ASBMR 2010 Annual Meeting
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Viviana Cremasco
Nuria Lara-Castillo, Ph.D.
Fredrik T.L. Detter, Bach Med.
Eve Donnelly, Ph.D.
Sonia D'Souza, Ph.D.
Alyssa B. Dufour, MA
Karol Estrada, MSc
Kyu Sang Joeng, Ph.D.
Helena Johansson
Daisuke Kajimuram, Ph.D.
Seokho Kim, Ph.D.
Sang Wan Kim, M.D., Ph.D.
Ronald Kwon, Ph.D.
Yongjie Lai, M.D., Ph.D.
Liesbet Lieben, Ph.D.
Gabriel Linares, B.S.
Eva Liu, M.D.
Michelle McDonald, Ph.D.
Tomoko Minamizaki, Ph.D.
Faryal Mirza, MBBS
Ling Oei, M.D., M.A.
Lijuan Pang, M.D.
Janina Patsch, M.D.
Patrick Quint, Ph.D.
Daniel Ranch, M.D.
Ryan Riddle, Ph.D.
Emily Stein, M.D., M.S.
Carmen Streicher, MSc
Joseph A. Tamasi
Yuki Taniguchi, M.D.
Andrew Turner, PhD.
Baoli Wang, M.D., Ph.D.
Yun Wang, M.D., Ph.D.
Keiichiro Watanabe, D.D.S.
Andy Kin On Wong, HBSc
Stacey Woo, D.D.S., Ph.D.
Min-Young Youn, Ph.D.
Fanjie Zeng, Ph.D.
Xianrong Zhang, Ph.D.
Yu Zhou
Qi Zhu, M.D.
Xuming Zhu, Ph.D. Candidate
M. Carola Zillikens, M.D., Ph.D.

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GENERAL MEETING INFORMATION

ASBMR 2010 Annual Meeting Location

All ASBMR sessions will take place in the Metro Toronto Convention Centre/South Building, unless otherwise stated. The Metro Toronto Convention Centre/South Building is located at 222 Bremner Blvd., Toronto, Ontario, Canada. Commuting tip: The city has extended Simcoe Street as a shortcut to the South Building. You do not need to walk through the North Building to get to the South Building when coming from the hotels, simply take Simcoe Street.

Annual Meeting Evaluation

The 2010 Annual Meeting Evaluation will be accessible online starting October 20. An email will be sent to all meeting attendees who provided their email addresses at the time of registration. The email will provide a hyperlink to the online evaluation site. It will also to be accessible via the ASBMR website at www.asbmr.org. We strongly encourage and welcome all attendees to provide us with feedback on the meeting. Your input is very important to us.

Registration Hours

Registration desks will be open for new registrants and material pick-up in the Metro Toronto Convention Centre/South Building on Level 600 during the following hours:

Thursday, October 14	12:00 pm – 6:00 pm
Friday, October 15	7:00 am – 7:00 pm
Saturday, October 16	7:00 am – 5:30 pm
Sunday, October 17	7:30 am – 5:00 pm
Monday, October 18	7:30 am – 5:00 pm

Exhibit Hall Hours

The Exhibit Hall is located on Level 800 in Hall E . Please note that children aged 12 and under are not permitted in the exhibit hall at any time. Lunch will be available for purchase in the hall during Exhibit hours.

Friday, October 15	5:45 pm - 7:00 pm
Saturday, October 16	9:30 am - 4:30 pm
Sunday, October 17	9:00 am - 4:00 pm
Monday, October 18	9:30 am - 4:30 pm

ASBMR Media Office

The ASBMR Media Office will be in operation to facilitate media-related activities during the meeting. The Media Office will be located in Room 802A in the Metro Toronto Convention Centre/South Building.

Media Office - Hours of Operation

Thursday, October 14	2:00 pm - 5:00 pm
Friday, October 15	8:00 am - 5:00 pm
Saturday, October 16	8:00 am - 5:00 pm
Sunday, October 17	8:00 am - 5:00 pm
Monday, October 18	8:00 am - 5:00 pm
Tuesday, October 19	8:00 am - 11:00 am

ASBMR On-site Telephone Numbers

Registration Desk (see hours above)	Tel: (416) 585-3706
Media Office	Tel: (416) 585-3703
Management Office	Tel: (416) 585-3700

Future ASBMR Annual Meeting Dates

ASBMR 2011 Annual Meeting

San Diego Convention Center, San Diego, California, USA
September 16-20, 2011

ASBMR 2012 Annual Meeting

Minneapolis Convention Center, Minneapolis, Minnesota, USA
October 12-16, 2012

ASBMR POLICIES

Copyright

Abstracts submitted to the ASBMR 2010 Annual Meeting and published in the Abstracts Supplement to the *Journal of Bone and Mineral Research* are copyrighted by the American Society for Bone and Mineral Research. Reproduction, distribution, or transmission of the abstracts in whole or in part, by electronic,

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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 (2010 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 videotaped.

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 media, 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 2010 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. (See ASBMR Embargo Policy below).

ASBMR Meeting Content and Embargo Policy

Abstracts submitted to the ASBMR 2010 Annual Meeting are Embargoed - that is, unavailable for public release in written, oral and electronic communications - until one hour *after* the abstract has been presented. 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.

CONTINUING MEDICAL EDUCATION CREDITS

Continuing Medical Education Credits

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

AMA PRA Statement

The *IAHB designates this educational activity for a maximum of 33.75 AMA PRA Category 1 Credits*^{TM}
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 Tuesday, October 19. *Please Note*: There will be a $50 fee per application. This fee can be paid when you register for the Annual Meeting or added

during the Meeting at the Registration Desk. See page xv for hours. Please note, the desk is not open on Tuesday, October 19. Should you have questions regarding the online CME evaluation, contact Jillian Davis at (651) 789-3722 or jillian@cmehelp.com.

Meeting Objectives

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

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

Target Audience

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

Disclosure/Conflict of Interest Statement

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. Within this *On-Site Program* book it is noted 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 will be printed in the program materials. 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.

Disclosures for invited speakers and abstract presenters are provided at the end of the session listing. The disclosure information will correspond to the key above. If disclosures are given, the company name, along with the respective disclosure relationship number will be listed (for example: Company Name 2, 8.)

ANNUAL MEETING RESOURCE MATERIALS

2010 Abstracts Book

The 2010 Abstracts Book is published as a supplement of the *Journal of Bone and Mineral Research* (JBMR). Electronic copies are available on the ASBMR website and via CD-ROM in your delegate bag. Printed copies were only available for those who ordered in advance.

2010 Abstracts Online

Only members and pre-registered Annual Meeting attendees will be able to access the 2010 Abstracts Online Program . This tool can be used to help you search for and review abstract presentations, as well as plan your meeting itinerary.

2010 Abstracts on CD-ROM

Supported by an educational grant from Amgen, Inc.

As a registered meeting attendee, you will receive a copy of the ASBMR 2010 Annual Meeting abstracts on CD-ROM, allowing you the ability to do customized searches and review of abstracts while at the meeting. The Abstracts on CD-ROM will be distributed to attendees in their Annual Meeting delegate bags.

Meet-the-Professor Handout Booklet

Supported by an educational grant from Eli Lilly and Company

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 counters where you receive your delegate bag or to purchase onsite, inquire at the Onsite Registration desk if any additional supplies are available.

Webcasting

Supported by an educational grant from Eli Lilly and Company

The following sessions will be recorded by ASBMR and made available at www.asbmr.org within 30 days of the Annual Meeting:

- Gerald D. Aurbach Lecture – PPARs: Tackling Frailty, Ronald Evans, Ph.D., The Salk Institute
- Louis V. Avioli Lecture - Transcriptional Control of Skeletogenesis, Benoit de Crombrugghe, M.D., M.D. Anderson Cancer Center
- ASBMR/ECTS Clinical Debate – Too Much Suppression of Turnover Is Bad for Bone
- Plenary Symposium I – Osteoimmunology - New Pathways Invading Bone
- Plenary Symposium II –The Hip Fracture Epidemic
- Plenary Symposium III – The Periosteum: An Organizer for Bone Formation and Regeneration
- Clinical Roundtable/Case Conference – Clinical Utility of Genetic Testing – Application to Parathyriod Disorders
- Clinical Roundtable/Case Conference - Disorders of Phosphate Metabolism
- Clinical Roundtable/Case Conference - Secondary Causes of Osteoporosis
- ASBMR/ISCD/NOF Symposium on Osteonecrosis of the Jaw (ONJ): What Have We Learned?

ADDITIONAL RESOURCES

Internet Access

The ASBMR Internet Lounges located in the Exhibit Hall will be open as follows:

Friday, October 15	5:45 pm – 7:00 pm
Saturday, October 16	8:00 am – 6:00 pm
Sunday, October 17	8:00 am – 6:00 pm
Monday, October 18	8:00 am – 4:30 pm

When ASBMR lounges are not open, wireless internet access is available on the 600 Level of the Metro Toronto Convention Centre for a fee. The wireless rates for the Level 600 lobby are $4.95 for 1 hour; $6.95 for 2 hours; or $9.95 for 4 hours.

Childcare Services

ASBMR makes no endorsement of any providers and accepts no liability should you employ child-care services while in Toronto. Below are services to contact for child-care services. Please note: Children under 12 years of age are not permitted in any ASBMR meeting, session rooms or Exhibit/Poster Hall at any time. ImprovCare Services for Children provides child care in your hotel room. Contact them at +1(647) 287-5433 or dahla@improvcare.ca, url: or www.improvcare.ca for more information. Your hotel concierge will also be able to provide you with the name and phone number of their preferred child care services.

Wheelchairs

Scooter and wheelchair rentals are available by contacting Scootaround, Inc., at their toll-free hotline: (888) 441-7575. You can also submit a rental inquiry on the web at www.scootaround.com.

Shuttle Service to the Airport

Discounted Airport Shuttle Service

Use the ASBMR discount for the Airport Express Shuttle between Toronto's Pearson Airport and the downtown hotels including the ASBMR official hotels: Fairmont Royal York, InterContinental Toronto Centre, Sheraton Centre and the Westin Harbor Castle Hotel. Shuttles depart from the hotels every 20-30 minutes from 4:00 am until 11:45 pm daily. Leather seating, WiFi capability and laptop plug-ins offer you business class service to ensure your transport time is most productive. For more information or to make your Airport Express Shuttle reservation visit http://torontoairportexpress.hudsonltd.net/res. When on page, type in "ASBMR" as your group ID. Or you can contact them by phone at +1(800)387-6787 or via email at info@torontoairportexpress.com.

Special Notices and Safety Tips

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

ASBMR NETWORKING CENTER

NEW THIS YEAR!!!

The ASBMR Networking Center provides a central gathering place for people and resources to converge in conversations and other communications. The Center, located at the base of the 1400 aisle in the Exhibit Hall and provides a place to:

- Check your email through either the desktop computers in the **Cyber Café** or on your own laptop in the **WiFi Lounge**
- 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)**, Center for Scientific Review **(CSR)** or the Canadian Institutes of Health Research-Institute of Musculoskeletal Health and Arthritis **(CIHR-IMHA)** 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 Exhibit 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 Metro Toronto Convention Centre/South Building and will be prepared to accept 2011 ASBMR membership renewal payments.

ASBMR Career Center

Held every year at the Annual Meeting, the ASBMR Career Center provides services designed to facilitate communication between hiring institutions and job candidates. The ASBMR Career Center is a part of the ASBMR Networking Center located in the Exhibit Hall. A valuable source for employers and candidates, the ASBMR Career Center features the most up-to-date job listings, candidate credentials for review, a message center and interview rooms. Announce your open position in a cost effective way to reach a diverse group of qualified candidates or find an opportunity to present your skills and expertise anytime. The ASBMR Career Center is easily accessible year-round online at www.asbmr.org.

Poster Tours

The 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 to assist attendees to navigate the science within the poster hall. Participants can choose between a tour focused on either basic or clinical science. The tours will begin at the ASBMR Networking Center located in the Exhibit Hall. Each tour will last approximately 60 minutes and will be lead by a member of the ASBMR. Tour availability will be offered on a first-come, first-served basis – no additional charge is required. The poster tour schedule is as follows:

Poster Session	Tour Start Time	Start Location
Poster Session I: Saturday, October 16, 2010	12:00 noon – 1:00 p.m.	ASBMR Networking Center
Poster Session II: Sunday, October 17, 2010	11:30 a.m. – 12:30 p.m.	ASBMR Networking Center
Poster Session III: Monday, October 18, 2010	12:00 noon – 1:00 p.m.	ASBMR Networking Center

NIH and CIHR-IMHA Lounges

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

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

Young Investigator Lounge

All young investigator attendees are invited to drop by the Young Investigator Lounge located in the ASBMR Networking Center in the Exhibit 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 715A on Level 700 of the Metro Toronto Convention Centre/South Building. Review of slides must occur at least 24 hours prior to your presentation. The Speaker Ready Room will be open during the following times:

Speaker Ready Room Hours

Thursday, October 14	9:00 am - 5:00 pm
Friday, October 15	7:00 am - 5:30 pm
Saturday, October 16	7:00 am - 5:30 pm
Sunday, October 17	7:00 am - 5:30 pm
Monday, October 18	7:00 am - 5:30 pm
Tuesday, October 19	7:00 am - 11:00 am

Speaker Lounge

The Speaker Lounge will be located in Room 715B of the Metro Toronto Convention Centre/South Building. 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. The room will be equipped with computers, copier, phone lines, internet access, snacks and beverages, sofas and chairs. The Speaker Lounge will be available from Friday, October 15 to Monday, October 18, from 7:00 am to 4:00 pm.

Poster Sessions

All poster sessions will be held in Hall E on Level 800 of the Metro Toronto Convention Centre/South Building. 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 Exhibit Hall at any time.

Presenter Check-in:

Since only poster presenters are allowed in the Exhibit/Poster 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 D on Level 800 to receive a security pass. To speed the check-in process, please have your poster board number ready.

- **NOTE: Posters remaining after Poster Dismantling times will be discarded.**
- **Young Investigator Award Posters remain up through Monday, October 18 at 4:30 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, Oct. 15 Welcome Reception/Plenary Poster Session			
3:00 pm–4:45 pm	5:45 pm–7:00 pm	5:45 pm–7:00 pm Plenary Posters & YIA Posters ONLY	Do not dismantle
Saturday, Oct. 16 Poster Session I			
7:30 am–8:00 am	8:00 am–6:00 pm	11:30 a.m. - 1:30 p.m. (Includes plenary, YIA and Saturday poster presenters)	6:00 pm–6:30 pm Saturday Posters Plenary Posters
Sunday, Oct. 17 Poster Session II			
7:30 am–8:00 am	8:00 am–6:00 pm	11:00 a.m. - 1:00 p.m. (All Sunday poster presenters)	6:00 pm–6:30 pm Sunday Posters
Monday, Oct. 18 Poster Session III			
7:30 am–8:00 am	8:00 am–4:30 pm	11:30 a.m. - 1:30 p.m. (All Monday poster presenters)	4:30 pm-5:00 pm Monday Posters YIA Award Posters

Welcome Presenters, Attendees and Invited Guests to the ASBMR 2010 Annual Meeting!

A very special thanks to Program Committee Co-Chairs Dolores Shoback and Vicki Rosen and ASBMR staff organizer Angela Cangemi for an outstanding program to be enjoyed by all. Sincere gratitude is extended to the many ASBMR members who participated at different levels for making the meeting possible – the abstract reviewers, Symposium moderators, session co-chairs, the President's poster competition judges, the numerous Committees (Ancillary Program, Education, Membership Development and Women's Committees) as well as the Working Groups, and of course the ASBMR staff members. Their activities enrich the social and scientific content of the meeting and add to the excitement of being a part of ASBMR.

Reflections on Planning the Annual Meeting

We set out to bring to the membership the scientific discoveries being addressed by our field today and information on new directions that the bone field is expanding towards. Our keynote speakers fulfill these goals. Dr. Ronald Evans (The Salk Institute) paves the way, leading to new depths of understanding the complexity of tissue metabolism that affects the skeleton. Dr. Benoit de Crombrugghe gives us, through his studies on cartilage and bone development, a rich history of discoveries that explain mechanisms of diseases and provides new frontiers for translational research in the bone field. One of our goals for the scientific program was to cover all aspects of bone biology and pathology, osteoporosis and metabolic bone diseases. To do this, our symposium sessions have a distinct character in that the three talks will cover different aspects of a broader topic. For example, in the "Tissue Crosstalk" symposium, you will hear about bone-muscle interactions, bone-cartilage signaling and bone-vascular connections. The session "Treating Osteoporosis in the 21st Century" covers a spectrum of emerging therapies and molecular targets for new therapies that will bring the membership the most up-to-date knowledge on the progress in the field. A challenging component of the meeting was organizing the highest scoring abstracts into themes for the concurrent oral programs. These sessions reflect the heartbeat of ongoing research by ASBMR members, revealing new insights into bone biology and pathology, We also wanted to provide resources for trainees, young investigators, newly appointed assistant professors, as well as the senior investigators who are training the young investigators. Our line up of topics and speakers for the Meet-the- Professors and Clinical Round Table sessions is one of the many venues for hearing from the experts. Another important goal was to bring both established leaders in the field and new faces, new investigators and practitioners, from our membership to the symposium sessions, as chairs in the concurrent oral sessions and participating in the new events in Toronto. The ASBMR has gained strength over the years as an organization in which the senior leadership realizes that all of us benefit by providing opportunities for the next generation of scientists to become leaders in the bone field and in our Society.

Highlighting Abstracts in Special Events

The submitted abstracts reflect the new directions of the bone field and the Program Committee has organized them into some very exciting sessions for communicating the new work and discussing it at our Annual Meeting. The program we have planned covers the depths of bone biology, and emerging clinical and translational science that truly represents the outstanding science that defines our Society. There will be ample time for exploring and appreciating all the posters with a protected time block without interruption from conflicting sessions. This year, two new venues are being debuted that highlight poster presentations. For the high scoring plenary posters, two clinical and two basic "short oral poster presentation" sessions are planned prior to the Welcome Reception and Plenary Poster Session to kick off the meeting's opening night. To also create a lively focus during the Poster Sessions, we are recognizing Young Investigators by giving them the opportunity to receive one of numerous Presidential Poster Competition Awards – one for each poster category on all days. Judges will be walking the poster floor and selecting winners based on the quality of their discussions and the data embodied in their posters. This venue is yet another way for young investigators to interact with more senior members who have advanced their own careers through presentations and attendance of ASBMR meetings. The recipients of the Presidential Poster Awards will be announced at the meeting on the day following the competition and will receive an Award Certificate.

New in Toronto

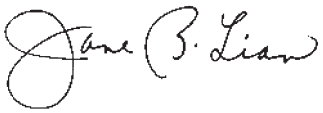
Physician Outreach: ASBMR has many responsibilities as a Society to not only support the needs of its members, but to communicate the impact of our science and clinical studies to the public, particularly to clinicians in practice who look to leadership societies such as ASBMR to provide them the information for making those decisions that are needed to take care of their patients. An ASBMR Task Force on Clinician Outreach developed the concept of bringing more practicing clinicians to our meeting to better understand the many aspects of bone pathologies and the latest science driving important clinical diagnostic and therapeutic considerations. As a result, you are likely to see new faces at the ever popular Meet-the-

Professor sessions and Clinical Roundtables on Saturday and Sunday, and on specially organized poster tours for clinicians.

Travel Grants: As part of its mission, the ASBMR seeks to support Young Investigators by offering funding opportunities that are of greatest benefit to them in the early-stages of their careers. This year the ASBMR will provide $500 travel grants to more than 150 Young Investigators who were selected to present an oral or plenary poster presentation at the Annual Meeting. As many established laboratories are sending more than one Young Investigator, and many attendees travel from far away, we feel this will help many. The Program Committee and the Society were very happy to see that a high percentage of the highest scoring abstracts were submitted by Young Investigators. So again, congratulations to all who are presenting their work at the Annual Meeting in Toronto.

Last Day Events:
Several controversial topics related to the skeleton, that affect general health care, have surfaced more than ever this past year. The Program Committee has organized three special symposia with invited guest speakers to address issues related to the need for vitamin D in multiple organ systems, the incidence and managing of patients with osteonecrosis of the jaw and the advances in stem cell biology that offer promise for therapeutic applications. These Symposia are complemented by Concurrent Oral Sessions earlier in the morning leading us to new directions.

Enjoy the Meeting!



Jane B. Lian, Ph.D.
ASBMR President

Wednesday, October 13, 2010

ANCILLARY PROGRAM - THE INTERNATIONAL SOCIETY FOR CLINICAL DENSITOMETRY (ISCD)

ISCD: BONE DENSITOMETRY COURSE – CLINICIAN ONLY

8:00 am - 6:15 pm **Sheraton City Centre: Essex Ballroom**

ISCD courses require separate fees and registration.

7:30 am - 8:00 am
ISCD Bone Densitometry Course Registration

8:00 am - 6:15 pm
ISCD Bone Densitometry Course: Clinician Course
- Lectures 1-8

Thursday, October 14, 2010

ISCD: BONE DENSITOMETRY COURSE - CLINICIAN ONLY

8:00 am - 11:00 am **Sheraton City Centre: Essex Ballroom**

ISCD courses require separate fees and registration.

7:30 am - 8:00 am
ISCD Bone Densitometry Course Check-In

8:00 am - 11:00 am
ISCD Bone Densitometry Course: Clinician Course
- Lectures 9&10

ASBMR REGISTRATION OPEN

12:00 pm - 6:00 pm **Metro Toronto Convention Centre/South Building**
South Building: Level 600

FRIDAY, OCTOBER 15, 2010

DAY-AT-A-GLANCE

Time/Event/Location — **All locations in the Metro Toronto Convention Centre/South Building**

7:00 am - 7:00 pm 4
Registration Open
South Building: Level 600

9:00 am - 11:00 am 4
Plenary Symposium I: Osteoimmunology - New Pathways Invading Bone
South Building: Hall G

11:00 am - 12:00 pm 4
Meet-the-Professor Sessions
South Building: Rooms 703-711

11:00 am - 12:00 pm 5
Grant Writing Workshop: Show Me the Money!
South Building: Room 714AB

11:00 am - 1:00 pm 6
Special Session for Health Professionals
South Building: Room 801AB

12:00 pm - 1:30 pm 6
Symposium - Bone and Kidney: A Dangerous Relationship
South Building: Hall F

12:00 pm - 1:30 pm 7
Symposium - Tissue Crosstalk in the Developing Skeleton
South Building: Hall G

1:45 pm - 3:15 pm 7
Symposium - Treating Osteoporosis In the 21st Century
South Building: Hall F

1:45 pm - 3:15 pm 8
Symposium - Tumor Cell Signaling to Bone
South Building: Hall G

3:30 pm - 3:40 pm 8
Welcome and Announcements
South Building: Hall G

3:40 pm - 3:45 pm 8
Presentation of the ASBMR William F. Neuman Award
South Building: Hall G

3:45 pm - 4:45 pm 8
ASBMR/ECTS Clinical Debate - Too Much Suppression of Turnover Is Bad for Bone
South Building: Hall G

3:45 pm - 4:45 pm 9
Meet-the-Professor Sessions
South Building: Rooms 707-711

5:00 pm - 5:45 pm 9
Oral Poster Session: Osteoporosis: How Do Treatments Work?
South Building: Hall G

5:00 pm - 5:45 pm 10
Oral Poster Session: Signaling Pathways in Mouse Models
South Building: Room 716AB

5:00 pm - 5:45 pm 11
Oral Poster Session: Bone Cell Biology & Physiology
South Building: Room 801AB

5:00 pm - 5:45 pm 12
Oral Poster Session: Bone Gains and Losses
South Building: Hall F

5:45 pm - 7:00 pm 13
Posters and Exhibits Open
South Building: Hall E

5:45 pm - 7:00 pm 13
New Investigator/ New Member/ First-time Attendee Reception
South Building: Hall E

5:45 pm - 7:00 pm 13
Minority Investigator Reception
South Building: Hall E

5:45 pm - 7:00 pm 13
Welcome Reception and Plenary Poster Session
South Building: Hall E

7:15 pm - 9:15 pm 36
In Vivo Working Group
South Building: Room 714AB
Ticket Required

7:15 pm - 9:15 pm 36
Non-Invasive Assessment of Bone Microarchitecture and Function Working Group
South Building: Room 716AB
Ticket Required

7:15 pm - 9:30 pm 37
Pediatric Bone and Mineral Working Group
South Building: Room 701A
Ticket Required

7:15 pm - 9:30 pm 38
Bone Turnover Marker Working Group
South Building: Room 717AB
Ticket Required

7:15 pm - 9:45 pm 38
Working Group on Skeletal Aging
South Building: Room 701B
Ticket Required

7:15 pm - 10:00 pm 39
Nutrition and Bone Health Working Group
South Building: Room 803AB
Ticket Required

8:00 pm - 10:00 pm 39
Special Event: Speed Networking
Fairmont Royal York Hotel: Canadian Ballroom
Ticket Required

REGISTRATION OPEN

7:00 am - 7:00 pm **South Building: Level 600**

PLENARY SYMPOSIUM I: OSTEOIMMUNOLOGY - NEW PATHWAYS INVADING BONE

Supported by an educational grant from Eli Lilly and Company

9:00 am - 11:00 am **South Building: Hall G**

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

Ellen M. Gravallese, M.D.
University of Massachusetts Medical School, USA
Disclosures: Ellen Gravallese, Biogen Idec 2; Abbott, Inc 5

9:00 am **Introduction - Overview of the Field of Osteoimmunology**
Joseph Lorenzo, M.D.
University of Connecticut Health Center, USA
Disclosures: Joseph Lorenzo, None

9:15 am **Positive and Negative Regulators of Osteoclast Differentiation**
Hiroshi Takayanagi, M.D., Ph.D.
Tokyo Medical and Dental University, Japan
Disclosures: Hiroshi Takayanagi, None

9:45 am **Cytokines and NF-kappa B: Links Between Osteo-immune Cells and Diseases Affecting the Skeleton**
Brendan F. Boyce, M.D.
University of Rochester Medical Center, USA
Disclosures: Brendan Boyce, Kinex 2

10:15 am **Introduction - Overview of Inflammatory Arthritis and Bone**
Ellen M. Gravallese, M.D.
University of Massachusetts Medical School, USA
Disclosures: Ellen Gravallese, Biogen Idec 2; Abbott, Inc 5

10:30 am **Induction and Regulation of Inflammatory Bone Loss In Arthritis**
Georg Schett, M.D.
Friedrich-Alexander University Medical School, France
Disclosures: Georg Schett, None

MEET-THE-PROFESSOR SESSIONS

11:00 am - 12:00 pm **South Building: Rooms 703-711**

Biglycan Signaling Regulates Chondrogenesis In Disease
South Building: Room 706
Marian F. Young, Ph.D.
National Institutes of Health, USA
Disclosures: Marian Young, None

Eph Signaling in Bone
South Building: Room 704
Natalie A. Sims, Ph.D.
St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie Sims, None

Genetics of Bone Loss, Determinants of BMD and Fractures
South Building: Room 705

Supported by an educational grant from Eli Lilly and Company
Douglas P. Kiel, M.D., MPH
Hebrew SeniorLife, USA
Disclosures: Douglas Kiel, None

Osteoporosis and Hip Fracture in Asia-How to Rise up to this Challenge?
South Building: Room 709

Edith Lau, M.D.
Hong Kong Orthopaedic and Osteoporosis Center for Treatment and Research, China
Disclosures: Edith Lau, None

Primary Hyperparathyroidism: Diagnosis and Management Issues
South Building: Room 707

David Goltzman, M.D.
McGill University Health Centre, Canada
Disclosures: David Goltzman, Lilly 5; Merck 5; Amgen 5; Novartis 5; Genzyme 5

Stem Cells: What Are They and What is Their Potential for Treating Skeletal Disorders
South Building: Room 711

Pamela G. Robey, Ph.D.
National Institute of Dental and Craniofacial Research, USA
Disclosures: Pamela Robey, None

TGF-b and Bone Remodeling
South Building: Room 703

Xu Cao, Ph.D.
Johns Hopkins University, USA
Disclosures: Xu Cao, None

GRANT WRITING WORKSHOP: SHOW ME THE MONEY!

Co-Sponsored by the ASBMR Membership Development and Education Committees

11:00 am - 12:00 pm **South Building: Room 714AB**

U.S. and international investigators at all career levels are urged to attend this interactive forum which will include grant-writing fundamentals, grant submission strategies, and an ''insider's perspective'' on winning NIH grants. This session is a can't miss opportunity for anyone writing a research grant or wanting to gain invaluable insight into the grant writing process.

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

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

11:00 am Short and Sweet: Selling Your Science in 12 Pages
Jane E. Aubin, Ph.D.
University of Toronto Faculty of Medicine, Canada
Disclosures: Jane Aubin, None

11:20 am Getting Your First Grant: Tips for New Investigators
Jennifer J. Westendorf, Ph.D.
Mayo Clinic, USA
Disclosures: Jennifer Westendorf, None

11:35 am An Update on NIH Peer Review from the Scientists Perspective
Larry J. Suva, Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Larry Suva, None

Q&A - Panelist Discussion: Speakers and Joan McGowan, Ph.D., National Institute of Arthritis, Musculoskeletal & Skin Disease

SPECIAL SESSION FOR HEALTH PROFESSIONALS

Dedicated to the life and memory of Lawrence G. Raisz, M.D.

11:00 am - 1:00 pm **South Building: Room 801AB**

This special 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/or those seeking guidance in navigating through the extensive ASBMR program.

Co-Chairs
Diane C. Krueger, CCRC, CDT
University of Wisconsin, Madison, USA
Disclosures: Diane Krueger, None

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

Betsy C. McClung, R.N., M.N.
Oregon Osteoporosis Center, USA
Disclosures: Betsy McClung, None

11:00 am **Overview of the ASBMR 2010 Annual Meeting**
John Bilezikian, M.D.
Columbia University College of Physicians & Surgeons, USA
Disclosures: John Bilezikian, None

Roland Baron, M.D.
Harvard School of Dental Medicine, USA
Disclosures: Roland Baron, None

12:00 pm **Bone Structure in Health and Disease**
David W. Dempster, Ph.D.
Columbia University, USA
Disclosures: David Dempster, Merck 5; NPS Pharma 5; Lilly 8; Amgen 5; GSK-Roche 8

12:30 pm **The Science and Art of Osteoporosis**
Michael R. McClung, M.D.
Oregon Osteoporosis Center, USA
Disclosures: Michael McClung, Amgen 8; Amgen 2; Amgen 5

SYMPOSIUM - BONE AND KIDNEY: A DANGEROUS RELATIONSHIP

12:00 pm - 1:30 pm **South Building: Hall F**

Co-Chairs
Susan M. Ott, M.D.
University of Washington Medical Center, USA
Disclosures: Susan Ott, None

Justin Silver, M.D., Ph.D.
Hadassah Hospital, Israel
Disclosures: Justin Silver, Amgen 2

12:00 pm **Recharacterization of the CKD:MBD - Its Early Stages**
Katherine Wesseling, M.D.
UCLA Medical Center, USA
Disclosures: Katherine Wesseling, Genzyme 9

12:30 pm **The Role of Vitamin D and Calcitriol in the CKD:MBD: Are We Overdosing Vitamin D Receptor Analogues?**
Keith A. Hruska, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Keith Hruska, Genzyme 5

1:00 pm **Noninvasive Assessment of Bone Quality In CKD-MBD**
Mary B. Leonard, M.D.
Children's Hospital of Philadelphia, USA
Disclosures: Mary Leonard, None

SYMPOSIUM - TISSUE CROSSTALK IN THE DEVELOPING SKELETON

12:00 pm - 1:30 pm **South Building: Hall G**

Co-Chairs
Maurizio Pacifici, Ph.D.
Thomas Jefferson University, USA
Disclosures: Maurizio Pacifici, None

Karen M. Lyons, Ph.D.
University of California, Los Angeles, USA
Disclosures: Karen Lyons, NIH 2

12:00 pm **The Mechanisms That Underlie the Three-dimensional Morphology of Long Bones**
Eli Zelzer, Ph.D.
Weizmann Institute, Israel
Disclosures: Eli Zelzer, None

12:30 pm **Hypoxia Sensing in Cartilage and Bone Development**
Ernestina Schipani, M.D., Ph.D.
Massachusetts General Hospital and Harvard Medical School, USA
Disclosures: Ernestina Schipani, None

1:00 pm **Co-regulation of Osteoblast Differentiation and Cartilage Vascularization During Endochondral Bone Development**
Fanxin Long, Ph.D.
Washington University School of Medicine, USA
Disclosures: Fanxin Long, None

SYMPOSIUM - TREATING OSTEOPOROSIS IN THE 21ST CENTURY

1:45 pm - 3:15 pm **South Building: Hall F**

Co-Chairs
Suzanne M. Jan De Beur, M.D.
Johns Hopkins University, USA
Disclosures: Suzanne Jan De Beur, None

Serge Livio Ferrari, M.D.
Geneva University Hospital and Faculty of Medicine, Switzerland
Disclosures: Serge Ferrari, MSD 2; Servier 5; SANOFI - WArner Chilcott- The Alliance 5; AMGEN 5; Novartis 5

1:45 pm **PTH and Skeletal Anabolism**
Robert A. Nissenson, Ph.D.
University of California, San Francisco, USA
Disclosures: Robert Nissenson, None

2:15 pm **Sclerostin: From Gene Discovery to Bone Building Antibodies**
Chris Paszty, Ph.D.
Amgen, Inc., USA
Disclosures: Chris Paszty, Amgen Inc. 3; Amgen Inc. 1

2:45 pm **Matching Treatments with Disease Mechanisms for an Aging Population**
Stavros C. Manolagas, M.D., Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Stavros Manolagas, Radius Health Inc. 1; Radius Health Inc. 5

SYMPOSIUM - TUMOR CELL SIGNALING TO BONE

Dedicated to the life and memory of Gregory R. Mundy, M.D.

1:45 pm - 3:15 pm **South Building: Hall G**

Co-Chairs
Toshiyuki Yoneda, D.D.S., Ph.D.
Osaka University Graduate School of Dentistry, Japan
Disclosures: Toshiyuki Yoneda, None

Katherine N. Weilbaecher, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Katherine Weilbaecher, None

1:45 pm **Src Signaling in Cancer**
Anna Teti, Ph.D.
University of L'Aquila, Italy
Disclosures: Anna Teti, None

2:15 pm **Controlling Morphogenetic Responses in Cancer**
Jeff Wrana, Ph.D.
Samuel Lunenfeld Research Institute, Canada
Disclosures: Jeff Wrana, None

2:45 pm **The Nuclear Microenvironment In Cancer Progression**
Gary S. Stein, Ph.D.
University of Massachusetts Medical School, USA
Disclosures: Gary Stein, None

WELCOME AND ANNOUNCEMENTS

3:30 pm - 3:40 pm **South Building: Hall G**

PRESENTATION OF THE ASBMR WILLIAM F. NEUMAN AWARD

3:40 pm - 3:45 pm **South Building: Hall G**

ASBMR/ECTS CLINICAL DEBATE - TOO MUCH SUPPRESSION OF TURNOVER IS BAD FOR BONE

3:45 pm - 4:45 pm **South Building: Hall G**

Co-Chairs
Socrates Papapoulos, M.D.
Leiden University Medical Center, The Netherlands
Disclosures: Socrates Papapoulos, Lilly 5; Wyeth 5; Roche/GSK 5; Merck & Co 5; Novartis 5; Alliance for Better Bone Health 5; Amgen 5

Douglas C. Bauer, M.D.
University of California, San Francisco, USA
Disclosures: Douglas Bauer, Amgen 5; Novartis 2; Amgen 2; Merck 5

Debaters:
Richard Eastell, M.D., FRCP
University of Sheffield, United Kingdom
Disclosures: Richard Eastell, Novartis 5; Unilever 5; Amgen 2; Unilever 2; Procter and Gamble 2; Ono 5; sanofi aventis 2; Amgen 5; Fonterra 5; Unipath 5

Ian R. Reid, M.D., MBChB
University of Auckland, New Zealand
Disclosures: Ian Reid, Merck 2; Novartis 5; Procter & Gamble 2; Merck 5; Amgen 2; Novartis 2; Amgen 5

MEET-THE-PROFESSOR SESSIONS

3:45 pm - 4:45 pm **South Building: Rooms 707-711**

BAC Recombineering - Gene Engineering
South Building: Room 709
Douglas P. Mortlock, Ph.D.
Vanderbilt University Medical Center, USA
Disclosures: Douglas Mortlock, None

How To Best Define Mineral Properties
South Building: Room 711
Adele L. Boskey, Ph.D.
Hospital for Special Surgery, USA
Disclosures: Adele Boskey, Skelescan 9

Tutorial on Using Human Tissue for Research
South Building: Room 707
Julie Glowacki, Ph.D.
Brigham and Women's Hospital, USA
Disclosures: Julie Glowacki, None

ORAL POSTER SESSION: OSTEOPOROSIS: HOW DO TREATMENTS WORK?

5:00 pm - 5:45 pm **South Building: Hall G**

Moderators:
Nancy Lane, M.D.
University of California, Davis Medical Center, USA
Disclosures: Nancy Lane, None

Meryl S. Leboff, M.D.
Brigham and Women's Hospital, USA
Disclosures: Meryl Leboff, None

5:05 pm FR0408 **Effects of the Cathepsin K Inhibitor, ONO-5334, on BMD as Measured by 3D QCT in the Hip and the Spine After 12 Months Treatment**
Klaus Engelke*[1], Shinichi Nagase[2], Thomas Fuerst[3], Richard Eastell[4], Harry Genant[5], Maria Small[2], Tomohiro Kuwayama[2], Steve Deacon[2]. [1]University of Erlangen, Germany, [2]ONO PHARMA UK LTD, United Kingdom, [3]Synarc, Inc., USA, [4]University of Sheffield, United Kingdom, [5]UCSF/Synarc, USA
Disclosures: Klaus Engelke, ONO PHARMA UK LTD, 5; Ono Pharmaceutical Co., Ltd., 5

5:10 pm FR0410 **Hip QCT Results From the FREEDOM Trial: Evidence for Positive BMD/BMC Changes in Integral, Trabecular, and Cortical Bone With Denosumab**
Harry Genant*[1], Klaus Engelke[2], Jose Ruben Zanchetta[3], Arne Hoiseth[4], Chui Kin Yuen[5], Sigitas Stonkus[6], Michael Bolognese[7], Edward Franek[8], Thomas Fuerst[9], Hoi-Shen Radcliffe[10], Cesar Libanati[11], Michael McClung[12]. [1]UCSF/Synarc, USA, [2]Synarc, Germany, [3]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [4]Curato Røntgen, Norway, [5]Manitoba Clinic, Canada, [6]Kaunas University of Medicine, Lithuania, [7]Bethesda Health Research, USA, [8]Central Clinical Hospital MSWiA, Poland, [9]Synarc, Inc., USA, [10]Amgen Inc, United Kingdom, [11]Amgen Inc, USA, [12]Oregon Osteoporosis Center, USA
Disclosures: Harry Genant, Amgen, Merck, GSK, Roche, Servier, BMS, Lilly, 8; Synarc, 1; Amgen, Merck, GSK, Roche, Servier, BMS, Lilly, 5

5:15 pm FR0030 **Bone Density and Structure of Patients on Bisphosphonates with Atypical Femur Fractures**
Angela Cheung*[1], Jonathan Adachi[2], Robert Josse[3], Robert Bleakney[4], Christian Viellette[1], Aliya Khan[5], Moira Kapral[1], Sophie Jamal[6], Heather McDonald-Blumer[7], Earl Bogoch[8]. [1]University Health Network, Canada, [2]St. Joseph's Hospital, Canada, [3]St. Michael's Hospital, University of Toronto, Canada, [4]Mt. Sinai Hospital, Canada, [5]McMaster University, Canada, [6]The University of Toronto, Canada, [7]Mount Sinai Hospital, Canada, [8]St. Michael's Hospital, Canada
Disclosures: Angela Cheung, Amgen, 2; Merck, 2; Novartis, 2; Sanofi-Aventis, 2; Eli Lilly, 2

5:20 pm **Questions**

5:25 pm FR0377 **Does Anabolic Therapy Correct the Homogeneity In Bone Composition Associated With Osteoporosis?**
Adele Boskey*[1], Lyudmila Spevak[1], David Dempster[2], Anthony Hodsman[3]. [1]Hospital for Special Surgery, USA, [2]Columbia University, USA, [3]St. Joseph's Health Care, Canada
Disclosures: Adele Boskey, None

5:30 pm FR0376 **Comparison of Transdermal and Subcutaneous Teriparatide Pharmacokinetics and Pharmacodynamics of Bone Markers in Postmenopausal Women**
Yael Kenan[1], Efrat Kochba[1], Michal Shahar[1], Hana Gadasi[1], Galit Levin[1], Ajit Suri[2], Kyoungah See[2], A. Joseph Foldes[3], Sophia Ish-Shalom*[4], Toshio Matsumoto[5], Robert Lindsay[6], Claus Christiansen[7], Robert Neer[8]. [1]TransPharma-Medical, Israel, [2]Eli Lilly & Company, USA, [3]Hadassah-Hebrew University Medical Center, Israel, [4]Rambam Health Care Campus, Technion Faculty of Medicine, Israel, [5]University of Tokushima Graduate School of Medical Sciences, Japan, [6]Helen Hayes Hospital, USA, [7]Nordic Bioscience, Denmark, [8]Massachusetts General Hospital, USA
Disclosures: Sophia Ish-Shalom, TransPharma-Medical, 1; TransPharma-Medical, 3

5:35 pm FR0425 **Sclerostin Antibody Treatment Enhances Fracture Healing and Increases Bone Mass and Strength in Non-fractured Bones in an Adult Rat Closed Femoral Fracture Model**
CY Li*, HL Tan, M Barrero, E Lee, FJ Asuncion, MS Ominsky, HZ Ke. Amgen Inc, USA
Disclosures: CY Li, Amgen Inc., 1; Amgen Inc., 3

5:40 pm **Questions**

ORAL POSTER SESSION: SIGNALING PATHWAYS IN MOUSE MODELS

5:00 pm - 5:45 pm **South Building: Room 716AB**

Moderators:
Mark C. Horowitz, Ph.D.
Yale University School of Medicine, USA
Disclosures: Mark Horowitz, None

Barbara Kream, Ph.D.
University of Connecticut Health Center, USA
Disclosures: Barbara Kream, None

5:05 pm FR0232 **G Proteins Differentially Regulate Wnt/β-catenin Signaling in Skeletal Development and Disease**
Jean Regard*[1], Michael Collins[1], Pamela Robey[2], Lee Weinstein[3], Yingzi Yang[4]. [1]National Institutes of Health, USA, [2]National Institute of Dental & Craniofacial Research, USA, [3]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [4]NIH/NHGRI, USA
Disclosures: Jean Regard, None

5:10 pm FR0119 **Mechanistic Insights into the Dysregulation of PTH Secretion in Hyperparathyroidism: In Vivo Analysis and In Vitro Studies in Parathyroid Glands**
Wenhan Chang*[1], Tsui-Hua Chen[1], Nathan Liang[1], Christopher Dinh[1], Viet Pham[1], Hanson Ho[1], Zhiqiang Cheng[1], Chia-Ling Tu[1], Dolores Shoback[2]. [1]University of California, San Francisco, USA, [2]VA Medical Center, USA
Disclosures: Wenhan Chang, None

5:15 pm FR0103 **Contrasting Osteogenic Response to Mechanical Stimulation Between C57BL/6J and C3H/HeJ Inbred Mice Is In Part Due to Genetic Variations in the Leptin Receptor, Which is a Negative Bone Mechanosensitivity Modulating Gene**
Kin-Hing William Lau*[1], Sonia Kapur[2], Chandrasekhar Kesavan[3], Mehran Amoui[2], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Jerry L. Pettis Mem. VAMC, USA, [3]JLP VA Medical Center, USA
Disclosures: Kin-Hing William Lau, None

5:20 pm **Questions**

5:25 pm **Stimulation of Bone Formation and Mineralization Post-Weaning Without Parathyroid Hormone**
FR0121 Beth J. Kirby[1], Andrew Karaplis[2], Christopher Kovacs*[1]. [1]Memorial University of Newfoundland, Canada, [2]McGill University, Canada
Disclosures: Christopher Kovacs, None

5:30 pm **Disruption of Cathepsin K in the Osteoclast Lineage Increased Bone Formation through**
FR0253 **Coupling-dependent Mechanism**
Sutada Lotinun*[1], Riku Kiviranta[2], Lynn Neff[1], Jean Vacher[3], Eero Vuorio[2], William Horne[1], Georgios Sabatakos[4], Roland Baron[5]. [1]Harvard School of Dental Medicine, USA, [2]University of Turku, Finland, [3]Institut De Recherches Cliniques De Montréal, Canada, [4]Procter & Gamble Pharmaceuticals, Inc., USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Sutada Lotinun, None

5:35 pm **Myeloid-Derived Suppressor Cells Expand During Breast Cancer Progression and Promote**
FR0128 **Tumor-induced Bone Destruction.**
Sabrina Danilin*[1], Julie Sterling[2], Alyssa Merkel[2], Josh Johnson[2], Rachelle Johnson[2], James Edwards[2], Gregory R Mundy[2]. [1]Vanderbuilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Sabrina Danilin, None

5:40 pm **Questions**

ORAL POSTER SESSION: BONE CELL BIOLOGY & PHYSIOLOGY

5:00 pm - 5:45 pm **South Building: Room 801AB**

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

Paula H. Stern, Ph.D.
Northwestern University Medical School, USA
Disclosures: Paula Stern, None

5:05 pm **2010 YOUNG INVESTIGATOR AWARD**
FR0186 **Muscle Derived Factors Influence the MLO-Y4 Osteocyte Response to Shear Stress**
Nuria Lara*[1], Todd Hall[1], Letticia Brotto[1], Joedd Biggs[1], Cheng Lin Mo[1], Sandra Romero-Suarez[1], Marco Brotto[1], Lynda Bonewald[1], Mark Johnson[2]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Nuria Lara, None

5:10 pm **Downregulation of Sost/sclerostin Expression is Required for the Osteogenic Response to**
FR0053 **Mechanical Loading**
Xiaolin Tu*[1], Yumie Rhee[2], Racheal Lee[3], Jeffrey Benson[3], Keith Condon[3], Nicoletta Bivi[3], Lilian Plotkin[1], Charles Turner[4], Alexander Robling[3], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]IUMS, Yonsei University, College of Medicine, South Korea, [3]Indiana University, USA, [4]Indiana University, Purdue University Indianapolis, USA
Disclosures: Xiaolin Tu, None

5:15 pm **Directed Differentiation of ES cells to the Chondrocyte Lineage**
FR0069 April Craft*[1], Jason Rockel[2], Gordon Keller[1]. [1]McEwen Centre for Regenerative Medicine, University Health Network, Canada, [2]Stem Cell & Developmental Biology, The Hospital for Sick Children, Canada
Disclosures: April Craft, None

5:20 pm **Questions**

5:25 pm **AP-1 Proteins Affect Bone Formation Negatively via both AP-1 Transcriptional Activity and**
FR0218 **Interaction with β-Catenin whereas Truncated Isoforms (ΔFosB/Δ2ΔFosB) Do Not.**
Ilana Platt*[1], Glenn C. Rowe[2], Sutada Lotinun[1], William Horne[1], Azeddine Atfi[1], Roland Baron[3]. [1]Harvard School of Dental Medicine, USA, [2]Beth Israel Medical Center, USA, [3]Harvard School of Dental Medicine, Harvard Medical School, MGH Endocrine Unit, USA
Disclosures: Ilana Platt, None

5:30 pm **2010 YOUNG INVESTIGATOR AWARD**
FR0206 **Genetic Dissection of the Molecular Events Taking Place in Osteoblasts and Triggered by Leptin Signaling in the Brain**
Gerard Karsenty, Daisuke Kajimura*. Columbia University, USA
Disclosures: Daisuke Kajimura, None

5:35 pm **2010 YOUNG INVESTIGATOR AWARD**
FR0079 **β-Catenin Controls Osteoclast Formation through Regulation of OPG and RANKL Expression in Chondrocytes**
Baoli Wang*, Hong-ting Jin, Dezhi Tang, Mei Zhu, Brendan F Boyce, Di Chen. University of Rochester Medical Center, USA
Disclosures: Baoli Wang, None

5:40 pm **Questions**

ORAL POSTER SESSION: BONE GAINS AND LOSSES

5:00 pm - 5:45 pm **South Building: Hall F**

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

Ulrike Moedder, Ph.D.
Mayo Clinic College of Medicine, USA
Disclosures: Ulrike Moedder, None

5:05 pm **A Four Years Exercise Intervention Program in Pre-Pubertal Children Increases Bone Mass**
FR0316 **and Bone Size But Do Not Affect the Fracture Risk**
Bjarne Lofgren*[1], Jan Åke Nilsson[2], Magnus Dencker[2], Magnus Karlsson[3]. [1]Clinical & Molecular Osteoporosis Research Unit Dept. of Clinical Sciences, Lund University, Dept of Orthopaedics, Skåne University Hospital, Sweden, [2]Skane University Hospital, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Bjarne Lofgren, None

5:10 pm **Girls Accrue More Bone Relative to Lean Mass in Puberty and this Sex-difference Maintains**
FR0009 **to Young Adulthood: Evidence from 15 - years of Longitudinal Data**
Saija Kontulainen*, Donald Bailey, Robert Faulkner, Adam Baxter-Jones. University of Saskatchewan, Canada
Disclosures: Saija Kontulainen, None

5:15 pm **Dual Effect of Adipose Tissue on Bone Health during Growth**
FR0327 Heli Viljakainen*[1], Minna Pekkinen[2], Elisa Saarnio[2], Christel Lamberg-Allardt[2], Outi Mäkitie[3]. [1]Helsinki University Central Hospital for Children & Adolescents, Finland, [2]University of Helsinki, Finland, [3]Helsinki University Central Hospital for for Children & Adolescents, Finland
Disclosures: Heli Viljakainen, None

5:20 pm **Questions**

5:25 pm **Bone Microstructure During and After Lactation**
FR0365 Åshild Bjørnerem*[1], Ali Ghasem-Zadeh[2], Thuy Vu[3], Ego Seeman[4]. [1]Department of Community Medicine, University of Tromsø, Norway, [2]Austin Health, University of Melbourne, Aus, [3]Endocrine Centre, Austin Health, University of Melbourne, Australia, [4]Austin Health, University of Melbourne, Australia
Disclosures: Åshild Bjørnerem, None

5:30 pm **Insulin like Growth Factor and Bone Mass is Influenced by Higher Protein Intake During One**
FR0432 **Year of Caloric Restriction**
Deeptha Sukumar*[1], Hasina Ambia- Sobhan[1], Robert Zurfluh[1], Theodore Stahl[2], Sue Shapses[1]. [1]Nutritional Sciences, Rutgers University, USA, [2]Department of Radiology, University of Medicine & Dentistry/Robert Wood Johnson Medical School, USA
Disclosures: Deeptha Sukumar, None

5:35 pm **2010 YOUNG INVESTIGATOR AWARD**

FR0363 **Abnormal Microarchitecture and Decreased Stiffness Suggest That Postmenopausal Ankle Fractures Reflect Bone Fragility**

Emily Stein*[1], Xiaowei Liu[2], Thomas Nickolas[3], Adi Cohen[3], Dionisio Ortiz[4], Valerie Thomas[3], Perry Yin[2], Felicia Cosman[5], Jeri Nieves[5], Donald McMahon[1], X Guo[2], Elizabeth Shane[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA, [4]SUNY Downstate College of Medicine, USA, [5]Helen Hayes Hospital, USA

Disclosures: Emily Stein, None

5:40 pm **Questions**

POSTERS AND EXHIBITS OPEN

5:45 pm - 7:00 pm **South Building: Hall E**

NEW INVESTIGATOR/ NEW MEMBER/ FIRST-TIME ATTENDEE RECEPTION

Sponsored by the ASBMR Membership Development Committee

Supported by an educational grant from Amgen, Inc.

5:45 pm - 7:00 pm **South Building: Hall E**

The ASBMR Membership Development Committee and Young Investigator Subcommittee members will be in attendance for a meet and greet networking event. This event 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 New Investigator Reception will be held concurrently with the Welcome Reception and the Plenary Poster session in a designated area adjacent to the ASBMR Networking Center in the exhibit hall at the Metro Toronto Convention Centre/ South Building.

MINORITY INVESTIGATOR RECEPTION

Sponsored by the ASBMR Membership Development Committee

5:45 pm - 7:00 pm **South Building: Hall E**

The purpose of this event is to provide attendees with opportunities to meet other attendees and ASBMR leadership, including the ASBMR Minority Subcommittee members, creating an environment of interaction. The Minority Investigator Reception will be held concurrently with the Welcome Reception and the Plenary Poster session in a designated area adjacent to the ASBMR Networking Center in the exhibit hall at the Metro Toronto Convention Centre/ South Building.

WELCOME RECEPTION AND PLENARY POSTER SESSION

5:45 pm - 7:00 pm **South Building: Hall E**

Attendees and registered guests are invited to attend our Wine and Cheese Welcome Reception and Plenary Poster Session in Exhibit Hall E of the Metro Toronto Convention Centre/South Building. Simply display your badge for admission. Guests may purchase a badge for $35 at the ASBMR Registration Counter for entrance to the Welcome Reception. A special area of the exhibit hall will be set aside for Young Investigators and Minority Investigators to interact during this reception.

FR0005 **Reduced Trabecular Volumetric BMD at Metaphyseal Regions of Weight-bearing Bones is Associated with Prior Fracture in Young Girls**

Joshua Farr*[1], Rita Tomas[1], Zhao Chen[2], Jeffrey Lisse[3], Timothy Lohman[3], Scott Going[3]. [1]The University of Arizona, USA, [2]University of Arizona College of Public Health, USA, [3]University of Arizona, USA

Disclosures: Joshua Farr, None

FR0009 **Girls Accrue More Bone Relative to Lean Mass in Puberty and this Sex-difference Maintains to Young Adulthood: Evidence from 15 - years of Longitudinal Data**
Saija Kontulainen*, Donald Bailey, Robert Faulkner, Adam Baxter-Jones. University of Saskatchewan, Canada
Disclosures: Saija Kontulainen, None

FR0010 **Magnitude and Timing of Peak Bone Mineral Accrual in Young Girls**
Joan Lappe*[1], Robert Heaney[2], Michael Davies[2], Diane Cullen[2]. [1]Creighton University Osteoporosis Research Center, USA, [2]Creighton University, USA
Disclosures: Joan Lappe, None

FR0012 **Maternal Plasma Long Chain Polyunsaturated Fatty Acids Determine Bone Health in their Children at Age of Four: Southampton Women's Survey**
Dinesh Dhanwal*[1], Philip Calder[2], Kim Miranda[3], Sian Robinson[3], Hazel Inskip[3], Elaine Dennison[4], Cyrus Cooper[2]. [1]Maulana Azad Medical College, New Delhi and MRC, Southampton University, UK, India, [2]University of Southampton, United Kingdom, [3]MRC, United Kingdom, [4]MRC Epidemiology Resource Centre, United Kingdom
Disclosures: Dinesh Dhanwal, None

FR0021 **Impairment of Bone Microarchitecture and Lipodystrophy in Young B6 Mice Treated with the Second Generation Anti-psychotic, Risperidone**
Ingrid De Paula*[1], Sutada Lotinun[2], Gavin Welch[3], Sumithra Urs[4], Masanobu Kawai[1], Sheila Bornstein[1], Ann Maloney[4], Mark Horowitz[5], Roland Baron[6], Clifford Rosen[1]. [1]Maine Medical Center, USA, [2]Harvard School of Dental Medicine, USA, [3]Foundation for Blood Research, USA, [4]Maine Medical Center Research Institute, USA, [5]Yale University School of Medicine, USA, [6]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Ingrid De Paula, None

FR0024 **High dose recombinant growth hormone therapy is more effective in pre-pubertal compared to pubertal patients with growth failure in well controlled hypophosphatemic rickets**
Agnes Linglart*, Isis Marchand, Pierre Bougneres, Anya Rothenbuhler. AP-HP; Université Paris 5; INSERM, France
Disclosures: Agnes Linglart, None

FR0028 **Age-Related Loss of Hip Bone Strength Varies by Gender and Loading Condition: The AGES-Reykjavik Study**
Thomas Lang*[1], Sigurdur Sigurdsson[2], Kristin Siggeirsdottir[2], Diana Oskarsdottir[2], Gunnar Sigurdsson[3], Gyda Karlsdottir[2], Gudny Eiriksdottir[2], Tamara Harris[4], Vilmundur Gudnason[5], Joyce Keyak[6]. [1]University of California, San Francisco, USA, [2]Icelandic Heart Association, Iceland, [3]Landspitali, Iceland, [4]National Institute on Aging, USA, [5]Icelandic Heart Association Research Institute, Iceland, [6]University of California, USA
Disclosures: Thomas Lang, Merck, 2

FR0030 **Bone Density and Structure of Patients on Bisphosphonates with Atypical Femur Fractures**
Angela Cheung*[1], Jonathan Adachi[2], Robert Josse[3], Robert Bleakney[4], Christian Viellette[1], Aliya Khan[5], Moira Kapral[1], Sophie Jamal[6], Heather McDonald-Blumer[7], Earl Bogoch[8]. [1]University Health Network, Canada, [2]St. Joseph's Hospital, Canada, [3]St. Michael's Hospital, University of Toronto, Canada, [4]Mt. Sinai Hospital, Canada, [5]McMaster University, Canada, [6]The University of Toronto, Canada, [7]Mount Sinai Hospital, Canada, [8]St. Michael's Hospital, Canada
Disclosures: Angela Cheung, Amgen, 2; Merck, 2; Novartis, 2; Sanofi-Aventis, 2; Eli Lilly, 2

FR0031 **Collagen Cross-link Concentration Influences the Fatigue Behavior of Human Vertebral Trabecular Bone**
Stephanie Viguet-Carrin*[1], David Panus[2], Helene Follet[3], Pierre Delmas[1], Elise Morgan[4], Roland Chapurlat[1], Mary Bouxsein[5]. [1]E. Herriot Hospital, France, [2]Orthopedic Biomechanics Laboratory, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, USA, USA, [3]INSERM, Université De Lyon, France, [4]Boston University, USA, [5]Beth Israel Deaconess Medical Center, USA
Disclosures: Stephanie Viguet-Carrin, None

FR0034 **Decreased PTH Secretion is Associated with Low Bone Formation and Vertebral Fracture Risk in Postmenopausal Women with Type 2 Diabetes**
Masahiro Yamamoto*[1], Toru Yamaguchi[1], Mika Yamauchi[1], Kiyoko Nawata[2], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Department of Health & Nutrition, The University of Shimane, Junior College, Matsue Campus, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Masahiro Yamamoto, None

FR0037 **Improved Evaluation of Hip Structure using High Resolution Cortical Thickness Measurement from Clinical CT Data**
Graham M Treece, Andrew H Gee, Paul Mayhew*, Kenneth Poole. University of Cambridge, United Kingdom
Disclosures: Paul Mayhew, None

FR0039 **Investigation of Statistical Shape and Density Modeling as a Discriminator for Clinical Fracture Risk**
Todd Bredbenner*[1], Ryan S. Potter[1], Robert L. Mason[1], Lorena Havill[2], Eric Orwoll[3], Daniel P. Nicolella[1]. [1]Southwest Research Institute, USA, [2]Southwest Foundation for Biomedical Research, USA, [3]Oregon Health & Science University, USA
Disclosures: Todd Bredbenner, None

FR0041 **Local Topological Analysis at the Distal Radius by HR-pQCT: Application to *In Vivo* Bone Microarchitecture and Fracture Assessment in the OFELY Study**
Jean-Baptiste Pialat*[1], Nicolas Vilayphiou[2], Stephanie Boutroy[3], Pierre-Jean Gouttenoire[4], Elisabeth Sornay-Rendu[5], Roland D. Chapurlat[6], Francoise Peyrin[4]. [1]INSERM U831, Université de Lyon & Hospices Civils de Lyon, France, [2]INSERM Unit 831 & Université de Lyon, France, [3]INSERM, Université De Lyon, France, [4]European Synchrotron Radiation Facility (ESRF), France, [5]INSERM, France, [6]INSERM U831 & Université de Lyon, France
Disclosures: Jean-Baptiste Pialat, None

FR0042 **Non-collageneous Proteins Influence Crystal Orientation and Shape: A SAXS Study**
Atharva Poundarik*[1], Ondrej Nikel[2], Caren Gundberg[3], Deepak Vashishth[2]. [1]Rensselaer Polytechnic University, USA, [2]Rensselaer Polytechnic Institute, USA, [3]Yale University School of Medicine, USA
Disclosures: Atharva Poundarik, None

FR0048 **BMD and TBS Micro Architecture Parameters Assessment at Spine in Patients with Primary Hyperparathyroidism (PHPT) before and One Year after Parathyroidectomy**
Emilie Maury[1], Renaud Winzenrieth[2], jean-claude Souberbielle[3], Emile Sarfati[4], Catherine Cormier*[5]. [1]Service De Rhumatologie A, AP-HP Groupe Hospitalier Cochin - Saint Vincent De Pa, France, [2]Med-Imaps, PTIB, France, [3]Laboratoire d'Explorations Fonctionnelles, Hopital Necker-Enfants Malades, France, [4]epartment of endocrine surgery,hopital Saint-Louis, APHP, France, [5]AP-HP Groupe Hospitalier Cochin, France
Disclosures: Catherine Cormier, None

FR0049 **Bone Microarchitecture Assessment in Postmenopausal Women with Atypical Fractures and Long Term Bisphosphonate Use**
Maria Belen Zanchetta*, Marcelo Sarli, Fabio Massari, Rodolfo Spivacow, Mirena Buttazzoni, Fernando Silveira, Cesar Bogado, Jose Ruben Zanchetta. Instituto de Investigaciones Metabolicas (IDIM), Argentina
Disclosures: Maria Belen Zanchetta, None

FR0050 **Intermittent PTH Treatment Increases Intracortical Osteocyte Density and Decreases Fat Mass in Ovariectomized Rats**
Steven Tommasini*[1], Andrea Trinward[2], Alvin Acerbo[3], Lisa Miller[4], Stefan Judex[5]. [1]SUNY Stony Brook, USA, [2]State University of New York at Stony Brook, USA, [3]Brookhaven National Laboratody, USA, [4]Brookhaven National Laboratory, USA, [5]Stony Brook University, USA
Disclosures: Steven Tommasini, None

FR0052 **A Comparison of Resistance and Aerobic Exercise Training on Physical Ability, Bone Mineral Density and Osteoprotegerin in Older Women**
Elisa Marques*[1], Flávia Wanderley[1], Daniel Gonçalves[1], Margarida Coelho[1], João Viana[2], Pedro Moreira[1], Jorge Mota[1], Joana Carvalho[1]. [1]University of Porto, Portugal, [2]Loughborough University, United Kingdom
Disclosures: Elisa Marques, None

FR0053 **Downregulation of Sost/sclerostin Expression is Required for the Osteogenic Response to Mechanical Loading**
Xiaolin Tu*[1], Yumie Rhee[2], Racheal Lee[3], Jeffrey Benson[3], Keith Condon[3], Nicoletta Bivi[3], Lilian Plotkin[1], Charles Turner[4], Alexander Robling[3], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]IUMS, Yonsei University, College of Medicine, South Korea, [3]Indiana University, USA, [4]Indiana University, Purdue University Indianapolis, USA
Disclosures: Xiaolin Tu, None

FR0055 **Modulation of Gene Expression by Mechanical Loading in Mice with Conditional Ablation of the Connexin43 Gene (*Gja1*)**
Susan Grimston*[1], Marcus Watkins[2], Jin Norris[3], Valerie Salazar[2], Michael Brodt[3], Matthew Silva[2], Roberto Civitelli[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]Washington University in St. Louis, USA
Disclosures: Susan Grimston, None

FR0063 **Developing an Atlas of GFP Reporters and Cre Drivers of Interest to the Skeletal Biologist**
David Rowe*[1], Dong-Guk Shin[2], Peter Maye[1], Xi Jiang[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut, USA
Disclosures: David Rowe, None

FR0068 **ALK5, a TGF-beta type I Receptor, Regulates Osteoblast-Dependent Osteoclast Maturation and is Required for Cartilage Matrix Remodeling**
Tomoya Matsunobu*[1], Kiyoyuki Torigoe[2], Muneaki Ishijima[3], Ashok Kulkarni[2], Yukihide Iwamoto[1], Yoshihiko Yamada[2]. [1]Graduate School of Medical Sciences, Kyushu University, Japan, [2]National Institute of Dental & Craniofacial Research, NIH, USA, [3]Juntendo University, School of Medicine, Japan
Disclosures: Tomoya Matsunobu, None

FR0069 **Directed Differentiation of ES cells to the Chondrocyte Lineage**
April Craft*[1], Jason Rockel[2], Gordon Keller[1]. [1]McEwen Centre for Regenerative Medicine, University Health Network, Canada, [2]Stem Cell & Developmental Biology, The Hospital for Sick Children, Canada
Disclosures: April Craft, None

FR0073 **Lkb1 Regulates Growth Plate Dynamics in the Mammalian Skeleton**
Lick Pui Lai*, Andrew McMahon. Harvard University, USA
Disclosures: Lick Pui Lai, None

FR0075 **Postnatal Deletion of the G-protein Subunit Alpha Synergizes with Gq/11 g-Proteins when Mediating PTH Receptor-dependent Fusion of the Epiphyseal Growth Plate.**
Andrei Chagin*[1], Tatsuya Kobayashi[2], Jun Guo[2], Takao Hirai[3], Min Chen[4], Lee Weinstein[5], Susan Mackem[6], Stefan Offermanns[7], Henry Kronenberg[2]. [1]Karolinska Institutet, Sweden, [2]Massachusetts General Hospital, USA, [3]Kyoto Prefectural University of Medicine, Japan, [4]National Institute of Diabetes, Digestive & Kidney Diseases, National Institutes of Health, USA, [5]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [6]National Cancer Institute, USA, [7]University of Heidelberg, Germany
Disclosures: Andrei Chagin, None

FR0078 **Zonal Disorganization and Premature Apoptosis of Chondrocytes in the Growth Plate of FGFR3 Mutant Mice**
Clair Francomano[1], Zijun Zhang*[2]. [1]Great Baltimore Medical Center, USA, [2]Saint Louis University, USA
Disclosures: Zijun Zhang, None

FR0079 **2010 YOUNG INVESTIGATOR AWARD**
β-Catenin Controls Osteoclast Formation through Regulation of OPG and RANKL Expression in Chondrocytes
Baoli Wang*, Hong-ting Jin, Dezhi Tang, Mei Zhu, Brendan F Boyce, Di Chen. University of Rochester Medical Center, USA
Disclosures: Baoli Wang, None

FR0081 **Chondrocyte-Derived ATF4 Regulates Osteoblast Differentiation *In Vivo***
Weiguang Wang*[1], Na Lian[2], Lingzhen li[3], Weixi Wang[4], Florent Elefteriou[4], Xiangli Yang[4]. [1]Vanderbilt University Center for Bone Biology, Department of Pharmacology, Division of Clinical Pharmacology, Vanderbilt University, USA, [2]Vanderbuilt University, USA, [3]Vanderbilt University, Bone Research Center, USA, [4]Vanderbilt University, USA
Disclosures: Weiguang Wang, None

FR0083 **Expression Pattern of TgfβR2 and Joint Formation Related Genes in Developing Limbs**
Tieshi Li*[1], Lara Longobardi[1], Timothy Myers[1], Froilan Granero-Molto[1], Yun Yan[1], Douglas Mortlock[2], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]University of Vanderbilt, USA
Disclosures: Tieshi Li, None

FR0084 **MiR-204 and miR-211 Specifically Inhibit Runx2 Expression and Regulate Mesenchymal Stem Cell Differentiation and Bone Formation**
Jian Huang*[1], Bing Shu[2], Lan Zhao[1], Di Chen[3]. [1]University of Rochester, USA, [2]Orthopaedics, University of Rochester, USA, [3]University of Rochester Medical Center, USA
Disclosures: Jian Huang, None

FR0085 **MiR-29b Expression Is Dependent of COL1A1 in Bone Marrow Stromal Cells of Osteogenesis Imperfecta Patients During Osteoblast Differentiation**
Carla Kaneto*[1], Francisco Jose De Paula[2], Patrícia Lima[3], Dalila Dalila[4], Karen Prata[4], João Pina Neto[5], Sumithra Urs[6], Dimas Covas[4], Wilson Silva[7]. [1]School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [2]School of Medicine of Ribeirao Preto - USP, Brazil, [3]Department of Natural Science, The State University of Bahia, Vitória da Conquista, Bahia, Brazil., Brazil, [4]Regional Blood Center of Ribeirão Preto & National Institute of Science & Technology in Cell Therapy, Brazil, [5]Department of Genetics, Medical School of Ribeirão Preto, University of São Paulo, Brazil, [6]Maine Medical Center Research Institute, USA, [7]Department of Genetics, Medical School of Ribeirão Preto, University of São Paulo., Brazil
Disclosures: Carla Kaneto, None

FR0086 **Repression of Mineralization by the Trps1 Transcription Factor**
Dobrawa Napierala*[1], Yao Sun[2], Izabela Maciejewska[3], Elda Munivez[1], Terry Bertin[1], Rena D'Souza[2], Chunlin Qin[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]Baylor College of Dentistry, Texas A&M Health Science Center, USA, [3]Baylor College of Dentistry, Texas A&M Heatlt Science Center, USA
Disclosures: Dobrawa Napierala, None

FR0087 **TIP39/PTH2R Signalling in Chondrocytes Alters Endochondral Bone Development in vivo**
Dibyendu Panda*[1], David Goltzman[2], Andrew Karaplis[1]. [1]McGill University, Canada, [2]McGill University Health Centre, Canada
Disclosures: Dibyendu Panda, None

FR0095 **Novel Role of CXCR4 in Bone Development and Growth**
Wei Zhu*[1], Stephen Doty[2], Adele Boskey[2]. [1]Hospital for Special Surgery, Weill Medical College of Cornell University, USA, [2]Hospital for Special Surgery, USA
Disclosures: Wei Zhu, None

FR0096 **Procollagen Type III N-Terminal Peptide (P3NP) is Inversely Associated with Lean Mass in Women**
Vasan Ramachandran[1], Sarah Berry*[2], Robert McLean[3], Peggy Cawthon[4], Douglas Kiel[5]. [1]Boston University School of Medicine, USA, [2]Hebrew SeniorLife/Beth Israel Deaconess Medical Center, USA, [3]Hebrew SeniorLife, Harvard Medical School, USA, [4]California Pacific Medical Center Research Institute, USA, [5]Hebrew SeniorLife, USA
Disclosures: Sarah Berry, None

FR0097 **PTH Anabolic Action is Influenced by the Deficiency of TRPV4 in Bone**
Paksinee Kamolratanakul*[1], Yoichi Ezura[2], Fumitaka Mizoguchi[1], Tadayoshi Hayata[3], Hiroaki Hemmi[1], Takuya Notomi[4], Teruo Amagasa[1], Masaki Noda[1]. [1]Tokyo medical & dental university, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan
Disclosures: Paksinee Kamolratanakul, None

FR0103 **Contrasting Osteogenic Response to Mechanical Stimulation Between C57BL/6J and C3H/HeJ Inbred Mice Is In Part Due to Genetic Variations in the Leptin Receptor, Which is a Negative Bone Mechanosensitivity Modulating Gene**
Kin-Hing William Lau*[1], Sonia Kapur[2], Chandrasekhar Kesavan[3], Mehran Amoui[2], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Jerry L. Pettis Mem. VAMC, USA, [3]JLP VA Medical Center, USA
Disclosures: Kin-Hing William Lau, None

FR0105 **Identification of Quantitative Trait Loci for Musculoskeletal Mechanosensitivity**
Stefan Judex*[1], Engin Ozcivici[2], Weidong Zhang[3], Leah Rae Donahue[4]. [1]Stony Brook University, USA, [2]Mass General Hospital, USA, [3]The Jackson Laboratory, USA, [4]Jackson Laboratory, USA
Disclosures: Stefan Judex, None

FR0108 **ASARM-peptides are Physiological Inhibitors of Renal Calcification.**
Peter Rowe*[1], Anne-Marie Hedge[1], Yan Hong[2], Aline Martin[3], Lesya Zelenchuk[1], Valentin David[3]. [1]University of Kansas Medical Center, USA, [2]University of Kansas Mecical Center, USA, [3]UTHSC, USA
Disclosures: Peter Rowe, None

FR0110 **FGFR1-Mediated Expression of Fgf23 and Dmp1 in Bone Bridges the Local and Systemic Regulation of Mineralization**
Emily Farrow*[1], Yumie Rhee[2], Lelia Summers[3], Soo Park[3], Racheal Lee[3], Teresita Bellido[3], Kenneth White[3]. [1]Indiana University, USA, [2]IUMS, Yonsei University, College of Medicine, South Korea, [3]Indiana University School of Medicine, USA
Disclosures: Emily Farrow, None

FR0112 **Placenta Expresses Klotho and FGFR1 in Syncytiotrophoblast and Might Be a Target Organ of FGF23**
Yasuhisa Ohata*[1], Miwa Yamazaki[1], Tomoko Okada[1], Masahiro Nakayama[2], Keiichi Ozono[3], Toshimi Michigami[4]. [1]Department of Bone & Mineral Research, Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Department of Clinical Laboratory Medicine & Anatomic Pathology, Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [3]Osaka University Graduate School of Medicine, Japan, [4]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Yasuhisa Ohata, None

FR0113 **2010 YOUNG INVESTIGATOR AWARD**
Soluble Klotho Acts as a Coactivator of FGF23 in Bone but not in Kidney to regulate Mineralization
Tomoko Minamizaki*[1], Yuji Yoshiko[2], Yukiko Konishi[1], Hirotaka Yoshioka[1], Katsuyuki Kozai[1], Jane Aubin[3], Norihiko Maeda[4]. [1]Hiroshima University Graduate School of Biomedical Sciences, Japan, [2]Hiroshima University, Japan, [3]University of Toronto Faculty of Medicine, Canada, [4]DHiroshima University Graduate School of Biomedical Sciences, Japan
Disclosures: Tomoko Minamizaki, None

FR0116 **2010 YOUNG INVESTIGATOR AWARD**
Endogenous PTH Contributes to Bone Regeneration, Formation and Remodeling by Stimulating Osteoprogenitor Cell Recruitment following Marrow Ablation
Qi Zhu*[1], Lei Shu[1], Jun Yan[2], Andrew Karaplis[3], David Goltzman[4], Dengshun Miao[5]. [1]Nanjing Medical University, China, [2]Second Hospital of Suzhou University, Peoples Republic of China, [3]McGill University, Canada, [4]McGill University Health Centre, Canada, [5]Nunjing Medical University, Peoples Republic of China
Disclosures: Qi Zhu, None

FR0119 **Mechanistic Insights into the Dysregulation of PTH Secretion in Hyperparathyroidism: In Vivo Analysis and In Vitro Studies in Parathyroid Glands**
Wenhan Chang*[1], Tsui-Hua Chen[1], Nathan Liang[1], Christopher Dinh[1], Viet Pham[1], Hanson Ho[1], Zhiqiang Cheng[1], Chia-Ling Tu[1], Dolores Shoback[2]. [1]University of California, San Francisco, USA, [2]VA Medical Center, USA
Disclosures: Wenhan Chang, None

FR0121 **Stimulation of Bone Formation and Mineralization Post-Weaning Without Parathyroid Hormone**
Beth J. Kirby[1], Andrew Karaplis[2], Christopher Kovacs*[1]. [1]Memorial University of Newfoundland, Canada, [2]McGill University, Canada
Disclosures: Christopher Kovacs, None

FR0122 **2010 YOUNG INVESTIGATOR AWARD**
The Anabolic Action of Parathyroid Hormone on Bone is Mediated by Monocyte Chemoattractant Protein-1
Joseph A. Tamasi*[1], Emi Shimizu[2], Noah Benton[2], Joshua Johnson[2], Nigel Morrison[3], Nicola Partridge[4]. [1]Physiology & Biophysics, University of Medicine & Dentistry of New Jersey, USA, [2]Basic Science & Craniofacial Biology, New York University College of Dentistry, USA, [3]Griffith University, Gold Coast Campus, Australia, [4]New York University College of Dentistry, USA
Disclosures: Joseph A. Tamasi, Bristol-Myers Squibb, 3

FR0124 **Differential Role of Fibronectin Originating from Different Sources in the Bone Marrow on Metastasis Formation**
Anja von Au*[1], Christine Hoffmann[1], Matthaeus Vasel[1], Marco Cecchini[2], Inaam Nakchbandi[1]. [1]Max-Planck Institute for Biochemistry & University of Heidelberg, Germany, [2]University of Bern, Switzerland
Disclosures: Anja von Au, None

FR0125 **Enpp1: A Potential Facilitator of Breast Cancer Bone Metastasis**
Wen Min Lau[1], Michele Doucet[1], Ryan Stadel[1], Kristy Weber[2], Scott Kominsky*[3]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University, USA, [3]Johns Hopkins School of Medicine, USA
Disclosures: Scott Kominsky, None

FR0128 **Myeloid-Derived Suppressor Cells Expand During Breast Cancer Progression and Promote Tumor-induced Bone Destruction.**
Sabrina Danilin*[1], Julie Sterling[2], Alyssa Merkel[2], Josh Johnson[2], Rachelle Johnson[2], James Edwards[2], Gregory R Mundy[2]. [1]Vanderbuilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Sabrina Danilin, None

FR0133 **Treatment with Interleukin 6 Receptor Antibodies Inhibits Breast Cancer Growth in a Murine Model of Bone Metastasis**
Katja Boernert[1], Yu Zheng*[1], Hong Zhou[2], Anastasia Mikuscheva[3], Frank Buttgereit[3], Colin Dunstan[4], Markus Seibel[2]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [3]Humboldt University, Germany, [4]University of Sydney, Australia
Disclosures: Yu Zheng, None

FR0135 **Activation of Notch Signaling Contributes to the Pathogenesis of Osteoma and Osteosarcoma with a Mouse Model**
Jianning Tao*, Shan Chen, Ming ming Jiang, Terry Bertin, Francis Gannon, Brendan Lee. Baylor College of Medicine, USA
Disclosures: Jianning Tao, None

FR0136 **Bone Remodeling Regulated by ARF is a Therapuetic Target for Prevention of Osteosarcoma**
Michelle Hurchla*[1], Dan Rauch[2], John Harding[2], Hongju Deng[2], Lauren Shea[2], Mark Eagleton[2], Stefan Niewiesk[3], Michael Lairmore[3], David Piwnica-Worms[2], Thomas Rosol[4], Jason Weber[2], Lee Ratner[2], Katherine Weilbaecher[5]. [1]Washington University in St. Louis, USA, [2]Washington University School of Medicine, USA, [3]Ohio State University, USA, [4]The Ohio State University, USA, [5]Washington University in St. Louis School of Medicine, USA
Disclosures: Michelle Hurchla, None

FR0138 **Disruption of Prostaglandin E Biosynthesis and Its Receptor EP4 Attenuated Angiogenesis, Tumor Growth and Bone Metastasis of Cancer.**
Morichika Takita[1], Satoshi Yokoyama[1], Masaki Inada*[2], Chisato Miyaura[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Toyko University of Agriculture & Technology, Japan
Disclosures: Masaki Inada, None

FR0140 **Frequent Attenuation of Tumor Suppressor WWOX in Osteosarcomas is Associated With Increased Tumorigenicity and Elevated RUNX2 Levels**
Sara Del Mare*[1], Kyle Kurek[2], Zaidoun Salah[1], Suhaib Abdeen[1], Eugenio Gaudio[3], Nicola Zanesi[3], Hussain Sadiq[4], Matthew Warman[5], Gary Stein[6], Janet Stein[4], Jane Lian[6], Rami Aqeilan[7]. [1]The Lautenberg Center for Immunology & Cancer Research, Hebrew University-Hadassah Medical School, Israel, [2]Children's Hospital Boston Department of Pathology, USA, [3]Department of Molecular Virology, Immunology & Medical Genetics, Comprehensive Cancer Center, Ohio State University, USA, [4]Department of Cell Biology, University of Massachusetts Medical School, USA, [5]Department of Orthopaedic Surgery, Howard Hughes Medical Institute, Children's Hospital Boston & Harvard Medical School, USA, [6]University of Massachusetts Medical School, USA, [7]Ohio State University, USA
Disclosures: Sara Del Mare, None

FR0146 **2010 YOUNG INVESTIGATOR AWARD**
Calcitonin Lowers Serum FGF23 Levels in Patients with X-linked Hypophosphatemia
Eva Liu*, Thomas Carpenter, Caren Gundberg, Karl Insogna. Yale University School of Medicine, USA
Disclosures: Eva Liu, None

FR0153 ***Runx2* haploinsufficiency rescues the craniosynostosis phenotype of *Axin2*-knockout mice**
Meghan McGee-Lawrence*[1], David Razidlo[1], Frank Secreto[1], Xiaodong Li[1], Wei Hsu[2], Jane Lian[3], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of Rochester Medical Center, USA, [3]University of Massachusetts Medical School, USA
Disclosures: Meghan McGee-Lawrence, None

FR0154 **Age-dependent Arthropathy in Circadian Mutant Mice**
Elizabeth Yu*, Sadiq Hussain, Robert Dallmann, Stacey Russell, Jane Lian, David Weaver. University of Massachusetts Medical School, USA
Disclosures: Elizabeth Yu, None

FR0155 **Conditional Deletion of SKI-1 Using 3.6kb COL1-Cre Leads to Vertebral Fusions, Hind Limb Paralysis, and Impaired Lower Limb Development**
Jeffrey Gorski*[1], Nichole Huffman[2], Qian Chen[2], Sarah Dallas[2], Paul Trainor[3], Nabil G. Seidah[4]. [1]University of Missouri, Kansas City, School of Dentistry, USA, [2]University of Missouri - Kansas City, USA, [3]Stowers Institute of Medical Research, USA, [4]Laboratory of Biochemical Neuroendocrinology, IRCM, Canada
Disclosures: Jeffrey Gorski, None

FR0161 **Molecular Mechanism of the ACVR1^{R206H} Mutation of Fibrodysplasia Ossificans Progressiva**
Kyung Woo[1], Hyun-Mo Ryoo[2], Ginah Song*[3], Hyun-Jung Kim[4], Jeong-Hwa Baek[5]. [1]Seoul National University, School of Dentistry, Korea, [2]Seoul National University, School of Dentistry, South Korea, [3]Seoul National Univ. School of Dentistry, South Korea, [4]BioRunx Co Ltd, South Korea, [5]Seoul National University School of Dentistry, South Korea
Disclosures: Ginah Song, None

FR0176 **Gremlin is Required for Normal Skeletal Development, but Postnatally it Suppresses Bone Formation**
Anna Smerdel-Ramoya[1], Stefano Zanotti[2], Ernesto Canalis*[1]. [1]St. Francis Hospital & Medical Center, USA, [2]Saint Francis Hospital & Medical Center, USA
Disclosures: Ernesto Canalis, None

FR0177 **Loss of Bmp2 Impairs Appositional Growth in the Endochondral Skeleton**
Luciane Capelo*, Karen Cox, Vicki Rosen. Harvard School of Dental Medicine, USA
Disclosures: Luciane Capelo, None

FR0178 **A Local Application of Recombinant Human Fibroblast Growth Factor-2 for Tibial Shaft Fractures: A Randomized, Double-Blind, Placebo-Controlled Trial**
Hiroshi Kawaguchi*[1], Hiroyuki Oka[2], Seiya Jingushi[3], Toshihiro Izumi[4], Masao Fukunaga[5], Katsumi Sato[6], Takashi Matsushita[7], Kozo Nakamura[8]. [1]University of Tokyo, Faculty of Medicine, Japan, [2]University of Tokyo, Japan, [3]Kyushu Rosai Hospital, Japan, [4]Saihaku Hospital, Japan, [5]Kawasaki Medical School, Japan, [6]Tohoku Rosai Hospital, Japan, [7]Teikyo University, Japan, [8]The University of Tokyo, Japan
Disclosures: Hiroshi Kawaguchi, None

FR0179 **Activation of the Kynurenine Pathway of Tryptophan Degradation Plays a Role in Osteoblastogenesis.**
Wei Li[1], Christopher Vidal*[1], Ralph Nanan[1], Brigitte Nanan[1], Gustavo Duque[2]. [1]Sydney Medical School-Nepean, The University of Sydney, Australia, [2]University of Sydney, Australia
Disclosures: Christopher Vidal, None

FR0180 **Deficiency of Chemokine Receptor CCR1 Causes Osteopenia Due to Impaired Functions of Osteoclasts and Osteoblasts**
Tadahiro Iimura[1], Akiyoshi Hoshino*[2], Akira Yamaguchi[1]. [1]Tokyo Medical & Dental University, Japan, [2]National Center for Global Health & Medicine, Japan
Disclosures: Akiyoshi Hoshino, None

FR0183 **Evidence that Osteoclast-derived Osteoactivin is a Novel Bone Coupling Factor: Transgenic Animal and In Vitro Studies**
Matilda Sheng*[1], Jon Wergedal[2], Mehran Amoui[3], David Baylink[1], Subburaman Mohan[2], Kin-Hing William Lau[2]. [1]Loma Linda University, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA, [3]Jerry L. Pettis Mem. VAMC, USA
Disclosures: Matilda Sheng, None

FR0186 **2010 YOUNG INVESTIGATOR AWARD**
Muscle Derived Factors Influence the MLO-Y4 Osteocyte Response to Shear Stress
Nuria Lara*[1], Todd Hall[1], Letticia Brotto[1], Joedd Biggs[1], Cheng Lin Mo[1], Sandra Romero-Suarez[1], Marco Brotto[1], Lynda Bonewald[1], Mark Johnson[2]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Nuria Lara, None

FR0188 **Skeletal Phenotype of the Leptin Receptor-Deficient db/db Mouse**
Garry Williams*[1], Karen Callon[2], Maureen Watson[2], Dorit Naot[2], Jessica Costa[2], Michelle Dickinson[2], Yaoyao Ding[2], Yu Wang[3], Ian Reid[2], Jillian Cornish[2]. [1]University of Auckland, Auckland School of Medicine, New Zealand, [2]University of Auckland, New Zealand, [3]Hong Kong University, Hong Kong
Disclosures: Garry Williams, None

FR0190 **The Role of Nell-1 in Cartilage Development and Differentiation**
Ronald Siu*[1], Wei Wei Chen[2], Xinli Zhang[1], Benjamin Wu[1], Kang Ting[1], Cymbeline Culiat[3], Chia Soo[1]. [1]University of California, Los Angeles, USA, [2]Zhejiang University, China, [3]Oak Ridge National Laboratory, USA
Disclosures: Ronald Siu, None

FR0192 **IGF-I Signaling Regulates the Interaction of Osteoblasts and Osteoclasts via the RANKL/RANK and Ephrin B2/EphB4 Signaling Pathways**
Yongmei Wang*[1], Hashem ElAlieh[2], Daniel Bikle[1]. [1]Endocrine Research Unit, Division of Endocrinology UCSF, USA, [2]University of California, San Francisco/VA Medical Center, USA
Disclosures: Yongmei Wang, None

FR0194 **Thyroid Hormone (T3) Acting via TRα1 is a Key Regulator of IGF-I Transcription in Osteoblasts and Bone Formation in Mice**
Weirong Xing*[1], Sheila Pourteymoor[2], Jon Wergedal[3], Carlin Long[4], Graham Williams[5], Subburaman Mohan[3]. [1]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [2]JL Pettis Memorial VA Medical Center, USA, [3]Jerry L. Pettis Memorial VA Medical Center, USA, [4]University of Colorado Health Sciences Center, USA, [5]Molecular Endocrinology Group, Division of Medicine & MRC Clinical Sciences Centre, Imperial College, United Kingdom
Disclosures: Weirong Xing, None

FR0195 **Bone-specific Calibration of Extracellular Matrix Material Properties by TGF-β and Runx2 is Required for Hearing**
Jolie Chang*[1], Delia Brauer[2], Carol Chen[1], Omar Akil[1], Guive Balooch[3], Mary Beth Humphrey[4], Alexandra Porter[2], Robert Ritchie[5], Sally Marshall[1], Grayson Marshall[1], Lawrence Lustig[1], Tamara Alliston[1]. [1]University of California, San Francisco, USA, [2]Imperial College, United Kingdom, [3]LBNL, USA, [4]University of Oklahoma Health Sciences Center, USA, [5]UC Berkeley, USA
Disclosures: Jolie Chang, None

FR0196 **Classical TGFβ Signaling in Osteoclasts is Not Required for Maintenance of Bone Volume and Architecture: Evidence from Osteoclast-Specific TGFβRII Null Mice**
Daniel Perrien*[1], Jeffry Nyman[1], Ying X. Wang[2], Chad S. Boomershine[2]. [1]Vanderbilt University Medical Center, USA, [2]Vanderbilt University, USA
Disclosures: Daniel Perrien, None

FR0198 **Tamoxifen-Induced Deletion of Smad4 in Osteoblasts Enhances Proliferation in the Periosteum, Growth Plate, and Bone Marrow**
Valerie Salazar*[1], Gabriel Mbalaviele[2], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Valerie Salazar, None

FR0200 **Absence of Bone Remodeling Compartment Canopies Correlates with an Arrested Reversal Phase and Deficient Bone Formation in Post-menopausal Osteoporosis**
Ellen Hauge[1], Thomas Andersen*[2], Jens Bollerslev[3], Per Kjærsgaard-Andesen[4], Jean-Marie Delaisse[5]. [1]Aarhus University Hospital, Denmark, [2]Vejle Hospital, IRS-CSFU, University of Sourthern Denmark, Denmark, [3]National University Hospital, Norway, [4]Department of Orthopaedic Surgery, Vejle Hospital, University of Sourthern Denmark, IRS-CSFU, Denmark, [5]Vejle Hospital, University of Southern Denmark, Denmark
Disclosures: Thomas Andersen, None

FR0203 **Bone-resorbing Osteoclasts Secrete A Factor That Stimulates Osteoblastic Differentiation**
Sunao Takeshita*[1], Toshio Fumoto[1], Kyoung-ae Park[1], Hiroyuki Aburatani[2], Shigeaki Kato[2], Masako Ito[3], Kyoji Ikeda[1]. [1]National Center for Geriatrics & Gerontology, Japan, [2]University of Tokyo, Japan, [3]Nagasaki University Hospital, Japan
Disclosures: Sunao Takeshita, None

FR0204 **Co-translocation of the Osteoclastogenic Estrogen Element Binding Protein and ß-Catenin to the Nucleus of Osteoblasts is Regulated by Wnt Signaling**
Hong Chen*[1], Mark Nanes[2], Linda Gilbert[3], Martin Hewison[4], John Adams[5]. [1]VA / Emory University School of Medicine, USA, [2]VA Medical Center & Emory University, USA, [3]VA Medical Center GA, USA, [4]UCLA, USA, [5]University of California, Los Angeles, USA
Disclosures: Hong Chen, None

FR0206 **2010 YOUNG INVESTIGATOR AWARD**
Genetic Dissection of the Molecular Events Taking Place in Osteoblasts and Triggered by Leptin Signaling in the Brain
Gerard Karsenty, Daisuke Kajimura*. Columbia University, USA
Disclosures: Daisuke Kajimura, None

FR0207 **Histone Deacetylase Inhibition Causes Bone Loss**
Meghan McGee-Lawrence*[1], Angela L. McCleary-Wheeler[1], Minzhi Zhang[1], Bridget A. Stensgard[1], Jane Lian[2], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of Massachusetts Medical School, USA
Disclosures: Meghan McGee-Lawrence, None

FR0209 **Loss of *Connexin43* in Mature Osteoblasts and Osteocytes Results in Delayed Mineralization and Bone Remodeling During Fracture Healing**
Alayna Loiselle*[1], Andrew Billingsley[1], Emmanuel Paul[1], Yue Zhang[2], Henry Donahue[3]. [1]Penn State Hershey, USA, [2]Penn State University, USA, [3]The Pennsylvania State University College of Medicine, USA
Disclosures: Alayna Loiselle, None

FR0211 **2010 YOUNG INVESTIGATOR AWARD**
Osteoclast Secretion of the Chemokine Sphingosine-1-Phosphate is Crucial for Recruitment of Osteoblast Lineage Cells
Patrick Quint*[1], Moustapha Kassem[2], Jennifer Westendorf[3], Sundeep Khosla[4], Merry Jo Oursler[3]. [1]Mayo Clinic Rochester, USA, [2]Odense University Hospital, Denmark, [3]Mayo Clinic, USA, [4]College of Medicine, Mayo Clinic, USA
Disclosures: Patrick Quint, None

FR0213 **Retinaldehyde Dehydrogenase 1 Deficiency Promotes Osteoblastogenesis and Increases Trabecular and Cortical Bone Mass**
Shriram Nallamshetty*[1], Sheila Bornstein[2], Masanobu Kawai[2], Yougen Xi[3], Mark Horowitz[3], Clifford Rosen[2], Jorge Plutzky[1]. [1]Brigham & Women's Hospital, USA, [2]Maine Medical Center, USA, [3]Yale University School of Medicine, USA
Disclosures: Shriram Nallamshetty, None

FR0217 **Vascular Development during Distraction Osteogenesis Proceeds by the Sequential Arteriogenesis Exterior to Bone Followed by Angiogenesis within the Bone**
Elise Morgan[1], Bader Al-Awadhi[2], Daniel Hogan[3], Amira Hussein[1], Zainab Al-Aql[2], Jennifer Fitch[3], Billy Andre[1], Louis Gerstenfeld*[3]. [1]Boston University, USA, [2]Boston University School of Dental Medicine, USA, [3]Boston University School of Medicine, USA
Disclosures: Louis Gerstenfeld, None

FR0218 **AP-1 Proteins Affect Bone Formation Negatively via both AP-1 Transcriptional Activity and Interaction with β-Catenin whereas Truncated Isoforms (ΔFosB/Δ2ΔFosB) Do Not.**
Ilana Platt*[1], Glenn C. Rowe[2], Sutada Lotinun[1], William Horne[1], Azeddine Atfi[1], Roland Baron[3]. [1]Harvard School of Dental Medicine, USA, [2]Beth Israel Medical Center, USA, [3]Harvard School of Dental Medicine, Harvard Medical School, MGH Endocrine Unit, USA
Disclosures: Ilana Platt, None

FR0220 **Epigenetic Control of Osteoblastogenesis by Pbx1 Repressing Hoxa10-Mediated Recruitment of Activating Chromatin Remodeling Factors**
Jonathan Gordon*[1], Mohammad Hassan[1], Matthew Koss[2], Sharanjot Saini[3], Martin Montecino[4], Licia Selleri[5], Andre Van Wijnen[1], Janet Stein[1], Gary Stein[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]Cornell University Weil Medical School, USA, [3]University of California-San Francisco, USA, [4]Universidad de Concepcion, Chile, [5]Cornell University Weill Medical school, USA
Disclosures: Jonathan Gordon, None

FR0221 **Withdrawn**

FR0223 **KLF10 is a Critical Mediator of Wnt Signalling in Osteoblasts**
John Hawse*[1], Elizabeth Bruinsma[2], Sarah Grygo[2], Frank Secreto[3], Nalini Rajamannan[4], Thomas Spelsberg[3], Malayannan Subramaniam[3]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Clinic, USA, [4]Northwestern University Medical School, USA
Disclosures: John Hawse, None

FR0224 **NF-kB RelB-/- Mice Have Age-Related Trabecular Bone Gain in their Diaphyses, Indicating that RelB negatively Regulates Bone Formation**
Zhenqiang Yao*[1], Chen Zhao[2], Yanyun Li[1], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Zhenqiang Yao, None

FR0225 **Osteoblast-targeted Overexpression of TAZ Results in Increased Bone Mass**
Jee Hyun An*[1], Jae Yeon Yang[1], Sun Wook Cho[1], Ju Yeon Jung[1], Yenna Lee[1], Sang Wan Kim[1], Seong Yeon Kim[1], Jung Eun Kim[2], Jung Ho Hong[3], Chan Soo Shin[1]. [1]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [2]Department of Molecular Medicine, Kyungpook National University, South Korea, [3]College of Life Science, Korea University, South Korea
Disclosures: Jee Hyun An, None

FR0228 **Sclerostin Is a Direct Target of Osteoblast-Specific Transcription Factor Osterix**
Fan Yang[1], Wanjin Tang[2], Sarah So[2], Benoit de Crombbrugghe[3], Chi Zhang*[2]. [1]Bone Research Laboratory,Texas Scottish Rite Hospital, USA, [2]Bone Research Laboratory, Texas Scottish Rite Hospital, USA, [3]Dept of Genetics, University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Chi Zhang, None

FR0232 **G Proteins Differentially Regulate Wnt/β-catenin Signaling in Skeletal Development and Disease**
Jean Regard*[1], Michael Collins[1], Pamela Robey[2], Lee Weinstein[3], Yingzi Yang[4]. [1]National Institutes of Health, USA, [2]National Institute of Dental & Craniofacial Research, USA, [3]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [4]NIH/NHGRI, USA
Disclosures: Jean Regard, None

FR0234 **Insulin Receptor Signaling in Osteoblasts Regulates Bone Acquisition and Glucose Metabolism**
Ryan Riddle*[1], Keertik Fulzele[2], Douglas Digirolamo[3], Xuemei Cao[4], Chao Wan[5], Marie-Claude Faugere[6], Mehboob Hussain[3], Jens Bruning[7], Thomas Clemens[3]. [1]Johns Hopkins University School of Medicine, USA, [2]Massachusetts General Hospital; Harvard Medical School, USA, [3]Johns Hopkins University, USA, [4]University of Alabama at Birmingham, USA, [5]University of Alabama, Birmingham, USA, [6]University of Kentucky Medical Center, USA, [7]University of Cologne, Germany
Disclosures: Ryan Riddle, None

FR0235 **Insulin Signaling in Osteoblasts is a Positive Regulator of Bone Resorption**
Jianwen Wei*, Tatsuya Yoshizawa, Mathieu Ferron, Patricia Ducy, Gerard Karsenty. Columbia University, USA
Disclosures: Jianwen Wei, None

FR0236 **PIN1 Mediates The Effects of Notch on The Stability of NFATc2 Transcripts**
Stefano Zanotti*[1], Anna Smerdel-Ramoya[2], Ernesto Canalis[2]. [1]Saint Francis Hospital & Medical Center, USA, [2]St. Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

FR0238 **Age-related Declines in Expression of CYP27B1 and in Osteoblast Differentiation in Human MSCs**
Shuo Geng*, Shuanhu Zhou, Julie Glowacki. Brigham & Women's hospital, USA
Disclosures: Shuo Geng, None

FR0240 **Dicer Excision in Mature Osteoblasts in the Postnatal Skeleton Induces High Bone Mass by Inactivating miR that Attenuate Bone Formation**
Tripti Gaur*[1], Sadiq Hussain[1], Stacey Russell[1], Lammy Kim[2], Jennifer Colby[1], Dana Frederick[1], Andre Van Wijnen[1], David Eyre[3], Janet Stein[1], Gary Stein[1], Stephen Jones[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]University of Washington, USA, [3]University of Washington Orthopaedic Research Labs, USA
Disclosures: Tripti Gaur, None

FR0245 **Mechanical Inhibition of Adipogenesis Achieved via a Regenerated β-catenin Signal is Amplified by Incorporating a Refractory Period**
Buer Sen*[1], Zhihui Xie[2], Natasha Case[3], Maya Styner[3], Clinton Rubin[4], Janet Rubin[3]. [1]University of North Carolina At Chapel Hill, USA, [2]UNC-CH, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA, [4]State University of New York at Stony Brook, USA
Disclosures: Buer Sen, None

FR0246 **Mechanical Signals Protect the Bone Marrow Stem Cell Niche from Damage due to a High Fat Diet**
Benjamin Adler*[1], Danielle E. Green[1], Ete M. Chan[1], Stefan Judex[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Benjamin Adler, None

FR0248 **Peptide-mediated Disruption of N-cadherin-LRP5/6 Interaction Stimulates Wnt Signaling, Osteoblast Replication and Differentiation**
Eric Haÿ*[1], Thibault Buczkowski[1], Pierre Marie[2]. [1]Inserm U606 & University Paris Diderot, France, [2]INSERM Unit 606 & University Paris Diderot, France
Disclosures: Eric Haÿ, None

FR0253 **Disruption of Cathepsin K in the Osteoclast Lineage Increased Bone Formation through Coupling-dependent Mechanism**
Sutada Lotinun*[1], Riku Kiviranta[2], Lynn Neff[1], Jean Vacher[3], Eero Vuorio[2], William Horne[1], Georgios Sabatakos[4], Roland Baron[5]. [1]Harvard School of Dental Medicine, USA, [2]University of Turku, Finland, [3]Institut De Recherches Cliniques De Montréal, Canada, [4]Procter & Gamble Pharmaceuticals, Inc., USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Sutada Lotinun, None

FR0254 **CD68 Regulates Osteoclast Function via Mediation of Attachment to Bone**
Jason Ashley*, Zhenqi Shi, Xu Feng. University of Alabama at Birmingham, USA
Disclosures: Jason Ashley, None

FR0255 **Osteoclast Attachment and Motility are Regulated by Nitric Oxide Through the Dual Effects of IRAG on Calcium Release and Cytoskeletal Protein Interactions**
Lisa Robinson*, Harry Blair, Beatrice Yaroslavskiy. University of Pittsburgh, USA
Disclosures: Lisa Robinson, None

FR0258 **Bone Marrow Stromal Cells Suppress TACE-mediated M-CSFR and RANK Shedding to Facilitate Osteoclastogenesis and Suppress DC Differentiation from Monocytes.**
Masahiro Hiasa*[1], Masahiro Abe[2], Ayako Nakano[3], Asuka Oda[2], Hiroe Amou[2], Keiichiro Watanabe[4], Shingen Nakamura[2], Hirokazu Miki[2], Kyoko Takeuchi[2], Kumiko Kagawa[2], Shuji Ozaki[2], Eiji Tanaka[1], Kenzo Asaoka[1], Toshio Matsumoto[5]. [1]University of Tokushima Graduate School, Japan, [2]University of Tokushima, Japan, [3]University of Tokushima, Graduate School of Medicine, Japan, [4]The University of Tokushima Graduate School of Oral Science, Japan, [5]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Masahiro Hiasa, None

FR0261 **Identification of a Novel Osteoclastogenic Co-activator for Nfatc1, OCAN**
Min-Young Youn*[1], Sally Fujiyama-Nakamura[1], Shigeaki Kato[2]. [1]IMCB, University of Tokyo, Japan, [2]University of Tokyo, Japan
Disclosures: Min-Young Youn, None

FR0263 **MicroRNA-21 Has a Central Critical Role in Osteoclastogenesis**
Keith Hruska, Toshifumi Sugatani*. Washington University in St. Louis School of Medicine, USA
Disclosures: Toshifumi Sugatani, None

FR0266 **Regulatory Role of Osteoactivin/Gpnmb in Osteoclast Differentiation and Function In Vivo**
Joyce Belcher*[1], Fabiola Del Carpio- Cano[2], M. Alexandra Monroy[3], Steven Popoff[4], Fayez Safadi[4]. [1]Temple University, School of Medicine, USA, [2]Temple University School of Medicine, Department of Anatomy & Cell Biology, USA, [3]Temple University School of Medicine, Department of Anatomy & Cell Biology & Department of Surgery, USA, [4]Temple University School of Medicine, USA
Disclosures: Joyce Belcher, None

FR0268 **Vitamin E Induces Osteoclast Fusion and Decreases Bone Mass.**
Koji Fujita*[1], Makiko Iwasaki[2], Takako Koga[3], Hiroshi Takayanagi[4], Kimitaka Takitani[5], Hiroshi Tamai[5], Hiroyuki Arai[6], Hiroshi Ito[7], Kenichi Shinomiya[8], Shu Takeda[9]. [1]Dept. of Orthopedics, Tokyo Medical & Dental University,Global Center of Excellence (GCOE) Program, International Research Center for Molecular Science in Tooth & Bone Diseases, Japan, [2]Dept. of Orhopedics, Tokyo Medical & Dental University, Japan, [3]Dep of Cell Signaling, Graduate School of Medical & Dental Sciences, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Japan, [5]Department of Pediatrics, Osaka Medical College, Japan, [6]Department of Health Chemistry, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan, [7]Dept. of Nephrology, Endocrinology & Metabolism Keio Univ., Japan, [8]Dept. of Orthopedics, Tokyo Medical & Dental University, Japan, [9]Keio University, Dept. of Nephrology, Endocrinology & Metabolism, Japan
Disclosures: Koji Fujita, None

FR0270 **Deficiency of Dok-1 and Dok-2, Ras-Erk Pathway Inhibitors, Enhances Bone Loss in Postmenopausal Osteoporosis Model of Mice**

Daisuke Miyajima*[1], Aya Kawamata[2], Akane Inoue[3], Yoichi Ezura[4], Tetsuya Nakamoto[1], Tadayoshi Hayata[5], Takuya Notomi[6], Teruo Amagasa[7], Yuji Yamanashi[8], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Medical Research Institute, Tokyo Medical & Dental University, Japan, [3]Division of Genetics & Department of Cancer Biology, Institute of Medical Science, University of Tokyo, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [5]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [6]GCOE, Tokyo Medical & Dental University, Japan, [7]Maxillofacial Surgery, Tokyo Medival Dental University, Japan, [8]Division of Genetics, The Institute of Medical Science, The University of Tokyo, Japan

Disclosures: Daisuke Miyajima, None

FR0273 **LIS1, a Plekhm1 Binding Protein, Regulates Microtubule Organization/Transportation and Cathepsin K secretion in Osteoclasts and is indispensable for Osteoclast Formation and Function**

Shiqiao Ye*[1], Yunfeng Feng[2], Kanan Vyas[3], Stavros Manolagas[1], Haibo Zhao[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Department of internal medicine, Washington University School of medicine, USA, [3]Center for Osteoporosis & Metabolic Bone Diseases, University of Arkansas for Medical Sciences & Central Arkansas Veterans Healthcare System, USA

Disclosures: Shiqiao Ye, None

FR0278 **Rac Deletion in Osteoclasts Causes Severe Osteopetrosis**

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Disclosures: Monica Croke, None

FR0279 **The Distinct Roles of Cbl and Cbl-b in Osteoclast Differentiation, Survival and Function are Due to Unique Phosphorylation-dependent Interaction of Cbl with PI3K**

Naga Suresh Adapala*[1], Alexander Tsygankov[1], Mary Barbe[2], Archana Sanjay[2]. [1]Temple University, USA, [2]Temple University School of Medicine, USA

Disclosures: Naga Suresh Adapala, None

FR0281 **A Marrow 'Guardian' Cell inhibits Marrow Space Mineralization and Trabecularization through Sost/sclerostin Expression**

Jian Feng[1], Xianglong Han*[2]. [1]Texas A&M Health Science Center, USA, [2]Baylor College of Dentistry, TX A&M Health Science Center, USA

Disclosures: Xianglong Han, None

FR0282 **Bone-Muscle Crosstalk is Demonstrated by Morphological and Functional Changes in Skeletal and Cardiac Muscle Cells in Response to Factors Produced by MLO-Y4 Osteocytes**

Nuria Lara[1], Todd Hall*[1], Chad Touchberry[1], Jon Andresen[1], Marco Brotto[1], Mark Johnson[2], Michael Wacker[3], Christopher Elmore[1], Sandra Romero - Suarez[1], Cheng Lin Mo[4], Lynda Bonewald[1], Neerupma Silswal[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA, [3]University of Missouri-Kansas City School of Medicine, USA, [4]Univsity of Missouri - Kansas City, USA

Disclosures: Todd Hall, None

FR0283 **Cx43 in Osteocytes, but not in Osteoblasts, Is Required to Preserve Osteocyte Viability, Bone Geometry and Material Stiffness.**

Nicoletta Bivi*[1], Mark Nelson[2], Racheal Lee[3], Jeffrey Benson[3], Keith Condon[3], Jiliang Li[2], Matthew Allen[3], Teresita Bellido[3], Lilian Plotkin[3]. [1]Indiana University, USA, [2]Indiana University, Purdue University Indianapolis, USA, [3]Indiana University School of Medicine, USA

Disclosures: Nicoletta Bivi, None

FR0284 **Homozygous Deletion of the *SOST* Gene Results in Enhanced Union and Increased Hard Callus Formation in Healing Fractures.**
Michelle McDonald*[1], Alyson Morse[2], Lauren Peacock[2], Kathy Mikulec[2], Ina Kramer[3], Michaela Kneissel[4], David Little[2]. [1]The Childrens Hospital Westmead, Australia, [2]The Kids Research Institute, The Children's Hospital Westmead, Australia, [3]Novartis Institutes for BioMedical Research, Che, [4]Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Michelle McDonald, None

FR0285 **2010 YOUNG INVESTIGATOR AWARD**
Role of Histone Deacetylases (HDACs) in PTH-mediated Repression of MEF2-dependent Sost Expression in UMR-106 Cells
Stefan Baertschi*, Heidi Jeker, Simone Degen, Hansjoerg Keller. Novartis Institutes for BioMedical Research, Switzerland
Disclosures: Stefan Baertschi, Novartis, 3

FR0286 **Tracking Osteocyte Lineage Plasticity In Vitro**
Slavica Pejda*[1], Tomislav Kizivat[1], Mohammad fatahi[1], John Igwe[2], Ivo Kalajzic[3]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, USA, [2]Department of Orthopedic Surgery, University of Connecticut Health Center, USA, [3]University of Connecticut Health Center, USA
Disclosures: Slavica Pejda, None

FR0287 **Use of a Sost-GFP Mouse Model to Determine the Role of the AKT-GSK3β in Osteocyte Function and to Map Local Strain Fields around Osteocytes with Loading**
Stephen Harris*[1], Marie Harris[1], Jelica Gluhak-Heinrich[1], Wuchen Yang[1], Yong Cui[2], Ryan S Potter[3], Lynda Bonewald[4], Daniel Nicolella[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]U. of Texas Health Science Center at San Antonio, USA, [3]Southwest Research Institute, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Stephen Harris, None

FR0289 **2010 YOUNG INVESTIGATOR AWARD**
Late Osteoblastic/Osteocytic Cell Line IDG-SW3 Expresses Dmp1-GFP, SOST and FGF23 *in vitro* and Promotes New Bone Formation *in vivo*
Stacey Woo*[1], Lianxiang Bi[1], Mark Johnson[2], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Stacey Woo, None

FR0290 **Calcimimetics Regulate FGF23, Sclerostin and Dkk1 Expression in Bone in a Rat Model of Chronic Kidney Disease-Mineral and Bone Disorder with Secondary Hyperparathyroidism**
Victoria Shalhoub*[1], Eliane Valente[1], Edward Shatzen[1], Sabrina Ward[1], Charles Henley[1], Xuechun Xia[2], Xiaodong Li[1], Thomas Wronski[2], William Richards[1]. [1]Amgen Inc, USA, [2]University of Florida, USA
Disclosures: Victoria Shalhoub, Amgen Inc, 3; Amgen Inc, 1

FR0299 **Construction and Validation of a Simplified Fracture Risk Assessment Tool for Canadian Women and Men: Results from the CaMos and Manitoba BMD Cohorts**
William Leslie*[1], Claudie Berger[2], Lisa Langsetmo[3], Jonathan Adachi[4], David Hanley[5], George Ioannidis[6], Robert Josse[7], Christopher Kovacs[8], Tan Towheed[9], Stephanie Kaiser[10], W.P. Olszynski[11], Jerilynn Prior[12], Sophie Jamal[13], Nancy Kreiger[14], David Goltzman[15]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]Canandian Multicenter Osteoporosis Study, Canada, [4]St. Joseph's Hospital, Canada, [5]University of Calgary, Canada, [6]Sympatico, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]Memorial University of Newfoundland, Canada, [9]Queen's University, Canada, [10]Dalhousie University, Canada, [11]Midtown Medical Center (#103), Canada, [12]University of British Columbia, Canada, [13]The University of Toronto, Canada, [14]University of Toronto, Canada, [15]McGill University Health Centre, Canada
Disclosures: William Leslie, None

FR0300 **Enhancement of Hip Fracture Prediction Using Finite Element Analysis of CT Scans**
David Kopperdahl*[1], Paul Hoffmann[1], Sigurdur Sigurdsson[2], Thor Aspelund[2], Kristin Siggeirsdottir[2], Gudny Eiriksdottir[2], Tamara Harris[3], Vilmundur Gudnason[2], Tony Keaveny[4]. [1]O.N. Diagnostics, USA, [2]Icelandic Heart Association Research Institute, Iceland, [3]Intramural Research Program, National Institute on Aging, USA, [4]University of California, Berkeley, USA
Disclosures: David Kopperdahl, O.N. Diagnostics, 3

FR0301 **Fracture Prediction and Calibration of a Canadian FRAX® Tool: A Population-Based Report From CaMos**
Lisa-Ann Fraser[1], Lisa Langsetmo[2], Claudie Berger[3], George Ioannidis[4], David Goltzman[5], Jonathan Adachi[6], Alexandra Papaioannou[7], Robert Josse[8], Christopher Kovacs[9], Wojciech P. Olszyynski[10], Tanveer Towheed[11], David Hanley[12], Stephanie Kaiser[13], Jerilynn Prior[14], Sophie Jamal[15], Nancy Kreiger[16], Jacques Brown[17], Helena Johansson[18], John Kanis[19], William Leslie*[20]. [1]University of Western Ontario, McMaster University, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]McGill University, Canada, [4]Sympatico, Canada, [5]McGill University Health Centre, Canada, [6]St. Joseph's Hospital, Canada, [7]Hamilton Health Sciences, Canada, [8]St. Michael's Hospital, University of Toronto, Canada, [9]Memorial University of Newfoundland, Canada, [10]University of Saskatchewan, Canada, [11]Queen's University, Canada, [12]University of Calgary, Canada, [13]Dalhousie University, Canada, [14]University of British Columbia, Canada, [15]The University of Toronto, Canada, [16]University of Toronto, Canada, [17]Laval University, Canada, [18]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [19]University of Sheffield, Belgium, [20]University of Manitoba, Canada
Disclosures: William Leslie, None

FR0302 **FRAX or Fiction: Should We Treat All Long Term Care Residents for Osteoporosis?**
Julie Wagner*[1], Kimberly Zukowski[1], MaryAnne Ferchak[1], Carroll Lee[1], Sherry L. Knoblock[1], Donna Medich[1], Gail Fiorito[2], Megan Miller[1], Subashan Perera[1], David Nace[1], Neil Resnick[1], Susan Greenspan[1]. [1]University of Pittsburgh, USA, [2]University of Pittsburgh, USA
Disclosures: Julie Wagner, None

FR0305 **Underestimated Fracture Risk in Patients with Unilateral Hip Osteoarthritis as Calculated by FRAX**
Nithya Setty*, Giulia Rinaldi, Julie Glowacki, Thomas Thornhill, Meryl Leboff. Brigham & Women's Hospital, USA
Disclosures: Nithya Setty, None

FR0310 **In Vivo Quantification of Intracortical Porosity and Cortical Remnants Adjacent to Marrow Identifies Individuals at Risk for Fracture Better than Prevailing Methods**
Ali Ghasem-Zadeh[1], Sandra Iuliano-Burns[2], Ego Seeman[2], Roger Zebaze*[3]. [1]Austin Health, University of Melbourne, Aus, [2]Austin Health, University of Melbourne, Australia, [3]Austin Health, Australia
Disclosures: Roger Zebaze, None

FR0316 **A Four Years Exercise Intervention Program in Pre-Pubertal Children Increases Bone Mass and Bone Size But Do Not Affect the Fracture Risk**
Bjarne Lofgren*[1], Jan Åke Nilsson[2], Magnus Dencker[2], Magnus Karlsson[3]. [1]Clinical & Molecular Osteoporosis Research Unit Dept. of Clinical Sciences, Lund University, Dept of Orthopaedics, Skåne University Hospital, Sweden, [2]Skane University Hospital, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Bjarne Lofgren, None

FR0320 **DXA Self-Scheduling Improves Osteoporosis Screening**
Amy Warriner*[1], Ryan Outman[2], Kenneth Saag[2], Elizabeth Kitchin[2], Sarah Morgan[2], Jeffrey Curtis[2]. [1]UAB, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Amy Warriner, None

FR0321 **Evaluation of the Risk of Fracture in Early Postmenopausal Women: Predictive Value of Baseline BMD and Development of Prognosis BMD T-score Thresholds**
Jean-Michel Pouilles[1], Florence Tremollieres*[2], Patricia Dargent[3], Nicolas Drewniak[4], Claude Ribot[2]. [1]Menopause Center. Hôpital Paule de Viguier, France, [2]Hopital Paule De Viguier, France, [3]INSERM Unit 953 (ex 149), France, [4]Inserm U953, France
Disclosures: Florence Tremollieres, None

FR0322 **FRAX and UK-Based Diagnostic and Therapeutic Decisions the Day Before a Fracture in the Netherlands**
Tineke van Geel*[1], Sandrine Bours[2], Kirsten Huntjens[2], Geert-Jan Dinant[1], Joop van den Bergh[3], Piet Geusens[2]. [1]Maastricht University/Caphri, Netherlands, [2]Maastricht University Medical Centre, Netherlands, [3]VieCuri Medical Centre Noord-Limburg, Netherlands
Disclosures: Tineke van Geel, None

FR0327 **Dual Effect of Adipose Tissue on Bone Health during Growth**
Heli Viljakainen*[1], Minna Pekkinen[2], Elisa Saarnio[2], Christel Lamberg-Allardt[2], Outi Mäkitie[3]. [1]Helsinki University Central Hospital for Children & Adolescents, Finland, [2]University of Helsinki, Finland, [3]Helsinki University Central Hospital for for Children & Adolescents, Finland
Disclosures: Heli Viljakainen, None

FR0332 **A Population-Based Analysis of the Post-Fracture Care Gap 1996-2008: The Situation Is Not Improving**
William Leslie*[1], Marina Yogendran[1], Mahmoud Azimee[1], Suzanne Morin[2], Colleen Metge[1], Patricia Caetano[1], Lisa Lix[3]. [1]University of Manitoba, Canada, [2]McGill University Health Centre, Canada, [3]University of Saskatchewan, Canada
Disclosures: William Leslie, Amgen, 2

FR0338 **In COPD Inhaled Glucocorticoids, but not β2-Agonist are Associated with Vertebral Fracture Risk**
Stefano Gonnelli*[1], Carla Caffarelli[1], Stefania Maggi[2], Stefania Rossi[1], Paola Siviero[2], Gaetano Crepaldi[2], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]CNR - Center on Aging, Italy
Disclosures: Stefano Gonnelli, None

FR0339 **Inhibition of the Serotonin Transporter and Risk of Fracture in Older Women**
Susan Diem*[1], Terri Blackwell[2], Katie Stone[3], Jane Cauley[4], Elizabeth Haney[5], Kristine Ensrud[6]. [1]University of Minnesota, USA, [2]California Pacific Medical Center Research Institute, USA, [3]California Pacific Medical Center-Research Institute, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Oregon Health & Science University, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Susan Diem, Eli Lilly, Inc., 2

FR0342 **Reduced Rate of Bone Loss Predicts Survival Post-Fracture and May Mediate Mortality Risk Reduction Associated With Bisphosphonate Treatment: Data From An 18-Year Prospective Study From Dubbo Osteoporosis Epidemiology Study**
Dana Bliuc*, Nguyen Nguyen, Tuan Nguyen, John Eisman, Jacqueline Center. Garvan Institute of Medical Research, Australia
Disclosures: Dana Bliuc, None

FR0343 **The Impact of Two Educational Interventions on Osteoporosis Diagnosis and Treatment After a Fragility Fracture: a Randomized-controlled Trial**
Louis Bessette*[1], Sonia Jean[2], Sophie Roy[3], K. Shawn Davison[4], Louis-Georges Ste-Marie[5], Jacques Brown[1]. [1]Laval University, Canada, [2]Institut National De Sante Publique, Canada, [3]Institut national de santé publique du Québec, Canada, [4]Centre de recherche du CHUQ, Canada, [5]Hospital Saint-Luc, CHUM, Canada
Disclosures: Louis Bessette, Roche, 8; Roche, 2; Pfizer, 5; Novartis, 8; Merck, 2; Amgen, 8; Pfizer, 2; Amgen, 5; Bristol-Myers-Squibb, 2; Amgen, 2; Eli Lilly, 2; Abbott, 2; Abbott, 5; Merck, 5; Pfizer, 8; Warner Chilcott, 8; Roche, 5; Merck, 8; Novartis, 5

FR0344 **Validation of Diagnostic Codes for Subtrochanteric, Diaphyseal, and Typical Hip Fractures Using Administrative Claims Data**
Pongthorn Narongroeknawin[1], Nivedita Patkar[1], Bita Shakoory[1], Archana Jain[2], Jeffrey Curtis[1], Elizabeth Delzell[1], Philip Lander[1], Robert Lopez-Ben[1], Michael Pitt[3], Monika Safford[1], David Volgas[1], Kenneth Saag*[1]. [1]University of Alabama at Birmingham, USA, [2]University of Alabama, USA, [3]Radiology, University of Alabama at Birmingham, USA
Disclosures: Kenneth Saag, None

FR0350 **Association of Stressful Life Events with Incident Falls and Fractures in Older Men: the Osteoporotic Fractures in Men (MrOS) Study**
Howard Fink*[1], Michael Kuskowski[1], Lynn Marshall[2]. [1]GRECC, Minneapolis VA Medical Center, USA, [2]Oregon Health & Science University, USA
Disclosures: Howard Fink, None

FR0351 **Baseline Serum Interleukin-6 (IL-6), Tumor Necrosis Factor-α (TNF-α) and C-reactive Protein (CRP) Do Not Predict Subsequent Hip Bone Loss in Men or Women: The Framingham Osteoporosis Study**

Robert McLean*[1], Xiaochun Zhang[2], James Meigs[3], Joao Fontes[4], L. Adrienne Cupples[5], Douglas Kiel[2], Marian Hannan[6]. [1]Hebrew SeniorLife, Harvard Medical School, USA, [2]Hebrew SeniorLife, USA, [3]Massachusetts General Hospital, USA, [4]Framingham Heart Study & Boston University, USA, [5]Boston University School of Public Health, USA, [6]HSL Institute for Aging Research and Harvard Medical School, USA

Disclosures: Robert McLean, None

FR0355 **Incidence of Subtrochanteric and Diaphyseal Fractures in Older White Women: Data from the Study of Osteoporotic Fractures**

Michael Kelly[1], Rosanna Wustrack*[1], Douglas Bauer[1], Lisa Palermo[1], Shane Burch[1], Katherine Wilt[2], Jane Cauley[3], Kristine Ensrud[4], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]California Pacific Medical Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA

Disclosures: Rosanna Wustrack, None

FR0356 **Increasing Kyphosis Predicts Worsening Mobility Among Older Community-Dwelling Women: A Prospective Cohort Study**

Wendy Katzman, DSc*[1], Eric Vittinghoff[2], Kristine Ensrud[3], Dennis Black[4], Deborah Kado[5]. [1]University of California San Francisco, USA, [2]University of California, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University of California, San Francisco, USA, [5]University of California, Los Angeles, USA

Disclosures: Wendy Katzman, DSc, Merck, Roche, Novartis, 2; Medtronic, Kyphon, 5

FR0360 **Previous Fractures Increase Risk for Subsequent Fractures at Multiple Sites: Global Longitudinal Study of Osteoporosis in Women**

Stephen Gehlbach*[1], Kenneth Saag[2], Jonathan Adachi[3], Silvano Adami[4], Steven Boonen[5], Susan Greenspan[6], Coen Netelenbos[7], Philip Sambrook[8], Stuart Silverman[9], Julie Flahive[10], Ethel Siris[11]. [1]University of Massachusetts, USA, [2]University of Alabama at Birmingham, USA, [3]St. Joseph's Hospital, Canada, [4]University of Verona, Italy, [5]Center for Metabolic Bone Disease, Belgium, [6]University of Pittsburgh, USA, [7]VU Medical Center, The Netherlands, [8]Royal North Shore Hospital, Australia, [9]Cedars-Sinai/UCLA, USA, [10]COR, UMass Medical School, USA, [11]Columbia University College of Physicians & Surgeons, USA

Disclosures: Stephen Gehlbach, The Alliance for Better Bone Health (sanofi-aventis and Warner Chilcott), 2

FR0363 **2010 YOUNG INVESTIGATOR AWARD**

Abnormal Microarchitecture and Decreased Stiffness Suggest That Postmenopausal Ankle Fractures Reflect Bone Fragility

Emily Stein*[1], Xiaowei Liu[2], Thomas Nickolas[3], Adi Cohen[3], Dionisio Ortiz[4], Valerie Thomas[3], Perry Yin[2], Felicia Cosman[5], Jeri Nieves[5], Donald McMahon[1], X Guo[2], Elizabeth Shane[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA, [4]SUNY Downstate College of Medicine, USA, [5]Helen Hayes Hospital, USA

Disclosures: Emily Stein, None

FR0365 **Bone Microstructure During and After Lactation**

Åshild Bjørnerem*[1], Ali Ghasem-Zadeh[2], Thuy Vu[3], Ego Seeman[4]. [1]Department of Community Medicine, University of Tromsø, Norway, [2]Austin Health, University of Melbourne, Aus, [3]Endocrine Centre, Austin Health, University of Melbourne, Australia, [4]Austin Health, University of Melbourne, Australia

Disclosures: Åshild Bjørnerem, None

FR0368 **2010 YOUNG INVESTIGATOR AWARD**

Estradiol Replacement Therapy Lowers Serum Sclerostin Levels in Postmenopausal Women

Faryal Mirza*[1], Pamela Taxel[1], Yun Ey Chung[2], Sandra Jastrzebski[3], Lawrence Raisz[1], Joseph Lorenzo[1]. [1]University of Connecticut Health Center, USA, [2]Univ. of Connecticut Health Center, USA, [3]Univ of Connecticut Health Center, USA

Disclosures: Faryal Mirza, None

FR0369 **Oxytocin Mediates the Anabolic Action of Estrogen on the Skeleton.**
Graziana Colaianni[1], Adriana DiBenedetto[2], Roberto Tamma[2], Giovanni Greco[2], Stefania Dell'Endice[2], Concetta Cuscito[2], Lucia Mancini[2], Ling-Ling Zhu[3], Xuan Liu[3], Yuanzheng Peng[3], Jianhua Li[3], Jammel Iqbal[3], Li Sun[4], Alberta Zallone[1], Mone Zaidi*[5]. [1]University of Bari Medical School, Italy, [2]Department of Human Anatomy & Histology, University of Bari, Italy, [3]The Mount Sinai Bone Program, Mount Sinai School of Medicine, USA, [4]Mount Sinai School of Medicine, USA, [5]Mount Sinai Medical Center, USA
Disclosures: Mone Zaidi, None

FR0370 **High Seretonin Levels and High Platelet Count are Associated with Low Bone Mineral Density in Elderly Men, MrOs Sweden**
Dan Mellstrom*[1], Malin Aronsson[2], Mattias Lorentzon[3], Osten Ljunggren[4], Magnus Karlsson[5], Ulf Lerner[6], Claes Ohlsson[7]. [1]Sahlgrenska University Hospital, Sweden, [2]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Institute of Medicine & Geriatrics, University of Gothenburg, Sweden, Sweden, [3]Center for Bone Research at the Sahlgrenska Academy, Sweden, [4]Uppsala University Hospital, Sweden, [5]Skåne University Hospital Malmö, Lund University, Sweden, [6]Center for Bone Research at the Sahlgrenska Academy, Dept. of Internal Medicine, University of Gothenburg, Sweden, Sweden, [7]Centre for Bone & Arthritis Research, Sweden
Disclosures: Dan Mellstrom, None

FR0371 **Neural and Endocrine Signalling Interact to Control Bone and Adipose Homeostasis**
Ayse Zengin*, Ronaldo F Enriquez, Amy D Nguyen, Amanda Sainsbury, Herbert Herzog, John Eisman, Paul Baldock. Garvan Institute of Medical Research, Australia
Disclosures: Ayse Zengin, None

FR0376 **Comparison of Transdermal and Subcutaneous Teriparatide Pharmacokinetics and Pharmacodynamics of Bone Markers in Postmenopausal Women**
Yael Kenan[1], Efrat Kochba[1], Michal Shahar[1], Hana Gadasi[1], Galit Levin[1], Ajit Suri[2], Kyoungah See[2], A. Joseph Foldes[3], Sophia Ish-Shalom*[4], Toshio Matsumoto[5], Robert Lindsay[6], Claus Christiansen[7], Robert Neer[8]. [1]TransPharma-Medical, Israel, [2]Eli Lilly & Company, USA, [3]Hadassah-Hebrew University Medical Center, Israel, [4]Rambam Health Care Campus, Technion Faculty of Medicine, Israel, [5]University of Tokushima Graduate School of Medical Sciences, Japan, [6]Helen Hayes Hospital, USA, [7]Nordic Bioscience, Denmark, [8]Massachusetts General Hospital, USA
Disclosures: Sophia Ish-Shalom, TransPharma-Medical, 1; TransPharma-Medical, 3

FR0377 **Does Anabolic Therapy Correct the Homogeneity In Bone Composition Associated With Osteoporosis?**
Adele Boskey*[1], Lyudmila Spevak[1], David Dempster[2], Anthony Hodsman[3]. [1]Hospital for Special Surgery, USA, [2]Columbia University, USA, [3]St. Joseph's Health Care, Canada
Disclosures: Adele Boskey, None

FR0378 **Effects of Teriparatide and Strontium Ranelate on Periosteal Bone Formation in the Ilium of Postmenopausal Women with Osteoporosis**
Robert Recker*[1], Fernando Marin[2], Jan Stepan[3], Qing Q. Zeng[2], Xiahoai Wan[2], Sophia Ish-Shalom[4], Federico G. Hawkins[5], Georgios Kapetanos[6], M[a] Pilar de la Peña[7], Jordi Farrerons[8], Yanfei Ma[9]. [1]Creighton University Osteoporosis Research Center, USA, [2]Lilly Research Labs, USA, [3]Charles Univ., Czech Republic, [4]Bone Metabolism Unit, Technion Univ., Israel, [5]Endocrinology, Hospital 12 de Octubre, Spain, [6]Orthopedic Surgery, Aristotelion Univ., Greece, [7]Clínica Médica Monraz, Mexico, [8]Internal Medicine, Hospital Sant Pau, Spain, [9]Eli Lilly & Company, USA
Disclosures: Robert Recker, Lilly, 8

FR0387 **Bisphosphonates and Glucocorticoid Osteoporosis in Men: Results of a Randomized Controlled Trial Comparing Zoledronic Acid With Risedronate**
Philip Sambrook*[1], Christian Roux[2], Jean-Pierre Devogelaer[3], Kenneth Saag[4], C Lau[5], Jean-Yves Reginster[6], C Bucci-Rechtweg[7], G Su[7], David Reid[8]. [1]Royal North Shore Hospital, Australia, [2]Hospital Cochin, France, [3]St. Luc University Hospital, Belgium, [4]University of Alabama at Birmingham, USA, [5]University of Hong Kong, Hong Kong, [6]CHU Centre Ville, Belgium, [7]Novartis Pharmaceuticals Corporation, USA, [8]University of Aberdeen, United Kingdom
Disclosures: Philip Sambrook, Roche, Merck, Sanofi - Aventis, Servier, and Novartis, 8; Australian National Health and Medical Research Council, 2; Roche, Merck, Sanofi - Aventis, Servier, and Novartis, 5

FR0388 **BMD Response to a Novel Delayed-release Risedronate 35 mg Once-a-Week Formulation Taken With or Without Breakfast: One Year Results**
Michael McClung*[1], Michael Bolognese[2], Paul Miller[3], Joseph Sarley[4], Leigh McCullough[5], Jacques Brown[6], Robert Recker[7]. [1]Oregon Osteoporosis Center, USA, [2]Bethesda Health Research, USA, [3]Colorado Center for Bone Research, USA, [4] Procter & Gamble Pharmaceuticals Health Care Research Center, USA, [5]Warner Chilcott Phamaceuticals, USA, [6]Laval University, Canada, [7]Creighton University Osteoporosis Research Center, USA
Disclosures: Michael McClung, Warner Chilcott Pharmaceuticals, 5

FR0389 **Comparison of Risedronate and Alendronate on Bone Remodeling, Architecture and Material Properties; a Cross-sectional Study in Women with Postmenopausal Osteoporosis**
Eleftherios Paschalis[1], Roger Phipps*[2], Frank Ebetino[3], Babul Borah[4]. [1]Ludwig Boltzmann Institute for Osteology, Austria, [2]Husson University School of Pharmacy, USA, [3]Procter & Gamble Pharmaceuticals, Inc., USA, [4]Procter & Gamble Pharmaceuticals, USA
Disclosures: Roger Phipps, Warner Chilcott Pharmaceuticals, 5

FR0390 **Disintegration Times of Brand and Generic Bisphosphonates Available in Canada**
W.P. Olszynski*[1], Jonathan Adachi[2], Jana Davison[3], K. Shawn Davison[4]. [1]Midtown Medical Center (#103), Canada, [2]St. Joseph's Hospital, Canada, [3]a priori medical sciences inc., Canada, [4]Laval University, Canada
Disclosures: W.P. Olszynski, None

FR0393 **The Effect of Long Term Bisphosphonate Therapy on Cortical Thickness Ratio of the Proximal Femur**
Quang Ton*[1], Kashif Ashfaq[2], John Kleimeyer[3], Aasis Unnanuntana[2], Joseph Lane[2]. [1]Englewood Hospital & Medical Center, USA, [2]Hospital for Special Surgery, USA, [3]Weill Cornell Medical College, USA
Disclosures: Quang Ton, None

FR0396 **Zoledronic Acid Improves Health-related Quality of Life in Patients with Hip Fracture: Results of HORIZON-RFT**
Jonathan Adachi*[1], Kenneth Lyles[2], Cathleen Colon-Emeric[2], Steven Boonen[3], C Pieper[2], Carlos Mautalen[4], Lars Hyldstrup[5], Christopher Recknor[6], L Nordsletten[7], C Bucci-Rechtweg[8], G Su[8], Erik Fink Eriksen[9], Jay Magaziner[10]. [1]St. Joseph's Hospital, Canada, [2]Duke University Medical Center, USA, [3]Center for Metabolic Bone Disease, Belgium, [4]Centro de Osteopatías Médicas, Argentina, [5]Hvidovre Hospital, Denmark, [6]United Osteoporosis Center, USA, [7]Ullevål University Hospital, Norway, [8]Novartis Pharmaceuticals Corporation, USA, [9]Oslo University Hospital, Norway, [10]University of Maryland, Baltimore, USA
Disclosures: Jonathan Adachi, Amgen, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Pfizer, Procter & Gamble, and Roche, 2; Amgen, AstraZeneca, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Pfizer, Procter & Gamble, Roche, Sanofi-Aventis, and Servier, 8; Amgen, AstraZeneca, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Pfizer, Procter & Gamble, Roche, Sanofi-Aventis, and Servier, 5

FR0402 **Efficacy and Safety of Bazedoxifene in Postmenopausal African American Women**
Amy B. Levine*[1], Monika Ciesielska[1], Arkadi Chines[2]. [1]Pfizer Inc, USA, [2]Wyeth Research, USA
Disclosures: Amy B. Levine, Pfizer Inc, 3

FR0403 **The effect of Raloxifene on Vertebral and Non-vertebral Fracture Risk Is Independent of Baseline FRAX® Probability**
John Kanis[1], Helena Johansson[2], Anders Oden[2], Eugene McCloskey*[3]. [1]University of Sheffield, Belgium, [2]WHO Collaborating Centre for Metabolic Bone Diseases, United Kingdom, [3]University of Sheffield, United Kingdom
Disclosures: Eugene McCloskey, None

FR0404 **Impact of Comorbidities on Hospitalization Costs Following Hip Fracture**
Lucas Nikkel*[1], Christopher Hollenbeak[2], Kevin Black[2], Edward Fox[2]. [1]Pennsylvania State University College of Medicine, USA, [2]Pennsylvania State Hershey Medical Center, USA
Disclosures: Lucas Nikkel, None

FR0405 **Physician Notification From Administrative Health Data Is A Cost-Effective Post-Fracture Intervention: Interim Report From A Randomized Controlled Trial**
William Leslie*, Patricia Caetano. University of Manitoba, Canada
Disclosures: William Leslie, None

FR0408 **Effects of the Cathepsin K Inhibitor, ONO-5334, on BMD as Measured by 3D QCT in the Hip and the Spine After 12 Months Treatment**
Klaus Engelke*[1], Shinichi Nagase[2], Thomas Fuerst[3], Richard Eastell[4], Harry Genant[5], Maria Small[2], Tomohiro Kuwayama[2], Steve Deacon[2]. [1]University of Erlangen, Germany, [2]ONO PHARMA UK LTD, United Kingdom, [3]Synarc, Inc., USA, [4]University of Sheffield, United Kingdom, [5]UCSF/Synarc, USA
Disclosures: Klaus Engelke, ONO PHARMA UK LTD, 5; Ono Pharmaceutical Co., Ltd., 5

FR0410 **Hip QCT Results From the FREEDOM Trial: Evidence for Positive BMD/BMC Changes in Integral, Trabecular, and Cortical Bone With Denosumab**
Harry Genant*[1], Klaus Engelke[2], Jose Ruben Zanchetta[3], Arne Hoiseth[4], Chui Kin Yuen[5], Sigitas Stonkus[6], Michael Bolognese[7], Edward Franek[8], Thomas Fuerst[9], Hoi-Shen Radcliffe[10], Cesar Libanati[11], Michael McClung[12]. [1]UCSF/Synarc, USA, [2]Synarc, Germany, [3]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [4]Curato Røntgen, Norway, [5]Manitoba Clinic, Canada, [6]Kaunas University of Medicine, Lithuania, [7]Bethesda Health Research, USA, [8]Central Clinical Hospital MSWiA, Poland, [9]Synarc, Inc., USA, [10]Amgen Inc, United Kingdom, [11]Amgen Inc, USA, [12]Oregon Osteoporosis Center, USA
Disclosures: Harry Genant, Amgen, Merck, GSK, Roche, Servier, BMS, Lilly, 8; Synarc, 1; Amgen, Merck, GSK, Roche, Servier, BMS, Lilly, 5

FR0413 **Effect of Vertebroplasty on the Quality of Life of Patients with Pain Related to Osteoporotic Vertebral Fractures. Preliminary Results of a Randomized Trial.**
Angels Martinez-Ferrer*[1], Pilar Peris[2], Jordi Blasco[3], Josep-LLuís Carrasco[4], Ana Monegal[5], Jaume Pomés[6], Nuria Guanabens[7]. [1]Hospital Clinic Barcelona, Spain, [2]Hospital Clinic of Barcelona, Spain, [3]Department of Radiology. Hospital Clinic, Spain, [4]Hospital Clinic, Spain, [5]Department of Rheumatology. Hospital Clinic Barcelona, Spain, [6]Department of Radiology. Hospital Clínic Barcelona, Spain, [7]Universitat De Barcelona, Spain
Disclosures: Angels Martinez-Ferrer, None

FR0415 **Alfacalcidol Improves Muscle Power, Muscle Function and Balance in Elderly Patients with Reduced Bone Mass**
Erich Schacht[1], Johann Diederich Ringe*[2]. [1]ZORG (Zurich Osteoporosis Research Group), Switzerland, [2]Medical Clinic 4, Klinikum Leverkusen (University of Cologne), Germany
Disclosures: Johann Diederich Ringe, TEVA/AWD.phama, 5

FR0418 **Efficacy of Rapid Oral Replacement of Vitamin D: 300,000 IU and 150,000 for Severe and Moderate Deficiency**
Muhammad Javaid*[1], Kerri Rance[2], Vicki Toghill[2], William Fraser[3], John Wass[4]. [1]University of Oxford, United Kingdom, [2]Nuffield Orthopaedic Centre, United Kingdom, [3]Royal Liverpool University Hospital, United Kingdom, [4]Holmby House, United Kingdom
Disclosures: Muhammad Javaid, None

FR0420 **A Catechol-derivative Inhibits Tph1 Synthesis and Cures Osteoporosis in Ovariectomized Mice**
Vijay Yadav*, Yuli Xie, Gerard Karsenty, Patricia Ducy. Columbia University, USA
Disclosures: Vijay Yadav, None

FR0421 **Decreased Oxidative Stress and Greater Bone Anabolism in the Aged, as Compared to the Young, Murine Skeleton by Parathyroid Hormone**
Robert Jilka*, Maria Jose Almeida, Elena Ambrogini, Li Han, Paula Roberson, Robert Weinstein, Stavros Manolagas. University of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, Radius Health, Inc., 1

FR0425 **Sclerostin Antibody Treatment Enhances Fracture Healing and Increases Bone Mass and Strength in Non-fractured Bones in an Adult Rat Closed Femoral Fracture Model**
CY Li*, HL Tan, M Barrero, E Lee, FJ Asuncion, MS Ominsky, HZ Ke. Amgen Inc, USA
Disclosures: CY Li, Amgen Inc., 1; Amgen Inc., 3

FR0427 **The Osteoanabolic Effect of Systemic Dkk1 Inhibition is Associated with Canonical Lrp5/6 and Erk Signaling in Bone and is Modulated by N-cadherin in Osteoblasts**
Valerie Salazar*[1], Jin Norris[2], Lisa Huang[2], Gabriel Mbalaviele[2], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Valerie Salazar, None

FR0430 **Prolonged Bisphosphonate Release after Treatment in Women with Osteoporosis. Relationship with Bone Turnover**
Pilar Peris*[1], Merce Torra[2], Ana Monegal[2], Varinia Olivares[3], Raquel Reyes[3], Angels Martinez-Ferrer[2], Nuria Guanabens[4]. [1]Hospital Clinic of Barcelona, Spain, [2]Hospital Clinic Barcelona, Spain, [3]Hospital Clinic, Spain, [4]Universitat De Barcelona, Spain
Disclosures: Pilar Peris, None

FR0431 **Skeletal Uptake and Desorption of Fluorescently Labeled Bisphosphonate is Anatomic Site-Dependent**
Demin Wen[1], Liu Qing[2], Gerald Harrison[1], Ellis Golub[3], Sunday Akintoye*[1]. [1]University of Pennsylvania, USA, [2]The Fourth Military Medical University, China, [3]University of Pennsylvania School of Dental Medicine, USA
Disclosures: Sunday Akintoye, None

FR0432 **Insulin like Growth Factor and Bone Mass is Influenced by Higher Protein Intake During One Year of Caloric Restriction**
Deeptha Sukumar*[1], Hasina Ambia- Sobhan[1], Robert Zurfluh[1], Theodore Stahl[2], Sue Shapses[1]. [1]Nutritional Sciences, Rutgers University, USA, [2]Department of Radiology, University of Medicine & Dentistry/Robert Wood Johnson Medical School, USA
Disclosures: Deeptha Sukumar, None

FR0435 **A Multi-Modality Imaging Comparison of Odanacatib to Alendronate in the Ovariectomized Rhesus Monkey**
Paul McCracken*[1], Richa Jayakar[2], Mona Purcell[1], Parker Mathers[1], Alan Savitz[1], John Szumiloski[1], Jacquelynn Cook[1], Bernie Dardzinski[2], Thomas Hangartner[3], Sherri Motzel[1], Richard Hargreaves[1], Jeffrey Evelhoch[1], Le Thi Duong[1], Donald Williams[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc., USA, [3]Wright State University, USA
Disclosures: Paul McCracken, None

FR0438 **Efficacy of ONO-5334, a Cathepsin K Inhibitor, on Bone Mass and Strength in Ovariectomized Cynomolgus Monkeys**
Hiroyuki Yamada*, Hiroshi Mori, Akiko Kunishige, Satoshi Nishikawa, Yasuaki Hashimoto, Makoto Tanaka, Tsutomu Shiroya. ONO Pharmaceutical Co., Ltd., Japan
Disclosures: Hiroyuki Yamada, None

FR0439 **N-Butyryl Glucosamine (GlcNBu) Preserves Bone in the Ovariectomised Rat Model: Possible Mechanism through Serotonin Reuptake Inhibition**
Karen Rees_Milton*[1], Marc Grynpas[2], Tassos Anastassiades[3]. [1]Dept of Medicine, Queen's University, Canada, [2]Samuel Lunenfeld Research Institute, Canada, [3]Queen's University, Canada
Disclosures: Karen Rees_Milton, None

FR0440 **Quantitative Computed Tomography Based Finite Element Analysis to Estimate *In-Vivo* Bone Strength of Proximal Femur in Odanacatib Treated Rhesus Monkeys**
Antonio Cabal*[1], Seetha Ramudu Kummari[2], Stephen Krause[1], Mona Purcell[1], Paul McCracken[3], Le Thi Duong[3], Bernard Dardzinski[1], Sherri Motzel[1], Donald Williams[1]. [1]Merck & Co., Inc., USA, [2]Case Western Reserve University, USA, [3]Merck Research Laboratories, USA
Disclosures: Antonio Cabal, None

FR0442 **Increased Bone Cell Vitamin D Activity: The Basis for Synergy between Dietary Calcium and Vitamin D for Bone Health?**
Howard Morris*[1], Alice Lee[2], Rebecca Sawyer[3], Shunji Iida[4], Peter O'Loughlin[5], Paul Anderson[3]. [1]SA Pathology, Australia, [2]Discipline of Physiology, University of Adelaide, Australia, [3]Endocrine Bone Laboratory, Hanson Institute, Australia, [4]Oral Functional Science, Hokkaido University, Japan, [5]Chemical Pathology, SA Pathology, Australia
Disclosures: Howard Morris, None

FR0445 **PTH and ALN reduce fractures and alter bone mechanical properties in the *oimloim* mouse model of OI**
Cesare Ciani*[1], Kirsten Stoner[2], Michael Cross[1], Liza Osagie[1], Bettina Willie[1], Marjolein Van Der Meulen[2], Mathias Bostrom[1]. [1]Hospital for Special Surgery, USA, [2]Cornell University, USA
Disclosures: Cesare Ciani, None

FR0446 **Bone turnover and 1,25-dihydroxyvitamin D are independent determinants of circulating FGF23: a sub-analysis of CHIBA (Coronary Heart Disease of Ischemia and Bone Association) study**
Daisuke Inoue*[1], Toshihiro Amaki[1], Yuichiro Shimizu[2], Seiji Fukumoto[2], Yusuke Nakatsu[1], Kengo Ayabe[1], Jun-ichi Ohashi[1], Tadanao Higaki[1], Nobuyuki Tai[1], Fumitaka Nakamura[1], Ryo Okazaki[1]. [1]Teikyo University Chiba Medical Center, Japan, [2]University of Tokyo Hospital, Japan
Disclosures: Daisuke Inoue, None

FR0451 **Effect of Vitamin D Nutrition on Indices of Disease in Patients With Primary Hyperparathyroidism**
Sudhaker Rao, Joanna Miragaya*, Sara Ahmadi, Liliana Garcia, Nayana Parikh, Mahalakshmi Honasoge, Arthur Carlin, Gary Talpos, Meredith Mahan, Sudhaker Rao. Henry Ford Hospital, USA
Disclosures: Joanna Miragaya, None

FR0459 **Osteocyte Proteins Regulating Mineralization and Systemic Phosphate Homeostasis are Altered Early in CKD-MBD in Humans and *Jck* Mice**
Fabiana Graciolli*[1], Luciene dos Reis[1], Yves Sabbagh[2], Wen Tang[3], Stephen O'Brien[3], Shiguang Liu[3], Aluizio Carvalho[4], Rosa Moysés[1], Susan Schiavi[2], Vanda Jorgetti[5]. [1]Universidade de São Paulo - Nephrology Division, Brazil, [2]Genzyme Corp, USA, [3]Genzyme Corporation, USA, [4]Federal University of São Paulo, Brazil, [5]University of São Paulo, Brazil
Disclosures: Fabiana Graciolli, Genzyme Corporation, 2

FR0461 **Circulating Osteogenic Cells are Decreased in Type 2 Diabetes Mellitus**
John Manavalan[1], Aruna Kode[1], Jayesh Shah[1], Daniel Donovan[1], Carlos Lopez-Jimenez[1], James Sliney[1], Rebecca Ives[2], Pat Kringas[1], Lauren Golden[1], Matthew Freeby[1], Stavroula Kousteni[2], Mishaela Rubin*[1]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA
Disclosures: Mishaela Rubin, None

FR0462 **Deletion of the MDS1 Gene in Mice Results in Disk Degeneration and Kyphosis Through Mis-regulation of Matrix Protein Synthesis by Tendon/ligament Cells**
Lianping Xing*[1], Subhash Juneja[2], Caroline Zeiss[3], K Lezon-Geyda[1], D Reynolds[1], Zhenqiang Yao[1], S Lin[1], G Perkins[1], T Ardito[1], W Philbrick[1], H Awad[1], Brendan Boyce[2], Archibald Perkins[1]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]Yale University, USA
Disclosures: Lianping Xing, None

FR0470 **Type 1 Diabetes Mellitus Effects Bone: Results of Histomorphometric Analysis**
Robert Recker[1], Laura Armas*[2]. [1]Creighton University Osteoporosis Research Center, USA, [2]Creighton University, USA
Disclosures: Laura Armas, None

FR0472 **Prevention of Fractures After Solid Organ Transplant: A Meta-analysis**
Emily Stein*[1], Dionisio Ortiz[2], Zhezhen Jin[3], Donald McMahon[1], Elizabeth Shane[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]SUNY Downstate College of Medicine, USA, [3]Columbia University, USA
Disclosures: Emily Stein, None

FR0478 **Mechanical Loading Increases Estrogen Receptor Alpha Expression in Osteocytes and Osteoblasts Despite Chronic Energy Restriction**
Sibyl Swift*[1], Joshua Swift[2], Elizabeth Greene[1], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]United States Navy, USA
Disclosures: Sibyl Swift, None

FR0479 **A Key Role for CARM 1 Arginine Specific Methylation in Vitamin D Receptor Mediated Transcription**
Leila Mady*, Yan Zhong, Puneet Dhawan, Sylvia Christakos. University of Medicine & Dentistry of New Jersey, USA
Disclosures: Leila Mady, None

FR0481 **Identification of Novel Vitamin D Receptor Target Genes in Osteoblasts Based on Promoter Interaction with the Vitamin D Response Element Binding Protein**
Thomas Lisse*[1], Ting Liu[1], John Adams[2], Martin Hewison[3]. [1]UCLA/Orthopaedic Hospital Research Center, USA, [2]University of California, Los Angeles, USA, [3]UCLA, USA
Disclosures: Thomas Lisse, None

FR0482 **MBD4 Is an Epigenetic Regulator In the Vitamin D Metabolism.**
Takeshi Kondo*[1], Mi-sun Kim[1], Yuuki Imai[2], Shino Kondoh[2], Yoko Yamamoto[1], Takahiro Matsumoto[1], Ken-ichi Takeyama[1], Shigeaki Kato[3]. [1]IMCB, University of Tokyo, Japan, [2]The University of Tokyo, Japan, [3]University of Tokyo, Japan
Disclosures: Takeshi Kondo, None

FR0485 **The VDR/RXR Cistrome in Intestinal/Colonic Cells Regulates Genes Involved in Proliferation and Differentiation, Calcium and Phosphate Transport and Xenobiotic Metabolism**
Mark Meyer*, J. Pike. University of Wisconsin-Madison, USA
Disclosures: Mark Meyer, None

IN VIVO WORKING GROUP

Bone Fracture Repair: From Bench to Bedside

Ticket Required

7:15 pm - 9:15 pm **South Building: Room 714AB**

7:00 pm **Buffet Dinner**

7:30 pm **Cells and Molecular Signals Involved in Bone Repair: Insights Gained From Animal Models**
Regis O'Keefe, M.D.
Department of Orthopaedics University of Rochester, USA

8:00 pm **The Assessment of Safety and Efficacy of Pharmacological Therapies on Fracture Healing**
Louis Gerstenfeld, Ph.D.
Orthopedic Research Laboratory Boston University, USA

8:30 pm **Clinical Adjuvant Strategies to Enhance Fracture Repair**
Joseph Lane, M.D.
Metabolic Bone Disease Service Hospital for Special Surgery, USA

Disclosures: Dr. Regis O'Keefe – None. Dr. Louis Gerstenfeld – None. Dr. Joseph Lane – Novartis, 8; Lilly, 8; Sanofi Aventis, 8; Weber Chilcott, 8. Dr. Donald Kimmel – Amgen, 5; Lexicon Pharmaceuticals, 5; Xradia, 5. Dr. Thomas Wronski – Amgen, 2; Lexicon Pharmaceuticals, 2; Lilly, 2.

NON-INVASIVE ASSESSMENT OF BONE MICROARCHITECTURE AND FUNCTION WORKING GROUP

Supported by educational grants from Amgen, Scanco and Skyscan
Ticket Required

7:15 pm - 9:15 pm **South Building: Room 716AB**

7:00 pm **Buffet Style Dinner**

7:25 pm **Welcome / Introduction**

7:30 pm **Imaging of Bone Quality with HR-pQCT: Potential Clinical Applications**
Elizabeth Shane, M.D.
Columbia University, College of Physicians and Surgeons, USA

8:00 pm **How Does Therapy Affect Bone Quality?**
David B. Burr, Ph.D.
Indiana University School of Medicine, USA

8:30 pm **Microelastic Imaging, a New Parameter for Assessment of Bone Quality?**
Kay Raum, Ph.D.
Julius Wolff Institut & Berlin-Brandenburg School for RegenerativeTherapies, Charité - Universitätsmedizin, Germany

9:00 pm **Concluding remarks and adjourn**

Organizers:
Thomas M. Link, M.D., Ph.D., University of California, USA

Robert E. Guldberg, Ph.D., Georgia Institute of Technology, USA

Disclosures: Dr. Elizabeth Shane, M.D. – Nothing to disclose, 2. David B. Burr, Ph.D. – Eli Lilly Co, 2, 5, 8; Amgen, 5, Alliance for better Bone Health 2, 5, NephroGenex 9, 3. Kay Raum, Ph.D .- Nothing to disclose.

PEDIATRIC BONE AND MINERAL WORKING GROUP

Osteonecrosis in Children: Clinical and Basic Science Perspectives

Supported by an educational grant from Novartis Pharmaceuticals Corporation
Ticket Required

7:15 pm - 9:30 pm **South Building: Room 701A**

7:15 pm **Welcome and Introductions**
Leanne Ward, M.D., FRCPC
Children's Hospital of Eastern Ontario, Canada

7:30 pm **Highlights from the 2009-2010 Pediatric Bone Health and Disease Literature**
Craig Munns, MBBS, Ph.D., FRACP
The Children's Hospital at Westmead, NSW, Australia

8:00 pm **Osteonecrosis in Pediatric Oncology: A Price of Cure?**
Sue Kaste, DO
St. Jude's Children's Research Hospital, USA

8:30 pm **Juvenile Femoral Head Osteonecrosis: Experimental Studies and Developing New Treatments**
Harry Kim, M.D., MS, FRCSC
Texas Scottish Rite Hospital for Children, USA

9:00 pm **Effectiveness of Bisphosphonates as Treatment of Symptomatic Osteonecrosis occurring in Children Treated for Acute Lymphoblastic Leukemia**
Coralie Leblicq
CHU Sainte-Justine - Université Montréal, Canada

9:15 pm **Knee Loading Promotes Bone Healing in Femoral Head Osteonecrosis**
Ping Zhang, M.D.
Indiana University, USA

9:30 pm **Closing Remarks**

Disclosures: Dr. Sue Kaste – Nothing to disclose, Dr. Harry Kim – Roche, 2, Dr. Craig Munns – Pfizer, 5; Bioceuticles, 2; Novartis, 2; Juvent, 2; Osteoporosis Australia, 6, 8.

BONE TURNOVER MARKER WORKING GROUP

Clinical Applications of Bone Turnover Markers

Ticket Required

7:15 pm - 9:30 pm **South Building: Room 717AB**

Co-Chairs:
Richard Eastell, M.D.
Academic Unit of Bone Metabolism, Centre for Biomedical Research, Northern General Hospital, United Kingdom

Peter R. Ebeling, M.D.
The University of Melbourne, Australia

7:15 pm **Opening Remarks and Dinner**

7:30 pm **Bone Turnover Markers - What to Measure?**
Patrick Garnero, Ph.D.
National Institute of Health and Medical Research (INSERM Unit 664), France

8:10 pm **Bone Turnover Markers – What are Indications for their Uses?**
John Bilezikian, M.D.
Columbia University, College of Physicians and Surgeons, USA

8:50 pm **Bone Turnover Markers - How to Interpret?**
Michael Lewiecki, M.D.
University of New Mexico School of Medicine, USA

9:25 pm **Concluding Remarks**

Disclosures: Dr. Peter R Ebeling MD – none; Dr. Richard Eastell MD – IDS 5,SPD 5, Inverness Medical 5, Biomedica 5, Tethys 5; Dr. Patrick Garnero PhD – Roche 1; Dr. John Bilezikian MD – none; Dr E Michael Lewiecki MD – none.

WORKING GROUP ON SKELETAL AGING

Muscle-Bone Interactions in the Aging Skeleton

Ticket Required

7:15 pm - 9:45 pm **South Building: Room 701B**

7:15 pm **Dinner/Opening Remarks by Organizers**

7:30 pm **Sarcopenia and Aging**
Thomas Lang, Ph.D.
University of California, San Francisco, USA

7:50 pm **Questions/Discussion**

8:00 pm **Pleiotropy for Muscle and Bone Traits**
Douglas P. Kiel, M.D., MPH and David Karasik, Ph.D.
Institute for Aging Research, Hebrew SeniorLife, and Harvard Medical School, USA

8:20 pm **Questions/Discussion**

8:30 pm **The Functional Muscle-bone Unit Across the Ages**
Mary Leonard, M.D.
The Children's Hospital of Philadelphia, USA

8:50 pm **Questions/Discussion**

9:00 pm **The Muscle-bone Endocrine Axis**
Mark Johnson, Ph.D.
University of Missouri, USA

9:20 pm Questions/Discussion

9:30 pm Closing Remarks by Organizers

Disclosures: Mark Johnson, None; David Karasik, None; Douglas Kiel, Amgen 2,5; Novartis 2,5,8; Merck, 2,5,8; Hologic, 2; Philips Lifeline, 5; Procter & Gamble, 5; Thomas Lang, Merck 2; Mary Leonard, None

NUTRITION AND BONE HEALTH WORKING GROUP

Update on Vitamin D and Calcium Requirements and Recommendations

Supported by an educational grant from National Dairy Management, Inc.

Ticket Required

7:15 pm - 10:00 pm **South Building: Room 803AB**

7:15 pm **Welcome & Dinner**
Jasminka Ilich, Ph.D.
Florida State University, USA

7:40 pm **The IOM Process for Revising Nutrient Recommendations**
Patsy Brannon, Ph.D.
Cornell University, USA

8:00 pm **Basis for Calcium Recommendations in 2010**
Sue Shapses, Ph.D.
Rutgers University, USA

8:30 pm **Basis for Vitamin D Recommendations in 2010**
Christopher Gallagher, M.D.
Creighton University Medical Center, USA

Panel Presentations and Discussion

9:00 pm **Reaction to Calcium Recommendations**
Connie M. Weaver, Ph.D.
Purdue University, USA

Reaction to Vitamin D Recommendations
James Fleet, Ph.D.
Purdue University, USA

Disclosures: Jasminka Ilich has nothing to disclose; Christopher Gallagher has nothing to disclose, James Fleet has nothing to disclose, Connie Weaver serves on the Advisory Board for Lallemand, General Mills, Nestle, Pharmavite, ILSI, GTC, NOF, Cadbury Schweppes, and Delavau

SPECIAL EVENT: SPEED NETWORKING

Sponsored by the ASBMR Women in Bone and Mineral Research Committee

Supported by an educational grant from Chugai Pharmaceutical Co., Ltd.

Ticket Required

8:00 pm - 10:00 pm **Fairmont Royal York Hotel: Canadian Ballroom**

The ASBMR Women in Bone and Mineral Research Committee (WBMRC) is sponsoring this Speed Networking event, providing you with a networking opportunity like no other. In 60 minutes you will have an opportunity to meet more than 10 researchers and in four minutes learn about them and introduce yourself. Come prepared with a two- minute introduction that "sells" who you are and what you do. This is an opportunity to learn networking skills and meet members in all career stages. You will make key connections that are otherwise difficult to make in meetings as large as ASBMR. Come and join the fun and expand your network! A reception will follow the event.

Saturday, October 16, 2010

Day-At-A-Glance

Time/Event/Location — **All locations in the Metro Toronto Convention Centre/South Building unless otherwise noted**

6:45 am - 8:00 am 42
ASBMR Networking Breakfast
South Building: Room 701AB

7:00 am - 5:30 pm 42
Registration Open
South Building: Level 600

8:00 am - 6:00 pm 42
Posters Open
South Building: Hall E

8:00 am - 9:30 am 42
Plenary Symposium II -The Hip Fracture Epidemic
South Building: Hall G

9:30 am - 9:35 am 42
Presentation of the ASBMR Gideon A. Rodan Excellence in Mentorship Award
South Building: Hall G

9:35 am - 9:40 am 43
Presentation of the ASBMR Lawrence G. Raisz Award
South Building: Hall G

9:30 am - 4:30 pm 43
Exhibits Open
South Building: Hall E

9:40 am - 10:00 am 43
Coffee Break
South Building: Hall E

10:00 am - 11:30 am 43
Concurrent Oral Session 01: Osteoblasts and Bone Metabolism
South Building: Hall F

10:00 am - 11:30 am 44
Concurrent Oral Session 02: Bone and Cartilage: Cartilage Development and Endochondral Ossification
South Building: Room 801AB

10:00 am - 11:30 am 45
Concurrent Oral Session 03: Disorders of Bone and Mineral Metabolism: Metabolic Bone Disease
South Building: Room 714AB

10:00 am - 11:30 am 46
Concurrent Oral Session 04: Osteoporosis Assessment: Fracture Risk in Men
South Building: Room 718AB

10:00 am - 11:30 am 47
Concurrent Oral Session 05: Osteoporosis Treatment
South Building: Hall G

10:00 am - 11:30 am 48
Concurrent Oral Session 06: Paget's Disease and Other Disorders of Bone
South Building: Room 716AB

11:30 am - 1:30 pm 49
Poster Session I and Poster Tours
South Building: Hall E

1:30 pm - 2:30 pm 108
Meet-the-Professor Sessions
South Building: Rooms 703-712

1:30 pm - 2:30 pm 109
Clinical Roundtable/Case Conference: Clinical Utility of Genetic Testing – Application to Parathyroid Disorders
South Building: Hall G

1:30 pm - 2:30 pm 109
State-of-the-Art Lecture - Genomic Profiling as a Tool for Discovery
South Building: Room 718AB

2:45 pm - 4:15 pm 109
Concurrent Oral Session 07: Osteocytes and Their Functions
South Building: Room 718AB

2:45 pm - 4:15 pm 110
Concurrent Oral Session 08: Osteoclasts: Factors Regulating Activity
South Building: Room 714AB

2:45 pm - 4:15 pm 111
Concurrent Oral Session 09: Calciotropic and Phosphotropic Hormones: Mineral Metabolism and the PTH Circuit
South Building: Room 716AB

2:45 pm - 4:15 pm 112
Concurrent Oral Session 10: Osteoporosis Epidemiology: Body Composition, Bone Mass and Fracture Risk
South Building: Hall G

2:45 pm - 4:15 pm 114
Concurrent Oral Session 11: Bone Biomechanics and Quality: Preclinical Model Systems
South Building: Room 801AB

2:45 pm - 4:15 pm 115
Concurrent Oral Session 12: Osteoporosis Therapy and Complications
South Building: Hall F

4:00 pm - 4:30 pm 116
Coffee Break
South Building: Hall E

4:30 pm - 6:00 pm 116
Symposium - Can We Talk? Cell Communication In the Skeleton
South Building: Hall F

4:30 pm - 6:00 pm 116
Symposium - Task Force Report on Atypical Femoral Fractures
South Building: Hall G

6:00 pm - 7:30 pm 117
ASBMR Annual Town Hall Meeting and Reception
South Building: Room 801AB

8:30 pm - 11:30 pm 117
Dancing with the ASBMR Stars - Social Event
Fairmont Royal York Hotel: Canadian Ballroom
Ticket Required

ASBMR NETWORKING BREAKFAST

Sponsored by the ASBMR Membership Development Committee

Supported by an educational grant from Chugai Pharmaceutical Co, Ltd.

6:45 am - 8:00 am **South Building: Room 701AB**

New Investigators (early career stage), new ASBMR members, and young and under-represented minority investigators are invited to join the ASBMR Membership Development Committee and colleagues for an informational breakfast. New Investigators and first-time attendees are encouraged to pick up a "New Investigator" or "First Time Attendee" ribbon, which will be distributed at the entrance to the room. You will want to get to the networking breakfast early to be eligible to win free tickets for the social event. The raffle drawing will take place at the beginning of the event and you will need to be present to win. Breakfast will be provided.

REGISTRATION OPEN

7:00 am - 5:30 pm **South Building: Level 600**

POSTERS OPEN

8:00 am - 6:00 pm **South Building: Hall E**

PLENARY SYMPOSIUM II -THE HIP FRACTURE EPIDEMIC

Supported by an educational grant from Merck & Co., Inc.

8:00 am - 9:30 am **South Building: Hall G**

Co-Chairs
Dennis M. Black, Ph.D.
University of California, San Francisco, USA
Disclosures: Dennis Black, Novartis 2; Merck 2

Bess Dawson-Hughes, M.D.
Tufts University, USA
Disclosures: Bess Dawson-Hughes, Eli Lilly 5; Merck 5; Unilever 2; Amgen 5; Pfizer 1

8:00 am **Biomechanics of Hip Fracture: Involvement of Cortical and Trabecular Bone Compartments**
Mary L. Bouxsein, Ph.D.
Beth Israel Deaconess Medical Center, USA
Disclosures: Mary Bouxsein, None

8:30 am **Muscle Quantity and Quality: Sarcopenia Contributes to Fracture Risk**
William Evans, Ph.D.
GlaxoSmithKline, USA
Disclosures: William Evans, GlaxoSmithKline, 3

9:00 am **Hip Fractures: Rising in the East and Setting in the West**
Steven R. Cummings, M.D.
San Francisco Coordinating Center, USA
Disclosures: Steven Cummings, None

PRESENTATION OF THE ASBMR GIDEON A. RODAN EXCELLENCE IN MENTORSHIP AWARD

9:30 am - 9:35 am **South Building: Hall G**

PRESENTATION OF THE ASBMR LAWRENCE G. RAISZ AWARD

9:35 am - 9:40 am **South Building: Hall G**

EXHIBITS OPEN

9:30 am - 4:30 pm **South Building: Hall E**

COFFEE BREAK

Supported by an educational grant from Chugai Pharmaceutical Co, Ltd.

9:40 am - 10:00 am **South Building: Hall E**

CONCURRENT ORAL SESSION 01: OSTEOBLASTS AND BONE METABOLISM

10:00 am - 11:30 am **South Building: Hall F**

Moderators:
Geert J.V. Carmeliet, M.D., Ph.D.
Katholieke Universiteit Leuven, Belgium
Disclosures: Geert Carmeliet, None

Dwight A. Towler, M.D., Ph.D.
Washington University in St. Louis, USA
Disclosures: Dwight Towler, None

10:00 am 1001 **2010 MOST OUTSTANDING BASIC ABSTRACT AWARD**
Heterozygous Disruption of Gsα in Osteocytes Decreases Peripheral Fat without Affecting Bone Mass
Keertik Fulzele*[1], Kevin Barry[2], Sutada Lotinun[3], Roland Baron[4], Lynda Bonewald[5], Jian Feng[6], Min Chen[7], Lee Weinstein[8], Rajaram Manoharan[9], Mary Bouxsein[9], Paola Divieti Pajevic[10]. [1]Massachusetts General Hospital; Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital & Harvard Medical School, USA, [3]Harvard School of Dental Medicine, USA, [4]Harvard School of Medicine & of Dental Medicine, USA, [5]University of Missouri - Kansas City, USA, [6]Texas A&M Health Science Center, USA, [7]Metabolic Disease Branch, National Institute of Diabetes & Digestive & Kidney Diseases, National Institute of Health, USA, [8]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [9]Beth Israel Deaconess Medical Center, USA, [10]Massachusetts General Hospital, USA
Disclosures: Keertik Fulzele, None

10:15 am 1002 **Deletion of the Redox Amplifier $p66^{shc}$ Decreases ROS Production in Murine Bone and Increases Osteoblast Resistance to Oxidative Stress in a Cell Autonomous Fashion: Causal Link with the Pro-survival Effects of Sex Steroid**
Maria Jose Almeida*, Li Han, Elena Ambrogini, Shoshana Bartell, Aaron Warren, Randal Shelton, Stavros Manolagas. University of Arkansas for Medical Sciences, USA
Disclosures: Maria Jose Almeida, None

10:30 am 1003 **Insulin Signaling in Osteoblasts Favors Whole Body Glucose Homeostasis by Activating Osteocalcin**
Tatsuya Yoshizawa, Jianwen Wei*, Mathieu Ferron, Patricia Ducy, Gerard Karsenty. Columbia University, USA
Disclosures: Jianwen Wei, None

10:45 am 1004 **Osteoblast Ablation Compromises Glucose Homeostasis in Mice**
Yoshihiro Yoshikawa[1], Lili Xu[2], Mathieu Ferron[2], Jayesh Shah[1], Charles Duncan[1], Aris Economides[3], Marie-Therese Rached[1], Stavroula Kousteni*[4]. [1]Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, USA, [2]Columbia University, USA, [3]Bone & Cartilage Biology Group, Genome Engineering Technologies Group Regeneron Pharmaceuticals, Inc, USA, [4]Columbia University Medical Center, USA
Disclosures: Stavroula Kousteni, None

11:00 am 1005 **FoxO1 Interacts with ATF4 in Osteoblasts to Affect Bone Remodeling and Glucose Homeostasis**
Maria Theresa Rached*[1], Aruna Kode[1], Charles Duncan[2], Jayesh Shah[2], Stavroula Kousteni[3]. [1]Columbia University, USA, [2]Department of Medicine, Division of Endocrinology, College of Physicians & Surgeons, Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Maria Theresa Rached, None

11:15 am 1006 **Decrease Bone Resorption in Mice Deprived of Peripheral Serotonin (Tph1-/-)**
Corinne Collet[1], Yasmine Chabbi Achengli*[2], Jacques Callebert[1], Francine Côté[3], Marie-Christine De Vernejoul[4]. [1]Laboratoire Biochimie Hopital Lariboisière, France, [2]INSERM U606, France, [3]Hopital Necker UMR 8147, France, [4]Fédération De Rhumatologie Et INSERM U606, France
Disclosures: Yasmine Chabbi Achengli, None

CONCURRENT ORAL SESSION 02: BONE AND CARTILAGE: CARTILAGE DEVELOPMENT AND ENDOCHONDRAL OSSIFICATION

10:00 am - 11:30 am **South Building: Room 801AB**

Moderators:
Matthew J. Hilton, Ph.D.
University of Rochester School of Medicine, USA
Disclosures: Matthew Hilton, None

Andrew C. Karaplis, M.D., Ph.D.
McGill University, Canada
Disclosures: Andrew Karaplis, None

10:00 am 1007 **2010 YOUNG INVESTIGATOR AWARD**
A Transcription Factor p63 Controls Extensive Steps of Endochondral Ossification through Distinct Functions of the Isoforms
Yuki Taniguchi*[1], Taku Saito[2], Toshiyuki Ikeda[3], Ung-Il Chung[4], Kozo Nakamura[5], Hiroshi Kawaguchi[6]. [1]University of Tokyo, Japan, [2]University of Tokyo, Graduate School of Medicine, Japan, [3]Information Technology Services, Inc., Japan, [4]University of Tokyo Graduate Schools of Engineering & Medicine, Japan, [5]The University of Tokyo, Japan, [6]University of Tokyo, Faculty of Medicine, Japan
Disclosures: Yuki Taniguchi, None

10:15 am 1008 **Chondrocyte-derived ß-catenin Expression Regulates Secondary Ossification Center and Growth Plate Development**
Debbie Dao*[1], Matthew Hilton[2], Di Chen[3], Regis O'Keefe[4]. [1]University of Rochester School of Medicine & Dentistry, USA, [2]University of Rochester School of Medicine, USA, [3]University of Rochester Medical Center, USA, [4]University of Rochester, USA
Disclosures: Debbie Dao, None

10:30 am 1009 **2010 YOUNG INVESTIGATOR AWARD**
Wntless is Required for the Secretion of Wnt5a to Promote Distal Limb Growth and Differentiation in Limb Development
Xuming Zhu*[1], Jingjing Cao[2], Lin He[1], Xizhi Guo[3]. [1]Bio-X Center, Shanghai Jiao Tong University, China, [2]Bio-X Center, Shanghai Jiao Tong University, Shanghai, China, [3]Shanghai Jiao Tong University, Peoples Republic of China
Disclosures: Xuming Zhu, None

10:45 am 1010 **Role of CCN2 in Matrix Secretion and Cellular Stress During Cartilage Development**
Faith Hall-Glenn*[1], Andrea DeYoung[2], Karen Lyons[1]. [1]University of California, Los Angeles, USA, [2]Baxter, USA
Disclosures: Faith Hall-Glenn, None

11:00 am 1011 **The Function of Primary Cilia in Chondrocytes**
Ching-Fang Chang*[1], Rosa Serra[2]. [1]University of Alabama at Birmingham, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Ching-Fang Chang, None

11:15 am 1012 **Chondrocyte-Specific Inactivation of Forkhead Box O (FoxO) Transcription Factors Causes Severe Growth Plate Abnormalities and Increased Bone Volume**
Guy Eelen*[1], Christa Maes[2], Conny Gysemans[3], Lieve Verlinden[3], Ji-Hye Paik[4], Ronald DePinho[4], Roger Bouillon[5], Geert Carmeliet[1], Annemieke Verstuyf[3]. [1]Katholieke Universiteit Leuven, Belgium, [2]Laboratory of Experimental Medicine & Endocrinology, K.U.Leuven, Belgium, [3]Laboratory for Experimental Medicine & Endocrinology, Katholieke Universiteit Leuven, Belgium, [4]Belfer Institute for Applied Cancer Science, Department of Medical Oncology, Medicine & Genetics, DFCI, Harvard Medical School, USA, [5]Laboratory for Experimental Medicine & Endocrinology, Belgium
Disclosures: Guy Eelen, None

CONCURRENT ORAL SESSION 03: DISORDERS OF BONE AND MINERAL METABOLISM: METABOLIC BONE DISEASE

10:00 am - 11:30 am **South Building: Room 714AB**

Moderators:
Thomas O. Carpenter, M.D.
Yale University School of Medicine, USA
Disclosures: Thomas Carpenter, None

Laurie K. McCauley, D.D.S., Ph.D.
University of Michigan, School of Dentistry, USA
Disclosures: Laurie McCauley, None

10:00 am 1013 **Circulating Osteogenic Cells in Periarticular Non-hereditary Heterotopic Ossification**
Kevin Egan, Robert Pignolo*. University of Pennsylvania, USA
Disclosures: Robert Pignolo, None

10:15 am 1014 **The ACVR1 R206H Mutation Recapitulates the Clinical Phenotype of FOP in a Knock-in Mouse Model**
Salin Chakkalakal*[1], Deyu Zhang[1], Andria Culbert[1], Alexander C. Wright[1], Andrew D. A. Maidment[1], Frederick Kaplan[2], Eileen Shore[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania Hospital, USA
Disclosures: Salin Chakkalakal, None

10:30 am 1015 **Hexa-D-Arginine Reversal of Osteoblast 7B2 Dysregulation in H*yp*-mice Normalizes the *HYP* Biochemical Phenotype**
Baozhi Yuan*[1], Jennifer Meudt[2], Robert Blank[2], Jian Feng[3], Marc Drezner[2]. [1]University of Wisconsin, Madison, USA, [2]University of Wisconsin, USA, [3]Texas A&M Health Science Center, USA
Disclosures: Baozhi Yuan, None

10:45 am 1016 **Hypophosphatasia: Enzyme Replacement Therapy for Children Using Bone-Targeted, Tissue-Nonspecific Alkaline Phosphatase**
Michael Whyte*[1], Cheryl R. Greenberg[2], Deborah Wenkert[1], William H. McAlister[3], Katherine L. Madson[4], Amy L. Reeves[4], Karen E. Mack[4], Lise Bourrier[5], Alison M. Skrinar[6], Hal Landy[6]. [1]Shriners Hospital for Children, USA, [2]Univ of Manitoba, Canada, [3]Mallinckrodt Inst Radiology, USA, [4]Shriners Hospt for Children, USA, [5]Clinical Research Unit, Manitoba Institute of Child Health, Canada, [6]Enobia Pharma, Canada
Disclosures: Michael Whyte, Enobia Pharma, 2; Enobia Pharma, 5

11:00 am 1017 **Non-redundant Functions of Alkaline Phosphatase and PHOSPHO1 During Endochondral Ossification**
Manisha Yadav*[1], Ana Maria Sper Simao[1], Sonoko Narisawa[2], Carmen Huesa[3], Marc McKee[4], Colin Farquharson[3], Jose Luis Millan[1]. [1]Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute, USA, [2]Sanford-Burnham Medical Research Institute, USA, [3]Roslin Institute, University of Edinburgh, United Kingdom, [4]McGill University, Canada
Disclosures: Manisha Yadav, None

11:15 am **2010 YOUNG INVESTIGATOR AWARD**

1018 **Teriparatide (Parathyroid Hormone 1-34) Promotes Osseous Regeneration in the Oral Cavity**

Jill Bashutski*[1], Robert Eber[1], Janet Kinney[1], Erika Benavides[1], Samopriyo Maitra[1], Thomas Braun[1], William Giannobile[1], Laurie McCauley[2]. [1]University of Michigan, USA, [2]University of Michigan, School of Dentistry, USA

Disclosures: Jill Bashutski, None

CONCURRENT ORAL SESSION 04: OSTEOPOROSIS ASSESSMENT: FRACTURE RISK IN MEN

10:00 am - 11:30 am **South Building: Room 718AB**

Moderators:

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

Joel S. Finkelstein, M.D.
Massachusetts General Hospital, USA
Disclosures: Joel Finkelstein, None

10:00 am **2010 YOUNG INVESTIGATOR AWARD**

1019 **Low Vitamin D is Related to Increased Risk of Death in Elderly Men. MrOS Sweden**

Helena Johansson*[1], Anders Odén[2], John Kanis[3], Eugene McCloskey[4], Mattias Lorentzon[5], Osten Ljunggren[6], Magnus Karlsson[7], Åsa Tivesten[1], Elizabeth Barrett-Connor[8], Claes Ohlsson[9], Dan Mellström[1]. [1]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Institute of Medicine & Geriatrics, University of Gothenburg, Sweden, [2]WHO Collaborating Centre for Metabolic Bone Disease, University of Sheffield, United Kingdom, [3]University of Sheffield, Belgium, [4]University of Sheffield, United Kingdom, [5]Center for Bone Research at the Sahlgrenska Academy, Sweden, [6]Uppsala University Hospital, Sweden, [7]Skåne University Hospital Malmö, Lund University, Sweden, [8]University of California, San Diego, USA, [9]Centre for Bone & Arthritis Research, Sweden

Disclosures: Helena Johansson, None

10:15 am **The Association of Concurrent Vitamin D and Sex Hormone Deficiency with Bone Loss and**

1020 **Fracture Risk in Older Men**

Elizabeth Barrett-Connor*[1], Hong Li[2], Gail A Laughlin[3], Tien Dam[4], Jane Cauley[5], Kristine Ensrud[6], Marcia Stefanick[7], Edith Lau[8], Andrew R Hoffman[7], Eric Orwoll[2]. [1]University of California, San Diego, USA, [2]Oregon Health & Science University, USA, [3]University of California San Diego, USA, [4]Columbia University, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]University of Minnesota, USA, [7]Stanford University, USA, [8]Hong Kong Orthopaedic & Osteoporosis Center for Treatment & Research, Hong Kong

Disclosures: Elizabeth Barrett-Connor, None

10:30 am **2010 YOUNG INVESTIGATOR AWARD**

1021 **Bone-Muscle Indices as Risk Factors of Incident Fractures in Men**

Andy Kin On Wong*[1], Kathy Wilt[2], Peggy Cawthon[3], Yahtyng Sheu[4], Joseph Zmuda[4], Christopher Gordon[1], Kristine Ensrud[5], Lynn Marshall[6], Moira Petit[7], Dennis Black[8], Steven Cummings[9], Jane Cauley[4]. [1]McMaster University, Canada, [2]San Francisco Coordinating Centre, USA, [3]California Pacific Medical Center Research Institute, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Minneapolis VA Medical Center / University of Minnesota, USA, [6]Oregon Health & Science University, USA, [7]University of Minnesota, USA, [8]University of California, San Francisco, USA, [9]San Francisco Coordinating Center, USA

Disclosures: Andy Kin On Wong, None

10:45 am **Clinical Vertebral Fracture Risk in Older Men Using Finite Element Analysis of CT Scans**

1022

Tony Keaveny*[1], Xiang Wang[2], Arnav Sanyal[2], Lynn Marshall[3], Peggy Cawthon[4], Lisa Palermo[5], Kristine Ensrud[6], Eric Orwoll[3], Dennis Black[5]. [1]University of California, Berkeley, USA, [2]Department of Mechanical Engineering, University of California, USA, [3]Oregon Health & Science University, USA, [4]San Francisco Coordinating Center, California Pacific Medical Center, USA, [5]University of California, San Francisco, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA

Disclosures: Tony Keaveny, O.N. Diagnostics, 4

11:00 am 1023 **Diagnosis of Vertebral Fracture in Men: What is the Best Agreement Between the Different Approaches?**
Jacques Fechtenbaum*, Karine Briot, Simon Paternotte, Sami Kolta, Christian Roux. Paris Descartes University, Rheumatology Department, Cochin Hospital, France
Disclosures: Jacques Fechtenbaum, None

11:15 am 1024 **Type I Collagen Isomerization (Alpha/Beta CTX Ratio) and Risk of Clinical Vertebral Fracture in Men: A Prospective Study**
Douglas Bauer*[1], Patrick Garnero[2], Stephanie Litwack Harrison[3], Jane Cauley[4], Kristine Ensrud[5], Richard Eastell[6], Eric Orwoll[7]. [1]University of California, San Francisco, USA, [2]Molecular Diagnostics, Synarc, France, [3]Research Institute, California Pacific Medical Center, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Minneapolis VA Medical Center / University of Minnesota, USA, [6]University of Sheffield, United Kingdom, [7]Oregon Health & Science University, USA
Disclosures: Douglas Bauer, Merck, 2; Novartis, 2; Amgen, 2; Amgen, 5; Merck, 5

CONCURRENT ORAL SESSION 05: OSTEOPOROSIS TREATMENT

10:00 am - 11:30 am **South Building: Hall G**

Moderators:
Sophie A. Jamal, M.D., Ph.D.
The University of Toronto, Canada
Disclosures: Sophie Jamal, None

Steven Boonen, M.D., Ph.D.
Center for Metabolic Bone Disease, Belgium
Disclosures: Steven Boonen, None

10:00 am 1025 **Four Years of Denosumab Exposure in Women With Postmenopausal Osteoporosis: Results from the First Year Extension of the FREEDOM Trial**
Socrates Papapoulos*[1], Henry G. Bone[2], Maria Luisa Brandi[3], Jacques Brown[4], Roland Chapurlat[5], Edward Czerwinski[6], Nadia Daizadeh[7], Andreas Grauer[7], Christine Haller[7], Marc-Antoine Krieg[8], Cesar Libanati[7], Zulema Man[9], Dan Mellstrom[10], Sebastião C. Radominski[11], Jean-Yves Reginster[12], Heinrich Resch[13], José A Román Ivorra[14], Christian Roux[15], Steven Cummings[16]. [1]Leiden University Medical Center, The Netherlands, [2]Michigan Bone & Mineral Clinic, USA, [3]University of Florence, Italy, [4]Laval University, Canada, [5]E. Herriot Hospital, France, [6]Krakowskie Centrum Medyczne, Poland, [7]Amgen Inc, USA, [8]University Hospital, Switzerland, [9]Centro Médico TIEMPO, Argentina, [10]Sahlgrenska University Hospital, Sweden, [11]Universidade Federal do Paraná, Brazil, [12]CHU Centre Ville, Belgium, [13]Medical University Vienna, Austria, [14]Hospital Dr Peset, Spain, [15]Hospital Cochin, France, [16]San Francisco Coordinating Center, USA
Disclosures: Socrates Papapoulos, Amgen, Merck, Novartis, Lilly, Procter & Gamble, GSK, 5

10:15 am 1026 **The Value of Monitoring Hip BMD During Treatment with Denosumab: One Year Changes in BMD and Reductions in Fracture Risk**
Steven Cummings*[1], Li-Yung Lui[2], Eric Vittinghoff[3], Richard Eastell[4], Matt Austin[5], Steven Boonen[6], Ian Reid[7], Andreas Grauer[8], Cesar Libanati[9], Douglas Bauer[3]. [1]San Francisco Coordinating Center, USA, [2]California Pacific Medical Center Research Institute, USA, [3]University of California, San Francisco, USA, [4]University of Sheffield, United Kingdom, [5]Amgen, Inc., USA, [6]Center for Metabolic Bone Disease, Belgium, [7]University of Auckland, New Zealand, [8]Amgen Health Center, USA, [9]Amgen Inc, USA
Disclosures: Steven Cummings, Amgen, Inc., 2; Amgen, Inc., 5

10:30 am 1027 **2010 SHUN-ICHI HARADA YOUNG INVESTIGATOR AWARD**
Effect of Whole-Body Vibration on Bone Density and Structure in Postmenopausal Women with Osteopenia: A Randomized Controlled Trial
Lubomira Slatkovska*[1], Shabbir Alibhai[2], Joseph Beyene[3], Angela Cheung[2]. [1]University of Toronto, Canada, [2]University Health Network, Canada, [3]McMaster University, Canada
Disclosures: Lubomira Slatkovska, None

10:45 am 1028 **Reduction in the Risk of Clinical Fractures after a Single Dose of Zoledronic Acid 5 mg**
Dennis Black*[1], Ian Reid[2], Kenneth Lyles[3], Christina Bucci-Rechtweg[4], Guoqin Su[5], Trisha Hue[1], Richard Eastell[6]. [1]University of California, San Francisco, USA, [2]University of Auckland, New Zealand, [3]Duke University Medical Center, USA, [4]Novartis Pharmaceuticals Corporation, USA, [5]Novartis pharmaceuticals, USA, [6]University of Sheffield, United Kingdom
Disclosures: Dennis Black, Novartis, 2

11:00 am 1029 **Divergent Trends between Typical and Atypical Hip Fractures and Prevalence of Bisphosphonate Use in the US Elderly, 1996-2007**
John Wang*[1], Timothy Bhattacharyya[2]. [1]Intramural Research Program, NIAMS/NIH, USA, [2]Intramural Research Program, NIAMS NIH, USA
Disclosures: John Wang, None

11:15 am 1030 **Atypical Subtrochanteric and Shaft of Femur Fractures - Are they related to Bisphosphonate Therapy? : Blinded radiological review**
Christopher Warren[1], Nigel Gilchrist*[2], Mark Coates[3], Joy Helmore[4], John McKie[5], Gary Hooper[5]. [1]Department of Geriatrics, Princess Margaret Hospital, New Zealand, [2]CGM Research Trust, New Zealand, [3]Department of Radiology, Christchurch Hospital, New Zealand, [4]CGM Research Trust, Christchurch, New Zealand, [5]Department of Orthopaedic Medicine & Surgery, Christchurch Hospital, New Zealand
Disclosures: Nigel Gilchrist, None

CONCURRENT ORAL SESSION 06: PAGET'S DISEASE AND OTHER DISORDERS OF BONE

10:00 am - 11:30 am **South Building: Room 716AB**

Moderators:
G. David Roodman, M.D., Ph.D.
VA Pittsburgh Healthcare System (646), USA
Disclosures: G. David Roodman, None

Stuart H. Ralston, MBChB, M.D.
University of Edinburgh, United Kingdom
Disclosures: Stuart Ralston, None

10:00 am 1031 **2010 MOST OUTSTANDING CLINICAL ABSTRACT AWARD**
Genome Wide Association Study Identifies Four Loci that Account for 76% of the Population Attributable Risk of Paget's Disease
Omar Albagha*[1], Micaela Visconti[1], Nerea Alonzo[1], Anne Langston[1], Tim Cundy[2], Rosmary Dargie[3], William Fraser[4], Michael Hooper[5], Giancarlo Isaia[6], Geoffrey Nicholson[7], Javier del Pino[8], Rogelio Gonzalez-Sarmiento[8], Marc di Stefano[6], John Walsh[9], Stuart Ralston[1]. [1]University of Edinburgh, United Kingdom, [2]Faculty of Medical & Health Sciences University of Auckland, New Zealand, [3]Glasgow Royal infirmary, United Kingdom, [4]Royal Liverpool University Hospital, United Kingdom, [5]Sydney University & Sydney South West Area Health Service, Australia, [6]University of Torino, Italy, [7]University of Melbourne, Australia, [8]University of Salamanca, Spain, [9]Sir Charles Gairdner Hospital, Australia
Disclosures: Omar Albagha, None

10:15 am 1032 **Measles Virus Nucleocapsid Gene Expression and the SQSTM1 Mutation Both Contribute to the Increased Osteoclast Activity in Paget's Disease**
Noriyoshi Kurihara*[1], Hua Zhou[2], David Dempster[3], Jolene Windle[4], Jacques Brown[5], G. David Roodman[6]. [1]Center for Bone Biology, University of Pittsburgh, USA, [2]Helen Hayes Hospital, USA, [3]Columbia University, USA, [4]Virginia Commonwealth University, USA, [5]Laval University, Canada, [6]VA Pittsburgh Healthcare System (646), USA
Disclosures: Noriyoshi Kurihara, None

10:30 am 1033 ***TNFRSF11A*** **Gene Allelic Variants are Associated with Paget's Disease of Bone and Interact with *SQSTM1* Mutations to Cause the Severity of the Disorder.**
Daniela Merlotti*[1], Fernando Gianfrancesco[2], Luigi Gennari[1], Domenico Rendina[3], Marco Di Stefano[4], Giuseppe Mossetti[3], Salvatore Gallone[5], Teresa Esposito[2], Sara Magliocca[2], Daniela Formicola[2], Alessandra Mingione[2], Pierpaola Fenoglio[5], Antonio Criasia[4], Riccardo Muscariello[3], Pasquale Strazzullo[3], Giancarlo Isaia[6], Ranuccio Nuti[1]. [1]Department of Internal Medicine, Endocrine-Metabolic Sciences & Biochemistry, University of Siena, Italy, [2]Institute of Genetics & Biophysics, CNR, Naples, Italy, [3]Department of Clinical & Experimental Medicine, Federico II University of Naples, Italy, [4]Department of Internal Medicine, University of Turin, Italy, [5]Department of Neuroscience, University of Turin, Italy, [6]University of Torino, Italy
Disclosures: Daniela Merlotti, None

10:45 am 1034 **Both Hypersensitivity to 1,25-$(OH)_2D_3$ and High IL-6 Levels Are Required to Induce Pagetic Osteoclasts**
Noriyoshi Kurihara*[1], Jolene Windle[2], G. David Roodman[3]. [1]Center for Bone Biology, University of Pittsburgh, USA, [2]Virginia Commonwealth University, USA, [3]VA Pittsburgh Healthcare System (646), USA
Disclosures: Noriyoshi Kurihara, None

11:00 am 1035 **Effects of Estrogen on Bone Marrow Cytokines/Bone-Regulatory Factors and Osteoprogenitor Cells In Vivo in Elderly Women**
Ulrike Moedder*[1], Louise McCready[2], Kelley Hoey[2], Matthew Roforth[2], James Peterson[2], Sundeep Khosla[3]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA, [3]College of Medicine, Mayo Clinic, USA
Disclosures: Ulrike Moedder, None

11:15 am 1036 **Postmenopausal BMD Variation is Strongly Associated with Subsets of MicroRNAs and Other Non-coding RNAs (ncRNAs) Expression Levels**
Sjur Reppe*[1], Marit Holden[2], Vigdis T. Gautvik[1], Harish Datta[3], Kaare M. Gautvik[4]. [1]Oslo University Hospital, Ullevaal, Norway, [2]Norwegian Computing Center, Norway, [3]Newcastle University, United Kingdom, [4]Oslo University Hospital, Ullevaal; University of Oslo; Lovisenberg Deacon Hospital, Oslo, Norway
Disclosures: Sjur Reppe, None

POSTER SESSION I AND POSTER TOURS*

11:30 am - 1:30 pm **South Building: Hall E**

***Poster Tours will begin at the ASBMR Networking Center at 12:00 pm**

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

SA0001 **Axial and Appendicular Bone Properties in Ambulatory Children with Cerebral Palsy**
Tishya Wren*[1], David Lee[1], Robert M. Kay[1], Frederick J. Dorey[1], Vicente Gilsanz[2]. [1]Childrens Hospital Los Angeles, USA, [2]Children's Hospital of Los Angeles, USA
Disclosures: Tishya Wren, None

SA0002 **Effect of Vitamin D2 and D3 Supplementation in Healthy Adolescents from a Risk Region of Vitamin D Deficiency in Argentina**
Cristina Tau*[1], Edit Scaiola[2], Juliana Castagneto[1], Marina Rodriguez[3], Carina De Roccis[4], Zulma Pellisa[1]. [1]Metabolismo Cálcico y Óseo, Endocrinología, Hospital de Pediatría J.P.Garrahan, Buenos Aires, Argentina, [2]Servicio de Pediatria,Hospital Regional de Ushuaia, Tierra del Fuego, Argentina, [3]Servicio de Clínica Médica, Hospital Regional de Ushuaia,Tierra del Fuego, Argentina, [4]Laboratorio, Hospital Regional de Ushuaia,Tierra del Fuego, Argentina
Disclosures: Cristina Tau, None

SA0003 **Increased Bone Turnover in Preterm Infants Assessed by Serial Measurements of Urinary Osteocalcin and C-terminal Telopeptides of Type I Collagen (α-CTX-I and β-CTX-I)**
Kaisa Ivaska*[1], Leena Kilpelainen[2], Mikko Hakulinen[3], Tiina Lyyra-Laitinen[3], Esko Vanninen[3], Natalia Habilainen-Kirillov[1], Tanja Kuiri-Hanninen[2], Ulla Sankilampi[2], Kalervo Vaananen[1], Leo Dunkel[2]. [1]University of Turku, Department of Cell Biology & Anatomy, Finland, [2]Kuopio University Hospital, University of Eastern Finland, Department of Pediatrics, Finland, [3]Kuopio University Hospital, Department of Clinical Physiology & Nuclear Medicine, Finland
Disclosures: Kaisa Ivaska, None

SA0004 **Measuring Trabecular Density in the Peripheral Pediatric Skeleton: How Well Does pQCT Compare to QCT?**
Babette Zemel*[1], Keenan Brown[2], Soroosh Mahboubi[3], Rohama Khadija[4], Krista Whitehead[3], Mary Leonard[1]. [1]Children's Hospital of Philadelphia, USA, [2]Mindways Software, USA, [3]The Children's Hospital of Philadelphia, USA, [4]University of Texas, USA
Disclosures: Babette Zemel, None

SA0005 **Reduced Trabecular Volumetric BMD at Metaphyseal Regions of Weight-bearing Bones is Associated with Prior Fracture in Young Girls**
Joshua Farr*[1], Rita Tomas[1], Zhao Chen[2], Jeffrey Lisse[3], Timothy Lohman[3], Scott Going[3]. [1]The University of Arizona, USA, [2]University of Arizona College of Public Health, USA, [3]University of Arizona, USA
Disclosures: Joshua Farr, None

SA0006 **Systemic Biomarker Profiling of Metabolic and Dysplastic Skeletal Diseases Using Multiplex Serum Protein Analyses**
Michael Whyte*[1], Deborah Wenkert[1], Denise C. Dwyer[2], David L. Lacey[2], Marina Stolina[2]. [1]Shriners Hospital for Children, USA, [2]Amgen Inc, USA
Disclosures: Michael Whyte, Amgen, Incorporated, 3

SA0007 **To Asses the Incidence of Low Vitamin D Levels in Children with Osteogenesis Imperfecta and to Determine its Effect on Bone Healing and Number of Fractures**
Antony Kallur*, Richard Kruse, Lauren Davey, Michael Bober. A.I. DuPont Hospital for Children, USA
Disclosures: Antony Kallur, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

SA0008 **Effects of Repetitive Loading on the Growth-Induced Changes in Bone Mass and Cortical Bone Geometry: A 12-Month Longitudinal Study in Pre- and Post-Menarcheal Tennis Players**
Gaele Ducher*[1], Shona Bass[2], Leanne Saxon[3], Robin Daly[4]. [1]Penn State University, USA, [2]Deakin University, Australia, [3]Royal Veterinary College, United Kingdom, [4]The University of Melbourne, Western Hospital, Australia
Disclosures: Gaele Ducher, None

SA0009 **Girls Accrue More Bone Relative to Lean Mass in Puberty and this Sex-difference Maintains to Young Adulthood: Evidence from 15 - years of Longitudinal Data**
Saija Kontulainen*, Donald Bailey, Robert Faulkner, Adam Baxter-Jones. University of Saskatchewan, Canada
Disclosures: Saija Kontulainen, None

SA0010 **Magnitude and Timing of Peak Bone Mineral Accrual in Young Girls**
Joan Lappe*[1], Robert Heaney[2], Michael Davies[2], Diane Cullen[2]. [1]Creighton University Osteoporosis Research Center, USA, [2]Creighton University, USA
Disclosures: Joan Lappe, None

SA0011 **Maternal Perinatal Diet Induces Developmental Programming of Bone Architecture**
Maureen Devlin*[1], Corinna Grasemann[2], Alison M. Cloutier[1], Mark R. Palmert[2], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]The Hospital for Sick Children, Canada
Disclosures: Maureen Devlin, None

SA0012 **Maternal Plasma Long Chain Polyunsaturated Fatty Acids Determine Bone Health in their Children at Age of Four: Southampton Women's Survey**
Dinesh Dhanwal*[1], Philip Calder[2], Kim Miranda[3], Sian Robinson[3], Hazel Inskip[3], Elaine Dennison[4], Cyrus Cooper[2]. [1]Maulana Azad Medical College, New Delhi and MRC, Southampton University, UK, India, [2]University of Southampton, United Kingdom, [3]MRC, United Kingdom, [4]MRC Epidemiology Resource Centre, United Kingdom
Disclosures: Dinesh Dhanwal, None

SA0013 **Physical Activity is Associated with Increased Volumetric Bone Density and Bone Strength in Early Childhood**
Zoe Cole*[1], Nick Harvey[2], Miranda Kim[2], Keith Godfrey[2], Hazel Inskip[2], Nick Wareham[3], Ulf Ekelund[3], Elaine Dennison[2], Cyrus Cooper[4]. [1]MRC Epidemiology Resource Centre, Southampton General Hospital, United Kingdom, [2]MRC Epidemiology Resource Centre, United Kingdom, [3]MRC Epidemiology Unit, United Kingdom, [4]University of Southampton, United Kingdom
Disclosures: Zoe Cole, None

SA0014 **Skeletal Deficits and Recovery in Methylphenidate Treated Rats**
Michelle Mary*[1], Haden Janda[1], Christine Snearly[1], Winfred Abrams[2], Nora Volkow[3], Gene-Jack Wang[4], Lisa Robinson[4], Mala Ananth[4], Tim Wigal[5], James Swanson[5], Panayotis Thanos[4], Michael Hadjiargyrou[6], David Komatsu[1]. [1]InMotion Orthopaedic Research Center, USA, [2]University of Tennessee, USA, [3]Laboratory of Neuroimaging, NIAAA, NIH, USA, [4]Behavior Neuropharmacology & Neuroimaging Lab, Medical Dept. Brookhaven National Laboratory, USA, [5]Child Development Center, University California Irvine, USA, [6]State University of New York at Stony Brook, USA
Disclosures: Michelle Mary, None

SA0015 **The Lifetime OsteoGenic Exercise Score: A Method to Estimate Bone Status in Young Adult Women**
Tara Dahn, Jo Welch*. Dalhousie University, Canada
Disclosures: Jo Welch, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

SA0016 **IBD Causes Greater Bone Loss in Male Compared to Female Mice.**
Regina Irwin, Laura McCabe*. Michigan State University, USA
Disclosures: Laura McCabe, None

SA0017 **PTH Increases and Serum NTX is Associated with Maternal Bone Loss in Pregnant Adolescents**
Bridget Essley*[1], Allison McIntyre[2], Beth Cooper[2], Thomas McNanley[2], Tera Kent[1], Frank Witter[3], Z. Leah Harris[3], Kimberly O'Brien[1]. [1]Cornell University, USA, [2]University of Rochester Medical Center, USA, [3]Johns Hopkins University, USA
Disclosures: Bridget Essley, None

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

SA0018 **Acute Mandibular Lesion in a 12 year old Girl with McCune Albright Syndrome and Fibrous Dysplasia**
Nancy Dunbar*[1], David Ebb[2], Ksenia Tonyushkina[3], Thomas Carpenter[4], Leonard Kaban[2]. [1]Baystate Medical Center, USA, [2]MassGeneral Hospital for Children, USA, [3]Baystate Children's Hospital, USA, [4]Yale University School of Medicine, USA
Disclosures: Nancy Dunbar, None

SA0019 **Bone Health in Children with Neurofibromatosis Type 1 - a High Incidence of Abnormal Vertebral Morphology and Altered Skeletal Geometry**
Peter Simm*[1], Julie Briody[2], Aaron Schindeler[2], Christopher Cowell[2], David Little[2], Kathryn North[2], Craig Munns[2]. [1]Royal Children's Hospital, Melbourne, Australia, [2]The Children's Hospital At Westmead, Australia
Disclosures: Peter Simm, Pfizer, 2

SA0020 **Impact of Weight Gain on Bone Mineral Content in Adolescents with Type 1 Diabetes**
Sowmya Krishnan*[1], Brianna Bright[2], Mary Murray[3], Kenneth Copeland[2], David Fields[2]. [1]The University of Oklahoma Health Sciences Center, USA, [2]University of Oklahoma health science center, USA, [3]University of Utah, USA
Disclosures: Sowmya Krishnan, Novo Nordisk, 2

SA0021 **Impairment of Bone Microarchitecture and Lipodystrophy in Young B6 Mice Treated with the Second Generation Anti-psychotic, Risperidone**
Ingrid De Paula*[1], Sutada Lotinun[2], Gavin Welch[3], Sumithra Urs[4], Masanobu Kawai[1], Sheila Bornstein[1], Ann Maloney[4], Mark Horowitz[5], Roland Baron[6], Clifford Rosen[1]. [1]Maine Medical Center, USA, [2]Harvard School of Dental Medicine, USA, [3]Foundation for Blood Research, USA, [4]Maine Medical Center Research Institute, USA, [5]Yale University School of Medicine, USA, [6]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Ingrid De Paula, None

SA0022 **Paternal Deletion of the GNAS Imprinted Locus in a Girl Presenting with AHO, Severe Obesity and ACTH-independent Adrenal Hyperplasia**
Caroline Kannengiesser[1], Stéphanie Maupetit-Méhouas[2], Sabine Rouleau[3], Régis Coutant[3], Agnes Linglart[4], Caroline Silve*[5]. [1]Assistance Publique-Hôpitaux de Paris ; Université Paris 7. Hôpital Bichat Claude Bernard, Service de Biochimie hormonale et génétique, France, [2]INSERM U986, France, [3]Department of Pediatric Endocrinology, University Hospital, France, [4]INSERM U986; Assistance Publique-Hôpitaux de Paris. Endocrinologie-diabétologie pédiatrique et Centre de référence des maladies rares du métabolisme du calcium et du phosphore, Hôpital St-Vincent de Paul, France, [5]INSERM Unit 986, France
Disclosures: Caroline Silve, None

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

SA0023 **Evidence of Metabolic Bone Disease in Young Infants with Multiple Fractures Misdiagnosed as Child Abuse**
Chuck Hyman[1], Marvin Miller[2], David Ayoub*[3]. [1]Pediatrician, USA, [2]Wright State University Boonshoft School of Medicine, USA, [3]Clinical Radiologists, SC, USA
Disclosures: David Ayoub, None

SA0024 **High dose recombinant growth hormone therapy is more effective in pre-pubertal compared to pubertal patients with growth failure in well controlled hypophosphatemic rickets**
Agnes Linglart*, Isis Marchand, Pierre Bougneres, Anya Rothenbuhler. AP-HP; Université Paris 5; INSERM, France
Disclosures: Agnes Linglart, None

SA0025 **New Case of Infantile Generalized Arterial Calcification: Evolution from Prenatal Diagnosis to 12 Months of Age under Bisphosphonates' Therapy**
Thomas Edouard*[1], Nathalie Alos[2], Joaquim Miro[1], Chantal Lapierre[1], Jacques Michaud[1], Gilles Chabot[3]. [1]CHU Sainte-Justine - Université Montréal, Canada, [2]CHU Sainte Justine, Canada, [3]Hopital Saint Justine, Canada
Disclosures: Thomas Edouard, None

SA0026 **The Use of Intravenous Bisphosphonate Therapy to Treat Vertebral Fractures due to Osteoporosis among Boys with Duchenne Muscular Dystrophy**
Anne Marie Sbrocchi*[1], Frank Rauch[2], Pierre Jacob[1], MaryAnn Matzinger[1], Leanne M. Ward[1]. [1]University of Ottawa, Canada, [2]McGill University, Canada
Disclosures: Anne Marie Sbrocchi, None

BONE BIOMECHANICS AND QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SA0027 ***In vivo*** **Microstructural Quantification of Finger Joints using High-Resolution pQCT**
Christoph Kolling[1], Kathryn S Stok*[2], Thomas L Mueller[2], Ralph Müller[2], Jörg Goldhahn[2]. [1]Schulthess Clinic, Switzerland, [2]ETH Zurich, Switzerland
Disclosures: Kathryn S Stok, None

SA0028 **Age-Related Loss of Hip Bone Strength Varies by Gender and Loading Condition: The AGES-Reykjavik Study**
Thomas Lang*[1], Sigurdur Sigurdsson[2], Kristin Siggeirsdottir[2], Diana Oskarsdottir[2], Gunnar Sigurdsson[3], Gyda Karlsdottir[2], Gudny Eiriksdottir[2], Tamara Harris[4], Vilmundur Gudnason[5], Joyce Keyak[6]. [1]University of California, San Francisco, USA, [2]Icelandic Heart Association, Iceland, [3]Landspitali, Iceland, [4]National Institute on Aging, USA, [5]Icelandic Heart Association Research Institute, Iceland, [6]University of California, USA
Disclosures: Thomas Lang, Merck, 2

SA0029 **Agreement between pQCT and DXA-derived indices of bone geometry, density and theoretical strength in females of varying age, maturity and physical activity**
Portia Flowers*[1], Jodi Dowthwaite[2], Rebecca Hickman[1], Tamara Scerpella[3]. [1]SUNY Upstate Medical University, USA, [2]State University of New York, Upstate Medical University, USA, [3]State University of New York Upstate Medical University, USA
Disclosures: Portia Flowers, None

SA0030 **Bone Density and Structure of Patients on Bisphosphonates with Atypical Femur Fractures**
Angela Cheung*[1], Jonathan Adachi[2], Robert Josse[3], Robert Bleakney[4], Christian Viellette[1], Aliya Khan[5], Moira Kapral[1], Sophie Jamal[6], Heather McDonald-Blumer[7], Earl Bogoch[8]. [1]University Health Network, Canada, [2]St. Joseph's Hospital, Canada, [3]St. Michael's Hospital, University of Toronto, Canada, [4]Mt. Sinai Hospital, Canada, [5]McMaster University, Canada, [6]The University of Toronto, Canada, [7]Mount Sinai Hospital, Canada, [8]St. Michael's Hospital, Canada
Disclosures: Angela Cheung, Amgen, 2; Merck, 2; Novartis, 2; Sanofi-Aventis, 2; Eli Lilly, 2

SA0031 **Collagen Cross-link Concentration Influences the Fatigue Behavior of Human Vertebral Trabecular Bone**
Stephanie Viguet-Carrin*[1], David Panus[2], Helene Follet[3], Pierre Delmas[1], Elise Morgan[4], Roland Chapurlat[1], Mary Bouxsein[5]. [1]E. Herriot Hospital, France, [2]Orthopedic Biomechanics Laboratory, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, USA, USA, [3]INSERM, Université De Lyon, France, [4]Boston University, USA, [5]Beth Israel Deaconess Medical Center, USA
Disclosures: Stephanie Viguet-Carrin, None

SA0032 **Comparison between Clinical Diagnostic Tools and QCT-based Finite Element Models for Predicting Human Vertebral Apparent Strength In Vitro**
Enrico Dall'Ara*[1], Dieter Pahr[1], Peter Varga[1], Franz Kainberger[2], Philippe Zysset[1]. [1]Vienna University of Technology, Austria, [2]Medical University of Vienna, Austria
Disclosures: Enrico Dall'Ara, None

SA0033 **CT-based Structural Rigidity Analysis Can Alter the Course of Treatment in Patients with Skeletal Metastasis**
Brian Snyder*[1], Ara Nazarian[2], Vahid Entezari[3], John Hipp[4], Nathan Calderon[5], Richard Terek[6], Edward Cheng[7], Albert Aboulafia[8], Megan Anderosn[3], Mark Gebhardt[3], Timothy Damron[9]. [1]Children's Hospital Boston, Harvard Medical School, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]BIDMC, USA, [4]Baylor College of Medicine, USA, [5]UT Austin, USA, [6]Brown University, USA, [7]University of Minnesota, USA, [8]Sinai Hospital, USA, [9]State University of New York Upstate Medical University, USA
Disclosures: Brian Snyder, None

SA0034 **Decreased PTH Secretion is Associated with Low Bone Formation and Vertebral Fracture Risk in Postmenopausal Women with Type 2 Diabetes**
Masahiro Yamamoto*[1], Toru Yamaguchi[1], Mika Yamauchi[1], Kiyoko Nawata[2], Toshitsugu Sugimoto[3]. [1]Shimane University Faculty of Medicine, Japan, [2]Department of Health & Nutrition, The University of Shimane, Junior College, Matsue Campus, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Masahiro Yamamoto, None

SA0035 **Effects of Rosiglitazone on Bone: Assessing QCT Parameters in a Mechanistic Study in Postmenopausal Women with type 2 Diabetes Mellitus**
John Bilezikian*[1], Barbara Kravitz[2], E. Michael Lewiecki[3], Colin Miller[4], Allison R. Northcutt[5], Gitanjali Paul[5], Alexander R. Cobitz[5], Antonio Nino[6], Lorraine Fitzpatrick[7]. [1]Columbia University College of Physicians & Surgeons, USA, [2]GlaxosmithKline Pharmaceuticals, USA, [3]University of New Mexico School of Medicine, USA, [4]BioClinica, Inc. (formerly Bio-Imaging Technologies, Inc.), USA, [5]CVM/MDC, GlaxoSmithKline, USA, [6]GSK, USA, [7]GlaxoSmithKline, USA
Disclosures: John Bilezikian, GlaxoSmithKline, 5

SA0036 **Effects of Rosiglitazone on Bone: Understanding its Effects through Assessment of Bone Structure using Digitized x-rays in a Mechanistic Study of Postmenopausal Women with type 2 Diabetes Mellitus**
Antonio J. Nino*[1], Claude Arnaud[2], Rene Vargas-Voracek[3], Cesar Bogado[4], Barbara Kravitz[5], Allison R. Northcutt[1], Gitanjali Paul[1], Alexander R. Cobitz[1], Lorraine Fitzpatrick[6]. [1]CVM/MDC, GlaxoSmithKline, USA, [2]University of California at San Francisco, USA, [3]Imaging Therapeutics, USA, [4]Instituto De Investigaciones Metabolicas (IDIM), Argentina, [5]GlaxosmithKline Pharmaceuticals, USA, [6]GlaxoSmithKline, USA
Disclosures: Antonio J. Nino, GlaxoSmithKline, 3

SA0037 **Improved Evaluation of Hip Structure using High Resolution Cortical Thickness Measurement from Clinical CT Data**
Graham M Treece, Andrew H Gee, Paul Mayhew*, Kenneth Poole. University of Cambridge, United Kingdom
Disclosures: Paul Mayhew, None

SA0038 **In Vivo Evaluation of an Anatomical Subject-specific FE-model to Predict Hip Fracture Load**
Erwan Jolivet*[1], Marie-Astrid DUCOBU[2], Valérie Bousson[3], Klaus Engelke[4], Jean-Denis Laredo[5], David Mitton[2], Wafa Skalli[6]. [1]Arts et métiers ParisTech, France, [2]Arts et Metiers ParisTech, CNRS, LBM, France, [3]Hôpital Lariboisière, France, [4]University of Erlangen, Germany, [5]Service de Radiologie ostéo-articulaire, Hôpital Lariboisière, Assistance Publique des Hôpitaux de Paris et Faculté de Médecine Diderot, Université Paris 7, France, [6]Arts et Metiers ParisTech, CNRS, France
Disclosures: Erwan Jolivet, None

SA0039 **Investigation of Statistical Shape and Density Modeling as a Discriminator for Clinical Fracture Risk**
Todd Bredbenner*[1], Ryan S. Potter[1], Robert L. Mason[1], Lorena Havill[2], Eric Orwoll[3], Daniel P. Nicolella[1]. [1]Southwest Research Institute, USA, [2]Southwest Foundation for Biomedical Research, USA, [3]Oregon Health & Science University, USA
Disclosures: Todd Bredbenner, None

SA0040 **Lean mass predicts bone mineral density and estimates of hip strength in middle-aged individuals with non-insulin-requiring type 2 diabetes mellitus.**
Kendall Moseley*[1], Devon Dobrosielski[2], Kerry Stewart[2], Deborah Sellmeyer[2], Suzanne Jan De Beur[3]. [1]The Johns Hopkins Hospital, USA, [2]The Johns Hopkins Bayview Medical Center, USA, [3]Johns Hopkins University, USA
Disclosures: Kendall Moseley, None

SA0041 **Local Topological Analysis at the Distal Radius by HR-pQCT: Application to *In Vivo* Bone Microarchitecture and Fracture Assessment in the OFELY Study**
Jean-Baptiste Pialat*[1], Nicolas Vilayphiou[2], Stephanie Boutroy[3], Pierre-Jean Gouttenoire[4], Elisabeth Sornay-Rendu[5], Roland D. Chapurlat[6], Francoise Peyrin[4]. [1]INSERM U831, Université de Lyon & Hospices Civils de Lyon, France, [2]INSERM Unit 831 & Université de Lyon, France, [3]INSERM, Université De Lyon, France, [4]European Synchrotron Radiation Facility (ESRF), France, [5]INSERM, France, [6]INSERM U831 & Université de Lyon, France
Disclosures: Jean-Baptiste Pialat, None

SA0042 **Non-collageneous Proteins Influence Crystal Orientation and Shape: A SAXS Study**
Atharva Poundarik*[1], Ondrej Nikel[2], Caren Gundberg[3], Deepak Vashishth[2]. [1]Rensselaer Polytechnic University, USA, [2]Rensselaer Polytechnic Institute, USA, [3]Yale University School of Medicine, USA
Disclosures: Atharva Poundarik, None

SA0043 **Predicting Subchondral Bone Structural Properties Using a Depth-Specific CT Topographic Mapping Technique in Normal and Osteoarthritic Proximal Tibiae**
James Johnston*[1], Saija Kontulainen[1], Bassam Masri[2], David Wilson[3]. [1]University of Saskatchewan, Canada, [2]University of British Columbai, Canada, [3]University of British Columbia, Canada
Disclosures: James Johnston, None

SA0044 **Predicting Trabecular Bone Elastic Properties from μMRI-derived Measures of Bone Volume Fraction and Fabric**
Michael Wald*[1], Jeremy Magland[1], Chamith Rajapakse[2], Ed Guo[3], Felix Werner Wehrli[1]. [1]University of Pennsylvania Medical Center, USA, [2]University of Pennsylvania School of Medicine, USA, [3]Department of Biomedical Engineering, Columbia University, USA
Disclosures: Michael Wald, None

SA0045 **Quantitative Characterization of Motion Artifact in HR-pQCT Images of the Distal Radius and Tibia**
Miki Sode*[1], Andrew Burghardt[2], Jean-Baptiste Pialat[3], Thomas Link[2], Sharmila Majumdar[2]. [1]University of California San Francisco & Berkeley, USA, [2]University of California, San Francisco, USA, [3]INSERM U831,Université de Lyon & Hospices Civils de Lyon, France
Disclosures: Miki Sode, None

SA0046 **Radiation Therapy Causes a Rapid Loss of Bone Mineral Density of Thoracic Vertebra in Women and Men Lung Cancer Patients**
Michael Lawrence*[1], Jeffrey Willey[2], Mert Saynak[1], Ted Bateman[3], Lawrence Marks[1]. [1]University Of North Carolina, USA, [2]Clemson University, USA, [3]Univesity of North Carolina, USA
Disclosures: Michael Lawrence, None

SA0047 **Relationship Between Age, Mineral Characteristics, Mineralization, Microhardness, And Microcracks In Human Vertebral Trabecular Bone**
Delphine Farlay*[1], Yohann Bala[2], Brigitte Burt-Pichat[3], Roland Chapurlat[3], Georges Boivin[4], Helene Follet[5]. [1]University of Lyon, France, [2]Université De Lyon, France, [3]INSERM U831, Université de Lyon, France, [4]INSERM, France, [5]INSERM, Université De Lyon, France
Disclosures: Delphine Farlay, None

BONE BIOMECHANICS AND QUALITY: CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

SA0048 **BMD and TBS Micro Architecture Parameters Assessment at Spine in Patients with Primary Hyperparathyroidism (PHPT) before and One Year after Parathyroidectomy**
Emilie Maury[1], Renaud Winzenrieth[2], jean-claude Souberbielle[3], Emile Sarfati[4], Catherine Cormier*[5]. [1]Service De Rhumatologie A, AP-HP Groupe Hospitalier Cochin - Saint Vincent De Pa, France, [2]Med-Imaps, PTIB, France, [3]Laboratoire d'Explorations Fonctionnelles, Hopital Necker-Enfants Malades, France, [4]epartment of endocrine surgery,hopital Saint-Louis, APHP, France, [5]AP-HP Groupe Hospitalier Cochin, France
Disclosures: Catherine Cormier, None

SA0049 **Bone Microarchitecture Assessment in Postmenopausal Women with Atypical Fractures and Long Term Bisphosphonate Use**
Maria Belen Zanchetta*, Marcelo Sarli, Fabio Massari, Rodolfo Spivacow, Mirena Buttazzoni, Fernando Silveira, Cesar Bogado, Jose Ruben Zanchetta. Instituto de Investigaciones Metabolicas (IDIM), Argentina
Disclosures: Maria Belen Zanchetta, None

SA0050 **Intermittent PTH Treatment Increases Intracortical Osteocyte Density and Decreases Fat Mass in Ovariectomized Rats**
Steven Tommasini*[1], Andrea Trinward[2], Alvin Acerbo[3], Lisa Miller[4], Stefan Judex[5]. [1]SUNY Stony Brook, USA, [2]State University of New York at Stony Brook, USA, [3]Brookhaven National Laboratody, USA, [4]Brookhaven National Laboratory, USA, [5]Stony Brook University, USA
Disclosures: Steven Tommasini, None

BONE BIOMECHANICS AND QUALITY: DISUSE OSTEOPOROSIS

SA0051 **The Effects of Simulated Microgravity and Return to Weightbearing on Densitometric and Mechanical Properties of the Femoral Neck in the Adult Rat HU Animal Model**
Joshua Kupke, Scott Morgan*, Yasaman Shirazi-Fard, Joshua Davis, Joseph Marchetti, Alyssa McCue, Susan Bloomfield, Harry Hogan. Texas A&M University, USA
Disclosures: Scott Morgan, None

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

SA0052 **A Comparison of Resistance and Aerobic Exercise Training on Physical Ability, Bone Mineral Density and Osteoprotegerin in Older Women**
Elisa Marques*[1], Flávia Wanderley[1], Daniel Gonçalves[1], Margarida Coelho[1], João Viana[2], Pedro Moreira[1], Jorge Mota[1], Joana Carvalho[1]. [1]University of Porto, Portugal, [2]Loughborough University, United Kingdom
Disclosures: Elisa Marques, None

SA0053 **Downregulation of Sost/sclerostin Expression is Required for the Osteogenic Response to Mechanical Loading**
Xiaolin Tu*[1], Yumie Rhee[2], Racheal Lee[3], Jeffrey Benson[3], Keith Condon[3], Nicoletta Bivi[3], Lilian Plotkin[1], Charles Turner[4], Alexander Robling[3], Teresita Bellido[1]. [1]Indiana University School of Medicine, USA, [2]IUMS, Yonsei University, College of Medicine, South Korea, [3]Indiana University, USA, [4]Indiana University, Purdue University Indianapolis, USA
Disclosures: Xiaolin Tu, None

SA0054 **Mechanically-induced Signaling Events in Loaded Bones In-vivo Include Activation of ERK1/2 During Functional Adaptation**
Jason Bleedorn*[1], Susannah Sample[2], Troy Hornberger[3], Peter Muir[4]. [1]University of Wisconsin-Madison, USA, [2]UW-Madison School of Veterinary Medicine, USA, [3]School of Veterinary Medicine - UW Madison, USA, [4]University of Wisconsin, Madison, USA
Disclosures: Jason Bleedorn, None

SA0055 **Modulation of Gene Expression by Mechanical Loading in Mice with Conditional Ablation of the Connexin43 Gene (*Gja1*)**
Susan Grimston*[1], Marcus Watkins[2], Jin Norris[3], Valerie Salazar[2], Michael Brodt[3], Matthew Silva[2], Roberto Civitelli[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]Washington University in St. Louis, USA
Disclosures: Susan Grimston, None

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

SA0056 **Are Exercise-induced Gains in Lumbar Spine vBMD Driven by Changes in Back Extensor and Psoas Muscle Size in Older Men? An 18-month Randomised Controlled Trial.**
Christine Bailey*[1], Sonja Kukuljan[2], Riku Nikander[3], Caryl Nowson[2], Robin Daly[3]. [1]The University of Melbourne, Aus, [2]School of Exercise & Nutrition Sciences, Deakin University, Melbourne, Australia., Australia, [3]The University of Melbourne, Western Hospital, Australia
Disclosures: Christine Bailey, None

SA0057 **Effects of Pulsed Electromagnetic Field Stimulation on Gene Expression Related to Bone Formation in Spontaneously Hypertensive Rats**
Hiroaki Takekura[1], Hiroyuki Tamaki*[2], Hideaki Onishi[2], Tomie Nishizawa[3], Kengo Yotani[1], Atsumu Yuki[1], Futoshi Ogita[1], Hikari Kirimoto[2], Kounosuke Tomori[1]. [1]National Institute of Fitness & Sports, Japan, [2]Niigata University of Health & Welfare, Japan, [3]Chukyo Women's University Junior College, Japan
Disclosures: Hiroyuki Tamaki, None

SA0058 **Loaded Physical Activity Predicts Bone Strength, but not bone microstructure, at the Distal Radius in Adolescents**
Heather McKay*, Danmei Liu, Deetria Egeli, Melonie Burrows. University of British Columbia, Canada
Disclosures: Heather McKay, None

SA0059 **Maturity-specific Differences Attributed to Gymnastic Loading at the Distal Radius**
Jodi Dowthwaite*[1], Portia Flowers[2], Rebecca Hickman[2], Paula Rosenbaum[2], Tamara Scerpella[3]. [1]State University of New York, Upstate Medical University, USA, [2]SUNY Upstate Medical University, USA, [3]State University of New York Upstate Medical University, USA
Disclosures: Jodi Dowthwaite, None

SA0060 **Normal Masticatory Function Protects the Rat Mandibular Bone from Estrogen Deficiency-related Bone Loss**
Anestis Mavropoulos[1], René Rizzoli[2], Stavros Kiliaridis[1], Patrick Ammann*[2]. [1]University of Geneva, Switzerland, [2]University Hospital, Geneva, Switzerland
Disclosures: Patrick Ammann, None

SA0061 **Site and Frequency Specific Effects of Whole Body Vibration on Axial and Appendicular Structural Bone Parameters in Aged Rats**
Marion Pasqualini*[1], Norbert Laroche[1], Arnaud Vanden Bossche[1], Laurence Vico[2]. [1]Inserm U890 - Lyon University, France, [2]University of St-Etienne, France
Disclosures: Marion Pasqualini, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: ANALYSIS TECHNIQUES

SA0062 **A New Urinary Bio Marker of MMP-derived Cartilage Degradation**
Anne-Christine Bay-Jensen[1], Jianxia Wang[2], Inger Byrjalsen[3], Yi Li[4], Qinlong Zheng[4], Kim Henriksen[5], Per Qvist[5], Morten Karsdal*[5]. [1]Nordic Bioscience, Denmark, [2]Nordic Bioscience China, Denmark, [3]CCBR-Synarc, Denmark, [4]Nordic Bioscience Beijing, China, [5]Nordic Bioscience A/S, Denmark
Disclosures: Morten Karsdal, Nordic Bioscience, 3

SA0063 **Developing an Atlas of GFP Reporters and Cre Drivers of Interest to the Skeletal Biologist**
David Rowe*[1], Dong-Guk Shin[2], Peter Maye[1], Xi Jiang[1]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut, USA
Disclosures: David Rowe, None

SA0064 **Exercise May Prevent Regional Bone Loss Induced By Monosodium Iodoacetate Osteoarthritis Model**
Arnaud Boudenot*[1], stephane pallu[2], Eric Dolleans[2], Eric Lespessailles[3], Christelle Jaffre[2], Claude Laurent Benhamou[4]. [1]Inserm Unit U658, Hopital Porte Madeleine, Orléans, France, France, [2]INSERM UNIT U 658, France, [3]Centre Hospitalier Regional, France, [4]INSERM Orléans-France, France
Disclosures: Arnaud Boudenot, None

SA0065 **Preservation Effects on Bone Tissue Mechanical Properties**
Sasha Rosen*[1], Bryan Kaye[2], Omar Ahmady[2], Connor Randall[3], Paul Hansma[1]. [1]University of California, Santa Barbara, USA, [2]UCSB Hansma Lab, USA, [3]UCSB, USA
Disclosures: Sasha Rosen, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: ANALYSIS: CALCIFICATION

SA0066 **Assessment of Bone Mineralization in Rats Treated with Sclerostin Antibody**
Lindsey Edwards*[1], Amarjit Virdi[2], Kotaro Sena[2], D. Rick Sumner[2]. [1]Rush University, USA, [2]Rush University Medical Center, USA
Disclosures: Lindsey Edwards, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: CARTILAGE AND CHONDROCYTES

SA0067 ***Runx2* Overexpression in Hypertrophic Chondrocytes Delayed Chondrocyte Maturation and Endochondral Ossification**
Ming Ding*[1], Qiping Zheng[2]. [1]Rush University, USA, [2]Rush University Medical Center, USA
Disclosures: Ming Ding, None

SA0068 **ALK5, a TGF-beta type I Receptor, Regulates Osteoblast-Dependent Osteoclast Maturation and is Required for Cartilage Matrix Remodeling**
Tomoya Matsunobu*[1], Kiyoyuki Torigoe[2], Muneaki Ishijima[3], Ashok Kulkarni[2], Yukihide Iwamoto[1], Yoshihiko Yamada[2]. [1]Graduate School of Medical Sciences, Kyushu University, Japan, [2]National Institute of Dental & Craniofacial Research, NIH, USA, [3]Juntendo University, School of Medicine, Japan
Disclosures: Tomoya Matsunobu, None

SA0069 **Directed Differentiation of ES cells to the Chondrocyte Lineage**
April Craft*[1], Jason Rockel[2], Gordon Keller[1]. [1]McEwen Centre for Regenerative Medicine, University Health Network, Canada, [2]Stem Cell & Developmental Biology, The Hospital for Sick Children, Canada
Disclosures: April Craft, None

SA0070 **Dual Action of Von Hippel Lindau (VHL) in Limb Bud Mesenchyme**
Elisa Araldi*[1], Richa Khatri[1], Amato Giaccia[2], Ernestina Schipani[3]. [1]MGH, USA, [2]Stanford University, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA
Disclosures: Elisa Araldi, None

SA0071 **Histological, Functional and Contrast-based μCT Evaluation a Novel Osteoarthritis Model in Mice**
Zhechao Merry Ruan*[1], Frank Gannon[1], Michael Heggeness[1], Brian Dawson[1], Ming-ming Jiang[1], Jennifer Black[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]Vanderbilt Univeristy, USA
Disclosures: Zhechao Merry Ruan, None

SA0072 **Hypophosphatemia-independent Changes in Extracellular Matrix Proteins in Hyp Mice may Underlie the Articular Cartilage Degeneration of X-linked Hypophosphatemia**
Carolyn Macica*[1], Ali Nasiri[2], Guoying Liang[3]. [1]Yale University School of Medicine, USA, [2]Yale Univeristy, USA, [3]Yale University, USA
Disclosures: Carolyn Macica, None

SA0073 **Lkb1 Regulates Growth Plate Dynamics in the Mammalian Skeleton**
Lick Pui Lai*, Andrew McMahon. Harvard University, USA
Disclosures: Lick Pui Lai, None

SA0074 **Muscular Function and Bone Strength Related Variables after Knee Replacement**
Ari Heinonen*[1], Timo Rantalainen[2], Anu Valtonen[3], Tapani Pöyhönen[4], Sarianna Sipilä[5]. [1]Department of Health Sciences, University of Jyväskylä, Finland, [2]Neuromuscular Research Centre, Department of Biology of Physical Activity, University of Jyväskylä, Finland, [3]Rehabilitation & Pain Unit, Kymenlaakso Central Hospital & Department of Health Sciences, University of Jyväskylä, Finland, [4]Rehabilitation & Pain Unit, Kymenlaakso Central Hospital, Finland, [5]Gerontology Research Centre, Department of Health Siences, University of Jyväskylä, Jyväskylä, Finland
Disclosures: Ari Heinonen, None

SA0075 **Postnatal Deletion of the G-protein Subunit Alpha Synergizes with Gq/11 g-Proteins when Mediating PTH Receptor-dependent Fusion of the Epiphyseal Growth Plate.**
Andrei Chagin*[1], Tatsuya Kobayashi[2], Jun Guo[2], Takao Hirai[3], Min Chen[4], Lee Weinstein[5], Susan Mackem[6], Stefan Offermanns[7], Henry Kronenberg[2]. [1]Karolinska Institutet, Sweden, [2]Massachusetts General Hospital, USA, [3]Kyoto Prefectural University of Medicine, Japan, [4]National Institute of Diabetes, Digestive & Kidney Diseases, National Institutes of Health, USA, [5]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [6]National Cancer Institute, USA, [7]University of Heidelberg, Germany
Disclosures: Andrei Chagin, None

SA0076 **The Potential Role of Gas6 in Growth Plate Chondrocytes**
Phillip Newton*[1], Ann Canfield[1], Colin Farquharson[2]. [1]University of Manchester, United Kingdom, [2]Roslin Institute & R(D)SVS, University of Edinburgh, United Kingdom
Disclosures: Phillip Newton, None

SA0077 **The Role for CTGF and Src in Mesenchymal Stem Cell Condensation Induced by TGF-β1**
Fabiola Del Carpio-Cano*[1], Steven Popoff[2], Raul DeLa Cadena[3], Fayez Safadi[2]. [1]Temple University, USA, [2]Temple University School of Medicine, USA, [3]Temple University School of Medicine, Department of Physiology, USA
Disclosures: Fabiola Del Carpio-Cano, None

SA0078 **Zonal Disorganization and Premature Apoptosis of Chondrocytes in the Growth Plate of FGFR3 Mutant Mice**
Clair Francomano[1], Zijun Zhang*[2]. [1]Great Baltimore Medical Center, USA, [2]Saint Louis University, USA
Disclosures: Zijun Zhang, None

SA0079 **2010 YOUNG INVESTIGATOR AWARD**
β-Catenin Controls Osteoclast Formation through Regulation of OPG and RANKL Expression in Chondrocytes
Baoli Wang*, Hong-ting Jin, Dezhi Tang, Mei Zhu, Brendan F Boyce, Di Chen. University of Rochester Medical Center, USA
Disclosures: Baoli Wang, None

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

SA0080 ***RANKL* Expression in Mouse and Human T-Lymphocytes is Regulated by a Set of Cell-Type Specific Enhancers Designated the T-Cell Control Region**
Kathleen Bishop*, Xiaohua Wang, Heidi Coy, Robert Nerenz, Mark Meyer, Jenny Gumperz, J. Pike. University of Wisconsin-Madison, USA
Disclosures: Kathleen Bishop, None

SA0081 **Chondrocyte-Derived ATF4 Regulates Osteoblast Differentiation *In Vivo***
Weiguang Wang*[1], Na Lian[2], Lingzhen li[3], Weixi Wang[4], Florent Elefteriou[4], Xiangli Yang[4]. [1]Vanderbilt University Center for Bone Biology, Department of Pharmacology, Division of Clinical Pharmacology, Vanderbilt University, USA, [2]Vanderbuilt University, USA, [3]Vanderbilt University, Bone Research Center, USA, [4]Vanderbilt University, USA
Disclosures: Weiguang Wang, None

SA0082 **Effects of Inorganic Phosphate on the Dento-alveolar Complex, In Situ and I*n Vitro***
Yuri Yamamoto*[1], Sunao Sato[2], Brian Foster[3], Kenji Takada[2], Takashi Takata[4], Martha Somerman[3], Satoru Toyosawa[2]. [1]Osaka University, Japan, [2]Osaka University Graduate School of Dentistry, Japan, [3]University of Washington School of Dentistry, USA, [4]Hiroshima University Graduate School of Biomedical Sciences, Japan
Disclosures: Yuri Yamamoto, None

SA0083 **Expression Pattern of TgfβR2 and Joint Formation Related Genes in Developing Limbs**
Tieshi Li*[1], Lara Longobardi[1], Timothy Myers[1], Froilan Granero-Molto[1], Yun Yan[1], Douglas Mortlock[2], Anna Spagnoli[1]. [1]University of North Carolina at Chapel Hill, USA, [2]University of Vanderbilt, USA
Disclosures: Tieshi Li, None

SA0084 **MiR-204 and miR-211 Specifically Inhibit Runx2 Expression and Regulate Mesenchymal Stem Cell Differentiation and Bone Formation**
Jian Huang*[1], Bing Shu[2], Lan Zhao[1], Di Chen[3]. [1]University of Rochester, USA, [2]Orthopaedics, University of Rochester, USA, [3]University of Rochester Medical Center, USA
Disclosures: Jian Huang, None

SA0085 **MiR-29b Expression Is Dependent of COL1A1 in Bone Marrow Stromal Cells of Osteogenesis Imperfecta Patients During Osteoblast Differentiation**
Carla Kaneto*[1], Francisco Jose De Paula[2], Patrícia Lima[3], Dalila Dalila[4], Karen Prata[4], João Pina Neto[5], Sumithra Urs[6], Dimas Covas[4], Wilson Silva[7]. [1]School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [2]School of Medicine of Ribeirao Preto - USP, Brazil, [3]Department of Natural Science, The State University of Bahia, Vitória da Conquista, Bahia, Brazil., Brazil, [4]Regional Blood Center of Ribeirão Preto & National Institute of Science & Technology in Cell Therapy, Brazil, [5]Department of Genetics, Medical School of Ribeirão Preto, University of São Paulo, Brazil, [6]Maine Medical Center Research Institute, USA, [7]Department of Genetics, Medical School of Ribeirão Preto, University of São Paulo., Brazil
Disclosures: Carla Kaneto, None

SA0086 **Repression of Mineralization by the Trps1 Transcription Factor**
Dobrawa Napierala*[1], Yao Sun[2], Izabela Maciejewska[3], Elda Munivez[1], Terry Bertin[1], Rena D'Souza[2], Chunlin Qin[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]Baylor College of Dentistry, Texas A&M Health Science Center, USA, [3]Baylor College of Dentistry, Texas A&M Heatlt Science Center, USA
Disclosures: Dobrawa Napierala, None

SA0087 **TIP39/PTH2R Signalling in Chondrocytes Alters Endochondral Bone Development in vivo**
Dibyendu Panda*[1], David Goltzman[2], Andrew Karaplis[1]. [1]McGill University, Canada, [2]McGill University Health Centre, Canada
Disclosures: Dibyendu Panda, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: GENERAL

SA0088 **Amino Acids Differentially Regulate Bone Formation and Resorption**
Carlos Isales*[1], Kehong Ding[1], Qing Zhong[1], Michael Cain[1], Xing-Ming Shi[1], Byung Rho Lee[1], Richard Robbins[1], Mark Hamrick[1], Wendy Bollag[1], Clare Bergson[1], Crystal Perkins[1], Justin Cowart[1], Monte Hunter[1], Brandon Scott[1], Norman Chutkan[1], Karl Insogna[2]. [1]Medical College of Georgia, USA, [2]Yale University School of Medicine, USA
Disclosures: Carlos Isales, None

SA0089 **Arthroplasty Patients with Diabetes Mellitus Have Higher Bone Pentosidine Levels and Greater Immunohistochemical RAGE and MMP-1 than Patients without Diabetes**
Karen King*[1], Allison Williams[2], Trevor Oren[1], Allan Bucknell[2]. [1]University of Colorado School of Medicine, USA, [2]VA Eastern Colorado Health Care System, USA
Disclosures: Karen King, Cerapedics, Inc., 5; Cerapedics, Inc., 2; DePuy Orthopaedics, Inc., 2

SA0090 **Delayed Healing and Efficient *In Vivo* Retroviral Transgene Transduction in a Mouse Segmental Defect Model of Bone Healing**
Charles H. Rundle*, Nicoleta L. Popa, Jon Wergedal, Subburaman Mohan, Kin-Hing William Lau. Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Charles H. Rundle, None

SA0091 **Folate Supplementation During Pregnancy and Lactation Improves Bone Health of Female Mouse Offspring at Adulthood**
Jovana Kaludjerovic*, Wendy Ward. University of Toronto, Canada
Disclosures: Jovana Kaludjerovic, None

SA0092 **Large Scale Destabilization of Type I Collagen Triple Helix may Explain Increased Severity of Osteogenesis Imperfecta Caused by Mutations Near the Collagenase Cleavage Site.**
Elena Makareeva[1], Sejin Han[1], Juan Carlos Vera[1], Nydea Aviles[1], Wayne A. Cabral[1], Joan Marini[2], Robert Visse[3], Hideaki Nagase[3], Sergey Leikin*[1]. [1]National Institutes of Health, USA, [2]National Institute of Child Health & Human Development, USA, [3]Imperial College London, United Kingdom
Disclosures: Sergey Leikin, None

SA0093 **Micro-Computerized Tomographic Assessment of Zebrafish Skeleton.**
THEODORE CRAIG*[1], Glenda Evans[2], Theresa Hefferan[1], Michael Yaszemski[3], Stephen Ekker[4], Rajiv Kumar[3]. [1]Mayo Clinic, USA, [2]Orthopedics Research, Department of Orthopedics, Mayo Clinic, USA, [3]Mayo Clinic College of Medicine, USA, [4]Department of Biochemistry & Molecular Biology, Mayo Clinic, USA
Disclosures: THEODORE CRAIG, None

SA0094 **Morphological Comparison of the Skulls of Mice Mimicking Human Apert Syndrome Resulting From Gain-of-function Mutation of FGFR2 Ser252Trp and Pro253Arg**
Xiaolan Du, Tujun Weng, Qifen He, FengTao Luo, Lin Chen*. State Key Laboratory of Trauma, Burns & Combined Injury, Center of Bone Metabolism & Repair, Trauma Center, Institute of Surgery Research, Daping Hospital, Third Military Medical University, China
Disclosures: Lin Chen, None

SA0095 **Novel Role of CXCR4 in Bone Development and Growth**
Wei Zhu*[1], Stephen Doty[2], Adele Boskey[2]. [1]Hospital for Special Surgery, Weill Medical College of Cornell University, USA, [2]Hospital for Special Surgery, USA
Disclosures: Wei Zhu, None

SA0096 **Procollagen Type III N-Terminal Peptide (P3NP) is Inversely Associated with Lean Mass in Women**
Vasan Ramachandran[1], Sarah Berry*[2], Robert McLean[3], Peggy Cawthon[4], Douglas Kiel[5]. [1]Boston University School of Medicine, USA, [2]Hebrew SeniorLife/Beth Israel Deaconess Medical Center, USA, [3]Hebrew SeniorLife, Harvard Medical School, USA, [4]California Pacific Medical Center Research Institute, USA, [5]Hebrew SeniorLife, USA
Disclosures: Sarah Berry, None

SA0097 **PTH Anabolic Action is Influenced by the Deficiency of TRPV4 in Bone**
Paksinee Kamolratanakul*[1], Yoichi Ezura[2], Fumitaka Mizoguchi[1], Tadayoshi Hayata[3], Hiroaki Hemmi[1], Takuya Notomi[4], Teruo Amagasa[1], Masaki Noda[1]. [1]Tokyo medical & dental university, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan
Disclosures: Paksinee Kamolratanakul, None

SA0098 **Tgf-beta in the Development of the Intervertebral Disc**
Rosa Serra[1], Philip Sohn[2], Megan Cox*[2]. [1]University of Alabama at Birmingham, USA, [2]UAB, USA
Disclosures: Megan Cox, None

SA0099 **The Role of Tgfbr2 in Sclerotome Migration During Vertebrae Development**
Ying Wang*, Rosa Serra. University of Alabama at Birmingham, USA
Disclosures: Ying Wang, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: MATRIX PROTEINS

SA0100 **Hypoxia Promotes Myotube Formation and Fusion via AKT-FoxO3a Pathway**
Yoshitaka Kawato*[1], Makoto Hirao[1], Yui Honjo[1], Hiroki Oze[1], Kenrin Shi[1], Akira Myoui[2], Hideki Yoshikawa[1], Jun Hashimoto[1]. [1]Osaka University Graduate School of Medicine, Japan, [2]Osaka University Hospital, Japan
Disclosures: Yoshitaka Kawato, None

SA0101 **Impairment of Long Bone Growth and Progressive Establishment of High Trabecular Bone Mass in Mice Lacking Bone Sialoprotein (BSP)**
Maya Boudiffa[1], Ndéyé-Marième Wade-Gueye[2], Marco Cardelli[3], Norbert Laroche[2], Arnaud Vanden-Bossche[2], Jane Aubin[4], Laurence Vico[5], Marie-Helene Lafage-Proust[6], Luc Malaval*[7]. [1]IRCM, Canada, [2]Université de Lyon, INSERM U890, Université Jean Monnet, 42023, France, [3]Dept. of Molecular Genetics, University of Toronto, Canada, [4]University of Toronto Faculty of Medicine, Canada, [5]University of St-Etienne, France, [6]INSERM Unit 890, France, [7]INSERM U890-Université de Lyon-Université Jean Monnet, Saint-Etienne, France
Disclosures: Luc Malaval, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: MECHANICAL STRESS

SA0102 **A Novel Mechanism for Dose-to-Duration Encoding: ATP Concentration Determines the Persistence of Ca^{2+}/NFATc1 Signaling through Distinct P2 Receptor Subtypes in Osteoblasts**
Matthew Grol*, Alexey Pereverzev, Stephen Sims, S. Jeffrey Dixon. The University of Western Ontario, Canada
Disclosures: Matthew Grol, None

SA0103 **Contrasting Osteogenic Response to Mechanical Stimulation Between C57BL/6J and C3H/HeJ Inbred Mice Is In Part Due to Genetic Variations in the Leptin Receptor, Which is a Negative Bone Mechanosensitivity Modulating Gene**
Kin-Hing William Lau*[1], Sonia Kapur[2], Chandrasekhar Kesavan[3], Mehran Amoui[2], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Jerry L. Pettis Mem. VAMC, USA, [3]JLP VA Medical Center, USA
Disclosures: Kin-Hing William Lau, None

SA0104 **Hyper-occlusal Force Induced the Expression of Type XII Collagen in Periodontal Tissue**
Tetsuomi Nemoto, Kazuko Goto, Hiroshi Kajiya, Yutaka Takahashi, Tsuzuki Takashi*, Koji Okabe. Fukuoka Dental College, Japan
Disclosures: Tsuzuki Takashi, None

SA0105 **Identification of Quantitative Trait Loci for Musculoskeletal Mechanosensitivity**
Stefan Judex*[1], Engin Ozcivici[2], Weidong Zhang[3], Leah Rae Donahue[4]. [1]Stony Brook University, USA, [2]Mass General Hospital, USA, [3]The Jackson Laboratory, USA, [4]Jackson Laboratory, USA
Disclosures: Stefan Judex, None

SA0106 **Toughness of Human Cortical Bone under Realistic Loading Conditions**
Elizabeth Zimmermann*[1], Maximilien E. Launey[2], Robert O. Ritchie[1]. [1]University of California, Berkeley, USA, [2]Lawrence Berkeley National Lab, USA
Disclosures: Elizabeth Zimmermann, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: CALCITONIN AND RELATED PEPTIDES

