Ilaria Palmadori², Fulvia Taddei², Alessandro Coran³, Sigur,ur Sigursson⁴, Vilmundur Gudnason⁵, Tamara Harris⁶, Carlo Foresta³. ¹Istituto Ortopedico Rizzoli, Bologna, Italy, ²Istituto Ortopedico Rizzoli, Italy, ³Università di Padova, Italy, ⁴Icelandic Heart Association, Iceland, ⁵Icelandic Heart Association Research Institute, Iceland, ⁶Intramural Research Program, National Institute on Aging, USA
Disclosures: Enrico Schileo, None
- MO0416 The relationship between sclerostin, bone mineral density and vascular calcification in rheumatoid arthritis**
Julien Paccou*¹, Cedric Renard², Sophie Liabeuf², Said Kamel², Patrice Fardellone³, Ziad Massy², Michel Brazier⁴, Romuald Mentaverri⁵. ¹University of Picardie Jules Verne, Amiens, France, ²Amiens University Hospital, France, ³Service de rhumatologie, CHU Hôpital Nord, France, ⁴University of Picardie, France, ⁵INSERM U1088, France
Disclosures: Julien Paccou, None

OSTEOPOROSIS IN SPECIAL POPULATIONS: TRANSPLANTATION

MO0417 Adverse Changes in Bone Mineral Density and FRAX Score 100 Days Post Allogeneic Bone Marrow Transplant

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MO0418 BMD Changes after Kidney Transplantation

Nicolas Segaud¹, Isabelle Legroux¹, Marc Hazzan², Christian Noel², Bernard Cortet*¹.

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Disclosures: Bernard Cortet, None

MO0419 Bone Quality at the Time of Lung Transplant in Cystic Fibrosis

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Disclosures: Louis-Georges Ste-Marie, Novartis, 99; Eli Lilly, 5; Merck, 99; Eli Lilly, 99; Novartis, 2; Alliance for better bone health, 99; Amgen, 2; Eli Lilly, 2; Alliance for better bone health (Warner Chilcott and Sanofi Aventis Canada inc), 5; Novartis, 5; Merck, 5; Alliance for better bone health, 2; Amgen, 99; Amgen, 5; Sanofi, 5

MO0420 Effect of Risedronate on Bone Mineral Density and Trabecular Bone Score in Liver Posttransplantation patients after one year of follow-up

Gonzalo Allo Miguel¹, María Soledad Librizzi², Sonsoles Guadalix Iglesias¹, David Lora³, Guillermo Martinez Diaz-Guerra⁴, Federico Hawkins*⁵. ¹12 de Octubre, University Hospital., Spain, ²12 de Octubre, University Hospital, Spain, ³Clinical Epidemiology Unit, 12 de Octubre University Hospital., Spain, ⁴University Hospital 12 Octubre, Esp, ⁵Hospital Universitario, Spain

Disclosures: Federico Hawkins, None

PARACRINE REGULATORS: BONE MORPHOGENETIC PROTEINS AND TRANSFORMING GROWTH FACTORS

MO0421 Inkjet-based biopatterning of SDF-1 β augments BMP-2-induced repair of critical size mouse calvarial defects

James Cray*¹, Samuel Herberg², Galina Kondrikova¹, Sudharsan Periyasamy-Thandavan³, R. Nicole Howie¹, Mohammed Elsalanty¹, Lee Weiss⁴, Phil Campbell⁴, William Hill⁵. ¹Georgia Regents University, USA, ²Case Western Reserve University, USA, ³Georgia Regents University & Charlie Norwood VAMC, USA, ⁴Carnegie Mellon University, USA, ⁵Georgia 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 Pathak¹, Astrid D Bakker², Patrick Verschueren³, Willem F Lems⁴, Frank P Luyten³, Jenneke Klein-Nulend*⁵, Nathalie Bravenboer⁶. ¹Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, MOVE Research Institute Amsterdam, Netherlands, ²Department of Oral Cell Biology, Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam & VU University Amsterdam, Netherlands, ³Skeletal Biology & Engineering Research Center, KU Leuven, Belgium, ⁴Department of Rheumatology, VU University Medical Center, MOVE Research Institute Amsterdam, Netherlands, ⁵ACTA-VU University Amsterdam, Dept Oral Cell Biology (Rm # 11N-63), The Netherlands, ⁶VU 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 Huang², Ibtihal Fadhil³, Benoit Ochietti³, Xian Fang Huang³, Anne Camirand³, Richard Kremer². ¹McGill University, Canada, ²McGill University, Royal Victoria Hospital, Canada, ³McGill 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 Shimo¹, Yuki Kunisada*², Naito Kurio³, Masanori Masui², Norie Yoshioka², Soichiro Ibaragi², Tatsuo Okui², Akiyoshi Nishiyama², Akira Sasaki⁴. ¹Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, ²Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, ³Japan, Japan, ⁴Okayama University, Japan
Disclosures: Yuki Kunisada, None
- MO0426 Novel ELISA for the Quantitative Measurement of Free, Bioactive, Soluble RANKL - A New Highly Sensitive Tool for Bone Research**
Andrea Suciu¹, Andreas Breitwieser*². ¹Austria, ²Biomarker Design Forschungs GmbH, Austria
Disclosures: Andreas Breitwieser, None

PARACRINE REGULATORS: WNT SIGNALING

- MO0427 Baseline Bone Density Modulates the Wnt Signaling Pathway in a Murine Kidney Disease Model**
Ryan Clark*¹, Laura Shum¹, Xiaoxin Wang¹, Moshe Levi², Karen King³. ¹University of Colorado, USA, ²University of Colorado Denver, USA, ³University of Colorado School of Medicine, USA
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**
David Bischoff*, Jian-hua Zhu, Nalini Makhijani, Dean Yamaguchi. VA Greater Los Angeles Healthcare System, USA
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 Imel², Mary Ruppe³, Thomas Weber⁴, Mark A. Klausner⁵, Kavita Gumbhir-Shah⁵, Takahiro Ito⁵, Maria Vergeire⁵, Jeffrey S. Humphrey⁵, Francis Glorieux⁶, Anthony Portale⁷, Karl Insogna⁸, Munro Peacock⁹, Thomas Carpenter⁸. ¹Kyowa Hakko Kirin Pharma Inc, USA, ²Indiana University School of Medicine, USA, ³The Methodist Hospital, USA, ⁴Duke University Medical Center, USA, ⁵Kyowa Hakko Kirin Pharma Inc., USA, ⁶Shriners Hospital for Children & McGill University, Canada, ⁷University of California San Francisco, USA, ⁸Yale University School of Medicine, USA, ⁹Indiana 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 osteogenesis imperfecta**
Lynn Mirigian¹, Elena Makareeva¹, Edward Mertz¹, Joseph Perosky², Kenneth Kozloff³, Sergey Leikin*¹. ¹National Institutes of Health, USA, ²University of Michigan, USA, ³University 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 Farber², Aileen Barnes³, Patricia Becerra⁴, Frank Rauch⁵, Wayne A. Cabral³, Alison Bae³, Francis Glorieux⁶, Thomas Clemens⁷, Joan Marini⁸. ¹NIH, USA, ²University of Virginia, USA, ³NIH/NICHD/BEMB, USA, ⁴NIH/NEI/PROTEIN STRUCTURE & FUNCTION SECTION, USA, ⁵Shriners Hospital for Children, Montreal, Canada, ⁶Shriners Hospital for Children & McGill University, Canada, ⁷Johns Hopkins University, USA, ⁸National 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-Silvas², Anupama Pathi², Jingfeng Wu², Viet Le³, Andria Culbert⁴, Kristi Wharton³, Frederick Kaplan⁴, Eileen Shore⁴. ¹Texas A&M University Baylor College of Dentistry, USA, ²TAMU Baylor College of Dentistry, USA, ³Brown University, USA, ⁴University 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 Clarke², Robert D Tiegs², Matthew Tan¹, Peter Byers³, Ching Lin Ho⁴. ¹Osteoporosis & Bone Metabolism Unit, Singapore General Hospital, Singapore, ²Division of Endocrinology, Diabetes, Metabolism & Nutrition, Mayo Clinic, USA, ³Collagen Diagnostic Laboratory, Department of Pathology & Medicine (Medical Genetics), University of Washington, USA, ⁴Glaucoma 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 Stevens¹, Guillaume Vignaux¹, Sasidhar Uppuganti¹, Daniel Perrien², Xiangli Yang¹, Jeffry Nyman², Eva Harth¹, Florent Elefteriou¹.