SA0107 **Synthesis, Characterization, and Evaluation of Bone Targeting Salmon Calcitonin Analogues in Normal and Osteoporotic Rats**
Michael Doschak, Madhuri Newa, Krishna Bhandari*. University of Alberta, Canada
Disclosures: Krishna Bhandari, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: FGF23 AND OTHER PHOSPHATONINS

SA0108 **ASARM-peptides are Physiological Inhibitors of Renal Calcification.**
Peter Rowe*[1], Anne-Marie Hedge[1], Yan Hong[2], Aline Martin[3], Lesya Zelenchuk[1], Valentin David[3]. [1]University of Kansas Medical Center, USA, [2]University of Kansas Mecical Center, USA, [3]UTHSC, USA
Disclosures: Peter Rowe, None

SA0109 **Differential Gene Expression in Osteoblast/Osteocyte Lineage Cells between *Hyp* Mouse and Wild-type Mouse**
Kazuaki Miyagawa*[1], Keiichi Ozono[2], Kanako Tachikawa[1], Yuko Mikuni-Takagaki[3], Mikihiko Kogo[4], Toshimi Michigami[5]. [1]Department of Bone & Mineral Research, Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Osaka University Graduate School of Medicine, Japan, [3]Kanagawa Dental College & Graduate School of Dentistry, Japan, [4]Department of 1st Oral Surgery, Osaka University Graduate School of Dentistry, Japan, [5]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Kazuaki Miyagawa, None

SA0110 **FGFR1-Mediated Expression of Fgf23 and Dmp1 in Bone Bridges the Local and Systemic Regulation of Mineralization**
Emily Farrow*[1], Yumie Rhee[2], Lelia Summers[3], Soo Park[3], Racheal Lee[3], Teresita Bellido[3], Kenneth White[3]. [1]Indiana University, USA, [2]IUMS, Yonsei University, College of Medicine, South Korea, [3]Indiana University School of Medicine, USA
Disclosures: Emily Farrow, None

SA0111 **Increased MEPE Protein Expression in Rat Bone Tissue after a Single Bout of Mechanical Loading**
Nathalie Bravenboer*[1], Maartje Broeders[2], Huib Van Essen[3], Christianne Reijnders[4], Paul Lips[1]. [1]VU University Medical Center, The Netherlands, [2]dept Endocrinology, VU University Medical Center, Netherlands, [3]VU Medical Center, The Netherlands, [4]Dept Dermatology, VU University Medical center, Netherlands
Disclosures: Nathalie Bravenboer, None

SA0112 **Placenta Expresses Klotho and FGFR1 in Syncytiotrophoblast and Might Be a Target Organ of FGF23**
Yasuhisa Ohata*[1], Miwa Yamazaki[1], Tomoko Okada[1], Masahiro Nakayama[2], Keiichi Ozono[3], Toshimi Michigami[4]. [1]Department of Bone & Mineral Research, Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [2]Department of Clinical Laboratory Medicine & Anatomic Pathology, Osaka Medical Center & Research Institute for Maternal & Child Health, Japan, [3]Osaka University Graduate School of Medicine, Japan, [4]Osaka Medical Center, Research Institute for Maternal & Child Health, Japan
Disclosures: Yasuhisa Ohata, None

SA0113 **2010 YOUNG INVESTIGATOR AWARD**
Soluble Klotho Acts as a Coactivator of FGF23 in Bone but not in Kidney to regulate Mineralization
Tomoko Minamizaki*[1], Yuji Yoshiko[2], Yukiko Konishi[1], Hirotaka Yoshioka[1], Katsuyuki Kozai[1], Jane Aubin[3], Norihiko Maeda[4]. [1]Hiroshima University Graduate School of Biomedical Sciences, Japan, [2]Hiroshima University, Japan, [3]University of Toronto Faculty of Medicine, Canada, [4]DHiroshima University Graduate School of Biomedical Sciences, Japan
Disclosures: Tomoko Minamizaki, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

SA0114 **Activation of Vascular Smooth Muscle Parathyroid Hormone Receptor Inhibits Wnt/β-Catenin Signaling and Aortic Fibrosis and Calcification in Diabetic Arteriosclerosis**
Su-Li Cheng*[1], Jian-Su Shao[1], Linda Halstead[2], Oscar Sierra[1], Kathryn Distelhorst[3], Dwight Towler[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA, [3]Wahsington University in St. Louis School of Medicine, USA
Disclosures: Su-Li Cheng, None

SA0115 **Circulating Sclerostin Levels in Disorders of Parathyroid Function: Primary Hyperparathyroidism (PHPT) and Hypoparathyroidism (HypoPT)**
Aline Costa*[1], Serge Cremers[1], Mishaela Rubin[1], Elzbieta Dworakowski[1], Donald McMahon[2], Shonni Silverberg[1], John Bilezikian[2]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA
Disclosures: Aline Costa, None

SA0116 **2010 YOUNG INVESTIGATOR AWARD**
Endogenous PTH Contributes to Bone Regeneration, Formation and Remodeling by Stimulating Osteoprogenitor Cell Recruitment following Marrow Ablation
Qi Zhu*[1], Lei Shu[1], Jun Yan[2], Andrew Karaplis[3], David Goltzman[4], Dengshun Miao[5]. [1]Nanjing Medical University, China, [2]Second Hospital of Suzhou University, Peoples Republic of China, [3]McGill University, Canada, [4]McGill University Health Centre, Canada, [5]Nunjing Medical University, Peoples Republic of China
Disclosures: Qi Zhu, None

SA0117 **Heterozygosity in the VDR Gene Influences Body Composition more than Bone Mass**
Francisco Jose De Paula*[1], Sheila Bornstein[2], Ingrid Dick-de-Paula[3], Phuong Le[4], Bahman Rostama[4], Clifford Rosen[2]. [1]School of Medicine of Ribeirao Preto - USP, Brazil, [2]Maine Medical Center, USA, [3]School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [4]Maine Medical Center Research Institute, USA
Disclosures: Francisco Jose De Paula, None

SA0118 **Irradiation Primes the Skeleton for PTH Anabolic Actions**
Teresa Wang[1], Amy Koh*[2], Chad Novince[3], Russell Taichman[3], Hector Rios[2], Laurie McCauley[3], Xin Li[2]. [1]U of M, USA, [2]University of Michigan, USA, [3]University of Michigan, School of Dentistry, USA
Disclosures: Amy Koh, None

SA0119 **Mechanistic Insights into the Dysregulation of PTH Secretion in Hyperparathyroidism: In Vivo Analysis and In Vitro Studies in Parathyroid Glands**
Wenhan Chang*[1], Tsui-Hua Chen[1], Nathan Liang[1], Christopher Dinh[1], Viet Pham[1], Hanson Ho[1], Zhiqiang Cheng[1], Chia-Ling Tu[1], Dolores Shoback[2]. [1]University of California, San Francisco, USA, [2]VA Medical Center, USA
Disclosures: Wenhan Chang, None

SA0120 **PTH but not 25(OH)D is Directly Associated with Blood Pressure and Inversely Associated with Carotid-femoral Artery Pulse Wave Velocity**
Ashley Davidson*[1], Kathy Ryan[2], Alan Shuldiner[3], Elizabeth Streeten[1]. [1]University of Maryland School of Medicine, USA, [2]Department of Endocrinology, Diabetes & Nutrition, USA, [3]Department of Endocrinology, Diabetes & Metabolism, USA
Disclosures: Ashley Davidson, None

SA0121 **Stimulation of Bone Formation and Mineralization Post-Weaning Without Parathyroid Hormone**
Beth J. Kirby[1], Andrew Karaplis[2], Christopher Kovacs*[1]. [1]Memorial University of Newfoundland, Canada, [2]McGill University, Canada
Disclosures: Christopher Kovacs, None

SA0122 **2010 YOUNG INVESTIGATOR AWARD**
The Anabolic Action of Parathyroid Hormone on Bone is Mediated by Monocyte Chemoattractant Protein-1
Joseph A. Tamasi*[1], Emi Shimizu[2], Noah Benton[2], Joshua Johnson[2], Nigel Morrison[3], Nicola Partridge[4]. [1]Physiology & Biophysics, University of Medicine & Dentistry of New Jersey, USA, [2]Basic Science & Craniofacial Biology, New York University College of Dentistry, USA, [3]Griffith University, Gold Coast Campus, Australia, [4]New York University College of Dentistry, USA
Disclosures: Joseph A. Tamasi, Bristol-Myers Squibb, 3

CANCER AND BONE: BREAST AND PROSTATE

SA0123 **Combined *In Vivo* MicroCT and Near-Infrared Imaging Allows for Quantitative Analyses of the Tumor Microenvironment**
Rachelle Johnson*[1], Lindsay Johnson[2], Don Nolting[3], Steve Munoz[1], Gregory Mundy[1], H. Charles Manning[1], Todd Peterson[1], Julie Sterling[1]. [1]Vanderbilt University Medical Center, USA, [2]Department of Biomedical Engineering, Vanderbilt University, USA, [3]Institute of Imaging Science, Vanderbilt University, USA
Disclosures: Rachelle Johnson, None

SA0124 **Differential Role of Fibronectin Originating from Different Sources in the Bone Marrow on Metastasis Formation**
Anja von Au*[1], Christine Hoffmann[1], Matthaeus Vasel[1], Marco Cecchini[2], Inaam Nakchbandi[1]. [1]Max-Planck Institute for Biochemistry & University of Heidelberg, Germany, [2]University of Bern, Switzerland
Disclosures: Anja von Au, None

SA0125 **Enpp1: A Potential Facilitator of Breast Cancer Bone Metastasis**
Wen Min Lau[1], Michele Doucet[1], Ryan Stadel[1], Kristy Weber[2], Scott Kominsky*[3]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University, USA, [3]Johns Hopkins School of Medicine, USA
Disclosures: Scott Kominsky, None

SA0126 **Influence of Connexin43 Expression on the Metastatic Phenotype and the Bone Impact of Prostate Cancer Cells**
Coralie Lamiche*[1], Jonathan Clarhaut[1], Pierre-olivier Strale[1], Sophie Crespin[1], Norah Defamie[1], Marc Mesnil[1], Francoise Debiais[2], Laurent Cronier[3]. [1]CNRS - UMR 6187, Institut de Physiologie et Biologie Cellulaires, France, [2]Hopital Jean Bernard, France, [3]University of Poitiers, France
Disclosures: Coralie Lamiche, None

SA0127 **Inhibition of ATP6V1C1 (a Subunit of the V-ATPase) Expression Decreases 4T1 Mouse Breast Cancer Cell Invasion and Bone Destruction**
Shengmei Feng*[1], Lianfu Deng[2], Guochun Zhu[1], Wei Chen[3], Yi-Ping Li[3]. [1]The Forsyth Institute, Shanghai Institute of Trauma & Orthopaedics, USA, [2]Shanghai Institute of Trauma & Orthopaedics, Ruijin Hospital, China, [3]The Forsyth Institute, Harvard School of Dental Medicine, USA
Disclosures: Shengmei Feng, None

SA0128 **Myeloid-Derived Suppressor Cells Expand During Breast Cancer Progression and Promote Tumor-induced Bone Destruction.**
Sabrina Danilin*[1], Julie Sterling[2], Alyssa Merkel[2], Josh Johnson[2], Rachelle Johnson[2], James Edwards[2], Gregory R Mundy[2]. [1]Vanderbuilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Sabrina Danilin, None

SA0129 **Sympathetic Nervous System Activation Increases Breast Cancer Metastasis to Bone**
J. Campbell*[1], Julie Sterling[2], Yun Ma[2], GR Mundy[2], Florent Elefteriou[2]. [1]Vanderbilt Center for Bone Biology, USA, [2]Vanderbilt University, USA
Disclosures: J. Campbell, None

SA0130 **The Effect of Various Vitamin D Supplementation Regimens on 25-OH Vitamin D Levels in Breast Cancer Patients Undergoing Treatment**
Alissa Huston*, Luke Peppone, Kristin Skinner, Michelle Janelsins, Gary Morrow. University of Rochester Medical Center, USA
Disclosures: Alissa Huston, None

SA0131 **The Histone Deacetylase Inhibitor, Vorinostat, Reduces Metastatic Cancer Cell Growth and Associated Osteolytic Disease, but Promotes Normal Bone Loss**
Jitesh Pratap*[1], Jacqueline Akech[1], John J. Wixted[1], Gabriela Szabo[1], Robinder J. Dhillon[2], Xiaodong Li[2], Krystin Bedard[1], Sadiq Hussain[1], Andre Van Wijnen[1], Janet L. Stein[1], Gary Stein[1], Jennifer Westendorf[2], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]Mayo Clinic, USA
Disclosures: Jitesh Pratap, None

SA0132 **The Role of Tumor Derived Interleukin 6 in a Murine Model of Breast Cancer Bone Metastasis**
Yu Zheng*[1], Anastasia Mikuscheva[2], Hong Zhou[3], Katja Boernert[1], Frank Buttgereit[2], Colin Dunstan[4], Markus Seibel[3]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Humboldt University, Germany, [3]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [4]University of Sydney, Australia
Disclosures: Yu Zheng, None

SA0133 **Treatment with Interleukin 6 Receptor Antibodies Inhibits Breast Cancer Growth in a Murine Model of Bone Metastasis**
Katja Boernert*[1], Yu Zheng[1], Hong Zhou[2], Anastasia Mikuscheva[3], Frank Buttgereit[3], Colin Dunstan[4], Markus Seibel[2]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [3]Humboldt University, Germany, [4]University of Sydney, Australia
Disclosures: Katja Boernert, None

CANCER AND BONE: GENERAL

SA0134 **A Role for the ARF Tumor Suppressor in Osteoclasts**
Crystal Winkeler*[1], Monica Croke[2], Emanuella Heller[1], Michelle Hurchla[1], Chan Lee[1], Katherine Weilbaecher[3], Jason Weber[1]. [1]Washington University in St. Louis, USA, [2]Washington University School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Crystal Winkeler, None

SA0135 **Activation of Notch Signaling Contributes to the Pathogenesis of Osteoma and Osteosarcoma with a Mouse Model**
Jianning Tao*, Shan Chen, Ming ming Jiang, Terry Bertin, Francis Gannon, Brendan Lee. Baylor College of Medicine, USA
Disclosures: Jianning Tao, None

SA0136 **Bone Remodeling Regulated by ARF is a Therapuetic Target for Prevention of Osteosarcoma**
Michelle Hurchla*[1], Dan Rauch[2], John Harding[2], Hongju Deng[2], Lauren Shea[2], Mark Eagleton[2], Stefan Niewiesk[3], Michael Lairmore[3], David Piwnica-Worms[2], Thomas Rosol[4], Jason Weber[2], Lee Ratner[2], Katherine Weilbaecher[5]. [1]Washington University in St. Louis, USA, [2]Washington University School of Medicine, USA, [3]Ohio State University, USA, [4]The Ohio State University, USA, [5]Washington University in St. Louis School of Medicine, USA
Disclosures: Michelle Hurchla, None

SA0137 **Controlled Bone Tissue Ablation using Novel Navigational RF Device**
Andreas Kurth*[1], Dirk Proschek[2], Aaron Germain[3], Robert Poser[3]. [1]Goethe-Universität Frankfurt, Germany, [2]Dep. Orthopaedic Surgery, University Medical Center, Germany, [3]Dfine Inc., USA
Disclosures: Andreas Kurth, None

SA0138 **Disruption of Prostaglandin E Biosynthesis and Its Receptor EP4 Attenuated Angiogenesis, Tumor Growth and Bone Metastasis of Cancer.**
Morichika Takita[1], Satoshi Yokoyama[1], Masaki Inada*[2], Chisato Miyaura[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Toyko University of Agriculture & Technology, Japan
Disclosures: Masaki Inada, None

SA0139 **Epigenetic Silencing of the Homeobox-containing Transcription Factor Dlx2 Promotes Chemoresistance in Human Osteosarcoma Cells.**
Erik Sampson*[1], Vinit Amin[2], Laurence Donahue[2], Edward Schwarz[1], Regis O'Keefe[1], Randy Rosier[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Erik Sampson, None

SA0140 **Frequent Attenuation of Tumor Suppressor WWOX in Osteosarcomas is Associated With Increased Tumorigenicity and Elevated RUNX2 Levels**
Sara Del Mare*[1], Kyle Kurek[2], Zaidoun Salah[1], Suhaib Abdeen[1], Eugenio Gaudio[3], Nicola Zanesi[3], Hussain Sadiq[4], Matthew Warman[5], Gary Stein[6], Janet Stein[4], Jane Lian[6], Rami Aqeilan[7]. [1]The Lautenberg Center for Immunology & Cancer Research, Hebrew University-Hadassah Medical School, Israel, [2]Children's Hospital Boston Department of Pathology, USA, [3]Department of Molecular Virology, Immunology & Medical Genetics, Comprehensive Cancer Center, Ohio State University, USA, [4]Department of Cell Biology, University of Massachusetts Medical School, USA, [5]Department of Orthopaedic Surgery, Howard Hughes Medical Institute, Children's Hospital Boston & Harvard Medical School, USA, [6]University of Massachusetts Medical School, USA, [7]Ohio State University, USA
Disclosures: Sara Del Mare, None

SA0141 **Identification of Novel Molecule for Melanoma Malignancy -Role of CIZ -**
Kentaro Miyai[1], Masaki Noda[1], Tadayoshi Hayata[2], Tomomi Sakuma*[3], Yoichi Ezura[4]. [1]Tokyo Medical & Dental University, Japan, [2]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [3]Tokyou Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan
Disclosures: Tomomi Sakuma, None

SA0142 **Leukemia Blasts Compromise Osteoblast Function in a Mouse Model of Acute Myelogenous Leukemia**
Barbara Silva*[1], Yoshihiro Yoshikawa[2], Charles Duncan[2], Linda Johnson[3], John Manavalan[2], Ellin Berman[4], Stavroula Kousteni[1]. [1]Columbia University Medical Center, USA, [2]College of Physicians & Surgeons, Columbia University, USA, [3]Cornell University & Memorial Sloan-Kettering Cancer Center, USA, [4]Memorial Sloan-Kettering Cancer Center, USA
Disclosures: Barbara Silva, None

SA0143 **Targeting Wnt or BMP Pathways Differentially Modulates Osteoclast-inducing Activity of Giant Cell Tumor Stromal Cells: Biologic and Therapeutic Implications**
Matthew Steensma*[1], Wakenda Tyler[2], John Healey[3], F. Patrick Ross[4], Steven Goldring[4], Ed Purdue[4]. [1]Memorial Sloan-Kettering Cancer Center/Hospital For Special Surgery, USA, [2]Rochester University, USA, [3]Memorial Sloan-Kettering Cancer Center, USA, [4]Hospital for Special Surgery, USA
Disclosures: Matthew Steensma, None

SA0144 **Unraveling the Molecular Connections between Anti-Cancer and Anti-Osteoporosis Drugs Using the Connectivity Map.**
Jameel Iqbal*[1], Xuan Liu[1], Ling-Ling Zhu[1], Jianhua Li[2], Yuanzhen Peng[3], Zuhong Lu[4], Guangyu Zhu[1], Alberta Zallone[5], Li Sun[6], Mone Zaidi[7]. [1]The Mount Sinai Bone Program & Department of Medicine, Mount Sinai School of Medicine, USA, [2]Tount Sinai School of Medicine, USA, [3]The Mount Sinai School of Medicine, USA, [4]State Key Laboratory of Bioelectronics, Southeast University, Nanjing China, China, [5]University of Bari Medical School, Italy, [6]Mount Sinai School of Medicine, USA, [7]Mount Sinai Medical Center, USA
Disclosures: Jameel Iqbal, None

SA0145 **Zoledronic Acid Prolongs Time to First Skeletal-Related Event (SRE), Progression-Free Survival (PFS), and Overall Survival (OS) Versus Clodronate in Patients With Newly Diagnosed Multiple Myeloma (MM): Results of the Medical Research Council (MRC) Myeloma IX Trial**

W. Gregory[1], A. Szubert[1], R. Owen[2], J. Child[1], A. Ashcroft[3], M. Drayson[4], N. Navarro Coy[1], Faith Davies[5], Graham Jackson[6], K Cocks[1], Gareth Morgan*[7], S. Bell[1]. [1]University of Leeds, United Kingdom, [2]St. James's University Hospital, United Kingdom, [3]Mid-Yorkshire Hospitals NHS Trust, United Kingdom, [4]University of Birmingham, United Kingdom, [5]Institute of Cancer Research, United Kingdom, [6]University of Newcastle, United Kingdom, [7]Royal Marsden Hospital, United Kingdom

Disclosures: Gareth Morgan, None

DISORDERS OF BONE (GENETIC): GENERAL STUDIES

SA0146 **2010 YOUNG INVESTIGATOR AWARD**

Calcitonin Lowers Serum FGF23 Levels in Patients with X-linked Hypophosphatemia

Eva Liu*, Thomas Carpenter, Caren Gundberg, Karl Insogna. Yale University School of Medicine, USA

Disclosures: Eva Liu, None

SA0147 **Coexpressions of FGF-23 and MEPE in Causative Tumors of Oncogenic Osteomalacia**

Yuki Nagata*[1], Yasuo Imanishi[1], Jun Hashimoto[2], Wataru Ando[2], Keisuke Kobayashi[1], Takafumi Ueda[3], Akimitsu Miyauchi[4], Hajime Koyano[5], Hiroshi Kaji[6], Takatoshi Saito[7], Koichi Oba[8], Yasato Komatsu[9], Hitoshi Goto[1], Takami Miki[10], Masaaki Inaba[1], Yoshiki Nishizawa[10]. [1]Osaka City University Graduate School of Medicine, Japan, [2]Osaka University Graduate School of Medicine, Japan, [3]Osaka National Hospital, Japan, [4]Omura municipal Hospital, Japan, [5]Juntendo University, School of Medicine, Japan, [6]Kobe University, Japan, [7]Jikei University School of Medicine, Japan, [8]Graduate School of Medical Sciences, Kyushu University, Japan, [9]Kyoto City Hospital, Japan, [10]Osaka City University Medical School, Japan

Disclosures: Yuki Nagata, None

SA0148 **Combined Effects Of Exercise And Alcohol On Bone Status In Rats**

Delphine Maurel*[1], Christelle Jaffre[2], Eric Dolleans[2], Nathalie Boisseau[3], Claude-Laurent Benhamou[2]. [1]Inserm Unit 658, Hopital Porte Madeleine, Orléans, France, France, [2]Inserm Unit U658, France, [3]LAPHAP Laboratory, France

Disclosures: Delphine Maurel, None

SA0149 **Gene by Diet Interactions in the *Alox5* Knockout Mice (*Alox5-/-*) Is Associated with Significant Bone Loss**

Phuong Le*[1], Masanobu Kawai[2], Sheila Bornstein[2], Mark Horowitz[3], Clifford Rosen[2]. [1]Maine Medical Center Research Institute, USA, [2]Maine Medical Center, USA, [3]Yale University School of Medicine, USA

Disclosures: Phuong Le, None

SA0150 **Potent Inhibition of Heterotopic Ossification by a Selective RARγ Agonist**

Kengo Shimono*, Wei-en Tung, Hsu-Tsai Chi, Chrissy Mundy, Johanna Jasinski, Daine Pilchak, Julie Williams, Motomi Enomoto-Iwamoto, Maurizio Pacifici, Masahiro Iwamoto. Thomas Jefferson University, USA

Disclosures: Kengo Shimono, None

SA0151 **Studies of Type I Collagen Mutations in Type I and IV Osteogenesis Imperfecta (OI) Patients Induced Pluripotent Stem (iPS) Cells**

Xiaonan Xin*, Mary Louise Stover, Dr. Yongxing Liu, Dr. Liisa Kuhn, David Rowe, Dr. Alexander Lichtler. University of Connecticut Health Center, USA

Disclosures: Xiaonan Xin, None

SA0152 **Suppression of Bone Quality by Diet-induced Obesity Correlates with Increase in Insulin Resistance and Suppression of Immune Cells**

Ete M. Chan*[1], Elizabeth M. Fievisohn[1], Ada H. Tsoi[1], Mario E. Botros[1], Benjamin Adler[2], Danielle E. Green[1], Clinton Rubin[3]. [1]Department of Biomedical Engineering, Stony Brook University, USA, [2]Stony Brook University, USA, [3]State University of New York at Stony Brook, USA

Disclosures: Ete M. Chan, None

DISORDERS OF BONE (GENETIC): GENETIC DEFECTS IN BONE RESORPTION AND/OR FORMATION

SA0153 ***Runx2* haploinsufficiency rescues the craniosynostosis phenotype of *Axin2*-knockout mice**
Meghan McGee-Lawrence*[1], David Razidlo[1], Frank Secreto[1], Xiaodong Li[1], Wei Hsu[2], Jane Lian[3], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of Rochester Medical Center, USA, [3]University of Massachusetts Medical School, USA
Disclosures: Meghan McGee-Lawrence, None

SA0154 **Age-dependent Arthropathy in Circadian Mutant Mice**
Elizabeth Yu*, Sadiq Hussain, Robert Dallmann, Stacey Russell, Jane Lian, David Weaver. University of Massachusetts Medical School, USA
Disclosures: Elizabeth Yu, None

SA0155 **Conditional Deletion of SKI-1 Using 3.6kb COL1-Cre Leads to Vertebral Fusions, Hind Limb Paralysis, and Impaired Lower Limb Development**
Jeffrey Gorski*[1], Nichole Huffman[2], Qian Chen[2], Sarah Dallas[2], Paul Trainor[3], Nabil G. Seidah[4]. [1]University of Missouri, Kansas City, School of Dentistry, USA, [2]University of Missouri - Kansas City, USA, [3]Stowers Institute of Medical Research, USA, [4]Laboratory of Biochemical Neuroendocrinology, IRCM, Canada
Disclosures: Jeffrey Gorski, None

SA0156 **Genetic Variation in the *LRP4* Gene Influences Bone Mineral Density and Hip Geometry while Missense Mutations Cause Sclerosteosis**
Elke Piters*[1], Eveline Boudin[2], Olivier Leupin[3], Fenna de Freitas[2], Karen Jennes[2], Manuel Bueno-Lozano[4], Feliciano J Ramos-Fuentes[4], Peter H Itin[5], Torben Leo Nielsen[6], Marianne Andersen[6], Kristian Wraae[6], Kim Brixen[7], Michaela Kneissel[3], Wim Van Hul[1]. [1]University of Antwerp, Belgium, [2]Department of Medical Genetics, University of Antwerp, Belgium, [3]Novartis Institutes for Biomedical Research, Switzerland, [4]Departmento de Pediatría, Universitad de Zaragoza, Spain, [5]Department of Dermatology, University Hospital Basel, Switzerland, [6]Department of Endocrinology, Odense University Hospital, Denmark, [7]Institute for Clinical Research, Denmark
Disclosures: Elke Piters, None

SA0157 **Low Bone Mass and Turnover Phenotype in a Mouse Model of Down Syndrome**
Tristan Fowler*, John W. Bracey, Nisreen Akel, Robert A. Skinner, William R. Hogue, Frances L. Swain, Dana Gaddy, Kent D. McKelvey, Galen R. Wenger, Larry Suva. University of Arkansas for Medical Sciences, USA
Disclosures: Tristan Fowler, None

SA0158 **Low Bone Mass in Genetic Hypercalciuric Stone-Forming (GHS) Rats is Associated with Higher RANKL Expression in Bone Marrow Stromal Cells**
Hongwei Wang*[1], Randal Zhou[1], David Bushinsky[2], Murray Favus[1]. [1]University of Chicago, USA, [2]University of Rochester, USA
Disclosures: Hongwei Wang, None

SA0159 **Mandible Length Quantitative Trait Loci (QTLs) in HcB-8 x HcB-23 Intercross**
In Kyu Han[1], Gurpreet Sandhu[1], Suzanne J. Litscher[1], Neema Saless[2], Peter Demant[3], Robert Blank*[1]. [1]University of Wisconsin, USA, [2]University of California, San Francisco, USA, [3]Roswell Park Cancer Institute, USA
Disclosures: Robert Blank, None

SA0160 **Modelling Bone Healing Deficiencies in Type 1 Neurofibromatosis**
David Little[1], Aaron Schindeler[1], Ian Alexander[2], Jad El-Hoss*[1]. [1]The Children's Hospital at Westmead, Australia, [2]The Children's Medical Research Institute, Australia
Disclosures: Jad El-Hoss, None

SA0161 **Molecular Mechanism of the ACVR1^{R206H} Mutation of Fibrodysplasia Ossificans Progressiva**
Kyung Woo[1], Hyun-Mo Ryoo[2], Ginah Song*[3], Hyun-Jung Kim[4], Jeong-Hwa Baek[5]. [1]Seoul National University, School of Dentistry, Korea, [2]Seoul National University, School of Dentistry, South Korea, [3]Seoul National Univ. School of Dentistry, South Korea, [4]BioRunx Co Ltd, South Korea, [5]Seoul National University School of Dentistry, South Korea
Disclosures: Ginah Song, None

SA0162 **New Mouse Model for Type IV Osteogenesis Imperfecta – Cellular and Molecular Changes in Long Bone Precede Post-Pubertal Adaptation**
Frieda Chen*[1], Ruolin Guo[2], Shousaku Ito[3], Luisa Moreno[4], Esther Rosenthal[1], Tanya Zappitelli[1], Ralph Zirngibl[1], Ann Flenniken[5], William Cole[6], Marc Grynpas[4], Lucy Osborne[7], Wolfgang Vogel[1], Lee Adamson[4], Janet Rossant[8], Jane Aubin[9]. [1]University of Toronto, Canada, [2]University of Rochester, USA, [3]Osaka University Graduate School of Dentistry, Japan, [4]Samuel Lunenfeld Research Institute, Canada, [5]Toronto Centre for Phenogenomics, Canada, [6]University of Alberta Hospital, Canada, [7]Toronto General Research Institute, Canada, [8]Hospital for Sick Children, Canada, [9]University of Toronto Faculty of Medicine, Canada
Disclosures: Frieda Chen, None

SA0163 **Superoxide Dismutase Deficiency in Cytoplasm Exacerbated Bone Loss Under Reduced Mechanical Loading.**
Daichi Morikawa*[1], Yoshitomo Saita[2], Hidetoshi Nojiri[2], Chizuru Tsuda[1], Yoshinori Asou[3], Kazuo Kaneko[2], Takahiko Shimizu[1]. [1]Molecular Gerontology, Tokyo Metropolitan Institute of Gerontology, Japan, [2]Department of Orthopaedics, Juntendo Univ., Japan, [3]Section of Regenerative Therapeutics for Spine & Spinal Cord, Tokyo Medical & Dental Univ., Japan
Disclosures: Daichi Morikawa, None

DISORDERS OF BONE (GENETIC): LINKAGE AND HERITABILITY STUDIES

SA0164 **Genome Wide Linkage of Osteocalcin to Chromosome 18 in Multi-generational Families of African Ancestry**
Allison Kuipers*[1], Caren Gundberg[2], Amy Dressen[3], Candace Kammerer[1], Clareann H. Bunker[3], Ashely Edwards[3], Alan L. Patrick[4], Victor W. Wheeler[4], Anne Newman[3], Joseph Zmuda[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]Yale University School of Medicine, USA, [3]University of Pittsburgh, USA, [4]Tobago Health Studies Office, Trinidad & tobago
Disclosures: Allison Kuipers, None

SA0165 **Heritability of Densitometric, Structural and Strength Properties of Bones: Results from the GAO (Genetic Analysis of Osteoporosis) Project.**
Jorge Malouf*[1], Ana Laiz-Alonso[1], Ana Marin[1], Angel Martinez-Perez[2], Leonor Rib[2], Raquel Perez[2], Alfonso Buil[2], Jordi Casademont[1], Jordi Farrerons[1], Jose Manuel Soria[2]. [1]Hospital de la Santa Creu i Sant Pau, Spain, [2]Institut de Recerca (IR-HSCSP), Spain
Disclosures: Jorge Malouf, None

DISORDERS OF BONE (GENETIC): POLYMORPHISMS

SA0166 **A Significant Interaction between Simple Nucleotide Polymorphism (SNP) in *NFKB* and *RANK* is Associated with Women BMD in the Framingham Osteoporosis Study**
Bi Hua Cheng*[1], Xing Chen[2], YanHua Zhou[3], Serkalem Demissie[3], Adrienne Cupples[3], David Karasik[4], Douglas Kiel[4], Yi-Hsiang Hsu[5]. [1]Chang Gung Memorial Hospital - Kaohsiung Medical Center, Chang Gung University, USA, [2]HSL, USA, [3]BUSPH, USA, [4]Hebrew SeniorLife, USA, [5]Hebrew SeniorLife & Harvard Medical School, USA
Disclosures: Bi Hua Cheng, None

SA0167 **Association of LRP4 Polymorphisms to Bone Properties and Fracture in Women**
Maria Swanberg*[1], Jitender Kumar[2], Fiona McGuigan[3], Kristina Akesson[4]. [1]Lund University, Sweden, [2]Lund University, Sweden, Sweden, [3]University of Lund, Malmö, Skane University Hospital, Malmö, Sweden, [4]Malmo University Hospital, Sweden
Disclosures: Maria Swanberg, None

SA0168 **Association of Non-coding Variants in the 3′-UTR of the Frizzled-1 Gene with Skeletal Geometry Among Afro-Caribbean Men**
Yingze Zhang*[1], Allison Kuipers[2], Cara Nestlerode[1], Clareann Bunker[1], Victor Wheeler[3], Alan Patrick[3], Joseph Zmuda[2]. [1]University of Pittsburgh, USA, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]Tobago Health Studies Office, Trinidad & tobago
Disclosures: Yingze Zhang, None

SA0169 **BMD-associated Variation at the *Osterix* Locus is Correlated with Pediatric BMI in Females**
Jianhua Zhao[1], Jonathan Bradfield[1], Mingyao Li[2], Haitao Zhang[1], Frank Mentch[1], Kai Wang[1], Patrick Sleiman[1], Cecilia Kim[1], Joseph Glessner[1], Edward Frackelton[1], Rosetta Chiavacci[1], Robert Berkowitz[1], Babette Zemel[3], Hakon Hakonarson[1], Struan Grant*[3]. [1]Children's Hospital of Philadelphia, USA, [2]University of Pennsylvania, USA, [3]Children's Hospital of Philadelphia, USA
Disclosures: Struan Grant, None

SA0170 **Bone Mineral Density Locus Associated with Coronary Artery Calcification**
Laura Yerges-Armstrong*[1], Xinggang Liu[1], Elizabeth Streeten[2], Alan Shuldiner[1], Braxton Mitchell[3]. [1]University of Maryland, USA, [2]University of Maryland School of Medicine, USA, [3]University of Maryland, Baltimore, USA
Disclosures: Laura Yerges-Armstrong, None

SA0171 **Cooperative Effect of Serum 25-Hydroxyvitamin D Concentration and a Polymorphism of Transforming Growth Factor β-1 Gene on the Prevalence of Vertebral Fractures in Postmenopausal Osteoporosis**
Kazuki Kobayashi*[1], Seijiro Mori[2], Noriyuki Fuku[3], Yuko Chiba[2], Fumiaki Tokimura[2], Takayuki Hosoi[4], Yoshiyuki Kimbara[2], Yoshiaki Tamura[2], Atsushi Araki[2], Masashi Tanaka[3], Hideki Ito[2]. [1]Tokyo Metropolitan Geriactic Hospital, Japan, [2]Tokyo Metropolitan Geriatric Hospital, Japan, [3]Tokyo Metropolitan Institute of Gerontology, Japan, [4]National Center for Geriatrics & Gerontology, Japan
Disclosures: Kazuki Kobayashi, None

SA0172 **Genetic Association Study of Common Mitochondrial DNA Variants in Osteoporosis**
Shufeng Lei*[1], Yan Guo[1], Tielin Yang[2], Hui Shen[1], Xianghong Xu[3], Shanshan Dong[1], Yao-zhong Liu[1], Yong-Jun Liu[1], Hong-Wen Deng[4]. [1]University of Missouri - Kansas City, USA, [2]The University of Missouri-Kansas City, USA, [3]University of Missouri-Kansas City, School of Medicine, USA, [4]University of Missouri, Kansas City Medical School, USA
Disclosures: Shufeng Lei, None

GROWTH FACTORS AND CYTOKINES: BONE MORPHOGENETIC PROTEINS

SA0173 **BMP2 Binds Preferentially to BMP Receptors Localized in Caveolae and Initiates Smad Signaling**
Oleksandra Moseychuk*[1], Beth Bragdon[2], Jeremy Bonor[1], Anja Nohe[1]. [1]University of Delaware, USA, [2]University of Maine, University of Delaware, USA
Disclosures: Oleksandra Moseychuk, None

SA0174 **BMP2 Gene as an Organizer Coordinating Osteogenesis and Angiogenesis Postnatally and Roles in Mechanical Properties of Bone**
Wuchen Yang*[1], Jeffry Nyman[2], Yong Cui[1], Jelica Gluhak-Heinrich[1], Marie Harris[1], Ivo Kalajzic[3], David Rowe[3], Gregory Mundy[4], James Edwards[2], Barbara Kream[3], Alexander Lichtler[3], Xiao-Dong Chen[1], Yuji Mishina[5], Stephen Harris[1]. [1]University of Texas Health Science Center At San Antonio, USA, [2]Vanderbilt University Medical Center, USA, [3]University of Connecticut Health Center, USA, [4]Vanderbilt University, USA, [5]University of Michigan, USA
Disclosures: Wuchen Yang, None

SA0175 **Dullard, a Novel BMP Inhibitor, Targets Smad1 to Suppress BMP-dependent Transcription in Mammalian Osteoblastic Cells**
Tadayoshi Hayata*[1], Yoichi Ezura[2], Makoto Asashima[3], Ryuichi Nishinakamura[4], Masaki Noda[5]. [1]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]University of Tokyo, Japan, [4]Kumamoto University, Japan, [5]Tokyo Medical & Dental University, Japan
Disclosures: Tadayoshi Hayata, None

SA0176 **Gremlin is Required for Normal Skeletal Development, but Postnatally it Suppresses Bone Formation**
Anna Smerdel-Ramoya[1], Stefano Zanotti[2], Ernesto Canalis*[1]. [1]St. Francis Hospital & Medical Center, USA, [2]Saint Francis Hospital & Medical Center, USA
Disclosures: Ernesto Canalis, None

SA0177 **Loss of Bmp2 Impairs Appositional Growth in the Endochondral Skeleton**
Luciane Capelo*, Karen Cox, Vicki Rosen. Harvard School of Dental Medicine, USA
Disclosures: Luciane Capelo, None

GROWTH FACTORS AND CYTOKINES: FIBROBLAST GROWTH FACTORS

SA0178 **A Local Application of Recombinant Human Fibroblast Growth Factor-2 for Tibial Shaft Fractures: A Randomized, Double-Blind, Placebo-Controlled Trial**
Hiroshi Kawaguchi*[1], Hiroyuki Oka[2], Seiya Jingushi[3], Toshihiro Izumi[4], Masao Fukunaga[5], Katsumi Sato[6], Takashi Matsushita[7], Kozo Nakamura[8]. [1]University of Tokyo, Faculty of Medicine, Japan, [2]University of Tokyo, Japan, [3]Kyushu Rosai Hospital, Japan, [4]Saihaku Hospital, Japan, [5]Kawasaki Medical School, Japan, [6]Tohoku Rosai Hospital, Japan, [7]Teikyo University, Japan, [8]The University of Tokyo, Japan
Disclosures: Hiroshi Kawaguchi, None

GROWTH FACTORS AND CYTOKINES: GENERAL

SA0179 **Activation of the Kynurenine Pathway of Tryptophan Degradation Plays a Role in Osteoblastogenesis.**
Wei Li[1], Christopher Vidal*[1], Ralph Nanan[1], Brigitte Nanan[1], Gustavo Duque[2]. [1]Sydney Medical School-Nepean, The University of Sydney, Australia, [2]University of Sydney, Australia
Disclosures: Christopher Vidal, None

SA0180 **Deficiency of Chemokine Receptor CCR1 Causes Osteopenia Due to Impaired Functions of Osteoclasts and Osteoblasts**
Tadahiro Iimura[1], Akiyoshi Hoshino*[2], Akira Yamaguchi[1]. [1]Tokyo Medical & Dental University, Japan, [2]National Center for Global Health & Medicine, Japan
Disclosures: Akiyoshi Hoshino, None

SA0181 **Delayed Fracture Healing in Protease Activated Receptor-2 Deficient Mice**
Kevin O'Neill*[1], Christopher Stutz[1], Mignemi Nicholas[1], Jeffry Nyman[2], Gregory Mencio[1], William Obremskey[1], Conor Lynch[1], Jonathan Schoenecker[1]. [1]Vanderbilt University, USA, [2]Vanderbilt University Medical Center, USA
Disclosures: Kevin O'Neill, None

SA0182 **Effect of Infection on Bone Marrow Stromal Cells (MSCs): a Role for IL-6 in Erythropoiesis**
Brian Sworder*[1], David Chou[2], Michael Grigg[2], Yasmine Belkaid[2], Pamela Robey[3]. [1]National Institutes of Health, USA, [2]NIAID/NIH, USA, [3]National Institute of Dental & Craniofacial Research, USA
Disclosures: Brian Sworder, None

SA0183 **Evidence that Osteoclast-derived Osteoactivin is a Novel Bone Coupling Factor: Transgenic Animal and In Vitro Studies**
Matilda Sheng*[1], Jon Wergedal[2], Mehran Amoui[3], David Baylink[1], Subburaman Mohan[2], Kin-Hing William Lau[2]. [1]Loma Linda University, USA, [2]Jerry L. Pettis Memorial VA Medical Center, USA, [3]Jerry L. Pettis Mem. VAMC, USA
Disclosures: Matilda Sheng, None

SA0184 **Human Blood Eosinophils: An Extrarenal Source of Converting Inactive Vitamin D to Its Active Form and Potential Role in Inflammation.**
Devendra Agrawal*[1], Divya Pankajakshan[1], J. Christopher Gallagher[2]. [1]Creighton University School of Medicine, USA, [2]Creighton University Medical Center, USA
Disclosures: Devendra Agrawal, None

SA0185 **Meox2Cre-CSF-1 Knockout Mice: A Novel Osteopetrosis Model**
Sherry Abboud Werner*, Kathleen Woodruff, Diane Horn, Marie Harris, Stephen Harris. University of Texas Health Science Center at San Antonio, USA
Disclosures: Sherry Abboud Werner, None

SA0186 **2010 YOUNG INVESTIGATOR AWARD**
Muscle Derived Factors Influence the MLO-Y4 Osteocyte Response to Shear Stress
Nuria Lara*[1], Todd Hall[1], Letticia Brotto[1], Joedd Biggs[1], Cheng Lin Mo[1], Sandra Romero-Suarez[1], Marco Brotto[1], Lynda Bonewald[1], Mark Johnson[2]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Nuria Lara, None

SA0187 **Serum Osteocalcin is Negatively Correlated to Insulin and Adiponectin in Hibernating Bears**
Rachel Bradford[1], Patricia Buckendahl[2], Caren Gundberg[3], Kim Henriksen[4], Michael Vaughan[5], Seth Donahue*[6]. [1]Michigan Technological University, USA, [2]Rutgers University, USA, [3]Yale University School of Medicine, USA, [4]Nordic Bioscience A/S, Denmark, [5]Virginia Tech, USA, [6]Michigan Tecnological University, USA
Disclosures: Seth Donahue, None

SA0188 **Skeletal Phenotype of the Leptin Receptor-Deficient db/db Mouse**
Garry Williams*[1], Karen Callon[2], Maureen Watson[2], Dorit Naot[2], Jessica Costa[2], Michelle Dickinson[2], Yaoyao Ding[2], Yu Wang[3], Ian Reid[2], Jillian Cornish[2]. [1]University of Auckland, Auckland School of Medicine, New Zealand, [2]University of Auckland, New Zealand, [3]Hong Kong University, Hong Kong
Disclosures: Garry Williams, None

SA0189 **The Effect of Vitamin K Supplementation on Glucose Metabolism**
Hyung Jin Choi*[1], Juyoun Yu[1], Hosanna Choi[1], Jee Hyun An[1], Yenna Lee[1], Hwa Young Cho[1], Sun Wook Cho[2], Sang Wan Kim[3], Chan Soo Shin[1]. [1]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [2]University of Michigan School of Dentistry, USA, [3]Seoul National University Boramae Hospital, South Korea
Disclosures: Hyung Jin Choi, None

SA0190 **The Role of Nell-1 in Cartilage Development and Differentiation**
Ronald Siu*[1], Wei Wei Chen[2], Xinli Zhang[1], Benjamin Wu[1], Kang Ting[1], Cymbeline Culiat[3], Chia Soo[1]. [1]University of California, Los Angeles, USA, [2]Zhejiang University, China, [3]Oak Ridge National Laboratory, USA
Disclosures: Ronald Siu, None

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

SA0191 ***Igfb2-/-* Mice Exhibit Age-related Changes in Skeletal Mass, Body Composition and Metabolic Status**
Victoria Demambro*[1], Kathryn Shultz[2], Harold Coombs[2], Jane Maynard[2], David Clemmons[3], Wesley Beamer[2], Clifford Rosen[4]. [1]Maine Medical Research Institute, USA, [2]The Jackson Laboratory, USA, [3]University of North Carolina, USA, [4]Maine Medical Center, USA
Disclosures: Victoria Demambro, None

SA0192 **IGF-I Signaling Regulates the Interaction of Osteoblasts and Osteoclasts via the RANKL/RANK and Ephrin B2/EphB4 Signaling Pathways**
Yongmei Wang*[1], Hashem ElAlieh[2], Daniel Bikle[1]. [1]Endocrine Research Unit, Division of Endocrinology UCSF, USA, [2]University of California, San Francisco/VA Medical Center, USA
Disclosures: Yongmei Wang, None

SA0193 **The Skeletal Effect of Parathyroid Hormone Treatment after Ovariectomy is Diminshed when Circulating Growth Hormone is Elevated**
J. Fritton*[1], Devendra Bajaj[1], Hui Sun[2], Yinjgie Wu[2], Mary Bouxsein[3], Shoshana Yakar[2]. [1]New Jersey Medical School, USA, [2]Mount Sinai School of Medicine, USA, [3]Beth Israel Deaconess Medical Center, USA
Disclosures: J. Fritton, None

SA0194 **Thyroid Hormone (T3) Acting via TRα1 is a Key Regulator of IGF-I Transcription in Osteoblasts and Bone Formation in Mice**
Weirong Xing*[1], Sheila Pourteymoor[2], Jon Wergedal[3], Carlin Long[4], Graham Williams[5], Subburaman Mohan[3]. [1]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [2]JL Pettis Memorial VA Medical Center, USA, [3]Jerry L. Pettis Memorial VA Medical Center, USA, [4]University of Colorado Health Sciences Center, USA, [5]Molecular Endocrinology Group, Division of Medicine & MRC Clinical Sciences Centre, Imperial College, United Kingdom
Disclosures: Weirong Xing, None

GROWTH FACTORS AND CYTOKINES: TRANSFORMING GROWTH FACTOR

SA0195 **Bone-specific Calibration of Extracellular Matrix Material Properties by TGF-β and Runx2 is Required for Hearing**
Jolie Chang*[1], Delia Brauer[2], Carol Chen[1], Omar Akil[1], Guive Balooch[3], Mary Beth Humphrey[4], Alexandra Porter[2], Robert Ritchie[5], Sally Marshall[1], Grayson Marshall[1], Lawrence Lustig[1], Tamara Alliston[1]. [1]University of California, San Francisco, USA, [2]Imperial College, United Kingdom, [3]LBNL, USA, [4]University of Oklahoma Health Sciences Center, USA, [5]UC Berkeley, USA
Disclosures: Jolie Chang, None

SA0196 **Classical TGFβ Signaling in Osteoclasts is Not Required for Maintenance of Bone Volume and Architecture: Evidence from Osteoclast-Specific TGFβRII Null Mice**
Daniel Perrien*[1], Jeffry Nyman[1], Ying X. Wang[2], Chad S. Boomershine[2]. [1]Vanderbilt University Medical Center, USA, [2]Vanderbilt University, USA
Disclosures: Daniel Perrien, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

SA0197 **Runx2 Stimulation of HSP70/HSPA1B Gene Transcription Decreases Runx2 Protein Stability in Osteoprogenitors**
Nadiya M. Teplyuk[1], Jennifer Cotton[1], Jonathan Gordon[1], Viktor I. Teplyuk[1], Mario Galindo[2], Di Chen[3], Suk-Chul Bae[4], Jane Lian[1], Janet L. Stein[1], Gary Stein[1], Andre Van Wijnen*[1]. [1]University of Massachusetts Medical School, USA, [2]University of Chili, Chile, [3]University of Rochester Medical Center, USA, [4]Chungbuk National University, South Korea
Disclosures: Andre Van Wijnen, None

SA0198 **Tamoxifen-Induced Deletion of Smad4 in Osteoblasts Enhances Proliferation in the Periosteum, Growth Plate, and Bone Marrow**
Valerie Salazar*[1], Gabriel Mbalaviele[2], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Valerie Salazar, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

SA0199 **A Tentative Role of S100A6 in Regulation of Osteoblastogenesis**
Weida Lu*[1], Yingchun Zhao[2], Jing Xiao[2], Robert Recker[3], Gary Xiao[1]. [1]Creighton University, USA, [2]Creighton University Medical Center Osteoporosis Research Center, USA, [3]Creighton University Osteoporosis Research Center, USA
Disclosures: Weida Lu, None

SA0200 **Absence of Bone Remodeling Compartment Canopies Correlates with an Arrested Reversal Phase and Deficient Bone Formation in Post-menopausal Osteoporosis**
Ellen Hauge[1], Thomas Andersen*[2], Jens Bollerslev[3], Per Kjærsgaard-Andesen[4], Jean-Marie Delaisse[5]. [1]Aarhus University Hospital, Denmark, [2]Vejle Hospital, IRS-CSFU, University of Sourthern Denmark, Denmark, [3]National University Hospital, Norway, [4]Department of Orthopaedic Surgery, Vejle Hospital, University of Sourthern Denmark, IRS-CSFU, Denmark, [5]Vejle Hospital, University of Southern Denmark, Denmark
Disclosures: Thomas Andersen, None

SA0201 **Bone Anabolic Factors are Specific to Osteoclasts and the Release of These Factors is Altered by Osteoclast Substrate**
Catherine Cruger Hansen*[1], Anita Neutzsky-Wulff[2], Kim Andreassen[3], Morten Karsdal[1], Kim Henriksen[1]. [1]Nordic Bioscience A/S, Denmark, [2]Nordic Bioscience & University of Copenhagen, Denmark, [3]Nordic Bioscience, Denmark
Disclosures: Catherine Cruger Hansen, Nordic Bioscience, 3

SA0202 **Bone Formation Is Predicted by Triiodothyronine and Lean Body Mass in Exercising Women with Hypothalamic Amenorrhea**
Jennifer Scheid*[1], Nancy Williams[2], Gaele Ducher[1], Mary Jane De Souza[3]. [1]Penn State University, USA, [2]The Pennsylvania State University College of Medicine, USA, [3]Pennsylvania State University, USA
Disclosures: Jennifer Scheid, None

SA0203 **Bone-resorbing Osteoclasts Secrete A Factor That Stimulates Osteoblastic Differentiation**
Sunao Takeshita*[1], Toshio Fumoto[1], Kyoung-ae Park[1], Hiroyuki Aburatani[2], Shigeaki Kato[2], Masako Ito[3], Kyoji Ikeda[1]. [1]National Center for Geriatrics & Gerontology, Japan, [2]University of Tokyo, Japan, [3]Nagasaki University Hospital, Japan
Disclosures: Sunao Takeshita, None

SA0204 **Co-translocation of the Osteoclastogenic Estrogen Element Binding Protein and ß-Catenin to the Nucleus of Osteoblasts is Regulated by Wnt Signaling**
Hong Chen*[1], Mark Nanes[2], Linda Gilbert[3], Martin Hewison[4], John Adams[5]. [1]VA / Emory University School of Medicine, USA, [2]VA Medical Center & Emory University, USA, [3]VA Medical Center GA, USA, [4]UCLA, USA, [5]University of California, Los Angeles, USA
Disclosures: Hong Chen, None

SA0205 **Enhancing Effects of HDAC Inhibitors on Osteoblastic Differentiation**
Rabia Islam*[1], Hyun-Jung Kim[2], Won-Joon Yoon[3], Hyun-Mo Ryoo[3]. [1]School of Dentistry, Seoul National University, South Korea, [2]BioRunx Co. Ltd., South Korea, [3]Seoul National University, South Korea
Disclosures: Rabia Islam, None

SA0206 **2010 YOUNG INVESTIGATOR AWARD**
Genetic Dissection of the Molecular Events Taking Place in Osteoblasts and Triggered by Leptin Signaling in the Brain
Gerard Karsenty, Daisuke Kajimura*. Columbia University, USA
Disclosures: Daisuke Kajimura, None

SA0207 **Histone Deacetylase Inhibition Causes Bone Loss**
Meghan McGee-Lawrence*[1], Angela L. McCleary-Wheeler[1], Minzhi Zhang[1], Bridget A. Stensgard[1], Jane Lian[2], Jennifer Westendorf[1]. [1]Mayo Clinic, USA, [2]University of Massachusetts Medical School, USA
Disclosures: Meghan McGee-Lawrence, None

SA0208 **Human Bone Resorption Lacunas Contain Specific Glycan Epitopes**
Meeri Keinänen*[1], Jarkko Räbinä[2], Leena Valmu[2], Petri Lehenkari[1], Juha Tuukkanen[1]. [1]University of Oulu, Finland, [2]Finnish Red Cross Blood Service, Finland
Disclosures: Meeri Keinänen, None

SA0209 **Loss of *Connexin43* in Mature Osteoblasts and Osteocytes Results in Delayed Mineralization and Bone Remodeling During Fracture Healing**
Alayna Loiselle*[1], Andrew Billingsley[1], Emmanuel Paul[1], Yue Zhang[2], Henry Donahue[3]. [1]Penn State Hershey, USA, [2]Penn State University, USA, [3]The Pennsylvania State University College of Medicine, USA
Disclosures: Alayna Loiselle, None

SA0210 **Osteoblast Targeted Disruption of Kremen Increases Bone Accrual in Mouse**
Zhendong Zhong*[1], Cassandra R. Zylstra[2], Bart Williams[2]. [1]Van Andel Institute, USA, [2]Van Andel Research Institute, USA
Disclosures: Zhendong Zhong, None

SA0211 **2010 YOUNG INVESTIGATOR AWARD**
Osteoclast Secretion of the Chemokine Sphingosine-1-Phosphate is Crucial for Recruitment of Osteoblast Lineage Cells
Patrick Quint*[1], Moustapha Kassem[2], Jennifer Westendorf[3], Sundeep Khosla[4], Merry Jo Oursler[3]. [1]Mayo Clinic Rochester, USA, [2]Odense University Hospital, Denmark, [3]Mayo Clinic, USA, [4]College of Medicine, Mayo Clinic, USA
Disclosures: Patrick Quint, None

SA0212 **Recapturing Fracture Repair and Bone Formation using a Periosteal Derived Cell Population**
Scott Roberts*[1], Eline Desmet[1], Jan Schrooten[1], Frank Luyten[2]. [1]K.U.Leuven, Belgium, [2]University Hospitals KU Leuven, Belgium
Disclosures: Scott Roberts, None

SA0213 **Retinaldehyde Dehydrogenase 1 Deficiency Promotes Osteoblastogenesis and Increases Trabecular and Cortical Bone Mass**
Shriram Nallamshetty*[1], Sheila Bornstein[2], Masanobu Kawai[2], Yougen Xi[3], Mark Horowitz[3], Clifford Rosen[2], Jorge Plutzky[1]. [1]Brigham & Women's Hospital, USA, [2]Maine Medical Center, USA, [3]Yale University School of Medicine, USA
Disclosures: Shriram Nallamshetty, None

SA0214 **Sodium/Proton Exchange is a Major Regulated Mechanism Supporting Bone Mineral Deposition**
Li Liu*[1], Peter A. Friedman[1], Paul H. Schlesinger[2], Harry Blair[1]. [1]University of Pittsburgh, USA, [2]Washington University, USA
Disclosures: Li Liu, None

SA0215 **Stimulation of Bone Formation in Cortical Bone of the Mice Treated with a Novel Bone Anabolic Peptide with Osteoclastogenesis Inhibitory Activity**
Hisataka Yasuda[1], Atsushi Inagaki[2], Kaoru Mori[2], Yuriko Furuya*[2]. [1]Oriental Yeast Company, Limited, Japan, [2]Oriental Yeast Co., Ltd., Japan
Disclosures: Yuriko Furuya, Oriental Yeast Co., Ltd., 3

SA0216 **Suppression of NADPH Oxidases Prevents Chronic Ethanol-Induced Bone Loss**
Jin-Ran Chen*[1], Oxana P. Lazarenko[2], Kelly Mercer[3], Kartik Shankar[2], Michael L. Blackburn[2], Thomas M. Badger[2], Martin J. Ronis[2]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]University of Arkansas for Medical Sciences/ Arkansas Children's Nutrition Center, USA, [3]Arkansas Children's Nutrition Center, USA
Disclosures: Jin-Ran Chen, None

SA0217 **Vascular Development during Distraction Osteogenesis Proceeds by the Sequential Arteriogenesis Exterior to Bone Followed by Angiogenesis within the Bone**
Elise Morgan[1], Bader Al-Awadhi[2], Daniel Hogan[3], Amira Hussein[1], Zainab Al-Aql[2], Jennifer Fitch[3], Billy Andre[1], Louis Gerstenfeld*[3]. [1]Boston University, USA, [2]Boston University School of Dental Medicine, USA, [3]Boston University School of Medicine, USA
Disclosures: Louis Gerstenfeld, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

SA0218 **AP-1 Proteins Affect Bone Formation Negatively via both AP-1 Transcriptional Activity and Interaction with β-Catenin whereas Truncated Isoforms (ΔFosB/Δ2ΔFosB) Do Not.**
Ilana Platt*[1], Glenn C. Rowe[2], Sutada Lotinun[1], William Horne[1], Azeddine Atfi[1], Roland Baron[3]. [1]Harvard School of Dental Medicine, USA, [2]Beth Israel Medical Center, USA, [3]Harvard School of Dental Medicine, Harvard Medical School, MGH Endocrine Unit, USA
Disclosures: Ilana Platt, None

SA0219 **Duality of TRIP-1 Function in Regulating Osteoblast Activity In Vitro**
Diana Metz-Estrella*[1], Tzong-jen Sheu[2], J. Edward Puzas[3]. [1]University of Rochester School of Medicine & Dentistry, USA, [2]Univesity of Rochester School of Medicine & Dentistry, USA, [3]University of Rochester School of Medicine, USA
Disclosures: Diana Metz-Estrella, None

SA0220 **Epigenetic Control of Osteoblastogenesis by Pbx1 Repressing Hoxa10-Mediated Recruitment of Activating Chromatin Remodeling Factors**
Jonathan Gordon*[1], Mohammad Hassan[1], Matthew Koss[2], Sharanjot Saini[3], Martin Montecino[4], Licia Selleri[5], Andre Van Wijnen[1], Janet Stein[1], Gary Stein[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]Cornell University Weil Medical School, USA, [3]University of California-San Francisco, USA, [4]Universidad de Concepcion, Chile, [5]Cornell University Weill Medical school, USA
Disclosures: Jonathan Gordon, None

SA0221 **Withdrawn**

SA0222 **Fibroblast Growth Factor Receptor 2 Expression in Pre-osteoblasts Requires the PBAF Chromatin-remodeling Complex**
Fuhua Xu*, Stephen Flowers, Elizabeth Moran. Department of Orthopaedics, NJMS-UH Cancer Center, UMDNJ, USA
Disclosures: Fuhua Xu, None

SA0223 **KLF10 is a Critical Mediator of Wnt Signalling in Osteoblasts**
John Hawse*[1], Elizabeth Bruinsma[2], Sarah Grygo[2], Frank Secreto[3], Nalini Rajamannan[4], Thomas Spelsberg[3], Malayannan Subramaniam[3]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Clinic, USA, [4]Northwestern University Medical School, USA
Disclosures: John Hawse, None

SA0224 **NF-kB RelB-/- Mice Have Age-Related Trabecular Bone Gain in their Diaphyses, Indicating that RelB negatively Regulates Bone Formation**
Zhenqiang Yao*[1], Chen Zhao[2], Yanyun Li[1], Lianping Xing[1], Brendan Boyce[2]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA
Disclosures: Zhenqiang Yao, None

SA0225 **Osteoblast-targeted Overexpression of TAZ Results in Increased Bone Mass**
Jee Hyun An*[1], Jae Yeon Yang[1], Sun Wook Cho[1], Ju Yeon Jung[1], Yenna Lee[1], Sang Wan Kim[1], Seong Yeon Kim[1], Jung Eun Kim[2], Jung Ho Hong[3], Chan Soo Shin[1]. [1]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [2]Department of Molecular Medicine, Kyungpook National University, South Korea, [3]College of Life Science, Korea University, South Korea
Disclosures: Jee Hyun An, None

SA0226 **Phosphorylation-Dependent SUMOylation Regulates the Activity of the αNAC Transcriptional Coactivator**
Omar Akhouayri[1], Rene St-Arnaud*[2]. [1]Shriners Hospital for Childrent, Canada, [2]Shriners Hospital for Children & McGill University, Canada
Disclosures: Rene St-Arnaud, None

SA0227 **Runx2 Is Necessary for Smurf1 Expression in Osteoblastic Cells**
Jeong-Hwa Baek[1], Gwan-Shik Kim[2], Hyun-Mo Ryoo[3], Kyung Mi Woo[2], Kyunghwa Baek[2], Hye Lim lee*[2]. [1]Seoul National University School of Dentistry, South Korea, [2]Seoul Nat'l University, South Korea, [3]Seoul National University, School of Dentistry, South Korea
Disclosures: Hye Lim lee, None

SA0228 **Sclerostin Is a Direct Target of Osteoblast-Specific Transcription Factor Osterix**
Fan Yang[1], Wanjin Tang[2], Sarah So[2], Benoit de Crombbrugghe[3], Chi Zhang*[2]. [1]Bone Research Laboratory,Texas Scottish Rite Hospital, USA, [2]Bone Research Laboratory, Texas Scottish Rite Hospital, USA, [3]Dept of Genetics, University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Chi Zhang, None

SA0229 **The Osteocyte marker, Podoplanin, is Expressed in Transformed Osteoblasts and is Regulated by AP-1**
Takeshi Kashima*[1], Akiko Kunita[2], Masashi Fukayama[2], Agamemnon Grigoriadis[3]. [1]Nuffield Orthopaedic Centre, United Kingdom, [2]University of Tokyo, Japan, [3]King's College London, United Kingdom
Disclosures: Takeshi Kashima, The Japanese Ministry of Education, Culture, Sports, Science and Technology, 2

SA0230 **The RUNX2 Cistrome Defines a Regulatory Target Genome Responsible for the Osteoblast Phenotype**
Mark Meyer*, J. Pike. University of Wisconsin-Madison, USA
Disclosures: Mark Meyer, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

SA0231 **Cell Surface ATP Synthase: A Novel Mechanism for Extracellular ATP synthesis in Osteoblasts**
Shyama Majumdar*[1], Vimal Gangadharan[1], Kirk Czymmek[2], Randall Duncan[1]. [1]University of Delaware, USA, [2]University of Delaware & Delaware Biotechnology Institute, USA
Disclosures: Shyama Majumdar, None

SA0232 **G Proteins Differentially Regulate Wnt/β-catenin Signaling in Skeletal Development and Disease**
Jean Regard*[1], Michael Collins[1], Pamela Robey[2], Lee Weinstein[3], Yingzi Yang[4]. [1]National Institutes of Health, USA, [2]National Institute of Dental & Craniofacial Research, USA, [3]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [4]NIH/NHGRI, USA
Disclosures: Jean Regard, None

SA0233 **Heterodimerization of Purinergic ATP Receptors in Osteoblasts**
Roy Choi*, Gallant Chan, Karl Tsim. The Hong Kong University of Science & Technology, Hong Kong
Disclosures: Roy Choi, None

SA0234 **Insulin Receptor Signaling in Osteoblasts Regulates Bone Acquisition and Glucose Metabolism**
Ryan Riddle*[1], Keertik Fulzele[2], Douglas Digirolamo[3], Xuemei Cao[4], Chao Wan[5], Marie-Claude Faugere[6], Mehboob Hussain[3], Jens Bruning[7], Thomas Clemens[3]. [1]Johns Hopkins University School of Medicine, USA, [2]Massachusetts General Hospital; Harvard Medical School, USA, [3]Johns Hopkins University, USA, [4]University of Alabama at Birmingham, USA, [5]University of Alabama, Birmingham, USA, [6]University of Kentucky Medical Center, USA, [7]University of Cologne, Germany
Disclosures: Ryan Riddle, None

SA0235 **Insulin Signaling in Osteoblasts is a Positive Regulator of Bone Resorption**
Jianwen Wei*, Tatsuya Yoshizawa, Mathieu Ferron, Patricia Ducy, Gerard Karsenty. Columbia University, USA
Disclosures: Jianwen Wei, None

SA0236 **PIN1 Mediates The Effects of Notch on The Stability of NFATc2 Transcripts**
Stefano Zanotti*[1], Anna Smerdel-Ramoya[2], Ernesto Canalis[2]. [1]Saint Francis Hospital & Medical Center, USA, [2]St. Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

SA0237 **Adipogenic Cells as Primary Target of Strontium?**
Carole FOURNIER*[1], Anthony Perrier[2], Laurence Vico[3], Alain Guignandon[1]. [1]INSERM U890, France, [2]Laboratoire de Biologie du Tissu Osseux, France, [3]University of St-Etienne, France
Disclosures: Carole FOURNIER, None

SA0238 **Age-related Declines in Expression of CYP27B1 and in Osteoblast Differentiation in Human MSCs**
Shuo Geng*, Shuanhu Zhou, Julie Glowacki. Brigham & Women's hospital, USA
Disclosures: Shuo Geng, None

SA0239 **Withdrawn**

SA0240 **Dicer Excision in Mature Osteoblasts in the Postnatal Skeleton Induces High Bone Mass by Inactivating miR that Attenuate Bone Formation**
Tripti Gaur*[1], Sadiq Hussain[1], Stacey Russell[1], Lammy Kim[2], Jennifer Colby[1], Dana Frederick[1], Andre Van Wijnen[1], David Eyre[3], Janet Stein[1], Gary Stein[1], Stephen Jones[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]University of Washington, USA, [3]University of Washington Orthopaedic Research Labs, USA
Disclosures: Tripti Gaur, None

SA0241 **Differences in Oxygen Consumption Rate of Osteoblast Lineage Cells in Rats Bred for High and Low Aerobic Capacity**
Riyad J. Tayim*[1], Jacqueline Cole[2], Neil R. Halonen[1], Grant C. Goulet[1], Lauren G. Koch[3], Steven L. Britton[3], Ronald Zernicke[2], Andrea Alford[2], Kenneth Kozloff[1]. [1]University of Michigan Department of Orthopaedic Surgery, USA, [2]University of Michigan, USA, [3]University of Michigan Department of Anesthesiology, USA
Disclosures: Riyad J. Tayim, None

SA0242 **Generation and Characterization of iPS Cells from CMD Patients and Healthy Controls**
I-Ping Chen*[1], Xiaonan Xin[1], Mary-Louise Stover[2], Shuning Zhan[2], Jonathan Kantor[3], Ernst Reichenberger[1], Alexander Lichtler[1]. [1]University of Connecticut Health Center, USA, [2]UCHC, USA, [3]North Florida Dermatology, USA
Disclosures: I-Ping Chen, None

SA0243 **Integrin-linked Kinase Contributes to Mechanical Regulation of GSK3β in Mesenchymal Stem Cells**
Jacob Thomas[1], Natasha Case*[1], Maya Styner[1], Buer Sen[2], Zhihui Xie[1], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]University of North Carolina At Chapel Hill, USA
Disclosures: Natasha Case, None

SA0244 **Lamin A/C is Required during Osteoblast Differentiation to Facilitate Nuclear Mobility and Function of Runx2**
Gustavo Duque*[1], Christopher Vidal[1], Lee Wei Li[2], Li Sze Yeo[3], Diane Fatkin[3]. [1]University of Sydney, Australia, [2]University of Sydney, Nepean Clinical School, Australia, [3] Molecular Cardiology & Biophysics Division, Victor Chang Cardiac Research Institute, Australia
Disclosures: Gustavo Duque, None

SA0245 **Mechanical Inhibition of Adipogenesis Achieved via a Regenerated β-catenin Signal is Amplified by Incorporating a Refractory Period**
Buer Sen*[1], Zhihui Xie[2], Natasha Case[3], Maya Styner[3], Clinton Rubin[4], Janet Rubin[3]. [1]University of North Carolina At Chapel Hill, USA, [2]UNC-CH, USA, [3]University of North Carolina, Chapel Hill, School of Medicine, USA, [4]State University of New York at Stony Brook, USA
Disclosures: Buer Sen, None

SA0246 **Mechanical Signals Protect the Bone Marrow Stem Cell Niche from Damage due to a High Fat Diet**
Benjamin Adler*[1], Danielle E. Green[1], Ete M. Chan[1], Stefan Judex[1], Clinton Rubin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Benjamin Adler, None

SA0247 **Withdrawn**

SA0248 **Peptide-mediated Disruption of N-cadherin-LRP5/6 Interaction Stimulates Wnt Signaling, Osteoblast Replication and Differentiation**
Eric Haÿ*[1], Thibault Buczkowski[1], Pierre Marie[2]. [1]Inserm U606 & University Paris Diderot, France, [2]INSERM Unit 606 & University Paris Diderot, France
Disclosures: Eric Haÿ, None

SA0249 **Revitalization of Bone Allografts by Murine Periosteal Cells Expressing BMP2 and VEGF**
Nick van Gastel*[1], Maarten Depypere[2], Scott Roberts[3], Ingrid Stockmans[1], Sophie Torrekens[1], Jan Schrooten[4], Frederik Maes[2], Frank Luyten[5], Geert Carmeliet[6]. [1]Laboratory of Experimental Medicine & Endocrinology, Katholieke Universiteit Leuven, Belgium, [2]Department of Electrical Engineering (ESAT/PSI), Katholieke Universiteit Leuven, Belgium, [3]K.U.Leuven, Belgium, [4]Department of Metallurgy & Materials Engineering, Katholieke Universiteit Leuven, Belgium, [5]University Hospitals KU Leuven, Belgium, [6]Katholieke Universiteit Leuven, Belgium
Disclosures: Nick van Gastel, None

SA0250 **Role of GILZ in TNF-α-Mediated Inhibition of Marrow Mesenchymal Stem Cell Osteogenic Differentiation**
Xing-Ming Shi, Nianlan Yang, Linlin He*. Medical College of Georgia, USA
Disclosures: Linlin He, None

SA0251 **Zolendronate Induce Expression of Runx2 to Promote Osteogenic Commitment of Human Periodontal and Pulp Cells**
Harunur Rashid*[1], Nachiket Saoji[1], Somsak Sittitavornwong[1], Haiyan Chen[1], Farah Ghori[1], Huw Thomas[1], Soraya Gutierrez[2], Amjad Javed[1]. [1]University of Alabama at Birmingham, USA, [2]Universidad de Concepcion, Chile
Disclosures: Harunur Rashid, None

OSTEOBLASTS: STEROID/SERM EFFECTS

SA0252 **Glucocorticoids Attenuate Bone Turnover, but do not Appear to Affect Chondrocytes In Vitro**
Kim Henriksen*[1], Kim Vietz Andreassen[1], Morten Karsdal[1], Anne-Christine Bay-Jensen[2]. [1]Nordic Bioscience A/S, Denmark, [2]Nordic Bioscience, Denmark
Disclosures: Kim Henriksen, Nordic Bioscience, 3

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

SA0253 **Disruption of Cathepsin K in the Osteoclast Lineage Increased Bone Formation through Coupling-dependent Mechanism**
Sutada Lotinun*[1], Riku Kiviranta[2], Lynn Neff[1], Jean Vacher[3], Eero Vuorio[2], William Horne[1], Georgios Sabatakos[4], Roland Baron[5]. [1]Harvard School of Dental Medicine, USA, [2]University of Turku, Finland, [3]Institut De Recherches Cliniques De Montréal, Canada, [4]Procter & Gamble Pharmaceuticals, Inc., USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Sutada Lotinun, None

OSTEOCLASTS: CELL ADHESION

SA0254 **CD68 Regulates Osteoclast Function via Mediation of Attachment to Bone**
Jason Ashley*, Zhenqi Shi, Xu Feng. University of Alabama at Birmingham, USA
Disclosures: Jason Ashley, None

SA0255 **Osteoclast Attachment and Motility are Regulated by Nitric Oxide Through the Dual Effects of IRAG on Calcium Release and Cytoskeletal Protein Interactions**
Lisa Robinson*, Harry Blair, Beatrice Yaroslavskiy. University of Pittsburgh, USA
Disclosures: Lisa Robinson, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

SA0256 **Bone-wasting Cytokines are Up-regulated in Fragility Fractures: Role of Bone and Bone Marrow Cells**
Patrizia D'Amelio*[1], Ilaria Roato[2], Lucia D'Amico[2], Luciana Veneziano[3], Elena Suman[3], Francesca Sassi[3], Giuseppina Bisignano[3], Giancarlo Isaia[1]. [1]University of Torino, Italy, [2]CeRMS (Centre for Research & Medical Studies), San Giovanni Battista Hospital, Italy, [3]Gerontology Section, Department of Surgical & Medical Disciplines, University of Torino, Italy
Disclosures: Patrizia D'Amelio, None

SA0257 **Role of T Cells in the Activation of Osteoclastogenesis in Phenylketonuria Patients**
Ilaria Roato*[1], Lucia D'Amico[2], Francesco Porta[3], Alessandro Mussa[3], Marco Spada[4], Riccardo Ferracini[5]. [1]CeRMS, Center for Experimental Research & Medical Studies, A.O.U. San Giovanni Battista, Italy, [2]CeRMS, Italy, [3]Department of Pediatrics, University of Turin, Italy, [4]Department of Pediatrics, University of Torino, Italy, [5] Department of Orthopaedics, A.O.U. San Giovanni Battista, Italy
Disclosures: Ilaria Roato, None

OSTEOCLASTS: DIFFERENTIATION

SA0258 **Bone Marrow Stromal Cells Suppress TACE-mediated M-CSFR and RANK Shedding to Facilitate Osteoclastogenesis and Suppress DC Differentiation from Monocytes.**
Masahiro Hiasa*[1], Masahiro Abe[2], Ayako Nakano[3], Asuka Oda[2], Hiroe Amou[2], Keiichiro Watanabe[4], Shingen Nakamura[2], Hirokazu Miki[2], Kyoko Takeuchi[2], Kumiko Kagawa[2], Shuji Ozaki[2], Eiji Tanaka[1], Kenzo Asaoka[1], Toshio Matsumoto[5]. [1]University of Tokushima Graduate School, Japan, [2]University of Tokushima, Japan, [3]University of Tokushima, Graduate School of Medicine, Japan, [4]The University of Tokushima Graduate School of Oral Science, Japan, [5]University of Tokushima Graduate School of Medical Sciences, Japan
Disclosures: Masahiro Hiasa, None

SA0259 **Comprehensive Analysis of Epigenetic Role of TGF-beta in RANKL-induced Osteoclastogenesis by ChIP-seq Approach**
Tetsuro Yasui*[1], Takumi Matsumoto[2], Hironari Masuda[2], Jun Hirose[2], Yasunori Omata[2], Yuho Kadono[2], Hisataka Yasuda[3], Daizo Koinuma[2], Shuichi Tsutsumi[2], Kozo Nakamura[2], Hiroyuki Aburatani[2], Sakae Tanaka[2]. [1]University of Tokyo, Japan, [2]The University of Tokyo, Japan, [3]Oriental Yeast Company, Limited, Japan
Disclosures: Tetsuro Yasui, None

SA0260 **Elucidating the Mechanism of Impaired Osteoclastogenesis in Cultures of Cells from +/R740S Osteopetrotic Mice**
Irina Voronov*[1], Noelle Ochotny[1], Morris Manolson[1], Jane Aubin[2]. [1]University of Toronto, Canada, [2]University of Toronto Faculty of Medicine, Canada
Disclosures: Irina Voronov, None

SA0261 **Identification of a Novel Osteoclastogenic Co-activator for Nfatc1, OCAN**
Min-Young Youn*[1], Sally Fujiyama-Nakamura[1], Shigeaki Kato[2]. [1]IMCB, University of Tokyo, Japan, [2]University of Tokyo, Japan
Disclosures: Min-Young Youn, None

SA0262 **Live-Cell Microscopy of Osteoclast Precursor Fusion and Osteoclast Fission**
Ineke Jansen*[1], Veerle Bloemen[2], Jan Stap[3], Ton Schoenmaker[4], Teun De Vries[5], Vincent Everts[5]. [1]ACTA, The Netherlands, [2]Vrije Universiteit Medical Center, The Netherlands, [3]Department of Cell Biology & Histology, Netherlands, [4]Dept. of Oral Cell Biology & Periodontology, Netherlands, [5]ACTA, Vrije Universiteit, The Netherlands
Disclosures: Ineke Jansen, None

SA0263 **MicroRNA-21 Has a Central Critical Role in Osteoclastogenesis**
Keith Hruska, Toshifumi Sugatani*. Washington University in St. Louis School of Medicine, USA
Disclosures: Toshifumi Sugatani, None

SA0264 **Osteocyte Apoptosis Directly and Indirectly Regulates Osteoclast Formation In Vitro**
Lidan You, Axel Guenther, Saja Al-Dujaili*. University of Toronto, Canada
Disclosures: Saja Al-Dujaili, None

SA0265 **Regulation of Osteoclast Formation by Pyruvate Kinase M2**
Seong Sik Kim*[1], Ryan Ricofort[2], Eric Serrano[2], Jian Zuo[2], Alan Jenkins[2], John Neubert[2], Mathew Boxer[3], Douglas Auld[4], Craig Thomas[5], Lexie Holliday[2]. [1]Department of Orthodontics, College of Dentistry, Pusan National University, Pusan, Korea., South Korea, [2]University of Florida College of Dentistry, USA, [3]NIH Chemical Genomics Center, National Human Genome Research Institute, National Institutes of Health, USA, [4]NIH Chemical Genomics Center, USA, [5]NIH Chemical Genomics Center, National Institutes of Health, USA
Disclosures: Seong Sik Kim, None

SA0266 **Regulatory Role of Osteoactivin/Gpnmb in Osteoclast Differentiation and Function In Vivo**
Joyce Belcher*[1], Fabiola Del Carpio- Cano[2], M. Alexandra Monroy[3], Steven Popoff[4], Fayez Safadi[4]. [1]Temple University, School of Medicine, USA, [2]Temple University School of Medicine, Department of Anatomy & Cell Biology, USA, [3]Temple University School of Medicine, Department of Anatomy & Cell Biology & Department of Surgery, USA, [4]Temple University School of Medicine, USA
Disclosures: Joyce Belcher, None

SA0267 **The RANK IVVY$^{535\text{-}538}$ Motif Plays a Critical Role in Tumor Necrosis Factor-α-mediated Osteoclastogenesis by Rendering Osteoclast Genes Responsive to Tumor Necrosis Factor-α**
Joel Jules*, Zhenqi Shi, Xu Feng. University of Alabama at Birmingham, USA
Disclosures: Joel Jules, None

SA0268 **Vitamin E Induces Osteoclast Fusion and Decreases Bone Mass.**
Koji Fujita*[1], Makiko Iwasaki[2], Takako Koga[3], Hiroshi Takayanagi[4], Kimitaka Takitani[5], Hiroshi Tamai[5], Hiroyuki Arai[6], Hiroshi Ito[7], Kenichi Shinomiya[8], Shu Takeda[9]. [1]Dept. of Orthopedics, Tokyo Medical & Dental University,Global Center of Excellence (GCOE) Program, International Research Center for Molecular Science in Tooth & Bone Diseases, Japan, [2]Dept. of Orhopedics, Tokyo Medical & Dental University, Japan, [3]Dep of Cell Signaling, Graduate School of Medical & Dental Sciences, Tokyo Medical & Dental University, Japan, [4]Tokyo Medical & Dental University, Japan, [5]Department of Pediatrics, Osaka Medical College, Japan, [6]Department of Health Chemistry, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan, [7]Dept. of Nephrology, Endocrinology & Metabolism Keio Univ., Japan, [8]Dept. of Orthopedics, Tokyo Medical & Dental University, Japan, [9]Keio University, Dept. of Nephrology, Endocrinology & Metabolism, Japan
Disclosures: Koji Fujita, None

SA0269 **Characterization of the V-ATPase *a3*-B2 Subunit Interaction**
Norbert Kartner*[1], Yeqi Yao[2], Keying Li[3], Morris Manolson[1]. [1]University of Toronto, Canada, [2]Faculty of Dentisty, University of Toronto, Canada, [3]Faculty of Dentistry, University of Toronto, Canada
Disclosures: Norbert Kartner, None

SA0270 **Deficiency of Dok-1 and Dok-2, Ras-Erk Pathway Inhibitors, Enhances Bone Loss in Postmenopausal Osteoporosis Model of Mice**
Daisuke Miyajima*[1], Aya Kawamata[2], Akane Inoue[3], Yoichi Ezura[4], Tetsuya Nakamoto[1], Tadayoshi Hayata[5], Takuya Notomi[6], Teruo Amagasa[7], Yuji Yamanashi[8], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Medical Research Institute, Tokyo Medical & Dental University, Japan, [3]Division of Genetics & Department of Cancer Biology, Institute of Medical Science, University of Tokyo, Japan, [4]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [5]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [6]GCOE, Tokyo Medical & Dental University, Japan, [7]Maxillofacial Surgery, Tokyo Medival Dental University, Japan, [8]Division of Genetics, The Institute of Medical Science, The University of Tokyo, Japan
Disclosures: Daisuke Miyajima, None

SA0271 **Dissociation of Bone Resorption and Bone Formation in Adult Mice Transplanted with *ocloc* Hematopoietic Stem Cells**
Christian Thudium*[1], Carmen Flores[2], Anita Neutzsky-Wulff[3], Vicki Jensen[4], Geerling Langenbach[5], Annemarie Brüel[6], Jesper Skovhus Thomsen[6], Natalie Sims[7], Maria Askmyr[8], Thomas John Martin[7], Vincent Everts[9], Morten Karsdal[4], Johan Richter[2], Kim Henriksen[4]. [1]Nordic Bioscience, Denmark, [2]Molecular Medicine & Gene Therapy, Lund University, Sweden, [3]Nordic Bioscience & University of Copenhagen, Denmark, [4]Nordic Bioscience A/S, Denmark, [5]Dept. Oral Cell Biology, Academic Centre of Dentistry Amsterdam (ACTA), Universiteit van Amsterdam & Vrije Universiteit, Netherlands, [6]Department of Connective Tissue Biology, Institute of Anatomy, University of Aarhus, Denmark, [7]St. Vincent's Institute of Medical Research, Australia, [8]St. Vincent's Institute for Medical Research, Australia, [9]ACTA, Vrije Universiteit, The Netherlands
Disclosures: Christian Thudium, Nordic Bioscience, 3

SA0272 **Expression and Activity of Cholinergic Receptors in Osteoclasts**
Arik Bar*[1], Alon Bajayo[1], malka Attar[1], Alberta Zallone[2], Itai Bab[1]. [1]The Hebrew University, Israel, [2]University of Bari Medical School, Italy
Disclosures: Arik Bar, None

SA0273 **LIS1, a Plekhm1 Binding Protein, Regulates Microtubule Organization/Transportation and Cathepsin K secretion in Osteoclasts and is indispensable for Osteoclast Formation and Function**
Shiqiao Ye*[1], Yunfeng Feng[2], Kanan Vyas[3], Stavros Manolagas[1], Haibo Zhao[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Department of internal medicine, Washington University School of medicine, USA, [3]Center for Osteoporosis & Metabolic Bone Diseases, University of Arkansas for Medical Sciences & Central Arkansas Veterans Healthcare System, USA
Disclosures: Shiqiao Ye, None

SA0274 **Osteoclast Inhibitory Peptide-1 Binding to the FcγRIIB Modulates ITIM and ITAM Signaling in Preosteoclast Cells**
Srinivasan Shanmugarajan*[1], Craig C. Beeson[2], Sakamuri Reddy[1]. [1]Charles P. Darby Children's Research Institute, USA, [2]Medical University of South Carolina, USA
Disclosures: Srinivasan Shanmugarajan, None

SA0275 **Peroxiredoxin II Negatively Regulates LPS-induced Differentiation and Bone Resorption**
Mijung Yim[1], Hyojung Park*[2]. [1]Sookmyung Women's University, South Korea, [2]Sookmyung Women's University, South Korea
Disclosures: Hyojung Park, None

OSTEOCLASTS: ISOLATION AND LINEAGE

SA0276 **Spontaneous Rythmic Fluctuations of Osteoclasts Intracellular pH**
Raif Musa-Aziz, Priscilla Morethson*. University of Sao Paulo, Brazil
Disclosures: Priscilla Morethson, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

SA0277 **P62, PKCzeta and NF-kappaB Signaling in Human Osteoclasts: a Link With Paget's Disease of Bone**
Estelle Chamoux*[1], Martine Bisson[2], Laetitia Michou[3], Jacques Brown[4], Sophie Roux[2]. [1]Centre Hospitalier Universitaire Sherbrooke, Canada, [2]University of Sherbrooke, Canada, [3]Centre De Recherche Du Chuq-Chul, Canada, [4]Laval University, Canada
Disclosures: Estelle Chamoux, None

SA0278 **Rac Deletion in Osteoclasts Causes Severe Osteopetrosis**
Monica Croke*[1], F. Patrick Ross[2], Steven Teitelbaum[3]. [1]Washington University School of Medicine, USA, [2]Hospital for Special Surgery, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Monica Croke, None

SA0279 **The Distinct Roles of Cbl and Cbl-b in Osteoclast Differentiation, Survival and Function are Due to Unique Phosphorylation-dependent Interaction of Cbl with PI3K**
Naga Suresh Adapala*[1], Alexander Tsygankov[1], Mary Barbe[2], Archana Sanjay[2]. [1]Temple University, USA, [2]Temple University School of Medicine, USA
Disclosures: Naga Suresh Adapala, None

SA0280 **The Dynamin GTPase-induced Dephosphorylation of Pyk2 is Mediated by PTP-PEST and Regulates Osteoclast Bone Resorption**
Pierre Eleniste*[1], Angela Bruzzaniti[2]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Indiana University School of Dentistry, USA
Disclosures: Pierre Eleniste, None

OSTEOCYTES: REGULATION OF BONE FORMATION

SA0281 **A Marrow 'Guardian' Cell inhibits Marrow Space Mineralization and Trabecularization through Sost/sclerostin Expression**
Jian Feng[1], Xianglong Han*[2]. [1]Texas A&M Health Science Center, USA, [2]Baylor College of Dentistry, TX A&M Health Science Center, USA
Disclosures: Xianglong Han, None

SA0282 **Bone-Muscle Crosstalk is Demonstrated by Morphological and Functional Changes in Skeletal and Cardiac Muscle Cells in Response to Factors Produced by MLO-Y4 Osteocytes**
Nuria Lara[1], Todd Hall*[1], Chad Touchberry[1], Jon Andresen[1], Marco Brotto[1], Mark Johnson[2], Michael Wacker[3], Christopher Elmore[1], Sandra Romero - Suarez[1], Cheng Lin Mo[4], Lynda Bonewald[1], Neerupma Silswal[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA, [3]University of Missouri-Kansas City School of Medicine, USA, [4]Univsity of Missouri - Kansas City, USA
Disclosures: Todd Hall, None

SA0283 **Cx43 in Osteocytes, but not in Osteoblasts, Is Required to Preserve Osteocyte Viability, Bone Geometry and Material Stiffness.**
Nicoletta Bivi*[1], Mark Nelson[2], Racheal Lee[3], Jeffrey Benson[3], Keith Condon[3], Jiliang Li[2], Matthew Allen[3], Teresita Bellido[3], Lilian Plotkin[3]. [1]Indiana University, USA, [2]Indiana University, Purdue University Indianapolis, USA, [3]Indiana University School of Medicine, USA
Disclosures: Nicoletta Bivi, None

SA0284 **Homozygous Deletion of the *SOST* Gene Results in Enhanced Union and Increased Hard Callus Formation in Healing Fractures.**
Michelle McDonald*[1], Alyson Morse[2], Lauren Peacock[2], Kathy Mikulec[2], Ina Kramer[3], Michaela Kneissel[4], David Little[2]. [1]The Childrens Hospital Westmead, Australia, [2]The Kids Research Institute, The Children's Hospital Westmead, Australia, [3]Novartis Institutes for BioMedical Research, Che, [4]Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Michelle McDonald, None

SA0285 **2010 YOUNG INVESTIGATOR AWARD**
Role of Histone Deacetylases (HDACs) in PTH-mediated Repression of MEF2-dependent Sost Expression in UMR-106 Cells
Stefan Baertschi*, Heidi Jeker, Simone Degen, Hansjoerg Keller. Novartis Institutes for BioMedical Research, Switzerland
Disclosures: Stefan Baertschi, Novartis, 3

SA0286 **Tracking Osteocyte Lineage Plasticity In Vitro**
Slavica Pejda*[1], Tomislav Kizivat[1], Mohammad fatahi[1], John Igwe[2], Ivo Kalajzic[3]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, USA, [2]Department of Orthopedic Surgery, University of Connecticut Health Center, USA, [3]University of Connecticut Health Center, USA
Disclosures: Slavica Pejda, None

SA0287 **Use of a Sost-GFP Mouse Model to Determine the Role of the AKT-GSK3β in Osteocyte Function and to Map Local Strain Fields around Osteocytes with Loading**
Stephen Harris*[1], Marie Harris[1], Jelica Gluhak-Heinrich[1], Wuchen Yang[1], Yong Cui[2], Ryan S Potter[3], Lynda Bonewald[4], Daniel Nicolella[3]. [1]University of Texas Health Science Center at San Antonio, USA, [2]U. of Texas Health Science Center at San Antonio, USA, [3]Southwest Research Institute, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Stephen Harris, None

OSTEOCYTES: REGULATION OF BONE MINERALIZATION

SA0288 **Evidence that Sclerostin is a Locally Acting Regulator of Osteoblast to Osteocyte Transition and a Master Regulator of Mineralization**
Gerald Atkins*[1], Asiri Wijenayaka[1], Katie Welldon[1], Peter Rowe[2], David Findlay[1], Hui Peng Lim[1]. [1]University of Adelaide, Australia, [2]University of Kansas Medical Center, USA
Disclosures: Gerald Atkins, None

SA0289 **2010 YOUNG INVESTIGATOR AWARD**
Late Osteoblastic/Osteocytic Cell Line IDG-SW3 Expresses Dmp1-GFP, SOST and FGF23 *in vitro* and Promotes New Bone Formation *in vivo*
Stacey Woo*[1], Lianxiang Bi[1], Mark Johnson[2], Lynda Bonewald[1]. [1]University of Missouri - Kansas City, USA, [2]University of Missouri, Kansas City Dental School, USA
Disclosures: Stacey Woo, None

OSTEOCYTES: REGULATION OF MINERAL ION HOMEOSTASIS

SA0290 **Calcimimetics Regulate FGF23, Sclerostin and Dkk1 Expression in Bone in a Rat Model of Chronic Kidney Disease-Mineral and Bone Disorder with Secondary Hyperparathyroidism**
Victoria Shalhoub*[1], Eliane Valente[1], Edward Shatzen[1], Sabrina Ward[1], Charles Henley[1], Xuechun Xia[2], Xiaodong Li[1], Thomas Wronski[2], William Richards[1]. [1]Amgen Inc, USA, [2]University of Florida, USA
Disclosures: Victoria Shalhoub, Amgen Inc, 3; Amgen Inc, 1

SA0291 **Effect of Intermittent PTH (1-34) Treatment on Osteocyte Lacunae in Ovariectomized Rats**
Donald Kimmel*[1], Susan Candell[2], Tiffany Fong[3], Jack Coats[4], Mohammed Akhter[5], Thomas Wronski[6]. [1]Kimmel Consulting Services, USA, [2]Xradia Inc., USA, [3]Xradia Inc, USA, [4]Xradia, USA, [5]Creighton University Osteoporosis Research Center, USA, [6]University of Florida, USA
Disclosures: Donald Kimmel, Xradia, Inc., 5

OSTEOPOROSIS ASSESSMENT: BIOCHEMICAL MARKERS

SA0292 **Association of Changes in Serum Levels of Intact Parathyroid Hormone with Changes in Biochemical Markers of Bone Turnover and Bone Mineral Density: A 10-year Follow-up of the Taiji Cohort**
Noriko Yoshimura*[1], Shigeyuki Muraki[1], Hiroyuki Oka[1], Hiroshi Kawaguchi[2], Kozo Nakamura[3], Toru Akune[1]. [1]University of Tokyo, Japan, [2]University of Tokyo, Faculty of Medicine, Japan, [3]The University of Tokyo, Japan
Disclosures: Noriko Yoshimura, None

SA0293 **Is Bone Turnover Adequately Suppressed in Osteoporotic Patients, Treated with Bisphosphonates, in Daily Practice?**
Danielle Eekman*[1], Ben A.C. Dijkmans[2], Willem Lems[3], Annemieke C. Heijboer[2], Irene E.M. Bultink[2]. [1]VU University Medical Center, The Netherlands, [2]VU University Medical Center, Netherlands, [3]Vrije Universiteit Medical Centre, The Netherlands
Disclosures: Danielle Eekman, None

SA0294 **Is Isolated serum 25-Hydroxyvitamin D Measurement to assess Vitamin D Nutritional Status Clinically Relevant?**
Nayana Parikh*, Tarlisha Eskridge, Leila Idi, Shijing Qiu, Sudhaker Rao. Henry Ford Hospital, USA
Disclosures: Nayana Parikh, None

SA0295 **Serum Levels of Cathepsin K and Bone Turnover Markers are Decreased in Patients with Type 2 Diabetes**
Pedro Rozas*[1], Rebeca Reyes[2], Antonia García-Martín[3], Maria Dolores Perez-Avilés[3], Mariela Vasavsky[3], Manuel Munoz-Torres[4]. [1]Hospital General, Spain, [2]Bone Metabolic Unit., Spain, [3]Bone Metabolic Unit. Endocrinology Division. San Cecilio University Hospital., Spain, [4]University Hospital, Spain
Disclosures: Pedro Rozas, None

OSTEOPOROSIS ASSESSMENT: BONE MINERAL DENSITY

SA0296 **Assessment of Tibial and Radial Peripheral Quantitative Computed Tomography: Precision Measurements**
Charles Wisniewski*, Giulia Rinaldi, Nithya Setty, Meryl Leboff. Brigham & Women's Hospital, USA
Disclosures: Charles Wisniewski, None

SA0297 **Combination of Bone Mineral Density and Trabecular Bone Score for vertebral fracture prediction in secondary osteoporosis**
Sophie Bréban*[1], Sami Kolta[2], Karine Briot[3], Simon Paternotte[4], Mirieme Ghazi[4], Jacques Fechtenbaum[2], Maxime Dougados[4], Christian Roux[5]. [1]Cochin Hospital, Paris Descartes University, France, [2]Centre D'Evaluation, Des Maladies Osseuses, France, [3]Cochin Hospital, France, [4]Paris Descartes University, Cochin Hospital,Rheumatology Department, France, [5]Hospital Cochin, France
Disclosures: Sophie Bréban, None

SA0298 **Comparison of a Prototype and Current DXA Whole Body Phantoms Provide Inconsistent Relationships**
Cassidy Powers*[1], Bo Fan[2], Colin Miller[3], John Shepherd[2]. [1]Bone & Breast Density Group, University of California San Francisco, USA, [2]University of California, San Francisco, USA, [3]BioClinica, Inc. (formerly Bio-Imaging Technologies, Inc.), USA
Disclosures: Cassidy Powers, None

SA0299 **Construction and Validation of a Simplified Fracture Risk Assessment Tool for Canadian Women and Men: Results from the CaMos and Manitoba BMD Cohorts**
William Leslie*[1], Claudie Berger[2], Lisa Langsetmo[3], Jonathan Adachi[4], David Hanley[5], George Ioannidis[6], Robert Josse[7], Christopher Kovacs[8], Tan Towheed[9], Stephanie Kaiser[10], W.P. Olszynski[11], Jerilynn Prior[12], Sophie Jamal[13], Nancy Kreiger[14], David Goltzman[15]. [1]University of Manitoba, Canada, [2]McGill University, Canada, [3]Canandian Multicenter Osteoporosis Study, Canada, [4]St. Joseph's Hospital, Canada, [5]University of Calgary, Canada, [6]Sympatico, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]Memorial University of Newfoundland, Canada, [9]Queen's University, Canada, [10]Dalhousie University, Canada, [11]Midtown Medical Center (#103), Canada, [12]University of British Columbia, Canada, [13]The University of Toronto, Canada, [14]University of Toronto, Canada, [15]McGill University Health Centre, Canada
Disclosures: William Leslie, None

SA0300 **Enhancement of Hip Fracture Prediction Using Finite Element Analysis of CT Scans**
David Kopperdahl*[1], Paul Hoffmann[1], Sigurdur Sigurdsson[2], Thor Aspelund[2], Kristin Siggeirsdottir[2], Gudny Eiriksdottir[2], Tamara Harris[3], Vilmundur Gudnason[2], Tony Keaveny[4]. [1]O.N. Diagnostics, USA, [2]Icelandic Heart Association Research Institute, Iceland, [3]Intramural Research Program, National Institute on Aging, USA, [4]University of California, Berkeley, USA
Disclosures: David Kopperdahl, O.N. Diagnostics, 3

SA0301 **Fracture Prediction and Calibration of a Canadian FRAX® Tool: A Population-Based Report From CaMos**
Lisa-Ann Fraser[1], Lisa Langsetmo[2], Claudie Berger[3], George Ioannidis[4], David Goltzman[5], Jonathan Adachi[6], Alexandra Papaioannou[7], Robert Josse[8], Christopher Kovacs[9], Wojciech P. Olszyynski[10], Tanveer Towheed[11], David Hanley[12], Stephanie Kaiser[13], Jerilynn Prior[14], Sophie Jamal[15], Nancy Kreiger[16], Jacques Brown[17], Helena Johansson[18], John Kanis[19], William Leslie*[20]. [1]University of Western Ontario, McMaster University, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]McGill University, Canada, [4]Sympatico, Canada, [5]McGill University Health Centre, Canada, [6]St. Joseph's Hospital, Canada, [7]Hamilton Health Sciences, Canada, [8]St. Michael's Hospital, University of Toronto, Canada, [9]Memorial University of Newfoundland, Canada, [10]University of Saskatchewan, Canada, [11]Queen's University, Canada, [12]University of Calgary, Canada, [13]Dalhousie University, Canada, [14]University of British Columbia, Canada, [15]The University of Toronto, Canada, [16]University of Toronto, Canada, [17]Laval University, Canada, [18]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [19]University of Sheffield, Belgium, [20]University of Manitoba, Canada
Disclosures: William Leslie, None

SA0302 **FRAX or Fiction: Should We Treat All Long Term Care Residents for Osteoporosis?**
Julie Wagner*[1], Kimberly Zukowski[1], MaryAnne Ferchak[1], Carroll Lee[1], Sherry L. Knoblock[1], Donna Medich[1], Gail Fiorito[2], Megan Miller[1], Subashan Perera[1], David Nace[1], Neil Resnick[1], Susan Greenspan[1]. [1]University of Pittsburgh, USA, [2]University of Pittsburgh, USA
Disclosures: Julie Wagner, None

SA0303 **Reducing Unneccessary BMD Testing in Healthy Women at Menopause**
Gillian Hawker*[1], Susan Jaglal[2], Jacob Cancino-Romero[1], Arielle Mendel[1], Samra mian[1], Esther Waugh[1], Sophie Jamal[3]. [1]Women's College Hospital, Canada, [2]University of Toronto, Canada, [3]The University of Toronto, Canada
Disclosures: Gillian Hawker, None

SA0304 **The Influence of Exogenous Fat and Water on Lumbar Spine Bone Mineral Density in Healthy Volunteers**
KYU-NAM KIM*. Ajou University, South Korea
Disclosures: KYU-NAM KIM, None

SA0305 **Underestimated Fracture Risk in Patients with Unilateral Hip Osteoarthritis as Calculated by FRAX**
Nithya Setty*, Giulia Rinaldi, Julie Glowacki, Thomas Thornhill, Meryl Leboff. Brigham & Women's Hospital, USA
Disclosures: Nithya Setty, None

SA0306 **Which Limb to Scan? Revisiting the Relationship Between Skeletal and Functional Limb Dominance**
Benjamin Weeks, Belinda Beck*. Griffith University, Australia
Disclosures: Belinda Beck, None

OSTEOPOROSIS ASSESSMENT: BONE STRUCTURE

SA0307 **Bone Density and Bone Size in Older Men and Women Assessed by High Resolution pQCT: Contributions of Growth, Consolidation and Aging**
Richard Eastell[1], Margaret A. Paggiosi[2], Jennifer Walsh*[2]. [1]University of Sheffield, United Kingdom, [2]NIHR Bone Biomedical Research Unit, United Kingdom
Disclosures: Jennifer Walsh, None

SA0308 **Detection of Vertebral Fractures in Lateral Scout Views from Computed Tomography Using Statistical Models of Shape and Appearance**
Jane Haslam[1], Yoo Mee Kim[2], Douglas Kiel[3], Elizabeth Samelson[3], Joes Staal[4], Peter Steiger*[5], Mary Bouxsein[2]. [1]Optasia Medical Ltd, United Kingdom, [2]Beth Israel Deaconess Medical Center, USA, [3]Hebrew SeniorLife, USA, [4]Optasia Medical Ltd., United Kingdom, [5]Optasia Medical, USA
Disclosures: Peter Steiger, Optasia Medical Ltd., 3; Optasia Medical Ltd., 1

SA0309 **Effects of Antiresorptive Agents on Bone Micro-Architecture Assessed by Trabecular Bone Score in Women Age 50 and Older: The Manitoba Prospective Study**
Marc-Antoine Krieg*[1], Andrew Goertzen[2], William Leslie[2], Didier Hans[3]. [1]University Hospital, Switzerland, [2]University of Manitoba, Canada, [3]Lausanne University Hospital, Switzerland
Disclosures: Marc-Antoine Krieg, None

SA0310 **In Vivo Quantification of Intracortical Porosity and Cortical Remnants Adjacent to Marrow Identifies Individuals at Risk for Fracture Better than Prevailing Methods**
Ali Ghasem-Zadeh[1], Sandra Iuliano-Burns[2], Ego Seeman[2], Roger Zebaze*[3]. [1]Austin Health, University of Melbourne, Aus, [2]Austin Health, University of Melbourne, Australia, [3]Austin Health, Australia
Disclosures: Roger Zebaze, None

SA0311 **Measuring Bone Quality using Peripheral Quantitative Computed Tomography at the Tibia in Individuals with SCI: Reproducibility and Methodological Considerations**
Lora Giangregorio[1], Deena Lala*[1], Kayla Hummel[1], Christopher Gordon[2], B. Catharine Craven[3]. [1]University of Waterloo, Canada, [2]McMaster University, Canada, [3]Toronto Rehabilitation Institute, Canada
Disclosures: Deena Lala, Merck Frosst, 2

SA0312 **Reliability of Semi-Automated Vertebral Morphometry Measurements using Lateral Scoutviews from Computed Tomography**
Yoo Mee Kim*[1], Serkalem Demissie[2], Rahel Eisenberg[1], Douglas Kiel[3], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]Boston University School of Public Health, USA, [3]Hebrew SeniorLife, USA
Disclosures: Yoo Mee Kim, None

SA0313 **Vertebral Bone Loss Quantified by Normalised Mean Vertebral Area in Lateral Radiographs**
Erik B Dam[1], Mads Nielsen[2], Martin Lillholm*[3]. [1]Nordic Bioscience & CCBR-Synarc, Denmark, [2]University of Copenhagen, Denmark, [3]Nordic Bioscience, Denmark
Disclosures: Martin Lillholm, CCBR-Synarc, 3; CCBR-Synarc, 1

OSTEOPOROSIS ASSESSMENT: ULTRASOUND

SA0314 **Preliminary Comparison of FRAX™ (excluding BMD) with FRAX™ (including BMD calcaneal QUS T-Score) Screening Tool for Estimating Long-term Fracture Risk**
Simon Dyall[1], Daphne Bird[1], Ian Drysdale*[2], Heather Hinkley[2]. [1]British College Osteopathic Medicine, United Kingdom, [2]British College of Osteopathic Medicine, United Kingdom
Disclosures: Ian Drysdale, None

SA0315 **Prognosis of Fracture Risk by Quantitative Ultrasound Measurement and Bone Mineral Density**
Nguyen Nguyen[1], Jacqueline Center[1], John Eisman[1], Tuan Nguyen[1], Mei Chan*[2]. [1]Garvan Institute of Medical Research, Australia, [2]Osteoporosis & Bone Biology, Australia
Disclosures: Mei Chan, None

OSTEOPOROSIS EPIDEMIOLOGY: BONE MINERAL DENSITY

SA0316 **A Four Years Exercise Intervention Program in Pre-Pubertal Children Increases Bone Mass and Bone Size But Do Not Affect the Fracture Risk**
Bjarne Lofgren*[1], Jan Åke Nilsson[2], Magnus Dencker[2], Magnus Karlsson[3]. [1]Clinical & Molecular Osteoporosis Research Unit Dept. of Clinical Sciences, Lund University, Dept of Orthopaedics, Skåne University Hospital, Sweden, [2]Skane University Hospital, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden
Disclosures: Bjarne Lofgren, None

SA0317 **Association Between Fat and Lean Distributions with Bone Mineral Density in KNHANES**
Woong-Hwan choi[1], Sangmo Hong*[2]. [1]Hanyang university hospital department of internal medicine, South Korea, [2]Hanyang University, South Korea
Disclosures: Sangmo Hong, None

SA0318 **Association of calcaneal QUS BMD and DEXA BMD at the femoral neck, lumbar spine and whole body in American Indian Men and Women**
Maureen Murtaugh*, Molly McFadden, Khe-ni Ma, Tracy Frech, Laurie Moyer-Mileur, Martha Slattery, Tom Greene. University of Utah, USA
Disclosures: Maureen Murtaugh, None

SA0319 **Bone Density Following Long-Duration Spaceflight and Recovery**
Shreyasee Amin*[1], Sara Achenbach[1], Elizabeth Atkinson[1], Elisabeth Spector[2], HJ Hartnett[2], L. Joseph Melton[1], Sundeep Khosla[3], Jean Sibonga[4]. [1]Mayo Clinic, USA, [2]Wyle Integrated Science & Engineering Group, USA, [3]College of Medicine, Mayo Clinic, USA, [4]NASA-Johnson Space Center, USA
Disclosures: Shreyasee Amin, None

SA0320 **DXA Self-Scheduling Improves Osteoporosis Screening**
Amy Warriner*[1], Ryan Outman[2], Kenneth Saag[2], Elizabeth Kitchin[2], Sarah Morgan[2], Jeffrey Curtis[2]. [1]UAB, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Amy Warriner, None

SA0321 **Evaluation of the Risk of Fracture in Early Postmenopausal Women: Predictive Value of Baseline BMD and Development of Prognosis BMD T-score Thresholds**
Jean-Michel Pouilles[1], Florence Tremollieres*[2], Patricia Dargent[3], Nicolas Drewniak[4], Claude Ribot[2]. [1]Menopause Center. Hôpital Paule de Viguier, France, [2]Hopital Paule De Viguier, France, [3]INSERM Unit 953 (ex 149), France, [4]Inserm U953, France
Disclosures: Florence Tremollieres, None

SA0322 **FRAX and UK-Based Diagnostic and Therapeutic Decisions the Day Before a Fracture in the Netherlands**
Tineke van Geel*[1], Sandrine Bours[2], Kirsten Huntjens[2], Geert-Jan Dinant[1], Joop van den Bergh[3], Piet Geusens[2]. [1]Maastricht University/Caphri, Netherlands, [2]Maastricht University Medical Centre, Netherlands, [3]VieCuri Medical Centre Noord-Limburg, Netherlands
Disclosures: Tineke van Geel, None

OSTEOPOROSIS EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

SA0323 **25-Hydroxyvitamin D-Levels in Community-Dwelling Postmenopausal Women Differ Between Swiss Mountain and Plain Areas During Winter**
Jotinder Schuematschek-Kainth*[1], David Kissner[1], Albrecht Popp[1], Günter Menz[2], Raphael Kessler[3], Matthias Stahl[4], Christoph Senn[1], Spiros Arampatzis[1], Antonella Berlingieri[1], Romain Perrelet[1], Kurt Lippuner[1]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, [2]Hochgebirgsklinik Davos, Switzerland, [3]HFR Tafers, Switzerland, [4]Kantonsspital Olten, Switzerland
Disclosures: Jotinder Schuematschek-Kainth, None

SA0324 **A Bout of Resistance Exercise Increased Osteoprotegerin in Healthy Young Men.**
Katherine Brooke-Wavell*[1], James King[1], Stephen Burns[2], David Stensel[1]. [1]Loughborough University, United Kingdom, [2]National Institute of Education, Singapore
Disclosures: Katherine Brooke-Wavell, None

SA0325 **Age-related Cortical Bone Loss and Fracture Patterns in the Neolithic Community of Çatalhöyük, Turkey**
Sabrina Agarwal[1], Bonnie Glencross*[2]. [1]University of California, USA, [2]University of Toronto, Canada
Disclosures: Bonnie Glencross, None

SA0326 **Dietary Patterns and Bone Health in Women**
Sarah McNaughton[1], Tikky Wattanapenpaiboon[1], John Wark*[2], Caryl Nowson[1]. [1]Centre for Physical Activity & Nutrition Research, School of Exercise & Nutrition Sciences, Deakin University, Australia, [2]Royal Melbourne Hospital, Australia
Disclosures: John Wark, None

SA0327 **Dual Effect of Adipose Tissue on Bone Health during Growth**
Heli Viljakainen*[1], Minna Pekkinen[2], Elisa Saarnio[2], Christel Lamberg-Allardt[2], Outi Mäkitie[3]. [1]Helsinki University Central Hospital for Children & Adolescents, Finland, [2]University of Helsinki, Finland, [3]Helsinki University Central Hospital for for Children & Adolescents, Finland
Disclosures: Heli Viljakainen, None

SA0328 **Evidence for an Association Between Seasonal Fluctuation of 25(OH)D and Serum C-telopeptide (CTx): Preliminary Evidence from the D-FINES study**
Andrea Darling*[1], Fatma Gossiel[2], Rosemary Hannon[2], Debra Skene[1], Jacqueline Berry[3], Richard Eastell[2], Susan Lanham-New[1]. [1]University of Surrey, United Kingdom, [2]University of Sheffield, United Kingdom, [3]University of Manchester, United Kingdom
Disclosures: Andrea Darling, None

SA0329 **Middle-aged Men with Dietary Intake of Omega-3 Long Chain Polyunsaturated Fatty Acids above the Median have Higher Bone Mass for Age**
Nour Makarem*[1], Jason DeGuire[1], Catherine Vanstone[1], Suzanne Morin[2], Hope Weiler[1]. [1]McGill University, Canada, [2]McGill University Health Centre, Canada
Disclosures: Nour Makarem, None

SA0330 **Temporal Trends and Determinants of Longitudinal Change in 25-Hydroxyvitamin D Levels in a Population-based Study**
Claudie Berger*[1], Lisa Langsetmo[2], Nancy Kreiger[3], Linda Greene-Finestone[4], Christopher Kovacs[5], Brent Richards[6], Nick Hidiroglou[7], Kurtis Sarafin[7], K. Shawn Davison[8], Jonathan Adachi[9], Jacques Brown[8], David Hanley[10], David Goltzman[11]. [1]McGill University, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]University of Toronto, Canada, [4]Public Health Agency of Canada, Canada, [5]Memorial University of Newfoundland, Canada, [6]Jewish General Hospital, McGill University, Canada, [7]Health Canada, Canada, [8]Laval University, Canada, [9]St. Joseph's Hospital, Canada, [10]University of Calgary, Canada, [11]McGill University Health Centre, Canada
Disclosures: Claudie Berger, None

OSTEOPOROSIS EPIDEMIOLOGY: FRACTURE OUTCOME

SA0331 **50 Year Predicted Changes in BMD Distribution and Hip Fracture Incidence in Canada**
Lisa Langsetmo*[1], David Hanley[2], Claudie Berger[3], Nancy Kreiger[4], Christopher Kovacs[5], Alexandra Papaioannou[6], David Hanley[2], K. Shawn Davison[7], Jerilynn Prior[8], Robert Josse[9], David Goltzman[10]. [1]Canandian Multicenter Osteoporosis Study, Canada, [2]University of Calgary, Canada, [3]McGill University, Canada, [4]University of Toronto, Canada, [5]Memorial University of Newfoundland, Canada, [6]Hamilton Health Sciences, Canada, [7]Laval University, Canada, [8]University of British Columbia, Canada, [9]St. Michael's Hospital, University of Toronto, Canada, [10]McGill University Health Centre, Canada
Disclosures: Lisa Langsetmo, None

SA0332 **A Population-Based Analysis of the Post-Fracture Care Gap 1996-2008: The Situation Is Not Improving**
William Leslie*[1], Marina Yogendran[1], Mahmoud Azimee[1], Suzanne Morin[2], Colleen Metge[1], Patricia Caetano[1], Lisa Lix[3]. [1]University of Manitoba, Canada, [2]McGill University Health Centre, Canada, [3]University of Saskatchewan, Canada
Disclosures: William Leslie, Amgen, 2

SA0333 **Association Between Beta-blocker use and Fracture Risk: the Dubbo Osteoporosis Epidemiology Study**
Shuman Yang*[1], Nguyen Nguyen[2], Jacqueline Center[2], John Eisman[2], Tuan Nguyen[2]. [1]Garvan Institute, Australia, [2]Garvan Institute of Medical Research, Australia
Disclosures: Shuman Yang, None

SA0334 **BMD Enhances Clinical Risk Factors in Predicting Ten-Year Risk of Osteoporotic Fractures in Chinese Men: The Hong Kong Osteoporosis Study**
Cora Bow*[1], Shirley Tsang[2], Sze Sze Soong[1], Siu Ching Yeung[1], Annie Kung[3]. [1]Department of Medicine, The University of Hong Kong, Hong Kong, [2]University of Hong Kong, Peoples Republic of China, [3]Department of Medicine, University of Hong Kong, Hong Kong
Disclosures: Cora Bow, None

SA0335 **Clinical Utility of Combined Femoral Neck and Lumbar Spine Bone Mineral Density Measurements in the Individualized Prognosis of Fracture**
Tuan Nguyen*[1], Nguyen Nguyen[1], Steven Frost[2], Dana Bliuc[1], Jacqueline Center[1], John Eisman[1]. [1]Garvan Institute of Medical Research, Australia, [2]University of Western Sydney, Australia
Disclosures: Tuan Nguyen, None

SA0336 **Creation of an Electronic Order Set to Improve the Care of Patients with Osteoporotic Fractures**
Beatrice Edwards*[1], Andrew Bunta[2], Nikolas Kazmers[3], Kenzie Cameron[4], Lidia Andruszyn[3], Nicole Dillon[3], Gabrielle Edwards[3], Allison Hahr[5], Mark Williams[6]. [1]Northwestern University Medical School, USA, [2]Northwestern University Feinberg School of Medicine, USA, [3]Northwestern University, USA, [4]Division of Internal Medicine, Northwestern University, USA, [5]Division of Endocrinology, Northwestern University, USA, [6]Division of Hospital Medicine, Northwestern University, USA
Disclosures: Beatrice Edwards, Amgen, 5; Procter and Gamble, 2; Eli Lilly, 5; Novartis, 5

SA0337 **Has the Cost Burden of Incident Fractures Changed Over Time? A Longitudinal Analysis from 1996-2008**
Colleen Metge*[1], Mahmoud Azimee[1], Lisa Lix[2], Suzanne Morin[3], Patricia Caetano[4], William Leslie[1]. [1]University of Manitoba, Canada, [2]University of Saskatchewan, Canada, [3]McGill University Health Centre, Canada, [4]Manitoba Health, Canada
Disclosures: Colleen Metge, Bayer Inc, 5; sanofi-aventis, 5; Amgen, 2

SA0338 **In COPD Inhaled Glucocorticoids, but not β2-Agonist are Associated with Vertebral Fracture Risk**
Stefano Gonnelli*[1], Carla Caffarelli[1], Stefania Maggi[2], Stefania Rossi[1], Paola Siviero[2], Gaetano Crepaldi[2], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]CNR - Center on Aging, Italy
Disclosures: Stefano Gonnelli, None

SA0339 **Inhibition of the Serotonin Transporter and Risk of Fracture in Older Women**
Susan Diem*[1], Terri Blackwell[2], Katie Stone[3], Jane Cauley[4], Elizabeth Haney[5], Kristine Ensrud[6]. [1]University of Minnesota, USA, [2]California Pacific Medical Center Research Institute, USA, [3]California Pacific Medical Center-Research Institute, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Oregon Health & Science University, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Susan Diem, Eli Lilly, Inc., 2

SA0340 **Ontario Osteoporosis Strategy: Three Year Evaluation of Quality Indicators**
Gillian Hawker[1], Susan Jaglal*[2], Cathy Cameron[1], Ruth Croxford[3]. [1]Women's College Hospital, Canada, [2]University of Toronto, Canada, [3]Institute for Clinical Evaluative Sciences, Canada
Disclosures: Susan Jaglal, None

SA0341 **Questionnaire Survey to Validate an Educational Program Intended for Orthopaedic Surgeons to Improve the Management of Severe Osteoporosis**
Irene Cerocchi*[1], Giuseppina Resmini[2], Antonio Capone[3], Giovanni Iolascon[4], Alfredo Nardi[5], Umberto Tarantino[6]. [1]PTV Foundation - University of Tor Vergata, Italy, [2]Treviglio Hospital, Italy, [3]University of Cagliari, Italy, [4]Second University of Naples, Italy, [5]Rovigo General Hospital, Italy, [6]Azienda Ospedaliera PTV, Ita
Disclosures: Irene Cerocchi, None

SA0342 **Reduced Rate of Bone Loss Predicts Survival Post-Fracture and May Mediate Mortality Risk Reduction Associated With Bisphosphonate Treatment: Data From An 18-Year Prospective Study From Dubbo Osteoporosis Epidemiology Study**
Dana Bliuc*, Nguyen Nguyen, Tuan Nguyen, John Eisman, Jacqueline Center. Garvan Institute of Medical Research, Australia
Disclosures: Dana Bliuc, None

SA0343 **The Impact of Two Educational Interventions on Osteoporosis Diagnosis and Treatment After a Fragility Fracture: a Randomized-controlled Trial**
Louis Bessette*[1], Sonia Jean[2], Sophie Roy[3], K. Shawn Davison[4], Louis-Georges Ste-Marie[5], Jacques Brown[1]. [1]Laval University, Canada, [2]Institut National De Sante Publique, Canada, [3]Institut national de santé publique du Québec, Canada, [4]Centre de recherche du CHUQ, Canada, [5]Hospital Saint-Luc, CHUM, Canada
Disclosures: Louis Bessette, Roche, 8; Roche, 2; Pfizer, 5; Novartis, 8; Merck, 2; Amgen, 8; Pfizer, 2; Amgen, 5; Bristol-Myers-Squibb, 2; Amgen, 2; Eli Lilly, 2; Abbott, 2; Abbott, 5; Merck, 5; Pfizer, 8; Warner Chilcott, 8; Roche, 5; Merck, 8; Novartis, 5

SA0344 **Validation of Diagnostic Codes for Subtrochanteric, Diaphyseal, and Typical Hip Fractures Using Administrative Claims Data**
Pongthorn Narongroeknawin[1], Nivedita Patkar[1], Bita Shakoory[1], Archana Jain[2], Jeffrey Curtis[1], Elizabeth Delzell[1], Philip Lander[1], Robert Lopez-Ben[1], Michael Pitt[3], Monika Safford[1], David Volgas[1], Kenneth Saag*[1]. [1]University of Alabama at Birmingham, USA, [2]University of Alabama, USA, [3]Radiology, University of Alabama at Birmingham, USA
Disclosures: Kenneth Saag, None

SA0345 **What was the FRAX® Value the Day Before the Fracture?**
Karine Briot*[1], Frédéric Sailhan[2], Antoine Babinet[2], JP Courpied[2], Philippe Anract[2], Christian Roux[1]. [1]Paris Descartes University, Rheumatology Department, Cochin hospital, France, [2]Paris Descartes University, Orthopaedics Department, Cochin hospital, Paris, France, France
Disclosures: Karine Briot, None

OSTEOPOROSIS EPIDEMIOLOGY: LIFESTYLE AND BONE (ALCOHOL, TOBACCO)

SA0346 **Decreased Risk Of Vertebral Fracture Is Associated With Low-Moderate Amount Of Alcohol Intake In A Random Sample Of Mexicans**
Laura Paola Bernal-Rosales*[1], Patricia Clark[2], Juan O Talavera-Piña[3], Margarita Deleze[2], Fidencio Cons-Molina[4]. [1]Hospital Infantil de México "Federico Gómez", Mexico, [2]Laboratorios Clinicos De Puebla, Mexico, [3]Centro Médico Nacional Siglo XXI, Mexico, [4]Unidad de Diagnóstico de Osteoporosis, Mexico
Disclosures: Laura Paola Bernal-Rosales, None

SA0347 **Effects of Cigarette Smoke Cadmium on Urine Calcium Excretion in Postmenopausal Women**
Maryka Bhattacharyya, Shahram Bozorgnia*. Medical College of Georgia, USA
Disclosures: Shahram Bozorgnia, None

OSTEOPOROSIS EPIDEMIOLOGY: MENOPAUSE AND GONADAL STEROIDS

SA0348 **Should Risk of Osteoporosis Restrict Weight Control for Other Health Reasons Among Postmenopausal Women ? - 10-year Follow-up Study**
Joonas Sirola*[1], Toni Rikkonen[2], Marjo Tuppurainen[3], Risto Honkanen[4], Heikki Kröger[3]. [1]University of Eastern Finland / Kuopio, Finland, [2]University of Eastern Finland, Campus of Kuopio, Finland, [3]Kuopio University Hospital, Finland, [4]University of Kuorio, Finland
Disclosures: Joonas Sirola, None