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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

Filomena Cetani¹, Simona Borsari², Elena Pardi², Brunella Bagattini², Federica Saponaro^{*2}, Claudio Marcocci³. ¹University Hospital of Pisa, Italy, ²Department of Clinical & Experimental Medicine, University of Pisa, Italy, ³University of Pisa, Italy

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'Hiri², Andrew L. Folpe³, Waleed Khan², Christopher Marriott⁴, Chaudhry Aslam², Gavino Perez⁵, Sebastien Hotte⁶, Lach Boleslaw⁷. ¹McMaster University, Canada, ²Oakville Bone Centre, Canada, ³Mayo Clinic, Department of Laboratory Medicine & Pathology, USA, ⁴McMaster University, Department of Nuclear Medicine, Canada, ⁵McMaster University, Department of Internal Medicine, Canada, ⁶McMaster University, Division of Oncology, Department of Medicine, Canada, ⁷McMaster University, Division of Pathology, Department of Medicine, Canada
Disclosures: Aliya Khan, None
- MO0440 Volumetric characteristics of cortical and trabecular bone in patients with acromegaly measured by pQCT.**
 Jorge Malouf^{*1}, Elena Valassi², Iris Crespo², Jaume Llauger³, Ana Marin⁴, Susan Webb². ¹Hospital de la Santa Creu i Sant Pau, Spain, ²Endocrinology department, Hospital Sant Pau, Centro de Investigación Biomédica en Red de Enfermedades Raras, Spain, ³Radiology department, Hospital de la Santa Creu i Sant Pau., Spain, ⁴Internal 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 Min². ¹Samsung Medical Center, Sungkyunkwan University School of Medicine, South Korea, ²Samsung 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 Museyko², Bastian Gerner², Dominique Töpfer², Valérie Danielle Bousson³, Jean-Denis Laredo⁴, Klaus Engelke². ¹University of Erlangen-Nuremberg, Germany, ²University of Erlangen, Germany, ³Service de Radiologie OsteoArticulaire, France, ⁴Service 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 Yang², Omar Velasco¹, Elisabeth Lord¹, Kambiz Khalilinejad¹, Olivia Yue¹, Maxwell Murphy¹, Soyon Kim¹, Min Lee¹, Xinli Zhang³, Kang Ting³, Chia Soo¹. ¹UCLA, USA, ²Sichuan University, China, ³University 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 Sigurdsson², Gunnar Sigurdsson³, Kristin Siggeirsdottir², Vilmundur Gudnason⁴, Tamara Harris⁵. ¹University of California, San Francisco, USA, ²Icelandic Heart Association, Iceland, ³Landspítali, Iceland, ⁴Icelandic Heart Association Research Institute, Iceland, ⁵Intramural Research Program, National Institute on Aging, USA
Disclosures: Thomas Lang, None

- MO0447 Muscular mass (MM) differentiates women with low bone mass (BM) and osteoporotic fractures from those with low BM and no fractures**
 Silvina Mastaglia¹, Alicia Bagur², Beatriz Oliveri³, Carlos Mautalen^{*4}. ¹Laboratorio De Enfermedades Metabólicas Oseas, CONICET-UBA, Argentina, ²Mautalen Salud e Investigacion, Argentina, ³Mautalen, Salud e Investigación, Argentina, ⁴Centro 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 Beattie², Hardik Valand², Laura Pickard², Alexandra Papaioannou³, Jonathan Adachi⁴. ¹McMaster University, University Health Network, Canada, ²McMaster University, Canada, ³Hamilton Health Sciences, Canada, ⁴St. Joseph's Hospital, Canada
Disclosures: Andy Kin On Wong, None
- MO0449 Nutritional Status in Sarco-Osteoporotic Older Persons**
 Ruth Huo^{*1}, Sandra Bermeo², Pushpa Suriyaarachchi³, Piumali Gunawardene³, Odom Demontiero⁴, Gustavo Duque⁵. ¹University of New South Wales, Australia, ²University of Sydney, Australia, ³Ageing Bone Research Program, The University of Sydney, Australia, ⁴The University of Sydney Nepean Clinical School, Australia, ⁵Ageing 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. Inglis¹, Owen J. Kelly², Jasminka Z. Ilich^{*1}. ¹Florida State University, USA, ²Abbott Nutrition, USA
Disclosures: Jasminka Z. Ilich, None
- MO0451 The relationship between bone and muscle and its affecting factors**
 Sangmo Hong^{*1}, Woong Hwan Choi². ¹Hanyang University, South Korea, ²Division 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 Fraser¹, David Monroe², Sundeep Khosla³. ¹Mayo Clinic, USA, ²Mayo Foundation, USA, ³Mayo 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 Shimo¹, Kenichi Matsumoto^{*2}, Naito Kurio³, Tatsuo Okui², Yuu Horikiri², Akira Sasaki⁴. ¹Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sci, Japan, ²Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, ³Japan, Japan, ⁴Okayama 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 Kennedy², Qing Zhong¹, Kehong Ding¹, William Hill³, Xing-Ming Shi¹, Jianrui Xu¹, Wendy Bollag¹, Monte Hunter¹, Mark Hamrick⁴, Carlos Isaacs¹.
¹Georgia Regents University, USA, ²University of Georgia, USA, ³Georgia Regents University & Charlie Norwood VAMC, USA, ⁴Georgia 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 Vallejo², Mark Begonia³, Mark Dallas³, Madoka Spence³, Leticia Brotto³, Marco Brotto¹, Mark Johnson⁴. ¹University of Missouri - Kansas City, USA, ²UMKC, USA, ³University of Missouri-Kansas City, USA, ⁴University 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 Iki², Jun Kitagawa³, Naonobu Takahira³, Junko Tamaki⁴, Yuho Sato⁵, Etsuko Kajita⁶, Sadanobu Kagamimori⁷, Yoshiko Kagawa⁸, Hideo Yoneshima⁹. ¹Kinki University, Japan, ²Kinki University Faculty of Medicine, Japan, ³Kitasato University, Japan, ⁴Osaka Medical College, Japan, ⁵Jin-ai University, Japan, ⁶Nagoya University, Japan, ⁷University of Toyama, Japan, ⁸Kagawa Nutrition University, Japan, ⁹Shuwa 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 Virdi², D. Rick Sumner². ¹Rush Medical College, USA, ²Rush University Medical Center, USA
Disclosures: Meghan Moran, None