OSTEOPOROSIS EPIDEMIOLOGY: RISK FACTORS

SA0349 **Assessing Bone Health in Adult Premenopausal Females in Karachi - A Preliminary Report from Pakistan**
Aysha Khan*, Farhan Dar, Romaina Iqbal, Imran Siddiqui, Farooq Ghani. Aga Khan University, Pakistan
Disclosures: Aysha Khan, None

SA0350 **Association of Stressful Life Events with Incident Falls and Fractures in Older Men: the Osteoporotic Fractures in Men (MrOS) Study**
Howard Fink*[1], Michael Kuskowski[1], Lynn Marshall[2]. [1]GRECC, Minneapolis VA Medical Center, USA, [2]Oregon Health & Science University, USA
Disclosures: Howard Fink, None

SA0351 **Baseline Serum Interleukin-6 (IL-6), Tumor Necrosis Factor-α (TNF-α) and C-reactive Protein (CRP) Do Not Predict Subsequent Hip Bone Loss in Men or Women: The Framingham Osteoporosis Study**
Robert McLean*[1], Xiaochun Zhang[2], James Meigs[3], Joao Fontes[4], L. Adrienne Cupples[5], Douglas Kiel[2], Marian Hannan[6]. [1]Hebrew SeniorLife, Harvard Medical School, USA, [2]Hebrew SeniorLife, USA, [3]Massachusetts General Hospital, USA, [4]Framingham Heart Study & Boston University, USA, [5]Boston University School of Public Health, USA, [6]HSL Institute for Aging Research and Harvard Medical School, USA
Disclosures: Robert McLean, None

SA0352 **Comparison Between Logistic Regression and Artificial Neural Networks for Morphometric Vertebral Fractures Risk Assessment: New Data from GISMO Lombardia Database**
Cristina Eller Vainicher*[1], Ivana Santi[2], Marco Massarotti[3], Luca Pietrogrande[4], Matteo Longhi[5], Valter Galmarini[6], Giorgio Gandolini[7], Maurizio Bevilacqua[8], Iacopo Chiodini[1], Enzo Grossi[9]. [1]Fondazione IRCCS Cà Granda Ospedale Maggiore Policlinco Milano, Italy, [2]Istituto Geriatrico ASP IMMeS e Pio Albergo Trivulzio Milano, Italy, [3]IRCCS Humanitas Clinical Institute, Italy, [4]Ospedale S.Paolo - Università degli Studi di Milano, Italy, [5]IRCCS Galeazzi Milano, Italy, [6]AO Fatebenefratelli e Oftalmico Milano, Italy, [7]Don C. Gnocchi Foundation IRCCS Milan, Italy, [8]Ospedale L. Sacco - Polo Universitario, Italy, [9]Centro Diagnostico Italiano, Italy
Disclosures: Cristina Eller Vainicher, None

SA0353 **Differences in Skeletal and Non-Skeletal Factors in a Diverse Sample of Men With and Without Type 2 Diabetes Mellitus**
Ann Schwartz[1], Gretchen Chiu[2], Julia Dixon[2], Andre Araujo*[2]. [1]University of California, San Francisco, USA, [2]New England Research Institutes, USA
Disclosures: Andre Araujo, None

SA0354 **Gender Differences in Factors Associated with Falls in a Population-Based Cohort Study in Japan: The ROAD Study**
Shigeyuki Muraki*[1], Toru Akune[1], Hiroyuki Oka[1], Kozo Nakamura[2], Hiroshi Kawaguchi[3], Noriko Yoshimura[1]. [1]University of Tokyo, Japan, [2]The University of Tokyo, Japan, [3]University of Tokyo, Faculty of Medicine, Japan
Disclosures: Shigeyuki Muraki, None

SA0355 **Incidence of Subtrochanteric and Diaphyseal Fractures in Older White Women: Data from the Study of Osteoporotic Fractures**
Michael Kelly[1], Rosanna Wustrack*[1], Douglas Bauer[1], Lisa Palermo[1], Shane Burch[1], Katherine Wilt[2], Jane Cauley[3], Kristine Ensrud[4], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]California Pacific Medical Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Rosanna Wustrack, None

SA0356 **Increasing Kyphosis Predicts Worsening Mobility Among Older Community-Dwelling Women: A Prospective Cohort Study**
Wendy Katzman, DSc*[1], Eric Vittinghoff[2], Kristine Ensrud[3], Dennis Black[4], Deborah Kado[5]. [1]University of California San Francisco, USA, [2]University of California, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University of California, San Francisco, USA, [5]University of California, Los Angeles, USA
Disclosures: Wendy Katzman, DSc, Merck, Roche, Novartis, 2; Medtronic, Kyphon, 5

SA0357 **Lack of Association Between Osteoporosis and Coronary Artery Disease in Korean Men and Women**
Se Hwa Kim[1], Soo-Kyung Kim[2], Deok-Kyu Cho[1], Yun-Hyeong Cho[1], Sun-Ok Song*[1]. [1]Kwandong University College of Medicine, Myongji Hospital, South Korea, [2]Pochon CHA University College of Medicine, South Korea
Disclosures: Sun-Ok Song, None

SA0358 **Modification of the Osteoporosis Patient Assessment Questionnaire Using Item Response Theory Methods**
April Naegeli*[1], Russel Burge[1], Steven Watts[1], Timothy Stump[2], Deborah Gold[3], Stuart Silverman[4]. [1]Eli Lilly & Company, USA, [2]Indiana University School of Medicine, USA, [3]Duke University Medical Center, USA, [4]Cedars-Sinai/UCLA, USA
Disclosures: April Naegeli, Eli Lilly and Company, 3; Eli Lilly and Company, 1

SA0359 **Obesity in Adolescence and Bone Strength in Adulthood**
Kirsti Uusi-Rasi*[1], Marika Laaksonen[2], Olli Raitakari[3], Jorma Viikari[4], Mika Kähönen[5], Harri Sievänen[1]. [1]UKK Institute for Health Promotion Research, Finland, [2]University of Helsinki, Finland, [3]University oh Turku, Finland, [4]University of Turku, Finland, [5]University of Tampere, Finland
Disclosures: Kirsti Uusi-Rasi, None

SA0360 **Previous Fractures Increase Risk for Subsequent Fractures at Multiple Sites: Global Longitudinal Study of Osteoporosis in Women**
Stephen Gehlbach*[1], Kenneth Saag[2], Jonathan Adachi[3], Silvano Adami[4], Steven Boonen[5], Susan Greenspan[6], Coen Netelenbos[7], Philip Sambrook[8], Stuart Silverman[9], Julie Flahive[10], Ethel Siris[11]. [1]University of Massachusetts, USA, [2]University of Alabama at Birmingham, USA, [3]St. Joseph's Hospital, Canada, [4]University of Verona, Italy, [5]Center for Metabolic Bone Disease, Belgium, [6]University of Pittsburgh, USA, [7]VU Medical Center, The Netherlands, [8]Royal North Shore Hospital, Australia, [9]Cedars-Sinai/UCLA, USA, [10]COR, UMass Medical School, USA, [11]Columbia University College of Physicians & Surgeons, USA
Disclosures: Stephen Gehlbach, The Alliance for Better Bone Health (sanofi-aventis and Warner Chilcott), 2

SA0361 **Serum 25-Hydroxyvitamin D Levels, Mortality and Risk of Non-spine and Hip Fractures in Older White Women: Data from the Study of Osteoporotic Fractures**
Marc Hochberg*[1], Li-Yung Lui[2], Dennis Black[3], Jane Cauley[4], Peggy Cawthon[2], Kristine Ensrud[5], Lisa Fredman[6], Teresa Hillier[7], Steven Cummings[8]. [1]University of Maryland School of Medicine, USA, [2]California Pacific Medical Center Research Institute, USA, [3]University of California, San Francisco, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Minneapolis VA Medical Center / University of Minnesota, USA, [6]Boston University School of Public Health, USA, [7]Kaiser Center for Health Research, USA, [8]San Francisco Coordinating Center, USA
Disclosures: Marc Hochberg, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE MINERAL DENSITY

SA0362 **The Effect of Biological Aging On Bone Mineral Density and Fracture**
Kyoung Min Kim*[1], Kwang Joon Kim[2], Su-Jin Park[3], Gadi Jogeswar[3], Jami Ajita[3], Yumie Rhee[4], Sung-Kil Lim[5]. [1]Yonsei University, South Korea, [2]Severance Hospital, South Korea, [3]Yonsei university colleage of medicine, South Korea, [4]IUMS, Yonsei University, College of Medicine, South Korea, [5]Yonsei University College of Medicine, South Korea
Disclosures: Kyoung Min Kim, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE STRUCTURE

SA0363 **2010 YOUNG INVESTIGATOR AWARD**
Abnormal Microarchitecture and Decreased Stiffness Suggest That Postmenopausal Ankle Fractures Reflect Bone Fragility
Emily Stein*[1], Xiaowei Liu[2], Thomas Nickolas[3], Adi Cohen[3], Dionisio Ortiz[4], Valerie Thomas[3], Perry Yin[2], Felicia Cosman[5], Jeri Nieves[5], Donald McMahon[1], X Guo[2], Elizabeth Shane[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA, [4]SUNY Downstate College of Medicine, USA, [5]Helen Hayes Hospital, USA
Disclosures: Emily Stein, None

SA0364 **Better Skeletal Microstructure Confers Greater Mechanical Advantages in Chinese-American Women than Caucasian Women**
Xiaowei Liu*[1], Marcella Walker[1], Bini Zhou[1], Donald McMahon[2], Julia Udesky[1], George Liu[3], John Bilezikian[2], X Guo[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]New York Downtown Hospital, USA
Disclosures: Xiaowei Liu, None

SA0365 **Bone Microstructure During and After Lactation**
Åshild Bjørnerem*[1], Ali Ghasem-Zadeh[2], Thuy Vu[3], Ego Seeman[4]. [1]Department of Community Medicine, University of Tromsø, Norway, [2]Austin Health, University of Melbourne, Aus, [3]Endocrine Centre, Austin Health, University of Melbourne, Australia, [4]Austin Health, University of Melbourne, Australia
Disclosures: Åshild Bjørnerem, None

OSTEOPOROSIS PATHOPHYSIOLOGY: DIETARY FACTORS

SA0366 **Association of Homocysteine, Folate and Vitamin B12 with Bone Mineral Density and Biochemical Bone Turnover in Young Healthy Indians; A Cross Sectional Study**
Sushil Gupta[1], Nisha Nigil Haroon*[2]. [1]Sanjay Gandhi Post Graduate Institute of Medical Sciences, India, [2]University of Toronto, Canada
Disclosures: Nisha Nigil Haroon, None

SA0367 **Vitamin K Deficiency in Subjects with Severe Motor and Intellectual Disabilities**
Akiko Kuwabara[1], Akiko Nagae[2], Naoko Tsugawa[3], Kunihiko Tozawa[4], Mari Kitagawa[2], Hiroaki Kohno[5], Masakazu Miura[6], Toshio Okano[3], Masao Kumode[2], Kiyoshi Tanaka*[7]. [1]Osaka Shoin Women's University, Japan, [2]Biwako Gakuen Kusatsu Medical & Welfare Center for Children or Person with Severe Motor & intellectual disabilities, Japan, [3]Kobe Pharmaceutical University, Japan, [4]Sanko Junyaku Co., Ltd, Japan, [5]Orthopaedics, Japan, [6]Hokuriku University, Japan, [7]Kyoto Women's University, Japan
Disclosures: Kiyoshi Tanaka, None

OSTEOPOROSIS PATHOPHYSIOLOGY: GONADAL STEROIDS

SA0368 **2010 YOUNG INVESTIGATOR AWARD**
Estradiol Replacement Therapy Lowers Serum Sclerostin Levels in Postmenopausal Women
Faryal Mirza*[1], Pamela Taxel[1], Yun Ey Chung[2], Sandra Jastrzebski[3], Lawrence Raisz[1], Joseph Lorenzo[1]. [1]University of Connecticut Health Center, USA, [2]Univ. of Connecticut Health Center, USA, [3]Univ of Connecticut Health Center, USA
Disclosures: Faryal Mirza, None

SA0369 **Oxytocin Mediates the Anabolic Action of Estrogen on the Skeleton.**
Graziana Colaianni[1], Adriana DiBenedetto[2], Roberto Tamma[2], Giovanni Greco[2], Stefania Dell'Endice[2], Concetta Cuscito[2], Lucia Mancini[2], Ling-Ling Zhu[3], Xuan Liu[3], Yuanzheng Peng[3], Jianhua Li[3], Jammel Iqbal[3], Li Sun[4], Alberta Zallone[1], Mone Zaidi*[5]. [1]University of Bari Medical School, Italy, [2]Department of Human Anatomy & Histology, University of Bari, Italy, [3]The Mount Sinai Bone Program, Mount Sinai School of Medicine, USA, [4]Mount Sinai School of Medicine, USA, [5]Mount Sinai Medical Center, USA
Disclosures: Mone Zaidi, None

OSTEOPOROSIS PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

SA0370 **High Seretonin Levels and High Platelet Count are Associated with Low Bone Mineral Density in Elderly Men, MrOs Sweden**
Dan Mellstrom*[1], Malin Aronsson[2], Mattias Lorentzon[3], Osten Ljunggren[4], Magnus Karlsson[5], Ulf Lerner[6], Claes Ohlsson[7]. [1]Sahlgrenska University Hospital, Sweden, [2]Center for Bone & Arthritis Research at the Sahlgrenska Academy, Institute of Medicine & Geriatrics, University of Gothenburg, Sweden, Sweden, [3]Center for Bone Research at the Sahlgrenska Academy, Sweden, [4]Uppsala University Hospital, Sweden, [5]Skåne University Hospital Malmö, Lund University, Sweden, [6]Center for Bone Research at the Sahlgrenska Academy, Dept. of Internal Medicine, University of Gothenburg, Sweden, Sweden, [7]Centre for Bone & Arthritis Research, Sweden
Disclosures: Dan Mellstrom, None

SA0371 **Neural and Endocrine Signalling Interact to Control Bone and Adipose Homeostasis**
Ayse Zengin*, Ronaldo F Enriquez, Amy D Nguyen, Amanda Sainsbury, Herbert Herzog, John Eisman, Paul Baldock. Garvan Institute of Medical Research, Australia
Disclosures: Ayse Zengin, None

OSTEOPOROSIS PATHOPHYSIOLOGY: MISCELLANEOUS

SA0372 **Endogenous Opioid Effects on Bone Reveal a Critical Role of Hypothalamic Neuropeptide Y**
Frank Driessler*[1], Iris Wong[1], Ronaldo Enriquez[2], Brigitte Kieffer[3], Christoph Schwarzer[4], Amanda Sainsbury[2], Herbert Herzog[2], Jacqueline Center[1], John Eisman[1], Paul Baldock[1]. [1]Garvan Institute of Medical Research, Australia, [2]Garvan Institute, Australia, [3]IGBMC, France, [4]Institut für Pharmakologie, Austria
Disclosures: Frank Driessler, None

SA0373 **Reduced Bone Density Concomitant with Metabolic Abnormalities in Type 1 Diabetic (T1D) Patients**
Priscille Masse*[1], Carole C. Tranchant[2], Maisha B. Pacifique[2], Karen Ericson[3], Sharon M. Donovan[4], Edgard Delvin[5]. [1]University of Moncton, Canada, [2]Université de Moncton, Canada, [3]Indiana University-Purdue University, USA, [4]University of Illinois, USA, [5]Hopital Sainte-Justine, Canada
Disclosures: Priscille Masse, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE REMODELING

SA0374 **Disuse Osteopenia of the Forearm: What Accounts for Response Variability Following Immobilization?**
Joseph Spadaro*[1], Christina Centore[2], Rebecca Hickman[3], Jennifer Kelly[1]. [1]State University of New York Upstate Medical University, USA, [2]Department of Biomedical & Chemical Engineering, Syracuse University, USA, [3]Upstate Medical University, USA
Disclosures: Joseph Spadaro, None

SA0375 **Skeletal Changes in Type 2 Diabetic Goto-KaKizaKi Rats and Their Relationship with Expression of Bone Formation and Resorption Genes**
José L. Pérez-Castrillón*[1], Jose A. Riancho[2], Daniel De Luis[3], David Guede-Garcia[4], José Ramon Caeiro[5], Manuel Gonzalez-Sagrado[6], María Domingo-Andres[7], David Primo-Martin[6]. [1]Hospital Universitario Río Hortega. Instituto Endocrinología. Reticef, Spain, [2]Hospital Universitario Marques de Valdecilla.Reticef.Univiversidad de Cantabria, Spain, [3]Hospital Rio Hortega. Instituto de Endocrinologia.Reticef, Spain, [4]Trabeculae., Spain, [5]Trabeculae. Reticef, Spain, [6]Hospital Universitario Río Hortega. Reticef, Spain, [7]Reticef, Spain
Disclosures: José L. Pérez-Castrillón, None

OSTEOPOROSIS TREATMENT (CLINICAL): ANABOLIC AGENTS

SA0376 **Comparison of Transdermal and Subcutaneous Teriparatide Pharmacokinetics and Pharmacodynamics of Bone Markers in Postmenopausal Women**
Yael Kenan[1], Efrat Kochba[1], Michal Shahar[1], Hana Gadasi[1], Galit Levin[1], Ajit Suri[2], Kyoungah See[2], A. Joseph Foldes[3], Sophia Ish-Shalom*[4], Toshio Matsumoto[5], Robert Lindsay[6], Claus Christiansen[7], Robert Neer[8]. [1]TransPharma-Medical, Israel, [2]Eli Lilly & Company, USA, [3]Hadassah-Hebrew University Medical Center, Israel, [4]Rambam Health Care Campus, Technion Faculty of Medicine, Israel, [5]University of Tokushima Graduate School of Medical Sciences, Japan, [6]Helen Hayes Hospital, USA, [7]Nordic Bioscience, Denmark, [8]Massachusetts General Hospital, USA
Disclosures: Sophia Ish-Shalom, TransPharma-Medical, 1; TransPharma-Medical, 3

SA0377 **Does Anabolic Therapy Correct the Homogeneity In Bone Composition Associated With Osteoporosis?**
Adele Boskey*[1], Lyudmila Spevak[1], David Dempster[2], Anthony Hodsman[3]. [1]Hospital for Special Surgery, USA, [2]Columbia University, USA, [3]St. Joseph's Health Care, Canada
Disclosures: Adele Boskey, None

SA0378 **Effects of Teriparatide and Strontium Ranelate on Periosteal Bone Formation in the Ilium of Postmenopausal Women with Osteoporosis**
Robert Recker*[1], Fernando Marin[2], Jan Stepan[3], Qing Q. Zeng[2], Xiahoai Wan[2], Sophia Ish-Shalom[4], Federico G. Hawkins[5], Georgios Kapetanos[6], M[a] Pilar de la Peña[7], Jordi Farrerons[8], Yanfei Ma[9]. [1]Creighton University Osteoporosis Research Center, USA, [2]Lilly Research Labs, USA, [3]Charles Univ., Czech Republic, [4]Bone Metabolism Unit, Technion Univ., Israel, [5]Endocrinology, Hospital 12 de Octubre, Spain, [6]Orthopedic Surgery, Aristotelion Univ., Greece, [7]Clínica Médica Monraz, Mexico, [8]Internal Medicine, Hospital Sant Pau, Spain, [9]Eli Lilly & Company, USA
Disclosures: Robert Recker, Lilly, 8

SA0379 **Interactions of Nitric Oxide and Insulin-Like Growth Factor I, in Prevention of Bone Loss**
Sunil Wimalawansa*. Robert Wood Johnson Medical School, USA
Disclosures: Sunil Wimalawansa, None

SA0380 **Teriparatide Treatment in Japanese Subjects with Osteoporosis at High Risk of Fracture: Effect on Bone Mineral Density and Bone Turnover Markers during 12-Month, Randomized, Placebo-Controlled, Double-Blind and 12-Month Open-Label Study Periods**
Toshio Matsumoto*[1], Toshitsugu Sugimoto[2], Hideaki Sowa[3], Mika Tsujimoto[4], Miho Hatano[4], Takao Awa[4], Noriko Iikuni[4], Akimitsu Miyauchi[5], Margaret R Warner[6], Toshitaka Nakamura[7]. [1]University of Tokushima Graduate School of Medical Sciences, Japan, [2]Shimane University School of Medicine, Japan, [3]Eli Lilly Japan K.K., Japan, [4]Eli Lilly Japan KK, Japan, [5]Omura municipal Hospital, Japan, [6]Eli Lilly & Company, USA, [7]University of Occupational & Environmental Health, Japan
Disclosures: Toshio Matsumoto, Ono Pharmaceutical, 2; JAPAN TOBACCO INC, 5; Teijin Limited, 5; Chugai Pharmaceutical Co., Ltd., 5; Eli Lilly Japan KK, 5; Astellas Pharma Inc, 5; Asahi Chemical, 5; Daiichi Sankyo Company, 5

SA0381 **Vitamin D Insufficency as a Possible Explanation for Lack of BMD Increase in Bisphosphonate Pretreated Male Patients with Fractures and PTH 1-84 Therapy**
Friederike Kühne[1], Judith Haschka[1], Miriam Putz[1], Astrid Fahrleitner-Pammer[2], Heinrich Resch[1], Roland Kocijan[1], Christian Muschitz*[3]. [1]Medical Department II - The VINFORCE Study Group, Austria, [2]Department of Endocrinology - Medical University of Graz, Austria, [3]St. Vincent's Hospital, Austria
Disclosures: Christian Muschitz, None

OSTEOPOROSIS TREATMENT (CLINICAL): BISPHOSPHONATES

SA0382 **A Systematic Review of the Risk of Bisphosphonate-related Osteonecrosis of the Jaw in Osteoporosis**
Emileigh Mercer*[1], Sook-Bin Woo[2], Nathaniel Treister[2], Jerry Avorn[3], Sebastian Schneeweiss[3], Daniel Solomon[4]. [1]Brigham & Women's Hospital, USA, [2]Division of Oral Medicine & Dentistry, Brigham & Women's Hospital, USA, [3]Division of Pharmacoepidemiology, Department of Medicine, Brigham & Women's Hospital, USA, [4]Harvard Medical School, USA
Disclosures: Emileigh Mercer, None

SA0383 **Analgesic Effect of Minodronate, a New Bisphoshonate, on Back and Knee Pain in Elderly Subjects with Osteoporosis and/or Osteoarthritis**
Takuo Fujita*[1], Mutsumi Ohue[1], Yoshio Fujii[2], Akimitsu Miyauchi[3], Yasuyuki Takagi[4]. [1]Katsuragi Hospital, Japan, [2]Calcium Research Institute Kobe Branch, Japan, [3]Omura Municipal Hospital, Japan, [4]National Hyogo Chuo Hospital, Japan
Disclosures: Takuo Fujita, None

SA0384 **Biphosphonate-associated osteonecrosis of the jaw: An Ontario Survey**
Aliya Khan*, Lorena Rios Stange, Nazir Khan. McMaster University, Canada
Disclosures: Aliya Khan, NPS, 2; MERCK, 2; Novartis, 2; Aventis, 2; Amgen, 2

SA0385 **Bisphosphonate Use in Women and Men Who Are at High Risk for New Fractures and Living in Long-Term Care Homes: The Vitamin D Osteoporosis Study (ViDOS)**
Alexandra Papaioannou*[1], Sharon Marr[2], George Ioannidis[3], Courtney Kennedy[2], Lora Giangregorio[4], Laura Pickard[2], Jenna Johnson[1], Glenda Campbell[5], Jackie Stroud[5], Suzanne Morin[6], Robert Josse[7], Anna Sawka[8], Richard Crilly[9], Lehana Thabane[2], Lisa Dolovich[2], Mary Lou van der Horst[2], Norm Flett[2], Lynn Nash[2], Jonathan Adachi[10]. [1]Hamilton Health Sciences, Canada, [2]McMaster University, Canada, [3]Sympatico, Canada, [4]University of Waterloo, Canada, [5]Medical Pharmacies Group Inc, Canada, [6]McGill University Health Centre, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]Toronto General Hospital, Canada, [9]University of Western Ontario, Canada, [10]St. Joseph's Hospital, Canada
Disclosures: Alexandra Papaioannou, Amgen, 2; Amgen, 8; Merck Frosst, 8; Novartis, 2; Procter and Gamble, 2; sanofi-aventis, 8; Merck Frosst, 2; Eli Lilly, 8; Servier, 8; Eli Lilly, 2

SA0386 **Bisphosphonate-related Osteonecrosis of the Jaw; Clinical and Radiographical Difference Between the Conventional Chronic Osteomyelitis of the Jaw**
Tae-Geon Kwon*[1], So-Young Choi[2], Chang-Hyeon An[3]. [1]Kyungpook National University, School of Dentistry, South Korea, [2]Kyungpook National University, School of Dentistry, Oral & Maxillofacial Surgery, South Korea, [3]Kyungpook National University, School of Dentistry, Oral & Maxillofacial Radiology, South Korea
Disclosures: Tae-Geon Kwon, None

SA0387 **Bisphosphonates and Glucocorticoid Osteoporosis in Men: Results of a Randomized Controlled Trial Comparing Zoledronic Acid With Risedronate**
Philip Sambrook*[1], Christian Roux[2], Jean-Pierre Devogelaer[3], Kenneth Saag[4], C Lau[5], Jean-Yves Reginster[6], C Bucci-Rechtweg[7], G Su[7], David Reid[8]. [1]Royal North Shore Hospital, Australia, [2]Hospital Cochin, France, [3]St. Luc University Hospital, Belgium, [4]University of Alabama at Birmingham, USA, [5]University of Hong Kong, Hong Kong, [6]CHU Centre Ville, Belgium, [7]Novartis Pharmaceuticals Corporation, USA, [8]University of Aberdeen, United Kingdom
Disclosures: Philip Sambrook, Roche, Merck, Sanofi - Aventis, Servier, and Novartis, 8; Australian National Health and Medical Research Council, 2; Roche, Merck, Sanofi - Aventis, Servier, and Novartis, 5

SA0388 **BMD Response to a Novel Delayed-release Risedronate 35 mg Once-a-Week Formulation Taken With or Without Breakfast: One Year Results**
Michael McClung*[1], Michael Bolognese[2], Paul Miller[3], Joseph Sarley[4], Leigh McCullough[5], Jacques Brown[6], Robert Recker[7]. [1]Oregon Osteoporosis Center, USA, [2]Bethesda Health Research, USA, [3]Colorado Center for Bone Research, USA, [4] Procter & Gamble Pharmaceuticals Health Care Research Center, USA, [5]Warner Chilcott Phamaceuticals, USA, [6]Laval University, Canada, [7]Creighton University Osteoporosis Research Center, USA
Disclosures: Michael McClung, Warner Chilcott Pharmaceuticals, 5

SA0389 **Comparison of Risedronate and Alendronate on Bone Remodeling, Architecture and Material Properties; a Cross-sectional Study in Women with Postmenopausal Osteoporosis**
Eleftherios Paschalis[1], Roger Phipps*[2], Frank Ebetino[3], Babul Borah[4]. [1]Ludwig Boltzmann Institute for Osteology, Austria, [2]Husson University School of Pharmacy, USA, [3]Procter & Gamble Pharmaceuticals, Inc., USA, [4]Procter & Gamble Pharmaceuticals, USA
Disclosures: Roger Phipps, Warner Chilcott Pharmaceuticals, 5

SA0390 **Disintegration Times of Brand and Generic Bisphosphonates Available in Canada**
W.P. Olszynski*[1], Jonathan Adachi[2], Jana Davison[3], K. Shawn Davison[4]. [1]Midtown Medical Center (#103), Canada, [2]St. Joseph's Hospital, Canada, [3]a priori medical sciences inc., Canada, [4]Laval University, Canada
Disclosures: W.P. Olszynski, None

SA0391 **Histologic Analysis of the Lateral Femoral Cortex in Two Patients, One with a Biphosphonate Related Femoral Fracture and the Other with a Pending Fracture**
Richard Dell[1], Eric Eisemon*[2], Vincent Vigorita[2]. [1]Kaiser, USA, [2]Maimonides Medical Center, USA
Disclosures: Eric Eisemon, None

SA0392 **Randomized Placebo-controlled Trial of Risedronate in Patients with Crohn's Disease and Osteopenia**
Marieke Pierik[1], Daan W Hommes[2], Gerard Dijkstra[3], Ruud A van Hogezand[2], Paul Lips*[4], Maurice Russel[5], Ad A. van Bodegraven[6], C.J. van der Woude[7], Lex Van De Langerijt[8], Pieter Stokkers[9], Geeske M.E.E. Peeters[6], Bas Oldenburg[10], Coen (J.C.) Netelenbos[6]. [1]Academisch Ziekenhuis Maastricht, Netherlands, [2]Leiden University Medical Center, Netherlands, [3]Academisch Ziekenhuis Groningen, Netherlands, [4]VU University Medical Center, The Netherlands, [5]Medisch Spectrum Twente, Netherlands, [6]VU University Medical Center, Netherlands, [7]Erasmus Medical Center, Netherlands, [8]Sanofi-aventis, The Netherlands, [9]Academic Medical Center, Netherlands, [10]University Medical Center, Netherlands
Disclosures: Paul Lips, Sanofi-Aventis, 2

SA0393 **The Effect of Long Term Bisphosphonate Therapy on Cortical Thickness Ratio of the Proximal Femur**
Quang Ton*[1], Kashif Ashfaq[2], John Kleimeyer[3], Aasis Unnanuntana[2], Joseph Lane[2]. [1]Englewood Hospital & Medical Center, USA, [2]Hospital for Special Surgery, USA, [3]Weill Cornell Medical College, USA
Disclosures: Quang Ton, None

SA0394 **Validation of Electronic Coding in Women with Diaphyseal Femur Fractures in a Defined Population**
Susan Ott*[1], Leslie Spangler[2], Delia Scholes[3]. [1]University of Washington Medical Center, USA, [2]Group Health Cooperative, USA, [3]Group Health Cooperative, Group Health Research Institute, USA
Disclosures: Susan Ott, None

SA0395 **Zoledronate Prevents Tibial Bone Loss in Postmenopausal Women with Osteoporosis**
Albrecht Popp*, Helene Buffat, Christoph Senn, Isolde Okere, Romain Perrelet, Kurt Lippuner. Osteoporosis Policlinic, University of Bern, Switzerland
Disclosures: Albrecht Popp, Received speaker's fees of andl or was member of a advisory board of Amgen, Daiichi Sankyo, Eli Lilly, MSD, Synthes., 99

SA0396 **Zoledronic Acid Improves Health-related Quality of Life in Patients with Hip Fracture: Results of HORIZON-RFT**
Jonathan Adachi*[1], Kenneth Lyles[2], Cathleen Colon-Emeric[2], Steven Boonen[3], C Pieper[2], Carlos Mautalen[4], Lars Hyldstrup[5], Christopher Recknor[6], L Nordsletten[7], C Bucci-Rechtweg[8], G Su[8], Erik Fink Eriksen[9], Jay Magaziner[10]. [1]St. Joseph's Hospital, Canada, [2]Duke University Medical Center, USA, [3]Center for Metabolic Bone Disease, Belgium, [4]Centro de Osteopatías Médicas, Argentina, [5]Hvidovre Hospital, Denmark, [6]United Osteoporosis Center, USA, [7]Ullevål University Hospital, Norway, [8]Novartis Pharmaceuticals Corporation, USA, [9]Oslo University Hospital, Norway, [10]University of Maryland, Baltimore, USA
Disclosures: Jonathan Adachi, Amgen, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Pfizer, Procter & Gamble, and Roche, 2; Amgen, AstraZeneca, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Pfizer, Procter & Gamble, Roche, Sanofi-Aventis, and Servier, 8; Amgen, AstraZeneca, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Pfizer, Procter & Gamble, Roche, Sanofi-Aventis, and Servier, 5

OSTEOPOROSIS TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

SA0397 **Compliance and Efficacy of Ibandronate 3 mg iv Quarterly vs. Oral Alendronate - Real World Data with the Non-interventional Study VIVA**
Peyman Hadji*. Philipps-University of Marburg, Germany
Disclosures: Peyman Hadji, None

SA0398 **Identifying Factors Associated with Patients Making the link Between a Fragility Fracture and Osteoporosis**
Rebeka Sujic*[1], Monique Gignac[2], Rhonda Cockerill[3], Dorcas Beaton[4]. [1]St. Michael's Hospital, Canada, [2]Toronto Western Research Institute, Canada, [3]University of Toronto, Canada, [4]Keenan Research Centre, St Michael's Hospital, Canada
Disclosures: Rebeka Sujic, None

SA0399 **Influence of a Written or Oral Patient Support Program on Adherence with a Weekly Bisphosphonate in Comparison to Standard Information – Results of the COMBI-Study**
Volker Ziller*[1], Karina Höntsch[2], Ioannis Kyvernitakis[2], Berna Seker-Pektas[2], Peyman Hadji[3]. [1]Philipps-University-Marburg, Germany, [2]Philipps-University Marburg, Germany, [3]Philipps-University of Marburg, Germany
Disclosures: Volker Ziller, Procter and Gamble Pharmaceuticals, 8; Daichi Sankyo Germany, 8; Lilly Germany, 8; Novartis, 8

SA0400 **Secondary Fracture Prevention in Home Health Care: Initial Results from a Group Randomized Trial**
Meredith Kilgore*[1], Ryan Outman[2], Kenneth Saag[2], Julie Locher[2], Jeroan Allison[3], Jeffrey Curtis[2]. [1]University of Alabama At Birmingham School of Public Health, USA, [2]University of Alabama at Birmingham, USA, [3]University of Massachusetts School of Medicine, USA
Disclosures: Meredith Kilgore, Amgen, Inc., 2; Eli Lilly, 2; Amgen, Inc., 5

SA0401 **What Predicts Inititation of Osteoporosis Treatment after Fracture: Education, Organisation, Socio-economic Status**
Nathalie Saidenberg-kermanac'h*. avicenne hospital (AP-HP), France
Disclosures: Nathalie Saidenberg-kermanac'h, None

OSTEOPOROSIS TREATMENT (CLINICAL): GONADAL STEROIDS AND SERMS

SA0402 **Efficacy and Safety of Bazedoxifene in Postmenopausal African American Women**
Amy B. Levine*[1], Monika Ciesielska[1], Arkadi Chines[2]. [1]Pfizer Inc, USA, [2]Wyeth Research, USA
Disclosures: Amy B. Levine, Pfizer Inc, 3

SA0403 **The effect of Raloxifene on Vertebral and Non-vertebral Fracture Risk Is Independent of Baseline FRAX® Probability**
John Kanis[1], Helena Johansson[2], Anders Oden[2], Eugene McCloskey*[3]. [1]University of Sheffield, Belgium, [2]WHO Collaborating Centre for Metabolic Bone Diseases, United Kingdom, [3]University of Sheffield, United Kingdom
Disclosures: Eugene McCloskey, None

OSTEOPOROSIS TREATMENT (CLINICAL): HEALTH ECONOMICS

SA0404 **Impact of Comorbidities on Hospitalization Costs Following Hip Fracture**
Lucas Nikkel*[1], Christopher Hollenbeak[2], Kevin Black[2], Edward Fox[2]. [1]Pennsylvania State University College of Medicine, USA, [2]Pennsylvania State Hershey Medical Center, USA
Disclosures: Lucas Nikkel, None

SA0405 **Physician Notification From Administrative Health Data Is A Cost-Effective Post-Fracture Intervention: Interim Report From A Randomized Controlled Trial**
William Leslie*, Patricia Caetano. University of Manitoba, Canada
Disclosures: William Leslie, None

OSTEOPOROSIS TREATMENT (CLINICAL): OTHER AGENTS

SA0406 **A Randomized Controlled Trial of Music-Based Multitask Training on Gait, Balance and Falls Risk**
Andrea Trombetti*[1], Mélany Hars[1], Silvia Del Bianco[2], François Herrmann[1], Serge Ferrari[3], Rene Rizzoli[4]. [1]University Hospital of Geneva, Switzerland, [2]Jaques-Dalcroze Institute, Switzerland, [3]Geneva University Hospital & Faculty of Medicine, Switzerland, [4]University Hospital, Switzerland
Disclosures: Andrea Trombetti, None

SA0407 **Analysis of Response to Denosumab in Postmenopausal Osteoporosis**
Richard Eastell*[1], Li-Yung Lui[2], Douglas Bauer[3], Cesar Libanati[4], Steven Boonen[5], Ian Reid[6], Steven Cummings[7]. [1]University of Sheffield, United Kingdom, [2]California Pacific Medical Center Research Institute, USA, [3]University of California, San Francisco, USA, [4]Amgen Inc, USA, [5]Center for Metabolic Bone Disease, Belgium, [6]University of Auckland, New Zealand, [7]San Francisco Coordinating Center, USA
Disclosures: Richard Eastell, Amgen, Inc., 5

SA0408 **Effects of the Cathepsin K Inhibitor, ONO-5334, on BMD as Measured by 3D QCT in the Hip and the Spine After 12 Months Treatment**
Klaus Engelke*[1], Shinichi Nagase[2], Thomas Fuerst[3], Richard Eastell[4], Harry Genant[5], Maria Small[2], Tomohiro Kuwayama[2], Steve Deacon[2]. [1]University of Erlangen, Germany, [2]ONO PHARMA UK LTD, United Kingdom, [3]Synarc, Inc., USA, [4]University of Sheffield, United Kingdom, [5]UCSF/Synarc, USA
Disclosures: Klaus Engelke, ONO PHARMA UK LTD, 5; Ono Pharmaceutical Co., Ltd., 5

SA0409 **Glucocorticoid Use Cancels the Positive Effects of Biologics on Bone Metabolism in Patients with Active Rheumatoid Arthritis**
Tadashi Okano*, Masahiro Tada, Yuko Sugioka, Shigeyuki Wakitani, Hiroaki Nakamura, Tatsuya Koike. Osaka City University Medical School, Japan
Disclosures: Tadashi Okano, None

SA0410 **Hip QCT Results From the FREEDOM Trial: Evidence for Positive BMD/BMC Changes in Integral, Trabecular, and Cortical Bone With Denosumab**
Harry Genant*[1], Klaus Engelke[2], Jose Ruben Zanchetta[3], Arne Hoiseth[4], Chui Kin Yuen[5], Sigitas Stonkus[6], Michael Bolognese[7], Edward Franek[8], Thomas Fuerst[9], Hoi-Shen Radcliffe[10], Cesar Libanati[11], Michael McClung[12]. [1]UCSF/Synarc, USA, [2]Synarc, Germany, [3]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [4]Curato Røntgen, Norway, [5]Manitoba Clinic, Canada, [6]Kaunas University of Medicine, Lithuania, [7]Bethesda Health Research, USA, [8]Central Clinical Hospital MSWiA, Poland, [9]Synarc, Inc., USA, [10]Amgen Inc, United Kingdom, [11]Amgen Inc, USA, [12]Oregon Osteoporosis Center, USA
Disclosures: Harry Genant, Amgen, Merck, GSK, Roche, Servier, BMS, Lilly, 8; Synarc, 1; Amgen, Merck, GSK, Roche, Servier, BMS, Lilly, 5

SA0411 **Postmenopausal Women with PON1 172TT Genotype Respond to Lycopene Intervention With a Decrease in Oxidative Stress Parameters and Bone Resorption Marker NTx**
Leticia Rao*[1], Erin Mackinnon[2], Ahmed El-Sohemy[3], Robert Josse[4], Venketeshwer Rao[3]. [1]University of Toronto, St. Michael's Hospital, Canada, [2]Department of Medicine, St Michael's Hospital & University of Toronto, Canada, [3]Department of Nutritional Sciences, University of Toronto, Canada, [4]St. Michael's Hospital, University of Toronto, Canada
Disclosures: Leticia Rao, Research Grants, 2

SA0412 **Relevance of Serum Undercalboxylated Osteocalcin(ucOC) in the Treatment of Women with Osteoporosis**
Humiki Hirahara[1], Hiromi Yoshikata[2], Rituko Kikuchi[1], Yoshiyuki Nomura*[1], Kentaro Kurasawa[1], Osamu Chaki[3]. [1]Yokohama City Univ., Japan, [2]Yokohama City Univ., USA, [3]Yokohama City University, Japan
Disclosures: Yoshiyuki Nomura, None

OSTEOPOROSIS TREATMENT (CLINICAL): QUALITY OF LIFE

SA0413 **Effect of Vertebroplasty on the Quality of Life of Patients with Pain Related to Osteoporotic Vertebral Fractures. Preliminary Results of a Randomized Trial.**
Angels Martinez-Ferrer*[1], Pilar Peris[2], Jordi Blasco[3], Josep-LLuís Carrasco[4], Ana Monegal[5], Jaume Pomés[6], Nuria Guanabens[7]. [1]Hospital Clinic Barcelona, Spain, [2]Hospital Clinic of Barcelona, Spain, [3]Department of Radiology. Hospital Clinic, Spain, [4]Hospital Clinic, Spain, [5]Department of Rheumatology. Hospital Clinic Barcelona, Spain, [6]Department of Radiology. Hospital Clínic Barcelona, Spain, [7]Universitat De Barcelona, Spain
Disclosures: Angels Martinez-Ferrer, None

SA0414 **Health-related Quality of Life after Vertebral or Hip Fracture in Women - Short Health Scale Useful for Clinical Practice?**
Inger Hallberg*, Göran Toss, Anna-Christina Ek, Henrik Hjortswang, Margareta Bachrach-Lindström. Linköping University, Sweden
Disclosures: Inger Hallberg, None

OSTEOPOROSIS TREATMENT (CLINICAL): VITAMIN D AND METABOLITES

SA0415 **Alfacalcidol Improves Muscle Power, Muscle Function and Balance in Elderly Patients with Reduced Bone Mass**
Erich Schacht[1], Johann Diederich Ringe*[2]. [1]ZORG (Zurich Osteoporosis Research Group), Switzerland, [2]Medical Clinic 4, Klinikum Leverkusen (University of Cologne), Germany
Disclosures: Johann Diederich Ringe, TEVA/AWD.phama, 5

SA0416 **Concentrations of the C-3 epimer of 25-hydroxyvitamin D3 in Adult, Child and Neonate Serum Samples**
Gary Lensmeyer*[1], Michael Poquette[2], Donald Wiebe[2], Anita Iwanski[2], Neil Binkley[3]. [1]GLensmeyer@uwhealth.org, USA, [2]University of Wisconsin Hospital & Clinics Clinical Toxicology Laboratory, USA, [3]University of Wisconsin, USA
Disclosures: Gary Lensmeyer, None

SA0417 **Effects of Risedronate with Cholecalciferol in Osteoporosis: Results of a Multicenter, Randomized Controlled Trial**
Hoyeon Chung*[1], Jung-Min Koh[2], Sung-hwan Moon[3], Yoon-Sok Chung[4], Byung-koo Yoon[5], Moo-Il Kang[6], Hyun-Koo Yoon[7], Hyoung-moo Park[8]. [1]Kyung Hee University, South Korea, [2]Asan Medical Center, South Korea, [3]Yonsei University, South Korea, [4]Ajou University School of Medicine, South Korea, [5]Sungkyunkwan University, South Korea, [6]Seoul St. Mary's Hospital, South Korea, [7]Cheil Hospital & Women's Healthcare Center, South Korea, [8]Chung-ang University, South Korea
Disclosures: Hoyeon Chung, None

SA0418 **Efficacy of Rapid Oral Replacement of Vitamin D: 300,000 IU and 150,000 for Severe and Moderate Deficiency**
Muhammad Javaid*[1], Kerri Rance[2], Vicki Toghill[2], William Fraser[3], John Wass[4]. [1]University of Oxford, United Kingdom, [2]Nuffield Orthopaedic Centre, United Kingdom, [3]Royal Liverpool University Hospital, United Kingdom, [4]Holmby House, United Kingdom
Disclosures: Muhammad Javaid, None

SA0419 **Weekly Alendronate Plus Vitamin D_3 5600 IU vs. Usual Care: Effect on Serum Hydroxyvitamin D in Osteoporotic Postmenopausal Women with Vitamin D Inadequacy - 6-month Results of a Randomized Trial**
Stuart Ralston*[1], Neil Binkley[2], Steven Boonen[3], Douglas Kiel[4], Christian Roux[5], Suvajit Samanta[6], Elizabeth Rosenberg[6], Arthur Santora[7]. [1]University of Edinburgh, United Kingdom, [2]University of Wisconsin, USA, [3]Center for Metabolic Bone Disease, Belgium, [4]Hebrew SeniorLife, USA, [5]Hospital Cochin, France, [6]Merck & Co., Inc., USA, [7]Merck Research Laboratories, USA
Disclosures: Stuart Ralston, Merck, 5

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): ANABOLIC AGENTS

SA0420 **A Catechol-derivative Inhibits Tph1 Synthesis and Cures Osteoporosis in Ovariectomized Mice**
Vijay Yadav*, Yuli Xie, Gerard Karsenty, Patricia Ducy. Columbia University, USA
Disclosures: Vijay Yadav, None

SA0421 **Decreased Oxidative Stress and Greater Bone Anabolism in the Aged, as Compared to the Young, Murine Skeleton by Parathyroid Hormone**
Robert Jilka*, Maria Jose Almeida, Elena Ambrogini, Li Han, Paula Roberson, Annick DeLoose, Robert Weinstein, Stavros Manolagas. University of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, Radius Health, Inc., 1

SA0422 **Exploring the LRP5 SOST Interacting Surface to Identify Small Molecule Inhibitor of SOST Action.**
David Halladay*[1], Amy Sato[2], Yanfei Ma[1], Pamela Shetler[1], Heather Bullock[1], Venkatesh Krishnan[1]. [1]Eli Lilly & Company, USA, [2]DePauw University, USA
Disclosures: David Halladay, None

SA0423 **Monitoring of Intermittent PTH(1-34) Treatment by Serum PINP in Adult Ovariectomized Osteopenic Rats**
Jussi Halleen*[1], ZhiQi Peng[1], Katja Fagerlund[1], Tiina A. Suutari[1], Jukka Vääräniemi[1], Mari Suominen[1], Jukka Rissanen[2], Harrie C.M. Boonen[3], Trine S.R. Neerup[4], Hanne H. Bak[4], Jukka Morko[5]. [1]Pharmatest Services Ltd, Finland, [2]Pharmatest Services,Limited, Finland, [3]University of Copenhagen, Denmark, [4]Zealand Pharma A/S, Denmark, [5]Pharmatest Services Ltd, Fin
Disclosures: Jussi Halleen, IDS Ltd, 5

SA0424 **Osteoporosis from type 1 Diabetes is Reversed by Intermittent Parathyroid Hormone Stimulation of Bone Formation**
Katherine Motyl*, Laura McCabe. Michigan State University, USA
Disclosures: Katherine Motyl, None

SA0425 **Sclerostin Antibody Treatment Enhances Fracture Healing and Increases Bone Mass and Strength in Non-fractured Bones in an Adult Rat Closed Femoral Fracture Model**
CY Li*, HL Tan, M Barrero, E Lee, FJ Asuncion, MS Ominsky, HZ Ke. Amgen Inc, USA
Disclosures: CY Li, Amgen Inc., 1; Amgen Inc., 3

SA0426 **Strontium Stabilizes β-catenin by Activating Wnt Signaling**
Zhaoyang Li*[1], Tao Qiu[2], Mei Wan[2], Xu Cao[3], William Lu[4]. [1]The University of Hong Kong, Peoples Republic of China, [2]Johns Hopkins University School of Medicine, USA, [3]Johns Hopkins University, USA, [4]The University of Hong Kong, Hong Kong
Disclosures: Zhaoyang Li, None

SA0427 **The Osteoanabolic Effect of Systemic Dkk1 Inhibition is Associated with Canonical Lrp5/6 and Erk Signaling in Bone and is Modulated by N-cadherin in Osteoblasts**
Valerie Salazar*[1], Jin Norris[2], Lisa Huang[2], Gabriel Mbalaviele[2], Roberto Civitelli[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University School of Medicine, USA
Disclosures: Valerie Salazar, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): BISPHOSPHONATES

SA0428 **A Novel Bisphosphonate with Potent Anabolic Action**
Hisashi Shinoda*[1], Keiko Suzuki[2], Mirei Chiba[1], Shinobu Murakami[1], Sadaaki Takeyama[3], Yuka Narusawa[1], Hiroaki Hirotani[1], Shogi Yamada[2], Kaoru Igarashi[1], Paula Stern[4]. [1]Tohoku University Graduate School of Dentistry, Japan, [2]Showa University Graduate School of Dentistry, Japan, [3]Hokkaido University Graduate School of Dentistry, Japan, [4]Northwestern University Medical School, USA
Disclosures: Hisashi Shinoda, None

SA0429 **Active Site Mutants of Farnesyl Pyrophosphate Synthase Help to Characterise Inhibition by Nitrogen Containing Bisphosphonates**
Maria Tsoumpra*[1], Bobby L. Barnett[2], Richard L. Walter[3], Frank H. Ebetino[4], Robert G.G. Russell[5], Udo Oppermann[5], James E. Dunford[5]. [1]Oxford University, United Kingdom, [2]Chemistry Department, University of Cincinnati, USA, [3]Shamrock Structures, USA, [4]Warner Chilcott, USA, [5]Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences, Oxford University, United Kingdom
Disclosures: Maria Tsoumpra, None

SA0430 **Prolonged Bisphosphonate Release after Treatment in Women with Osteoporosis. Relationship with Bone Turnover**
Pilar Peris*[1], Merce Torra[2], Ana Monegal[2], Varinia Olivares[3], Raquel Reyes[3], Angels Martinez-Ferrer[2], Nuria Guanabens[4]. [1]Hospital Clinic of Barcelona, Spain, [2]Hospital Clinic Barcelona, Spain, [3]Hospital Clinic, Spain, [4]Universitat De Barcelona, Spain
Disclosures: Pilar Peris, None

SA0431 **Skeletal Uptake and Desorption of Fluorescently Labeled Bisphosphonate is Anatomic Site-Dependent**
Demin Wen[1], Liu Qing[2], Gerald Harrison[1], Ellis Golub[3], Sunday Akintoye*[1]. [1]University of Pennsylvania, USA, [2]The Fourth Military Medical University, China, [3]University of Pennsylvania School of Dental Medicine, USA
Disclosures: Sunday Akintoye, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): CALCIUM AND DIETARY FACTORS

SA0432 **Insulin like Growth Factor and Bone Mass is Influenced by Higher Protein Intake During One Year of Caloric Restriction**
Deeptha Sukumar*[1], Hasina Ambia- Sobhan[1], Robert Zurfluh[1], Theodore Stahl[2], Sue Shapses[1]. [1]Nutritional Sciences, Rutgers University, USA, [2]Department of Radiology, University of Medicine & Dentistry/Robert Wood Johnson Medical School, USA
Disclosures: Deeptha Sukumar, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): GONADAL STEROIDS AND SERMS

SA0433 **A Comparison of the Effects on Bone, Muscle and Fat Tissue between a more Potent Synthetic Androgen 7α-methyl-19-nortestosterone (MENT) and Testosterone: Evidence from a Preclinical Hypogonadal Rat Model**
Filip Callewaert[1], Maarten Morreels[1], Narender Kumar[2], Regine Sitruk-Ware[2], Frank Claessens[1], Steven Boonen[3], Dirk Vanderschueren*[1]. [1]Catholic University of Leuven, Belgium, [2]Population Council, USA, [3]Center for Metabolic Bone Disease, Belgium
Disclosures: Dirk Vanderschueren, None

SA0434 **Equol Decreased Bone Resorption in Equol Non-producing Postmenopausal Japanese Women: a Pilot Randomized Placebo-Controlled Trial**
Tomomi Ueno[1], Yoshiko Ishimi[2], Junko Ezaki[3], Shigeto Uchiyama[4], Yasuhiro Fujii[4], Yuko Tousen*[2], Mamoru Nishimuta[5]. [1]Otsuka Pharmaceutical Co., Ltd., Japan, [2]National Institute of Health & Nutrition, Japan, [3]Food Function & Labeling Program, National Institute of Health & Nutririon, Japan, [4]Saga Nutraceutricals Research Institute, Otsuka Pharmaceutical Co., Ltd., Japan, [5]Chiba Prefectural University of Health Sciences, Japan
Disclosures: Yuko Tousen, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): OTHER AGENTS

SA0435 **A Multi-Modality Imaging Comparison of Odanacatib to Alendronate in the Ovariectomized Rhesus Monkey**
Paul McCracken*[1], Richa Jayakar[2], Mona Purcell[1], Parker Mathers[1], Alan Savitz[1], John Szumiloski[1], Jacquelynn Cook[1], Bernie Dardzinski[2], Thomas Hangartner[3], Sherri Motzel[1], Richard Hargreaves[1], Jeffrey Evelhoch[1], Le Thi Duong[1], Donald Williams[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc., USA, [3]Wright State University, USA
Disclosures: Paul McCracken, None

SA0436 **Atorvastatin Attenuates Lrp5/Wnt3a in the eNOS null mouse experimental hypercholesterolemic femurs**
Jeffrey Park*[1], Malayannan Subramaniam[2], John R. Hawse[2], Amy Flores[1], Thomas C. Spelsberg[2], Nalini Rajamannan[3]. [1]Northwestern University, USA, [2]Mayo Clinic, USA, [3]Northwestern University Medical School, USA
Disclosures: Jeffrey Park, None

SA0437 **Differential Effects of Odanacatib Compared to Alendronate on Bone Turnover Markers in Adult Ovariectomized Rhesus Monkeys**
Le Thi Duong[1], Sherri Motzel[2], Gregg Wesolowski[3], Maureen Pickarski*[3]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc, USA, [3]Merck & Co., Inc., USA
Disclosures: Maureen Pickarski, Merck & Co., Inc, 3

SA0438 **Efficacy of ONO-5334, a Cathepsin K Inhibitor, on Bone Mass and Strength in Ovariectomized Cynomolgus Monkeys**
Hiroyuki Yamada*, Hiroshi Mori, Akiko Kunishige, Satoshi Nishikawa, Yasuaki Hashimoto, Makoto Tanaka, Tsutomu Shiroya. ONO Pharmaceutical Co., Ltd., Japan
Disclosures: Hiroyuki Yamada, None

SA0439 **N-Butyryl Glucosamine (GlcNBu) Preserves Bone in the Ovariectomised Rat Model: Possible Mechanism through Serotonin Reuptake Inhibition**
Karen Rees_Milton*[1], Marc Grynpas[2], Tassos Anastassiades[3]. [1]Dept of Medicine, Queen's University, Canada, [2]Samuel Lunenfeld Research Institute, Canada, [3]Queen's University, Canada
Disclosures: Karen Rees_Milton, None

SA0440 **Quantitative Computed Tomography Based Finite Element Analysis to Estimate *In-Vivo* Bone Strength of Proximal Femur in Odanacatib Treated Rhesus Monkeys**
Antonio Cabal*[1], Seetha Ramudu Kummari[2], Stephen Krause[1], Mona Purcell[1], Paul McCracken[3], Le Thi Duong[3], Bernard Dardzinski[1], Sherri Motzel[1], Donald Williams[1]. [1]Merck & Co., Inc., USA, [2]Case Western Reserve University, USA, [3]Merck Research Laboratories, USA
Disclosures: Antonio Cabal, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): VITAMIN D AND METABOLITES

SA0441 **Bone Quality in Monkeys Treated with ED-71, a Vitamin D Analogue**
Marc Grynpas*[1], Richard Cheung[2], Susan Y. Smith[3], Hitoshi Saito[4]. [1]Samuel Lunenfeld Research Institute, Canada, [2]Lunenfeld Research Institute, Canada, [3]Charles River Laboratories, Canada, [4]Chugai Pharmaceutical Company, Limited, Japan
Disclosures: Marc Grynpas, contract, 5

SA0442 **Increased Bone Cell Vitamin D Activity: The Basis for Synergy between Dietary Calcium and Vitamin D for Bone Health?**
Howard Morris*[1], Alice Lee[2], Rebecca Sawyer[3], Shunji Iida[4], Peter O'Loughlin[5], Paul Anderson[3]. [1]SA Pathology, Australia, [2]Discipline of Physiology, University of Adelaide, Australia, [3]Endocrine Bone Laboratory, Hanson Institute, Australia, [4]Oral Functional Science, Hokkaido University, Japan, [5]Chemical Pathology, SA Pathology, Australia
Disclosures: Howard Morris, None

SA0443 **Vitamin D Malnutrition is Associated with a Substantially Lower Bone Mass in Northern Chinese Older Postmenopausal Women**
Qian Zhang*[1], Xiaoqi Hu[2], Cuixia Wang[2], Ying Liu[2], Yifan Duan[2], Richard Prince[3], Kun Zhu[4]. [1]Institute of Nutrition & Food Safety, Chinese Center for Disease Control & P, Peoples Republic of China, [2]National Institute for Nutrition & Food Safety, Chinese Centre for Disease Control & Prevention, China, [3]Sir Charles Gardner Hospital, Australia, [4]University of Western Australia, Sir Charles Gairdner Hospital, Australia
Disclosures: Qian Zhang, None

OTHER DISORDERS OF BONE: CONGENITAL AND GENETIC BONE DISEASES

SA0444 **Osteopenia in Gaucher Disease Develops Early in Life: Response to Imiglucerase Enzyme Therapy in Children, Adolescents and Adults**
Thomas Hangartner*[1], Neal Weinreb[2], Paige Kaplan[3], J. Alexander Cole[4], Andrea Gwosdow[4], Pramod Mistry[5]. [1]Wright State University, USA, [2]University Research Foundation for Lysosomal Storage Diseases, Inc., USA, [3]Children's Hospital of Philadelphia, USA, [4]Genzyme Corporation, USA, [5]Yale University School of Medicine, USA
Disclosures: Thomas Hangartner, None

SA0445 **PTH and ALN reduce fractures and alter bone mechanical properties in the *oimloim* mouse model of OI**
Cesare Ciani*[1], Kirsten Stoner[2], Michael Cross[1], Liza Osagie[1], Bettina Willie[1], Marjolein Van Der Meulen[2], Mathias Bostrom[1]. [1]Hospital for Special Surgery, USA, [2]Cornell University, USA
Disclosures: Cesare Ciani, None

OTHER DISORDERS OF BONE: OSTEOMALACIA/RICKETS

SA0446 **Bone turnover and 1,25-dihydroxyvitamin D are independent determinants of circulating FGF23: a sub-analysis of CHIBA (Coronary Heart Disease of Ischemia and Bone Association) study**
Daisuke Inoue*[1], Toshihiro Amaki[1], Yuichiro Shimizu[2], Seiji Fukumoto[2], Yusuke Nakatsu[1], Kengo Ayabe[1], Jun-ichi Ohashi[1], Tadanao Higaki[1], Nobuyuki Tai[1], Fumitaka Nakamura[1], Ryo Okazaki[1]. [1]Teikyo University Chiba Medical Center, Japan, [2]University of Tokyo Hospital, Japan
Disclosures: Daisuke Inoue, None

SA0447 **Effect of a Single Oral Dose of 600,000 IU of Cholecalciferol on Serum Calciotropic Hormones in Young Subjects With Vitamin D Deficiency: a Prospective Intervention Study**
Cristiana Cipriani*[1], Elisabetta Romagnoli[1], Alfredo Scillitani[2], Iacopo Chiodini[3], Romano Del Fiacco[4], Vincenzo Carnevale[5], Maria Lucia Mascia[6], Claudia Battista[5], Luciano Carlucci[6], Cristina Eller Vainicher[7], Salvatore Minisola[1]. [1]University of Rome, Italy, [2]Casa Sollievo Della Sofferenza Scientific Institute, Italy, [3]Department of Medical Sciences, University of Milan, Fondazione Policlinico IRCCS, Italy, [4]University "Sapienza" - Rome, Italy, [5]Department of Internal Medicine & Endocrinology Casa sollievo della Sofferenza Hospital, Italy, [6]Department of Clinical Sciences, University of Rome Sapienza, Italy, [7]Fondazione IRCCS Cà Granda Ospedale Maggiore Policlinco Milano, Italy
Disclosures: Cristiana Cipriani, None

SA0448 **Prevalence and Risk Factors of Low Vitamin D Status among Inuit Adults**
Jessy Hayek*, Hope Weiler, Grace Egeland. McGill University, Canada
Disclosures: Jessy Hayek, None

OTHER DISORDERS OF BONE: PAGET'S DISEASE

SA0449 **Propagation of Paget's Disease of Bone after Reaming and Intramedullary Rod Placement for a Fracture**
Joseph Shaker*[1], David King[2], Mercedes Gacad[3], Frederick Singer[3]. [1]Medical College of Wisconsin, USA, [2]Medical College of Wiconsin, USA, [3]John Wayne Cancer Institute, USA
Disclosures: Joseph Shaker, None

OTHER DISORDERS OF BONE: PARATHYROID DISEASES

SA0450 **Cinacalcet Treatment in Patients with Primary Hyperparathyroidism**
Claudio Marcocci*, Luisella Cianferotti, Chiara Banti, Feredica Saponaro, Edda Vignali, Silvia Chiavistelli, Giuseppe Viccica, Filomena Cetani. University of Pisa, Italy
Disclosures: Claudio Marcocci, None

SA0451 **Effect of Vitamin D Nutrition on Indices of Disease in Patients With Primary Hyperparathyroidism**
Sudhaker Rao, Joanna Miragaya*, Sara Ahmadi, Liliana Garcia, Nayana Parikh, Mahalakshmi Honasoge, Arthur Carlin, Gary Talpos, Meredith Mahan, Sudhaker Rao. Henry Ford Hospital, USA
Disclosures: Joanna Miragaya, None

SA0452 **Mutational Analysis of GCMB, a Parathyroid-Specific Transcription Factor, Suggests That it is Not a Frequent Cause of Primary Hyperparathyroidism**
Michael Mannstadt*[1], Emily Holick[2], Wenping Zhao[2], Harald Jueppner[3]. [1]Massachusetts General Hospital Harvard Medical School, USA, [2]Endocrine Unit, Massachusetts General Hospital, USA, [3]Massachusetts General Hospital, USA
Disclosures: Michael Mannstadt, None

SA0453 **No Improvement in Carotid Vascular Abnormalities with Parathyroidectomy in Mild Primary Hyperparathyroidism**
Tatjana Rundek[1], Marcella Walker*[2], Chiyuan Zhang[2], Donald McMahon[2], James Lee[2], Jessica Fleischer[2], Tamara Taggart[2], Julia Udesky[2], Ralph Sacco[1], Shonni Silverberg[2]. [1]University of Miami, USA, [2]Columbia University, USA
Disclosures: Marcella Walker, None

SA0454 **Parathyroidectomy Does Not Affect Flow-Mediated Vasodilation in Mild Primary Hyperparathyroidism**
Angela Carrelli*[1], Marcella Walker[2], Marco Di Tullio[3], Shunichi Homma[3], Chiyuan Zhang[2], Donald McMahon[3], Shonni Silverberg[2]. [1]New York Presbyterian- Columbia University, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Angela Carrelli, None

SA0455 **PTH Reverses the Imbalance between Cortical and Trabecular Bone Compartments in Hypoparathyroidism: A Three-Year Longitudinal HR-pQCT Study**
Xiaowei Liu*[1], Mishaela Rubin[1], Jim Sliney Jr[2], Donald McMahon[3], David Dempster[1], John Bilezikian[3]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Xiaowei Liu, None

OTHER DISORDERS OF BONE: RENAL BONE DISEASE

SA0456 **Accumulation of Maillard Reaction Products Involve Bone Fragility in Adynamic Bone Disease**
Yoshiko Iwasaki*[1], Hideyuki Yamato[2], Masafumi Fukagawa[3]. [1]Oita University of Nursing & Health Sciences, Japan, [2]Kureha Corporation, Japan, [3]Tokai University School of Medicine, Japan
Disclosures: Yoshiko Iwasaki, None

SA0457 **Anti-Diabetes Drug Class of SGLT1 Inhibitors Increases Bone Mass in Young and Adult Female Sprague-Dawley Rats by Decreasing Bone Turnover**
Rana Samadfam*[1], Nancy Doyle[1], Martin Heinrichs[2], Thomas Kissner[2], Eckart Krupp[2], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Sanofi-Aventis, Germany
Disclosures: Rana Samadfam, Contract Research, 3

SA0458 **Assessment of Bone Tissue Composition in Patients Undergoing Dialysis Therapy Using Raman Spectrometry**
Shozo Yano*[1], Yoshiko Iwasaki[2], Akihide Tokumoto[3], Hideyuki Yamato[4], Toru Yamaguchi[1], Toshitsugu Sugimoto[5]. [1]Shimane University Faculty of Medicine, Japan, [2]Oita University of Nursing & Health Sciences, Japan, [3]Kamifukubara Medical Clinic, Japan, [4]Kureha Corporation, Japan, [5]Shimane University School of Medicine, Japan
Disclosures: Shozo Yano, None

SA0459 **Osteocyte Proteins Regulating Mineralization and Systemic Phosphate Homeostasis are Altered Early in CKD-MBD in Humans and *Jck* Mice**
Fabiana Graciolli*[1], Luciene dos Reis[1], Yves Sabbagh[2], Wen Tang[3], Stephen O'Brien[3], Shiguang Liu[3], Aluizio Carvalho[4], Rosa Moysés[1], Susan Schiavi[2], Vanda Jorgetti[5]. [1]Universidade de São Paulo - Nephrology Division, Brazil, [2]Genzyme Corp, USA, [3]Genzyme Corporation, USA, [4]Federal University of São Paulo, Brazil, [5]University of São Paulo, Brazil
Disclosures: Fabiana Graciolli, Genzyme Corporation, 2

SA0460 **Volumetric Bone Mineral Density, Geometry and Stiffness Discriminate Vertebral Fracture Status in Patients with Chronic Kidney Disease**
Thomas Nickolas*[1], Xiaowei Liu[2], Valerie Thomas[1], Emily Stein[3], Adi Cohen[1], Ryan Chauncy[1], Donald McMahon[3], Mary Leonard[4], X Guo[2], Elizabeth Shane[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Children's Hospital of Philadelphia, USA
Disclosures: Thomas Nickolas, None

OTHER DISORDERS OF BONE: RHEUMATOLOGIC AND OTHER SYSTEMIC ILLNESSES

SA0461 **Circulating Osteogenic Cells are Decreased in Type 2 Diabetes Mellitus**
John Manavalan[1], Aruna Kode[1], Jayesh Shah[1], Daniel Donovan[1], Carlos Lopez-Jimenez[1], James Sliney[1], Rebecca Ives[2], Pat Kringas[1], Lauren Golden[1], Matthew Freeby[1], Stavroula Kousteni[2], Mishaela Rubin*[1]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA
Disclosures: Mishaela Rubin, None

SA0462 **Deletion of the MDS1 Gene in Mice Results in Disk Degeneration and Kyphosis Through Mis-regulation of Matrix Protein Synthesis by Tendon/ligament Cells**
Lianping Xing*[1], Subhash Juneja[2], Caroline Zeiss[3], K Lezon-Geyda[1], D Reynolds[1], Zhenqiang Yao[1], S Lin[1], G Perkins[1], T Ardito[1], W Philbrick[1], H Awad[1], Brendan Boyce[2], Archibald Perkins[1]. [1]University of Rochester, USA, [2]University of Rochester Medical Center, USA, [3]Yale University, USA
Disclosures: Lianping Xing, None

SA0463 **Gene Analysis To Elucidate the Mechanisms of Tenofovir Mediated Osteopenia**
Kim Mansky*, Iwen Grigsby, Lan Pham, Ann Emery, Louis Mansky, Raj Gopalakrishnan. University of Minnesota, USA
Disclosures: Kim Mansky, None

SA0464 **Hyperkyphosis and Decline in Functional Status in Older Community Dwelling Women: The Study of Osteoporotic Fractures (SOF)**
Mei-Hua Huang[1], Wendy Katzman, DSc[2], Steven Cummings[3], Deborah Kado*[1]. [1]University of California, Los Angeles, USA, [2]University of California San Francisco, USA, [3]San Francisco Coordinating Center, USA
Disclosures: Deborah Kado, None

SA0465 **Regulation of Energy Metabolism By Osteocytes**
Ronald Kwon*, Diana Meays, Natalie Kardos, John Frangos. La Jolla Bioengineering Institute, USA
Disclosures: Ronald Kwon, None

SA0466 **Sex-related Differences in Skeletal Phenotype in a Rat Model of Type 2 Diabetes Mellitus**
Maxime Gallant*[1], Kathleen Hill[1], Jennifer M. Doyle[1], Susan Reinwald[1], Richard G. Peterson[2], David Burr[1]. [1]Indiana University School of Medicine, USA, [2]PreClinOmics, Inc., USA
Disclosures: Maxime Gallant, None

SA0467 **The Impact of type 2 Diabetes on Bone Microarchitecture: A Cross-sectional Evaluation in Postmenopausal Women**
Janet Pritchard*[1], Lora Giangregorio[2], Stephanie Atkinson[1], Karen Beattie[1], Jonathan Adachi[3], Dean Inglis[4], Alexandra Papaioannou[5]. [1]McMaster University, Canada, [2]University of Waterloo, Canada, [3]St. Joseph's Hospital, Canada, [4]Centre for Appendicular MRI Studies, Canada, [5]Hamilton Health Sciences, Canada
Disclosures: Janet Pritchard, None

SA0468 **The Multifunctional Role Of Osteopontin In Diabetic Arteriosclerosis**
Jian Su Shao[1], Oscar Sierra[1], Su-Li Cheng[1], Linda Halstead[2], Dwight Towler*[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA
Disclosures: Dwight Towler, None

SA0469 **The Prevalence of Low Muscle Mass (Sarcopenia) in Individuals with HIV**
Bjoern Buehring*, Elisabeth Kirchner, Zhiyuan Sun, Leonard Calabrese. Cleveland Clinic, USA
Disclosures: Bjoern Buehring, None

SA0470 **Type 1 Diabetes Mellitus Effects Bone: Results of Histomorphometric Analysis**
Robert Recker[1], Laura Armas*[2]. [1]Creighton University Osteoporosis Research Center, USA, [2]Creighton University, USA
Disclosures: Laura Armas, None

OTHER DISORDERS OF BONE: TRANSPLANTATION

SA0471 **Low Incidence of Clinical Fractures after Liver Transplantation: An Audit of 531 Consecutive Patients**
Melissa Premaor[1], Tapas K Das[2], Irene Debiram[3], Graeme Alexander[3], Juliet Compston*[4]. [1]Addenbrooke's Hospital, United Kingdom, [2]Liver Unit, Addenbrookes Hospital, Cambridge & Peterborough & Stamford Hospitals NHS Foundation Trust, United Kingdom, [3]Department of Medicine - University of Cambridge, United Kingdom, [4]University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, None

SA0472 **Prevention of Fractures After Solid Organ Transplant: A Meta-analysis**
Emily Stein*[1], Dionisio Ortiz[2], Zhezhen Jin[3], Donald McMahon[1], Elizabeth Shane[1]. [1]Columbia University College of Physicians & Surgeons, USA, [2]SUNY Downstate College of Medicine, USA, [3]Columbia University, USA
Disclosures: Emily Stein, None

SA0473 **Weekly Alendronate versus Zoledronic Acid For Prevention of Bone Loss During the First Year After Heart or Liver Transplantation**
Adi Cohen*[1], Emily Stein[2], Halley Rogers[1], Donald J. McMahon[3], Shannon Kokolus[3], Polly Chen[3], Chiyuan Zhang[3], Ronald B. Staron[3], Susan Restaino[3], Donna M. Mancini[3], Robert S. Brown[3], Elizabeth Shane[2]. [1]Columbia University Medical Center, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA
Disclosures: Adi Cohen, None

STEROID HORMONES AND RECEPTORS: CALCIUM-SENSING RECEPTORS

SA0474 **N-linked Glycosylation Sites Required for Normal Calcium-sensing Receptor Expression and/or Function**
Sarah Brennan*[1], Karolina Windloch[1], Arthur Christopoulos[2], Arthur Conigrave[1]. [1]University of Sydney, Australia, [2]Monash University, Australia
Disclosures: Sarah Brennan, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

SA0475 **Glucocorticoids Suppress Bone Formation by Attenuating Osteoblast Differentiation via the Monomeric Glucocorticoid Receptor**
Alexander Rauch*[1], Ulrike Baschant[1], Sebastian Seitz[2], Thorsten Schinke[3], Michael Amling[4], Ulf Lerner[5], Jean-Pierre David[6], Guenther Schuetz[7], Jan P. Tuckermann[1]. [1]FLI Jena, Germany, [2]Center for Biomechanics & Skeletal Biology, Germany, [3]University Hospital Hamburg, Eppendorf, Germany, [4]University Medical Center Hamburg-Eppendorf, Germany, [5]University of Umea, Sweden, [6]University Erlangen-Nuremberg, Germany, [7]DKFZ Heidelberg, Germany
Disclosures: Alexander Rauch, None

STEROID HORMONES AND RECEPTORS: PTH/PTHRP

SA0476 **25-Hydroxyvitamin D Reduces Secondary Hyperparathyroidism in Mice with Chronic Kidney Disease Independent of Circulating 1,25-Dihydroxyvitamin D *In Vivo***
Loan Nguyen-Yamamoto*[1], Isabel Bolivar[2], Miren Gratton[2], Raymonde Gagnon[2], Richard Kremer[1], Geoffrey Hendy[1], David Goltzman[3]. [1]McGill University, Royal Victoria Hospital, Canada, [2]McGill University, Canada, [3]McGill University Health Centre, Canada
Disclosures: Loan Nguyen-Yamamoto, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

SA0477 **Estrogen Ameliorates Synovial Inflammation and Joint Erosivity in mBSA Induced Monoarthritis**
Cecilia Engdahl*, Anna Börjesson, Alexandra Karlström, Catharina Lindholm, Hans Carlsten, Marie Lagerquist. Center for Bone & Arthritis Research, Institution of Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden
Disclosures: Cecilia Engdahl, None

SA0478 **Mechanical Loading Increases Estrogen Receptor Alpha Expression in Osteocytes and Osteoblasts Despite Chronic Energy Restriction**
Sibyl Swift*[1], Joshua Swift[2], Elizabeth Greene[1], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]United States Navy, USA
Disclosures: Sibyl Swift, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

SA0479 **A Key Role for CARM 1 Arginine Specific Methylation in Vitamin D Receptor Mediated Transcription**
Leila Mady*, Yan Zhong, Puneet Dhawan, Sylvia Christakos. University of Medicine & Dentistry of New Jersey, USA
Disclosures: Leila Mady, None

SA0480 **A Transgene Containing the Human Vitamin D Receptor Gene Locus Recapitulates Endogenous Tissue-specific Expression of the Receptor in the Mouse**
Seong Min Lee*[1], Kathleen Bishop[1], Mark Meyer[1], Robert Nerenz[1], Charles O'Brien[2], J. Pike[1]. [1]University of Wisconsin-Madison, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: Seong Min Lee, None

SA0481 **Identification of Novel Vitamin D Receptor Target Genes in Osteoblasts Based on Promoter Interaction with the Vitamin D Response Element Binding Protein**
Thomas Lisse*[1], Ting Liu[1], John Adams[2], Martin Hewison[3]. [1]UCLA/Orthopaedic Hospital Research Center, USA, [2]University of California, Los Angeles, USA, [3]UCLA, USA
Disclosures: Thomas Lisse, None

SA0482 **MBD4 Is an Epigenetic Regulator In the Vitamin D Metabolism.**
Takeshi Kondo*[1], Mi-sun Kim[1], Yuuki Imai[2], Shino Kondoh[2], Yoko Yamamoto[1], Takahiro Matsumoto[1], Ken-ichi Takeyama[1], Shigeaki Kato[3]. [1]IMCB, University of Tokyo, Japan, [2]The University of Tokyo, Japan, [3]University of Tokyo, Japan
Disclosures: Takeshi Kondo, None

SA0483 **Phospholipase A2 Activating Protein (PLAA) is Required for 1α,25(OH)2D_3-Induced Rapid Membrane Response in Osteoblasts**
Maryam Doroudi*, Zvi Schwartz, Barbara Boyan. Georgia Institute of Technology, USA
Disclosures: Maryam Doroudi, None

SA0484 **Role of Parathyroid Hormone and Vitamin D Insufficiency in Bone Resorption**
Adarsh Sai*[1], Xiang Fang[2], J. Christopher Gallagher[1]. [1]Creighton University Medical Center, USA, [2]Creighton University, USA
Disclosures: Adarsh Sai, NIH Grants AG28168, UO1-AG10373 and RO1-AG10358, 2

SA0485 **The VDR/RXR Cistrome in Intestinal/Colonic Cells Regulates Genes Involved in Proliferation and Differentiation, Calcium and Phosphate Transport and Xenobiotic Metabolism**
Mark Meyer*, J. Pike. University of Wisconsin-Madison, USA
Disclosures: Mark Meyer, None

MEET-THE-PROFESSOR SESSIONS

1:30 pm - 2:30 pm **South Building: Rooms 703-712**

Bone Metastases: Mechanisms, Treatment Modalities and New Options
South Building: Room 711
Theresa A. Guise, M.D.
Indiana University, USA
Disclosures: Theresa Guise, roche 5; amgen 1; amgen 5; amgen 8; novartis 8; novartis 5

Choosing the Right Cre Mouse In Bone and Cartilage Biology
South Building: Room 712
Matthew J. Hilton, Ph.D.
University of Rochester School of Medicine, USA
Disclosures: Matthew Hilton, None

Chronic Kidney Disease and Osteoporosis: How to Diagnose It, How to Treat It and When Is Bone Biopsy Indicated?
South Building: Room 707
Sophie A. Jamal, M.D., Ph.D.
The University of Toronto, Canada
Disclosures: Sophie Jamal, None

Diagnosing and Treating Vitamin D Deficiency and Insufficiency
South Building: Room 709
Supported by an educational grant from Eli Lilly and Company
John S. Adams, M.D.
University of California, Los Angeles, USA
Disclosures: John Adams, NIH 2; Quest Diagnostics 5; Quest Diagnostics 2; Deltanoid 9

Energy Metabolism In Bone
South Building: Room 704
Beata Anna Lecka-Czernik, Ph.D.
University of Toledo College of Medicine, USA
Disclosures: Beata Lecka-Czernik, None

Management of Bone Health in Patients Undergoing Bariatric Surgery
South Building: Room 705
Shonni J. Silverberg, M.D.
Columbia University, USA
Disclosures: Shonni Silverberg, None

Role of HDAC in Regulating Skeletogenesis
South Building: Room 706
Jennifer J. Westendorf, Ph.D.
Mayo Clinic, USA
Disclosures: Jennifer Westendorf, None

Targeting PTH Gene Expression as a Potential Treatment for Osteoporosis
South Building: Room 703
Tally Naveh-Many, Ph.D.
Hadassah Hebrew University Medical Center, Israel
Disclosures: Tally Naveh-Many, Amgen 2

CLINICAL ROUNDTABLE/CASE CONFERENCE: CLINICAL UTILITY OF GENETIC TESTING – APPLICATION TO PARATHYROID DISORDERS

1:30 pm - 2:30 pm **South Building: Hall G**

Co-Chair
Rajesh V. Thakker, M.D., FRCP
Oxford University, United Kingdom
Disclosures: Rajesh Thakker, None

Speakers:
Andrew Arnold, M.D.
University of Connecticut School of Medicine, USA
Disclosures: Andrew Arnold, None

Michael A. Levine, M.D., FAAP, FACP
Children's Hospital of Philadelphia, USA
Disclosures: Michael Levine, NPS Pharmaceuticals 5

STATE-OF-THE-ART LECTURE - GENOMIC PROFILING AS A TOOL FOR DISCOVERY

Sponsored by the ASBMR Education Committee

1:30 pm - 2:30 pm **South Building: Room 718AB**

Co-Chairs
Merry Jo Oursler, Ph.D.
Mayo Clinic, USA
Disclosures: Merry Jo Oursler, Mayo Clinic 3; NIH 2

Di Chen, M.D., Ph.D.
University of Rochester Medical Center, USA
Disclosures: Di Chen, Amgen Inc. 1

Speaker:
Gabriela G. Loots, Ph.D.
LLNL/UC Merced, USA
Disclosures: Gabriela Loots, NIH 2

CONCURRENT ORAL SESSION 07: OSTEOCYTES AND THEIR FUNCTIONS

2:45 pm - 4:15 pm **South Building: Room 718AB**

Moderators:
Mark L. Johnson, Ph.D.
University of Missouri, Kansas City Dental School, USA
Disclosures: Mark Johnson, None

Jian Q. Feng, M.D., Ph.D.
Texas A&M Health Science Center, USA
Disclosures: Jian Feng, None

2:45 pm 1037 **Inhibiting Cx43 Gap Junction Function in Osteocytes, but not Cx43 Hemichannel Function Results in Defects in Skeletal Structure and Bone Mass**
Jean Jiang*[1], Sirisha Burra[2], Stephen Harris[1], Hong Zhao[3], Mark Johnson[4], Lynda Bonewald[5]. [1]University of Texas Health Science Center at San Antonio, USA, [2]University of Texas, USA, [3]School of Dentistry, University of Missouri, USA, [4]University of Missouri, Kansas City Dental School, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Jean Jiang, None

3:00 pm 1038 **Resorption is an Essential Component of Bone Anabolism Induced by Active PTH Receptor Signaling in Osteocytes.**
Yumie Rhee*[1], Matthew Allen[2], Lilian Plotkin[2], Nicoletta Bivi[3], Racheal Lee[4], Jeffery Benson[4], Virginia Lezcano[5], Ana Ronda[5], Teresita Bellido[2]. [1]IUMS, Yonsei University, College of Medicine, South Korea, [2]Indiana University School of Medicine, USA, [3]Indiana University, USA, [4]Department of Anatomy & Cell Biology, Indiana University School of Medicine, USA, [5]Department of Biochemistry, Biology, & Pharmacy, Universidad Nacional de Sur, Argentina
Disclosures: Yumie Rhee, None

3:15 pm 1039 **Sclerostin Antibody Protects the Skeleton from Disuse-induced Bone Loss**
Alexander Robling*[1], Stuart Warden[1], Chris Paszty[2], Charles Turner[3]. [1]Indiana University, USA, [2]Amgen, Inc., USA, [3]Indiana University, Purdue University Indianapolis, USA
Disclosures: Alexander Robling, None

3:30 pm 1040 **A Membrane-Targeted GFP Selectively Expressed in Osteocytes Reveals Cell and Membrane Dynamics in Living Osteocytes**
Patricia Veno[1], Yongbo Lu[2], Suzan Kamel[1], Jian Feng[3], Lynda F. Bonewald[4], Sarah Dallas*[4]. [1]University of Missouri, Kansas City, USA, [2]Texas A&M University System Health Science Center, USA, [3]Texas A&M Health Science Center, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Sarah Dallas, None

3:45 pm 1041 **Ablation of Mef2C in Osteocytes Increases Bone Formation and Bone Mass Through Transcriptional Repression of Sclerostin (SOST)**
Nicole Collette*[1], Aris Economides[2], Liqin Xie[3], Damian Genetos[4], Richard Harland[5], Gabriela Loots[6]. [1]Lawrence Livermore National Laboratory/ University of California, Berkeley, USA, [2]Regeneron Pharmaceuticals, Inc., USA, [3]Regeneron Pharmaceutical company, USA, [4]University of California, Davis, USA, [5]University of California, Berkeley, USA, [6]LLNL/UC Merced, USA
Disclosures: Nicole Collette, None

4:00 pm 1042 **Bone Mass Increases in Osteocyte-specific Mef2c Knock-out Mice are Due to Decreased Bone Resorption**
Stefan Baertschi*[1], Ina Kramer[2], Olivier Leupin[1], Hansjoerg Keller[1], Michaela Kneissel[1]. [1]Novartis Institutes for BioMedical Research, Switzerland, [2]Novartis Institutes for BioMedical Research, Che
Disclosures: Stefan Baertschi, Novartis, 3

CONCURRENT ORAL SESSION 08: OSTEOCLASTS: FACTORS REGULATING ACTIVITY

2:45 pm - 4:15 pm **South Building: Room 714AB**

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

Timothy J. Chambers, M.D.
St. George's Hospital Medical School, United Kingdom
Disclosures: Timothy Chambers, None

2:45 pm 1043 **Autophagy Related Proteins Mediate Osteoclast Function in vitro and in vivo**
Carl DeSelm*[1], Brian Miller[1], Wei Zou[2], Herbert Virgin[1], Steven Teitelbaum[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Carl DeSelm, None

3:00 pm 1044 **MHC Class II Transactivator: A Novel Estrogen-modulated In Vivo Regulator of Osteoclastogenesis and Bone Homeostasis Co-opted from Adaptive Immunity**
Elisa Benasciutti*[1], Elisabetta Mariani[2], Egon Perilli[3], Emmanuele Barras[4], Roberta Faccio[5], Nick Fazzalari[6], Walter Reith[4], Simone Cenci[2]. [1]Division of Genetics & Cell Biology, San Raffaele Scentific Institute, Italy, [2]Division of Genetics & Cell Biology, San Raffaele Scientific Institute, Italy, [3]Department of Surgical Pathology, Institute of Medical & Veterinary Science, Australia, [4]Department of Pathology & Immunology, University of Geneva Medical School, Centre Médical Universitaire (CMU), Switzerland, [5]Washington University in St Louis School of Medicine, USA, [6]Institute of Medical & Veterinary Science, Australia
Disclosures: Elisa Benasciutti, None

3:15 pm 1045 **2010 YOUNG INVESTIGATOR AWARD**
Jmjd5, JmjC-domain-containing Protein, is an Osteoclastogenic Repressor
Min-Young Youn*[1], Ken-ichi Minehata[2], Ichiro Takada[1], Yuuki Imai[3], Takashi Nakamura[1], Takeshi Suzuki[2], Shigeaki Kato[4]. [1]IMCB, University of Tokyo, Japan, [2]Cancer Research Institute, Kanazawa University, Japan, [3]The University of Tokyo, Japan, [4]University of Tokyo, Japan
Disclosures: Min-Young Youn, None

3:30 pm 1046 **2010 YOUNG INVESTIGATOR AWARD**
Claudin 18 (Cldn-18), a Novel Bone Resorption (BR) Regulator, Interacts with Zona-occluden-2 (ZO-2) to Modulate RANKL Signaling in Osteoclasts
Gabriel Linares*[1], Robert Brommage[2], David Powell[3], Weirong Xing[4], Catrina Alarcon[1], Anil Kapoor[1], Shin-Tai Chen[1], Kin-Hing William Lau[5], Jon Wergedal[1], Subburaman Mohan[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]Lexicon Pharmaceuticals, USA, [3]Lexicon Pharmaceuticals Inc., USA, [4]Musculoskeletal Disease Center, Jerry L. Pettis Memorial Veteran's Admin., USA, [5]Jerry L Pettis Memorial VA Medical Center, USA
Disclosures: Gabriel Linares, None

3:45 pm 1047 **The Rac1 Exchange Factor Dock5 Is Essential for Bone Resorption by Osteoclasts**
Virginie Vives[1], Mélanie Laurin[2], Gaelle Cres[3], Pauline Larrousse[3], Zakia Morichaud[4], Daniele Noel[5], Jean-François Coté[2], Anne Blangy*[6]. [1]CNRS UMR 5535, France, [2]Clinical Research Institute of Montreal, Canada, [3]CNRS UMR 5237, France, [4]CNRS UMR 5236, France, [5]Inserm U844, France, [6]CNRS UMR 5237 CRBM, France
Disclosures: Anne Blangy, None

4:00 pm 1048 **Gain of FoxO Function in Osteoclast Precursors and their Progeny Decreases Osteoclastogenesis and Increases BMD in Mice**
Elena Ambrogini*, Shoshana Bartell, Li Han, Haibo Zhao, Aaron Warren, Randal Shelton, Xiaohua Qiu, Joseph Goellner, Charles O'Brien, Maria Jose Almeida, Stavros Manolagas. University of Arkansas for Medical Sciences, USA
Disclosures: Elena Ambrogini, None

CONCURRENT ORAL SESSION 09: CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: MINERAL METABOLISM AND THE PTH CIRCUIT

2:45 pm - 4:15 pm **South Building: Room 716AB**

Moderators:
David Goltzman, M.D.
McGill University Health Centre, Canada
Disclosures: David Goltzman, None

Joy Y. Wu, M.D., Ph.D.
Massachusetts General Hospital, USA
Disclosures: Joy Wu, None

2:45 pm 1049 **Silencing of PTH Receptor 1 in T Cells Blocks the Bone Catabolic Activity of Continuous PTH Treatment Through a TNF and CD40 Dependent Mechanism**
Hesham Tawfeek*[1], Brahmchetna Bedi[2], Jau-Yi Li[2], Jonathan Adams[1], Tatsuya Kobayashi[3], M. Neale Weitzmann[1], Henry Kronenberg[3], Roberto Pacifici[1]. [1]Emory University School of Medicine, USA, [2]Emory University, USA, [3]Massachusetts General Hospital, USA
Disclosures: Hesham Tawfeek, None

3:00 pm 1050 **Deletion of *PTH* Prevents the Premature Aging Phenotype of the *Klotho*-Null Mice**
Xiuying Bai*[1], Dinghong Qiu[2], David Goltzman[3], Andrew Karaplis[4]. [1]Lady Davis Institute, Canada, [2]LDI, Canada, [3]McGill University Health Centre, Canada, [4]McGill University, Canada
Disclosures: Xiuying Bai, None

3:15 pm 1051 **Role of the Transcriptional Co-Activator CITED1 in Bone and its Effect on Anabolic Actions of PTH**
Hila Bahar*[1], Jun Guo[2], Dehong Yang[3], Rajaram Manoharan[4], Toshi Shioda[5], Mary Bouxsein[6], F. Richard Bringhurst[2]. [1]MGH & HMS, USA, [2]Massachusetts General Hospital, USA, [3]Endocrine Unit, Massachusetts General Hospital, USA, [4]Orthopedic Biomechanics Laboratory, Beth Israel Deaconess Medical Center, USA, [5]Molecular Profiling Laboratory (T.S.), Massachusetts General Hospital Cancer Center, USA, [6]Beth Israel Deaconess Medical Center, USA
Disclosures: Hila Bahar, None

3:30 pm 1052 **Anabolic Effects of Intermittent PTH Are Impaired in MAP Kinase Phosphatase-1 Knockout Mice**
Manshan Xu*, Li Ma, Shilpa Choudhary, Olga Voznesensky, Douglas Adams, Lawrence Raisz, Carol Pilbeam. University of Connecticut Health Center, USA
Disclosures: Manshan Xu, None

3:45 pm 1053 **Signaling Mechanisms Underlying Prolonged Calcemic Actions of Long-Acting PTH Analogs**
Akira Maeda*[1], Makoto Okazaki[2], Jun Guo[1], Henry Kronenberg[1], John Potts[1], Thomas Gardella[1]. [1]Massachusetts General Hospital, USA, [2]Chugai Pharmaceutical. Co., Ltd., Japan
Disclosures: Akira Maeda, Chugai Pharmaceutical Co. Japan, 2

4:00 pm 1054 **Intact Neuropeptide Y Circuit Required for Full Anabolic Response to Parathyroid Hormone in Mice**
Natalie Sims[1], Ingrid Poulton[2], Susanna Rossotti[3], Leah Worton[4], Rena Hirani[5], Herbert Herzog[6], Edith Gardiner*[4]. [1]St. Vincent's Institute of Medical Research, Australia, [2]St Vincent's Medical Research Institute, Australia, [3]UQ Diamantina Institute, Australia, [4]University of Washington, USA, [5]Australian Institute for Bioengineering & Nanotechnology, Australia, [6]Garvan Institute of Medical Research, Australia
Disclosures: Edith Gardiner, None

CONCURRENT ORAL SESSION 10: OSTEOPOROSIS EPIDEMIOLOGY: BODY COMPOSITION, BONE MASS AND FRACTURE RISK

2:45 pm - 4:15 pm **South Building: Hall G**

Moderators:
Elizabeth A. Streeten, M.D.
University of Maryland School of Medicine, USA
Disclosures: Elizabeth Streeten, None

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

2:45 pm 1055 **2010 YOUNG INVESTIGATOR AWARD**
Greater Baseline Lean Mass is Associated With Increased Hip Fracture Risk in Elderly Women: The Framingham Study
Alyssa Dufour*[1], Marian Hannan[2], Kerry Broe[3], Xiaochun Zhang[1], Douglas Kiel[1], Robert McLean[4]. [1]Hebrew SeniorLife, USA, [2]HSL Institute for Aging Research and Harvard Medical School, USA, [3]Hebrew Senior Life, USA, [4]Hebrew SeniorLife, Harvard Medical School, USA
Disclosures: Alyssa Dufour, None

3:00 pm 1056 **Higher Total Protein Intake Associated With Greater Lean Mass and More Favorable Ratio of Low Lean-to-Fat Mass Ratio in Middle-Aged Men and Women: The Framingham Osteoporosis Study**
Shivani Sahni*[1], Robert McLean[2], Douglas Kiel[3], Kerry Broe[4], Katherine Tucker[5], L Adrienne Cupples[6], Marian Hannan[7]. [1]Hebrew SeniorLife, Institute for Aging Research, Harvard Medical School, USA, [2]Hebrew SeniorLife, Harvard Medical School, USA, [3]Hebrew SeniorLife, USA, [4]Hebrew Senior Life, USA, [5]Northeastern University, USA, [6]Boston University School of Public Health, USA, [7]HSL Institute for Aging Research and Harvard Medical School, USA
Disclosures: Shivani Sahni, None

3:15 pm 1057 **Association between Diabetes and QCT Measures of Bone Strength and Prevalent Vertebral Fracture: The Framingham Study**
Elizabeth Samelson*[1], Mary Bouxsein[2], Serkalem Demissie[3], Blaine Christiansen[4], Kerry Broe[5], Xioachun Zhang[6], R. Manoharan[7], J. D'Agostino[8], Thomas Lang[9], L. Adrienne Cupples[3], Douglas Kiel[6]. [1]Hebrew SeniorLife, Harvard Medical School, USA, [2]Beth Israel Deaconess Medical Center, USA, [3]Boston University School of Public Health, USA, [4]University of California - Davis Medical Center, USA, [5]Hebrew Senior Life, USA, [6]Hebrew SeniorLife, USA, [7]Beth Israel Deaconness Medical Center, USA, [8]Center for Advanced Orthopedic Studies, Beth Israel Deaconess Medical Center, USA, [9]University of California, San Francisco, USA
Disclosures: Elizabeth Samelson, None

3:30 pm 1058 **Multi-Phenotype Genome-Wide Association Analysis (GWAS) on both BMD and Glycemic Traits Identified Novel Pleiotropic Genes that Affected Bone Metabolism and Glucose Homeostasis in Caucasian Populations**
Yi-Hsiang Hsu*[1], Xing Chen[2], James Meigs[3], L. Adrienne Cupples[4], David Karasik[5], Douglas Kiel[5]. [1]Hebrew SeniorLife & Harvard Medical School, USA, [2]Harvard School of Public Health, USA, [3]Massachusetts General Hospital & Harvard Medical School, USA, [4]Boston University School of Public health, USA, [5]Hebrew SeniorLife, USA
Disclosures: Yi-Hsiang Hsu, None

3:45 pm 1059 **2010 YOUNG INVESTIGATOR AWARD**
Genome-wide Association In the Rotterdam Study Implicates the 16p21 Locus As Determinant of Osteoporotic Vertebral Fractures
Ling Oei*[1], Karol Estrada[2], Martha C. Castano-Betancourt[3], Marjolein van der Klift[4], Hannneke Kerkhof[3], Albert Hofman[3], Huibert Pols[2], Lisette Stolk[3], Joyce B. van Meurs[3], M. Carola Zillikens[3], Andre Uitterlinden[5], Fernando Rivadeneira[2]. [1]Erasmus Medical Center, , [2]Erasmus University Medical Center, The Netherlands, [3]Erasmus MC, Netherlands, [4]Erasmus, Netherlands, [5]Rm Ee 575, Genetic Laboratory, The Netherlands
Disclosures: Ling Oei, None

4:00 pm 1060 **Meta-analysis of Genome-Wide Association Study (GWAS) Identifies Several Genes for Hip Bone Geometry in Caucasians: The Genetic Factors for Osteoporosis (GEFOS) Consortium**
Yi-Hsiang Hsu[1], Thomas Beck[2], Suzanne J Brown[3], Jane Cauley[4], Serkalem Demissie[5], Karol Estrada[6], Nicole Glazer[7], Stephen Kaptoge[8], Douglas Kiel[9], Brent Richards[10], Fernando Rivadeneira[6], John Robbins[11], Nicole Soranzo[12], Tim Spector[12], Elizabeth Streeten[13], Andre Uitterlinden[14], Scott Wilson[15], Laura Yerges-Armstrong[16], Carola Zillikens[17], David Karasik*[9]. [1]Hebrew SeniorLife & Harvard Medical School, USA, [2]Johns Hopkins Outpatient Center, USA, [3]Sir Charles Gairdner Hospital, Australia, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]Boston Univ. SPH, USA, [6]Erasmus University Medical Center, The Netherlands, [7]University of Washington, USA, [8]University of Cambridge Bone Research Group, United Kingdom, [9]Hebrew SeniorLife, USA, [10]King's College London & McGill University, United Kingdom, [11]University of California, Davis Medical Center, USA, [12]King's College London, United Kingdom, [13]University of Maryland School of Medicine, USA, [14]Rm Ee 575, Genetic Laboratory, The Netherlands, [15]Sir Charles Gardner Hospital, Australia, [16]University of Maryland, USA, [17]Erasmus MC, Netherlands
Disclosures: David Karasik, None

CONCURRENT ORAL SESSION 11: BONE BIOMECHANICS AND QUALITY: PRECLINICAL MODEL SYSTEMS

2:45 pm - 4:15 pm **South Building: Room 801AB**

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

Karl J. Jepsen, Ph.D.
Mount Sinai School of Medicine, USA
Disclosures: Karl Jepsen, None

2:45 pm 1061 **2010 YOUNG INVESTIGATOR AWARD**
Osteocyte-Independent Mechanotransduction of Interstitial Fluid Flow
Ronald Kwon*, Diana Meays, Alexander Meilan, Natalie Kardos, John Frangos. La Jolla Bioengineering Institute, USA
Disclosures: Ronald Kwon, None

3:00 pm 1062 **Beta-1 Adrenergic Administration Mitigates Negative Changes in Cancellous Bone Microarchitecture and Inhibits Osteocyte Apoptosis During Disuse**
Joshua Swift*[1], Sibyl Swift[2], Matthew Allen[3], Florence Lima[2], Susan Bloomfield[2]. [1]United States Navy, USA, [2]Texas A&M University, USA, [3]Indiana University School of Medicine, USA
Disclosures: Joshua Swift, None

3:15 pm 1063 **Baseline Bone Turnover Declines with Age but Does Not Limit the Anabolic Response to Mechanical Loading in Mice**
Michael Brodt[1], Michelle Lynch[1], Daniel Wood[1], Roberto Civitelli[2], Matthew Silva*[2]. [1]Washington University, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Matthew Silva, None

3:30 pm 1064 **HIF-1 Antagonizes Load-induced Bone Formation**
Ryan Riddle*[1], Ted Gross[2], Thomas Clemens[3]. [1]Johns Hopkins University School of Medicine, USA, [2]University of Washington, USA, [3]Johns Hopkins University, USA
Disclosures: Ryan Riddle, None

3:45 pm 1065 **IGF-1 Receptor in Mature Osteoblasts and Osteocytes is Involved in Skeletal Unloading Induced Bone Loss but not in Reloading Induced Bone Acquisition**
Takuo Kubota*[1], Hashem Elalieh[1], Yongmei Wang[2], Daniel Bikle[2]. [1]University of California San Francisco/VA Medical Center, USA, [2]Endocrine Research Unit, Division of Endocrinology UCSF, USA
Disclosures: Takuo Kubota, None

4:00 pm 1066 **Mesenchymal Loss of BMP2 Primarily Impairs Cortical Bone Structure Causing Only a Modest Decrease in Tissue-Level Modulus**
Jeffry Nyman*[1], Giuseppe Intini[2], Matthew R. Murry[1], Daniel Perrien[1], Erik G. Herbert[3], George M. Pharr[3], Gregory R. Mundy[4], Vicki Rosen[2]. [1]Vanderbilt University Medical Center, USA, [2]Harvard School of Dental Medicine, USA, [3]University of Tennessee at Knoxville, USA, [4]Vanderbilt Center for Bone Biology, USA
Disclosures: Jeffry Nyman, None

CONCURRENT ORAL SESSION 12: OSTEOPOROSIS THERAPY AND COMPLICATIONS

2:45 pm - 4:15 pm **South Building: Hall F**

Moderators:
Benjamin Z. Leder, M.D.
Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Benjamin Leder, None

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

2:45 pm 1067 **Effect of the Cathepsin K Inhibitor, ONO-5334, on Biochemical Markers of Bone Turnover in the Treatment of Postmenopausal Osteopenia or Osteoporosis**
Richard Eastell*[1], Shinichi Nagase[2], Maria Small[2], Michiyo Ohyama[3], Tomohiro Kuwayama[2], Junichiro Manako[3], Steve Deacon[2]. [1]University of Sheffield, United Kingdom, [2]ONO PHARMA UK LTD, United Kingdom, [3]Ono Pharmaceutical Co., Ltd., Japan
Disclosures: Richard Eastell, Ono Pharmaceutical Co., Ltd., 5

3:00 pm 1068 **The Effects of Denosumab on Bone Mineral Density (BMD) and Fracture by Level of Renal Function**
Sophie Jamal*[1], Osten Ljunggren[2], Catherine Stehman-Breen[3], Steven Cummings[4], Michael McClung[5], Stefan Goemaere[6], Peter Ebeling[7], Edward Franek[8], Yu-Ching Yang[3], Steven Boonen[9], Ogo Egbuna[10], Paul Miller[11]. [1]University of Toronto, Canada, [2]Uppsala University Hospital, Sweden, [3]Amgen, Inc., USA, [4]San Francisco Coordinating Center, USA, [5]Oregon Osteoporosis Center, USA, [6]University Hospital, Belgium, [7]University of Melbourne, Australia, [8]Central Clinical Hospital, Poland, [9]Center for Metabolic Bone Disease, Belgium, [10]Amgen, Incorporated, USA, [11]Colorado Center for Bone Research, USA
Disclosures: Sophie Jamal, Amgen, 8; Amgen, 5

3:15 pm 1069 **Remodeling Status in Postmenopausal Women Who Discontinued Denosumab Treatment**
Jacques Brown*[1], David Dempster[2], Beiying Ding[3], Ricardo Dent[4], Javier San Martin[5], Rachel B. Wagman[6], Jose Ruben Zanchetta[7]. [1]Laval University, Canada, [2]Columbia University, USA, [3]Amgen Inc, USA, [4]Amgen, USA, [5]Amgen, Inc., USA, [6]Amgen Inc. & Stanford University Scool of Medicine, USA, [7]Instituto de Investigaciones Metabolicas (IDIM), Argentina
Disclosures: Jacques Brown, li Lilly, Amgen, Novartis, Merck, Warner Chilcott, 8; Abbott, Amgen, Eli Lilly, Novartis, Merck, Warner Chilcott, 5; Abbott, Amgen, Bristol-Myers-Squibb, Eli Lilly, Pfizer, Roche, 2

3:30 pm 1070 **The Effect of 3 Versus 6 Years of Zoledronic Acid Treatment in Osteoporosis: a Randomized Extension to the HORIZON-Pivotal Fracture Trial (PFT)**
Dennis Black*[1], Ian Reid[2], Jane Cauley[3], Steven Boonen[4], Felicia Cosman[5], P.C. Leung[6], Peter Lakatos[7], Zulema Man[8], Steven Cummings[9], Trisha Hue[1], MaryEllen Ruzycky[10], R Martinez[10], Guoqin Su[11], Christina Bucci-Rechtweg[10], Richard Eastell[12]. [1]University of California, San Francisco, USA, [2]University of Auckland, New Zealand, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]Center for Metabolic Bone Disease, Belgium, [5]Helen Hayes Hospital, USA, [6]Chinese University of Hongkong, China, [7]Semmelweis University Medical School, Hungary, [8]Centro Médico TIEMPO, Argentina, [9]San Francisco Coordinating Center, USA, [10]Novartis Pharmaceuticals Corporation, USA, [11]Novartis pharmaceuticals, USA, [12]University of Sheffield, United Kingdom
Disclosures: Dennis Black, Novartis, 2

3:45 pm **Atypical Femoral Fractures Are Associated With Bisphosphonate Use**
1071 Christian Girgis[1], Doron Sher[2], Markus Seibel*[3]. [1]Dept of Endocrinology & Metabolism, Concord Repatriation General Hospital, Australia, [2]Dept of Orthopaedic Surgery, Concord Repatriation General Hospital, Australia, [3]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia
Disclosures: Markus Seibel, None

4:00 pm **Risk of Femoral Shaft and Subtrochanteric Fractures In Users of Bisphosphonates, Raloxifene**
1072 **and Strontium Ranelate**
Peter Vestergaard*. Aarhus University Hospital, Denmark
Disclosures: Peter Vestergaard, None

COFFEE BREAK

4:00 pm - 4:30 pm **South Building: Hall E**

SYMPOSIUM - CAN WE TALK? CELL COMMUNICATION IN THE SKELETON

4:30 pm - 6:00 pm **South Building: Hall F**

Co-Chairs
Henry J. Donahue, Ph.D.
The Pennsylvania State University College of Medicine, USA
Disclosures: Henry Donahue, None

Jean X. Jiang, Ph.D.
University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

4:30 pm **Cell Chatter through Connexins and Cadherins for Skeletal Homeostasis**
Roberto Civitelli, M.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Roberto Civitelli, Eli-Lilly & Co. 2; Amgen 1; Eli-Lilly & Co. 1; Merck & Co. 1; Novartis 8; Amgen 8; Procter&Gamble 2; Pfizer 2

5:00 pm **N-cadherin-Wnt Signaling Crosstalk In Osteoblasts**
Pierre J. Marie, Ph.D.
INSERM Unit 606 and University Paris Diderot, France
Disclosures: Pierre Marie, None

5:30 pm **Connexin 43: Gap-junction-independent Functions as Regulator of Osteoblast and Osteocyte Signaling**
Teresita M. Bellido, Ph.D.
Indiana University School of Medicine, USA
Disclosures: Teresita Bellido, Procter and Gamble 2

SYMPOSIUM - TASK FORCE REPORT ON ATYPICAL FEMORAL FRACTURES

4:30 pm - 6:00 pm **South Building: Hall G**

Co-Chairs
David B. Burr, Ph.D.
Indiana University School of Medicine, USA
Disclosures: David Burr, Amgen 5; Procter and Gamble Pharmaceuticals 2; Procter and Gamble Pharmaceuticals 5; Eli Lilly and Co. 5; NephroGenex 9; Springer 7

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

4:30 pm **Introduction**

4:35 pm **What Is an Atypical Femoral Shaft Fracture?**
Thomas A. Einhorn, M.D.
Boston Medical Center, USA
Disclosures: Thomas Einhorn, None

4:50 pm **Prevalence and Risk Factors for Atypical Femoral Fractures**
Bo Abrahamsen, M.D., Ph.D.
Copenhagen University Hospital Gentofte, Denmark
Disclosures: Bo Abrahamsen, Novartis 2; Nycomed 5; Merck 8; Amgen 5; Eli Lilly 8

5:05 pm **Mechanical Pathogenesis of Atypical Femoral Fractures**
Marjolein C.H. Van Der Meulen, Ph.D.
Cornell University, USA
Disclosures: Marjolein Van Der Meulen, None

5:15 pm **Medical Insights – Exploring the Known and Unknown**
Peter R. Ebeling, M.D., FRACP
University of Melbourne, Australia
Disclosures: Peter Ebeling, Amgen 5; Eli-Lilly 8; sanofi-aventis 8; Novartis 2; Amgen 2; Merck 2; Merck 5

5:30 pm **Summary of the Task Force Report**

5:40 pm **Question and Answer**

ASBMR ANNUAL TOWN HALL MEETING AND RECEPTION

6:00 pm - 7:30 pm **South Building: Room 801AB**

You are invited to attend the ASBMR Annual Town Hall Meeting and Reception at which 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 period and enjoy a wine and cheese reception.

DANCING WITH THE ASBMR STARS - SOCIAL EVENT

8:30 pm - 11:30 pm **Fairmont Royal York Hotel: Canadian Ballroom**

You saw it first on television and now "bone docs" will be cutting loose on the dance floor. What better way to catch up with current friends and meet new ones than with some drinks, some sweets, a little dancing and a lot of fun. Toronto's historic Fairmont Royal York ballrooms have hosted the likes of Her Majesty Queen Elizabeth II, Frank Sinatra, Cary Grant, Tina Turner and now ASBMR. The red carpet will be rolled out, so grab your business cards, put on your dancing shoes and come prepared to converse and dance with the ASBMR stars.

Enjoy dinner at one of Toronto's fabulous restaurants and then join us for dessert, drinks, music and a dance competition at the beautiful Fairmont Royal York Hotel. Tickets are $30.

Sunday, October 17, 2010

Day-At-A-Glance

Time/Event/Location — **All locations in the Metro Toronto Convention Centre/South Building unless otherwise noted**

7:30 am - 5:00 pm 121
Registration Open
South Building: Level 600

8:00 am - 6:00 pm 121
Posters Open
South Building: Hall E

8:00 am - 9:00 am 121
Gerald D. Aurbach Memorial Lecture: PPARs: Tackling Frailty
South Building: Hall G

9:00 am - 9:05 am 121
Presentation of the ASBMR Fuller Albright Award
South Building: Hall G

9:05 am - 9:10 am 121
Presentation of the ASBMR Frederic C. Bartter Award
South Building: Hall G

9:00 am - 4:00 pm 121
Exhibits Open
South Building: Hall E

9:10 am - 9:30 am 121
Coffee Break
South Building: Hall E

9:30 am - 11:00 am 121
Concurrent Oral Session 13: Osteoblasts: Wnt All Around
South Building: Hall F

9:30 am - 11:00 am 122
Concurrent Oral Session 14: Osteoclasts: Molecular Pathways to Bone Resorption
South Building: Room 801AB

9:30 am - 11:00 am 123
Concurrent Oral Session 15: Cancer and Bone: Myeloma and Treatments
South Building: Room 716AB

9:30 am - 11:00 am 124
Concurrent Oral Session 16: Osteoporosis Epidemiology
South Building: Room 718AB

9:30 am - 11:00 am 125
Concurrent Oral Session 17: Osteoporosis Treatment
South Building: Hall G

9:30 am - 11:00 am 126
Concurrent Oral Session 18: Bone Acquisition and Pediatric Bone Disease: Physical Activity and Bone Mass in Childhood and Adolescence
South Building: Room 714AB

11:00 am - 1:00 pm 127
Poster Session II & Poster Tours
South Building: Hall E

1:00 pm - 2:00 pm 184
Meet-the-Professor Sessions
South Building: Rooms 703-711

1:00 pm - 2:00 pm 185
Clinical Roundtable/Case Conference: Disorders of Phosphate Metabolism
South Building: Hall G

1:00 pm - 2:00 pm 185
Career Development: Work/Life Satisfaction
South Building: Room 714AB

2:15 pm - 3:45 pm 186
Concurrent Oral Session 19: Steroid Hormones and Receptors
South Building: Room 716AB

2:15 pm - 3:45 pm 187
Concurrent Oral Session 20: Growth Factors, Cytokines, Immunomodulators
South Building: Hall F

2:15 pm - 3:45 pm 188
Concurrent Oral Session 21: Bone and Cartilage: Tissue Formation
South Building: Room 718AB

2:15 pm - 3:45 pm 189
Concurrent Oral Session 22: Clinical Osteoporosis: Fracture Risk Assessment
South Building: Hall G

2:15 pm - 3:45 pm 190
Concurrent Oral Session 23: Osteoporosis Pathophysiology: Regulators of Bone Remodeling
South Building: Room 801AB

2:15 pm - 3:45 pm 191
Concurrent Oral Session 24: Bone Biomechanics in Human Studies
South Building: Room 714AB

3:30 pm - 4:00 pm 192
Coffee Break
South Building: Hall E

4:00 pm - 5:30 pm 192
Symposium - Osteoporosis: Why Do Men Get It?
South Building: Hall G

4:00 pm - 5:30 pm 192
Symposium - Pathways That Modify the Bone Landscape
South Building: Room 718AB

5:30 pm - 7:00 pm 193
NIDDK 60th Anniversary Symposium and Reception
South Building: Hall F

7:15 pm - 9:15 pm 193
Working Group on Osteoporosis in Rheumatic Diseases
South Building: Room 701B
Ticket Required

7:15 pm - 9:15 pm 194
Vitamin D Working Group
South Building: Room 717AB
Ticket Required

7:15 pm - 9:45 pm 195
Muscle and Bone Working Group
South Building: Room 701A
Ticket Required

7:15 pm - 9:45 pm 196
Adult Bone and Mineral Working Group
South Building: Room 803
Ticket Required

7:15 pm - 10:00 pm 197
Working Group on Systems-based Approaches to Fracture Secondary Prevention
South Building: Room 714AB
Ticket Required

7:15 pm - 9:45 pm 198
Industry-Supported Symposium: Translating Osteoporosis Research to Enduring Practice Change
Fairmont Royal York Hotel: Canadian Ballroom

REGISTRATION OPEN

7:30 am - 5:00 pm **South Building: Level 600**

POSTERS OPEN

8:00 am - 6:00 pm **South Building: Hall E**

GERALD D. AURBACH MEMORIAL LECTURE: PPARS: TACKLING FRAILTY

8:00 am - 9:00 am **South Building: Hall G**

8:00 am **PPARs: Tackling Frailty**
Ronald M. Evans, Ph.D.
Howard Hughes Medical Institute, The Salk Institute, USA
Disclosures: Ronald Evans, None

PRESENTATION OF THE ASBMR FULLER ALBRIGHT AWARD

9:00 am - 9:05 am **South Building: Hall G**

PRESENTATION OF THE ASBMR FREDERIC C. BARTTER AWARD

9:05 am - 9:10 am **South Building: Hall G**

EXHIBITS OPEN

9:00 am - 4:00 pm **South Building: Hall E**

COFFEE BREAK

9:10 am - 9:30 am **South Building: Hall E**

CONCURRENT ORAL SESSION 13: OSTEOBLASTS: WNT ALL AROUND

9:30 am - 11:00 am **South Building: Hall F**

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

9:30 am **2010 FELIX BRONNER YOUNG INVESTIGATOR AWARD**
1073 **Deletion of the FoxO1, 3, and 4 Genes from Committed Osteoblast Progenitors Expressing Osterix Increases Wnt Signaling and Bone Mass**
Elena Ambrogini*, Li Han, Shoshana Bartell, Aaron Warren, Randal Shelton, Kanan Vyas, Annick Deloose, Robert Weinstein, Charles O'Brien, Stavros Manolagas, Maria Jose Almeida. University of Arkansas for Medical Sciences, USA
Disclosures: Elena Ambrogini, None

9:45 am **2010 YOUNG INVESTIGATOR AWARD**

1074 **Homozygous Deletion of Dickkopf1 Results in a High Bone Mass Phenotype**

Michelle McDonald*[1], Alyson Morse[2], Paul Baldock[3], Lauren Peacock[2], Poh-Lynn Khoo[4], Patrick Tam[4], David Little[5]. [1]The Childrens Hospital Westmead, Australia, [2]Orthopaedic Research & Biotechnology Dept. The Kids Research Institute, The Children's Hospital Westmead, Australia, [3]Garvan Institute of Medical Research, Australia, [4]Developmental Embryology Dept. The Children's Medical Research Institute, Australia, [5]Orthopaedic Research & Biotechnology Dept, The Kids Research Institute, The Children's Hospital Westmead, Australia

Disclosures: Michelle McDonald, None

10:00 am **Postnatal Inactivation of Beta-catenin in the Cells of the Osteoblast Lineage Causes**

1075 **Progressive Bone Loss, Ectopic Cartilage Formation and Mesenchymal Cell Accumulation**

Jun Guo*[1], Minlin Liu[1], Andrew P. McMahon[2], F. Richard Bringhurst[1], Henry Kronenberg[1]. [1]Massachusetts General Hospital, USA, [2]Harvard University, USA

Disclosures: Jun Guo, None

10:15 am **sFRP4 Regulates Bone Remodeling by Attenuating Both Wnt and BMP Signaling with**

1076 **Differential Effects on Trabecular- and Cortical Bone in Mice**

Hiroaki Saito*[1], Key Yamana[2], Eric Hesse[3], Riku Kiviranta[4], Lynn Neff[1], Marta Hristova[5], Henry Kronenberg[6], Beate Lanske[1], Roland Baron[7]. [1]Harvard School of Dental Medicine, USA, [2]Teijin Institute for BioMedical Research, Teijin Pharma Limited, Japan, [3]Harvard Schools of Medicine & Dental Medicine, USA, [4]University of Turku, Finland, [5]Harvard School of Dental Medicine, Beth Israel Deacones Medical Center, USA, [6]Massachusetts General Hospital, USA, [7]Harvard School of Medicine & of Dental Medicine, USA

Disclosures: Hiroaki Saito, None

10:30 am **Targeted Deletion of Gsα in Early Osteoblasts Leads to Decreased Wnt Signaling and Favors**

1077 **Adipogenic Differentiation of Mesenchymal Progenitors.**

Partha Sinha*[1], Piia Aarnisalo[2], Min Chen[3], Lee Weinstein[3], Henry Kronenberg[1], Joy Wu[1]. [1]Massachusetts General Hospital, USA, [2]University of Helsinki, Finland, [3]National Institute of Diabetes & Digestive & Kidney Diseases, USA

Disclosures: Partha Sinha, None

10:45 am **2010 YOUNG INVESTIGATOR AWARD**

1078 **Lrp6 and Lrp5 Exert Distinct Roles in Regulating Bone Acquisition in the Mature Osteoblast**

Cassandra R. Zylstra[1], Ryan Riddle*[2], Chao Wan[3], Daniel Robinson[1], Charlotta Lindvall[1], Thomas Clemens[4], Bart Williams[1]. [1]Van Andel Research Institute, USA, [2]Johns Hopkins University School of Medicine, USA, [3]University of Alabama, Birmingham, USA, [4]Johns Hopkins University, USA

Disclosures: Ryan Riddle, None

CONCURRENT ORAL SESSION 14: OSTEOCLASTS: MOLECULAR PATHWAYS TO BONE RESORPTION

9:30 am - 11:00 am **South Building: Room 801AB**

Moderators:

Yousef Abu-Amer, Ph.D.
Washington University in St. Louis School of Medicine, USA
Disclosures: Yousef Abu-Amer, None

Mary C. Nakamura, M.D.
University of California, San Francisco, USA
Disclosures: Mary Nakamura, None

9:30 am **2010 YOUNG INVESTIGATOR AWARD**

1079 **DAG Coordinates Polarized Secretion in Resorptive Osteoclasts through Activation of the PKCδ- MARCKS Pathway in Vitro and in Vivo**

Viviana Cremasco*[1], Roberta Faccio[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St Louis School of Medicine, USA

Disclosures: Viviana Cremasco, None

9:45 am 1080 **TNF-α Induced Osteoclastogenesis and Inflammatory Bone Resorption are Negatively Regulated by the Notch-RBP-J Pathway**
Baohong Zhao*, Xiaoyu Hu, Lionel Ivashkiv. Hospital for Special Surgery, USA
Disclosures: Baohong Zhao, None

10:00 am 1081 **Itch, an E3 Ligase, Negatively Regulates Osteoclastogenesis by Promoting Deubiquitination of TRAF6 Through Interaction With the Deubiquitinating Enzyme, Cylindromatosis**
Hengwei Zhang*[1], Chengyu Wu[2], Lydia Matesic[3], Brendan Boyce[4], Lianping Xing[2]. [1]Univeristy of Rochester, USA, [2]University of Rochester, USA, [3]University of South Carolina, USA, [4]University of Rochester Medical Center, USA
Disclosures: Hengwei Zhang, None

10:15 am 1082 **PTHR1 in Osteocytes Plays a Major role in Perilacunar Remodeling through the Activation of "Osteoclastic" Genes in Osteocytes**
Hai Qing*[1], Paola Divieti Pajevic[2], Kevin Barry[3], Vladimir Dusevich[4], John Wysolmerski[5], Lynda Bonewald[6]. [1]UMKC Dental School, USA, [2]Massachusetts General Hospital, USA, [3]Endocrine Unit, Massachusetts General Hospital, USA, [4]University of Missouri-Kansas city, USA, [5]Yale University School of Medicine, USA, [6]University of Missouri - Kansas City, USA
Disclosures: Hai Qing, None

10:30 am 1083 **Osteocyte Apoptosis Promotes Angiogenesis and Osteoclast Precursor Adhesion *In Vitro***
Wing-Yee Cheung*[1], Craig Simmons[1], Lidan You[2]. [1]University of Toronto, Canada, [2]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Wing-Yee Cheung, None

10:45 am 1084 **Talin is Critical for Osteoclast Function by Mediating Inside-Out Integrin Activation**
Wei Zou*[1], Brian Petrich[2], Susan J. Monkley[3], David R. Critchley[4], Mark H. Ginsberg[2], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Department of Medicine, University of California, USA, [3]Department of Biochemistry, University of Leicester, United Kingdom, [4]University of Leicester, United Kingdom
Disclosures: Wei Zou, None

CONCURRENT ORAL SESSION 15: CANCER AND BONE: MYELOMA AND TREATMENTS

9:30 am - 11:00 am **South Building: Room 716AB**

Moderators:
Matthew T. Drake, M.D., Ph.D.
Mayo Clinic College of Medicine, USA
Disclosures: Matthew Drake, None

Dana Gaddy, Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Dana Gaddy, None

9:30 am 1085 **Increasing Adiponectin Via an Apolipoprotein Peptide Mimetic, L-4F, Reduces Tumor Burden and Increases Survival in a Murine Model of Myeloma**
Jessica Fowler*, Seint Lwin, Gregory Mundy, Claire Edwards. Vanderbilt University, USA
Disclosures: Jessica Fowler, None

9:45 am 1086 **Host-derived MMP-7 Decreases Myeloma Progression *In Vivo*: An Unexpected Role for MMP-7 in Myeloma Pathogenesis**
Seint Lwin*, Conor Lynch, Jessica Fowler, Gregory Mundy, Claire Edwards. Vanderbilt University, USA
Disclosures: Seint Lwin, None

10:00 am 1087 **2010 YOUNG INVESTIGATOR AWARD**
Myeloid Derived Suppressor Cells (MDSC) are Responsible for Enhanced Bone Tumor Growth in Osteopetrotic *PLCγ2-/-* mice and are a Direct Target of Zoledronic Acid
Seokho Kim*[1], Deborah Novack[2], Roberta Faccio[3]. [1]Department of Orthopedics, Washington University, St. Louis MO, USA, [2]Washington University in St. Louis School of Medicine, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Seokho Kim, None

10:15 am **2010 YOUNG INVESTIGATOR AWARD**

1088 **Multiple Myeloma Cell Induction of GFI-1 in Stromal Cells Suppresses Osteoblast Differentiation in Patients with Myeloma**

Sonia D'Souza*[1], Shunqian Jin[1], Benedicte Sammut[1], Chinavenmeni S. Velu[2], Shibing Yu[3], Guozhi Xiao[4], H. Leighton Grimes[2], G. David Roodman[5], Deborah Galson[4]. [1]Center for Bone Biology, University of Pittsburgh, USA, [2]Cincinnati Children's Hospital Medical Center, USA, [3]School of Medicine/Hem-Onc,University of Pittsburgh, USA, [4]University of Pittsburgh School of Medicine, USA, [5]VA Pittsburgh Healthcare System (646), USA

Disclosures: Sonia D'Souza, None

10:30 am **Heparanase Promotes Osteoclastogenesis in Multiple Myeloma by Upregulating RANKL**

1089 **Expression**

Yang Yang*[1], Yongsheng Ren[2], Li Nan[2], Vishnu C Ramani[2], Larry Suva[3], Ralph D Sanderson[4]. [1]The University of Alabama At Birmingham, USA, [2]Department of Pathology, University of Alabama at Birmingham, USA, [3]University of Arkansas for Medical Sciences, USA, [4]Department of Pathology, Comprehensive Cancer Center & the Center for Metabolic Bone Disease, University of Alabama at Birmingham, USA

Disclosures: Yang Yang, None

10:45 am **2010 YOUNG INVESTIGATOR AWARD**

1090 **A Novel Anti-resorptive Agent, Reveromycin A, Ameliorates Bone Destruction and Tumor Growth in Myeloma**

Keiichiro Watanabe*[1], Masahiro Abe[2], Qu Cui[3], Makoto Kawatani[4], Masahiro Hiasa[5], Ayako Nakano[6], Tadashi Jinno[3], Takeshi Harada[3], Shiro Fujii[3], Shingen Nakamura[3], Hirokazu Miki[3], Kumiko Kagawa[3], Kyoko Takeuchi[3], Shuji Ozaki[7], Eiji Tanaka[8], Hiroyuki Osada[4], Toshio Matsumoto[9]. [1]The University of Tokushima Graduate School of Oral Science, Japan, [2]University of Tokushima, Japan, [3]Department of Medicine & Bioregulatory Sciences,The University of Tokushima Graduate School, Japan, [4]Chemical Biology Core Facility, RIKEN Advanced Science Institute, Japan, [5]University of Tokushima Graduate School, Japan, [6]University of Tokushima, Graduate School of Medicine, Japan, [7]Division of Transfusion Medicine, Tokushima University Hospital, Japan, [8]Depertmentt of Orthodontics & Dentofacial Orthopedics, The University of Tokushima Graduate School of Oral Sciences, Japan, [9]University of Tokushima Graduate School of Medical Sciences, Japan

Disclosures: Keiichiro Watanabe, None

CONCURRENT ORAL SESSION 16: OSTEOPOROSIS EPIDEMIOLOGY

9:30 am - 11:00 am **South Building: Room 718AB**

Moderators:

Elizabeth L. Barrett-Connor, M.D.
University of California, San Diego, USA
Disclosures: Elizabeth Barrett-Connor, None

Byron Lawrence Riggs, M.D.
Mayo Clinic College of Medicine, Rochester, MN, USA
Disclosures: Byron Riggs, None

9:30 am **Relation of Age, Gender, and Bone Mass to Circulating Sclerostin Levels in Women and Men**

1091

Ulrike Moedder*[1], Kelley Hoey[2], Shreyasee Amin[2], Louise McCready[2], L. Joseph Melton[2], Byron Riggs[3], Elizabeth Atkinson[2], Sundeep Khosla[4]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA, [3]Mayo Clinic College of Medicine, Rochester, MN, USA, [4]College of Medicine, Mayo Clinic, USA

Disclosures: Ulrike Moedder, None

9:45 am **2010 YOUNG INVESTIGATOR AWARD**
1092 **Mild Hyponatremia as a Risk Factor for Fractures: The Rotterdam Study**
M Zillikens*[1], Ewout Hoorn[2], Joyce Van Meurs[3], Albert Hofman[2], Fernando Rivadeneira[4], Robert Zietse[2], Huibert Pols[4], Andre Uitterlinden[5]. [1]Erasmus MC Rotterdam, The Netherlands, [2]Erasmus MC, Netherlands, [3]Erasmus Medical Center, The Netherlands, [4]Erasmus University Medical Center, The Netherlands, [5]Rm Ee 575, Genetic Laboratory, The Netherlands
Disclosures: M Zillikens, None

10:00 am **Bone Resorption and Fracture across the Menopausal Transition: The Study of Women's**
1093 **Health Across the Nation (SWAN)**
Jane Cauley*[1], Michelle Danielson[2], Gail Greendale[3], Joel Finkelstein[4], Yue-Fang Chang[2], Joan Lo[5], Carolyn Crandall[3], Jennifer Lee[6], Robert Neer[4], Mary Fran Sowers[7]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of Pittsburgh, USA, [3]University of California, Los Angeles, USA, [4]Massachusetts General Hospital, USA, [5]Kaiser Permanente, USA, [6]University of California, Davis, USA, [7]University of Michigan, USA
Disclosures: Jane Cauley, None

10:15 am **Association of Menopausal Vasomotor Symptoms with Increased Bone Turnover During the**
1094 **Menopausal Transition**
Carolyn Crandall*[1], Chi-Hong Tseng[2], Sybil Crawford[3], Rebecca Thurston[4], Ellen Gold[5], Janet Johnston[6], Gail Greendale[1]. [1]University of California, Los Angeles, USA, [2]UCLA, USA, [3]University of Massachusetts Medical School, USA, [4]University of Pittsburgh School of Medicine, USA, [5]Division of Epidemiology, University of California, Davis, USA, [6]University of Alaska Anchorage Department of Health Sciences, USA
Disclosures: Carolyn Crandall, None

10:30 am **Abdominal Body Composition and Risk of Non-spine Fracture among Elderly Men**
1095 Yahtyng Sheu*[1], Lynn Marshall[2], Kathleen Holton[3], Robert Boudreau[1], Peggy Cawthon[4], Jane Cauley[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]Oregon Health & Science University, USA, [3]Oregon Health & Sciences University, USA, [4]California Pacific Medical Center Research Institute, USA
Disclosures: Yahtyng Sheu, None

10:45 am **Birth Weight Influences Peak Bone Mass In 25-Year Old Swedish Women**
1096 Kristina Akesson[1], Mattias Callréus*[2]. [1]Malmo University Hospital, Sweden, [2]Skåne University Hospital, Sweden
Disclosures: Mattias Callréus, None

CONCURRENT ORAL SESSION 17: OSTEOPOROSIS TREATMENT

9:30 am - 11:00 am **South Building: Hall G**

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

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

9:30 am **2010 YOUNG INVESTIGATOR AWARD**
1097 **Does the Benefit of Medication Adherence Relate More to a Drug Effect or the Behavior Itself? Quantifying the Effect of Adherence Behavior Using Data From the Placebo Arms of the WHI**
Jeffrey Curtis*[1], Joseph Larson[2], Elizabeth Delzell[1], M. Alan Brookhart[3], Suzanne Cadarette[4], Rowan Chlebowski[5], Suzanne Judd[1], Monika Safford[1], Daniel Solomon[6], Andrea Lacroix[2]. [1]University of Alabama at Birmingham, USA, [2]Fred Hutchinson Cancer REsearch Center, USA, [3]UNC-Chapel Hill, USA, [4]Leslie Dan Faculty of Pharmacy, University of Toronto, Canada, [5]UCLA Medical Center, USA, [6]Harvard Medical School, USA
Disclosures: Jeffrey Curtis, Procter & Gamble, 2; Eli Lilly, 2; Merck,5; Merck, 2; Eli Lilly, 8; Novartis, 8; Procter & Gamble, 5; Novartis, 2

9:45 am 1098 **Utility of Serial BMD for Fracture Prediction After Discontinuation of Prolonged Alendronate Therapy: The FLEX Trial**
Douglas Bauer*[1], Ann Schwartz[1], Lisa Palermo[1], Jane Cauley[2], Kristine Ensrud[3], Marc Hochberg[4], Arthur Santora[5], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University of Maryland School of Medicine, USA, [5]Merck Research Laboratories, USA
Disclosures: Douglas Bauer, Amgen, 5; Novartis, 2; Merck, 5; Merck, 2; Amgen, 2

10:00 am 1099 **Denosumab Improves Both Femoral and Vertebral Strength in Women With Osteoporosis: Results From the FREEDOM Trial**
Tony Keaveny*[1], Michael McClung[2], Harry Genant[3], Jose Ruben Zanchetta[4], David L. Kendler[5], Jacques Brown[6], Stefan Goemaere[7], Christopher Recknor[8], Maria Luisa Brandi[9], Richard Eastell[10], Klaus Engelke[11], Thomas Fuerst[12], Hoi-Shen Radcliffe[13], Cesar Libanati[14]. [1]UC Berkeley, USA, [2]Oregon Osteoporosis Center, USA, [3]UCSF/Synarc, USA, [4]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [5]University of British Columbia, Canada, [6]Laval University, Canada, [7]Ghent University Hospital, Belgium, [8]United Osteoporosis Center, USA, [9]University of Florence, Italy, [10]University of Sheffield, United Kingdom, [11]Synarc, Germany, [12]Synarc, Inc., USA, [13]Amgen Inc, United Kingdom, [14]Amgen Inc, USA
Disclosures: Tony Keaveny, O.N. Diagnostics, 4; Novartis, Merck, 5; Amgen, Merck, Lilly, Novartis, 2

10:15 am 1100 **Regulators of Bone Formation in Postmenopausal Osteoporosis: Effect of Bisphosphonate Treatment**
Richard Eastell, Rosemary Hannon, Fatma Gossiel*. University of Sheffield, United Kingdom
Disclosures: Fatma Gossiel, Proctor and Gamble, IDS and Biomedica: Research support, 9

10:30 am 1101 **Risedronate Reduces Deterioration of Cortical Bone Microarchitecture Accompanying Menopause**
Ego Seeman*[1], Babul Borah[2], Roland Chapurlat[3], Dieter Felsenberg[4], Lynn Darbie[5], Rene Rizzoli[6]. [1]Austin Health, University of Melbourne, Australia, [2]Procter & Gamble Pharmaceuticals, USA, [3]E. Herriot Hospital, France, [4]Charité - Campus Benjamin Franklin, Germany, [5]Warner Chilcott Pharmaceuticals, USA, [6]University Hospital, Switzerland
Disclosures: Ego Seeman, sanofi-aventis, 8; sanofi-aventis, 5

10:45 am 1102 **Fracture Risk Reduction with Zoledronic Acid by Predicted Fracture Risk Score**
Jane Cauley*[1], Steven Cummings[2], Lisa Palermo[3], Felicia Cosman[4], Richard Eastell[5], Steven Boonen[6], Trisha Hue[3], Christina Bucci-Rechtweg[7], Dennis Black[3]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]San Francisco Coordinating Center, USA, [3]University of California, San Francisco, USA, [4]Helen Hayes Hospital, USA, [5]University of Sheffield, United Kingdom, [6]Center for Metabolic Bone Disease, Belgium, [7]Novartis Pharmaceuticals Corporation, USA
Disclosures: Jane Cauley, Novartis, 5

CONCURRENT ORAL SESSION 18: BONE ACQUISITION AND PEDIATRIC BONE DISEASE: PHYSICAL ACTIVITY AND BONE MASS IN CHILDHOOD AND ADOLESCENCE

9:30 am - 11:00 am **South Building: Room 714AB**

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

Leanne M. Ward, M.D.
Children's Hospital of Eastern Ontario, Canada
Disclosures: Leanne Ward, None

9:30 am **2010 YOUNG INVESTIGATOR AWARD**

1103 **A Five Years Exercise Intervention Programme in 7-9 Year Old Children Improve Bone Mass and Bone Structure without Increasing the Fracture Incidence**
Magnus Karlsson[1], Jan-Åke Nilsson[2], Fredrik Detter*[3]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Clinical & Molecular Osteoporosis Research Unit, Sweden, [3]Clinical & Molecular Osteoporosis Research Unit, Lund University, Sweden, Sweden
Disclosures: Fredrik Detter, None

9:45 am **1104** **Habitual Vigorous Physical Activity Increase Cortical Bone Mass In Adolescents, Unlike Light Or Moderate Activity Which Are Without Effect**
Jon Tobias, Adrian Sayers*. University of Bristol, United Kingdom
Disclosures: Adrian Sayers, None

10:00 am **1105** **Positive Impact of Both Physical Activity and Protein Intake before Puberty on Biomechanical Strength at Weight Bearing Skeletal Sites 7.8 yrs Later in Healthy Boys**
Thierry Chevalley*[1], Jean-Philippe Bonjour[2], Bert Rietbergen[3], Serge Ferrari[4], Rene Rizzoli[5]. [1]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [2]University Hospital of Geneva, Switzerland, [3]Eindhoven University of Technology, The Netherlands, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]University Hospital, Switzerland
Disclosures: Thierry Chevalley, None

10:15 am **1106** **Loaded Physical Activity Predicts 12-month Change in Bone Strength and Bone Microstructure at the Distal Tibia in Adolescents**
Melonie Burrows, Danmei Liu, Deetria Egeli, Heather McKay*. University of British Columbia, Canada
Disclosures: Heather McKay, None

10:30 am **1107** **Increased Physical Activity Is Associated with Augmented Cortical Bone Size in Young Men: a Five Year Longitudinal Study**
Martin Nilsson*[1], Claes Ohlsson[2], Dan Mellstrom[3], Mattias Lorentzon[1]. [1]Center for Bone Research At the Sahlgrenska Academy, Sweden, [2]Centre for Bone & Arthritis Research, Sweden, [3]Sahlgrenska University Hospital, Sweden
Disclosures: Martin Nilsson, None

10:45 am **1108** **Physical Activity Predicts Bone Mass throughout Childhood: Iowa Bone Development Study Eight-Year Longitudinal Results**
Kathleen Janz*[1], Trudy Burns[1], James Torner[1], Julie Eichenberger Gilmore[1], Marcia Willing[2], Steven Levy[1]. [1]University of Iowa, USA, [2]Washington University, USA
Disclosures: Kathleen Janz, None

POSTER SESSION II & POSTER TOURS*

11:00 am - 1:00 pm **South Building: Hall E**

***Poster Tours will begin at the ASBMR Networking Center at 11:30 am**

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

SU0001 **Adiponectin is Reciprocally Related to Bone Mass in Children with Chronic Diseases**
Mohamad Maghnie[1], Giovanni Melioli[2], Natascia Di Iorgi*[1], Flavia Napoli[3], Giuliana Cangemi[2], Anna E.M. Allegri[1], Linda Ambrosini[1]. [1]Department of Pediatrics, IRCCS, Giannina Gaslini-University of Genoa, Italy, [2]Laboratory of Biochemical Analyses, IRCCS, Giannina Gaslini-University of Genoa, Italy, [3]IRCCS, Giannina Gaslini-University of Genoa, Italy
Disclosures: Natascia Di Iorgi, None

SU0002 **Bone Strength And Geometry Are Compromised In A Mouse Model of Duchenne Muscular Dystrophy: Can Vibration Prevent or Reverse this Response**
Susan Novotny*[1], David J. Nuckley, PhD[2], Moira Petit[3], Kristen A. Baltgalvis, PhD[4], Gordon L. Warren, PhD[5], Dawn A. Lowe, PhD[2]. [1]University of Minnesota, Department of Kinesiology, USA, [2]University of Minnesota, Program in Physical Therapy & Rehabilitation Science, USA, [3]University of Minnesota, USA, [4]University of Minnesota, Department of Biochemistry, Molecular Biology & Biophysics, USA, [5]Georgia State University, Division of Physical Therapy, USA
Disclosures: Susan Novotny, None

SU0003 **Evaluation of bone strength and response to bisphosphonate therapy in a child with McCune - Albright syndrome using peripheral Quantitive Computed Tomography (pQCT) of the tibia**
Erato Atsali*[1], Konstantinos Stathopoulos[2], Pelagia Katsimbri[3], Elephteria Metania[4], Anna Papadopoulou[5], Anastasios Papadimitriou[6], Polikseni Nikolaidou[6], Aristidis Zoubos[4], Grigoris Skarantavos[4]. [1]3rd Pediatric University Clinic "Attikon" University Hospital, Greece, [2]"Attikon" Athens University Hospital, Greece, [3]Bone Metabolic Unit, 1st Orthopedic University Clinic,"Attikon" University Hospital, Greece, [4]Bone Metabolic Unit,1st Orthopedic University Clinic,"Attikon" University Hospital, Greece, [5]3rd Pediatric University Clinic, "Attikon" University Hospital, Greece, [6]3rd Pediatric University Clinic,"Attikon" University Hospital, Greece
Disclosures: Erato Atsali, None

SU0004 **Growth Hormone Therapy in Former Premature Very Low Birth Weight Infants Promotes Catch-up Growth Pre-puberty**
Susan Docherty Skippen, Dawei Wang, Stephanie Atkinson*, John Van dermeulen. McMaster University, Canada
Disclosures: Stephanie Atkinson, None

SU0005 **Simple Equations To Correct For Height Using Dual Energy X-ray Absorptiometry (DXA) In Pre-Pubescent Children**
Fan Zhang[1], Michael Whyte[2], Deborah Wenkert*[2]. [1]Shriners Hospt for Children, USA, [2]Shriners Hospital for Children, USA
Disclosures: Deborah Wenkert, None

SU0006 **Structural Bone Deficits and Body Composition Abnormalities after Pediatric Bone Marrow Transplantation**
Sogol Mostoufi-Moab*[1], Jill Ginsberg MD[2], Babette Zemel PhD[3], Justine Shults PhD[4], Nancy Bunin MD[5], Meena Thayu[1], Rita Herskovitz[3], Mary Leonard[6]. [1]The Children's Hospital of Philadelphia, USA, [2]Department of Pediatrics; Division of Oncology; The Children's Hospital of Philadelphia, USA, [3]Department of Pediatrics, The Children's Hospital of Philadelphia, USA, [4]Department of Biostatistics & Epidemiology, University of Pennsylvania School of Medicine, USA, [5]Department of Pediatrics; Division of Oncology, The Children's Hospital of Philadelphia, USA, [6]Children's Hospital of Philadelphia, USA
Disclosures: Sogol Mostoufi-Moab, None

SU0007 **Transient Hyperphosphatasaemia of Infancy and Early Childhood - Review and Evaluation of Published Data**
Stepan Kutilek*. Pardubice Hospital; Faculty of Health Studies; University of Pardubice, Czech Republic
Disclosures: Stepan Kutilek, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

SU0008 **A Prospective Analysis Of Body Fat And Bone Mineral Accrual During Pubertal Growth**
Katherine Harris*[1], Emma Laing[1], Daniel Hall[1], Norman Pollock[2], Clifton Baile[3], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Medical College of Georgia, USA, [3]University of Georgia, USA
Disclosures: Katherine Harris, None

SU0009 **Architectural Compromise is Greater in the Tibia than the Femur in the Involved Lower Extremity of Individuals with Hemiplegic Cerebral Palsy**
Christopher Modlesky[1], Jacques Riad[2], Freeman Miller[3], Brianne Mulrooney*[1], Joshua Kirby[1]. [1]University of Delaware, USA, [2]Department of Orthopaedics Astrid Lindgrens Children's Hospital, Sweden, [3]AI duPont Hospital for Children, USA
Disclosures: Brianne Mulrooney, None

SU0010 **Babies Have Bones Too: Development of Reference Values for Bone Mass and Density of the Lumbar Spine of Infants and Toddlers Considering Age, Size, Sex and Race**
Heidi Kalkwarf*, Kimberly Yolton, Gemma Uetrecht, Arin Fletcher, James Heubi. Cincinnati Children's Hospital Medical Center, USA
Disclosures: Heidi Kalkwarf, None

SU0011 **Bone Health in Children with Chronic Kidney Disease: A 5-Year Follow-Up Study**
Diana Swolin-Eide*[1], Sverker Hansson[2], Per Magnusson[3]. [1]Queen Silvia Children's Hospital, Sweden, [2]The Gothenburg Unit For Child & Adolescent Psychiatry, Sweden, [3]Linkoping University Hospital, Sweden
Disclosures: Diana Swolin-Eide, None

SU0012 **Can Total Body DXA Scans Be Used To Estimate Cortical Bone Strength?**
Adrian Sayers*[1], J.H. Tobias[2]. [1]University of Bristol, United Kingdom, [2]Avon Orthopaedic Centre, United Kingdom
Disclosures: Adrian Sayers, None

SU0013 **Hypocalcemia Induced Seizures in Pregnancy Complicated by New Hypoparathyroidism**
Loren Greene[1], Ayse Mohyuddin*[2]. [1]New York University School of Medicine, USA, [2]NYU School of Medicine, USA
Disclosures: Ayse Mohyuddin, None

SU0014 **Induced Bone Formation by a Novel Calcium Phosphate-calcium Sulfate Composite in a Rat Model**
Xu Yang*, Liza Osagie, Antonia Hille, Mathias Bostrom. Hospital for Special Surgery, USA
Disclosures: Xu Yang, None

SU0015 **Recreational Gymnastics: Strengthening the Musculoskeletal System in Young Girls**
Lauren Burt*[1], Geraldine Naughton[1], David Greene[1], Gaele Ducher[2]. [1]Centre of Physical Activity Across the Lifespan, School of Exercise Science, Australian Catholic University, Australia, [2]Noll Laboratory, Department of Kinesiology, Penn State University, USA
Disclosures: Lauren Burt, None

SU0016 **The Use of Intranasal Calcitonin in Improving Bone Mineral Density in Young Patients with Inflammatory Bowel Disease**
Helen Pappa*[1], Catherine Gordon[2], Tracee Saslowsky[3], Rajna Filip-Dhima[4], Diane Difabio[5], Richard Grand[3]. [1]Children's Hospital Boston, USA, [2]Children's Hospital Boston & Harvard Medical School, USA, [3]Department of GI & Nutrition, Children's Hospital Boston, USA, [4]Clinical Research Program, Children's Hospital, USA, [5]Clinical & Translational Study Unit, Children's Hospital, USA
Disclosures: Helen Pappa, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

SU0017 **The Role of Muscle Properties in Predicting pQCT Estimated Bone Strength at the Radius in Midlife**
Amanda Lorbergs*, Jon Farthing, Adam Baxter-Jones, Saija Kontulainen. University of Saskatchewan, Canada
Disclosures: Amanda Lorbergs, None

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

SU0018 **A Survey on Vitamin D Deficiency in Children in Japan**
Kohji Miura*, Noriyuki Namba, Keiichi Ozono. Osaka University Graduate School of Medicine, Japan
Disclosures: Kohji Miura, None

SU0019 **Clinical Regulators of FGF23 in X-linked Hypophosphatemic Rickets: A Cohort Level Analysis**
Mary Ruppe*. University of Texas Health Science Center at Houston, USA
Disclosures: Mary Ruppe, None

SU0020 **GBA1 Deficient Mice Recapitulates Gaucher's Disease Displaying System-wide Cellular and Molecular Dysregulation Beyond the Macrophage.**
Pramod Mistry*[1], Jun Liu[1], Mei Yang[1], Timothy Nottoli[1], James McGrath[1], Dhanpat Jain[1], Kate Zhang[2], Joan Keutzer[2], Wei-Lein Chuang[2], Wajaha Mehal[1], Aiping Lin[1], Shrikant Mane[1], Yuanzhen Peng[3], Jianhua Li[3], Ling-Ling Zhu[3], Harry Blair[4], Lisa Robinson[4], Jammel Iqbal[3], Li Sun[5], Mone Zaidi[6]. [1]Departments of Pediatrics, Medicine, Comparative Medicine, Genetics, & Pathology, Yale School of Public Health, Keck Center for Genomics, Yale School of Medicine, USA, [2]Genzyme Corporation, USA, [3]The Mount Sinai Bone Program, Mount Sinai School of Medicine, USA, [4]University of Pittsburgh, USA, [5]Mount Sinai School of Medicine, USA, [6]Mount Sinai Medical Center, USA
Disclosures: Pramod Mistry, None

SU0021 **Hypoxia-inducible Factor-1 Is a Positive Regulator of Sox9 Activity in the Cartilage Following Femoral Head Ischemia**
Chi Zhang*[1], Fan Yang[2], Reuel Cornelia[2], Wanjin Tang[2], Harry Kim[3]. [1]Bone Research Laboratory, Texas Scottish Rite Hospital, USA, [2]Texas Scottish Rite Hospital, USA, [3]Scottish Rite Hospital for Children, USA
Disclosures: Chi Zhang, None

SU0022 **The Relationship of Intestinal Calcium Absorption with Serum 25-Hydroxyvitamin D Levels in Children on Low Calcium Intakes**
Tom Thacher*[1], Steven Abrams[2]. [1]Mayo Clinic, USA, [2]Baylor College of Medicine, USA
Disclosures: Tom Thacher, None

SU0023 **Vertebral Fractures, Tibial Muscle-Bone Structural Changes and Muscle Hypofunction in Children with Crohn's Disease**
Leanne M. Ward*[1], Frank Rauch[2], Nazih Shenouda[3], David R. Mack[1]. [1]Department of Pediatrics, Children's Hospital of Eastern Ontario, University of Ottawa, Canada, [2]Department of Pediatrics, Shriners Hospital for Children, McGill University, Canada, [3]Department of Diagnostic Imaging, Children's Hospital of Eastern Ontario, University of Ottawa, Canada
Disclosures: Leanne M. Ward, None

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

SU0024 **Calcitriol Administration in Type 1 Diabetic Adolescents: Does It Improve or Impair Bone Health?**
Nicola Napoli*[1], Dario Pitocco[2], Carla Bizzarri[3], Rocky Strollo[1], Reina Villareal[4], Elisa Cipponeri[1], Antonella Lo Rubbio[1], Silvia Manfrini[1], Paolo Pozzilli[1], IMDIAB group[1]. [1]University Campus Biomedico, Italy, [2]Università Cattolica del Sacro Cuore, Italy, [3]Ospedale Pediatrico Bambino Gesù, Italy, [4]University of New Mexico, USA
Disclosures: Nicola Napoli, None

SU0025 **Effectiveness of Bisphosphonates as Treatment of Symptomatic Osteonecrosis occurring in Children Treated for Acute Lymphoblastic Leukemia.**
Coralie Leblicq*[1], Caroline Laverdière[1], Jean-Claude Décarie[1], Albert Moghrabi[1], Julie Dubé[1], Marc Isler[1], Gilles Chabot[2], Nathalie Alos[3]. [1]CHU Sainte-Justine - Université Montréal, Canada, [2]Hopital Saint Justine, Canada, [3]CHU Sainte Justine, Canada
Disclosures: Coralie Leblicq, None

SU0026 **Vitamin D Supplementation in Breastfed Infants: Results of A Prospective Trial in the Southern United States**
Tulasi Ponnapakkam*, Elease Bradford, Robert Gensure. Ochsner Clinic Foundation, USA
Disclosures: Tulasi Ponnapakkam, None

BONE BIOMECHANICS AND QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

SU0027 **Automated and Dynamic Image-guided Failure Assessment of Bone Ultrastructure and Bone Microdamage**
Philipp Schneider*[1], Alina Levchuk[1], Ralph Müller[2]. [1]Institute for Biomechanics, ETH Zurich, Switzerland, [2]ETH Zurich, Switzerland
Disclosures: Philipp Schneider, None

SU0028 **Bone Turnover During Pregnancy in Horses**
Claudia Greiner[1], Etienne Cavalier[2], Benoit Remy[3], Annick Gabriel[4], Frédéric Farnir[4], Zdzislaw Gajewski[5], Bianca Carstanjen*[1]. [1]Freie Universität Berlin, Germany, [2]CHU de Liège, Belgium, [3]Reprobiol, Belgium, [4]Université de Liège, Belgium, [5]Warsaw University of Life Sciences, Poland
Disclosures: Bianca Carstanjen, None

SU0029 **Contribution of Trabecular Microarchitecture and its Heterogeneity to the Mechanical Behavior of Human L3 Vertebrae**
Julien Wegrzyn*[1], Jean-Paul Roux[2], Monique Arlot[3], Stephanie Boutroy[4], Nicolas Vilayphiou[5], Olivier Guyen[6], Pierre Delmas[7], Roland Chapurlat[8], Mary Bouxsein[9]. [1]INSERM U831 - Université de Lyon, France, [2]INSERM, France, [3]Faculte de Medecine Laennec, France, [4]INSERM, Université De Lyon, France, [5]INSERM Unit 831 & Université de Lyon, France, [6]Department of Orthopedic Surgery - Pavillon T. Hopital Edouard Herriot, Lyon, France, France, [7]INSERM U 831, France, [8]E. Herriot Hospital, France, [9]Beth Israel Deaconess Medical Center, USA
Disclosures: Julien Wegrzyn, None

SU0030 **Differences in Bone Quality as Determined by HRpQCT in Postmenopausal Chinese and Caucasian Women**
Marcella Walker*[1], Xiaowei Liu[1], Donald McMahon[1], Julia Udesky[1], George Liu[2], John Bilezikian[1]. [1]Columbia University, USA, [2]New York Downtown Hospital, USA
Disclosures: Marcella Walker, None

SU0031 **Effects of an Ulna Critical Size Defect on Ipsilateral Radius in Rabbit**
Rana Samadfam*[1], Susan Y. Smith[1], Nancy Doyle[2], Aurore Varela[1], Luc Chouinard[3]. [1]Charles River Laboratories, Canada, [2]Charles River, Canada, [3]Charles River Laboratories, PCS Montreal, Canada
Disclosures: Rana Samadfam, Contract Research, 3

SU0032 **Effects of Rosiglitazone on Bone Microarchitecture as Assessed by High Resolution MRI Scans in a Mechanistic Study of Postmenopausal Women with type 2 Diabetes Mellitus**
Cesar Bogado*[1], Fabio Massari[1], Barbara Kravitz[2], Antonio J. Nino[3], Allison R. Northcutt[3], Gitanjali Paul[3], Alexander R. Cobitz[3], Lorraine Fitzpatrick[4]. [1]Instituto De Investigaciones Metabolicas (IDIM), Argentina, [2]GlaxosmithKline Pharmaceuticals, USA, [3]CVM/MDC, GlaxoSmithKline, USA, [4]GlaxoSmithKline, USA
Disclosures: Cesar Bogado, GlaxoSmithKline, 5

SU0033 **Fewer Trabecular Plates and Decreased Connectivity Between Plates and Rods Is Associated with Reduced Bone Stiffness in Postmenopausal Women with Fragility Fractures**
Xiaowei Liu*[1], Emily Stein[2], Bin Zhou[1], Ervis Bezati[1], Thomas Nickolas[3], Adi Cohen[3], Valerie Thomas[3], Chiyuan Zhang[1], Donald McMahon[2], Elizabeth Shane[2], X Guo[1]. [1]Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University Medical Center, USA
Disclosures: Xiaowei Liu, None

SU0034 **Fracture Surface Analysis to Understand the Failure Mechanisms of Collagen Degraded Bone**
Chrystia Wynnyckyj[1], Lisa Wise-Milestone[2], Marc Grynpas*[3], Sidney Omelon[4]. [1]University of Toronto, Canada, [2]Sunnybrook Research Institute, Canada, [3]Samuel Lunenfeld Research Institute, Canada, [4]Chemical & Biological Engineering, University of Ottawa, Canada
Disclosures: Marc Grynpas, None

SU0035 **Geometrically-Equivalent Models for Femoral Neck Bone Cross-Sections**
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Disclosures: Alia Khaled, None

SU0036 **In Situ Mechanical Measurements of Rat Tibia**
Alexander Proctor*. Active Life Technologies, USA
Disclosures: Alexander Proctor, Active Life Technologies, 4

SU0037 **Influence Of Femoral Head Trabecular Arch On The Ostoporotic Femoral Strength: A Finite Element Analysis**
Wafa Skalli*[1], Guillaume Salmon-Legagneur[2], Erwan Jolivet[3], Sandra Guerard[4], Valérie Bousson[5], Jean-Denis Laredo[6]. [1]Arts et Metiers ParisTech, CNRS, France, [2]Arts et Métiers Paristech, LBM, France, [3]Arts et métiers ParisTech, France, [4]Arts et Métiers ParisTech, LNM, France, [5]Hôpital Lariboisière, France, [6]Service de Radiologie ostéo-articulaire, Hôpital Lariboisière, Assistance Publique des Hôpitaux de Paris et Faculté de Médecine Diderot, Université Paris 7, France
Disclosures: Wafa Skalli, None

SU0038 **Longitudinal Study of the Bone Strength in the Proximal Femur in Patients with Glucocorticoid-induced Osteoporosis by DXA-based Hip Structural Analysis**
Ikuko Tanaka*[1], Shigenori Tamaki[2], Jyunichi Ishii[3], Hisaji Oshima[4]. [1]National Institute for Longevity Science, Japan, [2]Department of Rheumatology, Mie Chuou Medical Center, Japan, [3]Fujita Health University School of Medicine, Japan, [4]Tokyo Medical Center, Japan
Disclosures: Ikuko Tanaka, None

SU0039 **Maximum Stress Peaks after Growth while Volumetric Bone Mineral Density does not**
Jesper Thomsen*[1], Annemarie Brüel[2], Kim Brixen[3], Annie Charles[4], Ellen Hauge[5]. [1]Institute of Anatomy, University of Aarhus, Denmark, [2]University of Aarhus, Denmark, [3]Institute for Clinical Research, Denmark, [4]University of Aarhus, Denmark, Denmark, [5]Aarhus University Hospital, Denmark
Disclosures: Jesper Thomsen, None

SU0040 **Radiation Therapy Causes Rapid Loss of Proximal Femur Bone Strength and Density in Women with Gynecological Tumors**
Ted Bateman*[1], Thomas Lang[2], Dana Carpenter[2], Michael Lawrence[3], Varun Sehgal[4], Nilam S. Ramsinghani[4], Jeffrey V. Kuo[4], Muthana Al-Ghazi[4], Jeffrey Willey[5], Joyce Keyak[6]. [1]Univesity of North Carolina, USA, [2]University of California, San Francisco, USA, [3]University Of North Carolina, USA, [4]University of California, Irvine, USA, [5]Clemson University, USA, [6]University of California, USA
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SU0041 **Reduced Bone Mineral Density is not Associated with Reduced Bone Quality in Men and Women Practicing Long-term Calorie Restriction with Adequate Nutrition**
Dennis Villareal[1], John Kotyk[2], Reina Armamento-Villarea*[1], Venkata Kenguva[3], Pamela Seaman[4], Allon Shahar[4], Michael Wald[5], Michael Kleerekoper[6], Luigi Fontana[2]. [1]University of New Mexico School of Medicine, USA, [2]Washington University School of Medicine, USA, [3]St. Lukes Hospital, USA, [4]MicroMRI Inc, USA, [5]University of Pennsylvania School of Medicine, USA, [6]MicroMRI Inc., USA
Disclosures: Reina Armamento-Villarea, Alliance for Better Health, 2

SU0042 **Short-term Implications of Renal Transplantation on Stiffness of Distal Tibia Estimated by MRI-Based Finite Element Modeling**
Chamith Rajapakse*[1], Yusuf Bhagat[2], Mary Leonard[3], Wenli Sun[2], Jeremy Magland[2], Felix Werner Wehrli[4]. [1]University of Pennsylvania School of Medicine, USA, [2]University of Pennsylvania, USA, [3]Children's Hospital of Philadelphia, USA, [4]University of Pennsylvania Medical Center, USA
Disclosures: Chamith Rajapakse, None

SU0043 **Structural Changes of Bone Influence Bone Quality in Ovariectomized Rats**
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Disclosures: ZhiQi Peng, None

SU0044 **The Pattern of Compensatory Trait Interactions Defining Variation in Skeletal Function among Individuals is Recapitulated within a Single Bone**
G. Felipe Duarte[1], N. Remi Gendron[1], Philip Nasser[1], Richard Ghillani[1], Rachel Evans[2], Charles Negus[3], Karl Jepsen*[1]. [1]Mount Sinai School of Medicine, USA, [2]U.S. Army Research Institute of Environmental Medicine, USA, [3]L-3 Applied Technologies, USA
Disclosures: Karl Jepsen, None

SU0045 **Understanding the Effects of Rosiglitazone on Bone as Measured by DXA and HSA: a Mechanistic Study in Postmenopausal Women with Type 2 Diabetes Mellitus**
Lorraine A. Fitzpatrick*[1], Antonio J. Nino[2], Barbara Kravitz[3], Allison R. Northcutt[2], Gitanjali Paul[2], Alexander Cobitz[4]. [1]Biopharm R&D, GlaxosmithKline, USA, [2]CVM/MDC, GlaxoSmithKline, USA, [3]GlaxosmithKline Pharmaceuticals, USA, [4]CVM/MDC GlaxoSmithKline, USA
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BONE BIOMECHANICS AND QUALITY: CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

SU0046 **Effects of Soy Isoflavone Supplements on Bone Turnover Markers in Menopausal Women: Systematic Review and Meta-analysis of Randomized Controlled Trials**
Kyoko TAKU*[1], Melissa K. Melby[1], Mindy S. Kurzer[2], Shoichi Mizuno[1], Shaw Watanabe[1], Yoshiko Ishimi[1]. [1]National Institute of Health & Nutrition, Japan, [2]University of Minnesota, USA
Disclosures: Kyoko TAKU, None

SU0047 **In Vivo Longitudinal Assessment of Microarchitecture and Biomechanical Properties in Women With or Without Treatment: An HR-pQCT Study**
Nicolas Vilayphiou*[1], Stephanie Boutroy[1], Emmanuelle Vignot[2], Elisabeth Sornay-Rendu[1], Françoise Munoz[1], Bert Rietbergen[3], Pierre Delmas[1], Roland Chapurlat[1]. [1]INSERM Unit 831 & Université de Lyon, France, [2]Department of Rheumatology, Hôpital Edouard Herriot, France, [3]Eindhoven University of Technology, The Netherlands
Disclosures: Nicolas Vilayphiou, None

SU0048 **Variations in Cancellous Bone Tissue Composition and Mechanical Properties with a Model of Osteoporosis and Treatment in Sheep**
Jayme Burket*[1], Jennifer MacLeay[2], Shefford Baker[1], Adele Boskey[3], Marjolein Van Der Meulen[1]. [1]Cornell University, USA, [2]Hill's Pet Nutrition, Inc., USA, [3]Hospital for Special Surgery, USA
Disclosures: Jayme Burket, None

BONE BIOMECHANICS AND QUALITY: DISUSE OSTEOPOROSIS

SU0049 **Recovery of Abdominal Adiposity and Vertebral Bone after Multiple Exposures to Mechanical Unloading**
Shikha Gupta*[1], Gunes Uzer[2], Stefan Judex[2]. [1]State University of NY, Stonybrook, USA, [2]Stony Brook University, USA
Disclosures: Shikha Gupta, None

SU0050 **Serum 25(OH)D Levels and Tibia Volumetric Bone Mineral Density (vBMD) in Patients with Chronic Spinal Cord Injury (SCI)**
Kayla Hummel*[1], B. Catharine Craven[2], Lehana Thabane[3], Jonathan Adachi[4], Alexandra Papaioannou[5], Neil McCartney[3], Milos R. Popovic[6], Lora Giangregorio[1]. [1]University of Waterloo, Canada, [2]Toronto Rehabilitation Institute, Canada, [3]McMaster University, Canada, [4]St. Joseph's Hospital, Canada, [5]Hamilton Health Sciences, Canada, [6]University of Toronto/Toronto Rehabilitation Institute, Canada
Disclosures: Kayla Hummel, None

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

SU0051 **Biphasic Transport Characteristics of Various Molecular Weight Tracers Through the Osteocyte LCS of Mechanically Loaded Bone**
Christopher Price*[1], Xiaozhou Zhou[2], Wen Li[2], Bin Wang[2], Liyun Wang[1]. [1]University of Delaware, USA, [2]University of Delaware, Center for Biomedical Engineering Research, Department of Mechanical Engineering, USA
Disclosures: Christopher Price, None

SU0052 **Effects of Regular Physical Activity in Osteocyte Apoptosis and Bone Strength Following Ovariectomy**
Helder Fonseca*[1], Daniel Moreira-Gonçalves[2], Maria Paula Mota[3], José Alberto Duarte[2]. [1]CIAFEL, Faculty of Sport Sciences, University of Porto, Portugal, [2]CIAFEL, Faculty of Sport, University of Porto, Portugal, [3]CATED, Department of Sport, University of Trás-os-Montes e Alto Douro, Portugal
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SU0053 **Prostaglandin E_2 Released by Osteocytes after Sustained Mechanical Loading Activates ERK Signaling that Directly Phosphates Connexin 43 Leading to the Closure of Hemichannels**
Sirisha Burra[1], Xuechun Xia[2], Paul Lampe[3], Lynda Bonewald[4], Eugene Sprague[2], Jean Jiang*[5]. [1]University of Texas, USA, [2]University of Texas Health Science Center, USA, [3]Fred Hutchinson Cancer Research Center, USA, [4]University of Missouri - Kansas City, USA, [5]University of Texas Health Science Center at San Antonio, USA
Disclosures: Jean Jiang, None

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

SU0054 **A Six-Month Vibration Intervention Did Not Enhance Bone Adaptation in Healthy Young Females**
Charles Negus*[1], Rachel Evans[2], Mark Lester[2], Amanda Antczak[3], Kathleen Galloway[4]. [1]L-3 Applied Technologies, USA, [2]U.S. Army Research Institute of Environmental Medicine, USA, [3]S. Army Research Institute of Environmental Medicine, USA, [4]School of Physical Therapy, Belmont University, USA
Disclosures: Charles Negus, None

SU0055 **Effects of Animal Enclosure Module Spaceflight Hardware on the Skeletal Properties of Ground Control Mice**
Shane Lloyd*[1], Virginia Ferguson[2], Steven Simske[3], Alexander Dunlap[4], Eric Livingston[5], Ted Bateman[6]. [1]The Pennsylvania State University College of Medicine, USA, [2]University of Colorado, USA, [3]BioServe Space Technologies, University of Colorado, USA, [4]National Aeronautics & Space Administration Headquarters, USA, [5]Clemson University, USA, [6]Univesity of North Carolina, USA
Disclosures: Shane Lloyd, None

SU0056 **Evidence for Increased Tibial Posterior Bone Remodeling in Elite Male Recruits with Bone Overuse Injury**
Amanda Antczak*[1], Rachel Evans[2], Charles Negus[3], Amir Hadid[4], Yael Arbel[4], Ran Yanovich[4], Daniel S. Moran[4]. [1]US Army Research Institute of Environmental Medicine, USA, [2]U.S. Army Research Institute of Environmental Medicine, USA, [3]L-3 Applied Technologies, USA, [4]Heller Institute of Medical Research, Sheba Medical Center, Israel
Disclosures: Amanda Antczak, None

SU0057 **Identification of Novel Microanatomical Structures in Bone from a Patient with Alkaptonuria**
Adam Taylor*[1], Alan Boyde[2], John Davidson[3], Jonathan Jarvis[1], Lakshminarayan Ranganath[1], James Gallagher[1]. [1]University of Liverpool, United Kingdom, [2]Institute of Dentistry, Barts & The London School of Medicine & Dentistry, United Kingdom, [3]Royal Liverpool & Broadgreen University Hospital Trust, United Kingdom
Disclosures: Adam Taylor, None

SU0058 **In Vivo Mechanical Loading of the Skeletal Mature Rabbit Tibia Model**
Thomas Willett*[1], Jian Wang[2], Richard Renlund[2], Marc Grynpas[3]. [1]Mount Sinai Hospital, Canada, [2]University of Toronto, Canada, [3]Samuel Lunenfeld Research Institute, Canada
Disclosures: Thomas Willett, None

SU0059 **Intramedullary Pressure Induced by Dynamic Hydraulic Pressure Stimulation and Its Potential in Bone Adaptation**
Yi-Xian Qin*[1], Minyi Hu[2], Frederick Serra-Hsu[3], Suzanne Ferreri[2], Jiqi Cheng[2], Zongkang Zhang[2], Yunkai Huang[2], Denis Evangelista[2]. [1]State University of New York at Stony Brook, USA, [2]Stony Brook University, USA, [3]State University of New York, Stony Brook, USA
Disclosures: Yi-Xian Qin, None

SU0060 **Relationship Between Appendicular Bone Structural Measurements and Functional Capacity in Women**
Andy Kin On Wong*[1], Karen Beattie[1], Colin Webber[2], Laura Pickard[1], Dean Inglis[3], Angela Cheung[4], Christopher Gordon[1], Alexandra Papaioannou[2], Jonathan Adachi[5]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]Department of Civil Engineering, McMaster University, Canada, [4]University Health Network, Canada, [5]St. Joseph's Hospital, Canada
Disclosures: Andy Kin On Wong, None

SU0061 **Timing Skeletal Loading to Optimally Enhance Bone Formation**
Sundar Srinivasan*[1], Dewayne Threet[1], Jitendra Prasad[2], Brandon Ausk[1], Steven Bain[1], Ted Gross[1]. [1]University of Washington, USA, [2]University of Washington, Seattle, USA
Disclosures: Sundar Srinivasan, NIH, 2

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: ANALYSIS TECHNIQUES

SU0062 **Comparison of Bone Mineralization using Microcomputed Tomography and Transmission X-ray Microscopy**
Grace Kim*[1], Garry Brock[1], Florian Meirer[2], Eduardo Almeida[3], Joy Andrews[4], Marjolein Van Der Meulen[1]. [1]Cornell University, USA, [2]Technical University of Vienna, Austria, [3]NASA Ames Research Center, USA, [4]Stanford Synchrotron Radiation Lightsource, USA
Disclosures: Grace Kim, None

SU0063 **Fluorescence Based, Observer Independent Dynamic Bone Histomorphometry**
Seung-Hyun Hong*[1], Xi Jiang[2], Li Chen[2], Dong-Guk Shin[1], David Rowe[2]. [1]University of Connecticut, USA, [2]University of Connecticut Health Center, USA
Disclosures: Seung-Hyun Hong, None

SU0064 **New Fluorescent Protein Reporter Animal Models to Study Skeletal Biology**
Peter Maye*, Yu Fu, Xi Jiang, Yaling Liu, Mary Louise Stover, David Rowe. University of Connecticut Health Center, USA
Disclosures: Peter Maye, None

SU0065 **Relevance of Enzymatic Collagen Crosslinks Analysis by Infrared Microspectroscopy in Bone Tissue**
Delphine Farlay*[1], Marie-Eve Duclos[2], Cindy Bertholon[1], Evelyne Gineyts[1], Stephanie Viguet-Carrin[3], Ganesh D Sockalingum[4], Dominique Bertrand[5], Thierry Roger[6], Daniel J Hartmann[2], Roland Chapurlat[7], Georges Boivin[8]. [1]INSERM U831, Université de Lyon, France, [2]Université de Lyon, France, [3]E. Herriot Hospital, France, [4]CNRS UMR6237, Université de Reims, France, [5]INRA, France, [6]Ecole Nationale Vétérinaire de Lyon, France, [7]INSERM U831, Hopital Edouard Herriot, France, [8]INSERM, France
Disclosures: Delphine Farlay, None

SU0066 **Screening Bone for Collagen Content Using MicroCT**
Maria Squire*[1], Jennifer A. Tripp[2], Matthew Mariyampillai[1], Julie Hamilton[3], Robert E.M. Hedges[3]. [1]Department of Biology, The University of Scranton and San Francisco State University, USA, [2]Department of Chemistry, The University of Scranton, USA, [3]Research Laboratory for Archaeology & the History of Art, University of Oxford, United Kingdom
Disclosures: Maria Squire, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: ANALYSIS: CALCIFICATION

SU0067 **Linear Polyphosphates (PolyP5 and PolyP65) Inhibit MC3T3-E1 Osteoblast Culture Mineralization via Direct Binding to Mineral**
Betty Hoac, Marc McKee*. McGill University, Canada
Disclosures: Marc McKee, None

SU0068 **Raman Spectroscopy of Neonatal Murine Calvaria Reveals Periodic Mineralization in Fontanel**
Michael Morris*, John-David McElderry, Guisheng Zhao, Renny Franceschi. University of Michigan, USA
Disclosures: Michael Morris, Kaiser Optical Systems, Inc., 5

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: CARTILAGE AND CHONDROCYTES

SU0069 **A 30-bp Murine *Col10a1* Distal Promoter is Responsible for Its Hypertrophic Chondrocyte-specific Expression In Vivo**
Feifei Li*[1], Yaojuan Lu[1], Sam Abbassi[1], Yuqing Chen[2], Ming Ding[1], Siying Wang[3], Brendan Lee[4], Qiping Zheng[1]. [1]Rush University Medical Center, USA, [2]Baylor College of Medicine, China, [3]Anhui Medical University, China, [4]Baylor College of Medicine, USA
Disclosures: Feifei Li, None

SU0070 **Carbonic Anhydrase 9 Suppresses Hypertrophic Differentiation of Chondrocytes.**
Toshifumi Maruyama*[1], Yoichi Miyamoto[1], Atsushi Yamada[2], Gou Yamamoto[3], Kentaro Yoshimura[1], Tomohito Akiyama[4], Tetsuo Suzawa[1], Masamichi Takami[1], Tetsuhiko Tachikawa[3], Kazuyoshi Baba[4], Ryutaro Kamijo[5]. [1]Showa University School of Dentistry, Japan, [2]Showa University School of Dentistry, Japan, [3]Department of Oral Pathology, Showa University School of Dentistry, Japan, [4]Department of Prothodontics, Showa University School of Dentistry, Japan, [5]Department of Biochemistry, Showa University School of Dentistry, Japan
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SU0071 **Chronology of Growth Hormone (GH) Receptor, Insulin-like Growth Factor (IGF) Type I Receptor, IGFI and IGFII Expression in Human Fetal Epiphyseal Chondrocytes from 7-20 Weeks Fetal Age**
Cynthia Goodyer, Marcel Edwards*. McGill University, Canada
Disclosures: Marcel Edwards, None

SU0072 **Dynamic Effects of Nfat1 and Sox9 on Articular Chondrocyte Function Associate with their Age-related Expression and Epigenetic Histone Modifications**
Marianna Rodova[1], Qinghua Lu[1], Ye Li[1], Brent Woodbury[1], Jamie Crist[1], Brian Gardner[1], John Yost[1], Xiao-bo Zhong[1], H Clarke Anderson[1], Jinxi Wang*[2]. [1]The University of Kansas Medical Center, USA, [2]University of Kansas Medical Center, USA
Disclosures: Jinxi Wang, None

SU0073 **IL-6 is Stimulant for Initial Chondrocytic Differentiation in Chondrogenic Condition of Hypoxia.**
Yui Honjo*[1], Makoto Hirao[2], Yoshitaka Kawato[1], Hiroki Oze[1], Kenrin Shi[1], Akira Myoui[3], Hideki Yoshikawa[2], Jun Hashimoto[2]. [1]Department of Orthopaedics,Osaka University Graduate School of Medicine, Japan, [2]Osaka University Graduate School of Medicine, Japan, [3]Osaka University Hospital, Japan
Disclosures: Yui Honjo, None

SU0074 **Lack of Pericyte Contribution to BMP4-induced Heterotopic Ossification**
Eileen Shore[1], Frederick Kaplan[2], Vitali Lounev*[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania Hospital, USA
Disclosures: Vitali Lounev, None

SU0075 **Mechanical Response of Chondrocytes to Cyclic Loading is Age Dependent**
Craig Blanchette*[1], Cynthia Thomas[1], Todd Sulchek[2], Nadeen Chahine[3], Gabriela Loots[4]. [1]Lawrence Livermore National Laboratories, USA, [2]Georgia Tech Research Institute, Georgia, [3]Feinstein Institute for Medical Research, USA, [4]LLNL/UC Merced, USA
Disclosures: Craig Blanchette, None

SU0076 **Over-expression of VEGF164 is Not Sufficient to Fully Prevent the Cell Death of HIF-1α Deficient Growth Plates**
Christa Maes*[1], Elisa Araldi[2], Katharina Haigh[3], Richa Khatri[2], Riet Van Looveren[1], Amato J. Giaccia[4], Jody J. Haigh[3], Geert Carmeliet[5], Ernestina Schipani[2]. [1]Laboratory of Experimental Medicine & Endocrinology, K.U.Leuven, Belgium, [2]Massachusetts General Hospital & Harvard Medical School, USA, [3]Vascular Cell Biology Unit, VIB & University Ghent, Belgium, [4]Department of Radiation Oncology, Stanford University, USA, [5]Katholieke Universiteit Leuven, Belgium
Disclosures: Christa Maes, None

SU0077 **Primary Cilia are Required for Ihh Signal Transductioon in Response to Hydrostatic Loading of Growth Plate Chondrocytes**
Lai Wang[1], Yvonne Shao*[1], Jean Welter[2], Robert Ballock[3]. [1]Cleveland Clinic, USA, [2]Case Western Reserve University, USA, [3]The Cleveland Clinic Foundation, USA
Disclosures: Yvonne Shao, None

SU0078 **Recombinant Myostatin (GDF-8) Treatment Decreases Chondrogenesis *In Vitro* and Decreases Fracture Callus Bone Volume *In Vivo*.**
Moataz Elkasrawy*, Phonpasong Arounleut, Mark Hamrick. Medical College of Georgia, USA
Disclosures: Moataz Elkasrawy, None

SU0079 **Regulation of the CamkII Node Determines Proliferative Potential in Growth Plate Chondrocytes**
Yuwei Li, Andrew Dudley*, Molly Ahrens. Northwestern University, USA
Disclosures: Andrew Dudley, None

SU0080 **Wnt5b Regulates Mesenchymal Cell Aggregation and Chondrocyte Differentiation through the Planar Cell Polarity Pathway**
Elizabeth Bradley*, Hicham Drissi. University of Connecticut Health Center, USA
Disclosures: Elizabeth Bradley, None

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

SU0081 **Differential and Site Specific Gene Expression of Adult Rodent Long Bones Following Hindlimb Unloading and Periods of Reloading Adaptation**
Daniel Martinez*[1], Laura Gutierrez[1], Kristin Reddoch[1], Meaghen Krebsbach[1], Yasaman Shirazi-Fard[2], Susan Bloomfield[2], Harry Hogan[2]. [1]University of Houston, USA, [2]Texas A&M University, USA
Disclosures: Daniel Martinez, None

SU0082 **Dlk1/FA1 Regulates the Early Chondrocyte Differentiation in Limb Bud Micromass Culture and its Expression is Modulated by TGF-beta Singaling Pathway**
Basem Abdallah*[1], Linda Harkness[2], Hanna Taipaleenmaki[3], Moustapha Kassem[4]. [1]Odense University Hospital , University of South Denmark, Denmark, [2]Department of Endocrinology (KMEB Lab.), Odense University Hospital, Denmark, [3]Department of Medical Biochemistry & Molecular Biology, University of Turku, Turku, Finland, Denmark, [4]Odense University Hospital, Denmark
Disclosures: Basem Abdallah, None

SU0083 **Elucidation of WISP1 Protein Function in Chondrocytes**
Katrin Schlegelmilch[1], Viola Monz[1], Alexander Keller[2], Ludger Klein-Hitpass[3], Norbert Schuetze*[1]. [1]University of Wuerzburg, Orthopedic Center for Musculoskeletal Research, Germany, [2]University of Wuerzburg, Biocenter, Department of Bioinformatics, Germany, [3]University of Duisburg-Essen, Institute of Cell Biology (Tumor Research), Germany
Disclosures: Norbert Schuetze, None

SU0084 **Gene Transfer of RUNX-2, Osterix Transcription Factor Promotes Osteogenesis of Adipose Tissue-derived Mesenchymal Stem Cells**
Gun Il Im[1], Jai Sun Lee*[2]. [1]Department of Orthopaedics, Dongguk university international hospital, South Korea, [2]Dongguk University International Hospital, South Korea
Disclosures: Jai Sun Lee, None

SU0085 **Investigating the Developmental Origins of the Meniscus**
Dorothy Pazin*[1], Laura Gamer[2], Karen Cox[2], Vicki Rosen[3]. [1]Harvard School of Medicine, USA, [2]Department of Developmental Biology, Harvard School of Dental Medicine, USA, [3]Harvard School of Dental Medicine, USA
Disclosures: Dorothy Pazin, None

SU0086 **PERP Regulates Ameloblast Adhesion and Is Critical for Proper Enamel Formation**
Andrew Jheon*[1], Malcolm Snead[2], Rebecca Ihrie[1], Eli Sone[3], Pasha Mostowfi[1], Laura Attardi[4], Ophir Klein[1]. [1]University of California, San Francisco, USA, [2]USC, USA, [3]University of Toronto, Canada, [4]Stanford, USA
Disclosures: Andrew Jheon, None

SU0087 **The Function of Sox4 Transcription Factors in Zebrafish Bone Development and Homeostasis**
Jessica Aceto*, Patrick Motte, Martial Joseph, Marc Muller. University of Liege, Belgium
Disclosures: Jessica Aceto, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: GENERAL

SU0088 **A Non-cell Autonomous Role for *rpz* in Skeletogenesis.**
Matthew Goldsmith*[1], Douglas Oppedal[2], Bendi Gong[2]. [1]Washington University School of Medicine, USA, [2]Washington University, USA
Disclosures: Matthew Goldsmith, None

SU0089 **A Novel OI Mouse Model with *Col1A1* Splicing Site Mutation**
Joan Marini[1], Weizhong Chang*[2]. [1]National Institute of Child Health & Human Development, USA, [2]National Institutes of Health, USA
Disclosures: Weizhong Chang, None

SU0090 **Bio-composite Microfluidic Platforms for Bone Cell Mechanobiology Study**
Dina Badawy*[1], Yan Zhao[2], Lidan You[3], Hani Naguib[1]. [1]University of Toronto, Canada, [2]China Everbright Bank, Beijing Department, China, [3]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Dina Badawy, None

SU0091 **Effect of Low Dose Ionizing Radiation on Bone Microarchitecture and Bone Marrow Progenitor Differentiation**
Florence Lima*[1], Joshua Swift[2], Elisabeth Greene[1], Matthew Allen[3], David A Cunningham[1], Leslie Braby[1], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]United States Navy, USA, [3]Indiana University School of Medicine, USA
Disclosures: Florence Lima, None

SU0092 **ERbeta Antagonist PHTPP Promotes Bone Repair in Osteoporotic Mice: A microCT and Biomechanical Study**
Yixin HE*[1], Ge Zhang[2], Zhong Liu[3], Xiaohua Pan[4], Xinhui Xie[5], Chun-Wai Chan[6], Kwong-Man Lee[7], Gang Li[8], Ling Qin[9]. [1]The Cuinese University of Hong Kong, Hong Kong, [2]Price of Wales Hospital, Peoples Republic of China, [3]Musculoskeletal Research Laboratory, Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Hong Kong SAR, China, China, [4]Department of Orthopedics, Second Hospital of Medical College of Ji Nan University, Shenzhen People's Hospital, Shenzhen, China, [5]The Chinese University of Hongkong, Hong Kong, [6]Musculoskeletal Laboratory, Department of Orthopedics & Traumatology, The Chinese University of Hong Kong, China, [7]Lee Hysan Clinical Research Laboratory, The Chinese University of Hong Kong, China, [8]The Chinese University of Hong Kong, Peoples Republic of China, [9]Chinese University of Hong Kong, Peoples Republic of China
Disclosures: Yixin HE, None

SU0093 **Estradiol Treatment Increases Cortical Vascularisation in Ovariectomized Mice**
Phil Salmon*[1], Anna Borjesson[2], Sara Windahl[2], Claes Ohlsson[2]. [1]Skyscan N.V., Belgium, [2]Centre for Bone & Arthritis Research, Sweden
Disclosures: Phil Salmon, SkyScan NV, 3

SU0094 **Higher Occurrence of Knee OA in Older Female Baboons and the Value of the Baboon in Studies of Naturally Occurring Human Knee OA**
Daniel Araujo[1], Tanya Lerma[1], Thomas Macrini[1], Todd Bredbenner[2], Daniel Nicolella[2], Lorena Havill*[3]. [1]St. Mary's University, USA, [2]Southwest Research Institute, USA, [3]Southwest Foundation for Biomedical Research, USA
Disclosures: Lorena Havill, None

SU0095 **Programming of Bone Tissue by Early Exposure to Soy Isoflavones: Comparison of Two Dosing Protocols**
Wendy Ward, Jovana Kaludjerovic, Elsa Dinsdale*. University of Toronto, Canada
Disclosures: Elsa Dinsdale, None

SU0096 **The Role of *Hox11* Genes in the Formation and Integration of the Musculoskeletal System**
Ilea Swinehart*[1], Deneen Wellik[2]. [1]University of Michigan, USA, [2]University of Michigan Medical Center, USA
Disclosures: Ilea Swinehart, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: MATRIX PROTEINS

SU0097 **Osteoblast Attachment to Fibronectin Regulates Calcium Signaling**
James Knox, Patricia Jones*, Randall Duncan. University of Delaware, USA
Disclosures: Patricia Jones, None

SU0098 **Osteocalcin Gene and Protein Expression in Rat Neural Tissues**
Daniel Benjamin[1], Christopher Franz[2], Patricia Buckendahl*[2]. [1]Cenoxsys Corporation, USA, [2]Rutgers University, USA
Disclosures: Patricia Buckendahl, None

SU0099 **Proteomics Approach to Study Proteins from Laser Microdissected Bone Tissue**
Deepak Vashishth, Grazyna Sroga*. Rensselaer Polytechnic Institute, USA
Disclosures: Grazyna Sroga, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: MECHANICAL STRESS

SU0100 **Compositional and Material Properties of Rat Bone after Bisphosphonate and/or Strontium Ranelate Drug Treatment**
Yuchin Wu*, David Munoz-Paniagua, Samer Adeeb, M. John Duke, Michael Doschak. University of Alberta, Canada
Disclosures: Yuchin Wu, None

SU0101 **Development of an Arrayed Platform for the Investigation of Matrix Control of Stem Cell Osteogenic Differentiation**
Wen Li Chen*, Craig A. Simmons. University of Toronto, Canada
Disclosures: Wen Li Chen, None

SU0102 **Effects of Tamoxifen and ICI 182,780 on Bone's Response to Mechanical Loading in Female Mice**
Toshihiro Sugiyama*[1], Gabriel Galea[2], Lance Lanyon[2], Joanna Price[1]. [1]University of Bristol, United Kingdom, [2]Royal Veterinary College, United Kingdom
Disclosures: Toshihiro Sugiyama, None

SU0103 **Genetic Loci that Define Trabecular Bone's Plasticity during Unloading and Reambulation**
Stefan Judex*[1], Engin Ozcivici[2], Weidong Zhang[3], Leah Rae Donahue[4]. [1]Stony Brook University, USA, [2]Mass General Hospital, USA, [3]The Jackson Laboratory, USA, [4]Jackson Laboratory, USA
Disclosures: Stefan Judex, None

SU0104 **Hyper-occlusion Stimulated Osteoclast Recruitment Though Chemokines Expression**
Tetuomi Nemoto, Takashi Tsuzuki, Hironobu Sato, Hiroshi Kajiya, Kazuko Goto*, Koji Okabe. Fukuoka Dental College, Japan
Disclosures: Kazuko Goto, None

SU0105 **Neonatal Mechanical and Tactile Stimulation (MTS) Improves Markers of Bone Growth in Adult Rats from a Neonatal Stress Model.**
Shannon Haley*[1], Shannon O'Grady[2], Kristy Gulliver[2], Roberto Baldassarre[2], Brett Barrett[3], Robert Lane[2], Laurie Moyer-Mileur[2]. [1]University of Utah School of Medicine, USA, [2]University of Utah, USA, [3]Univeristy of Utah, USA
Disclosures: Shannon Haley, None

SU0106 **Trabecular Bone Homeostasis is Modulated by Neuromuscular Proprioception**
Steven Bain*[1], Sandra Poliachik[2], DeWayne Threet[1], Sundar Srinivasan[1], Ted Gross[1]. [1]University of Washington, USA, [2]Seattle Children's Hospital, USA
Disclosures: Steven Bain, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: CALCITONIN AND RELATED PEPTIDES

SU0107 **Mice Over-expressing Salmon Calcitonin have Strongly Attenuated Bone and Cartilage Changes after Destabilization of the Medial Meniscus**

Bodil Sondergaard[1], Catherine Cruger Hansen[2], Thorsten Schinke[3], Suzi Madsen[2], Anne-Christine Bay-Jensen[1], Morten Karsdal*[2]. [1]Nordic Bioscience, Denmark, [2]Nordic Bioscience A/S, Denmark, [3]University Hospital Hamburg, Eppendorf, Germany

Disclosures: Morten Karsdal, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: FGF23 AND OTHER PHOSPHATONINS

SU0108 **Is there a Potential Role of FGF-23 in Regulation of Fracture Healing?**

Ulla Stumpf*[1], Birgit Willmann[2], Joachim Windolf[1], Walter-Josef Fassbender[3]. [1]Dept. of Traumatology & Hand Surgery, University Clinic Duesseldorf, Germany, [2]Hospital zum Hl. Geist Kempen, Germany, [3]Hospital Zum Hl. Geist, Chefarzt Der Inneren Abteilung, Germany

Disclosures: Ulla Stumpf, None

SU0109 **Measurement of Serum KLOTHO, a Co-receptor for FGF23, in X-linked Hypophosphatemic Rickets.**

Erik Imel*[1], Amie Gray[1], Hisashi Hasegawa[2], Yuji Yamazaki[2], Michael Econs[1]. [1]Indiana University School of Medicine, USA, [2]Kyowa Hakko Kirin, Japan

Disclosures: Erik Imel, None

SU0110 **Novel Insight of Phosphate-overload on Atherosclerosis: Self-limiting Process of Arterial Calcification in Type III Na-dependent Pi Transporter-overexpressing Rats**

Atsushi Suzuki*[1], Sahoko Sekiguchi[2], Megumi Shibata[2], Shogo Asano[1], Junichi Yasutake[3], Hiromi Takanashi[3], Teruyuki Sakai[3], Mitsuyasu Itoh[1]. [1]Fujita Health University Division of Endocrinology, Japan, [2]Fujita Health University, Division of Endocrinology, Japan, [3]Kyowa Hakko Kirin Co., Ltd, Drug Discorvery Research Lab, Japan

Disclosures: Atsushi Suzuki, Kyowa Hakko Kirin Co,ltd, 2

SU0111 **Overexpression of the Type III Sodium-dependent Phosphate Transporter Pit1 Markedly Perturbs Enamel Formation during Tooth Development**

Hirotaka Yoshioka*[1], Yuji Yoshiko[2], Tomoko Minamizaki[1], Asako Nobukiyo[2], Yusuke Sotomaru[2], Atsushi Suzuki[3], Mitsuyasu Itoh[4], Norihiko Maeda[1]. [1]Hiroshima University Graduate School of Biomedical Sciences, Japan, [2]Hiroshima University, Japan, [3]Fujita Health University Division of Endocrinology, Japan, [4]Fujita Health University School of Medicine, Japan

Disclosures: Hirotaka Yoshioka, None

SU0112 **Transrepression of Renal 25-hydroxyvitamin D_3 1α-hydroxylase (CYP27B1) Gene Expression by Thyroid Hormone Receptor β1**

Mina Kozai*[1], Hironori Yamamoto[2], Masashi Masuda[1], Yuichiro Takei[3], Sarasa Tanaka[1], Yutaka Taketani[1], Ken-Ichi Miyamoto[4], Shigeaki Kato[5], Eiji Takeda[6]. [1]University of Tokushima, Japan, [2]University Tokushima, Japan, [3]The University of Tokushima School of Medicine, Japan, [4]Tokushima University School of Medicine, Japan, [5]University of Tokyo, Japan, [6]University of Tokushima School of Medicine, Japan

Disclosures: Mina Kozai, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

SU0113 **Cytoplasmic Polyadenylation Element Binding Protein is a Conserved Target of Tumor Suppressor *HRPT2/CDC73***

Jianhua Zhang[1], Leelamma Panicker[1], Erica Seigneur[1], William Simonds*[2]. [1]Metabolic Diseases Branch/ NIDDK, USA, [2]National Institute of Diabetes & Digestive & Kidney Diseases, USA

Disclosures: William Simonds, None

SU0114 **Determinants of Plasma PTH and Their Implication for Defining a Reference Interval**
Lars Rejnmark*[1], Peter Vestergaard[1], Lene Heickendorff[2], Leif Mosekilde[1]. [1]Aarhus University Hospital, Denmark, [2]Dept of Clinical Biochemistry, Denmark
Disclosures: Lars Rejnmark, None

SU0115 **Development of a 1-84 Specific Parathyroid Hormone Assay for the LIAISON Analyzer**
Kim Paulsen*, Scott Bergmann, Cindy Zuo, Christa Klatt, Trent Kowalchyk, Frank Blocki, Joshua Soldo, John Walter. DiaSorin Inc., USA
Disclosures: Kim Paulsen, DiaSorin, Inc., 3

SU0116 **MKP-1 Knockout Mice Reveal Sexual Dimorphism in Bone Mass and Disparate PTHrP Responsiveness of Primary Calvarial Osteoblasts**
Nabanita Datta*[1], Chandrika Mahalingam[1], Jaclynn Kreider[2], Keith Kirkwood[3], Steven Goldstein[4], Abdul Abou-Samra[5]. [1]Wayne State University School of Medicine, USA, [2]University of Michigan, USA, [3]Medical University of South Carolina, USA, [4]University of Michigan Orthopedic Research Labs, USA, [5]Wayne State University, School of Medicine, USA
Disclosures: Nabanita Datta, None

SU0117 **Normocalcemic Primary Hyperparathyroidism in Patients With Low Bone Mass: Biochemical and Clinical Characteristics**
Muriel Babey*[1], Spiros Arampatzis[2], Albrecht Popp[2], Jotinder Schuematschek-Kainth[2], Peter A Kopp[3], Kurt Lippuner[2]. [1]Endocrine Research Unit, USA, [2]Osteoporosis Policlinic, University of Bern, Switzerland, [3]Division of Endocrinology, Metabolism & Molecular Medicine, USA
Disclosures: Muriel Babey, None

SU0118 **Osteocytes do not Mediate the Stimulatory Effect of Parathyroid Hormone (PTH) on the Bone Marrow Hematopoietic Stem Cell Niche**
Laura Calvi*[1], Olga Bromberg[2], Yumie Rhee[3], Jonathan Weber[2], Julianne Smith[2], Racheal Lee[4], Miles Basil[2], Benjamin Frisch[1], Teresita Bellido[5]. [1]University of Rochester School of Medicine, USA, [2]Department of Medicine, Division of Endocrinology & Metabolism, University of Rochester School of Medicine, USA, [3]IUMS, Yonsei University, College of Medicine, South Korea, [4]Department of Internal Medicine, College of Medicine, Yonsei University, South Korea, [5]Indiana University School of Medicine, USA
Disclosures: Laura Calvi, None

SU0119 **Withdrawn**

SU0120 **Vitamin D Status and its Association with Vitamin D Intake in Finnish Children and Adolescents**
Minna Pekkinen*[1], Heli Viljakainen[2], Elisa Saarnio[1], Christel Lamberg-Allardt[1], Outi Makitie[3]. [1]University of Helsinki, Finland, [2]Helsinki University Central Hospital for Children & Adolescents, Finland, [3]Hospital for Children & Adolescents, University of Helsinki, Finland
Disclosures: Minna Pekkinen, None

CANCER AND BONE: BREAST AND PROSTATE

SU0121 **A Cross-sectional Study Evaluating Bone Quantity and Quality in Women with Bone Metastases from Breast Cancer.**
Orit Freedman*[1], Eitan Amir[2], Mark Clemons[3], Esther Lee[2], Hanxian Hu[4], George Dranitsaris[2], Angela Cheung[4]. [1]Durham Regional Cancer Centre, Canada, [2]Princess Margaret Hospital, Canada, [3]The Ottawa Hospital Cancer Centre, Canada, [4]University Health Network, Canada
Disclosures: Orit Freedman, None

SU0122 **CD68 Plays a Role in Mediating Attachment of Breast Cancer Cells to Bone**
Erin McCoy*, Zhenqi Shi, Jason Ashley, Xu Feng. University of Alabama at Birmingham, USA
Disclosures: Erin McCoy, None

SU0123 **High Resolution MRI, Vertebral Fractures and Misclassification of Osteoporosis in Men with Prostate Cancer**
Julie Wagner, Donna Medich, Megan Miller, Joel Nelson, Neil Resnick, Subashan Perera, Susan Greenspan*. University of Pittsburgh, USA
Disclosures: Susan Greenspan, None

SU0124 **Inhibition of Breast Cancer Bone Metastasis and Osteolysis by Omega-3 Docosahexaenoic Acid.**
Gabriel Fernandes*[1], Ganesh Halade[2], Md M Rahman[2], Jyothi M Veigas[2], Yoneda Toshiyuki[3], Paul J Williams[2]. [1]University of Texas Health Science Centre, USA, [2]University of Texas Health Science Center at San Antonio, USA, [3]Osaka University Graduate School of Dentistry, Japan
Disclosures: Gabriel Fernandes, None

SU0125 **Ovarian Failure and Body Composition Changes in Women with Breast Cancer Treated with Adjuvant Chemotherapy**
Angela M. Gordon*[1], Shelley Hurwitz[1], Charles L. Shapiro[2], Meryl Leboff[1]. [1]Brigham & Women's Hospital, USA, [2]Ohio State University Medical Center, USA
Disclosures: Angela M. Gordon, None

SU0126 **Profiling of Genes Expressed in Breast Cancer Cells Colonized in Bone Identified NEDD9 as a Novel TGF-β Target Gene**
Yoshihiro Morita*[1], Kenji Hata[2], Masako Nakanishi[2], Toshihiko Nishisho[3], Yoshiaki Yura[1], Toshiyuki Yoneda[2]. [1]Osaka Univ Grad Sch Dent, Japan, [2]Osaka University Graduate School of Dentistry, Japan, [3]BIGLOBE NEC, Japan
Disclosures: Yoshihiro Morita, None

SU0127 **PTHrP Suppression by Novel Bis-Cyclic Thioureas Identified by Combinatorial Chemistry Inhibits the Proliferation of Cancer Cells**
Leonard Deftos*[1], Adel Nefzi[2], Douglas Burton[1], Su Tu[1], Rick Quintana[1], Randolph Hastings[1]. [1]Veterans Administration San Diego Healthcare System & University of California, USA, [2]Torrey Pines Institute for Molecular Studies, USA
Disclosures: Leonard Deftos, None

SU0128 **Reduced Risk of Breast Cancer and Breast Cancer Death in Postmenopausal Women Prescribed Alendronate - National Register Based Cohort Study**
Bo Abrahamsen*[1], Michael Pazianas[2], Pia Eiken[3], Richard Eastell[4], R Graham Russell[2]. [1]Copenhagen University Hospital Gentofte, Denmark, [2]University of Oxford, United Kingdom, [3]Cardiology & Endocrinology, Hillerød Hospital, Denmark, [4]University of Sheffield, United Kingdom
Disclosures: Bo Abrahamsen, Novartis, 2; Eli Lilly, 8; Merck, 8; Amgen, 5; Nycomed, 5

SU0129 **Role of Prostaglandin E Receptor EP4 in Breast Cancer Growth and Osteolysis Due to Bone Metastasis**
Satoshi Yokoyama[1], Morichika Takita[1], Takayuki Maruyama[2], Chisato Miyaura[1], Masaki Inada*[3]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Ono Pharmaceutical Co. Ltd, Japan, [3]Toyko University of Agriculture & Technology, Japan
Disclosures: Masaki Inada, None

SU0130 **Runx2 Transcriptome of Prostate Cancer Cells: Insights into Invasiveness and Bone Metastasis**
Sanjeev Baniwal*[1], Omar Khalid[2], Yankel Gabet[1], Ruchir R Shah[3], Daniel J Purcell[1], Deepak Mav[3], Alice E. Kohn-Gabet[1], Yunfan Shi[1], Gerhard A Coetzee[1], Baruch Frenkel[1]. [1]University of Southern California, USA, [2]Univeristy of Southern California, USA, [3]SRA International, USA
Disclosures: Sanjeev Baniwal, None

SU0131 **Side Population in Human Breast Cancer Cells Exhibits Cancer Stem Cell-like Properties but Does Not Have Higher Bone-metastatic Potential**
Toru Hiraga*[1], Susumu Ito[2], Hiroaki Nakamura[1]. [1]Matsumoto Dental University, Japan, [2]Shinshu University, Japan
Disclosures: Toru Hiraga, None

SU0132 **The Role of Gamma-secretase Mediated Cleavage of Notch and Amyloid Precursor Protein in Breast Cancer Cell Attachment to Osteoblasts**
Jenna Fong*, Osama Hussein, Svetlana Komarova. McGill University, Canada
Disclosures: Jenna Fong, None

SU0133 **Vitamin D Deficiency Promotes Human Prostate Cancer Growth in a Murine Model of Bone Metastasis**
Yu Zheng*[1], Hong Zhou[2], Li Ooi[3], Daniel Snir[4], Colin Dunstan[3], Markus Seibel[2]. [1]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [3]University of Sydney, Australia, [4]University od Sydney, Australia
Disclosures: Yu Zheng, None

CANCER AND BONE: GENERAL

SU0134 **Biomarkers of Bone Remodeling Associate with Osteolysis in Bisphosphonate-treated Bone Metastasis**
Marta Martín-Fernández[1], Carolina Zandueta[2], Karmele Valencia[3], Diego Luis-Ravelo[2], Iker Anton[3], Susana Martínez[2], Concepcion De La Piedra Gordo*[1], Fernando Lecanda[2]. [1]Instituto de Investigación Sanitaria Fundación Jiménez Díaz, Spain, [2]Center for Applied Medical Research, Spain, [3]Foundation for Applied Medical Research, Spain
Disclosures: Concepcion De La Piedra Gordo, None

SU0135 **Chemotherapy Induced Changes in WWOX and RUNX2 Expression as a Potential Prognostic Tool in Human Osteosarcoma**
Kyle Kurek*[1], Sara Del Mare[2], Zaidoun Salah[2], Suhaib Abdeen[2], Hussain Sadiq[3], Suk-hee Lee[3], Kevin Jones[4], Barry DeYoung[5], Gail Amir[6], Mark Gebhardt[7], Matthew Warman[8], Gary Stein[9], Janet Stein[3], Jane Lian[9], Rami Aqeilan[10]. [1]Children's Hospital Boston Department of Pathology, USA, [2]The Lautenberg Center for Immunology & Cancer Research, Hebrew University-Hadassah Medical School, Israel, [3]Department of Cell Biology, University of Massachusetts Medical School, USA, [4]Department of Orthopaedics, University of Utah, USA, [5]Department of Pathology, University of Iowa Hospital & Clinics, USA, [6]Department of Pathology, IMRIC, Hebrew University-Hadassah Medical School, Israel, [7]Department of Orthopaedic Surgery, Children's Hospital Boston & Harvard Medical School, USA, [8]Department of Orthopeadic Surgery, Howard Hughes Medical Institute, Children's Hospital Boston & Harvard Medical School, USA, [9]University of Massachusetts Medical School, USA, [10]Ohio State University, USA
Disclosures: Kyle Kurek, None

SU0136 **c-Myc is a Downstream Target of CXCL13 to Stimulate RANK Ligand Expression in Bone Marrow Stromal/Preosteoblast Cells**
Yuvaraj Sambandam*[1], James S. Norris[1], William Ries[1], Sakamuri Reddy[2]. [1]Medical University of South Carolina, USA, [2]Charles P. Darby Children's Research Institute, USA
Disclosures: Yuvaraj Sambandam, None

SU0137 **Controlled Delivery of 2-Methoxyestradiol in Osteosarcoma Cells**
Avudaiappan Maran*[1], Mahrokh Dadsetan[2], Kristen Shogren[2], Michael Yaszemski[2]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA
Disclosures: Avudaiappan Maran, None

SU0138 **Decreased Bone Mineral Density in Patients With Invasive Cervical Cancer**
Heung Yeol Kim*[1], Hoon Choi[2], Min Hyung Jung[3], Tak Kim[4], Byung Ick Lee[5], Hyoung Moo Park[6]. [1]Department of Obstetrics & Gynecology, School of Medicine, Kosin University, South Korea, [2]Inje University Sanggyepaik Hospital, South Korea, [3]School of Medicine, Kyung Hee University, Kyung Hee Medical Center, South Korea, [4]Department of Obstetrics & Gynecology, School of Medicine, University Anam Hospital, Korea University, South Korea, [5]Department of Obstetrics & Gynecology, School of Medicine, Inha University Hospital, Inha University, South Korea, [6]Department of Obstetrics & Gynecology, School of Medicine, Chungang University Yongsan Hospital, Chungang University, South Korea
Disclosures: Heung Yeol Kim, None

SU0139 **Development of a Clinically Relevant Murine Model with a Biomarker to Monitor the Longitudinal Effect of Radiation on Bone Remodeling**
Gregory Fairchild*[1], Luke Arentsen[2], Louis Kidder[2], Manju Sharma[2], Kathleen Coghill[2], Seymour Levitt[2], Douglas Yee[2], Susanta Hui[1]. [1]University of Minnesota, USA, [2]Univ of Minnesota, USA
Disclosures: Gregory Fairchild, None

SU0140 **Impact of Changes in Bone Resorption on Bone Mineral Density in Children after Hematopoietic Cell Transplantation**
Matthew Deyo*[1], K. Scott Baker[2], Anna Petryk[1], Lynda Polgreen[1]. [1]University of Minnesota, USA, [2]Fred Hutchinson Cancer Research Center, USA
Disclosures: Matthew Deyo, None

SU0141 **IP-10 Amplification Loop is an Important Therapeutic Target to Treat Bone Metastasis**
Jong Ho Lee*, Hyunil Ha, Zang Hee Lee. Seoul National University School of Dentistry, South Korea
Disclosures: Jong Ho Lee, None

SU0142 **Osteoclastogenic and Metalloproteolytic Activities Configure Bone Metastatic Colonization**
Diego Luis-Ravelo*[1], Iker Anton[2], Silvestre Vicent[1], Karmele Valencia[2], Susana Martinez[1], Carolina Zandueta[1], Fernando Lecanda[1]. [1]Center for Applied Medical Research, Spain, [2]Foundation for Applied Medical Research, Spain
Disclosures: Diego Luis-Ravelo, None

SU0143 **Purinergic Signaling between Osteocytes and Neurons: Potential Mechanism for Nociception**
Mary Boggs*[1], Mary Farach-Carson[2], Thomas Beebe[1], Randall Duncan[1]. [1]University of Delaware, USA, [2]Rice University, USA
Disclosures: Mary Boggs, None

SU0144 **TGF-b and IL-1a in Jaw Tumor Fluids Participate in Bone Resorption Through the Stimulation of Osteoclastogenesis.**
Tomonao Aikawa*[1], Chiaki Yamada[1], Ikuko Tsujimoto[1], Katsuhiko Amano[1], Noriyuki Namba[2], Seiji Iida[3], Mikihiko Kogo[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]Osaka University Graduate School of Medicine, Japan, [3]Okayama University Graduate School of Medicine, Dentistry, & Pharmaceutical Science, Japan
Disclosures: Tomonao Aikawa, None

SU0145 **Zoledronic Acid and Calcitriol in Malignancies with Bone Involvement.**
Genaro Miguel Palmieri*[1], L.S. Schwartzberg[1], T.D. Hodgkiss[1], M.S. Walker[2], A.M. Pallera[1], B.M. Wheeler[1], K.W. Tauer[1], R.E. Imseis[1], D. McCommon[1], T.B. Stewart[1]. [1]The West Clinic, USA, [2]ACORN Research, LLC, USA
Disclosures: Genaro Miguel Palmieri, None

DISORDERS OF BONE (GENETIC): GENERAL STUDIES

SU0146 **Development of a High-throughput Screening (HTS) Assay for the Identification of Small Molecule Modulators of Gsα**
Nisan Bhattacharyya*[1], Catherine Chen[2], Wei Zheng[2], John K. Northup[3], Susanne Neumann[4], Michael T. Collins[5]. [1]NIDCR, NIH, USA, [2]CSA, NHGRI, NIH, USA, [3]NIDCD, NIH, USA, [4]CEB, NIDDK, NIH, USA, [5]CSDB, NIDCR, NIH, USA
Disclosures: Nisan Bhattacharyya, None

SU0147 **Efficacy of Cinacalcet Therapy in Patients Affected by Primary Hyperparathyroidism Associated to Multiple Endocrine Neoplasia Syndrome Type 1 (MEN1). Preliminary Results of the Florentine Study**
Francesca Giusti*[1], Alberto Falchetti[2], Laura Masi[2], Debora Strigoli[1], Gigliola Leoncini[1], Francesco Franceschelli[1], Maria Luisa Brandi[2]. [1]Department of Internal Medicine, University of Florence, Italy, [2]University of Florence, Italy
Disclosures: Francesca Giusti, None

SU0148 **Evaluation of Serum FGF23 in Juvenile Onset Systemic Lupus Erythematosus (JSLE): A Possible Link with Renal Involvement**
Laura Masi*, Francesco Franceschelli, Gigliola Leoncini, Loredana Cavalli, Antonietta Amedei, Alberto Falchetti, Maria Luisa Brandi. Metabolic Bone Diseases Unit, Italy
Disclosures: Laura Masi, None

SU0149 **Genomewide Association Study Using Extreme Truncate Selection Identifies Novel Genes Controlling Bone Mineral Density**
Emma Duncan*[1], Patrick Danoy[1], John Kemp[2], Paul Leo[1], Brent Richards[3], Tim Spector[4], Fernando Rivadeneira[5], Andre Uitterlinden[6], John Wark[7], Elaine Dennison[8], Graeme Jones[9], Richard Prince[10], John Eisman[11], Philip Sambrook[12], Geoffrey Nicholson[13], Richard Eastell[14], Eugene McCloskey[14], David Evans[2], Matthew Brown[15]. [1]University of Queensland, Australia, [2]University of Bristol, United Kingdom, [3]McGill University, Canada, [4]King's College London, United Kingdom, [5]Erasmus University Medical Center, The Netherlands, [6]Rm Ee 575, Genetic Laboratory, The Netherlands, [7]Royal Melbourne Hospital, Australia, [8]MRC Epidemiology Resource Centre, United Kingdom, [9]Menzies Centre for Population Health Research, Australia, [10]Sir Charles Gardner Hospital, Australia, [11]Garvan Institute of Medical Research, Australia, [12]Royal North Shore Hospital, Australia, [13]University of Melbourne, Australia, [14]University of Sheffield, United Kingdom, [15]Diamantina Institute of Cancer, Immunology & Metabolic Medicine, Australia
Disclosures: Emma Duncan, None

SU0150 **Hindlimb Skeletal Muscle Function and the Impact of Weight-bearing Exercise on Bone Biomechanical Integrity in the Osteogenesis Imperfecta Model (*oim*) Mouse**
Stephanie Carleton, Charlotte Phillips*, Bettina Gentry, J. Andries Ferreira, Marybeth Brown. University of Missouri-Columbia, USA
Disclosures: Charlotte Phillips, None

SU0151 **Impact Of Chronic Alcohol Consumption On The Osteocytes And Bone Marrow Adipocytes In A Wistar Rat Model**
Delphine Maurel*[1], Stéphane Pallu[2], Priscilla C Aveline[2], Nathalie Boisseau[3], Gael Rochefort[2], Eric Dolleans[2], Christelle Jaffre[2], Claude Laurent Benhamou[4]. [1]Inserm Unit 658, Hopital Porte Madeleine, Orléans, France, France, [2]Inserm Unit U658, France, [3]LAPHAP Laboratory, France, [4]INSERM Orléans-France, France
Disclosures: Delphine Maurel, None

SU0152 **Mechanism of Inflammation in Cherubism**
Yasuyoshi Ueki*[1], Tomoyuki Mukai[2], Teruhito Yoshitaka[3]. [1]University of Missouri-Kansas City, School of Dentistry, USA, [2]University of Missouri - Kansas City, USA, [3]University Missouri-Kansas City, School of Dentistry, USA
Disclosures: Yasuyoshi Ueki, None

SU0153 **Rare Activating Mutation (S33C) of CTNNB1 in Parathyroid Adenoma**
Vito Guarnieri*[1], Filomena Baorda[2], Claudia Battista[3], Michele Bisceglia[4], Michelangelo Fiorentino[5], Sabrina Corbetta[6], Anna Spada[7], Geoffrey Hendy[8], David E. C. Cole[9], Massimo Carella[2], Alfredo Scillitani[10]. [1]Medical Genetics Service, IRCCS Casa Sollievo della Sofferenza Hospital, Italy, [2]Medical Genetics Service, IRCCS "Casa Sollievo della Sofferenza" Hospital, Italy, [3]Unit of Endocrinology, IRCCS "Casa Sollievo della Sofferenza" Hospital, Italy, [4]Unit of Pathology, IRCCS "Casa Sollievo della Sofferenza" Hospital, Italy, [5]Laboratorio di Patologia Molecolare Oncologica e dei Trapianti, Istituto Oncologico "F.Addarii", Policlinico S.Orsola-Malpighi, Italy, [6]Endocrinology & Diabetology Unit, University of Milan, IRCCS Policlinico S.Donato, Italy, [7]Endocrinology & Diabetology Unit, University of Milan, IRCCS Policlinico S.Donato, S.Donato M.se & IRCCS Fondazione Ospedale Maggiore Policlinico, Mangiagalli & Regina Elena, Italy, [8]McGill University, Royal Victoria Hospital, Canada, [9]Banting Institute, University of Toronto, Canada, [10]Casa Sollievo Della Sofferenza Scientific Institute, Italy
Disclosures: Vito Guarnieri, None

DISORDERS OF BONE (GENETIC): GENETIC DEFECTS IN BONE RESORPTION AND/OR FORMATION

SU0154 **A Model of Osteopetrosis Using shRNA Knock-down of Tcirg1 in Osteoclasts from Human CD34+ Cells**
Ilana Moscatelli*[1], Christian Thudium[2], Carmen Flores[1], Kim Henriksen[3], Johan Richter[1]. [1]Lund University, Sweden, [2]Nordic Bioscience, Denmark, [3]Nordic Bioscience A/S, Denmark
Disclosures: Ilana Moscatelli, None

SU0155 **Abnormal Tooth Development in a Mouse Model for Craniometaphyseal Dysplasia**
Eliane Dutra*, I-Ping Chen, Ernst Reichenberger. University of Connecticut Health Center, USA
Disclosures: Eliane Dutra, None

SU0156 **Elevated Activation of BMP Signaling by ACVR1 Variant Mutations Occurring in Patients with Atypical FOP.**
Meiqi Xu*[1], Frederick Kaplan[2], Eileen Shore[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania Hospital, USA
Disclosures: Meiqi Xu, None

SU0157 **FKBP10 mutations cause both Osteogenesis Imperfecta and Bruck syndrome**
Brian Kelley*[1], Fransiska Malfait[2], Luisa Bonafe[3], Dustin Baldridge[1], Sofie Symoens[2], Nursel Elcioglu[4], Christine Verellen[5], Yves Gillerot[6], Deborah Krakow[7], Dobrawa Napierala[1], Peter Beighton[8], Andrea Superti-Furga[9], Anne De Paepe[2], Lionel Van Malderghem[2], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]Ghent University, Belgium, [3]Centre Hospitalier Universitaire Vaudois, Switzerland, [4]Marmara University Medical Faculty, Turkey, [5]University of Louvain Medical School, Belgium, [6]Cliniques universitaires St Luc, Belgium, [7]Cedars-Sinai Hospital, UCLA, USA, [8]University of Capetown, South Africa, [9]University of Freiburg, Germany
Disclosures: Brian Kelley, None

SU0158 **Gja1*Jrt*/+ - A Connexin43 Mutation Affecting Bone**
Tanya Zappitelli*[1], Frieda Chen[1], Marc Grynpas[2], Janet E. Henderson[3], Luisa Moreno[2], Ralph Zirngibl[1], Jane Aubin[4]. [1]University of Toronto, Canada, [2]Samuel Lunenfeld Research Institute, Canada, [3]McGill University, Canada, [4]University of Toronto Faculty of Medicine, Canada
Disclosures: Tanya Zappitelli, None

SU0159 **Intracellular Superoxide Dismutase Deficiency Decreased Bone Mass *In Vivo* by Impairment of Cell Viability and Redox Balance in Osteoblasts.**
Yoshitomo Saita*[1], Hidetoshi Nojiri[1], Chizuru Tsuda[2], Tsuyoshi Miyazaki[3], Daichi Morikawa[2], Kazuo Kaneko[1], Takahiko Shimizu[2]. [1]Department of Orthopaedics, Juntendo Univ., Japan, [2]Molecular Gerontology, Tokyo Metropolitan Institute of Gerontology, Japan, [3]Geriatric Medicine, Tokyo Metropolitan Institute of Gerontology, Japan
Disclosures: Yoshitomo Saita, None

SU0160 **Mechanisms of Inhibition of Heterotopic Ossification by a RARγ Agonist**
Hsu-Tsai Chi*[1], Kengo Shimono[1], Wei-en Tung[1], Johanna Jasinski[1], Christine Macolino[1], Satoru Otsuru[2], Maurizio Pacifici[1], Masahiro Iwamoto[1]. [1]Thomas Jefferson University, USA, [2]The Children's Hospital of Philadelphia, USA
Disclosures: Hsu-Tsai Chi, None

SU0161 **Melorheostosis - Polyostotic Affection of Skeleton**
Vaclav Vyskocil*[1], Karel Koudela[2]. [1]Center for Metabolic Bone Diseases, Czech Republic, [2]Department of Orthopaedic Surgery & Traumatologic Clinic, Czech Republic
Disclosures: Vaclav Vyskocil, None

SU0162 **Modeling Genetic Skeletal Diseases in ES and iPS Cells**
Edward Hsiao*[1], Trieu Nguyen[2], Mark Scott[2], Chris Schlieve[2], Bruce Conklin[2], Robert Nissenson[1]. [1]University of California, San Francisco, USA, [2]Gladstone Institutes, USA
Disclosures: Edward Hsiao, None

SU0163 **Panostotic High Turnover Bone Disease with Massive Jaw Tumor Formation**
Anne Schafer*[1], Ivan El-Sayed[1], Steven Mumm[2], Mark Anderson[1], Edward Hsiao[1], Frederick Schaefer[3], Michael Collins[4], Panagiota Andreopoulou[4], Michael Whyte[5], Dolores Shoback[6]. [1]University of California, San Francisco, USA, [2]Washington University School of Medicine, USA, [3]Center for Genetic Testing at Saint Francis, USA, [4]National Institutes of Health, USA, [5]Shriners Hospital for Children, USA, [6]VA Medical Center, USA
Disclosures: Anne Schafer, None

DISORDERS OF BONE (GENETIC): LINKAGE AND HERITABILITY STUDIES

SU0164 **Genome-Wide Scan for Bone Mineral Density in Multi-Generational Families of African Ancestry: The Tobago Family Health Study**
Joseph Zmuda*[1], Victor Wheeler[2], Amy Dressen[3], Allison Kuipers[1], Cara Nestlerode[3], ClareAnn Bunker[3], Alan Patrick[2], Victor Wheeler[2], Anne Newman[3], Candace Kammerer[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]Tobago Health Studies Office, Trinidad & tobago, [3]University of Pittsburgh, USA
Disclosures: Joseph Zmuda, None

SU0165 **The Role of Sex and Diet in the Quantitative Genetics of Osteoporosis-Related Traits**
Jane Kenney-Hunt*[1], Heather Lawson[1], E. Ann Carson[1], Hattie Hiler[1], Priya Nagarajan[1], Matthew Silva[2], James Cheverud[1]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Jane Kenney-Hunt, None

DISORDERS OF BONE (GENETIC): POLYMORPHISMS

SU0166 **24 Hydroxylase Polymorphism as a Possible Explanation for the Higher Level of 1, 25 (OH)2 Vitamin D in African American Ethnicity**
Shadab Salehpour*[1], Laleh Ardeshirpour[2], Bethy Wong[3], Thomas Carpenter[4]. [1]University of Toronto, Canada, [2]Yale University Pediatric Endocrinology, USA, [3]Sunnybrook Health Sciences Center, Canada, [4]Yale University School of Medicine, USA
Disclosures: Shadab Salehpour, None

SU0167 **Association Analysis between Polymorphisms of the Coagulation Factor V Gene and the Risk of Osteonecrosis of Femoral Head in Korean Population**
Tae-Ho Kim*[1], Jung Min Hong[1], Hyun-Ju Kim[1], Eui Kyun Park[2], Shin-Yoon Kim[3]. [1]Kyungpook National University School of Medicine, South Korea, [2]Kyungpook National University School of Dentistry, South Korea, [3]Kyungpook National University Hospital, South Korea
Disclosures: Tae-Ho Kim, None

SU0168 **Identification of Gender-Specific BMD Candidate Genes in Chromosome 1**
Bouchra Edderkaoui*, Yan Hu, Anil Kapoor, Subburaman Mohan. Jerry L. Pettis Memorial VA Medical Center, USA
Disclosures: Bouchra Edderkaoui, None

SU0169 **Lack of Association of Functional Polymorphisms of *RANK* and *RANKL* With BMD In BARCOS Cohort of Postmenopausal Women.**
Guy Yoskovitz[1], Natalia Garcia-Giralt[1], Xavier Nogues*[1], Susana Jurado[1], Roberto Güerri[1], Roser Urreizti[1], Leonardo Mellibovsky[1], Luis Perez-Edo[2], Lidia Agueda[3], Patricia Sarrión[3], Daniel Grinberg[3], Susana Balcells[3], Adolfo Diez-Perez[4]. [1]Institut Municipal d'Investigació Mèdica, Spain, [2]Hospital Ntra Sra Del Mar, Spain, [3]The University of Barcelona, Spain, [4]Hospital del Mar-IMIM-Autonomous University of Barcelona, Spain
Disclosures: Xavier Nogues, None

SU0170 **Osteonectin 3' Untranslated Region Single Nucleotide Polymorphisms Differentially Regulate Gene Expression: microRNAs Target SNP Regions**
Kristina Kapinas, Tiziana Franceschetti*, Catherine Kessler, Anne Delany. University of Connecticut Health Center, USA
Disclosures: Tiziana Franceschetti, None

SU0171 **The Association Between BMD and Polymorphisms in SOST and PTH Is Dependent on Physical Activity in Perimenopausal Women**
Lise Husted*[1], Torben Harsløf[2], Kim Brixen[3], Pia Eiken[4], Jens-Erik Beck Jensen[5], Leif Mosekilde[6], Lars Rejnmark[6], Bente Langdahl[7]. [1]Aarhus Amtssygehus, Aarhus University Hospital, Denmark, [2]Århus University Hospital, Aarhus Sygehus, Denmark, [3]Institute for Clinical Research, Denmark, [4]Hillerød Hospital, Denmark, [5]Hvidovre Hospital, Denmark, [6]Aarhus University Hospital, Denmark, [7]Aarhus Sygehus, Aarhus University Hospital, Denmark
Disclosures: Lise Husted, None

GROWTH FACTORS AND CYTOKINES: BONE MORPHOGENETIC PROTEINS

SU0172 **"Same Day" *Ex Vivo* Regional Gene Therapy: A Novel Strategy to Heal Large Bone Defects**
Mandeep Virk*[1], Osamu Sugiyama[1], Sang Park[2], Hicham Drissi[1], Douglas Adams[1], Sanjiv Gambhir[3], jay lieberman[1]. [1]University of Connecticut Health Center, USA, [2]University of California at Los Angeles, USA, [3]Stanford University School of Medicine, USA
Disclosures: Mandeep Virk, None

SU0173 **Alx3, a Paired-type Homeodomein Containing Transcription Factor, Regulates Osteoblast Differentiation Induced by BMP-2**
Takashi Matsumoto*[1], Atsushi Yamada[2], Dai Suzuki[3], Masamichi Takami[4], Tetsuo Suzawa[4], Yoichi Miyamoto[4], Kazuyoshi Baba[5], Ryutaro Kamijo[4]. [1]Showa University, School of Dentistry, Japan, [2]Showa University School of Denistry, Japan, [3]Showa University, Japan, [4]Showa University School of Dentistry, Japan, [5]Departments of Prosthodontics, School of Dentistry, Showa University, Japan
Disclosures: Takashi Matsumoto, None

SU0174 **Modulation of Proprotein Processing Enhanced Recombinant hBMP-2 Secretion**
Aileen Zhou*[1], Cameron Clokie[2], Sean Peel[3]. [1]University of Toronto, Canada, [2]Faculty of Dentistry, Canada, [3]Induce Biologics Inc, Canada
Disclosures: Aileen Zhou, Induce Biologics Inc., 3

SU0175 **Platelet Factor 4 is a Novel Potentiator of BMP-induced Osteoblastic Differentiation and Bone Formation**
Takenobu Katagiri*[1], Toru Fukuda[2], Akihiro Tomoyasu[1], Masaaki Goto[3], Kunihiko Kodaira[3], Shoichiro Kokabu[4], Satoshi Ohte[4], Kazuhiro Kanomata[1], Tohru Tsukui[1], Hidefumi Fukushima[5], Hiroko Serizawa[1], Junya Nojima[4], Atsushi Nakamura[4], Katsumi Yoneyama[1], Hiroki Sasanuma[1], Masashi Shin[1], Keiko Fujita[4], Masumi Akita[4], Anna Kowalska[6], Eijiro Jimi[7], Hiromitsu Toyoda[8], Kunio Takaoka[8], Tatsuya Koike[8], Kanji Higashio[9], Tatsuo Suda[10]. [1]Saitama Medical University Research Center for Genomic Medicine, Japan, [2]Keio University School of Medicine, Japan, [3]Chugai Pharmaceutical Co., Ltd., Japan, [4]Saitama Medical University, Japan, [5]Beth Israel Deaconess Medical Center, USA, [6]The Children's Hospital of Philadelphia, USA, [7]Kyushu Dental College, Japan, [8]Osaka City University Medical School, Japan, [9]Metabolome Pharmaceuticals, Inc, Japan, [10]Research Center for Genomic Medicine Saitama Medical School, Japan
Disclosures: Takenobu Katagiri, Chugai Pharmaceutical Co., Ltd., 2; Metabolome Pharmaceuticals, Inc., 2

GROWTH FACTORS AND CYTOKINES: FIBROBLAST GROWTH FACTORS

SU0176 **Functional Characterization of a Novel FGFR2 Mutation, E731K, in Craniosynostosis**
Hyun-Mo Ryoo, Won-Joon Yoon*. Seoul National University, School of Dentistry, South Korea
Disclosures: Won-Joon Yoon, None

SU0177 **Wnt/β-Catenin Pathway Members in the Elephant Shark *(Callorhinchus milii)*.**
Damian D'Souza[1], Kesha Rana[2], Samantha Richardson[1], Justin Bell[3], Terence Walker[3], Helen Maclean[2], Jeffrey Zajac[4], Sydney Brenner[5], Byrappa Venkatesh[6], Janine Danks*[1]. [1]School of Medical Sciences, RMIT University, Australia, [2]University of Melbourne, Dept of Medicine, Australia, [3]Marine & Freshwater Research Institute, Australia, [4]Austin & Repatriation Medical Centre, Australia, [5]Institute of Molecular & Cell Biology, A*STAR., Singapore, [6]Institute of Molecular & Cell Biology, A*STAR, Singapore
Disclosures: Janine Danks, None

GROWTH FACTORS AND CYTOKINES: GENERAL

SU0178 **A Novel Vascular Function for Osteoclast-associated Receptor (OSCAR)**
Claudia Goettsch*[1], Susann Helas[1], Martina Rauner[2], Nadia Al-Fakhri[3], Michael Schoppet[4], Lorenz Hofbauer[5]. [1]Department of Medicine III, Technical University, Dresden, Germany, [2]Medical Faculty of the TU Dresden, Germany, [3]Department of Clinical Chemistry & Molecular Diagnostics, Philipps-University, Marburg, Germany, [4]Department of Internal Medicine & Cardiology, Philipps-University, Marburg, Germany, [5]Dresden Technical University Medical Center, Germany
Disclosures: Claudia Goettsch, None

SU0179 **Doubling the Dosage of Vitamin D Supplementation During Pregnancy Reduces Bone Mineral Content Adjusted for Body Weight in Male Guinea Pig Offspring at Birth**
Negar Tabatabaei*[1], Celia Rodd[1], Richard Kremer[2], Hope Weiler[1]. [1]McGill University, Canada, [2]McGill University, Royal Victoria Hospital, Canada
Disclosures: Negar Tabatabaei, None

SU0180 **Evidence that the "High" Vertebral Bone Mass in Leptin Deficient *oblob* Mice is Due to Defective Skeletal Maturation**
Kenneth Philbrick*, Russell Turner, Urszula Iwaniec. Oregon State University, USA
Disclosures: Kenneth Philbrick, None

SU0181 **Expression of Adiponectin Receptors in Osteoblastic Cells**
Takashi Ikeo*, Aiko Kamada, Yoshihiro Yoshikawa, Eisuke Domae, Seiji Goda, Isao Tamura. Osaka Dental University, Japan
Disclosures: Takashi Ikeo, None

SU0182 **FGF2 Upregulates Dmp1 in the Osteoblast Lineage through the ERK MAPK Pathway**
Shunichi Murakami, Zhufeng Ouyang, Ai Kyono*. Case Western Reserve University, USA
Disclosures: Ai Kyono, None

SU0183 **IL-23 Induces Osteoclastogenesis In Vivo and is Required for Osteoclast Maturation**
Iannis Adamopoulos*[1], Cheng-Chi Chao[2], Wei Yao[3], Nancy Lane[3], Eddie BOWMAN[2]. [1]Schering Plough, USA, [2]Schering Plough Biopharma, USA, [3]University of California, Davis Medical Center, USA
Disclosures: Iannis Adamopoulos, IE. ADAMOPOULOS, 3

SU0184 **Nell-1 Delivered From Heat-Inactivated Demineralized Bone Matrix Enhances Bone Growth and Quality in a Sheep Spinal Fusion Model**
Ronald Siu*[1], Steven Lu[2], Janette Zara[1], Xinli Zhang[1], Benjamin Wu[1], Kang Ting[1], Chia Soo[1]. [1]University of California, Los Angeles, USA, [2]Cedars-Sinai Medical Center, USA
Disclosures: Ronald Siu, None

SU0185 **Positive Regulation of Osteogenesis by Bile Acid through Farnesoid X Receptor (FXR)**
Sun Wook Cho*[1], Jee Hyun An[2], Jae-Yeon Yang[3], Ju Yeon Jung[2], Hyung Jin Choi[2], Yenna Lee[2], Sang Wan Kim[4], Young Joo Park[2], David D Moore[5], Jung-Eun Kim[6], Chan Soo Shin[2]. [1]University of Michigan School of Dentistry, USA, [2]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [3] Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [4]Seoul National University Boramae Hospital, South Korea, [5]Department of Molecular & Cellular Biology, Baylor College of Medicine, USA, [6]Kyungpook National University School of Medicine, South Korea
Disclosures: Sun Wook Cho, None

SU0186 **Systemic Inflammation Impairs Fracture Healing**
Daniel Toben*[1], Alessandro Serra[2], Ireen Schroeder[3], Thaqif El Khassawna[3], Manav Mehta[3], Likit Rugpolmuang[3], Katharina Schmidt-Bleeck[3], Hanna Schell[3], Jasmin Lienau[3], Andreas Radbruch[2], Georg Duda[3]. [1]Charité Universitätsmedizin Berlin, Germany, [2]German Arthritis Research Center, Germany, [3]Julius Wolff Institute & Center for Musculoskeletal Surgery, Charité Universitätsmedizin, Germany
Disclosures: Daniel Toben, None

SU0187 **Th17- and RANKL$^+$Th1-cells Compete for Regulating Alveolar Bone Loss in T1D**
Tien-Yu Shieh[1], Yen-Tung (Andy) Teng*[2], Yen-Chun G Liu[1], Deeqa Mahamed[3]. [1]Center for Osteoimmunology & Biotechnology Research, College of Dental Medicine, Kaohsiung Medical University, Taiwan, [2]Kaohsiung Medical University, Taiwan, [3]Lab. of Molecular Microbial Immunity, Div. of Periodontics, Eastman Dental Center & Dept. of Microbiology & Immunology, University of Rochester, USA
Disclosures: Yen-Tung (Andy) Teng, None

SU0188 **The Environmental Contaminant and Potent PPARγ Agonist Tributyltin Stimulates Aging-Like Alteration of the Bone Marrow Microenvironment and Impairs Lymphopoiesis**
Amelia R. Haas*[1], David H. Sherr[2], Louis Gerstenfeld[1], Jennifer J. Schlezinger[2]. [1]Boston University School of Medicine, USA, [2]Boston University School of Public Health, USA
Disclosures: Amelia R. Haas, None

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

SU0189 **Distinct Growth Hormone Receptor Signaling Modes Regulate Skeletal Muscle Development and Insulin Sensitivity**
Douglas Digirolamo*[1], Mahendra Mavalli[2], Yong Fan[3], Ryan Riddle[4], Kenneth Campbell[5], Mark Sperling[3], Thomas van Groen[2], Stuart Frank[2], Karyn Esser[5], Marcus Bamman[2], Thomas Clemens[1]. [1]Johns Hopkins University, USA, [2]University of Alabama at Birmingham, USA, [3]University of Pittsburgh, USA, [4]Johns Hopkins University School of Medicine, USA, [5]University of Kentucky, USA
Disclosures: Douglas Digirolamo, None

SU0190 **Genetic Evidence that Thyroid Hormone is Indispensable for Prepubertal Rise in IGF-I Expression and Bone Accretion in Mice**
Subburaman Mohan*[1], Kristen Govoni[2], Heather Davidson[3], Leah Rae Donahue[4]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]University of Connecticut, USA, [3]JL Pettis Memorial VA Medical Center, USA, [4]Jackson Laboratory, USA
Disclosures: Subburaman Mohan, None

SU0191 **Hypoxic Treatment of Preadipocyte 3T3-L1 Cells Leads to the Inhibition of Adipogenesis from Pre-adipocyte to Mature Adipocyte.**
J. Edward Puzas[1], Tian-Fang Li[2], yi-jang lee[3], Hsin Chiu Ho[2], Tzong-Jen Sheu*[2]. [1]University of Rochester School of Medicine, USA, [2]University of Rochester, USA, [3]National Yang Ming Medical university, Taiwan
Disclosures: Tzong-Jen Sheu, None

SU0192 **Inhibition of c-Src Reduces IL-6 Expression *In Vivo* and *In Vitro*. Implication for Therapy**
Barbara Peruzzi*[1], Alfredo Cappariello[2], Nadia Rucci[3], Fabrizio De Benedetti[2], Anna Teti[3]. [1]University of L'Aquila, Bambino Gesù Children Hospital, Italy, [2]Bambino Gesù Children Hospital, Italy, [3]University of L'Aquila, Italy
Disclosures: Barbara Peruzzi, None

GROWTH FACTORS AND CYTOKINES: TRANSFORMING GROWTH FACTOR

SU0193 **A New Approach to Osteoblast Induction with RGD and /or BMPs Mimetic Peptides**
Marie-christine Durrieu[1], Omar El Farouk Zouani*[2]. [1]INSERM U577, France, [2]Inserm, France
Disclosures: Omar El Farouk Zouani, None

SU0194 **TGF-β Suppressed the Expression of *Odd-skipped related 2* in Mesenchymal Cells**
Shinji Kawai*, Atsuo Amano. Osaka University Graduate School of Dentistry, Japan
Disclosures: Shinji Kawai, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

SU0195 **Sensitivity of Human Osteoblasts to TRAIL Induced Apoptosis**
Silvia Colucci*[1], Giacomina Brunetti[1], Francesca Sardone[1], Angela Oranger[1], Giorgio Mori[2], Matteo Centonze[1], Alberta Zallone[3], Maria Grano[4]. [1]Department of Human Anatomy & Histology, University of Bari, Italy, [2]Department of Biomedical Science, University of Foggia, Italy, [3]University of Bari Medical School, Italy, [4]University of Bari, Italy
Disclosures: Silvia Colucci, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

SU0196 **Clopidogrel, a $P2Y_{12}$ Receptor Antagonist, Inhibits Osteoblast Differentiation and Function**
Andrea Brandao-Burch[1], Timothy Arnett[2], Isabel Orriss*[1]. [1]University College London, United Kingdom, [2]University College, London, United Kingdom
Disclosures: Isabel Orriss, None

SU0197 **Effects of Direct Inhibition of Geranylgeranyl Pyrophosphate Synthesis on Osteoblast Differentiation**
Megan Moore-Weivoda*, Huaxiang Tong, Raymond Hohl. University of Iowa, USA
Disclosures: Megan Moore-Weivoda, None

SU0198 **Enhanced Healing of Rat Calvarial Critical Size Defects with Beta-tricalcium Phosphate Discs Associated with Dental Pulp and Adipose-derived Stem Cells**
Roberto Fanganiello*[1], Felipe Ishy[2], Christhiane Ribeiro[3], Daniela Bueno[4], Ana Helena Bressiani[3], Maria Rita Passos-Bueno[2]. [1]Institute of Biosciences, University of Sao Paulo, Brazil, Brazil, [2]Institute of Biosciences, University of Sao Paulo, Brazil, [3]IPEN, University of Sao Paulo, Brazil, [4]São Paulo University, Brazil, Brazil
Disclosures: Roberto Fanganiello, None

SU0199 **Functional Adaptation in Female Rats: The Role of Estrogen Signaling**
Susannah Sample*[1], Molly Racette[2], Zhengling Hao[2], Cathy Thomas[2], Mary Behan[2], Peter Muir[3]. [1]UW-Madison School of Veterinary Medicine, USA, [2]University of Wisconsin - Madison, USA, [3]University of Wisconsin, Madison, USA
Disclosures: Susannah Sample, None

SU0200 **H1-calponin Negatively Regulates Bone Mass in Mice**
Nan Su, Maomao Chen, Siyu Chen, Can Li, Lin Chen*. State Key Laboratory of Trauma, Burns & Combined Injury, Center of Bone Metabolism & Repair, Trauma Center, Institute of Surgery Research, Daping Hospital, Third Military Medical University, China
Disclosures: Lin Chen, None

SU0201 **High Fat Diet-Induced Obesity Reduces Bone Formation through Activation of PPARγ to Suppress Wnt/β-catenin Signaling in Prepubertal Rats**
Jin-Ran Chen*[1], Oxana P. Lazarenko[2], Kartik Shankar[2], Xianli Wu[2], Thomas M. Badger[2], Martin J. Ronis[2]. [1]University of Arkansas for Medical Science, Arkansas Children's Nutrition Center, USA, [2]University of Arkansas for Medical Sciences/Arkansas Children's Nutrition Center, USA
Disclosures: Jin-Ran Chen, None

SU0202 **Inhibition of EphA-ephrinA Interaction Induces Acute Bone Formation in an Adult Bone Organ Culture and in Mice**
Naoko Irie*, Koichi Matsuo. School of Medicine, Keio University, Japan
Disclosures: Naoko Irie, None

SU0203 **Intravenous, Low Dose, Short Interval Double Labels Analyzed by Confocal Microscopy Optimise Precise Quantitation of Mineral Apposition and Bone Formation Rate**
Moira Cheung*[1], Alan Boyde[2], John Bassett[3], Graham R. Williams[1]. [1]Molecular Endocrinology Group, Imperial College London, United Kingdom, [2]Bart's & London School of Medicine, Queen Mary University of London, United Kingdom, [3]Imperial College London, United Kingdom
Disclosures: Moira Cheung, None

SU0204 **KLF10/KLF11 Double Knockout Mice Exhibit an Osteopenic Skeletal Phenotype**
John Hawse*[1], Urszula Iwaniec[2], Kevin Pitel[3], Elizabeth Bruinsma[3], Kenneth Peters[3], Nalini Rajamannan[4], Russell Turner[2], Malayannan Subramaniam[5], Thomas Spelsberg[5]. [1]Mayo Clinic College of Medicine, USA, [2]Oregon State University, USA, [3]Mayo Clinic College of Medicine, USA, [4]Northwestern University Medical School, USA, [5]Mayo Clinic, USA
Disclosures: John Hawse, None

SU0205 **Low Intensity Ultrasound Increase Rate of Mineralization in Stimulated Microgravity**
Sardar Uddin*[1], Yi-Xian Qin[2], Minyi Hu[1], Shu Zhang[1], Jiqi Cheng[3], B Huang[4]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA, [3]Stony Brook Univeristy, USA, [4]Stony Broo Univeristy, USA
Disclosures: Sardar Uddin, None

SU0206 **Nck1, a Molecular Adaptor Prerequisite for Cell Motility, is Stimulated by Bone Morphogenetic Protein and Contributes to Maintain Bone Mass**
Ryo Hanyu[1], Tetsuya Nakamoto[1], Kentaro Miyai[1], Masasi Nagao[1], Smriti Aryal A.C*[2], Masaki Noda[1], Yoichi Ezura[3], Tadayoshi Hayata[4], Takuya Notomi[5], Hiroaki Hemmi[1], Tony Pawson[6]. [1]Tokyo Medical & Dental University, Japan, [2]Department of molecular pharmacology, Tokyo medical & dental university, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]GCOE, Tokyo Medical & Dental University, Japan, [6]Mount sinai hospital, samuel lunenfeld research institute, Canada
Disclosures: Smriti Aryal A.C, None

SU0207 **Osthole Stimulates Osteoblast Differentiation by Activation of Beta-Catenin-BMP Signaling**
Dezhi Tang*[1], Wei Hou[2], Quan Zhou[2], Minjie Zhang[3], Jonathan Holz[3], Tzong-Jen Sheu[4], Tian-Fang Li[3], Shaodan Cheng[2], Qi Shi[2], Di Chen[3], Yongjun Wang[2]. [1]Spine Research Institute, Shanghai University of Traditional Chinese Medicine, Peoples Republic of China, [2]Spine Research Institute, Shanghai University of Traditional Chinese Medicine, China, [3]University of Rochester Medical Center, USA, [4]University of Rochester, USA
Disclosures: Dezhi Tang, None

SU0208 **Rab27a and Rab27b are Involved in Stimulation-dependent RANKL Release from Secretory Lysosomes in Osteoblastic Cells.**
Yoshiaki Kariya*[1], Masashi Honma[1], Akiko Hanamura[1], Shigeki Aoki[1], Tadashi Ninomiya[2], Yuko Nakamichi[2], Nobuyuki Udagawa[2], Hiroshi Suzuki[1]. [1]The University of Tokyo Hospital, Japan, [2]Matsumoto Dental University, Japan
Disclosures: Yoshiaki Kariya, None

SU0209 **Strontium Ranelate Promotes Osteoblast Differentiation and Increases OPG/RANKL Ratio in Osteoblast-osteoclast Co-cultures**
Johannes Van Leeuwen[1], Marjolein Van Driel*[2]. [1]Erasmus University Medical Center, The Netherlands, [2]Erasmus Medical Center, The Netherlands
Disclosures: Marjolein Van Driel, None

SU0210 **The Forkhead Transcription Factor Foxc2 promotes Osteoblastogenesis via Regulation of Integrin Beta1 Expression.**
SU JIN PARK*[1], Kyoung-Won Cho[1], Se Hwa Kim[2], Kyoung Min Kim[1], Yumie Rhee[3], Han-Sung Jung[1], Sung-Kil Lim[4]. [1]Yonsei University, South Korea, [2]Kwandong University College of Medicine, Myongji Hospital, South Korea, [3]IUMS, Yonsei University, College of Medicine, South Korea, [4]Yonsei University College of Medicine, South Korea
Disclosures: SU JIN PARK, None

SU0211 **The O-glycosylation Site in the Variable Region of Fibronectin Affects Osteoblast Differentiation**
Nina Kawelke, Anja von Au*, Inaam Nakchbandi. Max-Planck Institute for Biochemistry & University of Heidelberg, Germany
Disclosures: Anja von Au, None

SU0212 **The Role of Ascorbate in Bone Homeostasis**
Roy Morello*[1], Kurt Bohren[2], Peter Vogel[3], Kenneth Gabbay[2]. [1]University of Arkansas for Medical Sciences, USA, [2]Baylor College of Medicine, USA, [3]Lexicon Pharmaceuticals, Inc, USA
Disclosures: Roy Morello, None

SU0213 **The Uncoupling of Bone Formation from Bone Resorption: Decreased BMP6 and Increased BMP Signaling Antagonist Expression in Osteoclasts with Aging**
Sundeep Khosla[1], Larry Pederson[2], Kuniaki Ota*[2], Jennifer Westendorf[2], Merry Jo Oursler[2]. [1]College of Medicine, Mayo Clinic, USA, [2]Mayo Clinic, USA
Disclosures: Kuniaki Ota, None

SU0214 **TRPV4 (Transient Receptor Potential Vanilloid 4), a Mechanosensor for Bone Is Required for the Maintenance of Bone Mineral Density of Mandible Exposed to Occlusal Force**
TAKAFUMI SUZUKI*[1], Takuya Notomi[2], Yoichi Ezura[3], Tetsuya Nakamoto[1], Tadayoshi Hayata[4], Hiroaki Hemmi[1], Atsuko Mizuno[5], M Suzuki[6], Fumitaka Mizoguchi[1], Y Izumi[1], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]GCOE, Tokyo Medical & Dental University, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]Jichi Medical University, Japan, [6]Jichi Medical School, Japan
Disclosures: TAKAFUMI SUZUKI, None

SU0215 **Vps33a Mediates RANKL Storage In Secretory Lysosomes In Osteoblastic Cells**
Masashi Honma*[1], Yoshiaki Kariya[1], Shigeki Aoki[1], Hiroshi Suzuki[2]. [1]The University of Tokyo Hospital, Japan, [2]Department of Pharmacy, The University of Tokyo Hospital, Japan
Disclosures: Masashi Honma, None

SU0216 **Canonical Wnt Signaling Regulates CXCL12 Expression in Stromal Osteoblasts**
Masato Tamura*, Mari Sato. Biochem & Molecular Biol, Grad Sch Dent Med, Hokkaido University, Japan
Disclosures: Masato Tamura, None

SU0217 **Dlx3/5 and Runx2 are required for Transcriptional Regulation of Osteoactivin/Gpnmb by BMP-2 in Osteoblasts.**
Maneet Singh*[1], Fabiola Del Carpio-Cano[1], Alexandra M. Monroy[1], Steven Popoff[2], Fayez Safadi[2]. [1]Temple University, USA, [2]Temple University School of Medicine, USA
Disclosures: Maneet Singh, None

SU0218 **HDAC7 Represses Proliferation and Differentiation of Osteoblasts**
Eric Jensen*[1], Ali Khammanivong[2], Jennifer Westendorf[3], Kim Mansky[2], Raj Gopalakrishnan[2]. [1]University of Minnesota School of Dentistry, USA, [2]University of Minnesota, USA, [3]Mayo Clinic, USA
Disclosures: Eric Jensen, None