- MO0462 Osteogenic Capillaries Spatially Orient Pericapillary Osteoblasts to Direct Endochondral Ossification of the Malleus**
 Ichiro Takada¹, Kouji Shimoda¹, Yoshiaki Kubota¹, Masatsugu Ema², Yoshihiro Takeda³, Nobuhito Nango⁴, Wataru Yashiro⁵, Atsushi Momose⁵, Latifa Bakiri⁶, Erwin Wagner⁶, Koichi Matsuo*¹. ¹School of Medicine, Keio University, Japan, ²Shiga University of Medical Science, Japan, ³Rigaku Corporation, Japan, ⁴Ratoc System Engineering Co., Ltd., Japan, ⁵Tohoku University, Japan, ⁶Spanish National Cancer Research Centre (CNIO), Spain
Disclosures: Koichi Matsuo, None

SKELETAL DEVELOPMENT: GROWTH AND DEVELOPMENT

- MO0463 *Fgfr1* and *Fgfr2* signaling in the osteoprogenitor lineage is essential for skeletal growth and development**
 Kannan Karuppiah*¹, Kai Yu², Craig Smith³, David Ornitz⁴. ¹Washington University School of Medicine in St. Louis, USA, ²Seattle Children's hospital, USA, ³Washington University St. Louis, USA, ⁴Washington University School of Medicine, USA
Disclosures: Kannan Karuppiah, 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-Gomez², Nicole M. Warrington¹, Denise H.M. Heppes², Nicholas J. Timpson³, Ling Oei², Beate St Pourcain³, Claudia J. Kruihof², M. Carola Zillikens², Albert Hofman², André G. Uitterlinden², George Davey Smith³, Vincent W.V. Jaddoe², Jonathan H. Tobias⁴, Fernando Rivadeneira⁵, David M. Evans³. ¹University of Queensland Diamantina Institute, Translational Research Institute, Australia, ²Erasmus University Medical Center, Netherlands, ³MRC Integrative Epidemiology Unit, University of Bristol, United Kingdom, ⁴School of Clinical Sciences, University of Bristol, United Kingdom, ⁵Erasmus 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 Jiang¹, Kang Ting¹, Xuepeng Chen¹, Yanheng Zhou², Chia Soo³, Xinli Zhang¹. ¹University of California, Los Angeles, USA, ²and Hospital of Stomatology, Peking University, China, ³University of California, 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 Ono², Henry Kronenberg¹. ¹Massachusetts General Hospital, USA, ²University 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 Swinehart¹, Daniel Lucas-Alcaraz¹, Aleesa Schlientz¹, Steven Goldstein², Kenneth Kozloff³, Deneen Wellik⁴. ¹University of Michigan, USA, ²University of Michigan Orthopaedic Research Lab, USA, ³University of Michigan Department of Orthopaedic Surgery, USA, ⁴University 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 Lavery¹, Sherry Agellon¹, Catherine Vanstone¹, Jonathon Maguire², Frank Rauch³, Hope Weiler⁴. ¹McGill University, Canada, ²University of Toronto, Canada, ³Shriners Hospital for Children, Montreal, Canada, ⁴McGill 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, Luminox 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 Millipore**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 Horizon™ 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****Southwestern, 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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