SU0219 **Identification of Zranb2, a Novel R-Smads Binding Protein, as a Suppressor of BMP Signaling**
Satoshi Ohte*[1], Shoichiro Kokabu[1], Toru Fukuda[2], Shunichiro Iemura[3], Hiroki Sasanuma[4], Katsumi Yoneyama[4], Masashi Shin[4], Eijiro Jimi[5], Toru Natsume[3], Takenobu Katagiri[6]. [1]Saitama Medical University, Japan, [2]Keio University School of Medicine, Japan, [3]National Institute of Advanced Industrial Science & Technology, Japan, [4]Saitama Medical University, Research Center for Genomic Medicine, Japan, [5]Kyushu Dental College, Japan, [6]Saitama Medical University Research Center for Genomic Medicine, Japan
Disclosures: Satoshi Ohte, None

SU0220 **Influence of Glucose and Advanced Glycation End-product Levels (AGEs) in Human Osteoblasts Gene Expression**
Cristina Miranda*[1], Merce Giner[2], M[a] José Montoya[1], M[a] Angeles Vazquez[1], Ramon Perez-Temprano[3], M[a] Jose Miranda[3], Ramon Perez-Cano[1]. [1]University of Seville, Spain, [2]University Hospital " Virgen Macarena", Spain, [3]University Hospital Virgen Macarena, Spain
Disclosures: Cristina Miranda, None

SU0221 **Inhibition of Osteoblast Function in Hypothermia: A Microarray Analysis**
Jessal J. Patel*[1], Della Hyliands[2], Fei-Ling Lim[2], Dawn J. Mazzatti[2], Duncan C.S. Talbot[2], Kavita Karnik[2], Timothy R. Arnett[1]. [1]Department of Cell & Developmental Biology, University College London, United Kingdom, [2]Unilever Discover, Unilever PLC, United Kingdom
Disclosures: Jessal J. Patel, None

SU0222 **P38 Regulates Expression of Osteoblast-specific Genes by Phosphorylation of Osterix**
María José Ortuño*[1], Silvia Ruiz-Gaspà[2], Edgardo Rodriguez-Carballo[3], Antonio R G Susperregui[3], Francesc Ventura[3]. [1]Universitat Barcelona, Spain, [2]CIBERehd, Spain, [3]L'Hospitalet de Llobregat, Spain
Disclosures: María José Ortuño, None

SU0223 **Risedronate Increases Osteoblastic Differentiation and Up-regulates Connexin43 Promoter Activity In Vitro**
Dong Jin Chung*[1], Kwang Youl Lee[2], Hyung Min Jeong[2], Dong Hyeok Cho[1], Jin Ook Chung[1], Min Young Chung[1], Roberto Civitelli[3]. [1]Chonnam National University Medical School, South Korea, [2]College of Pharmacy, Chonnam National University, South Korea, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Dong Jin Chung, None

SU0224 **The Transcriptional Activity of Osterix Requires the Recruitment of Sp1 but not Sp3 to the Osteocalcin Proximal Promoter**
Corinne Niger*[1], Florence Lima[2], David Yoo[1], Rishi Gupta[1], Carla Hebert[1], Joseph Stains[1]. [1]University of Maryland School of Medicine, USA, [2]Texas A&M University, USA
Disclosures: Corinne Niger, None

SU0225 **Transcriptional Regulation Mechanisms in Bone Following Mechanical Loading**
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Disclosures: Sara Mantila Roosa, None

SU0226 **WW Domain-Containing Proteins Regulate RUNX2 Functional Activity and Osteoblast Differentiation**
Marcio M. Beloti*[1], Mohammad Hassan[1], Yang Lou[2], Andre Van Wijnen[1], Gary Stein[1], Jane Lian[1], Rami Aqeilan[3], Janet L. Stein[1]. [1]University of Massachusetts Medical School, USA, [2]University of Massachusetts, USA, [3]The Hebrew University-Hadassah Medical School, Israel
Disclosures: Marcio M. Beloti, None

SU0227 **αNAC Exerts Dual Functions as a Co-activator and a Co-repressor in the Transcriptional Control of Myogenin and Osteocalcin Gene Expression**
Toghrul Jafarov*[1], Rene St-Arnaud[2]. [1]Shriners Hospitals for Children, McGill University, Canada, [2]Shriners Hospital for Children & McGill University, Canada
Disclosures: Toghrul Jafarov, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

SU0228 **1,25-Dihydroxyvitamin D_3 Affects Pulsating Fluid Flow-Induced Nitric Oxide Production by Osteoblasts Dependent on the VDR Pathway Activated**
Hubertine M.E. Willems*[1], Ellen G.H.M. van den Heuvel[2], Astrid Bakker[3], Jenneke Klein-Nulend[4]. [1]ACTA-University of Amsterdam & VU University Amsterdam, Dept Oral Cell Biology, Research Institute MOVE, Netherlands, [2]Life Science, Royal FrieslandCampina Research, Netherlands, [3]Academic Centre for Dentistry Amsterdam, UvA & VU, Research Institure MOVE, The Netherlands, [4]ACTA-VU University Amsterdam, The Netherlands
Disclosures: Hubertine M.E. Willems, None

SU0229 **Calcium Signaling Induced by Lysophosphatidic Acid in Osteoblasts**
Karen Ann Bridge*, S. Jeffrey Dixon. University of Western Ontario, Canada
Disclosures: Karen Ann Bridge, None

SU0230 **Effects of Hydroxyapatite Released Calcium Ion on Osteoblast Differentiation**
Gil-Yong Jung*[1], Jung-Suk Han[2], Yoon-Jeong Park[3]. [1]Seoul national university, South Korea, [2]School of dentistry, Seoul National University, South Korea, [3]Interdisciplinary program for Bioengineering & School of dentistry, Seoul National University, South Korea
Disclosures: Gil-Yong Jung, None

SU0231 **Short-term Activation of Liver X Receptors Inhibits Osteoblasts, but Long-term Activation does not have an Impact on murine Bone In Vivo**
Janne Prawitt[1], Wolfgang Ruether[2], Joerg Heeren[2], Robert Matshall[2], Alexander Bartelt[2], Michael Amling[2], Bart Staels[2], Andreas Niemeier*[2], Timo Beil[2]. [1]Univ Lille Nord de France, France, [2]University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Andreas Niemeier, None

SU0232 **The Role of Focal Adhesion in Primary Cilia-mediated Mechanotransduction in MC3T3-E1 Pre-osteoblastic Cells**
Ok Hee Jeon*, Yeong-Min Yoo, Chi Hyun Kim. Yonsei University, South Korea
Disclosures: Ok Hee Jeon, None

SU0233 **Uch-l3 Knock-out Induces Osteopenia Through the Destabilization of Smad1**
Ji Young Kim*[1], Hey-Sim Cho[1], Kyung-Ae Yoon[1], Keiji Wada[2], Je-Yoel Cho[1]. [1]School of Dentistry, Kyungpook National University, South Korea, [2]National Institute of Neuroscience, National Center of Neurology & Psychiatry, Japan
Disclosures: Ji Young Kim, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

SU0234 **A Role for LIM kinase 1 in Osteoblast Differentiation**
Robert Botta*, Karl Insogna. Yale University School of Medicine, USA
Disclosures: Robert Botta, None

SU0235 **Attenuation of Adipogenesis by Mechanical Strain Involves Downregulation of C/EBPβ**
Maya Styner*[1], Natasha Case[1], Zhihui Xie[2], Buer Sen[3], Jacob Thomas[2], Janet Rubin[1]. [1]University of North Carolina, Chapel Hill, School of Medicine, USA, [2]University of North Carolina, USA, [3]University of North Carolina At Chapel Hill, USA
Disclosures: Maya Styner, None

SU0236 **Effects of TGFβ-family Members on hMSC**
Barbara Klotz*[1], Martina Regensburger[2], Ludger Klein-Hitpass[3], Regina Ebert[4], Franz Jakob[2]. [1]Orthopädisches Zentrum Für Muskuloskelettale Forschung, Denmark, [2]Orthopedic Center for Musculoskeletal Research Experimental & Clinical Osteology, Germany, [3]Institut für Zellbiologie (Tumorforschung), Germany, [4]University of Wuerzburg, Orthopedic Center for Muskuloskeletal Research, Germany
Disclosures: Barbara Klotz, None

SU0237 **Evaluation of Osteogenic Differentiation by Embryonic Stem Cells.**
Dario Repic*[1], Tiziana Franceschetti[1], Ivo Kalajzic[2]. [1]Department of Reconstructive Sciences, University of Connecticut Health Center, USA, [2]University of Connecticut Health Center, USA
Disclosures: Dario Repic, None

SU0238 **Withdrawn**

SU0239 **Identification of a Novel Cell Population in the Adult Mouse Bone Marrow**
Wanida Ono*[1], Masanobu Ohishi[2], Noriaki Ono[3], Richa Khatri[1], Henry Kronenberg[4], Hector Aguila[5], Louise Purton[6], Ernestina Schipani[3]. [1]MGH-Harvard Medical School, USA, [2]National Kyushu Medical Center, Japan, [3]Massachusetts General Hospital & Harvard Medical School, USA, [4]Massachusetts General Hospital, USA, [5]University of Connecticut Health Center, USA, [6]St. Vincent Hospital, Australia
Disclosures: Wanida Ono, None

SU0240 **Ionizing Radiation Alters the Bone Marrow Microenvironment by Inducing Senescence of Stromal Cells**
Cynthia Carbonneau*[1], Geneviève Despars[1], Audrey Fortin[1], Oanh Le[1], Trang Hoang[2], Christian Beauséjour[1]. [1]Centre de recherche du CHU Ste-Justine, Université de Montréal, Canada, [2]IRIC, Université de Montréal, Canada
Disclosures: Cynthia Carbonneau, None

SU0241 **Irradiation-induced DNA Damage Interferes with Mesenchymal Stem Cell Plasticity**
Cynthia Carbonneau[1], Geneviève Despars*[1], Oanh Le[2], Christian Beauséjour[1]. [1]Centre de recherche de l'Hôpital Sainte-Justine, Université de Montréal, Canada, [2]Centre de recherche du CHU Ste-Justine, Université de Montréal, Canada
Disclosures: Geneviève Despars, None

SU0242 **Mechanical Stress to Integrins Induces Biological Responses in Mesenchymal Stem Cells**
Annika Kasten[1], Petra Müller[1], Ulrike Bulnheim[1], Jürgen Groll[2], Martin Möller[2], Joachim Rychly*[1]. [1]University of Rostock, Germany, [2]RWTH Aachen, Germany
Disclosures: Joachim Rychly, None

SU0243 **Monocytes and Macrophages Promote Osteogenic Differentiation of Human Mesenchymal Stem Cells via Cyclooxygenase 2 and Lipoxygenase**
Vicky Nicolaidou*[1], Andrew P. Cope[2], Nicole Horwood[3]. [1]Imperial College London, United Kingdom, [2]Academic Department of Rheumatology, King's College London, United Kingdom, [3]Kennedy Institute of Rheumatology, United Kingdom
Disclosures: Vicky Nicolaidou, None

SU0244 **Msx2 Expression Is Positively Associated With the Osteoblastic Potential of Adipose-derived Stromal Cells**
William Ferris*[1], Stephen Hough[2], Hanel Sadie-Van Gijsen[2]. [1]University of Stellenbosch., South Africa, [2]University of Stellenbosch, South Africa
Disclosures: William Ferris, None

SU0245 **Withdrawn**

SU0246 **Osteogenic Potential of Side Population Cells in Periodontal Ligament**
Tadashi Ninomiya*, Toru Hiraga, Akihiro Hosoya, Hiroaki Nakamura. Matsumoto Dental University, Japan
Disclosures: Tadashi Ninomiya, None

SU0247 **Overexpression of HEY1 and HEY2 Induces Osteoblastic Differentiation and Suppresses cGMP-Dependent Protein Kinase (cGK)II Activity *in vitro***
Ernesto Canalis[1], Anna Smerdel-Ramoya[1], Maria Monarca[1], Stefano Zanotti*[2]. [1]St. Francis Hospital & Medical Center, USA, [2]Saint Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

SU0248 **Pyk2 Regulates Megakaryocyte-Induced Osteoblast Proliferation *In Vitro* and Bone Formation *In Vivo***
Angela Bruzzaniti*[1], Ying-Hua Cheng[2], Su Huang[1], Khanh Nguyen[3], Brahmananda R. Chitteti[2], Edward F. Srour[2], Lindsey D. Mayo[2], Melissa Kacena[2]. [1]Indiana University School of Dentistry, USA, [2]Indiana University School of Medicine, USA, [3]Purdue University, USA
Disclosures: Angela Bruzzaniti, None

SU0249 **Risedronate on Osteoblast and Adipocyte Differentiation from Human-Mscs**
Antonio Casado-Díaz*[1], Raquel Santiago-Mora[2], Jose Manuel Quesada Gomez[3]. [1]Hospital Reina Sofía, Spain, [2]Universidad De Córdoba, Spain, [3]Gabinete Quesper, Spain
Disclosures: Antonio Casado-Díaz, None

OSTEOCLASTS: CATHEPSINS AND OTHER PROTEINASES

SU0250 **Effects of Odanacatib Treatment on Osteoclast Vesicular Trafficking during Bone Resorption**
Le Thi Duong[1], Ya Zhuo[2], Patrick Leung[2], Maureen Pickarski*[3]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc, USA, [3]Merck & Co., Inc., USA
Disclosures: Maureen Pickarski, Merck & Co., Inc, 3

OSTEOCLASTS: CELL ADHESION

SU0251 **Bone is not Essential for Osteoclast Activation**
Karen Fuller[1], Jade Ross[2], Kinga Szewczyk[2], Ray Moss[2], Timothy Chambers*[3]. [1]St. George's University of London, United Kingdom, [2]St George's, University of London, United Kingdom, [3]St. George's Hospital Medical School, United Kingdom
Disclosures: Timothy Chambers, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

SU0252 **CIZ Expression is Enhanced by Inflammatory Stimulation and Transcriptionally Regulates the RANKL Promoter**
Tetsuya Nakamoto*[1], Takayuki Motoyoshi[2], Tasuku Hada[2], Tomomi Sakuma[3], Tadayoshi Hayata[4], Yoichi Ezura[5], Riko Kitazawa[6], Sohei Kitazawa[7], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Department of Molecular Pharmacology, Medical Research Institute, Tokyo Medical & Dental University, Japan, [3]Tokyou Medical & Dental University, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [6]Kobe University, Japan, [7]Ehime University, Japan
Disclosures: Tetsuya Nakamoto, None

SU0253 **Novel Mechanisms Underlying Low Bone Density in Muscular Dystrophy**
Anna Rufo*[1], Andrea Del Fattore[1], Maria Luisa Bianchi[2], Enrico Bertini[3], Antonio Musarò[4], Serge Ferrari[5], Dominique Pierroz[6], Mattia Capulli[1], Nadia Rucci[1], Lucia Morandi[7], Fabrizio De Benedetti[8], Anna Teti[1]. [1]Department of Experimental Medicine, University of L'Aquila, Italy, [2]Bone Metabolic Unit, Istituto Auxologico Italiano, Italy, [3] Ospedale pediatrico "Bambino Gesù", Italy, [4]Department of Histology & Medical Embriology, University "La Sapienza", Italy, [5]Geneva University Hospital & Faculty of Medicine, Switzerland, [6]University Hospital of Geneva, Switzerland, [7]Neurologic Institute "C. Besta", IRCCS, Italy, [8]Ospedale pediatrico "Bambino Gesù", Italy
Disclosures: Anna Rufo, None

SU0254 **Prostaglandin D_2 Induces Apoptosis of Human Osteoclasts by Interaction with the CRTH2 Receptor**
Artur De Brum-Fernandes[1], Li Yue*[2]. [1]Universite De Sherbrooke, Canada, [2]University of Sherbrooke Medical School, Canada
Disclosures: Li Yue, Pfizer Canada, 2

OSTEOCLASTS: DIFFERENTIATION

SU0255 **CD47 (Integrin Associated Protein) and its Receptor SIRPα Are Not Required for Osteoclast Differentiation or Adult Bone Homeostasis**
Julia Charles*[1], Joseph Simonton[2], William E. Seaman[3], Mary Nakamura[4]. [1]University of California, San Francisco & VA Medical Center, USA, [2]VA Medical Center, USA, [3]University of California & VA Medical Center, USA, [4]University of California, San Francisco, USA
Disclosures: Julia Charles, None

SU0256 **Extracellular L-Serine Regulates Intracellular Amino Acid Levels and mTORC1 Activation in Mouse Osteoclast Precursors**
Takuya Ogawa*, Orie Nishida, Yoshie Matoba, Toshiki Sakai, Koichi Kishida, Naoki Fujii, Anton Bahtiar, Norihiro Ishida-kitagawa, Tatsuo Takeya. Nara Institute of Science & Technology, Japan
Disclosures: Takuya Ogawa, None

SU0257 **Genetic Conversion of Osteoclast Precursor to be Responsive to Light-controlled Cation Channel Activation Enhances Differentiation Upon Modulation of their Membrane Potential**
Takuya Notomi*[1], Miyuki Kuno[2], Yoichi Ezura[3], Masaki Noda[4]. [1]GCOE, Tokyo Medical & Dental University, Japan, [2]Osaka City University, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Tokyo Medical & Dental University, Japan
Disclosures: Takuya Notomi, None

SU0258 **Highly-Requirement of Exogenous Cholesterol and Positive Role of Lipid Raft for Osteoclast Differentiation**
Mari Okayasu*[1], Naoto Hada[2], Chiyomi Hayashida[3], Takuya Sato[4], Yoshiyuki Hakeda[2]. [1]Meikai University Graduate School of Dentistry, Japan, [2]Meikai University School of Dentistry, Japan, [3]Meikai University Graduate School of Dentistry, Japan, [4]Meikai University School of Dentistry, Jpn
Disclosures: Mari Okayasu, None

SU0259 **Interferon-inducible p204 Protein Inhibits Osteocalstogenesis Through Direct Interaction with NF-κB Transcription Factor**
Wei Tang*, Yi Luan, Nabeel Syed, Chuanju Liu. New York University, USA
Disclosures: Wei Tang, None

SU0260 **Negative Feedback Control of Osteoclast Formation Through Ubiquitin-mediated Down-regulation of NFATc1**
Jungha Kim*[1], Nacksung Kim[2], Hye Mi Jin[2], Bang Ung Youn[2], Kabsun kim[2]. [1]Chonnam National University Medical, South Korea, [2]Chonnam National University, South Korea
Disclosures: Jungha Kim, None

SU0261 **Pim-1 Regulates RANKL-induced Osteoclastogenesis via NF-kB Activation and NFATc1 Induction**
Bangung Youn[1], Kabsun Kim*[2], Nacksung Kim[1], Jung Ha Kim[1], Hye Mi Jin[1]. [1]Chonnam National University Medical School, South Korea, [2]Chonnam National University Medical School, South Korea
Disclosures: Kabsun Kim, None

SU0262 **SLAT Negatively Regulates RANKL-mediated Osteoclast Differentiation**
Jung Ha Kim[1], Hye Mi Jin[1], Kabsun Kim[1], Nacksung Kim[2], Bang Ung Youn*[1]. [1]Chonnam National University, South Korea, [2]Chonnam National University Medical School, South Korea
Disclosures: Bang Ung Youn, None

SU0263 **The Osteoclastogenesis in The Alteration of Bone Marrow Cells during Medullary Bone Formation in Estrogen-Treated Male Japanese Quails.**
Shinji Hiyama*[1], Yuichi Akagi[2], Mineo Watanabe[1], Takashi Uchida[1]. [1]Hiroshima University Graduate School of Biomedical Sciences, Japan, [2]Hiroshima University, Faculty of Dentistry, Japan
Disclosures: Shinji Hiyama, None

SU0264 **The Role of Calcium Release Activated Calcium Channels in Osteoclast Differentiation In Vitro and In Vivo**
Jonathan Soboloff*[1], Lisa J. Robinson[2], Yandong Zhou[1], Tricia Lewis[3], Salvatore Mancarella[1], Li Liu[4], Lida Guo[2], Irina Tourkova[2], Kathy Brundage[3], Rosana Schafer[3], Karen Martin[3], Donald L. Gill[1], Harry Blair[4], John Barnett[3]. [1]Temple University, USA, [2]University of Pittsburgh School of Medicine, USA, [3]West Virginia University School of Medicine, USA, [4]University of Pittsburgh, USA
Disclosures: Jonathan Soboloff, None

OSTEOCLASTS: INHIBITION OF RESORPTION

SU0265 **A Novel Murine Model of Osteopetrosis by Administration of a Denosumab-like anti-Murine RANKL Neutralizing Monoclonal Antibody (OYC1)**
Hisataka Yasuda*[1], Kaoru Mori[2], Yoshiya Tomimori[2], Tadashi Ninomiya[3], Nobuyuki Udagawa[3], Naoyuki Takahashi[3], Yuriko Furuya[2]. [1]Oriental Yeast Company, Limited, Japan, [2]Oriental Yeast Co., Ltd., Japan, [3]Matsumoto Dental University, Japan
Disclosures: Hisataka Yasuda, Oriental Yeast Co., Ltd., 3

SU0266 **Bis-enoxacin: A novel Anti-Bone Resorptive Bisphosphonate**
Edgardo Toro*[1], Vivian Bradaschia-Correa[2], Victor Arana-Chavez[3], David A. Ostrov[1], Thomas Wronski[1], Lexie Holliday[4]. [1]University of Florida, USA, [2]University of Sao Paulo, Brazil, [3]University of São Paulo, Brazil, [4]University of Florida College of Dentistry, USA
Disclosures: Edgardo Toro, None

SU0267 **Elucidating Specific Interacting Domains Between a3-B2 and a3-d2 Vacuolar H^+-ATPase Subunits**
Natoosha Azizi*[1], Norbert Kartner[1], Yeqi Yao[2], Keying Li[2], Morris Manolson[1]. [1]University of Toronto, Canada, [2]University of Toronto, Faculty of Dentistry, Canada
Disclosures: Natoosha Azizi, None

SU0268 **Latent Osteoclasts After Alendronate Treatment During Rodent Molar Eruption *versus* Bone Resorption *in vitro***
Vivian Bradaschia-Correa[1], Edgardo Toro[2], Lexie Holliday[3], Victor Arana-Chavez*[4]. [1]Universidade de São Paulo, Brazil, [2]University of Florida, USA, [3]University of Florida College of Dentistry, USA, [4]University of São Paulo, Brazil
Disclosures: Victor Arana-Chavez, None

SU0269 **Measurement of Chloride Transport in Relation to Lysosomal Acidification in Osteoclasts**
Vicki Jensen*, Morten Karsdal, Kim Henriksen. Nordic Bioscience A/S, Denmark
Disclosures: Vicki Jensen, Nordic Bioscience, 3

SU0270 **Non-steroidal Anti-inflammatory Drugs Inhibit Osteoclast Activation by Inhibiting Nuclear Translocation of NFκB**
Hitoshi Amano, Akiko Karakawa*, Keiko Suzuki, Shoji Yamada. Showa University School of Dentistry, Japan
Disclosures: Akiko Karakawa, None

SU0271 **Ovariectomy Induced Bone Loss in Mice Requires Intact Cbl-PI3K Interaction**
Nagasuresh Adapala*[1], Mary Barbe[1], Alexander Tsygankov[2], Archana Sanjay[1]. [1]Temple University School of Medicine, USA, [2]Temple university, USA
Disclosures: Nagasuresh Adapala, None

OSTEOCLASTS: ISOLATION AND LINEAGE

SU0272 **Generation of Osteoclasts and Characterization of their Progenitors from Human Pluripotent Stem Cells**
Hector Aguila, Sierra Root*. University of Connecticut Health Center, USA
Disclosures: Sierra Root, None

SU0273 **Identification and Characterization of a Common Progenitor for Osteoclasts, Macrophages and Dendritic Cells in Murine Bone Marrow**
Christian Jacome*, Sun-Kyeong Lee, Joseph Lorenzo, Hector Aguila. University of Connecticut Health Center, USA
Disclosures: Christian Jacome, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

SU0274 **Cytoskeletal Dysfunction and not Arrested Differentiation Dominates in DAP12-Deficient Osteoclasts**
Wei Zou*[1], Tingting Zhu[2], Clarissa S. Craft[3], Thomas J. Broekelmann[3], Robert P. Mecham[3], Steven Teitelbaum[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Department of Pathology & Immunology, Washington University School of Medicine, USA, [3]Department of Cell Biology, Washington University School of Medicine, USA
Disclosures: Wei Zou, None

SU0275 **Osteoclast-specific NIK Stabilization Causes Osteoporosis**
Chang Yang*[1], Kathleen McCoy[1], Jennifer Davis[1], Roberta Faccio[1], Deborah Novack[2]. [1]Washington University in St Louis School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Chang Yang, None

SU0276 **$P2X_7$ Receptor Involvement in Human Osteoclast Activity and Survival**
Melissa Barron*[1], Rory Clifton-Bligh[2], James S. Wiley[3], Rebecca Mason[4]. [1]The University of Sydney, Australia, [2]Northern Clinical School & Kolling Institute of Medical Research, The University of Sydney, Australia, [3]Nepean Clinical School, The University of Sydney, Australia, [4]University of Sydney, Australia
Disclosures: Melissa Barron, None

SU0277 **Serum Calcium-decreasing Factor, Caldecrin, Suppresses Osteoclastogenesis by Antagonizing RANKL-stimulated PLCγ and Ca^{2+} Oscillation**
Mineko Tomomura[1], Akito Tomomura*[2], Hiroya Hasegawa[3]. [1]Meikai Pharmaco-Medical Laboratory, Meikai University School of Dentistry, Japan, [2]Meikai University, School of Dentistry, Japan, [3]Department of Orthodontics, Graduate School of Dentistry, Meikai University, Japan
Disclosures: Akito Tomomura, None

OSTEOCYTES: REGULATION OF BONE FORMATION

SU0278 **Autophagy, an Intracellular Recycling Process, Opposes Osteocyte Death Induced by Glucocorticoids, Reactive Oxygen Species, and Hypoxia In Vitro and May Become Less Efficient with Age**
Haibo Zhao*, Kanan Vyas, Jinhu Xiong, Stavros Manolagas, Charles O'Brien. University of Arkansas for Medical Sciences, USA
Disclosures: Haibo Zhao, None

SU0279 **Distinct Intracellular Calcium Waves in Osteocytic Networks under Fluid Flow Are Due to T-Type Voltage-Gated Calcium Channels in Osteocytes**
Xin Lu*, Andrew Baik, X Guo. Columbia University, USA
Disclosures: Xin Lu, None

SU0280 **High Glucose Medium Prevents the Pro-Survival Effect of Mechanical Stimulation on MLO-Y4 Osteocytes**
Marta Maycas*[1], Luis Fernandez de Castro[2], Alvaro G. Romero[2], José Manuel Pozuelo[2], Pedro Esbrit[3], Arancha Gortazar[4]. [1]Fundación Jiménez Díaz (Capio Group), Spain, [2]Universidad San Pablo-CEU, Spain, [3]Fundacion Jimenez Diaz (Capio Group), Spain, [4]Universidad San Pablo-CEUSchool of MedicineMadrid Spain, Spain
Disclosures: Marta Maycas, None

SU0281 **Ift88 Function in the Murine Skeleton**
Bradley Yoder[1], Courtney Haycraft*[2], P. Darwin Bell[2]. [1]University of Alabama at Birmingham, USA, [2]Medical University of South Carolina, USA
Disclosures: Courtney Haycraft, None

SU0282 **Perlecan/HSPG2 Helps Maintain the Pericellular Space of the Lacuno-Canalicular System Surrounding Osteocytic Processes in Murine Cortical Bone**
William Thompson*[1], Shannon Modla[1], Brian Grindel[2], Kirk Czymmek[1], Catherine Kirn-Safran[1], Liyun Wang[1], Randall Duncan[1], Mary Farach-Carson[2]. [1]University of Delaware, USA, [2]Rice University, USA
Disclosures: William Thompson, None

SU0283 **Simulated Microgravity Induces SOST/Sclerostin Upregulation in Osteocytes**
Jordan Spatz*[1], Jean Sibonga[2], Honglu Wu[2], Kevin Barry[3], Mary Bouxsein[4], Paola Divieti Pajevic[5]. [1]Harvard-MIT Dvision of Health Sciences & Technology (HST), USA, [2]NASA, USA, [3]MGH, USA, [4]Beth Israel Deaconess Medical Center, USA, [5]Massachusetts General Hospital, USA
Disclosures: Jordan Spatz, None

SU0284 **The Decrease in the Rate of Osteocyte Apoptosis in OVX Rats Treated with Two Different Doses of Risedronate**
Shijing Qiu*[1], Frank Ebetino[2], Saroj Palnitkar[1], D. Sudhaker Rao[1]. [1]Henry Ford Hospital, USA, [2]Procter & Gamble Pharmaceuticals, Inc., USA
Disclosures: Shijing Qiu, Procter & Gamble, 2

SU0285 **The Role of the Sphingosine-1-Phosphate Signaling Pathway in Osteocyte Mechanotransduction**
Jia Ning Zhang*, Yan Zhao, Elizabeth Han, Chao Liu, Xue Yu, Steffen-Sebastian Boltz, Darcy Lidington, Lidan You. University of Toronto, Canada
Disclosures: Jia Ning Zhang, None

OSTEOCYTES: REGULATION OF BONE MINERALIZATION

SU0286 **Detection of Sclerostin Epitopes in Zebrafish Skeleton and Kidney.**
THEODORE CRAIG*[1], Rajiv Kumar[2]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA
Disclosures: THEODORE CRAIG, None

SU0287 **Structural Basis for Bone Resorption within the Cortical Bone**
Nobuhito Nango*[1], Shogo Kubota[1], Yoshihiro Takeda[2], Wataru Yashiro[3], Atsushi Momose[3], Koichi Matsuo[4]. [1]Ratoc System Engineering Co., Ltd., Japan, [2]Department of Advanced Materials Science, School of Frontier Sciences, The Universtity of Tokyo, Japan, [3]Department of Advanced Materials Science, School of Frontier Sciences, The University of Tokyo, Japan, [4]School of Medicine, Keio University, Japan
Disclosures: Nobuhito Nango, None

OSTEOPOROSIS ASSESSMENT: BIOCHEMICAL MARKERS

SU0288 **A New Automated Method for m=Measuring Intact Amino-terminal Propeptide of Type I procollagen (P1NP)**
Karl Insogna[1], Christine Simpson*[2]. [1]Yale University School of Medicine, USA, [2]Yale University, USA
Disclosures: Christine Simpson, None

SU0289 **Seasonal Variation of Serum Markers of Bone Turnover and 25-Hydroxyvitamin D in Irish Patients attending an Osteoporosis Clinic**
Joseph Browne*[1], Florence O Connell[2], Martin Healy[3], Kara Fitzgerald[2], James Walsh[4], Miriam C Casey[2]. [1]St James's Hospital, Ireland, [2]Bone Health & Osteoporosis Unit, Mercer's Institute of Research on Ageing, St James's Hospital, Ireland, [3]Department of Biochemistry, St James's Hospital, Ireland, [4]Trinity College Dublin, The University of Dublin, Ireland
Disclosures: Joseph Browne, None

SU0290 **Serum Osteocalcin Exerts Beneficial Effects on Insulin Sensitivity and Secretion**
Ippei Kanazawa*[1], Toru Yamaguchi[2], Yuko Tada[2], Masahiro Yamamoto[2], Mika Yamauchi[2], Shozo Yano[2], Toshitsugu Sugimoto[3]. [1]McGill University, Canada, [2]Shimane University Faculty of Medicine, Japan, [3]Shimane University School of Medicine, Japan
Disclosures: Ippei Kanazawa, None

SU0291 **A New Approach to Time-based Bone Mineral Density Differences**
Lin Ling*[1], Carl Wesolowski[2]. [1]Memorial University, Canada, [2]Nuclear Medicine Physician, Canada
Disclosures: Lin Ling, None

SU0292 **Accuracy of Vertebral Fracture Assessment by Dual-Energy X-Ray Absorptiometry Using GE iDXA Compared to Conventional Radiography**
Daniele Diacinti[1], Romano Del Fiacco*[2], Daniela Pisani[3], Elisabetta Romagnoli[4], Stefania Russo[5], Jessica Pepe[5], Emilio D'Erasmo[5], Salvatore Minisola[4]. [1]Dept. of Radiological Sciences - University "SAPIENZA" Rome, Italy, [2]University "Sapienza" - Rome, Italy, [3]Dept. of Medical Sciences - Azienda Ospedaliera Sant'Andrea - University "SAPIENZA" Rome, Italy, [4]University of Rome, Italy, [5]Dept. of Clinical Sciences - University "SAPIENZA" Rome, Italy
Disclosures: Romano Del Fiacco, None

SU0293 **Bone Loss and Fracture Risk after High Level of Physical Activity in Adolescence and Young Adulthood**
Magnus Tveit*[1], Henrik Ahlborg[2], Bjorn Rosengren[3], Jan-Åke Nilsson[4], Magnus Karlsson[3]. [1]Skåne University Hospital Malmö, Lund University, Sweden, Sweden, [2]Malmo University Hospital, Sweden, [3]Skåne University Hospital Malmö, Lund University, Sweden, [4]Skane University Hospital, Sweden
Disclosures: Magnus Tveit, None

SU0294 **Clinical Risk Factors as Predictors of Bone Mass in a Brazilian Women Population.**
Maria Marta Sarquis Soares*[1], Alessandra P. G Dias[2], Marcio W. Lauria[3], Bárbara Campolina Carvalho Silva[4], Eduardo Pimentel Dias[5], Bruna Galvão Marinho[1], Bruno Camargos[6]. [1]Federal University of Minas Gerais, Brazil, [2]Hospital Felicio Rocho, Brazil, [3]Hospital Felcio Rocho, Brazil, [4]Columbia University - Federal University of Minas Gerais, Brazil, [5]Felicio Rocho Hospital - Endocrine Department, Brazil, [6]Rua Padre Francisco Arantes, USA
Disclosures: Maria Marta Sarquis Soares, None

SU0295 **Influence of Fat Layering on Bone Mineral Density Measurements by DXA and QCT**
Elaine Yu*, Robert Neer, Bijoy Thomas, Joel Finkelstein. Massachusetts General Hospital, USA
Disclosures: Elaine Yu, None

SU0296 **Is Regional Bone Density in a Hip Scan Reflected by Traditional Hip Scan DXA Assessments**
Tom Sanchez*[1], Jing Mei Wang[2], Kathy M Dudzek[3], Chad A Dudzek[3]. [1]Norland - A Cooper Surgical Company, USA, [2]Norland–a CooperSurgical Company, Peoples Republic of China, [3]Norland–a CooperSurgical Company, USA
Disclosures: Tom Sanchez, None

SU0297 **Lower Extremity BMD Measurement Methodology in Chronic Spinal Cord Injury Populations**
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Disclosures: Lisa Streff, None

SU0298 **Osteoporosis Screening with a New Volumetric Evalauation of Dental Alveolar Bone Density**
Yoshitomo Takaishi*[1], Aiko Kamada[2], Takashi Ikeo[2], Takami Miki[3], Takuo Fujita[4]. [1]Takaishi Dental Clinic, Japan, [2]Osaka Dental University, Japan, [3]Osaka City University Medical School, Japan, [4]Katsuragi Hospital, Japan
Disclosures: Yoshitomo Takaishi, None

SU0299 **Relationship Between Body Composition and the Skeleton**
Xiaohai Wan[1], John Krege[1], Yebin Jiang*[2]. [1]Eli Lilly & Company, USA, [2]Osteoporosis & Arthritis Lab, University of Michigan, USA
Disclosures: Yebin Jiang, Eli Lilly and Company, 1; Eli Lilly and Company, 3

SU0300 **Teriparatide and Risk of Nonvertebral Fractures in Women with Postmenopausal Osteoporosis**
Xiaohai Wan, John Krege*. Eli Lilly & Company, USA
Disclosures: John Krege, Eli Lilly and Company, 3; Eli Lilly and Company, 1

OSTEOPOROSIS ASSESSMENT: BONE STRUCTURE

SU0301 **Bone Geometry and Strength in Obese Adults**
Lesley M. Scibora*[1], Amanda J. Smock[1], Beth C. Kaufman[1], Mindy S. Kurzer[2], Thomas Beck[3], Moira Petit[1]. [1]University of Minnesota, USA, [2] University of Minnesota, USA, [3]Johns Hopkins Outpatient Center, USA
Disclosures: Lesley M. Scibora, None

SU0302 **Comparison Between Vertebral Body Height Ratios Assessed by X-ray Based and Norland Illuminatus DXA-based Vertebral Fracture Assessments**
Terry W Schwalenberg[1], JC Liu[2], George Ekker[1], Tom Sanchez[3], Jingmei Wang*[4]. [1]Norland–a CooperSurgical Company, USA, [2]Department of Nuclear Medicine, PLA 304th Hospital, China, [3]Norland - A Cooper Surgical Company, USA, [4]Norland–a CooperSurgical Company, China
Disclosures: Jingmei Wang, None

SU0303 **Cortical Bone Water Measured by UTE MRI Far Exceeds Variations in Mineral Density**
Felix Werner Wehrli*[1], Hamidreza Saligheh Rad[2], Mary Leonard[3], Jeremy Magland[2], James Love[2], Hee Kwon Song[2], Helen Peachey[2]. [1]University of Pennsylvania Medical Center, USA, [2]University of Pennsylvania, USA, [3]Children's Hospital of Philadelphia, USA
Disclosures: Felix Werner Wehrli, None

SU0304 **Evaluation of an Automated Morphometry Software Program (SpineAnalyzer^{TM}) on VFA Images**
Diane Krueger*[1], Joes Staal[2], Peter Steiger[3], Bjoern Buehring[4], Harry Genant[5], Neil Binkley[6]. [1]University of Wisconsin, Madison, USA, [2]Optasia Medical, United Kingdom, [3]Optasia Medical, USA, [4]Cleveland Clinic, USA, [5]UCSF/Synarc, USA, [6]University of Wisconsin, USA
Disclosures: Diane Krueger, None

SU0305 **Generation of an Atlas of the Proximal Femur for Automatic Placement of Identical VOIs for the Analysis of Trabecular Bone**
Julio Carballido-Gamio[1], Dimitrios C. Karampinos[2], Jenny Folkesson[2], Thomas Link[2], Sharmila Majumdar[2], Roland Krug*[2]. [1]Grupo Tecnológico Santa Fe, S.A. de C.V., Mexico, [2]University of California, San Francisco, USA
Disclosures: Roland Krug, None

SU0306 **Intra-sample Variability in Bone Volume in Bone Iliac Crest Biopsies Evaluated by Fast Fourier Transform (FFT)**
Jean-Paul Roux*, Brigitte Burt-Pichat, Nathalie Portero-Muzy, Roland Chapurlat, Pascale Chavassieux. INSERM U831, Universite de Lyon, France
Disclosures: Jean-Paul Roux, None

SU0307 **Reproducibility of Volumetric Topological Analysis for Trabecular Bone via Multi-Detector CT Imaging**
Punam Kumar Saha*. University of Iowa, USA
Disclosures: Punam Kumar Saha, None

SU0308 **Short Term In Vivo Precision of BMD and Parameters of Trabecular Architecture at the Distal Forearm and Tibia**
Thomas Fuerst[1], Klaus Engelke*[2], Paul McCracken[3], Bernd Stampa[4], Wolfram Timm[4], Bernie Dardzinski[5], Harry Genant[6], Anne De Papp[5]. [1]Synarc, Inc., USA, [2]University of Erlangen, Germany, [3]Merck Research Laboratories, USA, [4]Synarc Inc, Germany, [5]Merck & Co., Inc., USA, [6]UCSF/Synarc, USA
Disclosures: Klaus Engelke, Synarc, 3

SU0309 **Trabecular Bone Score Helps Classifying Women at Risk of Fracture: A Prospective Analysis within the OFELY Study**
Stephanie Boutroy*[1], Didier Hans[2], Elisabeth Sornay-Rendu[1], Nicolas Vilayphiou[1], Renaud Winzenrieth[2], Roland Chapurlat[1]. [1]INSERM U831 & Universite de lyon, France, [2]Department of Bone & Joint Diseases, Lausanne University Hospital, Switzerland
Disclosures: Stephanie Boutroy, None

OSTEOPOROSIS ASSESSMENT: ULTRASOUND

SU0310 **Longitudinal Effects of a Vegan Diet on Bone Mineral Density as Assessed by Calcaneal Quantitative Ultrasound**
Simon Dyall*[1], Daphne Bird[1], Ian Drysdale[2], Heather Hinkley[2]. [1]British College Osteopathic Medicine, United Kingdom, [2]British College of Osteopathic Medicine, United Kingdom
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SU0311 **Ultrasonic Assessment of the Radius**
Jonathan Kaufman*[1], Gangming Luo[1], Mark Lieberman[2], Stanley Rosenfeld[2], Alfred Rosenbaum[2], Robert Siffert[3]. [1]CyberLogic, Inc., USA, [2]Computerized Diagnostic Scanning Associates, Inc., USA, [3]The Mount Sinai School of Medicine, USA
Disclosures: Jonathan Kaufman, CyberLogic, Inc., 3

OSTEOPOROSIS EPIDEMIOLOGY: BONE MINERAL DENSITY

SU0312 **A Comparison of Case-Finding Strategies for the Management of Osteoporosis**
Eugene McCloskey*[1], Helena Johansson[2], Juliet Compston[3], Anders Oden[2], John Kanis[4]. [1]University of Sheffield, United Kingdom, [2]WHO Collaborating Centre for Metabolic Bone Diseases, United Kingdom, [3]University of Cambridge School of Clinical Medicine, United Kingdom, [4]University of Sheffield, Belgium
Disclosures: Eugene McCloskey, None

SU0313 **Association between Bone Mineral Density and Metabolic Syndrome in Korean women**
Yun Kyung Jeon*, Jung Eun Huh, Ji Young Mok, Mi Ra Kim, Sang Su Kim, Bo Hyun Kim, In Ju Kim. Pusan National University Hospital, South Korea
Disclosures: Yun Kyung Jeon, None

SU0314 **Change in Hip Bone Mineral Density (BMD) and Risk of Fractures in Older Men**
Peggy Cawthon*[1], Susan Ewing[2], Dawn Mackey[3], Howard Fink[4], Steven Cummings[5], Kristine Ensrud[6], Cora Lewis[7], Douglas Bauer[8], Jane Cauley[9], Eric Orwoll[10]. [1]California Pacific Medical Center Research Institute, USA, [2]University of California, USA, [3]CPMC Research Institute, USA, [4]GRECC, Minneapolis VA Medical Center, USA, [5]San Francisco Coordinating Center, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA, [7]University of Alabama at Birmingham, USA, [8]University of California, San Francisco, USA, [9]University of Pittsburgh Graduate School of Public Health, USA, [10]Oregon Health & Science University, USA
Disclosures: Peggy Cawthon, None

SU0315 **Circadian Clock Gene Associations with Bone Density In Older Men**
Elizabeth Haney*[1], Carrie Nielson[1], Greg Tranah[2], Joseph Zmuda[3], Katie Stone[4], Eric Orwoll[1]. [1]Oregon Health & Science University, USA, [2]California Pacific Medical Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]California Pacific Medical Center-Research Institute, USA
Disclosures: Elizabeth Haney, None

SU0316 **Depressive Symptoms and Rates of Hip Bone Loss in Men**
Susan Diem*[1], Stephanie Harrison[2], Elizabeth Haney[3], Katie Stone[4], Jane Cauley[5], Kristine Ensrud[6]. [1]University of Minnesota, USA, [2]San Francisco Coordinating Center, USA, [3]Oregon Health & Science University, USA, [4]California Pacific Medical Center-Research Institute, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Susan Diem, Eli Lilly, Inc., 2

SU0317 **Low Calcaneal Stiffness Index Is a Predictor of Physical Impairment Among Japanese Women: The Hizen-Oshima Study**
Kiyoshi Aoyagi, Yasuyo Abe*. Nagasaki University, Japan
Disclosures: Yasuyo Abe, None

SU0318 **Prevalence of osteoporosis in Korean population based on 2008 Korean National Health and Examination Survey(KNHANES) IIII**
ILWOO JOO*[1], JunHyung Cho[2], Ji-hyun Ko[3], HanJin Oh[4]. [1]Cheil General Hospital, Kwandong University, South Korea, [2]Korean society of neurosurgery, South Korea, [3]Korean Society of Osteoporosis, South Korea, [4]Korean Societyof Osteoporosis, South Korea
Disclosures: ILWOO JOO, None

SU0319 **Relationships between OPG, RANKL, Bone Turnover Markers and Bone Mineral Density in Men and Women Following Hip Fracture**
Julia Chan*[1], Ram Miller[1], Michelle Shardell[1], Elizabeth Streeten[2], Marc Hochberg[2], Jay Magaziner[3], Denise Orwig[3]. [1]University of Maryland Baltimore, USA, [2]University of Maryland School of Medicine, USA, [3]University of Maryland, Baltimore, USA
Disclosures: Julia Chan, ALPCO Diagnostics, 9; Biomedica Inc., 9

SU0320 **Sex Differences in the Fracture Prediction by Bone Mineral Density Assessed at Peripheral Sites**
Diane Claflin*[1], Denise Von Muhlen[2], Heather Hofflich[3], Elizabeth Barrett-Connor[3]. [1]UCSD, USA, [2]Unoversity of California San Diego, USA, [3]University of California, San Diego, USA
Disclosures: Diane Claflin, None

SU0321 **The Association Between Serum Thyrotropin (TSH) Levels and Bone Mineral Density in Healthy Euthyroid Men**
Sung Jin Bae*[1], Beom-Jun Kim[2], Seung Hun Lee[3], Hong Kyu Kim[4], Jae Won Choe[4], Ha Young Kim[5], Jung-Min Koh[1], Ghi Su Kim[6]. [1]Asan Medical Center, South Korea, [2]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [4]Health Promotion Center, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [5]Wonkwang University Sanbon Medical Center, Korea, [6]University of Ulsan, South Korea
Disclosures: Sung Jin Bae, None

OSTEOPOROSIS EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

SU0322 **Determinant of Bone Mineral density in Korean Men - A Nation wide study**
Kwang Joon Kim*[1], Kyoung Min Kim[2], Sung-Kil Lim[1], Yumie Rhee[1], Han Seok Choi[3]. [1]Severance Hospital, South Korea, [2]Yonsei University, South Korea, [3]Dong-Kuk University hospital, South Korea
Disclosures: Kwang Joon Kim, None

SU0323 **Development and Validation of a Food Frequency Questionnaire for Assessing Macronutrient and Calcium Intake in Women Residing in Karachi, Pakistan**
Romaina Iqbal, Gulshan Bano, Mujtaba Bilgrami, Farhan Dar, Aysha Khan*. Aga Khan University, Pakistan
Disclosures: Aysha Khan, None

SU0324 **Lean Mass is a Stronger Determinant of BMD than Fat Mass in Young Women with a History of Anorexia Nervosa**
Esther Waugh*, Cheryl Chase, Gillian Hawker. Women's College Hospital, Canada
Disclosures: Esther Waugh, None

SU0325 **Premenopausal BMD Loss and its Relationship to Prolonged Lactation and Poor Nutrition: A Study Using Mediaeval Skeletons**
Gordon Turner-Walker[1], Simon Mays*[2]. [1]School of Cultural Heritage, National Yunlin University of Science & Technology, Taiwan, [2]English Heritage for Archaeology, United Kingdom
Disclosures: Simon Mays, None

SU0326 **Skin Colour Change in Caucasian Postmenopausal Women Predicts Seasonal Change in 25-hydroxyvitamin D: Findings from the ANSAViD Cohort Study**
Helen Macdonald*[1], Alexandra Mavroeidi[2], Lorna A. Aucott[2], Brian Diffey[3], Anthony Ormerod[2], William D. Fraser[4], David Reid[2]. [1]University of Aberdeen Bone & Musculoskeletal Research Programme, United Kingdom, [2]University of Aberdeen, United Kingdom, [3]University of Newcastle, United Kingdom, [4]University of Liverpool, United Kingdom
Disclosures: Helen Macdonald, None

SU0327 **Study about Relationships between Young Age's Body Mass Index (BMI) and Postmenopausal BMI for Bone Mineral Density (BMD) in Postmenopausal Osteoporosis Patients**

Dongwon Byun*[1], Jioh Mok[2], Heeja Ko[2], Jiyon Kim[2], Chanhee Jung[2], Sungwan Jeon[2], Younhee Park[2], Wonson Jeon[2], Hyeongkyu Park[2], Yeoju Kim[2], Chulhee Kim[2], Sangjin Kim[2], Kyoil Suh[2], Myunghi Yu[2]. [1]Soon Chun Hyang University Hospital, Rok, [2]Soon Chun Hyang University Hospital, South Korea

Disclosures: Dongwon Byun, None

SU0328 **The Relationship between Body Mass Index and the Risk of Peripheral Fragility Fracture**

Louis Bessette*[1], Sonia Jean[2], Sophie Roy[3], K. Shawn Davison[1], Louis-Georges Ste-Marie[4], Jacques Brown[1]. [1]Laval University, Canada, [2]Institut National De Sante Publique, Canada, [3]Institut national de santé publique du Québec, Canada, [4]Hospital Saint-Luc, CHUM, Canada

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SU0329 **Vitamin K and Bone Health: An Updated Systematic Review and Meta-analysis**

Joanna Wadsworth[1], Andrea Darling*[1], Martin Shearer[2], Michelle Gibbs[1], Joy Adamson[3], David Torgerson[3], Susan Lanham-New[1]. [1]University of Surrey, United Kingdom, [2]St Thomas's Hospital, United Kingdom, [3]University of York, United Kingdom

Disclosures: Andrea Darling, None

OSTEOPOROSIS EPIDEMIOLOGY: FRACTURE OUTCOME

SU0330 **Clinical Vertebral Fractures Result in More of a Health Burden and Hospitalization than Other Osteoporotic Fractures. The AGES-Reykjavik Study**

Kristin Siggeirsdottir*[1], Thor Aspelund[1], Brynjolfur Y Jonsson[2], Brynjolfur Mogensen[3], Anna H Bjornsdottir[1], Lenore Launer[4], Tamara B Harris[4], Gunnar Sigurdsson[5], Vilmundur Gudnason[1]. [1]Icelandic Heart Association Research Institute, Iceland, [2]Malmo University Hospital, Department of Orthopedics, Sweden, [3]National University Hospital, Department of Orthopedics, Iceland, [4]National Institute on Aging, USA, [5]Landspitali, Iceland

Disclosures: Kristin Siggeirsdottir, None

SU0331 **Confounding in Pharmacoepidemiologic Studies of Fracture Risk**

Suzanne Cadarette, Lindsay Wong*. Leslie Dan Faculty of Pharmacy, University of Toronto, Canada

Disclosures: Lindsay Wong, None

SU0332 **Economic Burden of Osteoporosis-related Fracture Hospitalizations in France**

Milka MARAVIC*[1], Alexandre VAINCHTOCK[2], Baptiste JOUANETON[2], VALERIE TOCHON[3]. [1]Département d'Information Médicale, Hôpital Léopold Bellan, France, [2]HEVA, France, [3]Amgen, France

Disclosures: Milka MARAVIC, AMGEN France SAS, 5

SU0333 **Fragility Fractures and the Osteoporosis Care Gap in Women: the Canadian Multicentre Osteoporosis Study**

Lisa-Ann Fraser*[1], George Ioannidis[2], Jonathan Adachi[3], Laura Pickard[4], Stephanie Kaiser[5], Jerilynn Prior[6], Jacques Brown[7], David Hanley[8], Wojciech P. Olszynski[9], Tassos Anastassiades[10], Sophie Jamal[11], Robert Josse[12], David Goltzman[13], Alexandra Papaioannou[14]. [1]University of Western Ontario, McMaster University, Canada, [2]Sympatico, Canada, [3]St. Joseph's Hospital, Canada, [4]McMaster University, Canada, [5]Dalhousie University, Canada, [6]University of British Columbia, Canada, [7]Laval University, Canada, [8]University of Calgary, Canada, [9]University of Saskatchewan, Canada, [10]Queen's University, Canada, [11]The University of Toronto, Canada, [12]St. Michael's Hospital, University of Toronto, Canada, [13]McGill University Health Centre, Canada, [14]Hamilton Health Sciences, Canada

Disclosures: Lisa-Ann Fraser, None

SU0334 **FRAX: Does Fracture Prediction Differ by Race/Ethnicity?**
Jane Cauley*[1], Andrea Z. LaCroix[2], Chunyuan Wu[2], Beth Lewis[3], Jean Wactawski-Wende[4], Kamal Masaki[5], Karen Johnson[6], Mary Jo O'Sullivan[7], Rebecca Jackson[8], Susan Hendrix[9], John Robbins[10]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]Fred Hutchinson Cancer Research Center, USA, [3]University of Alabama, USA, [4]University at Buffalo, USA, [5]University of Hawaii at Manoa, USA, [6]University of Tennessee Health Science Center, USA, [7]Leonard M Miller School of medicine at the University of Miami, USA, [8]The Ohio State University, USA, [9]Wayne State College, USA, [10]University of California, Davis Medical Center, USA
Disclosures: Jane Cauley, None

SU0335 **Functional Capacity and Survival after One Year of Hip Fracture in Brazilian Older People: A Prospective Study**
Adriana Machado*, Gilberto Pereira, Jose Eduardo Corrente. Univ Estadual Paulista, Brazil
Disclosures: Adriana Machado, None

SU0336 **Hospitalizations of Major Osteoporotic Fractures in Switzerland between 2000 and 2007**
Kurt Lippuner[1], Albrecht Popp*[1], Patrick Schwab[2], Matt Gitlin[3], Thilo Schaufler[4], Christoph Senn[1], Romain Perrelet[1]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, [2]Swiss Federal Statistical Office, Switzerland, [3]Amgen (Europe) GmbH, Switzerland, [4]Amgen Switzerland GmbH, Switzerland
Disclosures: Albrecht Popp, Through the Osteoporosis Policlinic, Univ. of Bern from Amgen, Novartis, Roche, Servier, MSD., 2; Recived speaker's fees and/or was a member of a paid advisory board for Amgen, Daiichi Sankyo, Eli Lilly, MSD, Novartis, Nycomed, Roche, and Servier, 9

SU0337 **Incidence of Hip Fracture and Mortality after Hip Fracture in South Korea**
Yong-Chan Ha[1], Hyung-Jin Choi[2], Hyun-Koo Yoon*[3], Young-Kyun Lee[4], Chan-Mi Park[5], Deog-Yoon Kim[4]. [1]Seoul National Universtiy Bundang Hospital, South Korea, [2]Department of Internal Medicine, Seoul National University Hospital, South Korea, [3]Cheil Hospital & Women's Healthcare Center, South Korea, [4]Kyung Hee University Hospital, South Korea, [5]Health Insurance Review & Assessment Service, South Korea
Disclosures: Hyun-Koo Yoon, None

SU0338 **Prevalence and Risk Factors of Fragility Fracture in Brazilian Community-dwelling Elderly**
Jaqueline B Lopes*[1], Camille Danilevicius[2], Valeria F Caparbo[1], Liliam Takayama[1], Rosa Pereira[1]. [1]Faculdade de Medicina da Universidade de São Paulo, Brazil, [2]Universidade De São Paulo, Brazil
Disclosures: Jaqueline B Lopes, None

SU0339 **Prevalence of Clinical Risk Factors for Fracture in Postmenopausal Women in 5 European Countries: The POSSIBLE EU® Study**
Christian Roux*[1], Cyrus Cooper[2], Adolfo Diez-Perez[3], Luc Martinez[4], Sergio Ortolani[5], Matt Gitlin[6], Gerd Moeller[6], Susan Shepherd[7], Nick Freemantle[8]. [1]Hospital Cochin, France, [2]University of Southampton, United Kingdom, [3]Hospital del Mar-IMIM-Autonomous University of Barcelona, Spain, [4]Société Francaise de Médecine Générale, France, [5]Istituto Auxologico Italiano, Italy, [6]Amgen (Europe) GmbH, Switzerland, [7]Amgen Ltd, United Kingdom, [8]Birmingham University, United Kingdom
Disclosures: Christian Roux, Amgen, 5; Amgen, 8; Amgen, 2

SU0340 **Risk Factors for in-hospital Post-hip Fracture Mortality**
John Eisman[1], Nguyen Nguyen[1], Tuan Nguyen[1], Steven Frost*[2]. [1]Garvan Institute of Medical Research, Australia, [2]University of Western Sydney, Australia
Disclosures: Steven Frost, None

SU0341 **Systematic Review of Osteoporosis Interventions in Pharmacy Practice**
Mary Elias*[1], Andrea Burden[1], Suzanne Cadarette[2]. [1]University of Toronto, Canada, [2]Leslie Dan Faculty of Pharmacy, University of Toronto, Canada
Disclosures: Mary Elias, Canadian Institutes of Health Research, 9

SU0342 **The Incidence and Lifetime Risk of Major Osteoporotic Fracture in South Korea**
Yong-Chan Ha[1], Chan-Mi Park[2], Young-Kyun Lee[3], Deog-Yoon Kim*[3]. [1]Chung-Ang University, South Korea, [2]Health Insurance Riview & Assessment Service, South Korea, [3]Kyung Hee University Hospital, South Korea
Disclosures: Deog-Yoon Kim, None

OSTEOPOROSIS EPIDEMIOLOGY: LIFESTYLE AND BONE (ALCOHOL, TOBACCO)

SU0343 **Pinto Beans as a Course of Bioavailable Selenium to Support Bone Structure in Mice**
Jay Cao*[1], Brian Gregoire[2], Huawei Zeng[2]. [1]USDA ARS, USA, [2]USDA/ARS/Grand Forks Human Nutrition Research Center, USA
Disclosures: Jay Cao, None

OSTEOPOROSIS EPIDEMIOLOGY: MENOPAUSE AND GONADAL STEROIDS

SU0344 **Bone Mineral Density and Serum Osteoprotegerin Levels in Pre- and Postmenopausal Women**
Cora Bow*[1], Ching-Lung Cheung[2], Yi Gao[1], Kam Shing Lau[1], Sze Sze Soong[1], Siu Ching Yeung[1], Annie Kung[3]. [1]Department of Medicine, The University of Hong Kong, Hong Kong, [2]Hebrew SeniorLife, Institute for Aging Research, Singapore, [3]Department of Medicine, University of Hong Kong, Hong Kong
Disclosures: Cora Bow, None

OSTEOPOROSIS EPIDEMIOLOGY: RISK FACTORS

SU0345 **Are Rib Fractures Osteoporotic?**
Sara Achenbach[1], Shreyasee Amin[1], Sundeep Khosla[2], L. Joseph Melton[1], Lisa-Ann Wuermser*[3]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA, [3]Mayo Clinic Medical Center, USA
Disclosures: Lisa-Ann Wuermser, None

SU0346 **Are Women with Thicker Cortices in the Femoral Shaft at Higher Risk of Subtrochanteric/diaphyseal Fractures?: The Study of Osteoporotic Fracture**
Nicola Napoli[1], Jane Cauley[2], Aldric Chau[3], Dennis Black[4], Michael Kelly[4], Shane Burch[5], Rosanna Wustrack*[4], Katherine Wilt[6], Kristine Ensrud[7]. [1]University Campus Biomedico, Italy, [2]University of Pittsburgh Graduate School of Public Health, USA, [3]UCSF Department of Epidemiolgy & Biostats, USA, [4]University of California, San Francisco, USA, [5]UCSF Department of Orthopaedic Surgery, USA, [6]California Pacific Medical Center, USA, [7]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Rosanna Wustrack, None

SU0347 **Association of Quantitative Calcaneal Ultrasound with Long-term Care Service Utilization in Elderly Women: A Cross-sectional Population-based Study**
Takao Suzuki*[1], Hideyo Yoshida[2], Shuji Yoshida[3], Kiichi Nonaka[4]. [1]National Institute for Longevity Sciences, Japan, [2]Tokyo Metropolitan Institute of Gerontology, Japan, [3]Nippon Dental University, Japan, [4]ELK Corporation, Japan
Disclosures: Takao Suzuki, None

SU0348 **Bone Loss in Chronic Spinal Cord Injury: Effect of Age and Duration Since Injury**
Lisa Streff[1], Benjamin Grover[1], Victoria Lent[2], Meghan Romba[3], Thomas Schnitzer*[4]. [1]Rehabilitation Institute of Chicago, USA, [2]University of Medicine & Dentistry of New Jersey, USA, [3]University of Illinois, USA, [4]Northwestern University, USA
Disclosures: Thomas Schnitzer, None

SU0349 **Comparison of Bone Mass and Biochemical Markers in Patients with Obstructive Airway Diseases and Healthy Controls in Taiwan**
Yi-Chin Lin*[1], Wei-Shan Chang[2], Hui-Lun Hsiao[2], Tzu-Ching Wu[3]. [1]Chung Shan Medical University, Taiwan, [2]School of Nutrition, Chung Shan Medical University, Taiwan, [3]Chung Shan Medical Univ. Hospital, Taiwan
Disclosures: Yi-Chin Lin, None

SU0350 **Dose Hepatic Steatosis Affect the Risk of Osteoporosis In Korean Postmenopausal Women?**
Hee-Jeong Choi*[1], HJ Oh[2], BY Yu[3], BI Lee[4]. [1]Department of Family Medicine, Eulji University School of Medicine, South Korea, [2]Department of Family Medicine, Kwandong University School of Medicine, South Korea, [3]Department of Family Medicine, Konyang University School of Medicine, South Korea, [4]Department of Obstetrics & Gynecology, Inha University Colleage of Medicine, South Korea
Disclosures: Hee-Jeong Choi, None

SU0351 **Falls and Fractures in Elderly Men Can Be Predicted by Physical Ability Tests – Up to 7 Years Prospective MrOS Data**
Bjorn Rosengren*[1], Eva L. Ribom[2], Osten Ljunggren[2], Claes Ohlsson[3], Dan Mellstrom[4], Jan-Åke Nilsson[1], Magnus Karlsson[1]. [1]Skåne University Hospital Malmö, Lund University, Sweden, [2]Uppsala University Hospital, Sweden, [3]Centre for Bone & Arthritis Research, Sweden, [4]Sahlgrenska University Hospital, Sweden
Disclosures: Bjorn Rosengren, None

SU0352 **Involving Patients in the Osteoporosis Care Gap and the Research Agenda: the Canadian Osteoporosis Patient Network**
Anh, Anne Le-Gnoc[1], Angela Cheung[2], Jacques Brown[3], Famida Jiwa[4], Alexandra Papaioannou[5], Suzanne Morin*[6]. [1]McGill University, Canada, [2]University Health Network, Canada, [3]Laval University, Canada, [4]Osteoporosis Canada, Canada, [5]Hamilton Health Sciences, Canada, [6]McGill University Health Centre, Canada
Disclosures: Suzanne Morin, None

SU0353 **Is There an Increased Risk of Hip Fracture in Parkinson Disease (PD)? Analysis of the Nationwide Inpatient Sample (NIS)**
Rajib Bhattacharya*[1], Richard Dubinsky[2], Sue Min Lai[2]. [1]KU Medical Center, USA, [2]University of Kansas, USA
Disclosures: Rajib Bhattacharya, Novartis, 8; Novartis, 1

SU0354 **Non-vertebral Fractures in Obese Postmenopausal Women: Are They Fragility Fractures?**
Melissa Premaor[1], Juliet Compston*[2], Li-Yung Lui[3], Richard Parker[4], Steven Cummings[5], Kristine Ensrud[6]. [1]Addenbrooke's Hospital, United Kingdom, [2]University of Cambridge School of Clinical Medicine, United Kingdom, [3]California Pacific Medical Center Research Institute, USA, [4]The General Practice & Primary Care Research Unit, Department of Public Health & Primary Care, Institute of Public Health, University of Cambridge, United Kingdom, [5]San Francisco Coordinating Center, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Juliet Compston, None

SU0355 **The Association of Serum 25-Hydroxyvitamin D with Indices of Bone Strength in Older Men of Caucasian and African Descent**
Kamil Barbour*[1], Joseph Zmuda[1], Mara Horwitz[2], Elsa Strotmeyer[3], Robert Boudreau[3], Kristine Ensrud[4], Moira Petit[5], Christopher Gordon[6], Jane Cauley[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of Pittsburgh, Div of Endocrinology - EMRC, USA, [3]University of Pittsburgh, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA, [5]University of Minnesota, USA, [6]McMaster University, Canada
Disclosures: Kamil Barbour, None

SU0356 **The Non-Linear Association between Percentage Body Fat and Fracture Risk: The European Prospective Investigation into Cancer-Norfolk Study**
Alireza Moayyeri*[1], Robert Luben[2], Nicholas J Wareham[3], Kay-Tee Khaw[2]. [1]University of Cambridge, United Kingdom, [2]Department of Public Health & Primary Care, University of Cambridge, United Kingdom, [3]MRC Epidemiology Unit, United Kingdom
Disclosures: Alireza Moayyeri, None

SU0357 **Which FRAX® for French Women? Evaluation in a General Population of the Riviera and Contribution of Vertebral Fracture Assessment by DXA (VFA).**
Veronique Breuil*, Virginie Da Silva, Christian Hubert Roux, Nicolas Rijo, Christine Albert-Sabonnadière, Philippe Flory, Christian Grisot, Pascal Staccini, Liana Euller-Ziegler. CHU de nice, France
Disclosures: Veronique Breuil, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE MINERAL DENSITY

SU0358 **Influence of Vitamin D levels on Bone Mineral Density and Osteoporosis.**
Mir Sadat-Ali*[1], Haifa Al-Turki[2], AbdulMohsen Al-Elq[3]. [1]King Fahd University Hospital, Saudi Arabia, [2]Department of Obstetrics & Gynecology, College of Medicine, Dammam University, King Fahd University Hospital, Saudi Arabia, [3]Department of Internal Medicine, College of Medicine, Dammam University, King Fahd University Hospital, Saudi Arabia
Disclosures: Mir Sadat-Ali, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE STRUCTURE

SU0359 **Bone Changes in Systemic Mastocytosis: An Histomorphometric Approach**
Béatrice Bouvard*[1], Maurice Audran[2], Erick Legrand[3], Emmanuel Hoppé[1], Charles Masson[1], Daniel Chappard[4]. [1]INSERM, U922 - LHEA, France, [2]Université et CHU Angers; INSERM U922, France, [3]Centre Hospitalier d'Angers, France, [4]INSERM, U922-LHEA, France
Disclosures: Béatrice Bouvard, None

OSTEOPOROSIS PATHOPHYSIOLOGY: DIETARY FACTORS

SU0360 **A Comparative Study of the Metabolic Response in Three Mouse Strains to Diet-induced Obesity and The Implications on Skeletal Health**
Elizabeth Rendina*, Yan Wang, Kristen Hester, Kelsey Hembree, McKale Davis, Krista Shawron, Stephen Clarke, Edralin Lucas, Brenda Smith. Oklahoma State University, USA
Disclosures: Elizabeth Rendina, None

SU0361 **The Effects of Diacylglycerol Oil on Bone Metabolism of C57BL/6J Mice**
Hanseok Choi*[1], Kwang Joon Kim[2], Kyoung Min Kim[3], Se Hwa Kim[4], Sung-Kil Lim[5]. [1]Dongguk University Ilsan Hospital, South Korea, [2]Severance Hospital, South Korea, [3]Yonsei University, South Korea, [4]Kwandong University College of Medicine, Myongji Hospital, South Korea, [5]Yonsei University College of Medicine, South Korea
Disclosures: Hanseok Choi, None

OSTEOPOROSIS PATHOPHYSIOLOGY: GONADAL STEROIDS

SU0362 **Effect of Body Mass Index on Bone Metabolism and Bone Mineral Density: Role of Endogenous Sex Hormones**
Adarsh Sai*[1], Xiang Fang[2], J. Christopher Gallagher[1]. [1]Creighton University Medical Center, USA, [2]Creighton University, USA
Disclosures: Adarsh Sai, NIH Grants AG28168, UO1-AG10373 and RO1-AG10358, 2

SU0363 **Menstrual Cycle History but not Percent Body Fat Predicts Bone Mineral Density in Exercising Women**
Rebecca Toombs*[1], Nancy Williams[2], Gaele Ducher[1], Jennifer Scheid[1], Mary Jane De Souza[3]. [1]Penn State University, USA, [2]The Pennsylvania State University College of Medicine, USA, [3]Pennsylvania State University, USA
Disclosures: Rebecca Toombs, None

OSTEOPOROSIS PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

SU0364 **Morphological Changes in Osteocyte Lacunae in Paired Iliac Crest Biopsies of Men with Primary Idiopathic Osteoporosis after 2 year- intravenous Ibandronate Treatment**
Heinrich Resch*[1], Janina Patsch[2], Martin Stauber[3], Philipp Schneider[4], Paul Roschger[5], Andrea Berzlanovich[6], Peter Pietschmann[2]. [1]Medical University Vienna, Austria, [2]Medical University of Vienna, Austria, [3]b-cube AG, Switzerland, [4]Institute for Biomechanics, ETH Zurich, Switzerland, [5]L. Boltzmann Institute of Osteology, Austria, [6]Department of Forensic Medicine, Medical University of Vienna, Austria
Disclosures: Heinrich Resch, None

OSTEOPOROSIS PATHOPHYSIOLOGY: MISCELLANEOUS

SU0365 **Altered Bone Matrix Composition in Premenopausal Women With Idiopathic Osteoporosis as Determined by Raman and FTIR Microspectroscopy**
Birgit Buchinger[1], Sonja Gamsjaeger[1], Adi Cohen[2], Emily Stein[3], David Dempster[4], Halley Rogers[2], Robert Recker[5], Joan Lappe[5], Thomas Nickolas[2], Hua Zhou[6], Donald McMahon[3], Eleftherios Paschalis*[7], Elizabeth Shane[3], Klaus Klaushofer[8]. [1]Ludwig Boltzmann Institute of Osteology, Hanusch Hospital of WGKK, & AUVA Trauma Centre Meidling, Hanusch Hospital, Austria, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Columbia University, USA, [5]Creighton University Osteoporosis Research Center, USA, [6]Helen Hayes Hospital, USA, [7]Ludwig Boltzmann Institute for Osteology, Austria, [8]Hanusch Hospital, Austria
Disclosures: Eleftherios Paschalis, None

SU0366 **Association of Serum Leptin with Bone Mineral Density in an Ethnically-Diverse Population**
Naim Maalouf*[1], Alex Tessnow[2], Colby Ayers[2], Alice Chang[2], Ugis Gruntmanis[1]. [1]University of Texas Southwestern Medical Center, Dallas, USA, [2]University of Texas Southwestern Medical Center, USA
Disclosures: Naim Maalouf, None

SU0367 **Comparison of Two Different Test Platforms to Assess Motor Performance Relevant to Bone's Health and Risk of Falling**
Claudia Kneitz[1], Peter Schneider*[2]. [1]University Clinic Würzburg, Germany, [2]Clinic for Nuclear Medicine, Germany
Disclosures: Peter Schneider, None

SU0368 **LPS Stimulates RANKL Expression in Bone Marrow Stromal Cells but Suppresses RANKL Expression in T Cells**
Xinrong Chen*, Priscilla Cazer, Jinhu Xiong, Melda Onal, Stavros Manolagas, Charles O'Brien. University of Arkansas for Medical Sciences, USA
Disclosures: Xinrong Chen, None

SU0369 **Sitagliptin Does Not Exacerbate Loss of Bone Mineral Density Mediated by Pioglitazone in the Ovariectomized Rat**
Tara Cusick*[1], Helmut Glantschnig[2], James Mu[2], Zhihua Li[2], Ku Lu[2], Xiaolan Shen[2], Nan Wei[2], Chris Johnson[2], Nancy Thornberry[2], Bei Zhang[2]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA
Disclosures: Tara Cusick, Merck, 3

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE REMODELING

SU0370 **Effects of Cerclage Wiring on Cancellous Bone Union After Osteomy at the Proximal Tibia in Ovariectomized (OVX) Rats**
Hiroyuki Tsuchie*, Naohisa Miyakoshi, Yuji Kasukawa, Hiroshi Aonuma, Yoichi Shimada. Akita University Graduate School of Medicine, Japan
Disclosures: Hiroyuki Tsuchie, None

SU0371 **Serum Sclerostin is Inversely Associated With Bone Remodeling in Normal Premenopausal Women But Not in Premenopausal Women With Idiopathic Osteoporosis**
Elizabeth Shane[1], Adi Cohen*[2], Serge Cremers[3], Emily Stein[1], Halley Rogers[2], Donald McMahon[1], Joan Lappe[4], Robert Recker[4], Clifford Rosen[5], Thomas Kohler[6], Thomas Nickolas[2], Thomas Kohler[6], Elzbieta Dworakowski[3], Ralph Müller[6], David Dempster[3]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University Medical Center, USA, [3]Columbia University, USA, [4]Creighton University Osteoporosis Research Center, USA, [5]Maine Medical Center, USA, [6]ETH Zurich, Switzerland
Disclosures: Adi Cohen, None

OSTEOPOROSIS TREATMENT (CLINICAL): ANABOLIC AGENTS

SU0372 **A 4-week Study of AXT914, a Novel Calcilytic Compound for Oral Bone Anabolic Osteoporosis Therapy, in Postmenopausal Women**
Markus John*[1], Evita Harfst[1], Juergen Loeffler[1], Rossella Belleli[1], Julia Zack[2], Jon Ruckle[3], Leo Widler[4], Linda Mindeholm[1]. [1]Novartis Pharma AG, Switzerland, [2]Novartis Pharma AG, USA, [3]Hawaii Clinical Research Center, USA, [4]Novartis Institutes for Biomedical Research, Switzerland
Disclosures: Markus John, Novartis, 3

SU0373 **Does Acute Fracture Influence The Anabolic Activity of Teriparatide**
Quang Ton*, Aasis Unnanuntana, Joseph Nguyen, Joseph Lane. Hospital for Special Surgery, USA
Disclosures: Quang Ton, None

SU0374 **Fracture Incidence, Quality of Life and Back Pain in Elderly Women (age >75 years) with Osteoporosis Treated with Teriparatide: 36 Month Results from the European Forsteo Observational Study (EFOS)**
James Walsh*[1], Willem Lems[2], Dimitrios Karras[3], Bente Langdahl[4], Osten Ljunggren[5], Clare Barker[6], Astrid Fahrleitner-Pammer[7], Annabel Barrett[6], Gerald Rajzbaum[8], Franz Jakob[9], Fernando Marin[10]. [1]Trinity College Dublin, The University of Dublin, Ireland, [2]Vrije Universiteit Medical Centre, The Netherlands, [3]Veterans Administration Hospital, Greece, [4]Aarhus Sygehus, Aarhus University Hospital, Denmark, [5]Uppsala University Hospital, Sweden, [6]Lilly, United Kingdom, [7]Medical University Graz, Austria, [8]Hopital St. Joseph, France, [9]Julius-Maximilians-Universitat, Germany, [10]Eli Lilly & Company, Spain
Disclosures: James Walsh, None

SU0375 **May Teriparatide Prevent Subsequent Vertebral Fractures After Vertebroplasty?**
Marco Massarotti*[1], Flavio Tancioni[2], Gianluigi Fabbriciani[3], Laura Belloli[3], Riccardo Rodriguez y Baena[2], Bianca Marasini[3]. [1]IRCCS Humanitas Clinical Institute, Italy, [2]Neurosurgery Unit, IRCCS Humanitas Clinical Institute, Italy, [3]Rheumatology Unit, IRCCS Humanitas Clinical Institute, Italy
Disclosures: Marco Massarotti, None

SU0376 **Monthly Cholecalciferol Supplementation and Intermittent PTH(1-84): Acute Effects on 25(OH)D Levels in Postmenopausal Osteoporotic Women.**
Stefania Boldini*[1], Serena Pancheri[1], Sonia Zenari[1], Anna Avesani[1], Luca Dalle Carbonare[1], Sandro Giannini[2], Francesco Bertoldo[1]. [1]Dept of Biomedical & Surgical Sciences, University of Verona, Italy, [2]University of Padova, Italy
Disclosures: Stefania Boldini, None

SU0377 **Prior Bisphosphonate Treatment Doubles the Likelihood of Attenuated Teriparatide Response and Blunts the Gain in Bone Mineral Density**
Guan Choon Chan*[1], Ingrid Borovickova[2], Martin Healy[2], Nessa Fallon[1], James Walsh[3], Miriam Catherine Casey[1]. [1]Bone Health & Osteoporosis Unit, St James's Hospital, Ireland, [2]Clinical Biochemistry, St James's Hospital, Ireland, [3]Trinity College Dublin, The University of Dublin, Ireland
Disclosures: Guan Choon Chan, None

SU0378 **Teriparatide and Risedronate In Sequence After Proximal Femoral Fracture In Severe Osteoporosis**
Costantino Corradini*[1], luca parravicini[2], marcello macchia[2], calogero crapanzano[2], fabio massimo ulivieri[3], cesare verdoia[2]. [1]Orthopaedic Institute G. Pini, Italy, [2]AO Orthopaedic Institute G. Pini, Italy, [3]Fondazione Policlinico, Italy
Disclosures: Costantino Corradini, None

SU0379 **The Anabolic Effect of Teriparatide in Postmenopausal Women with Osteoporosis Measured Using Nuclear Scintigraphy During and After Therapy**
Amelia Moore*[1], Glen Blake[2], Kathleen Taylor[3], Asad Rana[3], Ignac Fogelman[2]. [1]Kings College London, United Kingdom, [2]Guy's Hospital, United Kingdom, [3]Eli Lilly & Company, USA
Disclosures: Amelia Moore, Eli Lilly and Company, 9

OSTEOPOROSIS TREATMENT (CLINICAL): BISPHOSPHONATES

SU0380 **A Comparison of the Effects of Raloxifene and Hormon Therapy on Lipid Profile and Bone Mineral Density in Postmenopausal Osteopenia Women**
Min Hyung Jung*[1], Heung Yeol Kim[2], Hoon Choi[3], Tak Kim[4], Byung Ick Lee[5], Hyoung Moo Park[6]. [1]School of Medicine, Kyung Hee University, Kyung Hee Medical Center, South Korea, [2]Department of Obstetrics & Gynecology, School of Medicine, Kosin University, South Korea, [3]Inje University Sanggyepaik Hospital, South Korea, [4]Department of Obstetrics & Gynecology, School of Medicine, Korea University Anam Hospital, Korea University, South Korea, [5]Department of Obstetrics & Gynecology, School of Medicine, Inha University Hospital, Inha University, South Korea, [6]Department of Obstetrics & Gynecology, School of Medicine, Chungang University Yongsan Hospital, Chungang University, South Korea
Disclosures: Min Hyung Jung, None

SU0381 **Atypical Femur Fractures and Bisphosphonate Use in a Canadian Tertiary-Care Academic Hospital**

Angela Cheung*[1], Christian Viellette[1], Robert Bleakney[2], Khalid Syed[1], Christina Young[1], Heather McDonald-Blumer[3], Lianne Tile[1], Savannah Cardew[1], Rajiv Gandhi[1], Moira Kapral[1], Rod Davey[1], Nizar Mahomed[1], Rowena Ridout[4]. [1]University Health Network, Canada, [2]Mt. Sinai Hospital, Canada, [3]Mount Sinai Hospital, Canada, [4]Toronto Western Hospital, Canada

Disclosures: Angela Cheung, Amgen, Eli Lilly, 2; Merck, Novartis, 2; Sanofi-Aventis, 2

SU0382 **Characteristics of U.S. Medicare Enrollees With the New ICD9 Code For Osteonecrosis of the Jaw**

Jeffrey Curtis*, Robert Matthews, Huifeng Yun, Tarun Arora, Kenneth Saag, Elizabeth Delzell. University of Alabama at Birmingham, USA

Disclosures: Jeffrey Curtis, Eli Lilly, 8; Merck, 2; Novartis, 2; Novartis, 8; Procter & Gamble, 2; Eli Lilly, 2; Merck, 5; Procter & Gamble, 5

SU0383 **Effect of Once Yearly Zoledronic Acid versus Once Weekly Generic Alendronate in Men with Established Osteoporosis**

Johann Ringe*[1], A Dorst[2], H FAber[2], P Farahmand[2]. [1]Klinikum Leverkusen, University of Cologne, Germany, [2]West German Osteoporosis Center & Medizin. Klinik IV, Klinikum Leverkusen, University of Cologne, Germany

Disclosures: Johann Ringe, Novartis, 8

SU0384 **Effects of Bisphosphonate on Bone Mineral Density, Bone Metabolic Markers and Vertebral Fractures in Young-old and Old-old Osteoporotic Patients.**

Yuji Kasukawa*[1], Naohisa Miyakoshi[1], Toshihito Ebina[2], Akira Horikawa[3], Toshiaki Aizawa[2], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Kakunodate General Hospital, Japan, [3]Yuzawa Clinic, Japan

Disclosures: Yuji Kasukawa, None

SU0385 **Factors Associated with the Prevention of Glucocorticoid-Induced Osteoporosis using a Large U.S. National Pharmacy Database**

Ryan Outman*[1], Ronald Aubert[2], Jeffrey Curtis[1], Robert Epstein[2], Felix Frueh[2], Mona Khalid[2], Christopher Sanders[2], Eric Stanek[2], Amy Steinkellner[2], Amy Warriner[3], Kenneth Saag[1]. [1]University of Alabama at Birmingham, USA, [2]Medco Health Solutions, Inc., USA, [3]UAB, USA

Disclosures: Ryan Outman, None

SU0386 **First Cases of Osteonecrosis of the Jaw in two Metabolic Bone Diseases Services**

Alicia Bagur[1], Silvina Mastaglia*[2]. [1]Sección Osteopatías Médicas, Hospital de Clínicas, Universidad de Buenos Aires & Centro de Osteopatías Médicas Dr. Carlos Mautalen, Argentina, [2]Sección Osteopatías Médicas, Hospital de Clínicas, Universicad de Buenos Aires, Argentina

Disclosures: Silvina Mastaglia, None

SU0387 **Rapid Onset and Sustained Efficacy (ROSE) Study of Zoledronic Acid *Vs* Alendronate In Postmenopausal Women With Osteoporosis: Quality of Life (QoL), Compliance and Therapy Preference**

Peyman Hadji*[1], Dieter Gamerdinger[2], Wolfgang Spieler[3], Peter Kann[4], Helena Loeffler[5], Konstantin Articus[5], Monika Baier[5], Rüdiger Moericke[6], Volker Ziller[7]. [1]Philipps-University of Marburg, Germany, [2]Orthopedic Practise, Germany, [3]Reseach Center for Osteology & Rheumatology, Germany, [4]Philipps University Marburg, Germany, [5]Novartis Pharma GmbH, Germany, [6]Endocrinologic Practice, Germany, [7]Philipps-University-Marburg, Germany

Disclosures: Peyman Hadji, None

SU0388 **Response Rates to Bisphosphonate Therapy for Low Bone Mineral Density In A Primary Care Setting**

Amanda Carmel*[1], Stasi Lubansky[1], Richard Bockman[2]. [1]Weill Cornell Medical College, USA, [2]Hospital for Special Surgery, Weill Medical College, USA

Disclosures: Amanda Carmel, None

SU0389 **Risedronate Improves Proximal Femur Bone Density and Geometry in Patients with Osteoporosis or Osteopenia and Clinical Risk Factors of Fractures: A Practice-Based Observational Study**
Jun Iwamoto[1], Masayuki Takakuwa*[2]. [1]Keio University School of Medicine, Japan, [2]Takakuwa Orthopedic Nagayama Clinic, Japan
Disclosures: Masayuki Takakuwa, None

SU0390 **Risk Reduction for Falls and Fractures by a Combined Therapy with Alfacalcidol and Alendronate: A Real Life Short Term Trial on 2579 Patients**
Erich Schacht[1], Parvis Farahmand[2], Johann Diederich Ringe*[2]. [1]ZORG (Zurich Osteoporosis Research Group), Switzerland, [2]Medical Clinic 4 & West German Osteoporosis Center, Klinikum Leverkusen (Univ. of Cologne), Germany
Disclosures: Johann Diederich Ringe, TEVA/AWD.pharma, 5

SU0391 **Safety and Efficacy of Risedronate in Osteoporosis Patients with Diabetes Mellitus, Hypertension or Dislipidemia -A Pooled Analysis of Three Clinical Trials in Japan**
Ryo Okazaki*[1], Daisuke Inoue[1], Yoshiki Nishizawa[2], Ryoichi Muraoka[3], Toshitsugu Sugimoto[4]. [1]Teikyo University Chiba Medical Center, Japan, [2]Osaka City University Medical School, Japan, [3]Ajinomoto Phamaceuticals Co, Ltd., Japan, [4]Shimane University School of Medicine, Japan
Disclosures: Ryo Okazaki, None

SU0392 **Subtrochanteric Fractures: A complication of prolonged bisphosphonate use?**
Beatrice Edwards*[1], Andrew Bunta[2], Clarita Odvina[3], Sudhaker Rao[4], Joseph Lane[5], Dennis Raisch[6], Allison Hahr[7], June McKoy[7], Steve Belknap[7], Dennis West[7], Paula Stern[1]. [1]Northwestern University Medical School, USA, [2]Northwestern University Feinberg School of Medicine, USA, [3]University of Texas Southwestern Medical Center, Dallas, USA, [4]Henry Ford Hospital, USA, [5]Hospital for Special Surgery, USA, [6]8VA Cooperative Studies Program Clinical Research Pharmacy, USA, [7]Northwestern University, USA
Disclosures: Beatrice Edwards, Eli Lilly, 5; Novartis, 5; P&G, 2; Roche, 5; Amgen, 5

SU0393 **Subtrochanteric Hip Fracture in Edmonton, Alberta, Canada - Case Reports**
Stephanie Davis[1], Angela Juby*[2]. [1]University of Alberta Hospital, Canada, [2]University of Alberta, Canada
Disclosures: Angela Juby, None

SU0394 **Underuse of Treatment for Osteoporosis Among High Risk Older Adults Living in the Community Receiving Home Health Services**
Amy Mudano*[1], Ryan Outman[1], Meredith Kilgore[2], Liana Fraenkel[3], Elizabeth Kitchin[1], Julie Locher[1], Kenneth Saag[1], Amy Warriner[4], Jeffrey Curtis[1]. [1]University of Alabama At Birmingham, USA, [2]University of Alabama At Birmingham School of Public Health, USA, [3]Yale University, USA, [4]UAB, USA
Disclosures: Amy Mudano, None

OSTEOPOROSIS TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

SU0395 **A Dedicated Intervention Program Reduces Refracture Rates in Patients with Incident Non-Vertebral Osteoporotic Fracture: Results of a 4-Year Prospective Controlled Study**
Anna Lih*[1], Haren Nandapalan[1], Michael Kim[1], Markus Seibel[2]. [1]Department of Endocrinology & Metabolism, Concord Hospital, The University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia
Disclosures: Anna Lih, None

SU0396 **Bisphosphonate Prescribing in Ontario, Canada 1996/7-2008/9**
Suzanne Cadarette*[1], Andrea Burden[2], M. Alan Brookhart[3], Susan Jaglal[4], David Juurlink[4], Muhammad Mamdani[4], J. Michael Paterson[5], Daniel Solomon[6]. [1]Leslie Dan Faculty of Pharmacy, University of Toronto, Canada, [2]University of Toronto, Can, [3]University of North Carolina, USA, [4]University of Toronto, Canada, [5]Institute for Clinical Evaluative Sciences, Canada, [6]Harvard Medical School, USA
Disclosures: Suzanne Cadarette, None

SU0397 **Compliance with Bisphosphonate Therapy and Change in Bone Mineral Density in Clinical Practice**
Derek Weycker[1], Lois Lamerato[2], Susan Schooley[2], Tiffany Siu Woodworth[1], David Macarios*[3], Nicole Yurgin[3], Gerry Oster[1]. [1]Policy Analysis Inc, USA, [2]Henry Ford Health System, USA, [3]Amgen Inc, USA
Disclosures: David Macarios, Amgen Inc, 5

SU0398 **Medication Adherence and Fracture Risk Among Patients Using Osteoporosis Medications in a Large U.S. Health Plan**
Sally Wade*[1], Jeffrey Curtis[2], Jingbo Yu[3], Jeffrey White[4], Brad Stolshek[5], Claire Merinar[5], Akhila Balasubramanian[5], Joel Kallich[5], John Adams[6], Hema Viswanathan[5]. [1]Wade Outcomes Research & Consulting, USA, [2]University of Alabama at Birmingham, USA, [3]HealthCore, Inc., USA, [4]WellPoint, USA, [5]Amgen Inc, USA, [6]RAND Corp, USA
Disclosures: Sally Wade, Amgen Inc., GE Healthcare, 5

SU0399 **Methods to Examine the Impact of Real-world Adherence to Osteoporosis Pharmacotherapy on Fracture Risk: Systematic Review and Recommendations**
Milica Nikitovic*[1], Daniel Solomon[2], Suzanne Cadarette[1]. [1]Leslie Dan Faculty of Pharmacy, University of Toronto, Canada, [2]Harvard Medical School, USA
Disclosures: Milica Nikitovic, None

SU0400 **Relationships Between Osteoporosis Medication Adherence, Surrogate Marker Outcomes and Non-Vertebral Fracture Incidence**
Richard Eastell*[1], Bernard Vrijens[2], David Cahall[3], Christian Roux[4], Johann Ringe[5], Patrick Garnero[6], Nelson Watts[7]. [1]University of Sheffield, United Kingdom, [2]AARDEX Ltd, Belgium, [3]sanofi-aventis Pharmaceuticals, USA, [4]Hospital Cochin, France, [5]Klinikum Leverkusen, University of Cologne, Germany, [6]Synarc SAS, Fra, [7]University of Cincinnati Bone Health & Osteoporosis Center, USA
Disclosures: Richard Eastell, Procter & Gamble Pharmaceuticals, 2; Sanofi-Aventis, 5; Sanofi-Aventis, 2; Procter & Gamble Pharmaceuticals, 5

SU0401 **Who is Not Treated Following the Implementation of Optimus, a Successful Initiative to Treat Osteoporosis Following a Fragility Fracture**
Gilles Boire*[1], François Cabana[2], Michèle Beaulieu[3], Sawsan Mikhail[4], Dominique Lambert[5]. [1]Centre Hospitalier Universitaire De Sherbrooke, Canada, [2]Centre hospitalier universitaire de Sherbrooke, Division of Orthopaedics, Canada, [3]Medical Liaison, Merck Canada, Canada, [4]Medical Liaison, Novartis Pharmaceuticals Canada, Canada, [5]Medical Liaison, Warner Chilcott, Canada
Disclosures: Gilles Boire, Alliance for Better Bone Health (Warner Chilcott and sanofi aventis Canada); Merck Canada; Novartis Canada, 2

OSTEOPOROSIS TREATMENT (CLINICAL): HEALTH ECONOMICS

SU0402 **Comparison of FRAX® and German DVO Osteoporosis Guidelines for Cost-Effective Selection of Patients in Need of Therapy: Prospective Fracture Data from the OPUS Study**
Claus-C Glueer*[1], Reinhard Barkmann[2], Christian Graeff[3], Richard Eastell[4], Dieter Felsenberg[5], David Reid[6], Christian Roux[7]. [1]Christian Albrechts Universitaet zu Kiel, Germany, [2]Universitaetskinikum Kiel, Germany, [3]University Clinic Schleswig-Holstein, Germany, [4]University of Sheffield, United Kingdom, [5]Charité - Campus Benjamin Franklin, Germany, [6]University of Aberdeen, United Kingdom, [7]Hospital Cochin, France
Disclosures: Claus-C Glueer, None

SU0403 **Raising the Bar on Secondary Fracture Prevention**
Richard Dell*, Denise Greene, Shireen Fatemi, Nora Strick, Tadashi Funahashi, Annette Adams, Brenda Thomason. Kaiser, USA
Disclosures: Richard Dell, None

SU0404 **The Economic Consequences of Hip Fractures: Impact of Home Exercise and High-dose Vitamin D**
Heike Bischoff-Ferrari*[1], Bess Dawson-Hughes[2], Endel Orav[3], Walter Willett[3], Andreas Egli[4], Andreas Maetzel[5], Hannes B Staehelin[6], Robert Theiler[7]. [1]University of Zurich, Switzerland, [2]Tufts University, USA, [3]Harvard School of Public Health, USA, [4]Centre on Ageing & Mobility, Switzerland, [5]University of Toronto, Canada, [6]University of Basel, Switzerland, [7]Triemli City Hospital, Switzerland
Disclosures: Heike Bischoff-Ferrari, None

OSTEOPOROSIS TREATMENT (CLINICAL): OTHER AGENTS

SU0405 **Assessing the Efficacy of Melatonin on Bone Health in Perimenopausal Women**
Mary Kotlarczyk*[1], Judith Balk[2], Holly Lassila[3], Christine O'Neil[3], Hildegarde Berdine[3], Paula Witt-Enderby[1]. [1]Duquesne University Graduate School of Pharmaceutical Sciences, USA, [2]University of Pittsburgh School of Medicine, USA, [3]Duquesne University Mylan School of Pharmacy, USA
Disclosures: Mary Kotlarczyk, None

SU0406 **Bone Metabolism, Oxidative Stress and Biochemical Evaluation of Perimenopausal Women under Treatment with Lipoic Acid**
Rodrigo Barbosa*[1], Francisco Paulo Freire-Neto[1], Maria do Socorro Medeiros Morais[1], Karla Simone da Costa Oliveira[1], Yonara Monique da Costa Oliveira[1], Heglayne Pereira Vital Silva[1], Luciana Cristina Alves de Souza[1], Leandro Vinicius F. de Morais[1], Marcela Abbot Galvão Ururahy[1], João Felipe Bezerra[1], Raul Hernandes Bortolin[1], André D. Luchesi[2], Sonia Quateli Doi[3], Rosário Dominguez Crespo Hirata[2], Mario Hiroyuki Hirata[2], José Brandão Neto[1], Maria das Graças Almeida[1], Adriana Rezende[4]. [1]Universidade Federal Do Rio Grande Do Norte, Brazil, [2]Universidade de São Paulo, Brazil, [3]Uniformed Service of Healthy Science, USA, [4]Federal University of Rio Grande De Norte-UFRN, Brazil
Disclosures: Rodrigo Barbosa, None

SU0407 **Clinical Evaluation of Percutaneous Vertebral Augmentation Procedures using Radiofrequency Kyphoplasty in Treatment of 68 Vertebral Compression Fractures**
Luke Sewall*, Steven Smith, Vlahos Athanasios. Vascular & Interventional Radiology, USA
Disclosures: Luke Sewall, DFine Inc, 5

SU0408 **Fractional Absorption of Active Absorbable Algal Calcium (AAACa) and Calcium Carbonate Measured by a Dual Stable - Isotope Method**
Kazuhiro Uenishi[1], Takuo Fujita*[2], Hiromi Ishida[1], Yoshio Fujii[3], Mutsumi Ohue[2], Hiroshi Kaji[4], Midori Hirai[4], Mikio Kakumoto[4], Steven Abrams[5]. [1]Kagawa Nutrition University, Japan, [2]Katsuragi Hospital, Japan, [3]Calcium Research Institute Kobe Branch, Japan, [4]Kobe University, Japan, [5]Baylor College of Medicine, USA
Disclosures: Takuo Fujita, None

SU0409 **Using Quantitative Ultrasonography to understand Reduction in Fractures due to Vitamin K1 Supplementation in Postmenopausal Women with Osteopenia**
Tayyab Khan*[1], George Tomlinson[2], Lianne Tile[3], Yuna Lee[4], Maryam Hamidi[5], Irene Ho[1], Brooke Stewart[1], Suzanne Cohen[1], Claudia Chan[1], Angela Cheung[6]. [1]Osteoporosis Programs, University Health Network, Canada, [2]Institute of Medical Science & the Department of Medicine, University of Toronto, Canada, [3]Osteoporosis Programs, University Health Network, & the Department of Medicine, University of Toronto, Canada, [4]St. Michael's Hospital, & the Department of Medicine, University of Toronto, Canada, [5]Osteoporosis Programs, University Health Network, & the Institute of Medical Sciences, University of Toronto., Canada, [6]Osteoporosis Programs, University Health Network, St. Michael's Hospital, & the Department of Medicine, University of Toronto., Canada
Disclosures: Tayyab Khan, None

OSTEOPOROSIS TREATMENT (CLINICAL): QUALITY OF LIFE

SU0410 **Association of Fracture Risk and Quality of Life as Measured by the Osteoporosis Patient Assessment Questionnaire**
Stuart Silverman[1], Steven Watts*[2], Deborah Gold[3], April Naegeli[2], John Kanis[4], Russel Burge[2]. [1]Cedars-Sinai/UCLA, USA, [2]Eli Lilly & Company, USA, [3]Duke University Medical Center, USA, [4]University of Sheffield, Belgium
Disclosures: Steven Watts, Eli Lilly and Company, 8; Eli Lilly and Company, 5; Eli Lilly and Company, 2

SU0411 **Effects of a Simple, Low-intensity Back Extension Exercise on Quality of Life and Back Extensor Strength in Patients with Osteoporosis and Vertebral Fractures: A 6-month Randomized Controlled Trial**
Naohisa Miyakoshi*[1], Akira Horikawa[2], Michio Hongo[3], Yuji Kasukawa[1], Yoichi Shimada[1]. [1]Akita University Graduate School of Medicine, Japan, [2]Igarashi Memorial Hospital, Japan, [3]Akita University School of Medicine, Japan
Disclosures: Naohisa Miyakoshi, None

SU0412 **Spinal Proprioceptive Extension Exercise Dynamic (S.P.E.E.D.) Program for relief of back pain and iliocostal friction syndrome: A painful challenge of spinal osteoporosis**
Mehrsheed Sinaki*. Mayo Clinic, USA
Disclosures: Mehrsheed Sinaki, None

OSTEOPOROSIS TREATMENT (CLINICAL): VITAMIN D AND METABOLITES

SU0413 **Has the Prevalence of 25-hydroxyvitamin D (25(OH)D) Inadequacy Decreased at Latitude 43°**
Matthew J Davis[1], Frances Budden*[2]. [1]Technion Israel Institute of Technology - American Medical Program, Israel, [2]St Joseph's Health Centre, Toronto, Canada
Disclosures: Frances Budden, None

SU0414 **Relationship between Fasting Glucose, Vitamin D and PTH in Early Postmenopausal Women**
Susanna Streym Thomsen*[1], Lars Rejnmark[1], Peter Vestergaard[1], Christine Brot[2], Pia Eiken[3], Pernille Hermann[4], Leif Mosekilde[1]. [1]Aarhus University Hospital, Denmark, [2]Osteoporosis & Metabolic Bone Unit, Hvidovre Hospital, Denmark, [3]Department of Cardiology & Endocrinology, Hillerød Hospital, Denmark, [4]Department of Endocrinology, Odense University Hospital, Denmark
Disclosures: Susanna Streym Thomsen, None

SU0415 **The Vitamin D in Osteoporosis Study (ViD*OS*): A Novel Knowledge Translation Initiative in Canadian Long-Term Care Homes**
Courtney Kennedy[1], Alexandra Papaioannou*[2], George Ioannidis[3], Lora Giangregorio[4], Laura Pickard[1], Jenna Johnson[1], Campbell Glenda[5], Jackie Stroud[5], Sharon Marr[1], Suzanne Morin[6], Robert Josse[7], Anna Sawka[8], Richard Crilly[9], Lehana Thabane[1], Lisa Dolovich[1], Mary-Lou van der Horst[1], Norm Flett[1], Lynn Nash[1], Jonathan Adachi[10]. [1]McMaster University, Canada, [2]Hamilton Health Sciences, Canada, [3]Sympatico, Canada, [4]University of Waterloo, Canada, [5]Medical Pharmacies Group Inc., Canada, [6]McGill University Health Centre, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]Toronto General Hospital, Canada, [9]University of Western Ontario, Canada, [10]St. Joseph's Hospital, Canada
Disclosures: Alexandra Papaioannou, None

SU0416 **Vitamin D and Calcium Supplementation in Women and Men Living in Long Term Care (LTC) Homes: The Vitamin D Osteoporosis Study (ViDOS)**
George Ioannidis*[1], Alexandra Papaioannou[2], Courtney Kennedy[3], Lora Giangregorio[4], Laura Pickard[3], Jenna Johnson[2], Glenda Campbell[5], Jackie Stroud[5], Sharon Marr[3], Suzanne Morin[6], Robert Josse[7], Anna Sawka[8], Richard Crilly[9], Dr. Lehana Thabane[3], Lisa Dolovich[3], Mary Lou van der Horst[3], Norm Flett[3], Lynn Nash[3], Jonathan Adachi[10]. [1]Sympatico, Canada, [2]Hamilton Health Sciences, Canada, [3]McMaster University, Canada, [4]University of Waterloo, Canada, [5]Medical Pharmacies Group Inc, Canada, [6]McGill University Health Centre, Canada, [7]St. Michael's Hospital, University of Toronto, Canada, [8]Toronto General Hospital, Canada, [9]University of Western Ontario, Canada, [10]St. Joseph's Hospital, Canada
Disclosures: George Ioannidis, None

SU0417 **Vitamin D Supplementation in Vitamin D Deficiency/Insufficiency increases Circulating Fibroblast Growth Factor -23 (FGF-23) Concentrations**
Geeta Hampson*[1], Ignac Fogelman[2], Joseph Cheung[3]. [1]St. Thomas' Hospital, United Kingdom, [2]Guy's Hospital, United Kingdom, [3]St Thomas' Hospital, United Kingdom
Disclosures: Geeta Hampson, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): ANABOLIC AGENTS

SU0418 **A Novel Cyclic PTH(1-17) Analog with Bone Anabolic Activity and Efficacy Sufficient to Treat Established Osteopenia in Adult Ovariectomized Rats**
Jukka Morko*[1], ZhiQi Peng[2], Jukka Vääräniemi[2], Jukka Rissanen[3], Mari Suominen[2], Katja Fagerlund[2], Tiina A. Suutari[2], Harrie C.M. Boonen[4], Trine S.R. Neerup[5], Hanne H. Bak[5], Jussi Halleen[2]. [1]Pharmatest Services Ltd, Fin, [2]Pharmatest Services Ltd, Finland, [3]Pharmatest Services,Limited, Finland, [4]Department of Pharmacology & Pharmacotherapy, University of Copenhagen, Denmark, [5]Zealand Pharma A/S, Denmark
Disclosures: Jukka Morko, None

SU0419 **Bone Anabolic Effects of PTH treatment in Streptozotocin Induced Diabetes Bone Loss Rats**
Yanfei Ma*[1], Qingqiang Zeng[1], Leah Porras[1], Ricky Cain[1], Mervyn Michael[1], Amy Cox[1], Liao Cui[2], Bilian Xu[2], Masahiko Sato[1], Leah Helvering[1]. [1]Eli Lilly & Company, USA, [2]Depart of Pharmacology, Guangdong Medical College, China
Disclosures: Yanfei Ma, Eli Lilly Company, 3

SU0420 **Effect of Cathepsin K Inhibition on PTH, CTX-I and Ionized Calcium Levels in Cynomolgus Monkeys**
Erik Lindstrom[1], Lotta Vrang[1], Susanne Sedig[1], Ylva Terelius[1], Britt-Louise Sahlberg[1], Kristina Wikstrom[1], Bertil Samuelsson[1], Timothy Chambers[2], Urszula Grabowska*[3]. [1]Medivir AB, Sweden, [2]St. George's Hospital Medical School, United Kingdom, [3]Medivir, United Kingdom
Disclosures: Urszula Grabowska, None

SU0421 **Maintenance of Bone Strength after Discontinuation of Bone Active Agents is Different for Cortical and Cancellous Bone**
Mohammad Shahnazari*[1], Wei Yao[2], Brian Panganiban[3], Robert Ritchie[3], Nancy Lane[2]. [1]UC Davis Medical Center, USA, [2]University of California, Davis Medical Center, USA, [3]Lawrence Berkeley National Laboratory, USA
Disclosures: Mohammad Shahnazari, None

SU0422 **No synergistic effect of PTH and strontium on immobilisation-induced loss of bone strength in rats**
Annemarie Brüel*[1], Jesper Thomsen[2]. [1]University of Aarhus, Denmark, [2]Institute of Anatomy, University of Aarhus, Denmark
Disclosures: Annemarie Brüel, None

SU0423 **Strontium Exerts In Vivo Anabolic Effect on Trabecular Bone through Modulating Osteogenic and Osteoclastogenic Potential of Bone Marrow Cells**
William Lu*[1], Songlin Peng[1], Xiaowei Liu[2], Ting Wang[1], Zhaoyang Li[1], KDK Luk[1], X.Edward Guo[2]. [1]The University of Hong Kong, Hong Kong, [2]Columbia University, USA
Disclosures: William Lu, None

SU0424 **Treatment With a Sclerostin Antibody Increased Osteoblast-derived Markers of Bone Formation and Decreased Osteoclast-related Markers of Bone Resorption in Ovariectomized Rats**
M Stolina*, D Dwyer, Q-T Niu, X Li, K Warmington, C-Y Han, H Salimi-Moosavi, MS Ominsky, WS Simonet, PJ Kostenuik, HZ Ke. Amgen Inc, USA
Disclosures: M Stolina, Amgen Inc., 1; Amgen Inc., 3

SU0425 **Whole Body Autoradiography of a Fusion Protein [35S]hPTH-CBD in Mice**
Robert Gensure[1], Shigeru Miyata[2], Osamu Matsushita[3], Joshua Sakon*[4], Kentaro Uchida[3], Yoko Komatsu[3], Hirofumi Suda[2]. [1]Ochsner Clinic Foundation, USA, [2]Kagawa University, Japan, [3]Kitasato University, Japan, [4]University of Arkansas, USA
Disclosures: Joshua Sakon, BiologicsMD, 1

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): BISPHOSPHONATES

SU0426 **Frequent Administration of High-Dose Zoledronate Safely Prevents Ovariectomy-Induced Loss of Jaw Alveolar Bone In A Genetic Mouse Model of Osteoporosis and Periodontal Disease**
Nicolas Bonnet*[1], Philippe Lesclous[2], Serge Ferrari[3]. [1]Geneva University Hospital, Switzerland, [2]Equipe d'accueil EA 2496, France, [3]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None

SU0427 **Structure-activity Relationships of Bisphosphonates with Respect to their Effect on the LPS-induced Increase in the Synthesis of Prostaglandin E_2 and Nitric Oxide**
Hisashi Shinoda*[1], Shinobu Murakami[1], Keiko Suzuki[2], Mirei Chiba[1], Sadaaki Takeyama[3], Yuka Narusawa[1], Hiroaki Hirotani[1], Shoji Yamada[2], Kaoru Igarashi[1], Paula Stern[4]. [1]Tohoku University Graduate School of Dentistry, Japan, [2]Showa University Graduate School of Dentistry, Japan, [3]Hokkaido University Graduate School of Dentistry, Japan, [4]Northwestern University Medical School, USA
Disclosures: Hisashi Shinoda, None

SU0428 **The Effects of pH on the Relative Bone Mineral-binding Affinities of Bisphosphonates Determined by Hydroxyapatite-column Chromatography**
Xuchen Duan*[1], Zhidao Xia[1], Hao Zhang[1], Mike Quijano[2], Roy L M Dobson[2], James T Triffitt[1], James Dunford[1], Frank H Ebetino[3], R Graham Russell[4]. [1]Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences, The Botnar Research Centre, Oxford University Institute of Musculoskeletal Sciences, University of Oxford, United Kingdom, [2]Procter & Gamble, USA, [3]Warner Chilcott, USA, [4]University of Oxford, United Kingdom
Disclosures: Xuchen Duan, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): CALCIUM AND DIETARY FACTORS

SU0429 **Bone Regeneration in Rats with Type 2 Diabetes Mellitus is Delayed due to Impaired Osteogenic Differentiation**
Christine Hamann*[1], Claudia Goettsch[2], Jan Mettelsiefen[1], Veit Henkenjohann[1], Ute Hempel[1], Ricardo Bernhardt[3], Martina Rauner[4], Kathrin Wieczorek[1], Klaus-Peter Günther[1], Lorenz Hofbauer[1]. [1]Dresden Technical University Medical Center, Germany, [2]Department of Medicine III, Technical University, Dresden, Germany, [3]Technische Universität Dresden, Germany, [4]Medical Faculty of the TU Dresden, Germany
Disclosures: Christine Hamann, None

SU0430 **Catechins with Gallate Moiety Suppress Bone Resorption by Inhibiting Prostaglandin Biosynthesis and RANKL Expression in Osteoblasts.**
Chiho Matsumoto[1], Michiko Hirata[1], Megumi Kobayashi[1], Tsukasa Tominari[1], Hideharu Takata[1], Morichika Takita[1], Masaki Inada[2], Chisato Miyaura*[1]. [1]Tokyo University of Agriculture & Technology, Japan, [2]Toyko University of Agriculture & Technology, Japan
Disclosures: Chisato Miyaura, None

SU0431 **Dose-dependent Effects of Blackberries in the Prevention of Boneless in Ovariectomized Rats**
Lydia Kaume*[1], Vidya Gadang[2], William Gilbert[2], Yan Wang[3], Brenda Smith[3], Latha Devareddy[2]. [1]University of Arkansa, USA, [2]University of Arkansas, USA, [3]Oklahoma State University, USA
Disclosures: Lydia Kaume, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): GONADAL STEROIDS AND SERMS

SU0432 **Body composition in Male (ORX) And Female (OVX) Cynomolgus Monkey Models Of Osteoporosis**
Aurore Varela*[1], Nancy Doyle[2], Karen Veverka[3], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Charles River, Canada, [3]GTx, Incorporated, USA
Disclosures: Aurore Varela, contract, 5

SU0433 **Selective Estrogen Receptor Modulators Increase the Bone Formation Activity of Mouse Osteoblasts *in Vitro***
Tiina A. Suutari*[1], Katja Fagerlund[1], Jukka Rissanen[2], Alan Chan[3], Jussi Halleen[1]. [1]Pharmatest Services Ltd, Finland, [2]Pharmatest Services,Limited, Finland, [3]Percuros B.V., Netherlands
Disclosures: Tiina A. Suutari, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): OTHER AGENTS

SU0434 **Assessment of Alterations in Internal Bone Vascularity – A Three Dimensional Approach**
Jan Berry*[1], Benjamin Sinder[1], Kenneth Kozloff[2], Robert Guldberg[3], Serk In Park[1], Xin Li[1], Fabiana Soki[1], Laurie McCauley[4]. [1]University of Michigan, USA, [2]University of Michigan Department of Orthopaedic Surgery, USA, [3]Parker H. Petit Institute for Bioengineering & Bioscience, USA, [4]University of Michigan, School of Dentistry, USA
Disclosures: Jan Berry, None

SU0435 **Early Effects of Strontium Treatment Prevent Trabecular Bone Loss in Overiectomized Rats by Increasing Trabecular Thickness and Plate-like Microstructure: An *In Vivo* μCT Study**
Xiaowei Liu*[1], Songlin James Peng[2], Zhaoyang Li[2], William Lu[3], X Guo[1]. [1]Columbia University, USA, [2]The University of Hong Kong, Peoples Republic of China, [3]The University of Hong Kong, Hong Kong
Disclosures: Xiaowei Liu, None

SU0436 **Efficacy of ONO-5334, a Cathepsin K Inhibitor, on Bone Geometry and Histomorphometry in Cortical Bone in Ovariectomized Cynomolgus Monkeys**
Makoto Tanaka*, Hiroyuki Yamada, Hiroshi Mori, Akiko Kunishige, Satoshi Nishikawa, Yasuaki Hashimoto, Tsutomu Shiroya. ONO Pharmaceutical Co., Ltd., Japan
Disclosures: Makoto Tanaka, None

SU0437 **Green Tea Polyphenols Supplementation Improves Bone Microstructure in Orchidectomized Middle-aged Rats**
Chwan-Li Shen*[1], James K Yeh[2], Jay J Cao[3], Tom Tenner[4], Jia-Sheng Wang[5]. [1]Texas Technology University Health Sciences Center, USA, [2]Winthrop-University Hospital, USA, [3]USDA ARS Grand Forks Human Nutrition Research Center, USA, [4]Texas Tech University Health Sciences Center, USA, [5]University of Georgia, USA
Disclosures: Chwan-Li Shen, None

SU0438 **Lack of Intermittent PTH Response to Daily Administration of Odanacatib in Adult Ovariectomized Rhesus Monkeys**
Gregg Wesolowski*[1], Patricia Rebbeck[1], Cynthia Spencer-Bauer[1], Susanne Jendrowski[1], Le Thi Duong[2]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA
Disclosures: Gregg Wesolowski, Merck & Co, 3

SU0439 **Use of Microarray Technology to Support Development of Nutraceutical Supplements to Reduce Bone Resorption and Enhance Bone Formation**
Yumei Lin*[1], Shyam Ramkrishnan[2], Valentina Kazlova[2], Mary Murray[3], David Fast[4], Kevin Gellenbeck[2], Amit Chandra[4]. [1]Nutrilite, USA, [2]Nutrilite Health Institute, USA, [3]Nutrilite Health Institute.com, USA, [4]Access Business Group, USA
Disclosures: Yumei Lin, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): VITAMIN D AND METABOLITES

SU0440 **Eldecalcitol Improves Mechanical Strength of Cortical Bones by Both Stimulating Periosteal Bone Formation and Inhibiting Endocortical Bone Resorption. - A Comparative Study with Alfacalcidol using the Senescence-Accelerated SAM/P6 Mice -**
Ayako Shiraishi*[1], Hitoshi Saito[2], Sadaoki Sakai[3], Fumiaki Takahashi[2], Masahiko Mihara[3]. [1]Chugai Pharmaceutical Co.,Ltd., Japan, [2]Chugai Pharmaceutical Company, Limited, Japan, [3]chugai pharmaceutical co., ltd., Japan
Disclosures: Ayako Shiraishi, Chugai Pharmaceutical Co., Ltd., 3

SU0441 **Eldecalcitol Suppresses Trabecular and Endocortical Bone Resorption Even at Hypercalcemic Doses by Diminishing Osteoclast on Bone Surface.**
Hitoshi Saito*[1], Satoshi Takeda[2], Fumiaki Takahashi[1], Minqi Li[3], Paulo Luiz De Freitas[4], Norio Amizuka[5]. [1]Chugai Pharmaceutical Company, Limited, Japan, [2]Chugai Pharmaceutical Co., Ltd, Japan, [3]Hokkaido University, Japan, [4]Niigata University, Japan, [5]Hokkaido University School of Dentistry, Japan
Disclosures: Hitoshi Saito, Chugai Pharmaceutical Co. Ltd., 3

OTHER DISORDERS OF BONE: CONGENITAL AND GENETIC BONE DISEASES

SU0442 **High Prevalence of Vitamin D Insufficiency in Patients with Osteogenesis Imperfecta**
Barbara Santarosa Emo Peteres*[1], Marise Lazaretti Castro[1], Carlos Eduardo Andrade Chagas[2], Ailym Kurata[2], Janaina P Roque[3], Ligia Martini[4]. [1]Federal University of Sao Paulo, Brazil, [2]University of Sao Paulo, Brazil, [3]SESI-SP, Brazil, [4]University of São Paulo, Brazil
Disclosures: Barbara Santarosa Emo Peteres, None

SU0443 **Verterbral End-Plate Lesions (Schmorl's Nodes) in Lumbar Vertebrae of Cynomolgus Monkeys**
Luc Chouinard*. Charles River Laboratories, PCS Montreal, Canada
Disclosures: Luc Chouinard, None

OTHER DISORDERS OF BONE: HYPERCALCEMIA OF MALIGNANCY

SU0444 **Bisphosphonate-Associated Osteomyelitis of the Jaw (BAOMJ/ONJ): Pathophysiology and Potential Mechanisms:**
Sunil Wimalawansa*. Robert Wood Johnson Medical School, USA
Disclosures: Sunil Wimalawansa, None

OTHER DISORDERS OF BONE: IDIOPATHIC HYPERCALCIURIA, NEPHROLITHIASIS

SU0445 **Chlorthalidone Improves Bone Quality in GeneticHypercalciuric Stone Forming Rats**
David Bushinsky*[1], Thomas Willett[2], John Asplin[3], Marc Grynpas[4]. [1]University of Rochester, USA, [2]Mount Sinai Hospital, Canada, [3]University of Chicago, USA, [4]Samuel Lunenfeld Research Institute, Canada
Disclosures: David Bushinsky, None

OTHER DISORDERS OF BONE: OSTEOMALACIA/RICKETS

SU0446 **A Single High Dose of Oral Vitamin D3 Is Insufficient to Correct a Deficiency in a Rheumatologic Population**
Delphine Stoll, Olivier Lamy, Marc-Antoine Krieg, Didier Hans, Jean Dudler, Alex So, Berengere Aubry-Rozier*. CHUV, Switzerland
Disclosures: Berengere Aubry-Rozier, None

SU0447 **Evaluation of a Novel Vitamin D Bioavailability Test in Normal Subjects and Subjects with Quiescent Inflammatory Bowel Disease**
Hataikarn Nimitphong*[1], Francis A. Farraye[2], Arthur F Stucchi[3], Alyson B. Smith[1], Alice Vijjeswarapu[1], Andrew Tanennbaum[1], Rachael Biancuzzo[1], Tai Chen[4], Michael Holick[4]. [1]Vitamin D, Skin & Bone Research Laboratory, Department of Medicine, Endocrinology, Boston University School of Medicine, USA, [2]Center for Digestive Disorders, Section of Gastroenterology, Department of Medicine, Boston University School of Medicine, USA, [3]Department of Surgery, Boston Medical Center, USA, [4]Boston University School of Medicine, USA
Disclosures: Hataikarn Nimitphong, None

OTHER DISORDERS OF BONE: PAGET'S DISEASE

SU0448 **Lack of p62 Mutant (P392L) Interaction with CYLD Increases TRAF6 Ubiquitination and NF-κB Signaling in Paget's Disease of Bone**
Kumaran Sundaram*[1], Srinivasan Shanmugarajan[1], Sudhaker Rao[2], Sakamuri Reddy[1]. [1]Charles P. Darby Children's Research Institute, USA, [2]Henry Ford Hospital, USA
Disclosures: Kumaran Sundaram, None

OTHER DISORDERS OF BONE: PARATHYROID DISEASES

SU0449 **Changes in the Clinical Manifestations of Primary Hyperparathyroidism during the Past Two Decades in the Canary Islands, Spain**
M[a] del Val Groba-Marco[1], Ana Mirallave-Pescador[2], Elisa González-Rodríguez[1], Sabrina García-Santana[3], Esther González-Padilla[4], Pedro Saavedra-Santana[3], Manuel Sosa-Henriquez*[1]. [1]University of Las Palmas de Gran Canaria, Spain, [2]University Las Palmas de GC, Spain, [3]University of Las Palmas de GC, Spain, [4]University of Las Palmas GC, Spain
Disclosures: Manuel Sosa-Henriquez, None

SU0450 **Determinants of Plasma Parathyroid Hormone Levels in the National Health and Nutrition Examination Survey**
Julie Paik*[1], Eric Taylor[2], Wildon Farwell[3]. [1]Brigham & Women's Hospital, USA, [2]Division of Nephrology & Transplantation, Maine Medical Center, USA, [3]Massachusetts Veterans Epidemiology Research & Information Center, VA Boston Healthcare System, & Division of Aging, Department of Medicine, Brigham & Women's Hospital, Harvard Medical School, USA
Disclosures: Julie Paik, None

SU0451 **Germline and Somatic Mutations of *CDKN1B,* encoding $p27^{Kip1}$, in Sporadic Parathyroid Adenomas**
Jessica Costa-Guda*[1], Ilaria Marinoni[2], Sara Molatore[2], Natalia Pellegata[2], Andrew Arnold[3]. [1]University of Connecticut Health Center, USA, [2]Institute of Pathology, Helmholtz Zentrum München, Germany, [3]University of Connecticut School of Medicine, USA
Disclosures: Jessica Costa-Guda, None

SU0452 **Postoperative Hypoparathyroidism Leading to Impressive Increases in Bone Mineral Density Over 6 years in a 36-year Old Woman**
Karin Amrein*[1], Hans Dimai[2], Harald Dobnig[1], Astrid Fahrleitner-Pammer[2]. [1]Medical University of Graz, Austria, [2]Medical University Graz, Austria
Disclosures: Karin Amrein, None

SU0453 **Use of Cinacalcet to Normalize Serum Calcium and Clarify the Mechanism of Hypercalcemia in a Patient with Pseudohypoparathyroidism Type 1b**
Rachel Hopkins*, Arnold Moses. State University of New York Upstate Medical University, USA
Disclosures: Rachel Hopkins, None

SU0454 **Vitamin D status, Physical Performance and Body Mass in Patients Surgically Cured for Primary Hyperparathyroidism Compared with Healthy Controls - A Cross-sectional Study**
Anne Kristine Amstrup*, Lars Rejnmark, Tanja Sikjaer, Lars Rolighed, Peter Vestergaard, Lene Heickendorff, Leif Mosekilde. Aarhus University Hospital, Denmark
Disclosures: Anne Kristine Amstrup, None

OTHER DISORDERS OF BONE: RENAL BONE DISEASE

SU0455 **Differences in Structural and Material Properties of Low and High Turnover Bone**
Daniel Porter[1], Raymond Wright[2], David Pienkowski[3], Marie-Claude Faugere[4], Hartmut Malluche*[4]. [1]Center for Biomedical Engineering, University of Kentucky, USA, [2]Department of Orthopedics, University of Kentucky, USA, [3]University of Kentucky, USA, [4]University of Kentucky Medical Center, USA
Disclosures: Hartmut Malluche, None

SU0456 **Reduction of Whole PTH/Intact PTH Ratio is a Predictor of Bone Metabolism by Cinacalcet Treatment in Hemodialysis Patients with Secondary Hyperparathyroidism.**
Masafumi Kurajoh*[1], Masaaki Inaba[2], Senji Okuno[3], Harumi nagayama[4], Shinsuke Yamada[5], Yasuo Imanishi[1], Eiji Ishimura[2], Shigeichi Shoji[6], Tomoyuki Yamakawa[7], Yoshiki Nishizawa[8]. [1]Osaka City University Graduate School of Medicine, Japan, [2]Department of Metabolism, Endocrinology & Molecular Medicine, Internal Medicine, Osaka City University Graduate School of Medicine, Japan, [3]Shirasagi Hospital, Japan, [4]Nagayama Hospital, Japan, [5]Department of Metabolism, Endocrinology & Molecular Medicine, Osaka City University Graduate School of Medicine, Japan, [6]Minami-Osaka Hospital, Japan, [7]Shirasagi-Hospital, Japan, [8]Osaka City University Medical School, Japan
Disclosures: Masafumi Kurajoh, None

SU0457 **Serum ICTP can be a Surrogate Marker of Coronary Unstable Plaques**
Itsuro Endo*[1], Mitsunori Fujimura[2], Rika Kido[1], Ken-ichi Aihara[1], Yuichi Fujinaka[1], Takashi Iwase[1], Masashi Akaike[1], Masahiro Abe[3], Toshio Matsumoto[1]. [1]University of Tokushima Graduate School of Medical Sciences, Japan, [2]Takamatsu City Hospital, Japan, [3]University of Tokushima, Japan
Disclosures: Itsuro Endo, None

OTHER DISORDERS OF BONE: RHEUMATOLOGIC AND OTHER SYSTEMIC ILLNESSES

SU0458 **Circulating Osteogenic Cells Increased in HIV+ Postmenopausal Women on Antiretroviral Therapy**
Michael Yin*[1], J. Sanil Manavalan[1], Chiyuan Zhang[1], Stavroula Kousteni[2], Donald McMahon[3], Ivelisse Colon[2], Mishaela Rubin[1], David Ferris[4], Elizabeth Shane[3]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Bronx Lebanon Hospital Center, USA
Disclosures: Michael Yin, None

SU0459 **Effect of Tapering Glucocorticoids for Bone and Mineral Metabolism in Patients with Rheumatoid Arthritis Taking Etanercept**
Daihei Kida*. National Hospital Organization Nagoya Medical Center, Japan
Disclosures: Daihei Kida, None

SU0460 **Hypovitaminosis D in patients with Type 2 Diabetes Mellitus: Relationship with Microvascular Complications**
Hala Ahmadieh[1], Sami Azar[1], NAJLA LAKKIS[2], Maya Barake[1], Asma Arabi*[1]. [1]Internal Medicine, American University of Beirut, Lebanon, [2]Family Medicine, American University of Beirut, Lebanon
Disclosures: Asma Arabi, None

SU0461 **Multifocal Nodular Periostitis Associated with Voriconazole**
Charles Kenney[1], Fergus McKiernan*[2]. [1]Department of Radiology, USA, [2]Marshfield Clinic, USA
Disclosures: Fergus McKiernan, None

SU0462 **Older Men with Hyperkyphosis Display Worse Physical Function: the MrOS Study**
Deborah Kado*[1], Stephanie Litwack[2], Howard Fink[3], Lynn Marshall[4], Eric Orwoll[4], Elizabeth Barrett-Connor[5], Peggy Cawthon[2]. [1]University of California, Los Angeles, USA, [2]California Pacific Medical Center Research Institute, USA, [3]VA Medical Center, Minneapolis, USA, [4]Oregon Health & Science University, USA, [5]University of California, San Diego, USA
Disclosures: Deborah Kado, Kyphon, 5

SU0463 **Predicting the Spinal Radiographic Severity in Ankylosing Spondylitis; Patient with Enthesitis or Arthritis of Peripheral Joints has Less Severe Radiographic Change**
Sang-Hyun Kim[1], Seungwoo Han*[2], Youn-Kwan Jung[3], Seong-Ho Kim[4], Seong-Kyu Kim[5]. [1]Dongsan medical center, Keimyung university, South Korea, [2]Daegu Fatima Hospital, South Korea, [3]Laboratory for arthritis & bone biology, Daegu Fitima Hospital, South Korea, [4]Paik-hospital, Inje University, South Korea, [5]Catholic University of Daegu School of Medicine, South Korea
Disclosures: Seungwoo Han, None

SU0464 **Reduced Cortical Density May Influence Bone Fragility in Morbidly Obese Women**
Emily Stein*[1], Polly Chen[2], Halley Rogers[3], Adi Cohen[3], Marc Bessler[2], Beth Schrope[2], Akuezunkpa Ude[2], Donald McMahon[1], Elizabeth Shane[1], Shonni Silverberg[2]. [1]Columbia University College of Physicians & Surgeons, USA, [2]Columbia University, USA, [3]Columbia University Medical Center, USA
Disclosures: Emily Stein, None

SU0465 **Role of 25(OH)D_3 and PTH in type 2 Diabetes Mellitus**
Seong-Bin Hong*[1], Jeeyoung Han[2], JungJin Lee[2], SoHun Kim[1], Moonsuk Nam[1], Yong Seong Kim[1], Joon Ho Song[1]. [1]INHA University, South Korea, [2]Inha University Hospital, South Korea
Disclosures: Seong-Bin Hong, None

SU0466 **Serum 25 Vitamin D Levels and Lower Extremity Strength and Coordination: a Cross-Sectional and Longitudinal Study**
Nancy Lane*[1], Douglas Bauer[2], Michael Nevitt[3], Neeta Parimi[4], Kristine Ensrud[5], Jane Cauley[6], Erin LeBlanc[7], Marc Hochberg[8]. [1]University of California, Davis Medical Center, USA, [2]University of California, San Francisco, USA, [3]U.C.S.F., USA, [4]CPMC, USA, [5]Univ. of Minnesota, USA, [6]University of Pittsburgh Graduate School of Public Health, USA, [7]Oregon Health Sciences Center, Univ. of Oregon, USA, [8]Univ. of Maryland, USA
Disclosures: Nancy Lane, None

SU0467 **Systemic Mastocytosis As A Cause Of Severe Osteoporosis In A Young Woman (Case Report)**
Chrysoula Liakou*[1], George Trovas[2], Evangelos Terpos[3], Nikolaos Papaioannou[4]. [1]Athens School Of Medicine, K.A.T. Hospital, Greece, [2]Laboratory for the research of Musculoskeletal System "Th. Garofalidis", KAT Hospital, Greece, [3]University of Athens School of Medicine Department of clinical Therapeutics, Greece, [4]Associate Professor of Orthopaedics at University of Athens School of Medicine, Director of Laboratory for the research of Musculoskeletal System "Th. Garofalidis" ,KAT Hospital, Greece
Disclosures: Chrysoula Liakou, None

SU0468 **The Effect of Narrowband Ultraviolet B Treatment for Psoriasis on Vitamin D Status During Wintertime in Ireland**
Caitriona Ryan[1], Benvon Moran[1], Malachi McKenna*[2], Barbara Murray[1], Jennifer Brady[1], Paul Collins[1], Sarah Rogers[1], Brian Kirby[1]. [1]St. Vincent's University Hospital, Ireland, [2]St. Michael's Hospital, Ireland
Disclosures: Malachi McKenna, Abbott pharmaceuticals, 2; Galderma, 5

OTHER DISORDERS OF BONE: TRANSPLANTATION

SU0469 **A Novel Approach for the Repair of Segmental Long Bone Defects in Humans**
Eric Hesse*[1], Gerald Kluge[2], Carl Haasper[2], Georg Berding[2], Hoen-oh Shin[2], Joerg Viering[2], Florian Laenger[2], Peter Vogt[2], Christian Krettek[2], Michael Jagodzinski[2]. [1]Harvard Schools of Medicine & Dental Medicine, USA, [2]Hannover Medical School, Germany
Disclosures: Eric Hesse, None

SU0470 **Fluoride Related Periostitis Associated With Chronic Voriconazole Use in Solid Organ Transplants**
Robert Wermers*[1], Kay Cooper[1], Gary Whitford[2], Raymund Razonable[1], Paul Deziel[1], Thomas Moyer[1]. [1]Mayo Clinic, USA, [2]Medical College of Georgia, USA
Disclosures: Robert Wermers, None

SU0471 **Gonadal Status Evolution After Liver Transplantation. Relationship with BMD Changes**
Guillermo Martínez Diaz-Guerra*[1], Sonsoles Guadalix[2], Raquel Sánchez-Windt[2], Miriam Partida[3], Enrique Moreno[2], Federico Hawkins[4]. [1]Universtiy Hospital 12 de Octubre, Spain, [2]University Hospital 12 de Octubre, Spain, [3]University Hospiatl 12 de Octubre, Spain, [4]Hospital Universitario, Spain
Disclosures: Guillermo Martínez Diaz-Guerra, None

STEROID HORMONES AND RECEPTORS: GLUCOCORTICOIDS

SU0472 **Bone Marrow Adipocytes Increase without changing 11β-Hydroxysteroid Dehydrogenase Type 1 Expression during Glucocorticoid Excess**
Valentina Camozzi*[1], Chiara Franzin[1], Paola Ballanti[2], Alessandra Calcagno[1], Claudio Pagano[1], Martina Zaninotto[1], Franco Mantero[1], Roberto Vettor[1], Giovanni Luisetto[3]. [1]University of Padua, Italy, [2]University of Rome, Italy, [3]Universiy of Padua, Italy
Disclosures: Valentina Camozzi, None

SU0473 **Developmentally-regulated Glucocorticoid-mediated Inhibition of Osteoblast Cell Cycle Progression through Repression of ATF4-Dependent Cyclin A Transcription.**
Yankel Gabet*, Tommy J. Noh, Sanjeev Baniwal, Christopher Lee, Baruch Frenkel. University of Southern California, USA
Disclosures: Yankel Gabet, None

STEROID HORMONES AND RECEPTORS: PTH/PTHRP

SU0474 **Histochemical Assessment of Altered Bone Tissue in Transgenic Mice Overexpressing Parathyroid Hormone-related Peptide (PTHrP) Driven by Type I Collagen Promoter**
Minqi Li*[1], Tomoka Hasegawa[1], Sayaka Nakamura[1], Nuneteru Sasaki[1], Zhusheng Liu[2], Ying Guo[1], Reiko Suzuki[1], Tsuneyuki Yamamoto[1], Norio Amizuka[3]. [1]Hokkaido University, Japan, [2]Hokkaido Universiy, Japan, [3]Hokkaido University School of Dentistry, Japan
Disclosures: Minqi Li, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

SU0475 **In vivo Deletion of CAR Leads to Increased Bone Mass**
Hwa Young Cho[1], Ju Yeon Jung[2], Solip Jung[2], Jae Yeon Yang[2], Yenna Lee[2], Ji Hyun An[2], Hyung Jin Choi[2], Sun Wook Cho[3], Sang Wan Kim[4], Young Joo Park[2], Jung-Eun Kim[5], Chan Soo Shin*[2]. [1]Department of Internal Medicine, Seoul National University College of Medicine, *Department of Internal Medicine, Hanyang University Guri Hospital, South Korea, [2]Department of Internal Medicine, Seoul National University College of Medicine, South Korea, [3]University of Michigan School of Dentistry, USA, [4]Seoul National University Boramae Hospital, South Korea, [5]Kyungpook National University School of Medicine, South Korea
Disclosures: Chan Soo Shin, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

SU0477 **Binding of the Homeobox Transcription Factor CDX2 at the Human Vitamin D Receptor (VDR) Gene Locus in Intestinal/Colonic Cells**
Chang-Hun Lee*[1], Mark Meyer[2], Seong Min Lee[2], J. Pike[2]. [1]University of Wisconsin at Madison, USA, [2]University of Wisconsin-Madison, USA
Disclosures: Chang-Hun Lee, None

SU0478 **Essential Role of Vitamin D Receptor for High Dose Vitamin D Induced Vascular Calcification in Mice**
Min-Su Han*[1], Kyun Eun Lim[2], Na-Rae Park[2], Jae-Hwan Jeong[2], Shin-Yoon Kim[3], Shigeaki Kato[4], Je-Yong Choi[2]. [1]KNU, School of Medicine, South Korea, [2]Kyungpook National University, School of Medicine, South Korea, [3]Kyungpook National University Hospital, South Korea, [4]University of Tokyo, Japan
Disclosures: Min-Su Han, None

SU0479 **Evaluatern Between Serum Vitamin D Concentration and Body Mass Index in Post Menopausal Women**
Hoon Choi*[1], Tak Kim[2], Heung Yeol Kim[3], Min Hyung Jung[4], Byung Ick Lee[5], Huck Jung[6]. [1]Inje University Sanggyepaik Hospital, South Korea, [2]Korea University Anam Hospital, South Korea, [3]Kosin University, South Korea, [4]School of Medicine, Kyung Hee University, Kyung Hee Medical Center, South Korea, [5]Inha University Hospital, Inha University, South Korea, [6]Chosun University, South Korea
Disclosures: Hoon Choi, None

SU0480 **Inhibition of CYP24: A Novel Approach to Treat Secondary Hyperparathyroidism**
Christian Helvig*[1], Dominic Cuerrier[1], Christopher Hosfield[1], Aza Kharebov[1], Rina Glozman[1], Uttam Saha[1], Gary Posner[2], Tina Epps[1], Martin Petkovich[3]. [1]Cytochroma Inc, Canada, [2]Johns Hopkins University, USA, [3]Cytochroma Incorporated, Canada
Disclosures: Christian Helvig, None

SU0481 **Modulation of Innate Immunity by $1,25(OH)_2D_3$: Regulation of TREM1, a novel target of $1,25(OH)_2D_3$**
Puneet Dhawan*[1], Isaura Rigo[2], Leila Mady[3], Sylvia Christakos[1], Gill Diamond[2]. [1]University of Medicine & dentistry of New Jersey-New Jersey Medical School, USA, [2]University of Medicine & Dentistry of New Jersey-New Jersey Dental School, USA, [3]University of Medicine & Dentistry of New Jersey-New Jersey Medical School & Graduate School of Biomedical Sciences, USA
Disclosures: Puneet Dhawan, None

SU0482 **Suppression of PTH by the Vitamin D Analog, Eldecalcitol [1α,25-dihydroxy-2β-(3-hydroxypropyloxy)vitamin D_3], Is Modulated by Its High Affinity to the Serum Vitamin D Binding Protein and Resistance to Metabolism.**
Cynthia Ritter[1], Alex Brown*[2]. [1]Washington University School of Medicine, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Alex Brown, None

MEET-THE-PROFESSOR SESSIONS

1:00 pm - 2:00 pm **South Building: Rooms 703-711**

Anabolic Therapies and Strategies in the Treatment of Osteoporosis
South Building: Room 711
Supported by an educational grant from Eli Lilly and Company
Benjamin Z. Leder, M.D.
Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Benjamin Leder, Amgen 2; Amgen 5

Diagnosing and Treating Vitamin D Deficiency and Insufficiency
South Building: Room 707
John S. Adams, M.D.
University of California, Los Angeles, USA
Disclosures: John Adams, Deltanoid 9; NIH 2; Quest Diagnostics 2; Quest Diagnostics 5

Fluoresence-Based Dynamic and Cellular Histomorphometry of Murine Skeletal Structures Using Computer Controlled Imaging and Image Analysis
South Building: Room 706

David W. Rowe, M.D.
University of Connecticut Health Center, USA
Disclosures: David Rowe, Cyber Connect 2

Imaging the Mechanisms of Osteoclast Migration, Differentiation and Function
South Building: Room 704

Masaru Ishii, M.D., Ph.D.
Immunology Frontier Research Center, Osaka University, Japan
Disclosures: Masaru Ishii, None

Management of Skeletal Health in Women with Breast Cancer
South Building: Room 705

Meryl S. Leboff, M.D.
Brigham and Women's Hospital, USA
Disclosures: Meryl Leboff, Lilly, USA 2; GE stock 9; Amgen stock 9

Non-Invasive Assessment of Bone Structure and Strength
South Building: Room 709

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

Premenopausal Bone Loss: Etiology and Management
South Building: Room 703

Supported by an educational grant from Merck & Co., Inc.
Robert R. Recker, M.D.
Creighton University Osteoporosis Research Center, USA
Disclosures: Robert Recker, is a paid consultant for Merck, Lilly, Wyeth, Procter & Gamble, Amgen, Roche, Glaxo Smith Kline, Novartis, and NPS Allelix; and has received grant/research support from Merck, Lilly, Wyeth, Procter & Gamble, Amgen, R 5

CLINICAL ROUNDTABLE/CASE CONFERENCE: DISORDERS OF PHOSPHATE METABOLISM

1:00 pm - 2:00 pm **South Building: Hall G**

Co-Chair
Michael J. Econs, M.D.
Indiana University School of Medicine, USA
Disclosures: Michael Econs, Kyowa Hakko Kirin 5; Indiana University School of Medicine 3; Kyowa Hakko Kirin 2

Speakers:
Michael P. Whyte, M.D.
Shriners Hospital for Children, USA
Disclosures: Michael Whyte, Enobia Pharma 9; Enobia Pharma 5

Thomas O. Carpenter, M.D.
Yale University School of Medicine, USA
Disclosures: Thomas Carpenter, Kyowa Hakko Kirin Pharma 5; Kyowa Hakko Kirin Pharma 2

CAREER DEVELOPMENT: WORK/LIFE SATISFACTION

Co-Sponsored by the Women in Bone and Mineral Research and Membership Development Committees

1:00 pm - 2:00 pm **South Building: Room 714AB**

We would all like to achieve a state of well being that allows us to effectively manage the multiple responsibilities we have at work, at home, and in our communities. In this session we will have a panel of speakers at different stages in their careers talking about their experiences and strategies. Panelists include Nicole Partridge, Ph. D., Beatrice Edwards, M.D., FACP, and Melissa Kacena, Ph. D. Following the panel will be an interactive discussion.

CONCURRENT ORAL SESSION 19: STEROID HORMONES AND RECEPTORS

2:15 pm - 3:45 pm **South Building: Room 716AB**

Moderators:
Sylvia Christakos, Ph.D.
University of Medicine and Dentistry and New Jersey - New Jersey Medical School, USA
Disclosures: Sylvia Christakos, None

Johannes P. Van Leeuwen, Ph.D.
Erasmus University Medical Center, The Netherlands
Disclosures: Johannes Van Leeuwen, None

2:15 pm 1109 **Rescue of Active Intestinal Calcium Absorption Reverses the Impaired Osteoblast Function in VDR Null Mice.**
Ritsuko Masuyama*[1], Liesbet Lieben[2], Ingrid Stockmans[2], Riet Van Looveren[2], Nico Smets[2], Roger Bouillon[2], Geert Carmeliet[2]. [1]Nagasaki University Graduate School of Biomedical Sciences, Japan, [2]Laboratory Experimental Medicine & Endocrinology, Katholieke Universiteit Leuven, Belgium
Disclosures: Ritsuko Masuyama, None

2:30 pm 1110 **2010 YOUNG INVESTIGATOR AWARD**
Disruption of Pdia3, a Mediator of Rapid Membrane Responses to 1α,25-Dihydroxyvitamin D_3 Results in Embryonic Lethality in Homozygotes and Bone Abnormality in Heterozygotes
Yun Wang*[1], Alex Nizkorodov[2], Kelsie Riemenschneider[2], Chris Lee[2], David Martin[3], Sharon Hyzy[2], Zvi Schwartz[1], Barbara Boyan[1]. [1]Georgia Institute of Technology, USA, [2]Department of Biomedical Engineering & Institute of Bioengineering & Bioscience, Georgia Institute of Technology, USA, [3]Department of Medicine, Emory University School of Medicine, USA
Disclosures: Yun Wang, None

2:45 pm 1111 **2010 YOUNG INVESTIGATOR AWARD**
Increased Trabecular Volume in a Novel Mouse Model Expressing a Bone-Specific CYP27B1 Transgene
Andrew Turner*[1], Juliette Tyson[1], Rebecca Sawyer[1], Peter O'Loughlin[1], Gerald Atkins[2], Masakazu Kogawa[2], David Findlay[2], Howard Morris[1], Paul Anderson[1]. [1]SA Pathology, Australia, [2]University of Adelaide, Australia
Disclosures: Andrew Turner, None

3:00 pm 1112 **Mechanisms Underlying Anabolic Androgen Action in the Periosteum I*n Vivo* and I*n Vitro*: Disparate Response Mediated by Distinct Stem Cell Lineages**
Kristine Wiren*[1], Anthony Semirale[2], Xiao-Wei Zhang[3]. [1]Veterans Affairs Medical Center, Oregon Health & Science University Research Ser, USA, [2]Oregon Health Sciences University, USA, [3]VA Medical Center & OHSU, USA
Disclosures: Kristine Wiren, None

3:15 pm 1113 **ERα Deletion in Mesenchymal Progenitors or Mature Osteoblasts Decreases Cortical Bone Thickness and Increases Apoptosis, Respectively**
Maria Jose Almeida*[1], Elena Ambrogini[1], Marta Martin Millan[2], Shoshana Bartell[1], Aaron Warron[1], Randal Shelton[1], Tony Chambers[1], Jinhu Xiong[1], Robert Weinstein[1], Robert Jilka[1], Charles O'Brien[1], Stavros Manolagas[1]. [1]University of Arkansas for Medical Sciences, USA, [2]University of Arkansas, Center for Osteoporosis & Metabolic Bone Diseases, USA
Disclosures: Maria Jose Almeida, None

3:30 pm 1114 **2010 YOUNG INVESTIGATOR AWARD**
Estrogen Receptor-related Receptor Gamma (ERRg) is a Regulator of Skeletogenesis
Jane Aubin[1], Ralph Zirngibl[2], Marco Cardelli*[2], Ruolin Guo[3], Jonathan Boetto[4]. [1]University of Toronto Faculty of Medicine, Canada, [2]University of Toronto, Canada, [3]University of Rochester, USA, [4]University of Toronto - Molecular Genetics, Canada
Disclosures: Marco Cardelli, None

CONCURRENT ORAL SESSION 20: GROWTH FACTORS, CYTOKINES, IMMUNOMODULATORS

2:15 pm - 3:45 pm **South Building: Hall F**

Moderators:
Charles A. O'Brien, Ph.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Charles O'Brien, None

Anna Spagnoli, M.D.
University of North Carolina At Chapel Hill, USA
Disclosures: Anna Spagnoli, None

2:15 pm **2010 YOUNG INVESTIGATOR AWARD**
1115 **IGF-I Released during Osteoclastic Bone Resorption Induces Osteoblast Differentiation of BMSCs in the Coupling Process**
Lijuan Pang*[1], Xiangwei Wu[2], Weiqi Lei[1], Tao Qiu[2], Feng Li[3], Mei Wan[2], Xu Cao[4]. [1]The Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University School of Medicine, USA, [3]Department of Pathology, Shihezi University School of Medicine, China, [4]Johns Hopkins University, USA
Disclosures: Lijuan Pang, None

2:30 pm **Role of CCL-12 (a.k.a. MCP-5) in Joint Development and Need of TGF-β Signaling in**
1116 **Controlling its Expression**
Lara Longobardi*, Tieshi Li, Timothy J. Myers, Froilan Granero-Molto, Yun Yan, Anna Spagnoli. University of North Carolina at Chapel Hill, USA
Disclosures: Lara Longobardi, None

2:45 pm **Peripheral Actions of the NPY System Regulate Bone Formation via Modulation of PYY**
1117 Iris Wong*, Ronaldo F. Enriquez, Amanda Sainsbury, Herbert Herzog, John Eisman, Paul Baldock. Garvan Institute of Medical Research, Australia
Disclosures: Iris Wong, None

3:00 pm **Oncostatin M Receptor Signaling Inhibits the Pro-osteoclastic Action of PTH in vivo and in**
1118 **vitro**
Emma C Walker[1], Ingrid Poulton[1], Narelle McGregor[1], Elizabeth Allan[1], T John Martin[1], Natalie Sims*[2]. [1]St. Vincent's Institute, Australia, [2]St. Vincent's Institute of Medical Research, Australia
Disclosures: Natalie Sims, None

3:15 pm **2010 YOUNG INVESTIGATOR AWARD**
1119 **The In Vivo Effect of EGFR on Bone**
Xianrong Zhang*[1], Ji Zhu[1], Haiyan Chen[2], Xiaoyan Tian[2], Barbara Kream[3], Nicola Partridge[4], Ling Qin[5]. [1]University of Pennsylvania, School of Medicine, USA, [2]University of Utah, USA, [3]University of Connecticut Health Center, USA, [4]New York University College of Dentistry, USA, [5]University of Pennsylvania, USA
Disclosures: Xianrong Zhang, None

3:30 pm **Hypertrophic Chondrocytes and Osteocytes are Essential Sources of RANKL for Bone**
1120 **Growth and for Bone Remodeling, Respectively**
Jinhu Xiong*, Melda Onal, Priscilla Cazer, Xinrong Chen, Robert Weinstein, Robert Jilka, Stavros Manolagas, Charles O'Brien. University of Arkansas for Medical Sciences, USA
Disclosures: Jinhu Xiong, None

CONCURRENT ORAL SESSION 21: BONE AND CARTILAGE: TISSUE FORMATION

2:15 pm - 3:45 pm **South Building: Room 718AB**

Moderators:
Hiroshi Kawaguchi, M.D., Ph.D.
University of Tokyo, Faculty of Medicine, Japan
Disclosures: Hiroshi Kawaguchi, None

Hicham Drissi, Ph.D.
University of Connecticut Health Center, USA
Disclosures: Hicham Drissi, None

2:15 pm **2010 YOUNG INVESTIGATOR AWARD**
1121 **Gli2 is Essential for Postnatal Intervertebral Disc Growth and Maintenance**
Fanjie Zeng*, Ming Xue, Xinping Zhang. University of Rochester Medical Center, USA
Disclosures: Fanjie Zeng, None

2:30 pm **Conditional Ablation of the Heparan Sulfate-synthesizing Enzyme Ext1 Leads to**
1122 **Dysregulation of BMP Signaling and Severe Skeletal Defects**
Yukihide Iwamoto[1], Fumitoshi Irie[2], Yu Yamaguchi[2], Kazu Matsumoto[2], Yoshihiro Matsumoto*[3]. [1]Department of Orthopaedic Surgery kyushu Universtiy School of Medicine, Japan, [2]Sanford-Burnham MedicalResearch Institute, USA, [3]Department of Orthopaedic Surgery Kyushu University School of Medicine, Japan
Disclosures: Yoshihiro Matsumoto, None

2:45 pm **Smad7 Mediates Stress Pathways in the Growth Plate**
1123 Kristine Estrada*, Fuad Elkhoury, Kelsey N. Retting, Karen Lyons. University of California, Los Angeles, USA
Disclosures: Kristine Estrada, None

3:00 pm **The Oxygen-sensor PHD2 in Chondrocytes Modifies Bone Mass by Regulating Cartilage**
1124 **Collagen Processing**
Kjell Laperre*[1], Peter Fraisl[2], Maarten Depypere[3], Stefan Vinckier[2], Nico Smets[1], Roger Bouillon[4], Frederik Maes[3], Peter Carmeliet[2], Geert Carmeliet[5]. [1]Laboratory of Experimental Medicine & Endocrinology, K.U.Leuven, Belgium, [2]VIB Vesalius Research Center, K.U.Leuven, Belgium, [3]Medical image computing (ESAT/PSI), K.U.Leuven, Belgium, [4]Laboratory for Experimental Medicine & Endocrinology, Belgium, [5]Katholieke Universiteit Leuven, Belgium
Disclosures: Kjell Laperre, None

3:15 pm **Role of Fibroblast Growth Factor Receptor 3 in bone formation**
1125 Emilie Mugniery*[1], Romain Dacquin[2], Caroline Marty[3], Catherine Benoist-Lasselin[1], Arnold Munnich[1], Marie-Christine De Vernejoul[4], Pierre Jurdic[5], Valerie Geoffroy[6], Laurence Legeai-Mallet[1]. [1]INSERM U781, France, [2]Institut de génomique fonctionnelle de Lyon - ENS Lyon, France, [3]INSERM U606, France, [4]Fédération De Rhumatologie Et INSERM U606, France, [5]Ecole Normale Superieure de Lyon, France, [6]INSERM Unit 606, France
Disclosures: Emilie Mugniery, None

3:30 pm **Cartilage-specific Notch Signaling Regulates Chondrocyte Maturation and Coordinates**
1126 **Osteoblast Differentiation**
Anat Kohn*[1], Yufeng Dong[2], Alana Jesse[2], Tasuku Honjo[3], Regis O'Keefe[2], Matthew Hilton[1]. [1]University of Rochester School of Medicine, USA, [2]University of Rochester, USA, [3]Kyoto University Graduate School of Medicine, Japan
Disclosures: Anat Kohn, None

CONCURRENT ORAL SESSION 22: CLINICAL OSTEOPOROSIS: FRACTURE RISK ASSESSMENT

2:15 pm - 3:45 pm **South Building: Hall G**

Moderators:
Robert R. Recker, M.D.
Creighton University Osteoporosis Research Center, USA
Disclosures: Robert Recker, None

Murray J. Favus, M.D.
University of Chicago, USA
Disclosures: Murray Favus, None

2:15 pm 1127 **Reduced Bone Strength in Young Adult Women with Clinical Fractures During Childhood or Adolescence**
Serge Ferrari*[1], Thierry Chevalley[2], Bert Van Rietbergen[3], Jean-Philippe Bonjour[4], Rene Rizzoli[5]. [1]Geneva University Hospital & Faculty of Medicine, Switzerland, [2]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [3]Eindhoven University of Technology, Netherlands, [4]University Hospital of Geneva, Switzerland, [5]University Hospital, Switzerland
Disclosures: Serge Ferrari, None

2:30 pm 1128 **Central QCT Reveals Cortical and Trabecular Structural Deficits in Premenopausal Women With Idiopathic Osteoporosis Whether Diagnosis is Based on Fragility Fracture or Low Areal Bone Mineral Density**
Adi Cohen*[1], Thomas Lang[2], Halley Rogers[1], Emily Stein[3], X Guo[4], Xiaowei Liu[4], David Dempster[4], Donald McMahon[3], Joan Lappe[5], Chiyuan Zhang[4], Robert Recker[5], Elizabeth Shane[3]. [1]Columbia University Medical Center, USA, [2]University of California, San Francisco, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Columbia University, USA, [5]Creighton University Osteoporosis Research Center, USA
Disclosures: Adi Cohen, None

2:45 pm 1129 **Is Screening BMD Testing in Older Women Effective for Fracture Prevention in Routine Clinical Practice? A Matched Case-Control Study**
William Leslie*[1], Mahmoud Azimaee[1], Suzanne Morin[2], Colleen Metge[1], Patricia Caetano[1], Lisa Lix[3]. [1]University of Manitoba, Canada, [2]McGill University Health Centre, Canada, [3]University of Saskatchewan, Canada
Disclosures: William Leslie, Amgen, 2

3:00 pm 1130 **Determination of an Osteoporosis Screening Interval for Women Aged 67 Years and Older**
Margaret Gourlay*[1], John S. Preisser[2], Ryan C. May[2], Li-Yung Lui[3], Kristine Ensrud[4]. [1]University of North Carolina at Chapel Hill, USA, [2]University of North Carolina, USA, [3]California Pacific Medical Center Research Institute, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Margaret Gourlay, None

3:15 pm 1131 **Predictive value of FRAX® for the prediction of major osteoporotic fractures: The OPUS study**
Karine Briot*[1], Simon Paternotte[2], Sami Kolta[3], Richard Eastell[4], Dieter Felsenberg[5], David M Reid[6], Claus C Gluër[7], Christian Roux[2]. [1]Cochin Hospital, France, [2]Paris Descartes University, Rheumatology Department, Cochin hospital, France, [3]Paris-Descartes University, Rheumatology Department, Cochin Hospital, Paris, France, France, [4]Department of Human Metabolism, University of Sheffield, United Kingdom, [5]Charité - Campus Benjamin Franklin, Germany, [6]Division of Applied Medicine, University of Aberdeen, United Kingdom, [7]Medizinische Physik, Klinik für Diagnostische Radiologie, Universitätsklinikum Schleswig-Holstein, Campus Kiel, Germany
Disclosures: Karine Briot, None

3:30 pm **Force Directions for Optimal Proximal Femoral Strength and Hip Fracture Risk Assessment**
1132 **in Men and Women: The AGES-Reykjavik Study**
Joyce Keyak*[1], Agusta Sigmarsdottir[2], Gyda Karlsdottir[2], Sigurdur Sigurdsson[2], Kristin Siggeirsdottir[2], Gudny Eiriksdottir[2], Shoujun Zhao[1], Tamara Harris[3], Gunnar Sigurdsson[4], Vilmundur Gudnason[2], Thomas Lang[5]. [1]University of California, USA, [2]Icelandic Heart Association Research Institute, Iceland, [3]Intramural Research Program, National Institute on Aging, USA, [4]Landspitali, Iceland, [5]University of California, San Francisco, USA
Disclosures: Joyce Keyak, None

CONCURRENT ORAL SESSION 23: OSTEOPOROSIS PATHOPHYSIOLOGY: REGULATORS OF BONE REMODELING

2:15 pm - 3:45 pm **South Building: Room 801AB**

Moderators:
Cheryl L. Ackert-Bicknell, Ph.D.
The Jackson Laboratory, USA
Disclosures: Cheryl Ackert-Bicknell, None

Robert S. Weinstein, M.D.
University of Arkansas for Medical Sciences, USA
Disclosures: Robert Weinstein, None

2:15 pm **Suppression of FSH Secretion in Postmenopausal Women has No Effect on Bone Resorption**
1133 **Markers**
Matthew Drake*[1], Louise McCready[2], Kelley Hoey[1], Elizabeth Atkinson[1], Sundeep Khosla[3]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA, [3]College of Medicine, Mayo Clinic, USA
Disclosures: Matthew Drake, None

2:30 pm **Estrogen, but not Testosterone, Suppresses Circulating Sclerostin Levels in Humans**
1134
Ulrike Moedder*[1], Jackie Clowes[1], Kelley Hoey[2], James Peterson[2], Louise McCready[2], Merry Jo Oursler[2], Byron Riggs[3], Sundeep Khosla[4]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA, [3]Mayo Clinic College of Medicine, Rochester, MN, USA, [4]College of Medicine, Mayo Clinic, USA
Disclosures: Ulrike Moedder, None

2:45 pm **2010 YOUNG INVESTIGATOR AWARD**
1135 **Altered Bone Microarchitecture and Decreased Local Runx2, RANKL and SOST Gene Expression in Men with Primary Idiopathic Osteoporosis**
Janina Patsch*[1], Paul Roschger[2], Andrea Berzlanovich[1], Christian Muschitz[3], Thomas Woegerbauer[4], Thomas Kohler[5], Heinrich Resch[6], Peter Pietschmann[1]. [1]Medical University of Vienna, Austria, [2]L. Boltzmann Institute of Osteology, Austria, [3]St. Vincent's Hospital, Austria, [4]St. Vincent Hospital Vienna, Austria, [5]b-cube AG, Switzerland, [6]Medical University Vienna, Austria
Disclosures: Janina Patsch, None

3:00 pm **2010 SHUN-ICHI HARADA YOUNG INVESTIGATOR AWARD**
1136 **Rosiglitazone Decreases Bone Mass and Bone Marrow Fat: A Randomized, Placebo-controlled Trial**
Torben Harsloef*[1], Louise Wamberg[2], Louise Møller[3], Steffen Ringgaard[4], Hans Stødkilde-Jørgensen[4], Steen Bønløkke Pedersen[2], Bente Langdahl[5]. [1]Aarhus Amtssygehus, Aarhus University Hospital, Denmark, [2]Department of Endocrinology & Internal Medicine, THG, Aarhus University Hospital, Denmark, [3]Department of Endocrinology & Internal Medicine, NBG, Aarhus University Hospital, Denmark, [4]MR Research Centre, Aarhus University Hospital, Skejby, Denmark, [5]Aarhus Sygehus, Aarhus University Hospital, Denmark
Disclosures: Torben Harsloef, None

3:15 pm 1137 **The *Misty* mouse which has minimal brown adipose tissue (BAT) has markedly reduced bone mass and altered microarchitecture**
Masanobu Kawai*[1], Sheila Bornstein[1], Sudatha Lotinen[2], Maureen Devlin[3], Mary Bouxsein[3], Mark Horowitz[4], Roland Baron[5], Clifford Rosen[1]. [1]Maine Medical Center, USA, [2]Harvard School of Dental Medicine, USA, [3]Beth Israel Deaconess Medical Center, USA, [4]Yale University School of Medicine, USA, [5]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Masanobu Kawai, None

3:30 pm 1138 **PPARβ/δ-deficiency Impairs Muscle and Bone Mass and Worsens its Response to Estrogen-deprivation**
Nicolas Bonnet*[1], Beatrice Desvergne[2], Serge Ferrari[3]. [1]Geneva University Hospital, Switzerland, [2]Center for integrative Genomics, Genopodes, Switzerland, [3]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Nicolas Bonnet, None

CONCURRENT ORAL SESSION 24: BONE BIOMECHANICS IN HUMAN STUDIES

2:15 pm - 3:45 pm **South Building: Room 714AB**

Moderators:
David W. Dempster, Ph.D.
Columbia University, USA
Disclosures: David Dempster, None

Tony M. Keaveny, Ph.D.
University of California, Berkeley, USA
Disclosures: Tony Keaveny, None

2:15 pm 1139 **Males Recruits with Stress Reaction of the Tibia Exhibit Higher Density and Smaller Geometry than Uninjured Recruits**
Rachel Evans*[1], Charles Negus[2], Amanda Antczak[3], Amir Hadid[4], Yael Arbel[4], Ran Yanovich[4], Daniel Moran[4]. [1]U.S. Army Research Institute of Environmental Medicine, USA, [2]L-3 Applied Technologies, USA, [3]US Army Research Institute of Environmental Medicine, USA, [4]Heller Institute of Medical Research, Israel
Disclosures: Rachel Evans, None

2:30 pm 1140 **2010 YOUNG INVESTIGATOR AWARD**
Reduced Matrix Heterogeneity with Bisphosphonate Treatment in Postmenopausal Women with Proximal Femoral Fractures
Adele Boskey[1], Joseph Lane[1], Brian Rebolledo[1], Brian Gladnick[2], Dennis Meredith[1], Eve Donnelly*[1]. [1]Hospital for Special Surgery, USA, [2]Cornell University, Weill Medical College, USA
Disclosures: Eve Donnelly, None

2:45 pm 1141 **Bone Tissue Quality in the Years after Menopause: Micro-hardness is Decreased Independently of Changes in the Degree of Mineralization.**
Yohann Bala*[1], Susan Bare[2], Georges Boivin[1], Robert R. Recker[2]. [1]INSERM U831, Université de Lyon, France, [2]Osteoporosis Research Center, Creighton University, USA
Disclosures: Yohann Bala, None

3:00 pm 1142 **Male Astronauts Have Greater Bone Loss and Risk of Hip Fracture following Long Duration Spaceflights than Females**
Rachel Ellman*[1], Jean Sibonga[2], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]USRA Division of Space Life Sciences, USA
Disclosures: Rachel Ellman, None

3:15 pm 1143 **High Resolution Peripheral Quantitative CT (HRpQCT) Reveals Preferential Inner Trabecular Bone Loss in Lactating Women**
Shannon Kokolus[1], Mary Beth Vrabel[1], Xiaowei Liu[1], Stephanie Boutroy[2], Halley Rogers[3], Donald McMahon[4], Carolyn Westhoff[1], Adi Cohen*[3]. [1]Columbia University, USA, [2]INSERM, Université De Lyon, France, [3]Columbia University Medical Center, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Adi Cohen, None

3:30 pm **Finite Element Analysis of the Hip DXA Scans and Hip Fracture Risk in Older Men**
1144 Lang Yang*[1], Annabel Burton[2], Mike Bradburn[2], Eric Orwoll[3], Lynn Marshall[3], Carrie Nielson[3], Richard Eastell[2]. [1]Univesity of Sheffield, United Kingdom, [2]University of Sheffield, United Kingdom, [3]Oregon Health & Science University, USA
Disclosures: Lang Yang, None

COFFEE BREAK

3:30 pm - 4:00 pm **South Building: Hall E**

SYMPOSIUM - OSTEOPOROSIS: WHY DO MEN GET IT?

Co-sponsored by the European Calcified Tissue Society (ECTS)

Supported by an educational grant from Eli Lilly and Company

4:00 pm - 5:30 pm **South Building: Hall G**

Co-Chairs
Robert A. Adler, M.D.
McGuire VA Medical Center, USA
Disclosures: Robert Adler, Novartis 2; Amgen 2; Merck 5; Eli Lilly 2; Genentech 2; GTX 5; Eli Lilly 5

Cyrus Cooper, D.M., FRCP, MedSci
University of Southampton, United Kingdom
Disclosures: Cyrus Cooper, Professor Cooper has received consultancy fees from Servier; P&G/Alliance; Eli Lilly; Merck; GSK Roche; Amgen; Novartis. 5

4:00 pm **Insights from Epidemiology of Osteoporosis in Men**
Eric S. Orwoll, M.D.
Oregon Health and Science University, USA
Disclosures: Eric Orwoll, Amgen 5; Eli Lilly 5; Amgen 2; Merck 5; Eli LIlly 2

4:30 pm **Estradiol - A Key to Male Bone Health**
Claes Ohlsson, M.D., Ph.D.
Centre for Bone and Arthritis Research, Sweden
Disclosures: Claes Ohlsson, None

5:00 pm **Osteoporosis in Men: Whom Should Be Treated and How?**
Nelson B. Watts, M.D.
University of Cincinnati Bone Health and Osteoporosis Center, USA
Disclosures: Nelson Watts, Amgen, Eli Lilly, Merck, Novartis, NPS, 2; Amgen, Baxter Healthcare, InteKrin, Johnson & Johnson, MannKind, Novo Nordisk, Pfizer, Procter & Gamble, sanofi-aventis, Takeda Pharmaceuticals, Warner-Chilcott 5; Amgen, Novartis, Procter & Gamble, sanofi-aventi, Warner-Chilcott 8

SYMPOSIUM - PATHWAYS THAT MODIFY THE BONE LANDSCAPE

4:00 pm - 5:30 pm **South Building: Room 718AB**

Co-Chairs
Marja Marie Hurley, M.D.
University of Connecticut Health Center School of Medicine, USA
Disclosures: Marja Marie Hurley, None

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

4:00 pm **NOTCHing Bone: From Stem Cells to Cancer**
Brendan Lee, M.D., Ph.D.
Baylor College of Medicine, USA
Disclosures: Brendan Lee, None

4:30 pm **FGF23 and Klotho: From Bone to Kidney and Parathyroid Glands**
Beate Lanske, Ph.D.
Harvard School of Dental Medicine, USA
Disclosures: Beate Lanske, None

5:00 pm **Overlapping and Unique Roles of LRP5/6 in Bone Development**
Bart O. Williams, Ph.D.
Van Andel Research Institute, USA
Disclosures: Bart Williams, None

NIDDK 60TH ANNIVERSARY SYMPOSIUM AND RECEPTION

5:30 pm - 7:00 pm **South Building: Hall F**

Co-Chairs
Henry M. Kronenberg, M.D.
Massachusetts General Hospital, USA
Disclosures: Henry Kronenberg, Chugai Pharmaceuticals 1; Novartis 5

Ronald Margolis, Ph.D.
National Institute of Diabetes and Digestive and Kidney Diseases, USA
Disclosures: Ronald Margolis, None

5:30 pm **History of NIDDK**
John Potts, M.D.
Massachusetts General Hospital, USA
Disclosures: John Potts, None

5:40 pm **The Ups and Downs of Bone Formation: Growth Factors and Glucorticoids**
Ernesto Canalis, M.D.
St. Francis Hospital & Medical Center, USA
Disclosures: Ernesto Canalis, None

5:50 pm **Phosphate Sensing, Phosphatonins and the Skeleton**
Rajiv Kumar, M.D.
Mayo Clinic College of Medicine, USA
Disclosures: Rajiv Kumar, Genzyme 2; NIH 2; Deltanoid 5; Bayer 2; Falk Trust 2

6:00 pm **Neuroendocrine Dysregulation and Bone Disorders**
Anne Klibanski, M.D.
Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Anne Klibanski, Novartis 2

6:10 pm **Vitamin D Molecular Interactions**
Marie Demay, M.D.
Massachusetts General Hospital and Harvard Medical School, USA
Disclosures: Marie Demay, None

6:20 pm **The Calcium Sensing Receptor: Biology and Pathology**
Edward M. Brown, M.D.
Brigham & Women's Hospital, USA
Disclosures: Edward Brown, NPS Pharmaceuticals 7; Servier 2

6:30 pm **Future of NIDDK**
Gregory G. Germino, M.D.
The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), USA
Disclosures: Gregory G. Germino, None

WORKING GROUP ON OSTEOPOROSIS IN RHEUMATIC DISEASES

New Insights in Osteo-Arthritis, from Bench to Bedside

Ticket Required

7:15 pm - 9:15 pm **South Building: Room 701B**

7:15 pm **Introduction**
Willem Lems, M.D., Ph.D.
Vrije Universiteit Medical Centre, The Netherlands

7:20 pm **Current Concepts and Novel Targets in Osteo-Arthritis**
Georg Schett, M.D.
Friedrich-Alexander University Medical School, Germany

7:45 pm **WnT Signaling Pathway and Osteoarthritis**
Nancy Lane, M.D.
University of California, Davis Medical Center, USA

8:10 pm **Lessons from Imaging Techniques in Hand-Osteoarthritis**
Piet Geusens, M.D., Ph.D.
University Hasselt, Belgium

8:35 pm **Current Symptomatic Treatment of OA (Comparison of ACR, EULAR and OARSI Recommendations)**
Marc Hochberg, M.D., MPH
University of Maryland School of Medicine, USA

9:00 pm **Abstract Presentations:**

Nanobodies Targeting RANK-Ligand are Strong Inhibitors of Human Osteoclast Differentiation in Vitro
Jussi M. Halleen, Ph.D.
Pharmatest Services Ltd, Finland

Development of Cell-based Assays for Identifying Inhibitors of RANK Intracellular Signaling
Jason Ashley
University of Alabama at Birmingham, USA

Disclosures: Georg Schett – nothing to disclose; Nancy Lane, Consulting for Amgen and PFizer, Speakers Bureau for Amgen, Eli Lilly, and Novartis, Research grants from Pfizer and Nordic Biosciences, Marc Hochberg, Current Research Support from National Institutes of Health, Consultant for Abbott Laboratories, Amgen, Astra-Zeneca Pharmaceutical Co., Bayer Health Care LLC, BioIberica S.A., Bristol-Myers Squibb Company, CombinatoRx, Covidie, Eli Lilly and Company, Genetech, GlaxoSmithKline, Hoffman-La Roche, Inc., Merck & Co., Inc., Merck Serono International S.A., NiCox S.A., Novartis Pharma AG, Pfizer Inc., Pozen Inc., Rand Corporation, Sanofi Aventis S.A., Smith & Nephew, Stryker Biotech LLC, TransPharma Medical Ltd., UCB Inc., Member/Chair of DSMB, National Eye Institute, Novartis Pharma A.G., Member of Medical Advisory Board and Stock Ownership in Theralogix LLC; Piet Geusens- nothing to disclose

VITAMIN D WORKING GROUP

Contributions of Vitamin D to Heart and Cardiovascular and Pancreas and Diabetes

Sponsored by Vitamin D Workshop, Inc.

Ticket Required

7:15 pm - 9:15 pm **South Building: Room 717AB**

7:15 pm **Introductory Remarks**
Anthony Norman, Ph.D.
University of California, USA

7:20 pm **Genetic Determinants of Vitamin D Status (the Sunlight Consortium)**
Thomas J. Wang
Massachusetts General Hospital, USA

7:50 pm **1,25D Affects Pulsating Fluid-flow-induced Nitric Oxide Production by Osteoblasts Dependent on the VDR Pathway Activated**
Hubertine M.E. Williams
CTA- University of Amsterdam and VU University Amsterdam, The Netherlands

8:05 pm **Late Consequences of Prenatal Vitamin D Deficiency**
Kassim Javaid, MBBS, Ph.D.
Nuffield Orthopaedic Centre - University of Oxford ,UK

8:35 pm **24-hydroxylase Polymorphism as a Possible Explanation for the Higher Level of 1,25(OH)2-vitamin D in African American Ethnicity**
Shadab Salehpour
Yale University, USA

8:50 pm **The Standing Committee of European Doctors' Statement on: Vitamin D Nutritional Policy in Europe**
Paul Lips, M.D., Ph.D.
VU University Medical Center, The Netherlands
AND
Roger Bouillon, M.D., Ph.D
K.U.Leuven University, Belgium

9:15 pm **Concluding Remarks**
Anthony Norman, Ph.D.
University of California, USA

Disclosures: Thomas J. Wang has done consulting for Diasorin, Kassim Javaid does not have anything to disclose, Paul Lips has received research grants and done consulting for Merck & Co., Roger Bouillon does not have anything to disclose, Anthony Norman does not have anything to disclose

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MUSCLE AND BONE WORKING GROUP

The Muscle Strength - Bone Strength Relationship in the Young and Old

Ticket Required

7:15 pm - 9:45 pm **South Building: Room 701A**

Chair
Christopher L. Gordon, Ph.D.
McMaster University, Canada

7:15 pm **Box Dinner**

7:25 pm **Opening Remarks**

7:30 pm **Vertebral Fractures, Tibial Muscle-Bone Structural Changes and Muscle Hypofunction in Children with Crohn's Disease**
Leanne Ward, M.D.
Children's Hospital of Eastern Ontario, Canada

7:50 pm **Bone Deficit in Boys with Hemophilia: Is Sarcopenia the Clue?**
Ondrej Soucek, M.D.
University Hospital Motol, Czech Republic

8:10 pm **Assessment of Muscle Function in Children with Juvenile Idiopathic Arthritis**
Johannes Roth, M.D.
Children's Hospital of Eastern Ontario, Canada

8:30 pm **Calf Muscle Density in Stroke Survivors may Decrease with Prolonged Disability and is Associated with Balance and Extensor Muscle Strength but not Bone Status**
Norma MacIntyre, Ph.D.
McMaster University, Canada

8:50 pm **The Influence of Adult Obesity on Trabecular and Cortical Bone Density and Geometry**
Deeptha Sukumar
Rutgers University, USA

9:15 pm Closing Remarks

Disclosures: Dr. Leanne Ward – Nothing to disclose; Dr. Ondrej Soucek – Nothing to disclose; Dr. Johannes Roth – Nothing to disclose; Dr. Norma MacIntyre – Nothing to disclose; Deeptha Sukumar – Nothing to disclose; Dr Christopher Gordon – Orthometrix Inc., 5.

ADULT BONE AND MINERAL WORKING GROUP

Ticket Required

7:15 pm - 9:45 pm **South Building: Room 803**

Co-Chairs:
Pauline Camacho, M.D., Loyola University of Chicago, USA
Fergus McKiernan, M.D., Marshfield Clinic, USA
Joseph Shaker, M.D., Medical College of Wisconsin, USA

7:15 pm Registration

7:30 pm Historical Vignette
Frederick Kaplan, M.D.
University of Pennsylvania, USA

7:45 pm Bilateral Atypical Subtrochanteric Femoral Fractures in Patients on Chronic Bisphosphonate Therapy
Esther Lee, Chaaya Makjija, and Sunil Wimalawansa
UMDNJ, Robert Wood Johnson Medical School, USA

7:55 pm Cortical Thickening and Fissure Fracture of Outer Cortex of Femoral Mid Shaft: An Early manifestation of SSBT Following Long-term Bisphosphonate Therapy?
S. Qiu, L.F. Rojas, R. Greenberg, M. Samuel, T. Guthrie, D. Sudhaker Rao,
Henry Ford Hospital, USA

8:05 pm Atypical Subtrochanteric Femoral Shaft Fractures Detected by Dual X-ray Absorptiometry
McKiernan FE, Cournoyer S, Hocking J,
Center for Bone Disease, Marshfield Clinic, USA

8:15 pm Postmenopausal Female with Pycnodysostosis and Bilateral Mid-femoral Fractures
Clarke BL
Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, and Nutrition, andMayo Clinic College of Medicine, USA

8:25 pm Total Parathyroidectomy for Tumor Induced Hypophosphatemic Osteomalacia: A Novel Curative Surgical Therapy?
Sanjay Bhadada[1], Gary B. Talpos and D. Sudhaker Rao[2]
Postgraduate Institute of Medical Education & Research[1], Henry FordHospital[2] India[1], USA[2]

8:35 pm Treatment With Teriparatide of a Persisting Metatarsal Stress Fracture in a Woman with Hypophosphatasia
Irinel Stanciu[1] ,Boise, ID, Steven Mumm, Michael P. Whyte[2],Joseph L. Shaker[3,]
Idaho Endocrinology[1]; Washington University School ofMedicine[2], MedicalCollege of Wisconsin[3]

8:45 pm A Case Report of PTHrP Mediated Hypercalcemia during Pregnancy
AL Carrelli, G Page-Wilson, TJ Reid, SJ Silverberg,
Columbia University College of Physicians & Surgeons, USA

8:55 pm Primary Hyperparathyroidism and Severe Hypocalciuria in a Patient with Three Homozygous Mutations of the CASR Gene
Pauline Camacho, M.D., Monica Komorowski, M.D. and Steven Dejong, M.D.,
Loyola University Medical Center, USA

9:05 pm Fluorosis Associated with Chronic Voriconazole Therapy
Robert A. Wermers, M.D.[1], Kay Cooper, M.D., Gary M. Whitford Ph.D., D.M.D.[2,] Raymund R. Razonable, M.D.[3,4], Paul J. Deziel, P.A.-C.[5], andThomas Moyer, Ph.D.[6]
[1]Department of Internal Medicine and the Divisionof Endocrinology, Diabetes, Nutrition,

and Metabolism, Mayo College ofMedicine, Mayo Clinic, [2]Department of Radiology, Mayo College of Medicine, Mayo Clinic, USA.[3]School of Dentistry Medical College ofGeorgia, USA.[4]Department of Internal Medicine and the Division ofInfectious Diseases, MayoCollege of Medicine, Mayo Clinic, USA.[5]William J von Liebig Transplant Center, Mayo Clinic, USA [6]Department of Laboratory Medicine, Mayo College of Medicine, MayoClinic, USA

9:15 pm **Presentation of Boy Frame Award for Clinical Excellence in the Field of Bone and Mineral Research**

Disclosure: Frederick Kaplan has nothing to disclose, Sunil Wimalawansa has nothing to disclose, Sudhaker Rao has nothing to disclose, McKiernan FE has received consulting fees from Amgen, Bart L Clarke does not have any relationships to disclose, Joseph L. Shaker has nothing to disclose; Irinel Stanciu had nothing to disclose, Angela L Carrelli has nothing to disclose, Pauline Camacho, MD has received research grants from Eli- Lilly and Procter & Gamble Pharmaceuticals, Inc.. Monica Komorowski has nothing to disclose, Robert A. Wermer has nothing to disclose

WORKING GROUP ON SYSTEMS-BASED APPROACHES TO FRACTURE SECONDARY PREVENTION

3rd Annual Meeting: Effecting Strategies for Systematic Prevention of Secondary Fractures: How & Why?

Supported by an educational grant from Novartis Pharma AG
Ticket Required

7:15 pm - 10:00 pm **South Building: Room 714AB**

Chairman:
Prof J Eisman, AO, MBBS, Ph.D,
Garvan Institute& University of New South Wales & St Vincent's Hospital, Australia

7:15 pm **A Review of the Literature Describing Services for Systematic Delivery of Post-fracture Assessment & Treatment for Fracture Secondary Prevention**
Prof Earl Bogoch, M.D., FRCSC
University of Toronto & St Michael's Hospital, Canada

7:45 pm **10 Year Outcomes of the Fracture Liaison Service**
Alastair R McLellan, MD,FRCP
Western Infirmary, UK

8:15 pm **UK Department of Health Falls & Prevention Programme — Shaping National Policy**
Paul Mitchell, BSc
University of Derby, UK

8:45 pm **A Step by Step Guide to Implementing Services for Post-fracture Assessment & Treatment for Fracture Secondary Prevention in the USA**
Richard Dell, M.D.
Kaiser Healthy Bones Program, USA

9:15 pm **Discussion of Future Opportunities to Collaborate to Promote more Widespread Adoption of Strategic Approaches to Fracture Secondary Prevention**

Presentations of Submitted Abstracts

10:00 pm **Close of meeting**

Disclosures: Earl Bogoch, Research grants and unpaid consultant from Alliance for Better Bone Health, Non-remunerative position's with the International OsteoporosisFoundation, Osteoporosis Canada, Fragilty Fracture Network, and St. Michaels Hospital, Toronto; Alastair R McLellan, Speakers bureau with Novartis ; Paul Mitchell, Consulting for Novartis, Roche, and MSD-Asia, Part of Advisory committtee for ProStrakan and Daiichi Sankyo UK ltd, Part of speakers bureau for Shire.

INDUSTRY-SUPPORTED SYMPOSIUM: TRANSLATING OSTEOPOROSIS RESEARCH TO ENDURING PRACTICE CHANGE

Sponsored by Med-IQ

Supported by an educational grant from sanofi-aventis U.S. and Warner Chilcott

7:15 pm - 9:45 pm **Fairmont Royal York Hotel: Canadian Ballroom**

Faculty

Chair:
Michael R. McClung, M.D., FACE, FACP
Oregon Health Sciences University, Portland, OR

Panel:
John P. Bilezikian, M.D.
Columbia University, New York, NY

Susan L. Greenspan, M.D.
University of Pittsburgh, Pittsburgh, PA

Suzanne Jan de Beur, M.D.
Johns Hopkins University School of Medicine, Baltimore, MD

Program

7:15 pm - 7:45 pm	**Registration and dinner**
7:35 pm - 7:45 pm	**Opening remarks**
7:45 pm - 8:10 pm	Case 1: Managing osteoporosis- recognizing the risk and individualizing treatment based on patient characteristics in post-menopausal high risk women Case presentation with audience discussion-10 minutes Faculty panel debate-15 minutes
8:10 pm - 8:35 pm	Case 2: Managing osteoporosis - recognizing the risk and individualizing treatment decisions in patients with secondary osteoporosis Case presentation with audience discussion-10 minutes Faculty panel debate-15 minutes
8:35 pm - 9:00 pm	Case 3: Managing osteoporosis - recognizing the risk and making individualized treatment decisions for at-risk men Case presentation with audience discussion-10 minutes Faculty panel debate-15 minutes
9:00 pm - 9:25 pm	Case 4: Managing osteoporosis - using patient characteristics to make treatment decisions in challenging cases Case presentation with audience discussion-10 minutes Faculty panel debate-15 minutes
9:25 pm - 9:45 pm	Case 5: Patient monitoring and managing 'treatment failure'

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Michael R. McClung, M.D., FACE, FACP - Consulting fees/advisory boards: Amgen, Eli Lilly and Company, Merck & Co., Inc., Novartis Pharmaceuticals, Procter & Gamble Pharmaceuticals; Fees received for promotional/non-CME activities: Amgen, Eli Lilly and Company, Novartis Pharmaceuticals, sanofi-aventis U.S; Contracted research: Amgen, Eli Lilly and Company, Merck & Co., Inc., Novartis Pharmaceuticals, Takeda Pharmaceuticals North America

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Suzanne Jan de Beur, M.D. has indicated no real or apparent conflicts.

The contributors (Sara Miller, MS) and the other employees of Med-IQ have no financial relationships to disclose.

Monday, October 18, 2010

Day-At-A-Glance

Time/Event/Location — **All locations in the Metro Toronto Convention Centre/South Building**

7:30 am - 5:00 pm 203
Registration Open
South Building: Level 600

8:00 am - 4:30 pm 203
Posters Open
South Building: Hall E

8:00 am - 9:30 am 203
Plenary Symposium III - The Periosteum: An Organizer for Bone Formation and Regeneration
South Building: Hall G

9:30 am - 9:35 am 203
Presentation of the ASBMR Paula Stern Achievement Award
South Building: Hall G

9:30 am - 4:30 pm 203
Exhibits Open
South Building: Hall E

9:35 am - 10:00 am 203
Coffee Break
South Building: Hall E

10:00 am - 11:30 am 204
Concurrent Oral Session 25: Osteoblasts: Differentiation and Function
South Building: Hall F

10:00 am - 11:30 am 204
Concurrent Oral Session 26: Bone and Cartilage: Disorders of Bones and Joints
South Building: Room 718AB

10:00 am - 11:30 am 205
Concurrent Oral Session 27: New Roles for Calcium and Phosphate Regulating Hormones
South Building: Room 801AB

10:00 am - 11:30 am 206
Concurrent Oral Session 28: Vitamin D - Translational Studies
South Building: Room 716AB

10:00 am - 11:30 am 207
Concurrent Oral Session 29: Osteoporosis Treatment Preclinical Studies: Exploring Mechanisms of Bone Formation
South Building: Hall G

10:00 am - 11:30 am 208
Concurrent Oral Session 30: Bone Acquisition and Pediatric Bone Disease: Bone Development During Growth
South Building: Room 714AB

11:30 am - 1:30 pm 210
Poster Session III & Poster Tours
South Building: Hall E

1:30 pm - 2:30 pm 268
Meet-the-Professor Sessions
South Building: Rooms 703-712

1:30 pm - 2:30 pm 269
State-of-the-Art Lecture - Connections Between LRP5, Serotonin and the Skeleton
South Building: Hall F

1:30 pm - 2:30 pm 269
Clinical Roundtable/Case Conference: Secondary Causes of Osteoporosis
South Building: Hall G

2:45 pm - 4:15 pm 270
Concurrent Oral Session 31: Bone Cartilage: Matrix Formation and Mineralization
South Building: Room 801AB

2:45 pm - 4:15 pm 271
Concurrent Oral Session 32: Steroid Hormones and Receptors
South Building: Room 716AB

2:45 pm - 4:15 pm 272
Concurrent Oral Session 33: Bone and Cartilage: Mechanisms to Preserve Skeletal Homeostasis
South Building: Room 718AB

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Concurrent Oral Session 34: Osteoporosis Epidemiology: Fracture Prevention
South Building: Hall F

2:45 pm - 4:15 pm 274
Concurrent Oral Session 35: Osteoporosis Preclinical Treatment Studies: New Directions and Targets for Therapies
South Building: Hall G

2:45 pm - 4:15 pm 275
Concurrent Oral Session 36: Bone Loss and Fractures in the Young
South Building: Room 714AB

4:00 pm - 4:30 pm 276
Coffee Break
South Building: Hall E

4:30 pm - 6:00 pm 276
Concurrent Oral Session 37: Osteoblasts: Insights on Osteoblast Gene Regulation
South Building: Room 718AB

4:30 pm - 6:00 pm 277
Concurrent Oral Session 38: Disorders of Bone: Mouse Models of Metabolic Bone Disease
South Building: Room 801AB

4:30 pm - 6:00 pm 278
Concurrent Oral Session 39: Cancer and Bone: Solid Tumors and Treatments
South Building: Room 716AB

4:30 pm - 6:00 pm 279
Concurrent Oral Session 40: Bone Biomechanics and Quality
South Building: Room 714AB

4:30 pm - 6:00 pm 279
Concurrent Oral Session 41: Osteoporosis Epidemiology: Translational Genetics of Bone
South Building: Hall F

4:30 pm - 6:00 pm 281
Concurrent Oral Session 42: Osteoporosis Treatment: Pharmacologic and Non-Pharmacologic
South Building: Hall G

6:30 pm - 9:30 pm 283
Bone Strength Working Group
South Building: Room 701A
Ticket Required

7:00 pm - 9:00 pm 284
Molecular Biology and Pathology of Bone Working Group
South Building: Room 803AB
Ticket Required

7:00 pm - 9:00 pm 284
Working Group on Musculoskeletal Rehabilitation in Patients with Osteoporosis
South Building: Room 717AB
Ticket Required

7:30 pm - 9:30 pm 285
The CKD:MBD Working Group
South Building: Room 701B
Ticket Required

REGISTRATION OPEN

7:30 am - 5:00 pm **South Building: Level 600**

POSTERS OPEN

8:00 am - 4:30 pm **South Building: Hall E**

PLENARY SYMPOSIUM III - THE PERIOSTEUM: AN ORGANIZER FOR BONE FORMATION AND REGENERATION

Supported by an educational grant from Eli Lilly and Company

8:00 am - 9:30 am **South Building: Hall G**

Co-Chairs
Louis C. Gerstenfeld, Ph.D.
Boston University School of Medicine, USA
Disclosures: Louis Gerstenfeld, None

Kristine M. Wiren, Ph.D.
Veterans Affairs Medical Center, Oregon Health & Science University Research Ser, USA
Disclosures: Kristine Wiren, None

8:00 am **The Periosteum Coordinates Growth Factor Signals in Skeletal Development**
Rosa A. Serra, Ph.D.
University of Alabama at Birmingham, USA
Disclosures: Rosa Serra, None

8:30 am **The Periosteum Is A Predominant Source of Skeletal Progenitors for Bone Repair**
Celine Colnot, Ph.D.
INSERM, France
Disclosures: Celine Colnot, None

9:00 am **Endochondral Bone Formation During Fracture Healing Is Coordinated by Periosteal Cell Signaling**
Regis J. O'Keefe, M.D.
University of Rochester, USA
Disclosures: Regis O'Keefe, None

PRESENTATION OF THE ASBMR PAULA STERN ACHIEVEMENT AWARD

9:30 am - 9:35 am **South Building: Hall G**

EXHIBITS OPEN

9:30 am - 4:30 pm **South Building: Hall E**

COFFEE BREAK

9:35 am - 10:00 am **South Building: Hall E**

CONCURRENT ORAL SESSION 25: OSTEOBLASTS: DIFFERENTIATION AND FUNCTION

10:00 am - 11:30 am **South Building: Hall F**

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

Wenhan Chang, Ph.D.
University of California, San Francisco, USA
Disclosures: Wenhan Chang, None

10:00 am 1145 **Sirtuin1 (*Sirt1*) Regulates Osteoblastogenesis and Represses Sclerostin**
Einav Cohen-Kfir*[1], Avi Levin[1], Hanna Artsi[1], Eva Abramowitz[1], Agustina D'Urso[2], Lei Zhong[2], Raul Mostoslavsky[2], Rivka Dresner-Pollak[1]. [1]Hadassah-Hebrew University Medical Center, Israel, [2]The Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Einav Cohen-Kfir, None

10:15 am 1146 **Osteoblast-Specific Deletion of Neuropeptide Y1 Receptors Enhances Bone Formation**
Nicola Lee, Ronaldo Enriquez, Amy Nguyen, Kharen Doyle, Amanda Sainsbury, Paul Baldock*, Herbert Herzog. Garvan Institute of Medical Research, Australia
Disclosures: Paul Baldock, None

10:30 am 1147 **2010 YOUNG INVESTIGATOR AWARD**
Hedgehog Signaling Inhibits Differentiation of Osterix+ Progenitors to Mature Osteoblasts
Kyu Sang Joeng*[1], Fanxin Long[2]. [1]Washington University School of Medicine - St. Louis, USA, [2]Washington University School of Medicine, USA
Disclosures: Kyu Sang Joeng, None

10:45 am 1148 **Endogenous G_i Signaling in Osteoblasts Restricts Bone Formation in Adult Mice**
Susan Millard*[1], Alyssa Louie[2], Nathalie Cotte[3], Bruce Conklin[3], Robert Nissenson[4]. [1]UCSF/VA Medical Center/Northern California Institute for Research & Training, USA, [2]VA Medical Center, USA, [3]Gladstone Institutes, USA, [4]University of California, San Francisco, USA
Disclosures: Susan Millard, None

11:00 am 1149 **2010 YOUNG INVESTIGATOR AWARD**
Intermittent PTH of Short Term can Activate Quiescent Lining Cells to Mature Osteoblasts: Unproven Mechanism of the Anabolic Action of Intermittent PTH
Sang Wan Kim*[1], Paola Divieti Pajevic[2], Martin Selig[3], Henry Kronenberg[2]. [1]Seoul National University Boramae Hospital, South Korea, [2]Massachusetts General Hospital, USA, [3]Department of Pathology, Massachusetts General Hospital, USA
Disclosures: Sang Wan Kim, None

11:15 am 1150 **K-ras Generated Signals in Osteoblasts Increase Trabecular Bone Mass by Stimulating Osteoblast Proliferation and Inhibiting Osteoclastogenesis**
Julie Leslie*[1], Ryan Riddle[2], Cassandra R. Zylstra[3], Katia Bruxvoort[3], Thomas Clemens[1], Bart Williams[3]. [1]Johns Hopkins University, USA, [2]Johns Hopkins University School of Medicine, USA, [3]Van Andel Research Institute, USA
Disclosures: Julie Leslie, None

CONCURRENT ORAL SESSION 26: BONE AND CARTILAGE: DISORDERS OF BONES AND JOINTS

10:00 am - 11:30 am **South Building: Room 718AB**

Moderators:
Julie Glowacki, Ph.D.
Brigham and Women's Hospital, USA
Disclosures: Julie Glowacki, None

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

10:00 am 2010 YOUNG INVESTIGATOR AWARD

1151 Targeted Overexpression of ADAMTS-7 in Chondrocytes Induces Chondrodysplasia in "young" Mice and Osteoarthritis-like Phenotype in "aged" Mice

Yongjie Lai*[1], Xiaohui Bai[1], Yuqing Chen[2], Brendan Lee[2], Chuanju Liu[1]. [1]New York University, USA, [2]Baylor College of Medicine, USA

Disclosures: Yongjie Lai, None

10:15 am 2010 SHUN-ICHI HARADA YOUNG INVESTIGATOR AWARD

1152 Mechanisms of Exostosis Formation in Hereditary Multiple Exostoses Syndrome

Julianne Huegel*[1], Christina Mundy[1], Eiki Koyama[2], Yu Yamaguchi[3], Jeffrey Esko[4], Maurizio Pacifici[1]. [1]Thomas Jefferson University, USA, [2]Thomas Jefferson University College of Medicine, USA, [3]Sanford-Burnham Medical Research Institute, USA, [4]University of California, San Diego, USA

Disclosures: Julianne Huegel, None

10:30 am 1153 Schnurri2 Deficiency Increases all of 1,25(OH)2D3, Renal 25-hydroxyvitamin D 1-α Hydroxylase, PTH, FGF23, Serum Calcium and Phosphate in Association with Hypercalcification in Joints

Masashi Nagao*[1], Yoichi Ezura[2], Yoshitomo Saita[3], Kentaro Miyai[1], Ryo Hanyu[1], Tetsuya Nakamoto[1], Hiroaki Hemmi[1], Tadayoshi Hayata[4], Takuya Notomi[5], Shunsuke Ishii[6], Shigeaki Kato[7], Seiji Fukumoto[8], Hisashi Kurosawa[9], Kazuo Kaneko[10], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Juntendo University, Department of Ortopedics, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]GCOE, Tokyo Medical & Dental University, Japan, [6]Laboratory of Molecular Genetics, RIKEN Tsukuba Institute, Japan, [7]University of Tokyo, Japan, [8]University of Tokyo Hospital, Japan, [9]Dept of Orthopedics, Juntendo University, School of Medicine, Japan, [10]Dept of Orthopedics, Juntendo University school of medicine, Japan

Disclosures: Masashi Nagao, None

10:45 am 1154 Proteoglycan-4: A Dynamic Regulator of PTH Actions in Skeletal Anabolism and Arthritic Joints

Chad Novince*[1], Megan Michalski[2], Amy Koh[2], Ben Sinder[2], Jan Berry[2], Kenneth Kozloff[3], Laurie McCauley[1]. [1]University of Michigan, School of Dentistry, USA, [2]University of Michigan, USA, [3]University of Michigan Department of Orthopaedic Surgery, USA

Disclosures: Chad Novince, None

11:00 am 1155 β-Catenin Is A Key Mediator in the Development of Intervertebral Disc Degeneration in Humans and in a β-Catenin Conditional Activation Mouse Model

Bing Shu*[1], Meina Wang[2], Dezhi Tang[2], Baoli Wang[1], Edward Schwarz[2], Paul Rubery[3], Regis O'Keefe[2], Di Chen[1]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA, [3]Medical center, University of Rochester, USA

Disclosures: Bing Shu, None

11:15 am 1156 Expression of BMP2 in Skeletal Progenitor Cells is Required for Bone Fracture Repair

Giuseppe Intini*, Karen Cox, Vicki Rosen. Harvard School of Dental Medicine, USA

Disclosures: Giuseppe Intini, None

CONCURRENT ORAL SESSION 27: NEW ROLES FOR CALCIUM AND PHOSPHATE REGULATING HORMONES

10:00 am - 11:30 am **South Building: Room 801AB**

Moderators:

Murat Bastepe, M.D., Ph.D.
Massachusetts General Hospital, Harvard Medical School, USA
Disclosures: Murat Bastepe, None

Rene St-Arnaud, Ph.D.
Shriners Hospital for Children and McGill University, Canada
Disclosures: Rene St-Arnaud, None

10:00 am 1157 **Dentin Matrix Protein 1 Null Mice, a Model of Human Autosomal Recessive Hypophosphatemic Rickets, Exhibit Decreases in Cardiac, Skeletal, and Vascular Smooth Muscle Function.**
Michael Wacker*[1], Chris Elmore[1], Chad Touchberry[1], Leticia Brotto[2], Neerupma Silswal[1], Nikhil Parelkar[1], Hong Zhao[3], Todd Hall[2], Jon Andresen[4], Jian Feng[5], Marco Brotto[2], Lynda Bonewald[3]. [1]University of Missouri-Kansas City School of Medicine, USA, [2]University of Missouri-Kansas City School of Nursing, USA, [3]University of Missouri-Kansas City School of Dentistry, USA, [4]Universtity of Missouri-Kansas City School of Medicine, USA, [5]Texas A&M Health Science Center, USA
Disclosures: Michael Wacker, None

10:15 am 1158 **Klotho Lacks a Vitamin D Independent Physiological Role in Aging, Bone, and Glucose Homeostasis**
Rene Anour*, Eva Ritter, Reinhold Erben. University of Veterinary Medicine, Austria
Disclosures: Rene Anour, None

10:30 am 1159 **Prevention of Chemotherapy Induced Alopecia with a Novel Parathyroid Hormone Fusion Protein**
Ranjitha Katikaneni*[1], Tulasi Ponnapakkam[1], Osamu Matsushita[2], Joshua Sakon[3], Robert Gensure[1]. [1]Ochsner Clinic Foundation, USA, [2]Kitasato University Medical School, Japan, [3]University of Arkansas, USA
Disclosures: Ranjitha Katikaneni, None

10:45 am 1160 **Calcitonin Regulates Bone Formation by Reducing the Extracelluar Levels of Osteoclast-derived Sphingosine 1-phosphate**
Thorsten Schinke*[1], Johannes Keller[2], Philip Catala-Lehnen[2], Antje K. Huebner[2], Robert P. Marshall[2], Jerold Chun[3], Michael Amling[2]. [1]University Hospital Hamburg, Eppendorf, Germany, [2]University Medical Center Hamburg-Eppendorf, Germany, [3]Scripps Research Institute, USA
Disclosures: Thorsten Schinke, None

11:00 am 1161 **2010 YOUNG INVESTIGATOR AWARD**
FGF-23 Suppresses Renal 1,25$(OH)_2$D Production and Phosphate Reabsorption via MAP Kinase Activation in *Hyp* Mice
Daniel Ranch*[1], Martin Y.H. Zhang[1], Anthony Portale[1], Farzana Perwad[2]. [1]University of California, San Francisco, USA, [2]University of California San Francisco, USA
Disclosures: Daniel Ranch, None

11:15 am 1162 **2010 PRESIDENT'S AWARD**
The RANKL Distal Control Region is Required for Cancellous Bone Loss Due to Dietary Calcium Deficiency but not Lactation
Melda Onal*[1], Carlo Galli[2], Priscilla Cazer[1], Jinhu Xiong[1], Xinrong Chen[1], Robert Weinstein[1], Stavros Manolagas[1], Charles O'Brien[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Università Degli Studi Di Parma, Italy
Disclosures: Melda Onal, None

CONCURRENT ORAL SESSION 28: VITAMIN D - TRANSLATIONAL STUDIES

10:00 am - 11:30 am **South Building: Room 716AB**

Moderators:
Ghada El-Hajj Fuleihan, M.D., MPH
American University of Beirut-Medical Center, Lebanon
Disclosures: Ghada El-Hajj Fuleihan, None

John M. Pettifor, MBBCh, Ph.D.
Baragwanath Hospital, Republic of South Africa
Disclosures: John Pettifor, None

10:00 am 1163 **Risk of Cardiovascular Events with Calcium/Vitamin D - a Re-Analysis of the Women's Health Initiative**
Mark Bolland, Andrew Grey, Gregory Gamble, Ian Reid*. University of Auckland, New Zealand
Disclosures: Ian Reid, None

10:15 am 1164 **The Efficacy of High-Dose Oral Vitamin D_3 Administered Once a Year: A Randomised, Double-Blind, Placebo-Controlled trial (Vital D Study) for Falls and Fractures in Older Women**

Kerrie Sanders[1], Amanda L Stuart[2], Elizabeth J Williamson[2], Julie A Simpson[2], Mark Kotowicz[2], Geoffrey Nicholson*[1]. [1]University of Melbourne, Australia, [2]The University of Melbourne, Australia

Disclosures: Geoffrey Nicholson, None

10:30 am 1165 **A higher dose of vitamin D is required for hip and non-vertebral fracture prevention: A pooled participant-based meta-analysis of 11 double-blind RCTs**

Heike Bischoff-Ferrari*[1], Endel J Orav[2], Walter Willett[2], Pierre Meunier[3], Ronan Lyons[4], Paul Lips[5], Michael Pfeifer[6], Leon Flicker[7], John Wark[8], Rebecca Jackson[9], Haakon Meyer[10], Jane Cauley[11], Hannes B Staehelin[12], Jana Henschkowski[13], Robert Theiler[14], Bess Dawson-Hughes[15]. [1]University of Zurich, Switzerland, [2]Harvard School of Public Health, USA, [3]Laennec University, France, [4]Swansea University, United Kingdom, [5]VU University Medical Center, The Netherlands, [6]Medwiss Bad Pyrmont, , [7]University of Western Australia, Australia, [8]Royal Melbourne Hospital, Australia, [9]The Ohio State University, USA, [10]Norwegian Institute of Public Health, Norway, [11]University of Pittsburgh Graduate School of Public Health, USA, [12]University of Basel, Switzerland, [13]University Hospital Zurich, Switzerland, [14]Triemli City Hospital, Switzerland, [15]Tufts University, USA

Disclosures: Heike Bischoff-Ferrari, None

10:45 am 1166 **Ergocalciferol and Cholecalciferol Induce Comparable Increases in Vitamin D Binding Protein and Free 25-hydroxy-itamin D with no Significant Change in Free 1,25-Dihydroxyvitamin D in Hip Fracture Patients.**

Gerard Chew[1], Charles Inderjeeth[2], Paul Glendenning*[3], Mario Taranto[4], Charles Inderjeeth[2]. [1]School of Medicine & Pharmacology, Australia, [2]Sir Charles Gardner Hospital, Australia, [3]Royal Perth Hospital, Australia, [4]PathWest, Royal Perth Hospital, Australia

Disclosures: Paul Glendenning, None

11:00 am 1167 **2010 YOUNG INVESTIGATOR AWARD**
CYP2R1 is a Potential Candidate for Predicting Serum 25(OH)D Variation as Suggested by Genetic and Epigenetic Studies

Yu Zhou*[1], Fengxiao Bu[1], Joan Lappe[2], Laura Armas[1], Robert Recker[2], Lanjuan Zhao[3]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA, [3]Creighton University Medical Center, USA

Disclosures: Yu Zhou, None

11:15 am 1168 **Effects of Vitamin D Deficiency and High Parathyroid Hormone on Mortality Risk in Elderly Men**

Steven Frost[1], Tuan Nguyen[2], Dana Bliuc[2], John Eisman[2], Jacqueline Center[2], Nguyen Nguyen*[2]. [1]University of Western Sydney, Australia, [2]Garvan Institute of Medical Research, Australia

Disclosures: Nguyen Nguyen, None

CONCURRENT ORAL SESSION 29: OSTEOPOROSIS TREATMENT PRECLINICAL STUDIES: EXPLORING MECHANISMS OF BONE FORMATION

10:00 am - 11:30 am **South Building: Hall G**

Moderators:

Lorraine A. Fitzpatrick, M.D.
GlaxoSmithKline, USA
Disclosures: Lorraine Fitzpatrick, None

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

10:00 am 1169 **Intermittent PTH Treatment Decreases Circulating Sclerostin Levels in Postmenopausal Women**
Matthew Drake*[1], Bhuma Srinivasan[1], Ulrike Moedder[1], James Peterson[1], Louise McCready[2], Byron Riggs[3], Denise Dwyer[4], Marina Stolina[4], Paul Kostenuik[5], Sundeep Khosla[6]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA, [3]Mayo Clinic College of Medicine, Rochester, MN, USA, [4]Amgen Inc, USA, [5]Amgen, Inc., USA, [6]College of Medicine, Mayo Clinic, USA
Disclosures: Matthew Drake, None

10:15 am 1170 **Absence of Gut Microbiota Leads to Increased Bone Mass Associated with Low Serum Serotonin Levels**
Klara Sjögren*[1], Cecilia Engdahl[2], Marie Lagerquist[2], Fredrik Bäckhed[3], Claes Ohlsson[1]. [1]Centre for Bone & Arthritis Research, GU, Sauhlgrenska Academy, Medicine, Sweden, [2]Centre for Bone & Arthritis Researc, GU, Sauhlgrenska Academy, Medicine, Sweden, [3]The Wallenberg Laboratory, GU, Sahlgrenska Academy, Medicine, Sweden
Disclosures: Klara Sjögren, None

10:30 am 1171 **Comparing the Effects of Odanacatib versus Alendronate on Bone Turnover of Transilial Biopsy in Adult Ovariectomized Rhesus Monkeys**
Charles Chen*[1], Brenda Pennypacker[2], David Gilberto[3], Le Thi Duong[2]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA, [3]Merck & Co. Inc., USA
Disclosures: Charles Chen, None

10:45 am 1172 **Inhibition of Active TGF-β1 Release by Anti-Resorptive Drugs Blunts PTH Anabolic Effects on Bone Remodeling**
Xiangwei Wu*[1], Lijuan Pang[2], Weiqi Lei[2], William Lu[3], Jun Li[2], Zhaoyang Li[3], Frank Frassica[2], Xueling Chen[2], Mei Wan[1], Xu Cao[2]. [1]Johns Hopkins University School of Medicine, USA, [2]Johns Hopkins University, USA, [3]University of Hong Kong, China
Disclosures: Xiangwei Wu, None

11:00 am 1173 **Selective knock out the membrane-bound Colony Stimulating Factor-1 (mCSF1) results in an increased anabolic response to PTH in mice**
Gang-Qing Yao*[1], Jian Jun Wu[2], Karl Insogna[1]. [1]Yale University School of Medicine, USA, [2]Yale University, USA
Disclosures: Gang-Qing Yao, None

11:15 am 1174 **Tissue Level Mechanism of Increased Bone Formation by Sclerostin Antibody in Male Cynomolgus Monkeys**
MS Ominsky*, Q-T Niu, P Kurimoto, HZ Ke. Amgen Inc, USA
Disclosures: MS Ominsky, Amgen Inc., 3; Amgen Inc., 1

CONCURRENT ORAL SESSION 30: BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE DEVELOPMENT DURING GROWTH

10:00 am - 11:30 am **South Building: Room 714AB**

Moderators:
Catherine M. Gordon, M.D.
Children's Hospital Boston and Harvard Medical School, USA
Disclosures: Catherine Gordon, None

Heather A. McKay, Ph.D.
University of British Columbia, Canada
Disclosures: Heather McKay, None

10:00 am 1175 **The Impact of Growth and Development on Bone Mineral Accretion of the Total Body (Less Head) and Lumbar Spine During Childhood and Adolescence; A Report from the Bone Mineral Density in Childhood Study Group**
Babette Zemel*[1], Heidi Kalkwarf[2], Andrea Kelly[3], Joan Lappe[4], Mary B. Leonard[3], Struan Grant[3], Soroosh Mahboubi[3], Margaret Frederick[5], Sharon Oberfield[6], John Shepherd[7], Karen Winer[8]. [1]Children's Hospital of Philadelphia, USA, [2]Cincinnati Children's Hospital Medical Center, USA, [3]The Children's Hospital of Philadelphia, USA, [4]Creighton University, USA, [5]Clinical Trials & Survey Corporation, USA, [6]Columbia University Medical Center, USA, [7]University of California, San Francisco, USA, [8]NICHD, USA
Disclosures: Babette Zemel, None

10:15 am 1176 **Secular Trend for Earlier Skeletal Maturation in US Children**
Dana Duren*[1], Ramzi Nahhas[1], Richard Sherwood[2], Miryoung Lee[3], Audrey Choh[1], Bradford Towne[1], Stefan Czerwinski[1], Roger Siervogel[3], Cameron Chumlea[1]. [1]Wright State University, USA, [2]Lifespan Health Research Center, Wright State University, USA, [3]Wright State University Boonshoft School of Medicine, USA
Disclosures: Dana Duren, None

10:30 am 1177 **Predictors of Skeletal Calcium Accretion in Adolescent Boys and Girls**
Kathleen Hill*[1], Berdine Martin[2], Linda McCabe[2], George McCabe[2], Connie Weaver[2]. [1]Indiana University School of Medicine, USA, [2]Purdue University, USA
Disclosures: Kathleen Hill, None

10:45 am 1178 **Gender Differences in Circulating Sclerostin Levels are Established During Puberty and Correlate with Cortical Porosity**
Salman Kirmani*[1], Ulrike Moedder[2], Kelley Hoey[1], James Peterson[1], Louise McCready[1], Atkinson Elizabeth[1], Shreyasee Amin[1], L. Joseph Melton[1], Byron Riggs[3], Ralph Müller[4], Sundeep Khosla[5]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Clinic College of Medicine, Rochester, MN, USA, [4]ETH Zurich, Switzerland, [5]College of Medicine, Mayo Clinic, USA
Disclosures: Salman Kirmani, None

11:00 am 1179 **Age At Onset Of Puberty Predicts Bone Mass In Young Adulthood**
Vicente Gilsanz*[1], James Chalfant[2], Heidi Kalkwarf[3], Babette Zemel[4], Joan Lappe[5], Sharon Oberfield[6], John Shepherd[7], Thomas Hangartner[8], Margaret Frederick[9], Xiangke Huang[9], Soroosh Mahboubi[10], Jean-Claude Desmangles[5], Tishya Wren[2], Karen Winer[11]. [1]Children's Hospital of Los Angeles, USA, [2]Childrens Hospital Los Angeles, USA, [3]Cincinnati Children's Hospital Medical Center, USA, [4]Children's Hospital of Philadelphia, USA, [5]Creighton University Osteoporosis Research Center, USA, [6]Columbia University Medical Center, USA, [7]University of California, San Francisco, USA, [8]Wright State University, USA, [9]Clinical Trials & Surveys Corp., USA, [10]Hand Radiograph Core Laboratory, USA, [11]National Institutes of Health, NICHD, USA
Disclosures: Vicente Gilsanz, None

11:15 am 1180 **The Relationship Between Excess Adiposity and Bone Strength During Growth**
Natalie Glass*, James Torner, Kathleen Janz, Elena Letuchy, Trudy Burns, Julie Gilmore, Barbara Broffitt, Steven Levy. University of Iowa, USA
Disclosures: Natalie Glass, None

POSTER SESSION III & POSTER TOURS*

11:30 am - 1:30 pm **South Building: Hall E**

***Poster Tours will begin at the ASBMR Networking Center at 12:00 pm**

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

MO0001 **Characterizing Cortical Bone Growth Rate Variability of Continuously Accreting Human Primary Lamellar Bone**
BIN HU*[1], Santiago Gomez[2], Yusuf Juwayeyi[3], Igor Smolyar[4], Timothy Bromage[1]. [1]New York University College of Dentistry, USA, [2]Cadiz University, Spain, [3]Department of Anthropology, Long Island University, USA, [4]Ocean Climate Laboratory, National Oceanic & Atmospheric Administration, USA
Disclosures: BIN HU, None

MO0002 **Do FGF23 Levels Change in Puberty in Concert with Markers of Bone Turnover?**
Craig Langman, Heather Price*. Children's Memorial Hospital, USA
Disclosures: Heather Price, None

MO0003 **Evaluation of Bone Mass Adjustment By Body Size Techniques In Paediatric Population With Pathological Conditions**
Elena Bonel[1], Silvana Di Gregorio*[1], Miguel Garcia[1], Luis Del Rio[2]. [1]Cetir Centre Medic, Spain, [2]Cetir Centre Medical, Spain
Disclosures: Silvana Di Gregorio, None

MO0004 **Maturation of Parathyroid Hormone Regulation by Serum Ionized Calcium in the First Year of Life**
Atul Sharma*, Sherry Agellon, Sina Gallo, Catherine Vanstone, Hope Weiler, Celia Rodd. McGill University, Canada
Disclosures: Atul Sharma, None

MO0005 **Normative Bone Mass for Healthy, Breast fed Infants Followed Longitudinally During the First Year of Life**
Sina Gallo*, Celia Rodd, Hope Weiler, Catherine A Vanstone, Sherry Agellon. McGill University, Canada
Disclosures: Sina Gallo, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE ACQUISITION

MO0006 **Adolescent Dietary Intake is Associated with Adult Bone Measurements**
Julie Eichenberger Gilmore*[1], Elena Letuchy[2], Trudy Burns[2], Kathleen Janz[2], James Torner[2], Linda Snetselaar[2], Steven Levy[2]. [1]Univ of Iowa, Institute for Clinical & Translational Science, USA, [2]University of Iowa, USA
Disclosures: Julie Eichenberger Gilmore, None

MO0007 **Breastfeeding Duration is a Positive Independent Predictor of Trabecular and Cortical Bone Parameters at Age 21 Years**
Emma Laing*[1], Norman Pollock[2], Ashley Ferira[3], Ruth Taylor[1], Paul Bernard[2], Richard Lewis[1]. [1]The University of Georgia, USA, [2]Medical College of Georgia, USA, [3]University of Georgia, USA
Disclosures: Emma Laing, None

MO0008 **Changes in Leptin, Adiponectin, and 25-Hydroxyvitamin D as Determinants of Bone Geometry, Mass, and Density in Late-Adolescent Females: A 3-Year Study**
Ashley Ferira*[1], Norman Pollock[2], Emma Laing[3], Ruth Taylor[3], Daniel Hall[3], Paul Bernard[2], Dorothy Hausman[3], Clifton Baile[1], Mark Hamrick[2], Barbara Gower[4], Richard Lewis[3]. [1]University of Georgia, USA, [2]Medical College of Georgia, USA, [3]The University of Georgia, USA, [4]University of Alabama, USA
Disclosures: Ashley Ferira, None

MO0009 **Effects of Maturational Timing on the Accrual of Adult Bone Mineral Content**
Stefan Jackowski*, Marta Erlandson, Robert L. Mirwald, Robert Faulkner, Donald A Bailey, Adam Baxter-Jones. University of Saskatchewan, Canada
Disclosures: Stefan Jackowski, None

MO0010 **Is Preterm Birth Detrimental to Adolescent Bone Mineral Accrual**
Marta Erlandson*[1], Lauren Sherar[1], Adam Baxter-Jones[1], Stefan Jackowski[1], Heidi Ludwig-Auser[2], Chris Arnold[2], Koravangattu Sankaran[1]. [1]University of Saskatchewan, Canada, [2]Saskatoon Health Region, Canada
Disclosures: Marta Erlandson, None

MO0011 **Lower Bone Mass in Prepubertal Overweight Children with Pre-Diabetes**
Norman Pollock*[1], Paul Bernard[1], Barbara Gower[2], Karl Wenger[3], Sudipta Misra[4], Jerry Allison[5], Haidong Zhu[4], Catherine Davis[4]. [1]Medical College of Georgia, USA, [2]Department of Nutrition Sciences, University of Alabama-Birmingham, USA, [3]Department of Orthopedic Surgery, Medical College of Georgia, USA, [4]Department of Pediatrics, Medical College of Georgia, USA, [5]Department of Radiology, Medical College of Georgia, USA
Disclosures: Norman Pollock, None

MO0012 **Muscle Parameters are Related to Bone Strength and Microstructure in Children: A High-resolution pQCT Study**
Sarah Moore*[1], Danmei Liu[1], Melonie Burrows[1], Douglas Race[2], Deetria Egeli[1], Heather McKay[1]. [1]University of British Columbia, Canada, [2]University of Victoria, Canada
Disclosures: Sarah Moore, None

MO0013 **Reduced Mechanical Loading Results In Deficits In Cortical But Not Trabecular Bone Structure: A Study of Children With Legg-Calve Perthes Disease**
Sandra Iuliano-Burns*[1], Skye Macleod[2], Ian Torode[3], Ali Ghasem-Zadeh[4], Roger Zebaze[5], Ego Seeman[1]. [1]Austin Health, University of Melbourne, Australia, [2]University of Melbourne, Australia, [3]Royal Children's Hopsital, Australia, [4]Austin Health, University of Melbourne, Aus, [5]Austin Health, Australia
Disclosures: Sandra Iuliano-Burns, None

MO0014 **Underdeveloped Trabecular Bone Microarchitecture is Related to Suppressed Bone Formation in Nonambulatory Children with Cerebral Palsy**
Christopher Modlesky*[1], Mary Barbe[2], Deepti Bajaj[1], Freeman Miller[3]. [1]University of Delaware, USA, [2]Temple University School of Medicine, USA, [3]AI duPont Hospital for Children, USA
Disclosures: Christopher Modlesky, None

BONE ACQUISITION AND PEDIATRIC BONE DISEASE: BONE LOSS

MO0015 **Osteoclast Increases in the Brtl Mouse Model for Osteogenesis Imperfecta Occur through Marrow Mesenchymal Stromal Cell Dependent and Independent Mechanisms**
Patricia Collin-Osdoby*[1], Linda Rothe[1], Matthew Kwong[1], Brianna Frigerio[1], Leanna Morinishi[1], Wayne A Cabral[2], Philip Osdoby[3], Joan C Marini[2]. [1]Washington University, USA, [2]NIH, USA, [3]Washington University in St. Louis, USA
Disclosures: Patricia Collin-Osdoby, None

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

MO0016 **Anatomical Distribution of Vertebral Fractures in the Pediatric Population**
Kerry Siminoski*[1], Nathalie Alos[2], Stephanie A. Atkinson[3], David A. Cabral[4], Jacqueline Halton[5], Adam Huber[6], Brian Lentle[4], Paivi M. Miettunen[7], Helen R. Nadel[4], Frank Rauch[8], Celia Rodd[8], Johannes Roth[5], Elizabeth A. Cummings[6], Robert Couch[1], Janusz Feber[5], MaryAnn Matzinger[5], Andy Ni[5], Nazih Shenouda[5], David Stephure[7], Canadian STOPP Consortium[9], Robert Stein[10], Shayne Taback[11], Leanne M. Ward[5], and the Canadian STOPP Consortium[5]. [1]University of Alberta, Canada, [2]Université de Montréal, Canada, [3]McMaster University, Canada, [4]University of British Columbia, Canada, [5]University of Ottawa, Canada, [6]Dalhousie University, Canada, [7]University of Calgary, Canada, [8]McGill University, Canada, [9]University of Otttawa, Canada, [10]University of Western Ontario, Canada, [11]University of Manitoba, Canada
Disclosures: Kerry Siminoski, Amgen, 5

MO0017 **Early Effects of Femoral Head Ischemia on Bone Structure-Function Relationships and Failure Patterns**
Amira Hussein*[1], Harry Kim[2], Elise Morgan[1]. [1]Boston University, USA, [2]Scottish Rite Hospital for Children, USA
Disclosures: Amira Hussein, None

MO0018 **Osteopathia Striata with Cranial Sclerosis: Lessons from the Mutation Spectrum**
Wim Van Hul, Bram Perdu*. University of Antwerp, Belgium
Disclosures: Bram Perdu, None

MO0019 **Prevalent Vertebral Fractures in an Inception Cohort of Children with Glucocorticoid-Treated Illnesses: Relationship with Spine BMD and Comparison of Two Methods for Vertebral Fracture Assessment**
Leanne M. Ward*[1], Nathalie Alos[2], Stephanie A Atkinson[3], David A. Cabral[4], Jacqueline Halton[1], Adam Huber[5], Brian Lentle[4], Paivi Miettunen[6], Helen R. Nadel[4], Frank Rauch[7], Celia Rodd[7], Johannes Roth[1], Elizabeth A. Cummings[5], Robert Couch[8], Janusz Feber[1], MaryAnn Matzinger[1], Andy Ni[1], Nazih Shenouda[1], David Stephure[6], Robert Stein[9], Shayne Taback[10], Kerry Siminoski[8], and the Canadian STOPP Consortium[1]. [1]University of Ottawa, Canada, [2]Université de Montréal, Canada, [3]McMaster University, Canada, [4]University of British Columbia, Canada, [5]Dalhousie University, Canada, [6]University of Calgary, Canada, [7]McGill University, Canada, [8]University of Alberta, Canada, [9]University of Western Ontario, Canada, [10]University of Manitoba, Canada
Disclosures: Leanne M. Ward, None

MO0020 **Proinflammatory Cytokine Expression in Bone Marrow of Colitic Mice and Children with Crohn Disease**
Andrew Draghi[1], Robert Clark[2], Anthony Vella[2], Mack David[3], Leanne Ward[3], Catherine Adams[2], Francisco Sylvester*[4]. [1]Connecticut Children's Medical Center, USA, [2]University of Connecticut Health Center, USA, [3]Children's Hospital of Eastern Ontario, Canada, [4]Connecticut Children's Medical Center, USA
Disclosures: Francisco Sylvester, None

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

MO0021 **Affects Of Allogenic Hematopoietic Stem Cell Transplantation On Bone Density Of Pediatric Patients With Beta Thalassemia Major**
Zohreh Hamidi*[1], Amir Ali Hamidieh[2], Mohammad Reza Mohajeri[3], Leila Nedaeifard[2], Ramin Heshmat[3], Kamran Alimoghaddam[2], Ardeshir Ghavamzadeh[2], Bagher Larijani[3]. [1]Endocrinology & Metabolism Reserach Center of Tehran University of Medical Sci, Iran, [2]Hematology-Oncology & Stem Cell Transplantation Research Center, Tehran University of Medical Sciences, Iran, [3]Endocrinology & Metabolism Research Center of Tehran University of Medical Sciences, Iran
Disclosures: Zohreh Hamidi, None

MO0022 **Do Patients with Osteogenesis Imperfecta Need an Individualized Nutritional Support for Prevention of Bone Fractures**
Carlos Eduardo Andrade Chagas*[1], Barbara Santarosa Emo Peteres[2], Marise Lazaretti Castro[2], Ligia Martini[3]. [1]Nutrition Depatment, School of Public Health, University of Sao Paulo, Brazil, [2]Federal University of Sao Paulo, Brazil, [3]University of São Paulo, Brazil
Disclosures: Carlos Eduardo Andrade Chagas, None

MO0023 **Long Term Outcome in Pediatric Patients with Severe Chronic Non-Bacterial Osteitis Following Intravenous Pamidronate Therapy: Case Series with 9 Patients**
Paivi Miettunen*[1], Xing-Chang Wei[2], Walid Abou Reslan[2], Deepak Kaura[2]. [1]University of Calgary, Faculty of Medicine, Canada, [2]Department of Diagnostic Imaging, Alberta Children's Hospital & University of Calgary, Canada
Disclosures: Paivi Miettunen, None

MO0024 **Short and Long-Term Outcome of Patients With Pseudo-Vitamin D Deficiency Rickets Treated With Calcitriol**
Thomas Edouard*[1], Nathalie Alos[2], Gilles Chabot[3], Francis Glorieux[4], Frank Rauch[5]. [1]CHU Sainte-Justine - Université Montréal, Canada, [2]CHU Sainte Justine, Canada, [3]Hopital Saint Justine, Canada, [4]Shriners Hospital for Children & McGill University, Canada, [5]Shriners Hospital for Children, Canada
Disclosures: Thomas Edouard, None

MO0025 **Vitamin D Treatment in Calcium-deficiency Rickets**
Tom Thacher*[1], Philip Fischer[1], John Pettifor[2]. [1]Mayo Clinic, USA, [2]Baragwanath Hospital, Republic of South Africa
Disclosures: Tom Thacher, None

BONE BIOMECHANICS AND QUALITY: ASSESSMENT OF BONE QUALITY AND STRENGTH

MO0026 **Adaptation to Mechanical Loading during Growth: Lumbar Spine Geometry, Density and Theoretical Strength Assessed by Antero-posterior, Supine Lateral and Paired DXA**
Jodi Dowthwaite*[1], Portia Flowers[2], Karin DeJong[2], Paula Rosenbaum[2], Tamara Scerpella[3]. [1]State University of New York, Upstate Medical University, USA, [2]SUNY Upstate Medical University, USA, [3]State University of New York Upstate Medical University, USA
Disclosures: Jodi Dowthwaite, None

MO0027 **Are Children with Hutchinson-Gilford Progeria Syndrome (HGPS) Truly Osteopenic?**
Ara Nazarian*[1], Brian Snyder[2], Catherine Gordon[3], Leslie Gordon[4], Anita Giobie-Hurder[5], Donna Neuberg[5], Monica Kleinman[6], David Miller[6], Mark Kieran[5]. [1]Beth Israel Deaconess Medical Center, USA, [2]Children's Hospital Boston, Harvard Medical School, USA, [3]Children's Hospital Boston & Harvard Medical School, USA, [4]Brown University, USA, [5]DFCI, USA, [6]Children's Hospital Boston, USA
Disclosures: Ara Nazarian, None

MO0028 **Bone Phenotype in Heterozigous for a Mutation in the *GHRH* Receptor Gene**
Miburge Gois-Jr*[1], Manoel Aguiar-Oliveira[2], Roberto Salvatori[3], Francisco Pereira[4], Carla Oliveira[2], Luiz Oliveira-Neto[2], Rossana Pareira[2], Francisco Paula[1]. [1]School of Medicine of Ribeirão Preto, Brazil, [2]School of Medicine, Federal University, Brazil, [3]The Johns Hopkins University School of Medicine, USA, [4]University of Sao Paulo, School of Medicine of Ribeirao Preto, Brazil
Disclosures: Miburge Gois-Jr, None

MO0029 **Building a Weak Skeleton Relative to Body Size During Growth Increases Fracture Risk in Adults**
Karl Jepsen*[1], G. Felipe Duarte[1], Amanda Antczak[2], Yael Arbel[3], Amir Hadid[3], Ran Yanovich[3], Rachel Evans[4], Charles Negus[5], Daniel Moran[3]. [1]Mount Sinai School of Medicine, USA, [2]US Army Research Institute of Environmental Medicine, USA, [3]Heller Institute of Medical Research, Israel, [4]U.S. Army Research Institute of Environmental Medicine, USA, [5]L-3 Applied Technologies, USA
Disclosures: Karl Jepsen, None

MO0030 **Contribution of Bone Microstructural Characteristics to Mechanical Properties Evaluated at Bone Structural Unit Level**
Yohann Bala*[1], Baptiste Depalle[1], Thierry Douillard[2], Sylvain Meille[2], Hélène Follet[1], Jérôme Chevalier[2], Georges Boivin[1]. [1]INSERM U831, Université de Lyon, France, [2]UMR CNRS 5510, Matériaux Ingénierie et Science, Université de Lyon, France
Disclosures: Yohann Bala, None

MO0031 **Cross-Sectional Circularity: A New Tomographic Variable Validates A Biomechanical Analysis of Human Distal Tibia For Diagnosing Bone Fragility and Selective Trabecular Osteopenia**
Gustavo Roberto Cointry[1], Sara Feldman[1], Pablo Mortarino[1], Ivan Yelin[1], Paola Soledad Reina[1], Joern Rittweger[2], Jose Ferretti*[3], Ricardo Francisco Capozza[1]. [1]Centro de Estudios de Metabolismo Fosfocálcico, UNR, Argentina, [2]Division Space Physiology, Institute of Aerospace Medicine, German Aerospace Center, Germany, [3]National University of Rosario, Argentina
Disclosures: Jose Ferretti, None

MO0032 **Decay of Bone Microarchitecture in Men with Prostate Cancer During the First 12 Months of Androgen Deprivation Therapy**
Emma Hamiton[1], Emily Gianatti[1], Ali Ghasem Zadeh[1], Daryl Lim Joon[2], Damien Bolton[1], Roger Zebase[1], Jeffrey Zajac*[3], Ego Seeman[4], Mathis Grossmann[1]. [1]University of Melbourne, Australia, [2]Austin Health, Australia, [3]Austin & Repatriation Medical Centre, Australia, [4]Austin Health, University of Melbourne, Australia
Disclosures: Jeffrey Zajac, None

MO0033 **Determinants of the Mechanical Behavior of Human Lumbar Vertebrae after Simulated Mild Fracture**
Jean-Paul Roux*[1], Julien Wegrzyn[2], Monique Arlot[1], Stephanie Boutroy[1], Nicolas Vilayphiou[1], Olivier Guyen[3], Pierre D. Delmas[1], Roland Chapurlat[1], Mary Bouxsein[4]. [1]INSERM U831, Université de Lyon, France, [2]INSERM U831, Université de Lyon, Dep. Orthopedic Surgery pavillon T Hopital E. Herriot Lyon, France, [3]Dep. Orthopedic Surgery pavillon T Hopital E. Herriot Lyon, France, [4]Beth Israel Deaconess Medical Center, USA
Disclosures: Jean-Paul Roux, None

MO0034 **In-vivo and Post-mortem Investigation of Reference Point Indentation (RPI) in the Horse**
Davis Brimer[1], Douglas Herthel[2], Michelle Dickinson[3], Dr Alexander Daniel*[2]. [1]Active Life Technologies, USA, [2]Alamo Pintado Equine Medical Center, USA, [3]University of Auckland, New Zealand
Disclosures: Dr Alexander Daniel, None

MO0035 **Is Increased Marrow Adiposity the Cause or the Result of Bone Microstructural Abnormalities in Premenopausal Women with Idiopathic Osteoporosis?**
Adi Cohen*[1], David Dempster[2], Emily Stein[3], Thomas Nickolas[1], Hua Zhou[4], Donald McMahon[3], Ralph Müller[5], Thomas Kohler[5], Joan Lappe[6], Halley Rogers[1], Robert Recker[6], Elizabeth Shane[3]. [1]Columbia University Medical Center, USA, [2]Columbia University, USA, [3]Columbia University College of Physicians & Surgeons, USA, [4]Helen Hayes Hospital, USA, [5]ETH Zurich, Switzerland, [6]Creighton University Osteoporosis Research Center, USA
Disclosures: Adi Cohen, None

MO0036 **Large Inter-Scanner Differences in Measured Proximal Femur Density and Strength Remain After Correction Using QCT Standardization Phantoms**
Dana Carpenter*[1], Isra Saeed[2], Carole Schreck[2], Joyce Keyak[3], Tim Streeper[2], Tamara Harris[4], Thomas Lang[1]. [1]University of California, San Francisco, USA, [2]Department of Radiology & Biomedical Imaging, University of California, USA, [3]University of California, USA, [4]Intramural Research Program, National Institute on Aging, USA
Disclosures: Dana Carpenter, None

MO0037 **Microcrack Detection and Histomorphometric Analysis of Tibial Subchondral Bone Obtained From Patients With Severe Knee Osteoarthritis**
Audray Fortin[1], Natalie Dion*[1], Andy Kin On Wong[2], Justin de Beer[2], Alexandra Papaioannou[3], Georges Boivin[4], Jonathan Adachi[5], Louis-Georges Ste-Marie[6]. [1]CHUM Research Centre, Saint-Luc Hospital, Canada, [2]McMaster University, Canada, [3]Hamilton Health Sciences, Canada, [4]INSERM, France, [5]St. Joseph's Hospital, Canada, [6]Hospital Saint-Luc, CHUM, Canada
Disclosures: Natalie Dion, None

MO0038 **Motion Artifacts in High-Resolution Peripheral Quantitative Computed-Tomography of Wrist and Ankle: Usefulness of Visual Grading to assess Image Quality**
Jean-Baptiste Pialat*[1], Andrew Burghardt[2], Miki Sode[3], Thomas Link[2], Sharmila Majumdar[2]. [1]INSERM U831,Université de Lyon & Hospices Civils de Lyon, France, [2]University of California, San Francisco, USA, [3]University of California San Francisco & Berkeley, USA
Disclosures: Jean-Baptiste Pialat, None

MO0039 **Ovariectomized and Osteomalacic Rats have Altered Tissue Level Mechanical Properties as Assessed by Microindentation**
Benjamin Roberts*[1], Fransisco Araiza[2], Ara Nazarian[1], Mary Bouxsein[1]. [1]Beth Israel Deaconess Medical Center, USA, [2]BIDMC, USA
Disclosures: Benjamin Roberts, None

MO0040 **Precision of Skeletal Parameters at the Distal Radius - the Influence of Resolution Using Peripheral Quantitative Computed Tomography**
Chantal Kawalilak*[1], James D. Johnston[2], Saija A. Kontulainen[3]. [1]College of Kinesiology, Canada, [2]College of Engineering; University of Saskatchewan, Canada, [3]College of Kinesiology; University of Saskatchewan, Canada
Disclosures: Chantal Kawalilak, None

MO0041 **Shape Based Analysis of Vertebra Fracture Risk in Post-menopausal Women**
Alessandro Crimi*[1], Martin Lillholm[2], Paola Pettersen[3], Mads Nielsen[4]. [1]Nordic Bioscience & University of Copenhagen, Denmark, [2]Nordic Bioscience, Denmark, [3]Center for Clinical & Basic Research, Denmark, [4]Diku, University of Copenhagen, Denmark
Disclosures: Alessandro Crimi, Nordic Bioscience, 2

MO0042 **Texture Analysis of Bone Architecture in a Low Estrogen Post Pubertal Model.**
Theodore Raphan[1], Yongqing Xiang[1], Vanessa Yingling*[2]. [1]Brooklyn College (CUNY), USA, [2]Temple University, USA
Disclosures: Vanessa Yingling, None

MO0043 **The Accumulation of Advanced Glycation End Products and Pentosidine in Human Cancellous and Cortical Bone**
Lamya Karim*[1], Grazyna Sroga[1], Simon Tang[2], Deepak Vashishth[1]. [1]Rensselaer Polytechnic Institute, USA, [2]University of California, San Francisco, USA
Disclosures: Lamya Karim, NIH-NIGMS T32GM067545, 2

BONE BIOMECHANICS AND QUALITY: CHANGES IN BONE QUALITY IN UNTREATED AND TREATED OSTEOPOROSIS

MO0044 **A Longitudinal HR-pQCT Study of Alendronate Treatment in Post-Menopausal Women with Low Bone Density: Relations Between Bone Micro-Architecture and μFE Estimates of Bone Strength**
Andrew Burghardt*[1], Galateia Kazakia[1], Miki Sode[2], Anne De Papp[3], Thomas Link[1], Sharmila Majumdar[1]. [1]University of California, San Francisco, USA, [2]University of California San Francisco & Berkeley, USA, [3]Merck & Co., Inc., USA
Disclosures: Andrew Burghardt, None

MO0045 **Evidence For Reduced Mineralization of Bone Matrix in Premenopausal Women With Idiopathic Osteoporosis**
Barbara Misof[1], Adi Cohen[2], Paul Roschger*[3], David Dempster[4], Halley Rogers[2], Emily Stein[5], Hua Zhou[6], Thomas Nickolas[2], Donald McMahon[5], Joan Lappe[7], Robert Recker[7], Klaus Klaushofer[8], Elizabeth Shane[5]. [1]Ludwig Boltzmann Institute of Osteology, Austria, [2]Columbia University Medical Center, USA, [3]L. Boltzmann Institute of Osteology, Austria, [4]Columbia University, USA, [5]Columbia University College of Physicians & Surgeons, USA, [6]Helen Hayes Hospital, USA, [7]Creighton University Osteoporosis Research Center, USA, [8]Hanusch Hospital, Austria
Disclosures: Paul Roschger, None

MO0046 **Femoroplasty Using an Injectable and Resorbable Calcium Phosphate Bisphosphonate Loaded Bone Substitute by Mini-invasive Technique to Prevent Contra-lateral Hip Fracture in the Elderly: A Cadaveric Biomechanical Study**
Sébastien PARRATTE[1], Tünde AMPHOUX*[2], Sami KOLTA[3], Olivier GAGEY[4], Wafa SKALLI[5], Jean-Michel BOULER[6], Jean-Nöel ARGENSON[1]. [1]Orthopedical Surgery Department, Sainte-Marguerite Hospital, France, [2]GRAFTYS, France, [3]Paris-Descartes University, Rheumatology Department, Cochin Hospital, France, [4]Bicêtre University Hospital AP-HP & Paris-Descartes University, Service du don des corps, France, [5]Arts & Metiers ParisTech, CNRS, Laboratory of Biomechanics (LBM), France, [6]Nantes University, Laboratory of dental & osteoarticular engineering, INSERM UMR 791, France
Disclosures: Tünde AMPHOUX, GRAFTYS, 5

BONE BIOMECHANICS AND QUALITY: DISUSE OSTEOPOROSIS

MO0047 **Effect of Dynamic Hydraulic Pressure Stimulation on Mitigation of Bone Loss in a Rat Disuse Model**
Minyi Hu*[1], Jiqi Cheng[1], Suzanne Ferreri[1], Frederick Serra-Hsu[1], Wei Lin[1], Yi-Xian Qin[2]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Minyi Hu, None

MO0048 **Modeling Microgravity-Induced Alterations and Recovery in Metaphyseal and Diaphyseal Bone in Adult Hindlimb Unloaded Rats**
Joshua Davis*, Yasaman Shirazi-Fard, Joshua Kupke, Derrick Morgan, Alyssa McCue, Joseph Thompson, Susan Bloomfield, Harry Hogan. Texas A&M University, USA
Disclosures: Joshua Davis, None

BONE BIOMECHANICS AND QUALITY: MECHANICAL LOADING CELLULAR AND MOLECULAR EFFECTS

MO0049 **Cell Proliferation is Modulated by Oscillatory Accelerations but not by Differences in Fluid Shear**
Gunes Uzer*[1], Ete Chan[1], Elizabeth Fievisohn[1], Suzanne Ferreri[1], Yi-Xian Qin[2], Clinton Rubin[2], Stefan Judex[1]. [1]Stony Brook University, USA, [2]State University of New York at Stony Brook, USA
Disclosures: Gunes Uzer, None

MO0050 **ERK/MAP Kinase-mediated Phosphorylation of Runx2 is Required for Fluid Flow Shear Stress Induction of Osteoblast Gene Expression**
Yan Li*[1], Chunxi Ge[2], Rijad Tayim[3], Jose Rodriguez[4], Steven Goldstein[5], Renny Franceschi[1]. [1]University of Michigan, USA, [2] University of Michigan School of Dentistry, USA, [3]University of Michigan School of Medicine, USA, [4]University of Michigan School of Dentistry, USA, [5]University of Michigan Orthopedic Research Labs, USA
Disclosures: Yan Li, None

MO0051 **Load/Strain Distribution between Ulna and Radius in the Mouse Forearm Compression Loading Model**
Ganesh Thiagarajan*[1], Yunkai Lu[1], Todd Bredbenner[2], Dan Nicolella[3], Mark Johnson[4]. [1]University of Missouri - Kansas City, USA, [2]Southwest Research Institute, USA, [3]South West Research Institute, USA, [4]University of Missouri, Kansas City Dental School, USA
Disclosures: Ganesh Thiagarajan, None

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

MO0052 **Bone and Muscle Adaptation to High Impact Loading in Martial Artist Brick Breakers**
Blair Healey, Joel Lanovaz, Ashley Gerstmar, Saija Kontulainen*. University of Saskatchewan, Canada
Disclosures: Saija Kontulainen, None

MO0053 **Combined Effects of Alendronate and Low-intensity Pulsed Ultrasound in Rat Cancellous Bone Repair**
Hiroshi Aonuma*, Naohisa Miyakoshi, Yuji Kasukawa, Hiroyuki Tsuchie, Yoichi Shimada. Akita University Graduate School of Medicine, Japan
Disclosures: Hiroshi Aonuma, None

MO0054 **Eccentric and Concentric Grip Strength Training on pQCT Derived Bone and Muscle Parameters in the Adult Forearm: A 26 Week Pilot Study.**
Andrew Frank*[1], Phil Chilibeck[2], Jonathan Farthing[3], Saija Kontulainen[4]. [1]The University of Saskatchewan, Canada, [2]University of Saskatchewan College of Kinesiology, Canada, [3]University of Saskatchewan, College of Kinesiology, Canada, [4]University of Saskatchewan, Canada
Disclosures: Andrew Frank, None

MO0055 **Effects of Prolonged Unloading on the 3D Microarchitecture of Rat Cortical Bone**
Hayley Britz*[1], Jarkko Jokihaara[2], Olli Leppanen[3], Teppo Jarvinen[4], David Cooper[1]. [1]University of Saskatchewan, Canada, [2]University of Tampere, Canada, [3]University of Tampere, Finland, [4]University of Tampere/IMT, Finland
Disclosures: Hayley Britz, None

MO0056 **Exercise Loading Does not Account for Polar or Radial Distribution of Cortical Density at Weight-bearing Tibial Mid-diaphysis**
Timo Rantalainen*[1], Riku Nikander[2], Robin Daly[3], Ari Heinonen[4], Harri Sievanen[5]. [1]University of Jyväskylä, Finland, [2]UKK Institute for Health Promotion Research, Finland, [3]The University of Melbourne, Western Hospital, Australia, [4]University of Jyvaskyla, Finland, [5]UKK Institute, Finland
Disclosures: Timo Rantalainen, None

MO0057 **Implant Microstimulation Improves Bone Implant Osseointegration**
Patrick Ammann*[1], Anselm Wiskott[2], Joël Cugnoni[3]. [1]Division of Bone Diseases, Department of Rehabilitation & Geriatrics, University Hospital & Faculty of Medicine, Geneva, Switzerland, [2]Division Prothèse Conj. & Occluso, University of Geneva, Switzerland, [3]Laboratory of Applied Mechanics & Reliability Analysis (LMAF), Switzerland
Disclosures: Patrick Ammann, None

MO0058 **Knee Loading Promotes Bone Healing in Femoral Head Osteonecrosis**
Ping Zhang*[1], Hiroki Yokota[2]. [1]Indiana University, USA, [2]Indiana University, Purdue University Indianapolis, USA
Disclosures: Ping Zhang, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: ANALYSIS TECHNIQUES

MO0059 **Experiment of Finding a Etchant Carrier During Acid Etching for Rap(regional acceleratory phenomenon)**
Seungwoo Shin*. Ujeongbu St.mary Hospital Gum O Dong, South Korea
Disclosures: Seungwoo Shin, None

MO0060 **Micro-CT Imaging of Osteocyte Lacunae and Vascular Networks in Cortical Bone**
Henry Ong[1], Alexander Wright[1], Shing Chun Benny Lam[2], Arun Tatiparthi[3], Timothy Sledz[3], Felix Werner Wehrli*[4]. [1]University of Pennsylvania, USA, [2]Laboratory for Structural NMR Imaging, University of Pennsylvania, USA, [3]Micro Photonics, Inc., USA, [4]University of Pennsylvania Medical Center, USA
Disclosures: Felix Werner Wehrli, None

MO0061 **Non-invasive Raman Spectroscopy technique For In-vivo monitoring of Bone Graft osseointegration in Animal Models**
Paul Okagbare*[1], Francis W. L. Esmonde-White[1], Steven A. Goldstein[2], Martin E. Isabelle[3], Michael D. Morris[1]. [1]Department of Chemistry, University of Michigan, USA, [2]Department of Orthopaedic Surgery, University of Michigan Medical School, USA, [3]Thayer School of Engineering, Dartmouth College, USA
Disclosures: Paul Okagbare, None

MO0062 **Notch Signaling Maintains Multipotency and Expands Human Mesenchymal Stem Cell Populations *Ex Vivo***
Regis O'Keefe[1], Matthew Hilton[2], Yufeng Dong*[1]. [1]University of Rochester, USA, [2]University of Rochester School of Medicine, USA
Disclosures: Yufeng Dong, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: ANALYSIS: CALCIFICATION

MO0063 **Induction of Vasculature and Osteogenesis Using Honeycomb-shaped Ceramics with Tunnels made of β-TCP**
Tohru Kaku*[1], Atsushi Niida[2], Mariko Takayama[3], Masahiko Suzuki[3], Yoshinori Kuboki[4]. [1]Division of Clinical Oral Pathology, Department of Human Biology & Pathophysiology, School of Dentistry, Health Sciences University of Hokkaido, Japan, [2]Division of Fixed Prosthodontics & Oral Implantology, Department of Oral Rehabilitation, School of Dentistry, Health Sciences University of Hokkaido, Japan, [3]Pilot Corporation, Japan, [4]Professor Emeritus, Hokkaido University,Sapporo, Japan
Disclosures: Tohru Kaku, None

MO0064 **Sporadic Tumoral Calcinosis in Three Patients with Rheumatologic Diseases**
Alan Burshell*. Ochsner Clinic Foundation, USA
Disclosures: Alan Burshell, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: CARTILAGE AND CHONDROCYTES

MO0065 **A Feedback Loop Between Sufu, Kif7, and PTHLH Coordinates Cells in the Growth Plate Chondrocyte Differentiation**
Claire Hsu*[1], Chi-Chung Hui[1], Benjamin Alman[2]. [1]Sickkids Hospital, Canada, [2]The Hospital for Sick Children, Canada
Disclosures: Claire Hsu, None

MO0066 **A Novel *Ex Vivo* Model for Investigating Chondrocytes Hypertrophic in OA**
Pingping Chen*, Kim Andreassen, Kim Henriksen, Morten Karsdal, Anne-Christine Bay-Jensen. Nordic Bioscience A/S, Denmark
Disclosures: Pingping Chen, None

MO0067 **Bmp2 Is Required for Chondrocyte Maturation and Endochondral Bone Development**
Ming Zhang*[1], Bing Shu[2], Rong Xie[2], Meina Wang[2], Wei Hou[3], Dezhi Tang[2], Stephen Harris[4], Matthew Hilton[5], Yongjun Wang[3], Di Chen[1]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA, [3]Shanghai University of Traditional Chinese Medicine, China, [4]University of Texas Health Science Center at San Antonio, USA, [5]University of Rochester School of Medicine, USA
Disclosures: Ming Zhang, None

MO0068 **Circumferential Periosteal Stripping of Femoral Diaphysis of Developing Rat Produces Longitudinal Overgrowth and Cortical Hypertrophy**
Toshihiko Nishisho[1], Mitsuhiko Takahashi[2], Tetsuya Enishi[2], Shinjiro Takata*[3], Natsuo Yasui[4]. [1]BIGLOBE NEC, Japan, [2]Department of Orthopedics, Institute of Health Biosciences, The University of Tokushima Graduate School, Japan, [3]Institute of Health Biosciences, University of Tokushima Graduate School, Japan, [4]University, Japan
Disclosures: Shinjiro Takata, None

MO0069 **Differential Phenotypic Responses of Articular and Growth Plate Chondrocytes to 5-Azacytidine**
Matthew Stewart*, Evelyn Caporali. University of Illinois, USA
Disclosures: Matthew Stewart, None

MO0070 **Gender-Specific Rapid Membrane Responses of Rat Costochondrocytes to 17β-Estradiol are Estrogen Receptor α Dependent**
Khairat ELBaradie*, Yun Wang, Barbara Boyan, Zvi Schwartz. Georgia Institute of Technology, USA
Disclosures: Khairat ELBaradie, None

MO0071 **Osterix is Required for Chondrogenesis and Skeletal Growth During Endochondral Ossification**
Jung-Hoon Oh*[1], Wook-Young Baek[1], Benoit De Crombrugghe[2], Jung-Eun Kim[3]. [1]Department of Molecular Medicine, CMRI, Kyungpook National University School of Medicine, South Korea, [2]University of Texas M.D. Anderson Cancer Center, USA, [3]Kyungpook National University School of Medicine, South Korea
Disclosures: Jung-Hoon Oh, None

MO0072 **Overexpressing P63 in Hypertrophic Chondrocytes Impacts Endochondral Bone Formation during Skeletal Development**
Sam Abbassi[1], Feifei Li[1], Ming Ding[2], Yaojuan Lu[1], Guojun Wu[3], Siying Wang[4], Qiping Zheng*[1]. [1]Rush University Medical Center, USA, [2]Rush University, USA, [3]Wayne State University, USA, [4]Anhui Medical University, China
Disclosures: Qiping Zheng, None

MO0073 **Suppressing TGF-β Signaling by SB431542 in Mesenchymal Progenitor ATDC5 Cells Promotes BMP-induced Chondrocyte Differentiation.**
Ichiro Kawamura*[1], Yasuhiro Ishidou[2], Takuya Yamamoto[1], Takao Setoguchi[1], Michihisa Zenmyo[1], Setsuro Komiya[1], Shingo Maeda[2]. [1]Department of Orthopaedic Surgery, Graduate School of Medical & Dental Sciences, Kagoshima University, Japan, [2]Department of Medical Joint Materials, Graduate School of Medical & Dental Sciences, Kagoshima University, Japan
Disclosures: Ichiro Kawamura, None

MO0074 **The Expression of the *GRP* Gene, Encoding Four New Gla-rich Protein Isoforms, is Finely Regulated in Cartilage**
Sébastien Flajollet[1], Tian V. Tian[1], Laurence Legeai-Mallet[2], Nathalie Tomavo[1], Anne Flourens[1], Barbara Camuzeaux[3], Muriel Holder-Espinasse[4], Philippe Galéra[5], Frédéric Mallein-Gerin[6], Marion Le Jeune[1], Martine Duterque-Coquillaud*[1]. [1]CNRS UMR8161, Institut de Biologie de Lille, Université de Lille Nord de France; Institut Pasteur de Lille, France, [2]INSERM U781, Hopital Necker-Enfants Malades, France, [3]FRE 3211, IREBS, CNRS/Université de Strasbourg, France, [4]Service de génétique, Hopital jeanne de Flandre, CHRU, France, [5]EA 3214 Université de Caen/Basse Normandie, IFR 146 ICORE, Faculté de Médecine, France, [6]Institut de Biologie et Chimie des Protéines UMR 5086 CNRS/ UCBLyon 1- IFR 128 BioSciences Gerland-Lyon Sud , CNRS UMR 5086, France
Disclosures: Martine Duterque-Coquillaud, None

MO0075 **Treatment of TMJ Disease in Human with Combination of rhOP-1 and rhIGF-I Loaded on Type I Collagen Membrane; A Tissue Engineering Approach for Regenerating Articular Surface**
Khalid Barakat[1], Heba Selim[2], Marina D'Angelo[3], Abdulhafez Selim*[4]. [1]Oral & Maxillofacial Surgery, Faculty of Dentistry, El-Menia University, Egypt, [2]Dental School, Ain Shams Univesity, Egypt, [3]Philadelphia College of Osteopathic Medicine, USA, [4]Center for Chronic Disorders of Aging, PCOM, USA
Disclosures: Abdulhafez Selim, None

MO0076 **Zfp521 Expression in Chondrocytes is Regulated by Ihh via BMP and PTHrP Differently During Chondrocyte Differentiation**
Dutmanee Seriwatanachai*[1], Yukiko Maeda[1], Diego Correa[2], Roland Baron[3], Beate Lanske[1]. [1]Harvard School of Dental Medicine, USA, [2]Case Western Reserve University, USA, [3]Harvard School of Medicine & of Dental Medicine, USA
Disclosures: Dutmanee Seriwatanachai, None

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

MO0077 **Comparation Transcriptome in Stem Cells from Cleft Lip and Palate Patients and Controls Reveals Enrichment of Transcripts Involved in Epithelial-mesenchyme Transition During the Palatal Bone Closure**
Daniela Bueno*[1], Daniele Sunaga[2], Maria Rita Passos-bueno[2], Gerson Kobayashi[2], Roberto Fanganiello[3], Meire Aguena[2]. [1]São Paulo University, Brazil, Brazil, [2]USP, Brazil, [3]Institute of Biosciences, University of Sao Paulo, Brazil, Brazil
Disclosures: Daniela Bueno, None

MO0078 **Genomic Organization of the Estrogen Receptor-related Receptor Gamma Gene: Multiple mRNA Isoforms Generated by Alternative Splicing and Differential Promoter Usage**
Jane Aubin[1], Ruolin Guo[2], Ralph Zirngibl*[3]. [1]University of Toronto Faculty of Medicine, Canada, [2]University of Rochester, USA, [3]University of Toronto, Canada
Disclosures: Ralph Zirngibl, None

MO0079 **Identification of Coordinated Differences in the Development of Vascular Neurogenic and Skeletal Tissues During Endochondral Bone Formation of C57/B6 and C3H Strains by Comparison of the Transcriptomes of Fracture Healing**
Rachel Grimes[1], Karl Jepsen[2], Jody McLean[1], Richard Marsell[3], Jennifer Fitch[1], Temple Smith[1], Thomas Einhorn[4], Elise Morgan[3], Paola Sebastiani[5], Louis Gerstenfeld*[1]. [1]Boston University School of Medicine, USA, [2]Mount Sinai School of Medicine, USA, [3]Boston University, USA, [4]Boston Medical Center, USA, [5]Boston University School of Public Health, USA
Disclosures: Louis Gerstenfeld, None

MO0080 **Metabolic Profile of Fat in Bone**
Beata Lecka-Czernik[1], Shilong Huang[2], Amrei Krings*[3]. [1]University of Toledo College of Medicine, USA, [2]University of Toledo Health Sciences Campus, USA, [3]University of Toledo Medical Center, USA
Disclosures: Amrei Krings, None

MO0081 **Monocarboxylate Transporter 10 Mediates Thyroid Hormone Transport in Chondrocytes.**
Sanae Abe*[1], Noriyuki Namba[2], Mikihiko Kogo[3], Keiichi Ozono[2]. [1]Department of Dentistry & Oral Surgery, Sakai Municipal Hospital, Japan, [2]Department of Pediatrics, Osaka University Graduate School of Medicine, Japan, [3]First Department of Oral & Maxillofacial Surgery, Osaka University Graduate School of Dentistry, Japan
Disclosures: Sanae Abe, None

MO0082 **Nkx3.2 Inhibits Chondrocyte Differentiation Through Runx2 Independent Manner**
Jae-Hwan Jeong*[1], Na-Rae Park[2], Hyun-Nam Kim[2], Kyung-Eun Lim[2], Xiangguo Che[2], Sang-Min Kang[2], Dae-Won Kim[3], Je-Yong Choi[1]. [1]Kyungpook National University, School of Medicine, South Korea, [2]Kyungpook National University, South Korea, [3]Yonsei University, South Korea
Disclosures: Jae-Hwan Jeong, None

MO0083 **Quantitative Proteome Profiling of Human Mesenchymal Stem Cell Membrane Proteins during Osteoblast Differentiation**
Kenneth Hauberg Larsen**[1], Helle Christiansen*[2], Jorge S Burns[1], Irina Kratchmarova[2], Basem Abdallah[1], Jens S Andersen[2], Moustapha Kassem[3]. [1]Odense University Hospital , University of South Denmark, Denmark, [2]University of Southern Denmark, Denmark, [3]Odense University Hospital, Denmark
Disclosures: Kenneth Hauberg Larsen, None*

MO0084 **The Canonical BMP Signaling Pathway Plays a Crucial Part in Stimulation of Dentin Sialophosphoprotein Expression by BMP-2**
Young-Dan Cho*[1], Won-Joon Yoon[2], Kyung-Mi Woo[2], Jeong-Hwa Baek[2], Joo-Cheol Park[2], Hyun-Mo Ryoo[3]. [1]Seoul National University, South Korea, [2]School of Dentistry,Seoul National University, South Korea, [3]Seoul National University, School of Dentistry, South Korea
Disclosures: Young-Dan Cho, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: GENERAL

MO0085 **Altered Bone Repair Pattern in Ovariectomy-induced Osteoporotic Mice: A Bone Drill-Hole Healing Model**
Yixin HE*[1], Ge Zhang[2], Zhong Liu[3], Xiaohua Pan[4], Xinhui Xie[5], Chun-Wai Chan[6], Kwong-Man Lee[7], Gang Li[8], Ling Qin[9]. [1]The Cuinese University of Hong Kong, Hong Kong, [2]Price of Wales Hospital, Peoples Republic of China, [3]The Chinese University of Hong Kong, China, [4]Department of Orthopedics, Second Hospital of Medical College of Ji Nan University, Shenzhen People's Hospital, Shenzhen 518020, China, China, [5]The Chinese University of Hongkong, Hong Kong, [6]Musculoskeletal Research Laboratory, Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Hong Kong SAR, China, China, [7]Lee Hysan Clinical Research Laboratory, The Chinese University of Hong Kong, China, China, [8]The Chinese University of Hong Kong, Peoples Republic of China, [9]Chinese University of Hong Kong, Peoples Republic of China
Disclosures: Yixin HE, None

MO0086 **Deciphering the Role of Parafibromin in Bone Development**
Cassandra R. Zylstra*[1], Pengfei Wang[1], Bin T. Teh[1], Bart Williams[1], Heather Ramsay[2], Mohammed Farhoud[2]. [1]Van Andel Research Institute, USA, [2]MPI Research, USA
Disclosures: Cassandra R. Zylstra, None

MO0087 **Effect of Platelet-Rich Plasma on Human Tenocyte Proliferation and Differentiation *In Vitro* and *In Vivo***
Xiao Wang*[1], Zhidao Xia[1], Yiwei Qiu[2], Andrew J Carr[1], James Triffitt[3], Afsie Sabokbar[4]. [1]University of Oxford, United Kingdom, [2]Botnar Reasearch Centre, United Kingdom, [3]Botnar Research Centre, United Kingdom, [4]University of Oxford, Botnar Research Centre, United Kingdom
Disclosures: Xiao Wang, None

MO0088 **Micro-Computed Tomography Analysis of Adult Bone in Mice Expressing Reduced Levels of Perlecan/HSPG2**
Peter Fomin[1], William Thompson[1], Laura Sloofman[1], Dylan Lowe[1], Christopher Price[1], Mary Farach-Carson[2], Catherine Kirn-Safran*[1]. [1]University of Delaware, USA, [2]Rice University, USA
Disclosures: Catherine Kirn-Safran, None

MO0089 **Modulation of Bone Remodeling Activity Regulates Cartilage Response to IL-1β via Soluble Factors**
Remy Nizard[1], Marie-Diominique Ah-Kioon[2], Thomas Funck-Brentano*[2], Hilene Lin[2], Marie-Christine De Vernejoul[2], Martine Cohen-Solal[2]. [1]Department of Orthopeadics, Lariboisiere Hospital, France, [2]INSERM U606, Paris VII University, France
Disclosures: Thomas Funck-Brentano, None

MO0090 **Multiple Quantum NMR Differentiates Bound and Mobile Water in Human Cortical Bone**
Henry H. Ong*, Alexander C. Wright, Felix Werner Wehrli. University of Pennsylvania Medical Center, USA
Disclosures: Henry H. Ong, None

MO0091 **Site-Specific Changes in Bone Microarchitecture and Micromechanics During Lactation and After Weaning in Mice**
Xiaowei Liu*[1], Laleh Ardeshirpour[2], Joshua VanHouten[3], Victor Chiang[1], X Guo[1], Elizabeth Shane[4], John Wysolmerski[3]. [1]Columbia University, USA, [2]Yale University, USA, [3]Yale University School of Medicine, USA, [4]Columbia University College of Physicians & Surgeons, USA
Disclosures: Xiaowei Liu, None

MO0092 **Skeletal Irradiation in Young Rodents Leads to Deficient Early Appositional Bone Growth and Remodeling**
Joseph Spadaro*[1], Luis Romo[2], Timothy Damron[1], Lihini Keenawinna[3]. [1]State University of New York Upstate Medical University, USA, [2]Syracuse University, USA, [3]SUNY Upstate Medical University, USA
Disclosures: Joseph Spadaro, None

MO0093 **The Bone Loss in Iron Overload is Mediated by Oxidative Stress in Mice**
Maria Vogiatzi*[1], Zheiwei Yang[2], Jaime Tsay[2], Robert Grady[2], Patricia Giardina[2], Adele Boskey[3], F. Patrick Ross[3]. [1]New York Presbyterian Hospital, Weill Cornell Medical College, USA, [2]Weill Cornell Medical College, USA, [3]Hospital for Special Surgery, USA
Disclosures: Maria Vogiatzi, None

MO0094 **Weight Bearing in Simulated 1/6th and 1/3rd Gravity Does Not Prevent Bone Loss**
Florence Lima*[1], Joshua Swift[2], Brandon Macias[1], Elizabeth Greene[1], Josh Kupke[3], Yasaman Shirazi-Fard[1], Matthew Allen[4], Harry Hogan[1], Susan Bloomfield[1]. [1]Texas A&M University, USA, [2]United States Navy, USA, [3]Texas A&M Univeristy, USA, [4]Indiana University School of Medicine, USA
Disclosures: Florence Lima, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: MATRIX PROTEINS

MO0095 **Colocalization of *In Vitro* Resorption Pits With Osteopontin, Osteocalcin, and Phosphoproteins**
Colleen Janeiro*, Deepak Vashishth. Rensselaer Polytechnic Institute, USA
Disclosures: Colleen Janeiro, None

MO0096 **Microfibril-associated Glycoprotein-1 (MAGP1), an Extracellular Matrix Regulator of Bone Remodeling**
Marcus Watkins[1], Roberto Civitelli[1], Matthew Silva[1], Clarissa Craft*[2], Thomas Broekelmann[2], Robert Mecham[3], Wei Zou[1], Steven Teitelbaum[1], Susan Grimston[3], Michael Brodt[2]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, School of Medicine, USA, [3]Washington University School of Medicine, USA
Disclosures: Clarissa Craft, None

MO0097 **Periostin, a Matricellular Glutamic-acid (Gla) Protein Influences Crosslinking of Bone Collagen**
Evelyne Gineyts*[1], Serge Livio Ferrari[2], Nicolas Bonnet[2], Patrick Garnero[3]. [1]INSERM unit 831, Université de Lyon, France, [2]University Geneva Hospital, Switzerland, [3]INSERM unit 664, Université de Lyon & Cisbio Bioassays, France
Disclosures: Evelyne Gineyts, None

BONE, CARTILAGE AND CONNECTIVE TISSUE MATRIX: MECHANICAL STRESS

MO0098 **Dynamic Loading Increases Apparent Elastic Modulus of Ex Vivo Trabecular Bovine Bone**
Juan Vivanco[1], Everett Smith*[2], Sylvana Garcia-Rodriguez[3], Heidi Ploeg[3]. [1]University of Wisconsin, Material Science Program & Department of Mechanical Engineering, USA, [2]University of Wisconsin, USA, [3]University of Wisconsin, Department of Mechanical Engineering, USA
Disclosures: Everett Smith, None

MO0099 **Femoral Three-Point Bending and Neck Shear in Male CD1 Mice Using the Bose ElectroForce 3300 System**
Nancy Doyle*, Melanie Felx, Carle Geoffroy, Julie Plouffe. Charles River, Canada
Disclosures: Nancy Doyle, None

MO0100 **Indentation and Lift Generation Responses of Meniscus to Contact Loading of Various Speeds**
David Burris[1], Vincent Baro[1], Liyun Wang*[2]. [1]Univ Delaware, USA, [2]University of Delaware, USA
Disclosures: Liyun Wang, None

MO0101 **Mapping Tibial Surface Strains Using 3D Stereo Optical System**
Jonathan Hein*[1], Brian McMichen[1], Adam Stibbbe[2], Mehrdad Negahban[1], Diane Cullen[2], Joseph Turner[1], Mohammed Akhter[3]. [1]University of Nebraska, USA, [2]Creighton University, USA, [3]Creighton University Osteoporosis Research Center, USA
Disclosures: Jonathan Hein, None

MO0102 **Physical Exercise Improves Bone Structural Parameters and Properties in Young Rats**
Wagner Vicente*[1], Luciene dos Reis[1], Ana Paula Velosa[2], Rafael Graciolli[1], Charles Wang[3], Fabiana Graciolli[4], Keico Nonaka[3], Patricia Brum[5], Marilia Teixeira[6], Tatiana Fonseca[7], Wagner Dominguez[1], Walcy Teodoro[2], Vanda Jorgetti[8]. [1]Nephrology, School of Medicine, University of Sao Paulo, Brazil, [2]Rheumatology, School of Medicine, University of Sao Paulo, Brazil, [3]Physiological Sciences, Federal University of Sao Carlos, Brazil, [4]Nephrology, Medical School, University of Sao Paulo, Brazil, [5]School of Physical Education & Sport, University of Sao Paulo, Brazil, [6]University of Sao Paulo, Brazil, [7]Department of Anatomy, Institute of Biomedical Science, University of Sao Paulo, Brazil, [8]University of São Paulo, Brazil
Disclosures: Wagner Vicente, None

MO0103 **Unloading-induced Suppression of B-lymphogenesis and Expansion of Peripheral Monocyte/macrophage Lineage Cells is Preserved in the Mice Deficient for Osteopontin**
Yoichi Ezura*[1], Junji Nagata[2], Hiroaki Hemmi[2], Masashi Nagao[2], Takuya Notomi[3], Tadayoshi Hayata[4], Tetsuya Nakamoto[2], Masaki Noda[2]. [1]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [2]Tokyo Medical & Dental University, Japan, [3]GCOE, Tokyo Medical & Dental University, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan
Disclosures: Yoichi Ezura, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: CALCITONIN AND RELATED PEPTIDES

MO0104 **The Identification of the PTH Receptor in Human Osteoarthritic Chondrocytes**
Hella Roachan[1], Antonio Segovia[1], Bodil Sondergaard[2], Michel Arnold[3], Markus John[4], Morten Karsdal*[1], Anne-Christine Bay-Jensen[2]. [1]Nordic Bioscience A/S, Denmark, [2]Nordic Bioscience, Denmark, [3]Novartis, Denmark, [4]Novartis Pharma AG, Switzerland
Disclosures: Morten Karsdal, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: FGF23 AND OTHER PHOSPHATONINS

MO0105 **A Novel Mutation of *PHEX* Gene in a Family with Hypophosphatemic Rickets**
Laura Masi*, Francesco Franceschelli, Simone Ciuffi, Celestina Mazzotta, Gemma Marcucci, Loredana Cavalli, Antonietta Amedei, Alberto Falchetti, Caterina Fossi, Cristiana Casentini, Maria Luisa Brandi. Metabolic Bone Diseases Unit, Italy
Disclosures: Laura Masi, None

MO0106 **High Phosphate Diet Accelerates Renal Glomerulus Damage in Type III Na-dependent Phosphate Transporter Overexpressing Rats**
Sahoko Sekiguchi*[1], Shogo Asano[2], Megumi Shibata[1], Nobuki Hayakawa[2], Atsushi Suzuki[3], Mitsuyasu Itoh[2]. [1]Fujita Health University, Division of Endocrinology, Japan, [2]Fujita Health University, Devision of Endocrinology, Japan, [3]Fujita Health University Division of Endocrinology, Japan
Disclosures: Sahoko Sekiguchi, None

MO0107 **Phosphate Independent Effects of Nuclear HMWFGF2 Isoforms on Bone Formation Invitro**
Marja Marie Hurley*. University of Connecticut Health Center School of Medicine, USA
Disclosures: Marja Marie Hurley, None

MO0108 **Role of Processed FGF23 Fragments**
Yuichiro Shimizu*, Tasuku Saito, Hisanori Suzuki, Seiji Fukumoto, Toshiro Fujita. University of Tokyo Hospital, Japan
Disclosures: Yuichiro Shimizu, None

MO0109 **Up-regulation of Stanniocalcin 2 Expression by the Abnormality of Klotho-Fgf23 Signaling and Inhibition of Phosphate-induced Calcification in Aortic Vascular Smooth Muscle Cells**
Yuichiro Takei*[1], Hironori Yamamoto[2], Tadatoshi Sato[3], Masashi Masuda[4], Ayako Otani[4], Yutaka Taketani[4], Beate Lanske[5], Eiji Takeda[6]. [1]The University of Tokushima School of Medicine, Japan, [2]University Tokushima, Japan, [3]University of Harverd, USA, [4]University of Tokushima, Japan, [5]Harvard School of Dental Medicine, USA, [6]University of Tokushima School of Medicine, Japan
Disclosures: Yuichiro Takei, None

CALCIOTROPIC AND PHOSPHOTROPIC HORMONES: PARATHYROID AND PARATHYROID HORMONE-RELATED PEPTIDE

MO0110 **Adrenergic Receptor Regulates Anabolic Action of Constitutively Active Form of PTH/PTHrP Receptor Signaling**
Ryo Hanyu*[1], Gerard Karsenty[2], Tadayoshi Hayata[3], Tetsuya Nakamoto[1], Takuya Notomi[4], Henry Kronenberg[5], Yoshitomo Saita[6], Hiroaki Hemmi[1], Masashi Nagao[1], Masaki Noda[1], Yoichi Ezura[7], Shu Takeda[8]. [1]Tokyo Medical & Dental University, Japan, [2]Columbia University, USA, [3]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [4]GCOE, Tokyo Medical & Dental University, Japan, [5]Massachusetts General Hospital, USA, [6]Juntendo University, Department of Ortopedics, Japan, [7]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [8]Keio University, Dept. of Nephrology, Endocrinology & Metabolism, Japan
Disclosures: Ryo Hanyu, None

MO0111 **BindingCapacity to the G Protein-uncoupled PTH/PTHrP Receptor Conformation (R^0) Determines Efficacy of Calcemic Actions of PTH/PTHrP Analogs *In Vivo***
Masaru Shimizu*[1], Makoto Okazaki[1], Tatsuya Tamura[1], Thomas Gardella[2], John Potts[2], Yoshiki Kawabe[1]. [1]Chugai Pharmaceutical Co., Ltd., Japan, [2]Massachusetts General Hospital, USA
Disclosures: Masaru Shimizu, Chugai Pharmaceutical Co., Ltd., 3

MO0112 **Distinct ß-arrestin- and G protein-dependent Signaling Pathways in Bone Revealed by Biased Agonism and Genomic Pathway Analysis**
Stuart Maudsley[1], Shaoxi Liao[2], Ling Yuan[2], Robert Lefkowitz[2], Louis Luttrell[3], Diane Gesty-Palmer*[2]. [1]NIH-NIA, USA, [2]Duke University, USA, [3]Medical University of South Carolina, USA
Disclosures: Diane Gesty-Palmer, None

MO0113 **Effects of Fasting on Endogenous Parathyroid Hormone (PTH) Levels in Cynomolgus Monkeys**
Caroline Ruh*[1], Nancy Doyle[2], Philip Oldfield[3], Patrick Bednarek[4], Susan Y. Smith[1]. [1]Charles River Laboratories, Canada, [2]Charles River, Canada, [3]Charles River Laboratories Montreal, Canada, [4]Cytochroma Inc, Canada
Disclosures: Caroline Ruh, None

MO0114 **Gender Specific Differences in the Skeletal Response and Endogenous PTH Levels to Continuous PTH in Mice Lacking the IGF-I Receptor**
Muriel Babey*[1], Yongmei Wang[2], Hashem Elalieh[2], Daniel Bikle[2]. [1]Endocrine Research Unit, USA, [2]Endocrine Research Unit, Division of Endocrinology UCSF, USA
Disclosures: Muriel Babey, None

MO0115 **Regulation of Osteocyte Proliferation and Sclerostin Expression by PTHrP**
Leonard Deftos*[1], Lynda Bonewald[2], Su Tu[1], Douglas Burton[1]. [1]Veterans Administration San Diego Healthcare System & University of California, USA, [2]University of Missouri - Kansas City, USA
Disclosures: Leonard Deftos, None

MO0116 **Role of Osteoclasts in the COX-2-Mediated Inhibition of PTH-Stimulated Osteoblastic Differentiation *In Vitro***
Shilpa Choudhary*, Olga Voznesensky, Manshan Xu, Cynthia Alander, Lawrence Raisz, Carol Pilbeam. University of Connecticut Health Center, USA
Disclosures: Shilpa Choudhary, None

MO0117 **Role of PTH in Klotho Knockout Mice**
Quan Yuan*[1], Michael Densmore[1], Tadatoshi Sato[1], Hiroaki Saito[1], Reinhold Erben[2], Beate Lanske[1]. [1]Harvard School of Dental Medicine, USA, [2]University of Veterinary Medicine, Austria
Disclosures: Quan Yuan, None

CANCER AND BONE: BREAST AND PROSTATE

MO0118 **Bone Quality Characterization of a Novel Preclinical Model of Mixed Osteolytic/Osteoblastic Vertebral Metastasis**
Lisa Wise-Milestone*[1], Margarete Akens[2], Marc Grynpas[3], Albert Yee[1], Brian Wilson[4], Cari Whyne[1]. [1]Sunnybrook Health Sciences Centre, Canada, [2]Sunnybrook Research Institute, Canada, [3]Samuel Lunenfeld Research Institute, Canada, [4]Ontario Cancer Institute, Canada
Disclosures: Lisa Wise-Milestone, None

MO0119 **Breast Cancer Cell Conditioned Media Decreases Release of CXCL5 by Osteoblastic Cells**
Karis Chin-quee*, Vikram Sathyendra, Alayna Loiselle, Henry Donahue. The Pennsylvania State University College of Medicine, USA
Disclosures: Karis Chin-quee, None

MO0120 **Effects of Different Bisphosphonates on the Apoptosis and Proliferation Rate of Breast Cancer Cell Lines**
Regina Ebert*[1], Jutta Meissner-Weigl[2], Sabine Zeck[2], Ludger Klein-Hitpass[3], Nadja Raaijmakers[2], Tilman D Rachner[4], Peggy Benad[4], Lorenz Hofbauer[5], Franz Jakob[2]. [1]University of Wuerzburg, Orthopedic Center for Muskuloskeletal Research, Germany, [2]University of Wuerzburg, Germany, [3]University Hospital Essen, Germany, [4]Technical University of Dresden, Germany, [5]Dresden Technical University Medical Center, Germany
Disclosures: Regina Ebert, None

MO0121 **Genome-Wide Reciprocal Modulation of Estrogen and Runx2 Signaling in Breast Cancer**
Nyam-Osor Chimge*[1], Sanjeev Baniwal[1], Omar Khalid[2], Alice E. Kohn-Gabet[1], Gerhard A. Coetzee[1], Baruch Frenkel[1]. [1]University of Southern California, USA, [2]Univeristy of Southern California, USA
Disclosures: Nyam-Osor Chimge, None

MO0122 **Heel Ultrasound can Assess Maintenance of Bone Mass in Women with Breast Cancer**
Gabrielle Langmann*, Karen Vujevich, Donna Medich, Megan Miller, Subashan Perera, Susan Greenspan. University of Pittsburgh, USA
Disclosures: Gabrielle Langmann, None

MO0123 **Membrane Estrogen Signaling via ERα36 Leads to Crosstalk among Pathways Associated with Cell Survival and Osseous Metastases of Breast Cancer**
Reyhaan Chaudhri*, Natalia Cuenca, Rene Olivares-Navarrete, Zvi Schwartz, Barbara Boyan. Georgia Institute of Technology, USA
Disclosures: Reyhaan Chaudhri, None

MO0124 **Osteocyte-derived FGF23 Acts on Bone-Metastatic Breast Cancer Cells to Increase Resistance to 1,25-dihydroxy-Vitamin D**
Pierrick Fournier[1], Erik Imel[2], John Chirgwin*[1]. [1]Indiana University, USA, [2]Indiana University School of Medicine, USA
Disclosures: John Chirgwin, None

MO0125 **Osteoimmunology of Breast Cancer Bone Metastasis: Possible Mechanisms and Therapeutic Approaches**
Anandi Sawant, Diptiman Chanda, Jonathan Hensel, Selvarangan Ponnazhagan*. The University of Alabama at Birmingham, USA
Disclosures: Selvarangan Ponnazhagan, None

MO0126 **Prevention of Androgen Deprivation Therapy-Induced Bone Loss and Fractures in Men with Non-Metastatic Prostate Cancer: a Systematic Review and Meta-analysis**
Adrian Lau*[1], Ophir Vinik[1], Shabbir Alibhai[2], George Tomlinson[2], Angela Cheung[2]. [1]University of Toronto, Canada, [2]University Health Network, Canada
Disclosures: Adrian Lau, None

MO0127 **Role of Tumor-derived OPG in Supporting Cancer Growth within Bone Tissue**
Marc Ryser*[1], Nilima Nigam[2], Svetlana Komarova[3]. [1]Department of Mathematics & Statistics, McGill University, Canada, [2]Department of Mathematics, Simon Fraser University, Canada, [3]McGill University, Canada
Disclosures: Marc Ryser, None

MO0128 **Targeted Inhibition of GLI2 Blocks Cancer Bone Disease I*n Vivo***
Rachelle Johnson*[1], Mai Nguyen[2], Susan Padalecki[3], Barry Grubbs[3], Alyssa R. Merkel[1], Babatunde Oyajobi[3], Gregory Mundy[1], Julie Sterling[1]. [1]Vanderbilt University Medical Center, USA, [2]Vanderbilt University, USA, [3]University of Texas Health Science Center at San Antonio, USA
Disclosures: Rachelle Johnson, None

MO0129 **The Early Effect of Aromatase Inhibitors on Bone Metabolism and Bone Density in Postmenopausal Women with Breast Cancer: An Interim Analysis**
Pamela Taxel*, Faryal Mirza, Pamela Fall, Richard Feinn, Susan Tannenbaum. University of Connecticut Health Center, USA
Disclosures: Pamela Taxel, Amgen, 8; Novartis, 8

CANCER AND BONE: GENERAL

MO0130 **Anticancer Efficacy of Apo2L/TRAIL is Retained in the Presence of High and Biologically Active Concentrations of Osteoprotegerin I*n Vivo***
Irene Zinonos[1], Agatha Labrinidis[1], Michelle Lee[1], Vasilios Liapis[1], Shelley hay[2], Vladimir Ponomarev[3], Peter Diamond[4], David Findlay[1], Andrew Zannettino[4], Andreas Evdokiou*[1]. [1]University of Adelaide, Australia, [2]Royal Adelaide Hospital, Australia, [3]Sloan-Kettering Cancer Center, USA, [4]IMVS, Australia
Disclosures: Andreas Evdokiou, None

MO0131 **Bone Mineral Content Deficits Are Present in Childhood Cancer Survivors**
Lynda Polgreen*[1], Anna Petryk[1], Andrew Dietz[1], Leisenring Wendy[2], Pam Goodman[2], Lyn Steffen[1], Donald Dengel[1], K. Scott Baker[2], Alan Sinaiko[1], Julia Steinberger[1]. [1]University of Minnesota, USA, [2]Fred Hutchinson Cancer Research Center, USA
Disclosures: Lynda Polgreen, None

MO0132 **LAO, A Novel Lung Cancer Cell Line Inducing Bone Metastatic Osteosclerotic Lesions through a Wnt-dependent Mechanism**
Iker Anton*[1], Diego Luis-Ravelo[2], Jose L Lafarga[2], Carolina Zandueta[2], Karmele Valencia[2], Susana Martinez[2], M Dolores Lozano[3], Alfonso Gurpide[3], Fernando Lecanda[2]. [1]Foundation for Applied Medical Research, Spain, [2]Center for Applied Medical Research, Spain, [3]CUN, Spain
Disclosures: Iker Anton, None

MO0133 **p62-ZZ and p38 Domains as a Therapeutic Target for Myeloma Cell Growth and Osteoclast Formation**
Fumito Ishizuka[1], Shunqian Jin[2], Jolene Windle[3], G. David Roodman[4], Noriyoshi Kurihara*[2]. [1]Center for Bone Biology,University of Pittsburgh, USA, [2]Center for Bone Biology, University of Pittsburgh, USA, [3]Virginia Commonwealth University, USA, [4]VA Pittsburgh Healthcare System (646), USA
Disclosures: Noriyoshi Kurihara, None

MO0134 **Percutaneous Kyphoplasty for Palliation of Thoracolumbar Spine Fractures Due to Malignancy - Procedure Indications, Limitations and Results out of 5 years**
Dr. Max Markmiller*. Klinikum Kempten, Germany
Disclosures: Dr. Max Markmiller, None

MO0135 **Pharmacokinetic and Pharmacodynamic Effects of Antiresorptive Agents on Bone in Patients With Metastatic Bone Disease**
Peyman Hadji*. Philipps-University of Marburg, Germany
Disclosures: Peyman Hadji, GlaxoSmithKline, 2; AstraZeneca, 2; Eli Lily,1; Amgen, 2; GlaxoSmithKline, 2

MO0136 **Ribonomics Approach to Study a Complex Inherited Tumor Predisposing Disorder: the Multiple Endocrine Neoplasia Type 1 as a Model**
Ettore Luzi*, Francesca Marini, Isabella Tognarini, Sergio Fabbri, Francesca Giusti, Alberto Falchetti, Annalisa Tanini, Maria Luisa Brandi. Department of Internale Medicine, University of Florence, Italy
Disclosures: Ettore Luzi, None

MO0137 **Skeletal 45Ca Pharmacokinetics Following Irradiation and Administration of Zoledronic Acid**
Susanta Hui*[1], Manju Sharma[1], Gregory Fairchild[1], Louis Kidder[1], Maryka Bhattacharyya[2], kathleen Coghill[1], Seymor Levitt[1], Douglas Yes[1]. [1]University of Minnesota, USA, [2]Medical College of Georgia, USA
Disclosures: Susanta Hui, None

MO0138 **The Effect of Risedronate on Serum Dickkopf-1, Osteoprotegerin, and RANKL in Patients with Hematologic malignancies following HSCT**
Eunhee Jang*[1], Kihyun Baek[2], Sunhee Ko[3], Moo-Il Kang[3]. [1]St.Mary's Hospital, South Korea, [2]St. Mary's Hospital, South Korea, [3]Seoul St. Mary's Hospital, South Korea
Disclosures: Eunhee Jang, None

MO0139 **The Effect of sFRP3 Expression in Myeloma on MSC Differentiation and Their Biological Function**
Ya-Wei Qiang*, Bo Hu, Yu Chen, Bart Barlogie, John Shaughnessy. University of Arkansas for Medical Sciences, USA
Disclosures: Ya-Wei Qiang, None

MO0140 **Two Novel *HRPT2* Mutations In The Nucleolar Localization Signal Of Parafibromin**
Vito Guarnieri*[1], Valerio Pazienza[2], Filomena Baorda[3], Dieter Kotzot[4], Klaus Kapelari[5], David E. C. Cole[6], Geoffrey Hendy[7], Leonardo D'Agruma[3], Massimo Carella[3], Alfredo Scillitani[8]. [1]Medical Genetics Service, IRCCS Casa Sollievo della Sofferenza Hospital, Italy, [2]Unit of Gastroenterology, IRCCS "Casa Sollievo della Sofferenza" Hospital, Italy, [3]Medical Genetics Service, IRCCS "Casa Sollievo della Sofferenza" Hospital, Italy, [4]Division of Clinical Genetics, Department of Medical Genetics, Molecular & Clinical Pharmacology, Innsbruck Medical University, Austria, [5]Clinical Department of Pediatrics, Innsbruck Medical University, Austria, [6]Banting Institute, University of Toronto, Canada, [7]McGill University, Royal Victoria Hospital, Canada, [8]Casa Sollievo Della Sofferenza Scientific Institute, Italy
Disclosures: Vito Guarnieri, None

DISORDERS OF BONE (GENETIC): GENERAL STUDIES

MO0141 **A *Gja1* Mutant with Dominant-Negative Action in the Osteogenic Lineage is Sufficient to Cause a Skeletal Phenotype Resembling Oculodentodigital Dysplasia**
Roberto Civitelli[1], Bertrand Guillotin[2], Jin-Yi Norris[2], Susan Grimston[3], Marcus Watkins*[1]. [1]Washington University in St. Louis School of Medicine, USA, [2]Washington University in St. Louis, USA, [3]Washington University School of Medicine, USA
Disclosures: Marcus Watkins, None

MO0142 **An Antagonist of Interleukin-15 Inhibits Weight and Bone Loss in a Mouse Model of Inflammatory Bowel Disease**
Dominique Pierroz*[1], Sylvie Ferrari-Lacraz[2], Xin X Zheng[3], Serge Ferrari[4]. [1]University Hospital of Geneva, Switzerland, [2]Transplantation Immunology Unit, Geneva University Hospital & Faculty of Medicine, Switzerland, [3]Transplantation Unit, University of Pittsburgh, USA, [4]Geneva University Hospital & Faculty of Medicine, Switzerland
Disclosures: Dominique Pierroz, None

MO0143 **Bone Loss in Aging Mice Correlates with Increased, not Decreased Vascular Density**
Bernard Roche*[1], Arnaud Van den Bossche[1], Françoise Peyrin[2], Cecile Olivier[2], Laurence Vico[1], Marie-Helene Lafage-Proust[1]. [1]Université de Lyon, INSERM U890, France, [2]CREATIS-LRMN-CNRS UMR 5220, France
Disclosures: Bernard Roche, None

MO0144 **Effects of Fish Oil and Exercise on Postmenopausal Bone Loss**
Erika Varela[1], Ali Bahadur[1], Nishu Kazi[1], Jameela Banu*[2], Gabriel Fernandes[3]. [1]UTHSCSA, USA, [2]University of Texas Health Science Center at San Antonio, USA, [3]University of Texas Health Science Centre, USA
Disclosures: Jameela Banu, None

MO0145 **InppA as a Modulator of Bone Formation**
Maya Boudiffa*[1], Mohammad Rashed[1], Monica Pata[1], Jean Vacher[2]. [1]IRCM, Canada, [2]Institut De Recherches Cliniques De Montréal, Canada
Disclosures: Maya Boudiffa, None

DISORDERS OF BONE (GENETIC): GENETIC DEFECTS IN BONE RESORPTION AND/OR FORMATION

MO0146 **A Case of Camurati-Engelmann Disease with a *TGFβ1* R218C Mutation**
Line Vautour*[1], Geoffrey Hendy[2]. [1]McGill University Health Centre Royal Victoria Hospital, Canada, [2]McGill University, Royal Victoria Hospital, Canada
Disclosures: Line Vautour, None

MO0147 **Impaired Generation of Reactive Oxygen Species in Nox4-deficient Mice Results in a High Bone Mass Phenotype Due to an Osteoclast Defect**
Claudia Goettsch*[1], Reinhold Erben[2], Stefan Rammelt[3], Martina Rauner[4], Christiane Schüler[2], Lorenz Hofbauer[5], Ralf P. Brandes[6], Katrin Schroeder[6]. [1]Department of Medicine III, Technical University, Dresden, Germany, [2]University of Veterinary Medicine, Austria, [3]Department of Trauma & Reconstructive Surgery, Technical University, Dresden, Germany, [4]Medical Faculty of the TU Dresden, Germany, [5]Dresden Technical University Medical Center, Germany, [6]Institut für kardiovaskuläre Physiologie, Goethe-Universität Frankfurt am Main, Germany, Germany
Disclosures: Claudia Goettsch, None

MO0148 **Increased Bone Resorption in a Mouse Model of Mucolipidosis II**
Jan M. Pestka*[1], Katrin Kollmann[2], Robert P. Marshall[1], Michaela Schweizer[3], Michael Amling[1], Thomas Braulke[2], Thorsten Schinke[1]. [1]Dept. of Osteology & Biomechanics, University Medical Center Hamburg-Eppendorf, Germany, [2]Dept. of Biochemistry, University Medical Center Hamburg-Eppendorf, Germany, [3]ZMNH, University Medical Center Hamburg-Eppendorf, Germany
Disclosures: Jan M. Pestka, None

MO0149 **Mouse Models of Hermansky-Pudlak Syndrome, a Lysosome-related Organelle Biogenesis Disorder, Exhibit Osteopenia**
Cheryl Ackert-Bicknell*, Jordanne Dunn, Babette Gwynn, Beverly Paigen, Luanne Peters. The Jackson Laboratory, USA
Disclosures: Cheryl Ackert-Bicknell, None

MO0150 **New siRNA-based Therapy For Autosomal Dominant Osteopetrosis**
Andrea Del Fattore*, Marta Capannolo, Nadia Rucci, Anna Teti. University of L'Aquila, Italy
Disclosures: Andrea Del Fattore, None

MO0151 **OPG Rather Than RANKL Regulates Alveolar Bone Loss**
Masanori Koide*[1], Tadashi Ninomiya[2], Midori Nakamura[2], Yasuhiro Kobayashi[2], Hisataka Yasuda[3], Naoyuki Takahashi[2], Nobuyuki Udagawa[2]. [1]Matumoto Dental University, Japan, [2]Matsumoto Dental University, Japan, [3]Oriental Yeast Company, Limited, Japan
Disclosures: Masanori Koide, None

MO0152 **Physiological Control of Bone Resorption by Semaphorin4D is Dependent on Ovarian Function**
Romain DACQUIN*[1], Chantal Domenget[1], Pierre Jurdic[2], Irma Machuca-Gayet[1]. [1]IGFL, Ecole Normale Superieure de Lyon, France, [2]Ecole Normale Superieure de Lyon, France
Disclosures: Romain DACQUIN, None

MO0153 **Reduced Bone Turnover in Mice Lacking the P2Y13 Receptor**
Ning Wang*[1], Bernard Robaye[2], Ankita Agrawal[3], Gwendolen Reilly[4], Jean-Marie Boeynaems[2], Alison Gartland[5]. [1]The University of Sheffield, United Kingdom, [2]Institute of Interdisciplinary Research, IRIBHM, Université Libre de Bruxelles, Belgium, [3]The Mellanby Centre for Bone Research, Department of Human Metabolism, The University of Sheffield, United Kingdom, [4]University of Sheffield, United Kingdom, [5]The Mellanby Centre for Bone Research, The University of Sheffield, United Kingdom
Disclosures: Ning Wang, None

MO0154 **Sphenoid Wing Dysplasia in Neurofibromatosis Type 1 (NF1) is Recapitulated in the Nf1 Osteoblast Conditional Knockout Mouse**
Regina O'Sullivan*[1], Roberto Fajardo[2], Zhenxin Shen[3], Merrilee Flannery[3], Kevin McHugh[3]. [1]Center for Advanced Orthopaedic Studies, Harvard Medical School, USA, [2]UT Health Science Center, San Antonio, USA, [3]Beth Israel Deaconess Medical Center, USA
Disclosures: Regina O'Sullivan, None

MO0155 **The Adipogenic Potential of Mesenchymal Stem Cells (MSCs) Isolated from the Bone Marrow of Osteoporotic Postmenopausal Women Is Higher than in Control Cells**
Juan Rodriguez*[1], Ana María Pino[2], Mireya Fernández[2], Oscar Donoso[2], Celeste Avalos[2], María Elena Ponce[2], César Navea[2], Julio Tapia[3], Nelson Osses[4]. [1]INTA Universidad De Chile, Chile, [2]Laboratorio de Biología Celular y Molecular, INTA, Universidad de Chile, Chile, [3]Laboratorio de Transformación Celular, ICBM, Facultad de Medicina, Universidad de Chile, Chile, [4]Facultad de Ciencias, Universidad Católica de Valparaíso, Chile
Disclosures: Juan Rodriguez, None

MO0156 **The Dominant V-ATPase a3 Mutation, R740S, Results in Perinatal Lethality in Homozygous Mice**
Noelle Ochotny*[1], Ann Flenniken[2], Celeste Owen[2], Irina Voronov[1], Morris Manolson[1], Jane Aubin[3]. [1]University of Toronto, Canada, [2]Centre for Modeling Human Disease, Canada, [3]University of Toronto Faculty of Medicine, Canada
Disclosures: Noelle Ochotny, None

MO0157 **The High Bone Mass Phenotype is Characterised by Reduced Endosteal Expansion, Increased Thickness and Density of Trabeculae, but not Number**
Celia Gregson*[1], Margaret Paggiosi[2], Eugene McCloskey[3], Jon Tobias[4]. [1]University of Bristol, United Kingdom, [2]Northern General Hospital, United Kingdom, [3]University of Sheffield, United Kingdom, [4]Clinical Sciences at North Bristol, University of Bristol, United Kingdom
Disclosures: Celia Gregson, None

DISORDERS OF BONE (GENETIC): LINKAGE AND HERITABILITY STUDIES

MO0158 **Pleiotropic Genetic Effects Contribute to the Correlation Between Bone Mineral Density and Quantitative Ultrasound Measurements**
Sing Nguyen*, Nguyen Nguyen, Jacqueline Center, John Eisman, Tuan Nguyen. Garvan Institute of Medical Research, Australia
Disclosures: Sing Nguyen, None

MO0159 **Significant Quantitative Trait Loci on Chromosomes 3 and 16 Linked to Proximal Hip Geometry in the Fels Longitudinal Study**
Miryoung Lee*[1], Audrey Choh[1], Bradford Towne[1], Thomas Dyer[2], Dana Duren[3], Ramzi Nahhas[1], Richard Sherwood[4], Wm. Chumlea[1], Roger Siervogel[1], Shelley Cole[2], Stefan Czerwinski[1]. [1]Wright State University Boonshoft School of Medicine, USA, [2]Southwest Foundation for Biomedical Research, USA, [3]Wright State University, USA, [4]Lifespan Health Research Center, Wright State University, USA
Disclosures: Miryoung Lee, None

DISORDERS OF BONE (GENETIC): POLYMORPHISMS

MO0160 **Association between Polymorphisms in Wnt Signaling Pathway Genes and Bone Mineral Density in Postmenopausal Korean Women**
Dong-Yun Lee[1], Hoon Kim[2], Seung-Yup Ku[3], Young- Min Choi[3], Jung-Gu Kim*[3]. [1]Samsung Medical Center, South Korea, [2]Seoul National Univeristy Hospital, South Korea, [3]Seoul National University Hospital, South Korea
Disclosures: Jung-Gu Kim, None

MO0161 **Functional Relevance of the BMD-associated Polymorphism rs312009. Novel Implication of Runx2 in *LRP5* Transcriptional Regulation**
Daniel Grinberg*[1], Lidia Agueda[2], Rafael Velazquez[2], Roser Urreizti[2], Patricia Sarrion[2], Susana Jurado[3], Guy Yoskovitz[4], Roberto Güerri[4], Natalia Garcia-Giralt[4], Xavier Nogues[5], Leonardo Mellibovsky[4], Adolfo Diez-Perez[6], Susana Balcells[2]. [1]The University of Barcelona, Spain, [2]Universidad de Barcelona. Dep of Genetics, Spain, [3]Hoospital del Mar-IMIM, Spain, [4]Hospital del Mar-IMIM, Spain, [5]Institut Municipal D'Investigació Mèdica, Spain, [6]Hospital del Mar-IMIM-Autonomous University of Barcelona, Spain
Disclosures: Daniel Grinberg, None

MO0162 **Genome-wide Association Study for Femoral Neck Bone Geometry**
Fei-Yan Deng*[1], Xiang-Hong Xu[2], Yong-Jun Liu[1], Hui Shen[1], Shu-Feng Lei[1], Jian Li[1], Yan Guo[2], Tie-Lin Yang[2], Hong-Wen Deng[3]. [1]University of Missouri - Kansas City, USA, [2]Xi'an Jiaotong University, China, [3]University of Missouri, Kansas City Medical School, USA
Disclosures: Fei-Yan Deng, None

MO0163 **Large Scale Human SNP Analysis Revealed an Association of GPR98 Gene Polymorphisms with Bone Mineral Density in Postmenopausal Women and Gpr98 Deficient Mice Display Osteopenia**
Tomohiko Urano*[1], Masataka Shiraki[2], Hideshi Yagi[3], Makoto Sato[3], Yasuyoshi Ouchi[1], Satoshi Inoue[1]. [1]Department of Geriatric Medicine, Graduate School of Medicine, The University of Tokyo, Japan, [2]Research Institute & Practice for Involutional Diseases, Japan, [3]Division of Cell Biology & Neuroscience, Department of Morphological & Physiological Sciences, Faculty of Medical Sciences, University of Fukui, Japan
Disclosures: Tomohiko Urano, None

MO0164 **Mouse QTL-directed Analysis of Homologous Human Chromosomal Regions in a Large Scale Meta-analysis of Genome-wide Association Studies of the GEFOS Consortium Reveals Novel Genetic Associations with Bone Mineral Density**
Carrie Nielson*[1], Karol Estrada[2], Robert Klein[1], Fernando Rivadeneira[2], Andre Uitterlinden[3], Eric Orwoll[1], GEFOS Consortium[4]. [1]Oregon Health & Science University, USA, [2]Erasmus University Medical Center, The Netherlands, [3]Rm Ee 575, Genetic Laboratory, The Netherlands, [4]Erasmus Medical Center, Netherlands
Disclosures: Carrie Nielson, None

MO0165 **Novel Loci on the X Chromosome for Musculoskeletal Traits: the Framingham Osteoporosis Study**
Yue Fang*[1], Yi-Hsiang Hsu[2], Yanhua Zhou[3], Serkalem Demissie[3], Josee Dupuis[3], Adrienne Cupples[3], Douglas Kiel[4], David Karasik[4]. [1]Hebrew Seniorlife Center at Harvard Medical School, USA, [2]Hebrew SeniorLife & Harvard Medical School, USA, [3]Department of Biostatistics, Boston University School of Public Health, USA, [4]Hebrew SeniorLife, USA
Disclosures: Yue Fang, None

MO0166 **Osteoprotegerin Gene Haplotype CT Is Associated With Lumbar Spine BMD in Osteoporotic Postmenopausal Women**
Simona Mencej Bedrac[1], Janez Prezelj*[2], Tomaz Kocjan[3], Misa Pfeifer[4], Janja Marc[1]. [1]University of Ljubljana, Faculty of Pharmacy, Department of Clinical Biochemistry, Slovenia, [2]Medical faculty, University of Ljubljana, Slovenia, [3]University Medical Centre Ljubljana, Slovenia, [4]University Medical Centre Ljubljana, Department of Endocrinology & Metabolic Diseases, Slovenia
Disclosures: Janez Prezelj, None

GROWTH FACTORS AND CYTOKINES: BONE MORPHOGENETIC PROTEINS

MO0167 ***In vivo* Bone Formation is Induced by Blocking Bone Morphogenetic Protein Receptor Type Ia Interaction with Casein Kinase II**
Beth Bragdon*[1], Shayamala Thinakaran[2], Lauren Gurski[2], Oleksandra Moseychuk[2], Wesley Beamer[3], Anja Nohe[2]. [1]University of Maine, University of Delaware, USA, [2]University of Delaware, USA, [3]The Jackson Laboratory, USA
Disclosures: Beth Bragdon, None

MO0168 **All IFITMs, except IFITM5, Inhibit Osteoblast Differentiation and Bone Formation**
Hui Liu[1], Yunshan Liu*[2], Scott Boden[3], Louisa Titus[3]. [1]Emory University & Sun Yat-sen University, USA, [2]Emory University, USA, [3]VAMC & Emory University, USA
Disclosures: Yunshan Liu, None

MO0169 **Osteoblast-Specific Enhancers of *Bmp2* Gene Expression: Anatomical Specificity and *Bmp2* Stimulation by FGF2 *In Vitro* and *In Vivo***
Eva Broeckelmann*, Steven Pregizer, Douglas Mortlock. Vanderbilt University Medical Center, USA
Disclosures: Eva Broeckelmann, None

MO0170 **Regulation of BMP3 Expression in Postnatal Bone**
Laura Gamer*[1], Dorothy Pazin[2], Karen Cox[1], Regina Raz[3], Aris Economides[3], Vicki Rosen[1]. [1]Harvard School of Dental Medicine, USA, [2]Harvard School of Medicine, USA, [3]Regeneron Pharmaceuticals, Inc., USA
Disclosures: Laura Gamer, None

GROWTH FACTORS AND CYTOKINES: FIBROBLAST GROWTH FACTORS

MO0171 **Fibroblast Growth Factor 23 (FGF23) Concentrations in Low Birth Weight Infants during the Early Postpartum Period and FGF23 Expression in Placenta**
Masanori Takaiwa*[1], Koji Kadoya[2], Kunihiko Aya[3], Kosei Hasegawa[3], Motofumi Yokoyama[4], Youichi Kondo[1], Tsuneo Morishima[3], Hiroyuki Tanaka[5], Nobuyuki Kodani[1]. [1]Dept. of Pediatrics, Matsuyama Red Cross Hosp., Japan, [2]Dept. of Pathology, Matsuyama Red Cross Hosp., Japan, [3]Dept. of Pediatrics, Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Japan, [4]Dept. of Obstetrics & Gynecology, Matsuyama Red Cross Hospital, Japan, [5]Okayama Saiseikai General Hospital, Japan
Disclosures: Masanori Takaiwa, None

MO0172 **Nuclear HMWFGF2 Isoforms are Novel Regulators of Fgf23 Promoter Activity in ROS17/2.8 Osteoblasts**
Liping Xiao*[1], Alycia Esliger[1], Marja Marie Hurley[2]. [1]University of Connecticut Health Center, USA, [2]University of Connecticut Health Center School of Medicine, USA
Disclosures: Liping Xiao, None

GROWTH FACTORS AND CYTOKINES: GENERAL

MO0173 **Adiponectin Induces Interferon-Response Genes in Mouse Bone Marrow Cultures**
Dorit Naot*, Garry Williams, Jian-ming Lin, Greg Gamble, Andrew Grey, Ian Reid, Jillian Cornish. University of Auckland, New Zealand
Disclosures: Dorit Naot, None

MO0174 **Attenuation of Receptor Tyrosine Kinase Degradation by Targeting Cbl Promotes Osteogenic Differentiation in Human Mesenchymal Stromal Cells**
Pierre Marie[1], Hichem Miraoui[2], Nicolas Sévère*[2]. [1]INSERM Unit 606 & University Paris Diderot, France, [2]Inserm U606 & University Paris Diderot, France
Disclosures: Nicolas Sévère, None

MO0175 **Calcitriol Decreases the Expression of Importin Alpha3 in Human Bronchial Smooth Muscle Cells**
Tanupriya Agrawal*, Devendra Agrawal. Creighton University School of Medicine, USA
Disclosures: Tanupriya Agrawal, None

MO0176 **Fam3c - a Novel Factor in Bone Biology**
Jorma Määttä*[1], Kalman Büki[2], Pia Rantakari[3], Johanna Saarimäki[2], Matti Poutanen[4], Pirkko Härkönen[2], Kalervo Väänänen[2]. [1]Institute of Biomedicine, Department of Cell Biology & Anatomy, Turku Center for Disease Modeling, University of Turku, Finland, [2]Institute of Biomedicine, Department of Cell Biology & Anatomy, University of Turku, Finland, [3]Institute of Biomedicine, Department of Physiology, Turku Center for Disease Modeling, University of Turku, Finland, [4] Institute of Biomedicine, Department of Physiology, Turku Center for Disease Modeling, University of Turku, Finland
Disclosures: Jorma Määttä, None

MO0177 **High Circulating Levels of Osteopontin Are Associated with Idiopathic Scoliosis Onset and Spinal Deformity Progression**
Alain Moreau*[1], Anita Franco[2], Pierre H. Rompré[3]. [1]Sainte-Justine Hospital, Canada, [2]Viscogliosi Laboratory in Molecular Genetics of Musculoskeletal Diseases, Sainte-Justine University Hospital Research Centre, Canada, [3]Faculty of Dentistry, Université de Montréal, Canada
Disclosures: Alain Moreau, Paradigm Spine LLC, 5; Paradigm Spine LLC, 2

MO0178 **Probable Roles of Adiponectin Functional Domains in Osteoblastic Differentiation**
Aiko Kamada*, Takashi Ikeo, Yoshihiro Yoshikawa, Eisuke Domae, Seiji Goda, Isao Tamura. Osaka Dental University, Japan
Disclosures: Aiko Kamada, None

MO0179 **Regulation of Colon Hyperplasia by the Calcium Channel TRPV6**
Shahid Umar[1], Sara Peleg*[2]. [1]University of Oklahoma Health Science Center, USA, [2]University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Sara Peleg, None

MO0180 **Regulation of Gene Expression and Subcellular Protein Distribution in Murine Osteocyte-Like Cells by the Lipid Growth Factor Lysophosphatidic Acid**
Katrina M. Waters, Jon M. Jacobs, Marina A. Gritsenko, Norman Karin*. Pacific Northwest National Laboratory, USA
Disclosures: Norman Karin, None

MO0181 **The Effect of Electrical Stimulation on Osteogenesis-related Cytokine Production in Three Dimensionally Cultured Human Mesenchymal Stromal Cells**
In Sook Kim, Ri Youn Kim*. Seoul National University, South Korea
Disclosures: Ri Youn Kim, None

MO0182 **Understanding the Differences Between LRP5 and LRP6**
Bryan MacDonald*[1], Mikhail Semenov[2], He Huang[2], Xi He[2]. [1]Children's Hospital Harvard Medical School, USA, [2]Children's Hospital, Harvard Medical School, USA
Disclosures: Bryan MacDonald, None

MO0183 **Wnt10b Expression Stimulates NF-kappaB Activity in Osteoblasts**
David Monroe[1], Ulrike Moedder*[2]. [1]Mayo Foundation, USA, [2]Mayo Clinic College of Medicine, USA
Disclosures: Ulrike Moedder, None

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

MO0184 **Bioavailable IGF-I is Reduced in Female Recruits Sustaining Stress Fractures during Military Basic Training**
Cassi Strohbach*[1], Dennis E. Scofield[1], Amanda Antczak[1], Bradley C. Nindl[1], Rachel Evans[2], Ran Yanovich[3], Yael Arbel[3], Daniel C. Moran[4]. [1]US Army Research Institute of Environmental Medicine, USA, [2]U.S. Army Research Institute of Environmental Medicine, USA, [3]Heller Institute, Sheba Medical Center, Israel, [4]Heller Institute, Sheba Medical Center & Ariel University Center of Samaria, Israel
Disclosures: Cassi Strohbach, None

MO0185 **PAPP-A Regulates PTH-IGF Interactions in Bone**
Kari Clifton*, Cheryl Conover. Mayo Clinic College of Medicine, USA
Disclosures: Kari Clifton, None

MO0186 **Prostaglandin E_2 Increases Cancellous Bone Mass and Formation in Dwarf Rats Despite a Depressed GH/IGF-I Axis**
Ana Cristina Bassit*[1], Jose Aguirre[2], Tamashbeen Rahman[2], Thomas Wronski[2]. [1]University of Florida - Veterinary College, USA, [2]University of Florida, USA
Disclosures: Ana Cristina Bassit, None

MO0187 **Runx2 Deficiency Promotes Adipogenesis by Regulating Insulin Signaling**
Mitra Adhami*[1], Farah Ghori[1], Haiyan Chen[1], Soraya Gutierrez[2], Amjad Javed[1]. [1]University of Alabama at Birmingham, USA, [2]Universidad de Concepción, Chile
Disclosures: Mitra Adhami, None

GROWTH FACTORS AND CYTOKINES: TRANSFORMING GROWTH FACTOR

MO0188 **CTGF/CCN2 is a Downstream Target Gene of Ets-1 in Osteoblasts**
Randy Astaiza[1], Max Geisinger[1], Tiffany Butler[1], Steven Popoff[2], John Arnott*[1]. [1]The Commonwealth Medical College, USA, [2]Temple University School of Medicine, USA
Disclosures: John Arnott, None

MO0189 **Loss of Matrix Metalloproteinase-13 Increases Bone Matrix Heterogeneity and Decreases Fracture Resistance**
Simon Tang*, Tamara Alliston. University of California, San Francisco, USA
Disclosures: Simon Tang, None

OSTEOBLASTS: APOPTOSIS AND CELL CYCLE

MO0190 **Oscillatory Fluid Shear Stress Inhibits TNF-α-induced Apoptosis in MC3T3 cells via Blocking of TNFR1 Signaling**
Haifang Wang[1], Fredrick Pavalko*[2]. [1]Indiana University School of Medicine, & Key Laboratory for Space Bioscience & Biotechnology, Northwestern Polytechnical University, USA, [2]Indiana University School of Medicine, USA
Disclosures: Fredrick Pavalko, None

OSTEOBLASTS: BONE FORMATION AND BONE RESORPTION

MO0191 **A Possible Role of Adipocytes in Bone in Osteoblastogenesis**
Hengwei Zhang[1], Weida Lu[2], Yingchun Zhao[3], Robert Recker[4], Gary Xiao*[2]. [1]Creighton University Medical Center, USA, [2]Creighton University, USA, [3]Genomics & Functional Proteomics Laboratory, Osteoporosis Research Center, Creighton University Medical Center, USA, [4]Creighton University Osteoporosis Research Center, USA
Disclosures: Gary Xiao, None

MO0192 **Acoustic Radiation Force on MC3T3-E1 Cells Modulates Calcium Transient in a Strain and Frequency-Dependent Manner**
Yi-Xian Qin[1], Jiqi Cheng[2], Shu Zhang*[2]. [1]State University of New York at Stony Brook, USA, [2]Stony Brook University, USA
Disclosures: Shu Zhang, None

MO0193 **Acute-phase Serum Amyloid A Enhances Mineralization Processes and Cellular Senescence in Mesenchymal Stem Cells I*n Vitro***
Peggy Benisch*[1], Sabine Zeck[2], Melanie Kober[2], Martina Regensburger[2], Jutta Meißner-Weigl[2], Moustapha Kassem[3], Regina Ebert[4], Franz Jakob[2]. [1]University of Wuerzburg, Germany, [2]Orthopedic Center for Musculoskeletal Research University of Wuerzburg, Germany, [3]Odense University Hospital, Denmark, [4]University of Wuerzburg, Orthopedic Center for Muskuloskeletal Research, Germany
Disclosures: Peggy Benisch, None

MO0194 **Adherent Lipopolysaccharide Inhibits Osteoblast Differentiation on Titanium Alloy Substrates without Affecting Attachment, Spreading or Growth**
Lindsay Bonsignore*, Victor Goldberg, Edward Greenfield. Case Western Reserve University, USA
Disclosures: Lindsay Bonsignore, None

MO0195 **Cnot3, a Novel Critical Regulator of a mRNA Stability, is Involved in the Maintenance of the Bone Mass and the Bone Structure in Senile Osteoporosis Model**
Chiho Watanabe*[1], Masahiro Morita[2], Yoichi Ezura[3], Tetsuya Nakamoto[1], Tadayoshi Hayata[4], Hiroaki Hemmi[1], Takuya Notomi[5], Keiji Moriyama[1], Tadashi Yamamoto[2], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Division of Oncology, Institute of Medical Science, University of Tokyo, Japan, [3]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]GCOE, Tokyo Medical & Dental University, Japan
Disclosures: Chiho Watanabe, None

MO0196 **CREB Mediates Brain-derived Serotonin Regulation of Bone Mass Accrual**
Gerard Karsenty, Franck OURY*, Vijay Yadav. Columbia University, USA
Disclosures: Franck OURY, None

MO0197 **Does PTHrP Plays a Role in the Stimulatory Effect of Strontium on Osteoblast like Cells UMR 106.1 Mineralization?**
Pierre Bergmann[1], Rafik Karmali[2], Nicole Nijs-De Wolf*[3]. [1]Centre Hospitalier Universitaire Brugmann, Belgium, [2]Dept of Medicine, CHU Brugmann, ULB, Belgium, [3]Lab Exp Medicine, CHU Brugmann, ULB, Belgium
Disclosures: Nicole Nijs-De Wolf, None

MO0198 **EGLN Inhibitor Promotes Bone Fracture Healing by Induction of VEGF**
Yan Wang*[1], Bruce Hopkins[1], Masahiko Sato[2], Mary Adrian[1], Leah Helvering[1]. [1]Eli Lilly & Company, USA, [2]Lilly Research Labs, USA
Disclosures: Yan Wang, None

MO0199 **EP1$^{-/-}$ Mice Are Resistant to Both Age-induced and Ovariectomy-induced Bone Loss**
Minjie Zhang*[1], Hsin Chiu Ho[2], Tzong-Jen Sheu[2], Edward Schwarz[2], Regis O'Keefe[2]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA
Disclosures: Minjie Zhang, None

MO0200 **Extracts of the Nutritional Supplement, Bone builder™, and the Herbal Supplement, Greens+™, Synergistically Stimulate Bone Formation by Human Osteoblast Cells in Vitro**
Dawn Snyder*[1], A. Venketeshwer Rao[1], Balachandran Bashyam[1], Jaclyn Beca[2], Honglei Shen[1], Salva Sadeghi[2], Ayesha Quireshi[2], Erin MacKinnon[3], Leticia Rao[3]. [1]University of Toronto, Canada, [2]St. Michael's Hospital, Canada, [3]University of Toronto, St. Michael's Hospital, Canada
Disclosures: Dawn Snyder, None

MO0201 **Function of OPG as a Traffic Regulator for RANKL is Crucial for Controlled Osteoclastogenesis**
Shigeki Aoki*[1], Masashi Honma[1], Yoshiaki Kariya[1], Yuko Nakamichi[2], Tadashi Ninomiya[2], Naoyuki Takahashi[2], Nobuyuki Udagawa[2], Hiroshi Suzuki[1]. [1]The University of Tokyo Hospital, Japan, [2]Matsumoto Dental University, Japan
Disclosures: Shigeki Aoki, None

MO0202 **Functional Adaptation of the Skeleton may be Regulated by CGRPα Through a Neuronal Mechanism**
Susannah Sample*[1], Jason Bleedorn[2], Zhengling Hao[3], Peter Muir[4]. [1]UW-Madison School of Veterinary Medicine, USA, [2]University of Wisconsin-Madison, USA, [3]University of Wisconsin - Madison, USA, [4]University of Wisconsin, Madison, USA
Disclosures: Susannah Sample, None

MO0203 **Important Role of Non Canonical Pathways in Controlling the Proliferation and Differentiation of Osteoblastic Cells Induced by Wnt Proteins**
Cyril Thouverey, Joseph Caverzasio*. Service of Bone Diseases, Dept of Rehabilitation & Geriatrics, University Hospital of Geneva, Switzerland
Disclosures: Joseph Caverzasio, None

MO0204 **Lrp5 Receptor and PGE2 in Bone Response to Mechanical Loading**
Bryan Hackfort*[1], Gwendolin Alvarez[1], Mohammed Akhter[2], Diane Cullen[1]. [1]Creighton University, USA, [2]Creighton University Osteoporosis Research Center, USA
Disclosures: Bryan Hackfort, None

MO0205 **Osteoblast Growth and Differentiation in Three-Dimensional Collagen Gels**
Brya Matthews*[1], Karen Callon[1], Rachel Locklin[2], Philippa Hulley[2], Dorit Naot[1], Jillian Cornish[1]. [1]University of Auckland, New Zealand, [2]University of Oxford, United Kingdom
Disclosures: Brya Matthews, None

MO0206 **Osteoblast IL-33 mRNA Expression is Regulated by PTH, and IL-33 Treatment Causes both Increased Osteoblastic Matrix Mineralisation and Reduced Osteoclast Formation In Vitro**
Julian Quinn*[1], Hasnawati Saleh[2], Matthew Gillespie[1]. [1]Prince Henry's Institute of Medical Research, Australia, [2]Prince Henry's Institute, Australia
Disclosures: Julian Quinn, None

MO0207 **Regulation of Osteoblast Function and Bone Remodeling by Phosphatidylinositol Transfer Protein-alpha (PITP-alpha)**
Zheng Zhou*, Lin Mei, Wencheng Xiong. Medical College of Georgia, USA
Disclosures: Zheng Zhou, None

MO0208 **The Effect of Oral Glucose Tolerance Test on Serum Osteocalcin and Other Bone Turnover Markers in Young Adults**
Paivi Paldanius*[1], Kaisa Ivaska[2], Petteri Hovi[3], Sture Andersson[4], Eero Kajantie[3], Kalervo Vaananen[5], Outi Makitie[6]. [1]University of Helsinki, Finland, [2]University of Turku, Department of Cell Biology & Anatomy, Finland, [3]National Institute for Health & Welfare, Finland, [4]Hospital for Children & Adolescents, Institute of Clinical Medicine, University of Helsinki, Finland, [5]Department of Cell Biology & Anatomy, Institute of Biomedicine, University of Turku, Finland, [6]Hospital for Children & Adolescents, University of Helsinki, Finland
Disclosures: Paivi Paldanius, None

OSTEOBLASTS: GENE EXPRESSION AND TRANSCRIPTION FACTORS

MO0209 **C/EBPβ Binds Multiple Distal Regulatory Sites in the *Rankl* Gene Locus and Modulates the Gene's Expression in Osteoblasts**
J. Pike, Melissa Martowicz*. University of Wisconsin-Madison, USA
Disclosures: Melissa Martowicz, None

MO0210 **DExH-box Helicase DHX36 Mediates Histone Deacetylase Inhibitor MS-275-induced Bone Formation**
Ha-Neui Kim*[1], Kyoungsuk Jung[1], Hyunil Ha[1], Jea Seung Ko[2], Zang Hee Lee[1]. [1]Seoul National University School of Dentistry, South Korea, [2]Seoul National University, School of Dentistry, South Korea
Disclosures: Ha-Neui Kim, None

MO0211 **Epigenetic Bookmarking of Osteoblast Growth and Differentiation Related Genes by Runx2 During Mitosis**
Syed Ali*, Jason Dobson, Sayyed K. Zaidi, Andre Van Wijnen, Jane Lian, Janet L. Stein, Gary Stein. University of Massachusetts Medical School, USA
Disclosures: Syed Ali, None

MO0212 **Fluid Flow Activation of Osteoblasts and the Interaction of PKA and AKT**
Jacob Miller*[1], Gwendolin Alvarez[1], John Yee[2], Diane Cullen[1]. [1]Creighton University, USA, [2]Creighton University School of Medicine, USA
Disclosures: Jacob Miller, None

MO0213 **Gene Expression Patterns in Bone Following Mechanical Loading**
Sara Mantila Roosa*[1], Yunlong Liu[2], Charles Turner[3]. [1]Purdue University, USA, [2]Indiana University School of Medicine, USA, [3]Indiana University, Purdue University Indianapolis, USA
Disclosures: Sara Mantila Roosa, None

MO0214 **Histone Demethylase NO66 is a Negative Regulator of Osterix and Osteoblast Diffrentiation**
Krishna Sinha*[1], Qin Chen[2], Hideyo Yasuda[2], Benoit De Crombrugghe[3]. [1]UT MD Anderson Cancer Center, USA, [2]M. D. Anderson cancer Center, USA, [3]University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Krishna Sinha, None

MO0215 **Identification of Osteoblast-Specific *cis*-acting Regulatory Elements in the *Bmp2* and *Bmp4* Gene Deserts: *Effect of Chromatin Context on Transcription Regulation***
Steven Pregizer*, Douglas Mortlock. Vanderbilt University Medical Center, USA
Disclosures: Steven Pregizer, None

MO0216 **Iron Inhibits Osteoblast Differentiation and Maturation of Mesenchymal Stem Cells Origin**
Qing Yang[1], Florence Huang[2], Jinlong Jian[3], Xi Huang*[4]. [1]NYU School of Medicine, USA, [2]Bergen County Academy, USA, [3]New York University Medical Center, USA, [4]New York University School of Medicine, USA
Disclosures: Xi Huang, None

MO0217 **Metformin, an Oral Anti-diabetic Drug, Stimulates Osteoblast Diferentiation via AMPK-activated SHP Expression in Mouse Calvarial Cells**
Won Gu Jang*[1], Eun Jung Kim[1], Kkot-nim Lee[2], Sin-Hye Oh[2], In-Ho Bae[1], Hye-Ju Son[2], Shee-Eun Lee[1], Sun-Hun Kim[1], Jeong-Tae Koh[1]. [1]Chonnam National University, South Korea, [2]Chonnam National University School, South Korea
Disclosures: Won Gu Jang, None

MO0218 **NFATc1 Interacts With CSL and Suppresses Canonical Notch Signaling**
Stefano Zanotti*[1], Anna Smerdel-Ramoya[2], Ernesto Canalis[2]. [1]Saint Francis Hospital & Medical Center, USA, [2]St. Francis Hospital & Medical Center, USA
Disclosures: Stefano Zanotti, None

MO0219 **Nuclear Factor of Activated T cells Mediates Osteoblastic Regulation of Hematopoiesis in the Bone Marrow Microenvironment**
Laurel Druschitz*[1], Jennifer Paige-Robinson[2], Christopher Klug[2], Majd Zayzafoon[2]. [1]University of Alabama, USA, [2]University of Alabama at Birmingham, USA
Disclosures: Laurel Druschitz, None

MO0220 **pRB/p107 and BRG1 Coordinate Transcriptional Activation of Alkaline Phosphatase in Osteoblasts.**
Stephen Flowers*[1], George Beck[2], Elizabeth Moran[3]. [1]NJMS-UH Cancer Center, University of Medicine of Dentistry of New Jersey, USA, [2]Emory University School of Medicine, USA, [3]University of Medicine & Dentistry of New Jersey, Cancer Center, USA
Disclosures: Stephen Flowers, None

MO0221 **Transcriptional Control of FIAT Expression in Osteoblasts**
Bahareh Hekmatnejad*[1], Claude Gauthier[2], Rene St-Arnaud[3]. [1]McGill University, Canada, [2]Shriners Hospital for Children, Canada, [3]Shriners Hospital for Children & McGill University, Canada
Disclosures: Bahareh Hekmatnejad, None

OSTEOBLASTS: HORMONAL REGULATION AND SIGNAL TRANSDUCTION

MO0222 **Differential Regulation of Cortical and Trabecular Bone by Secreted Frizzled-Related Protein 4 (Sfrp4)**
Richard Kao*[1], Alyssa Louie[2], Wei-Dar Lu[2], Robert Nissenson[3]. [1]UCSF/VAMC, USA, [2]VAMC, USA, [3]University of California, San Francisco, USA
Disclosures: Richard Kao, None

MO0223 **Gα12-RhoA Signaling in Osteoblasts Antagonizes PTH/Calcitriol-Stimulated Osteoclastogenesis and Effects on RANKL and OPG: A Potential Homeostatic Mechanism in Bone.**
Jun Wang*, Paula H. Stern. Northwestern University, USA
Disclosures: Jun Wang, None

MO0224 **Heat Shock Protein 25 Induced by Dexamethasone is Associated with Osteoblast Differentiation via GSK3ß**
Sun-Il Yun, Hyung-Young Yoon, Yoon-Sok Chung*. Ajou University School of Medicine, South Korea
Disclosures: Yoon-Sok Chung, None

MO0225 **MMP14 Mediates PTH-induced Soluble RANK Ligand Release from Osteoblasts.**
Mei-ling Zhu*[1], Christine Simpson[2], Karl Insogna[3]. [1]Yale School of Medicine, USA, [2]Yale University, USA, [3]Yale University School of Medicine, USA
Disclosures: Mei-ling Zhu, None

MO0226 **Oxytocin Receptor Nuclear Translocation Could Be A Novel Mechanism Mediating Osteoblast Differentiation Induced By Oxytocin**
Adriana Di Benedetto*[1], Graziana Colaianni[1], Stefania Dell'Endice[1], Roberto Tamma[1], Cosima Damiana Calvano[2], Carlo Giorgio Zambonin[2], Bice Chini[3], Li Sun[4], Mone Zaidi[4], Alberta Zallone[5]. [1]University of Bari, Medical School, Italy, [2]University of Bari, Chemistry, Italy, [3]Neuroscience, CNR, Italy, [4]Mount Sinai School of Medicine, USA, [5]University of Bari Medical School, Italy
Disclosures: Adriana Di Benedetto, None

OSTEOBLASTS: PROGENITOR AND STROMAL CELLS, PROLIFERATION AND DIFFERENTIATION

MO0227 **Age and *in vivo* Clinical Characteristics of Subjects Influence *in vitro* Vitamin D Action in Human Bone Marrow Stromal Cells**
Shuanhu Zhou*, Julie Glowacki, Meryl Leboff. Brigham & Women's Hospital, USA
Disclosures: Shuanhu Zhou, None

MO0228 **Binge Alcohol Exposure Disrupts Wnt Signaling in the Fracture Callus**
Kristen Lauing*[1], Ryan Himes[2], John Callaci[3]. [1]Loyola University Medical Center, USA, [2]Loyola University Medical Center, Dept of Orthopaedics, USA, [3]Loyola University of Chicago, USA
Disclosures: Kristen Lauing, None

MO0229 **Carboxyl-Modified Single-Wall Carbon Nanotube Substrates Induce Expression of Osteoblast Differentiation Markers Associated With Matrix Attachment and Formation**
Navasard Ovasapians, Dulce Padilla, Antonio Barrientos-Duran, Laura Zanello*. University of California, USA
Disclosures: Laura Zanello, None

MO0230 **Comparison of Human and Minipig Bone Marrow Derived Mesenchymal Stem Cells**
Terhi Heino*[1], Jessica Alm[2], Niko Moritz[3], Hannu Aro[4]. [1]Department of Cell Biology & Anatomy, University of Turku, Finland, [2]Orthopaedic Research Unit, Finland, [3]Orthopaedic Research Unit, University of Turku, Finland, [4]University of Turku, Turku, Finland, Finland
Disclosures: Terhi Heino, None

MO0231 **Hedgehog Signaling Mediates BMP2-induced Osteogenic Differentiation of Bone Marrow Stromal Cells In Vitro and Spinal Fusion in Rats In Vivo**
Jared Johnson*[1], Jeong-Hyun Yoo[1], Vicente Meliton[2], Woo Kyun Kim[2], Jeff C. Wang[1], Renata Pereira[3], Theodore Hahn[4], Farhad Parhami[5]. [1]Department of Orthopedics, UCLA, USA, [2]Department of Medicine, UCLA, USA, [3]UCLA, USA, [4]VA Greater Los Angeles/ UCLA, USA, [5]University of California, Los Angeles, USA
Disclosures: Jared Johnson, None

MO0232 **Highly Osteogenic Multipotent Mesenhymal Stromal Cells from Human Breast Adipose Tissue Express High Levels of Stage specific Antigen-4 (SSEA-4)**
Christopher Niyibizi*[1], Feng Li[2], Jacquelyn Maddox[2]. [1]The Pennsylvania State University College of Medicine, USA, [2]Penn State College of Medicine, USA
Disclosures: Christopher Niyibizi, None

MO0233 **Localization of Tie-2 Expression in Mice Skeletal Unloading Model**
Kuniaki Moridera*, Kunitaka Menuki, Toshitaka Nakamura, Akinori Sakai, Soshi Uchida. University of Occupational & Environmental Health, Japan
Disclosures: Kuniaki Moridera, None

MO0234 **NF-kB RelB/p52 Non-canonical Signaling Regulates Hematopoietic Stem Cell Maintenance**
Chen Zhao*[1], Yan Xiu[1], John Ashton[2], Lianping Xing[2], Craig Jordan[2], Brendan Boyce[1]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA
Disclosures: Chen Zhao, None

MO0235 **Novel Osteogenic Oxysterols Induce Osteogenic and Inhibit Adipogenic Differentiation of Marrow Stromal Cells In Vitro and Stimulate Bone Formation and Spinal Fusion In Vivo**
Jared S. Johnson*[1], Vicente Meliton[1], Woo Kyun Kim[1], Kwang-Bok Lee[1], Jeffrey C. Wang[1], Khanhlinh Nguyen[1], Dongwon Yoo[1], Michael E. Jung[1], Elisa Atti[1], Sotirios Tetradis[1], Renata Pereira[1], Theodore Hahn[2], Francine Farouz[3], Scott Thies[3], Farhad Parhami[4]. [1]UCLA, USA, [2]VA Greater Los Angeles/UCLA Medical Center, USA, [3]Fate Therapeutics, Inc., USA, [4]University of California, Los Angeles, USA
Disclosures: Jared S. Johnson, None

MO0236 **Osteoblast Lineage Cells Expressing High Levels of Runx2 Enhance Hematopoietic Stem Cell Maintenance and Function**
Brahmananda R. Chitteti[1], Ying-Hua Cheng[2], Sonia Rodriguez-Rodriguez[3], Nadia Carlesso[3], Edward F. Srour[4], Melissa Kacena*[5]. [1]Department of Medicine, Indiana University School of Medicine, USA, [2]Department of Orthopaedic Surgery, Indiana University School of Medicine, USA, [3]Department of Pediatrics, Indiana University School of Medicine, USA, [4]Departments of Medicine, Pediatrics, & Microbiology & Immunology, Indiana University School of Medicine, USA, [5]Indiana University School of Medicine, USA
Disclosures: Melissa Kacena, None

MO0237 **Platform for Comparing In Vivo Bone Formation by Different Osteoprogenitor Cell Populations**
Liping Wang*, Xi Jiang, Jianping Huang, David Rowe. University of Connecticut Health Center, USA
Disclosures: Liping Wang, None

MO0238 **Role of Alpha-Linolenic Acid (ALA) in the Regulation of Differentiating Preadipocyte-Like MC3T3-L1 and Preosteoblast-Like MC3T3-E1 Cell Metabolism**
Youjin Kim*[1], Owen Kelly[2], Jasminka Ilich-Ernst[3]. [1]The Florida State Univesity, USA, [2]Texas Woman's University, USA, [3]Florida State University, USA
Disclosures: Youjin Kim, None

MO0239 **Serum from Patient with High Bone Mass Phenotype Due to lrp5 T253I Mutation, Contain Factors Independent of Serotonin that Stimulate Osteoblast and Inhibit Adipocyte Differentiation of Mesenchymal (skeletal) Stem Cells**
Tom Andersen*[1], Morten Nielsen[1], Basem Abdallah[2], Moustapha Kassem[1]. [1]Odense University Hospital, Denmark, [2]Odense University Hospital , University of South Denmark, Denmark
Disclosures: Tom Andersen, None

MO0240 **Short-Term Hypoxia Enhances the Mobilization of Hematopoietic Progenitors and Decreases the Number of SDF-1 Positive Osteoblasts in Endosteum**
Marjorie Durand*[1], Pascal Pradeau[1], Marina Trouillas[2], Denis Clay[3], Jean Jacques Lataillade[2], Marie Caroline Le Bousse Kerdiles[3], Xavier Holy[4]. [1]Institut de Recherche Biomédicale des Armées, BP73, France, [2]Centre de Transfusion des Armées, France, [3]INSERM U972, France, [4]IMASSA, France
Disclosures: Marjorie Durand, None

MO0241 **Strontium Role on Adipose Tissue Mesenchymal Stem Cells Osteogenic Induction**
Isabella Tognarini*[1], Roberto Zonefrati[1], Gianna Galli[1], Carmelo Mavilia[1], Giorgia Donata Zappoli Thyrion[1], Anna Maria Carossino[1], Valentina Vitale[1], Simone Ciuffi[1], Annalisa Tanini[2], Maria Luisa Brandi[2]. [1]Department of Internal Medicine, University of Florence, Italy, [2]University of Florence, Italy
Disclosures: Isabella Tognarini, None

MO0242 **The Effect of Mild Heat Shock on Osteoblast Proliferation and Differentiation**
Adel Al-Enazy, Nasser Alqhtani, Ada Armstrong, Vasilis Bousdras, Sajeda Meghji*. UCL Eastman Dental Institute, United Kingdom
Disclosures: Sajeda Meghji, None

MO0243 **Wnt7b Plays a Unique and Essential role in Osteoblast Differentiation**
Xinyu Shao[1], Colette Fong-Yee[2], Karin Lyon[2], Weiping Jia[3], Colin Dunstan[4], Di Chen[5], Markus Seibel[1], Hong Zhou*[1]. [1]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia, [2]Bone Research Program, ANZAC Research Institute, University of Sydney, Australia, [3]Department of Endocrinology & Metabolism, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, China, [4]University of Sydney, Australia, [5]University of Rochester Medical Center, USA
Disclosures: Hong Zhou, None

OSTEOBLASTS: STEROID/SERM EFFECTS

MO0244 **Comparison of the Biological Activities of Vitamins D_2 and D_3 on Osteoblast Differentiation and Activity**
Allahdad Zarei*[1], Francis Lam[2], David Mahoney[1], Guillaume Mabilleau[1], Afsie Sabokbar[3], Morovat Alireza[2]. [1]University of Oxford, United Kingdom, [2]John Radcliffe Hospital, United Kingdom, [3]University of Oxford, Botnar Research Centre, United Kingdom
Disclosures: Allahdad Zarei, None

OSTEOCLASTS: CELL ADHESION

MO0245 **Identification and Functional Analysis of a Novel Regulator of Actin-ring Formation in Osteoclasts**
Norihiro Ishida-kitagawa*, Bao Xilinqiqige, Kunitaro Tanaka, Takanori Kimura, Tadashi Miura, Takuya Ogawa, Tatsuo Takeya. Nara Institute of Science & Technology, Japan
Disclosures: Norihiro Ishida-kitagawa, None

OSTEOCLASTS: CYTOKINES AND GROWTH FACTORS

MO0246 **Fluid Pressure and Titanium Particles Induces Osteoclast Activation Via Alternative Pathways**
Göran Andersson[1], Anna Nilsson[2], Maria Norgård[1], Anna Fahlgren*[2]. [1]Karolinska Institute Huddinge, Division of pathology, Sweden, [2]Linköping University, Division of Orthopaedics, Sweden
Disclosures: Anna Fahlgren, None

MO0247 **Hypoxia-Inducible Factor (HIF) Regulates Osteoclast-Mediated Bone Resorption: Role of Angiopoietin-like 4 (ANGPTL4)**
Helen Knowles[1], Anne-Marie Cleton-Jansen[2], Eberhard Korsching[3], Nicholas Athanasou*[1]. [1]University of Oxford, United Kingdom, [2]Leiden University Medical Centre, Netherlands, [3]University of Munster, Germany
Disclosures: Nicholas Athanasou, None

MO0248 **The Role of CX3CL1/CX3CR1 on the Osteoclastogeneis in a Mice Model of Radiation Induced Bone Loss**
Chang Sun whang*[1], So Young Park[2], Seoung Mi Choi[1], Yun Kyung Yu[1], Chang Hoon Yim[1], Sung Hoon Kim[1], Hyun-Koo Yoon[3], Ki Ok Han[1]. [1]cheil hospital, South Korea, [2]Kwandong University College, South Korea, [3]Cheil Hospital & Women's Healthcare Center, South Korea
Disclosures: Chang Sun whang, None

MO0249 **Twisted-gastrulation, a Negative Regulator of BMP-signaling in Osteoclasts**
Lan Pham*[1], Eric Jensen[2], Kayla Beyer[3], Charlie Billington[3], Julia Davydova[3], Julio Rodriguez[3], Masato Yamamoto[3], Anna Petryk[3], Kim Mansky[1], Raj Gopalakrishnan[1]. [1]University of Minnesota, USA, [2]University of Minnesota School of Dentistry, USA, [3]University of MN, USA
Disclosures: Lan Pham, None

OSTEOCLASTS: DIFFERENTIATION

MO0250 **Cortical Bone Stimulates Osteoclast Formation and Calvarial Bone Does Not.**
Teun De Vries*[1], Ton Schoenmaker[2], Vincent Everts[1]. [1]ACTA, Vrije Universiteit, The Netherlands, [2]ACTA, Netherlands
Disclosures: Teun De Vries, None

MO0251 **Cross-talk between Phagocytic and Osteoclastogenic Pathways Determine Myeloid Cell Fate in Granulomatous Inflammation.**
Ed Purdue*, Douglas James, Bryan Nestor, Thomas Sculco, F. Patrick Ross, Steven Goldring. Hospital for Special Surgery, USA
Disclosures: Ed Purdue, None

MO0252 **HDAC3 and HDAC7 Have Opposite Effects on Osteoclast Differentiation**
Eric Jensen[1], Lan Pham[2], Bria Kaiser[2], Amanda Romsa[2], Toni Schwarz[2], Raj Gopalakrishnan[2], Kim Mansky*[2]. [1]University of Minnesota School of Dentistry, USA, [2]University of Minnesota, USA
Disclosures: Kim Mansky, None

MO0253 **Isoquinoline Alkaloids Attenuate Osteoclast Differentiation and Function Through Regulation of RANKL and OPG Gene Expression in Osteoblastic Cells**
Ji-Won Lee*[1], Nam-Kyung Im[2], Takayuki Yonezawa[3], Hwa-Jeong Seo[4], Won Bae Jeon[4], Byung-Yoon Cha[1], Kazuo Nagai[5], Je-Tae Woo[1]. [1]Research Institute for Biological Functions, Chubu University, Japan, [2]Dept. of Food Science & Technology, Keimyung University, South Korea, [3]The University of Tokyo, Japan, [4]Daegu Gyoengbuk Institute of Science & Technology, South Korea, [5]Department of biological chemistry, Chubu university, Japan
Disclosures: Ji-Won Lee, None

MO0254 **Osteocytic MLO-Y4 Cells Inhibit Osteoclastogenesis by a Soluble Factor(s), Independent of Modulation of RANKL/OPG Productions by Stromal Cells**
Takuya Sato*[1], Chiyomi Hayashida[2], Mari Okayasu[2], Yoshiyuki Hakeda[3]. [1]Meikai University School of Dentistry, Jpn, [2]Meikai University Graduate School of Dentistry, Japan, [3]Meikai University School of Dentistry, Japan
Disclosures: Takuya Sato, None

MO0255 **PGC1β Mediates PPARγ Activation of Osteoclastogenesis and Rosiglitazone-Induced Bone Loss**
Wei Wei[1], Xueqian Wang[1], Marie Yang[1], Leslie Smith[2], Paul Dechow[2], Yihong Wan*[3]. [1]UT Southwestern Medical Center, USA, [2]Baylor College of Dentistry, Texas A&M University Health Sciences Center, USA, [3]University of Texas Southwestern Medical Center, USA
Disclosures: Yihong Wan, None

MO0256 **Regulation of Osteoclast Differentiation by Adenylate Cyclase 3 Through PKA-Mediated NFATc1 Inactivation**
Woo-shin Kim*, Soo-hyun Yoon, Hong-Hee Kim. Seoul National University, South Korea
Disclosures: Woo-shin Kim, None

MO0257 **RelB, and not p65, Regulates Osteoclast Differentiation via Direct Binding to κB sites in c-fos and NFATc1 Genes**
Jennifer Davis*[1], Chang Yang[2], Kathleen McCoy[1], Roberta Faccio[2], Deborah Novack[3]. [1]Washington University School of Medicine, USA, [2]Washington University in St Louis School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Jennifer Davis, None

MO0258 **Sirtuin Activating Compounds Inhibit Rac1 Activation, Actin Ring Formation, and Osteoclastogenesis**
Manhui Pang*[1], Mireya Hernandez[1], Isabel Fernandez[1], María Rodríguez-Gonzalez[1], Bruce Troen[2]. [1]Miami VA GRECC, Geriatrics Institute, University of Miami Miller School of Medicine, USA, [2]Miami VA GRECC, University of Miami Miller School of Medicine, USA
Disclosures: Manhui Pang, None

MO0259 **The p66, p52, and p46 Isoforms of the Adaptor Protein Shc Play Critical but Distinct Roles in Osteoclast Differentiation**
Haibo Zhao*[1], Maria Jose Almeida[1], Xiaohua Qiu[2], Shiqiao Ye[1], Aaron Warren[2], Charles O'Brien[1], Stavros Manolagas[1]. [1]University of Arkansas for Medical Sciences, USA, [2]Center for Osteoporosis & Metabolic Bone Diseases, University of Arkansas for Medical Sciences & Central Arkansas Veterans System, USA
Disclosures: Haibo Zhao, None

MO0260 **Zoledoronic Acid Inhibits TNF-α Induced RANK Expression and Migration in Osteoclast Precursors**
Keiichiro Kimachi[1], Tetsuro Ikebe[2], Fujio Okamoto[1], Hiroshi Kajiya*[1], Koji Okabe[1], Shuji Nakayama[1]. [1]Fukuoka Dental College, Japan, [2]Fukuoka Dental College., Japan
Disclosures: Hiroshi Kajiya, None

OSTEOCLASTS: INHIBITION OF RESORPTION

MO0261 **Development of Cell-based Assays for Identifying Inhibitors of RANK Intracellular Signaling**
Jason Ashley*[1], Erin McCoy[1], Zhenqi Shi[1], Daniel Clements[1], Taosheng Chen[2], Xu Feng[1]. [1]University of Alabama at Birmingham, USA, [2]St. Jude Children's Research Hospital, USA
Disclosures: Jason Ashley, None

MO0262 **Elucidating the Mechanism by which the Human R444L and G405R Point Mutations in the V-ATPase 'a3' Subunit Leads to Osteopetrosis.**
Ajay Bhargava*[1], Michael Glogauer[2], Morris Manolson[2]. [1]Dental Research Institute, Canada, [2]University of Toronto, Canada
Disclosures: Ajay Bhargava, None

MO0263 **In Vivo Imaging of Osteoclast Precursor Recruitment to the Inflammatory Site where Extensive Bone Destruction Occurs**
Keiko Suzuki*[1], Fumitaka Takeshita[2], Kenji Yamamoto[3], Shoji Yamada[1], Hisashi Shinoda[4], Takahiro Ochiya[2]. [1]Department of Pharmacology, School of Dentistry, Showa University, Japan, [2]Section for Studies on Metastasis, National Cancer Center Research Institute, Japan, [3]Research Institute, National Center for Global Health & Medicine, Japan, [4]Tohoku University Graduate School of Dentistry, Japan
Disclosures: Keiko Suzuki, None

MO0264 **Isoprostane Levels are Altered in Rheumatoid Arthritis and Suppress NFκB Activity to Inhibit Osteoclast Formation**
Seint Lwin*[1], Josh Brooks[1], Rick Jacobson[1], Lynett Danks[2], Karin Lundberg[2], Erin Terry[1], Stephanie Sanchez[1], Gregory Mundy[1], Jason Morrow[1], Ginger Milne[1], James Edwards[1]. [1]Vanderbilt University Medical Center, USA, [2]Imperial College London, United Kingdom
Disclosures: Seint Lwin, None

MO0265 **Osteoclast Retraction Induced by Isoform-Specific PI3-kinase Inhibitors**
S. Jeffrey Dixon[1], Stephen Sims[2], Frank Jirik[3], Ryan Shugg*[1]. [1]The University of Western Ontario, Canada, [2]Supervisor, Canada, [3]Co-supervisor, Canada
Disclosures: Ryan Shugg, None

MO0266 **The Benzohydrazide Derivative KM91104 Inhibits Osteoclast Mineral Resorption at μM Concentrations that do not Affect Osteoclast Differentiation or Fusion**
Gazelle Crasto*[1], Norbert Kartner[1], Keying Li[2], Yeqi Yao[2], Alessandro Datti[3], Morris Manolson[1]. [1]University of Toronto, Canada, [2]Dental Research Institute, Faculty of Dentistry, University of Toronto, Canada, [3]Samuel Lunenfeld Research Institute, Mt. Sinai Hospital, Canada
Disclosures: Gazelle Crasto, None

OSTEOCLASTS: ISOLATION AND LINEAGE

MO0267 **Krox20/EGR2 Deficiency Accelerates Osteoclast Growth and Differentiation and Decreases Bone Mass**
Yankel Gabet*[1], Nathalie Leclerc[2], Sanjeev Baniwal[1], Yunfan Shi[2], Alice E. Kohn-Gabet[2], Jon Cogan[2], Alexis Dixon[2], Marilyn Bachar[3], Lixin Guo[1], Jack E. Turman[1], Baruch Frenkel[1]. [1]University of Southern California, USA, [2]Institute for Genetic Medicine, University of Southern California, USA, [3]Faculty of Dental Medicine, Hebrew University of Jerusalem, Israel
Disclosures: Yankel Gabet, None

OSTEOCLASTS: SIGNAL TRANSDUCTION

MO0268 **Egr2, a Zinc-finger Transcription Factor, Negatively Modulates Osteoclastogenesis by Up-regulation of Id2 helix-loop-helix Protein and Suppression of c-fos Expression.**
Jung Min Hong*[1], Tae-Ho Kim[1], Shin-Yoon Kim[2], Hyun-Ju Kim[1]. [1]Kyungpook National University School of Medicine, South Korea, [2]Kyungpook National University Hospital, South Korea
Disclosures: Jung Min Hong, None

MO0269 **ITAM Adapter Signals and Generation of Reactive Oxygen Species During Osteoclastogenesis**
Yalei Wu*[1], Julia Charles[1], Erene Niemi[1], Mary Nakamura[2]. [1]UCSF, USA, [2]University of California, San Francisco, USA
Disclosures: Yalei Wu, None

MO0270 **Osteopontin Increases Osteoclast Survival through an NFAT-Dependent Pathway**
Natsuko Tanabe*, Hong H. Chen, Ryan P. Shugg, Stephen M. Sims, Harvey A. Goldberg, S. Jeffrey Dixon. The University of Western Ontario, Canada
Disclosures: Natsuko Tanabe, None

MO0271 **PLCγ2 SH2 Domain Targeting Leads to Blockade of Osteoclastogenesis in vitro and in vivo**
Corinne Decker*[1], Kaihua Zhang[2], Roberta Faccio[3]. [1]Washington University in St. Louis, Department of Orthopaedic Surgery, USA, [2]Washington University, USA, [3]Washington University in St Louis School of Medicine, USA
Disclosures: Corinne Decker, None

MO0272 **RANKL Regulates the Non-canonical NF-kB Pathway in Osteoclasts by Promoting TRAF3 Degradation Through Lysosome**
Yan Xiu*[1], Zhenqiang Yao[2], Lianping Xing[2], Brendan Boyce[1]. [1]University of Rochester Medical Center, USA, [2]University of Rochester, USA
Disclosures: Yan Xiu, None

OSTEOCYTES: REGULATION OF BONE FORMATION

MO0273 **Effect of Variable Oscillatory Fluid Flow Conditions on Osteocyte Activity**
Emily Rose[1], Lidan You[2], Jason Li*[1]. [1]University of Toronto, Canada, [2]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Jason Li, None

MO0274 **Effects of Cyclic Hydraulic Pressure on Osteocytes**
Yan Zhao[1], Chao Liu*[1], Wing-Yee Cheung[1], Ronak Gandhi[1], Liyun Wang[2], Lidan You[3]. [1]University of Toronto, Canada, [2]University of Delaware, USA, [3]Mechanical & Industrial Engineering, University of Toronto, Canada
Disclosures: Chao Liu, None

MO0275 **Mechanical Loading Affects IL-6 Expression in Osteocytes: Is IL-6 a Novel Factor Regulating Bone Homeostasis?**
Astrid Bakker*[1], Jolanda M.A. de Blieck-Hogervorst[2], Rishikesh N. Kulkarni[3], Willem Lems[4], Jenneke Klein-Nulend[5]. [1]Academic Centre for Dentistry Amsterdam, UvA & VU, Research Institure MOVE, The Netherlands, [2]ACTA-University of Amsterdam & VU University Amsterdam, Dept Oral Cell Biology, Research Institute MOVE, Netherlands, [3]ACTA-University of Amsterdam & VU University Amsterdam, Dept Oral Cell Biology, Research Intitute MOVE, Netherlands, [4]Vrije Universiteit Medical Centre, The Netherlands, [5]ACTA-VU University Amsterdam, The Netherlands
Disclosures: Astrid Bakker, None

MO0276 **Mechanism of Action of Sclerostin: Sclerostin Interacts with the Carboxyl Terminal Region of ErbB3.**
Rajiv Kumar[1], Theodore Craig*[2]. [1]Mayo Clinic College of Medicine, USA, [2]Mayo Clinic, USA
Disclosures: Theodore Craig, None

MO0277 **Osteoprotegerin Prevents Glucocorticoid-induced Osteocyte Apoptosis, Decreased Bone Interstitial Fluid, and Reduced Strength in Mice.**
Robert Weinstein*, Charles O'Brien, Haibo Zhao, Paula K Roberson, Stavros Manolagas. University of Arkansas for Medical Sciences, USA
Disclosures: Robert Weinstein, None

OSTEOCYTES: REGULATION OF BONE MINERALIZATION

MO0278 **Decrease in the Osteocyte Lacunae Density Accompanied by Hypermineralized Lacunar Occlusion Reveal Failure and Delay of Remodeling in Aged Human Bone**
Bjoern Busse*[1], Danijela Djonic[2], Petar Milovanovic[2], Michael Hahn[1], Klaus Püschel[1], Robert Ritchie[3], Marija Djuric[2], Michael Amling[1]. [1]University Medical Center Hamburg-Eppendorf, Germany, [2]University of Belgrade, Serbia, [3]University of California, USA
Disclosures: Bjoern Busse, None

MO0279 **Increased Density of Hypermineralized Osteocyte Lacunae and Microdamage Accumulation in Fragility Hip Fracture Patients**
Julia Kuliwaba*, Vincent Carpentier, Helen Tsangari, Shruti Shah, Peter Sutton-Smith, Ian Parkinson, Arash Badiei, Nick Fazzalari. SA Pathology, Australia
Disclosures: Julia Kuliwaba, None

MO0280 **Transcription of Collagens I and XI, Phex, Dmp1, and Fibronectin by Osteoblastic/Osteocytic Cells is Co-ordinately Regulated**
Jeffrey Gorski*[1], Nichole Huffman[2], Sridar Chittur[3], Ronald Midura[4], Dina Black[2], Julia Oxford[5], Nabil G. Seidah[6]. [1]University of Missouri, Kansas City, School of Dentistry, USA, [2]Sch. Dentistry, Univ. of Missouri-Kansas City, USA, [3]Center for Functional Genomics, Univ. of Albany, USA, [4]Lerner Research Institute of Cleveland Clinic, USA, [5]Boise State University, USA, [6]Laboratory of Biochemical Neuroendocrinology, IRCM, Canada
Disclosures: Jeffrey Gorski, None

OSTEOCYTES: REGULATION OF MINERAL ION HOMEOSTASIS

MO0281 **Characterization of Osteocyte Lacunae in Adult Human Bone by 3D X-ray Microscopy**
Mohammed Akhter*[1], Susan Candell[2], Robert Recker[1], Tiffany Fong[3], Jack Coats[4], Donald Kimmel[5]. [1]Creighton University Osteoporosis Research Center, USA, [2]Xradia, Inc, USA, [3]Xradia, Inc., USA, [4]Xradia, USA, [5]Kimmel Consulting Services, USA
Disclosures: Mohammed Akhter, Xradia, 5

MO0282 **Structural Basis of Osteocytic Osteolysis during Lactation in Mouse Fibula**
Koichi Matsuo*[1], Yoshihiro Takeda[1], Yasunari Takada[1], Takashi Nakamura[1], Makoto Suematsu[1], Wataru Yashiro[2], Nobuhito Nango[3], Atsushi Momose[2]. [1]School of Medicine, Keio University, Japan, [2]The University of Tokyo, Japan, [3]Ratoc System Engineering Co., Ltd., Japan
Disclosures: Koichi Matsuo, None

OSTEOPOROSIS ASSESSMENT: BIOCHEMICAL MARKERS

MO0283 **Antibody Array Technology Identifies Differentially Expressed Proteins in Postmenopausal Women with Osteopenia and Osteoporosis**
Laura Corrigan*[1], Kellie Adamson[1], Joseph Browne[2], Kara Fitzgerald[3], Guan Choon Chan[4], Siobhain Kennelly[5], Joseph Marry[5], Mary Nash[5], Daniel Ryan[5], Davinia Ryan[5], Neasa Fallon[5], Georgina Steen[5], Miriam Casey[5], James Walsh[6], Thomas Clive Lee[1], Jacqueline Daly[1]. [1]Royal College of Surgeons in Ireland, Ireland, [2]St James's Hospital, Ireland, [3]St. James' Hospital, Ireland, [4]Bone Health & Osteoporosis Unit, St James's Hospital, Ireland, [5]St James' Hospital, Ireland, [6]Trinity College Dublin, The University of Dublin, Ireland
Disclosures: Laura Corrigan, None

MO0284 **Association Between Serum Osteocalcin and Markers of Metabolic Syndrome in Overweight/ Obese Postmenopausal Women**
Hyehyung Shin*[1], Pei-Yang Liu[1], Owen Kelly[2], Jasminka Ilich-Ernst[1]. [1]Florida State University, USA, [2]Texas Woman's University, USA
Disclosures: Hyehyung Shin, None

MO0285 **Identification of Protein Biomarkers for Postmenopausal Bone Mineral Density in the Aberdeen Prospective Osteoporosis Screening Study**
David A Stead, Evelyn A Argo, David Reid, Blair H Smith, Phillip Cash, Alistair JP Brown, Lynne Hocking*. University of Aberdeen, United Kingdom
Disclosures: Lynne Hocking, None

OSTEOPOROSIS ASSESSMENT: BONE MINERAL DENSITY

MO0286 **Are Fragility Fractures Osteoporotic Fractures**
Arne Hoiseth*. Curato Rtg., Norway
Disclosures: Arne Hoiseth, None

MO0287 **Body Composition Analyzes in Healthy Brazilian Women: Normative Data**
Maria das Graças Barbosa Sousa*[1], Marcelo Pinheiro[2], Vera Szejnfeld[3], Charlles Castro[1]. [1]Universidade Federal de São Paulo, Brazil, [2]Sao Paulo Federal University/ Unifesp/ Escola Paulista De Medicina, Bra, [3]UNIFESF/EPM, Brazil
Disclosures: Maria das Graças Barbosa Sousa, None

MO0288 **Comparability and Precision of Appendicular Lean Mass and Android/Gynoid Fat Mass Measurement: Comparison of Prodigy With iDXA.**
Bjoern Buehring*[1], Nellie Vallarta-Ast[2], Jessie Libber[3], Diane Krueger[4], Neil Binkley[5]. [1]Cleveland Clinic, USA, [2]UW Osteoporosis Research, USA, [3]University of Wisconsin Osteoporosis Clinical Research Program, USA, [4]University of Wisconsin, Madison, USA, [5]University of Wisconsin, USA
Disclosures: Bjoern Buehring, None

MO0289 **FRAX is Able to Discriminate Fracture Status in Patients with Chronic Kidney Disease**
Sophie Jamal*[1], Lisa Langsetmo[2], Ryan Chauncey[3], Sandhya Thomas[3], Sarah West[4], Thomas L. Nickolas[3]. [1]The University of Toronto, Canada, [2]Canandian Multicenter Osteoporosis Study, Canada, [3]Columbia University Medical Center, USA, [4]University of Toronto, Canada
Disclosures: Sophie Jamal, None

MO0290 **Hypoparathyroidism (HP) Protects Bone Mass but is Highly Associated with Lumbar Morphometric Fracture**
Francisco Pereira*[1], Maira Mendonça[2], Marcello Nogueira-Barbosa[3], Plauto Watanabe[4], Sara Teixeira[5], Lucas Monsingnore[6], Léa Maciel[3], Francisco Paula[3]. [1]University of Sao Paulo, School of Medicine of Ribeirao Preto, Brazil, [2]Internal Medicine, School of Medicine of Ribeirao Preto, Brazil, [3]Internal Medicine, School of Medicine of Ribeirao Preto, University of Sao Paulo, Brazil, [4]School of Dentistry of Ribeirao Preto, University of Sao Paulo, Brazil, [5]Internal Medicine, School of Medicine of Ribeirão Preto, University of Sao Paulo, Brazil, [6]Internal Medicine, School of Medicine of Ribeirao Preto, University of Ribeirao Preto, Brazil
Disclosures: Francisco Pereira, None

MO0291 **IVA, in Addition to BMD can Change the Osteoporosis Management in 25% of Clinical Routine Patients**
Berengere Aubry-rozier*[1], Delphine Stoll[2], Marc-Antoine Krieg[1], Olivier Lamy[1], Didier Hans[3]. [1]University Hospital, Switzerland, [2]Center of Bone Unit - DAL - Lausanne University Hospital, Switzerland, [3]Lausanne University Hospital, Switzerland
Disclosures: Berengere Aubry-rozier, None

MO0292 **Peak Bone Mineral Density in Healthy Chinese Young Men of Han Ethnicity**
Jing Yang[1], Jin Sun[1], Fengtao Luo[1], Yue Shen[2], Lin Chen*[1]. [1]State Key Laboratory of Trauma, Burns & Combined Injury, Center of Bone Metabolism & Repair, Trauma Center, Institute of Surgery Research, Daping Hospital, Third Military Medical University, China, [2]State Key Laboratory of Trauma, Burns & Combined Injury, Trauma Center, Institute of Surgery Research, Daping Hospital, Third Military Medical University, China
Disclosures: Lin Chen, None

MO0293 **Profile of Elderly Met with Diagnosis of Osteoporosis and Falls History in Outpatient Physician in the City of Guarulhos in the State of São Paulo, Brazil**
Ana Segantin, Fabiana Fonseca*, Ana Elisa Klein, Paulo Montenegro, Mariana Yoshida. PUC sp, Brazil
Disclosures: Fabiana Fonseca, None

MO0294 **Scanning the Head in all DXA Whole Body is not Medically Justifiable**
John Shepherd, Bo Fan*. University of California, San Francisco, USA
Disclosures: Bo Fan, None

MO0295 **Spinal Trabecular Volumetric Bone Mineral Density (vBMD) in Japanese Subjects: The Relationships of Thoracic, Lumbar, and Lumbosacral vBMD on Multi-detector Row Computed Tomography Images**
Tatsuro Hayashi*[1], Huayue Chen[1], Kei Miyamoto[1], Xiangrong Zhou[1], Takeshi Hara[1], Ryujiro Yokoyama[2], Masayuki Kanematsu[1], Hiroaki Hoshi[1], Hiroshi Fujita[1]. [1]Gifu University Graduate School of Medicine, Japan, [2]Gifu University Hospital, Japan
Disclosures: Tatsuro Hayashi, None

MO0296 **The Working Definition of Sarco-Osteopenia in Estonia**
Mart Kull*, Riina Kallikorm, Margus Lember. University of Tartu, Department of Internal Medicine, Estonia
Disclosures: Mart Kull, None

MO0297 **What if we had used FRAX®? - a retrospective analysis using the FRAX® tool in patients treated for osteoporosis**
Carmen Barbu[1], Alina Roman[2], Dariana Ionita[2], Magda Giscan[2], Cristina Stefan[2], Alice Curaj[1], Mara Carsote[3], Catalina Poiana*[3], Simona Fica[2]. [1]Carol Davila University, Romania, [2]Elias Hospital, Romania, [3]C I Parhon Institute, Romania
Disclosures: Catalina Poiana, None

MO0298 **Which FRAX Database to Use in Measuring Absolute Risk of Major Osteoporotic Fracture in Guatemala?**
Stuart Silverman[1], Alejandro Quiñónez Obiols[2], Keaton Nasser*[3]. [1]Cedars-Sinai/UCLA, USA, [2]Universidad Mariano Gálvez de Guatemala, Guatemala, [3]Osteoporosis Medical Center, USA
Disclosures: Keaton Nasser, None

OSTEOPOROSIS ASSESSMENT: BONE STRUCTURE

MO0299 **Assessment of Bone Microarchitecture in Cronic Kidney Disease Patients Using High Resolution Peripheral Computerized Tomography**
Maria Belen Zanchetta*[1], Armando Negri[2], Elisa del Valle[2], Fernando Silveira[3], Mariela Sesta[3], Cesar Bogado[1], Jose Ruben Zanchetta[1]. [1]Instituto de Investigaciones Metabolicas (IDIM), Argentina, [2]El Casasco, Argentina, [3]Idim Technologies, Argentina
Disclosures: Maria Belen Zanchetta, None

MO0300 **Comparison of Aqueous Storage Solutions of Bone**
Ericka Calton*[1], Lyudmila Lukashova[1], Kostas Verdelis[1], Marjolein Van Der Meulen[2], Adele Boskey[1]. [1]Hospital for Special Surgery, USA, [2]Cornell University, USA
Disclosures: Ericka Calton, None

MO0301 **Creating a BMD Image Using MDCT to Evaluate the Lumbar Bone Fragility Arising from Osteoporosis**
Masafumi Machida[1], Nobuhito Nango*[2]. [1]Murayama Medical Center, Japan, [2]Ratoc System Engineering Co., Ltd., Japan
Disclosures: Nobuhito Nango, None

MO0302 **Defining the Surface/Volume Ratio of Bone Identifies the Susceptibility of Bone to Being Remodelled and Lost and Individuals at Risk for Fracture Better than Bone Density Measurements**
Ali Ghasem-Zadeh[1], Roger Zebaze[2], Sandra Iuliano-Burns[2], Kylie King[2], Ego Seeman*[2]. [1]Austin Health, University of Melbourne, Aus, [2]Austin Health, University of Melbourne, Australia
Disclosures: Ego Seeman, None

MO0303 **Geometrical and Trabecular Parameters Derived from Radiographs Can Discriminate Cervical Hip Fracture Patients from Controls in Non-Osteoporotic Individuals**
Pasi Pulkkinen*[1], Juha Partanen[2], Pekka K.A. Jalovaara[3], Miika T Nieminen[1], Timo Jamsa[1]. [1]University of Oulu, Finland, [2]Oulu Deaconess Institute, Finland, [3]Oulu University, Finland
Disclosures: Pasi Pulkkinen, None

MO0304 **Intra- and Inter-Reader Reproducibility of a New Clinical Tool for Quantitative Vertebral Morphometry**
Daniele Diacinti[1], Romano Del Fiacco*[2], Nathaniel Steiger[3], Davide Diacinti[1], Joes Staal[4], Peter Steiger[5], Emilio D'Erasmo[6], Salvatore Minisola[7], Roberto Passariello[6]. [1]Dept. of Radiology, University "SAPIENZA" Rome, Italy, [2]University "Sapienza" - Rome, Italy, [3]Boston University Medical School, USA, [4]Optasia Medical, United Kingdom, [5]Optasia Medical, USA, [6]Dept. of Clinical Sciences, University "SAPIENZA" Rome, Italy, [7]University of Rome, Italy
Disclosures: Romano Del Fiacco, None

MO0305 **Quantitative Morphometry on Spinal X-Rays: Initial Evaluation of a New Workflow Tool for Measuring Vertebral Body Height in Fractured Vertebrae**
Klaus Engelke*[1], Thomas Fuerst[2], Bernd Stampa[3], Harry Genant[4]. [1]University of Erlangen, Germany, [2]Synarc, Inc., USA, [3]Synarc Inc, Germany, [4]UCSF/Synarc, USA
Disclosures: Klaus Engelke, Synarc, 3

OSTEOPOROSIS ASSESSMENT: ULTRASOUND

MO0306 **Meta-Analysis of Genome-Wide Association Studies for Quantitative Ultrasound of the Heel: The GEFOS Consortium**
Alireza Moayyeri*[1], Yi-Hsiang Hsu[2], Karol Estrada[3], Suzanne Brown[4], Sumei Xiao[5], Wilmar Igl[6], Ozren Polasek[7], Scott Wilson[8], Kay-Tee Khaw[9], Nicholas J Wareham[10], Pak Sham[11], Caroline Hayward[12], Ulf Gyllensten[6], Harry Campbell[13], Andre Uitterlinden[14], Tim Spector[15], Annie Kung[16], Douglas Kiel[17], Fernando Rivadeneira[3], David Karasik[17]. [1]University of Cambridge, United Kingdom, [2]Hebrew SeniorLife & Harvard Medical School, USA, [3]Erasmus University Medical Center, The Netherlands, [4]Department of Twins Research & Genetic Epidemiology, Kings College London, United Kingdom, [5]Hong Kong University, Peoples Republic of China, [6]Department of Genetics & Pathology, Sweden, [7]Andrija Stampar School of Public Health, University of Zagreb, Croatia, [8]Sir Charles Gardner Hospital, Australia, [9]Department of Public Health & Primary Care, University of Cambridge, United Kingdom, [10]MRC Epidemiology Unit, United Kingdom, [11]Department of Psychiatry, University of Hong Kong Queen Mary Hospital, China, [12]MRC Human Genetics Unit, United Kingdom, [13]Public Health Sciences, Teviot Place, United Kingdom, [14]Rm Ee 575, Genetic Laboratory, The Netherlands, [15]King's College London, United Kingdom, [16]Department of Medicine, University of Hong Kong, Hong Kong, [17]Hebrew SeniorLife, USA
Disclosures: Alireza Moayyeri, None

MO0307 **Prediction of Non-vertebral Fractures by Calcaneal Quantitative Ultrasound in Older Chinese Men**
Timothy Kwok*. The Chinese University of Hong Kong, Hong Kong
Disclosures: Timothy Kwok, None

MO0308 **Screening of Low Bone Mass in Japanese Elderly Men using Quantitative Ultrasound**
Akira Minematsu*[1], Kan Hazaki[2], Akihiro Harano[3], Masayuki Iki[4], Nozomi Okamoto[5], Norio Kurumatani[5]. [1]Kio University, Japan, [2]Osaka Electro-Communication University, Japan, [3]Higashiosaka City General Hospital, Japan, [4]Kinki university, Japan, [5]Nara Medical University, Japan
Disclosures: Akira Minematsu, None

OSTEOPOROSIS EPIDEMIOLOGY: BONE MINERAL DENSITY

MO0309 **Association Between Serum Bone-specific Alkaline Phosphatase Activity and Biochemical Markers, Dietary Nutrients, and Functional Polymorphism of the Tissue-nonspecific Alkaline Phosphatase Gene in Healthy Young Adults**
Natsuko Sogabe*[1], Rieko Maruyama[2], Mayu Haraikawa[2], Yutaka Maruoka[3], Takayuki Hosoi[4], Masae Goseki-Sone[5]. [1]Japan Women's University, Komazawa Women's University, Japan, [2]Japan Women's University, Japan, [3]National Center for Global Health & Medicine, Japan, [4]National Center for Geriatrics & Gerontology, Japan, [5]Japan Women's University, Japan
Disclosures: Natsuko Sogabe, None

MO0310 **BMD in American Indian Men and Women**
Maureen Murtaugh*, Tracy Frech, Khe-ni Ma, Molly McFadden, Lillian Tom-Orme, Laurie Moyer-Mileur, Tom Greene, Martha Slattery. University of Utah, USA
Disclosures: Maureen Murtaugh, None

MO0311 **Bone Mineral Density in Men with and Without Hip Fracture**
Laura Yerges-Armstrong*[1], Marc Hochberg[2], William Hawkes[3], Lisa Reider[4], Thomas Beck[5], Richard Hebel[3], Denise Orwig[6], Jay Magaziner[6]. [1]University of Maryland, USA, [2]University of Maryland School of Medicine, USA, [3]Epidemiology & Preventive Medicine, University of Maryland, USA, [4]School of Public Health At Johns Hopkins, USA, [5]Johns Hopkins Outpatient Center, USA, [6]University of Maryland, Baltimore, USA
Disclosures: Laura Yerges-Armstrong, None

MO0312 **Does Prevalent Vertebral Fracture Status (PVFx) Modify the Association Between Bone Mineral Density and Incident Hip and Incident Radiographic Vertebral Fractures in Older Women? Findings from SOF**
John Schousboe*[1], Lisa Palermo[2], Kathy Wilt[3], Dennis Black[2], Kristine Ensrud[4]. [1]Park Nicollet Clinic, University of Minnesota, USA, [2]University of California, San Francisco, USA, [3]California Pacific Medical Center, USA, [4]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: John Schousboe, None

MO0313 **DXA Screening and Use of Osteoporosis Medications in Two Large Healthcare Systems**
Amy Warriner*[1], Ryan Outman[2], Jeffrey Curtis[2], Adrianne Feldstein[3], Harry Glauber[4], Junling Ren[5], Douglas Roblin[5], Ana Rosales[3], Robert Unitan[4], Kenneth Saag[2]. [1]UAB, USA, [2]University of Alabama at Birmingham, USA, [3]Kaiser Permanente Center for Health Research, USA, [4]Kaiser Permanente Northwest, USA, [5]Kaiser Permanente Georgia, USA
Disclosures: Amy Warriner, None

MO0314 **Genetic and Phenotypic Correlation between Bone Mineral Density and Subclinical Cardiovascular Disease in Multi-generational Families of African Ancestry**
Allison Kuipers*[1], Genevieve A. Woodard[2], Kim Sutton-Tyrrell[2], Iva Miljkovic[2], Hu Li[2], Clareann H. Bunker[2], Alan L. Patrick[3], Victor W. Wheeler[3], Candace Kammerer[1], Joseph Zmuda[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of Pittsburgh, USA, [3]Tobago Health Studies Office, Trinidad & tobago
Disclosures: Allison Kuipers, None

MO0315 **High Bone Mineral Density is Associated with Metabolic Syndrome**
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Disclosures: Adarsh Sai, NIH (Grants AG28168, UO1-AG10373 and RO1-AG10358), 2

MO0316 **Vertebral Body Dimensions Increase in Young Women Independently From BMD: a Longitudinal *in vivo* Study**

Sami Kolta*[1], Samar Kerkeni[2], Christophe Travert[3], Wafa Skalli[4], Christian Roux[1]. [1]Paris Descartes University, Rheumatology Department, Cochin Hospital, France, [2]Paris Descartes University, Cochin Hospital, France, [3]Arts et Metiers ParisTech , CNRS, LBM, France, [4]Arts et Metiers ParisTech, CNRS, France

Disclosures: Sami Kolta, None

OSTEOPOROSIS EPIDEMIOLOGY: DIET AND ENVIRONMENTAL FACTORS

MO0317 **Food Supplementation with 2,200 IU Vitamin D_3 Daily Is Safe, but Does Not Assure Adequacy**

Irina Haller*[1], Diane Krueger[2], Mary Checovich[2], Jean A Engelke[3], Neil Binkley[4]. [1]Essentia Institute of Rural Health, USA, [2]University of Wisconsin, Madison, USA, [3]University of Wisconsin-Madison, USA, [4]University of Wisconsin, USA

Disclosures: Irina Haller, None

MO0318 **Adherence to the Current Physical Activity Guidelines Is Not Associated with a Reduced Fracture Incidence in Older Adults? A National, Population-based Prospective Study (AusDiab).**

Robin Daly*[1], Riku Nikander[2], Claudia Gagnon[3], David Dunstan[4], Peter Ebeling[5], Dianne Magliano[4], Paul Zimmet[4], Jonathan Shaw[4]. [1]The University of Melbourne, Western Hospital, Australia, [2]Department of Medicine, The University of Melbourne, Australia, [3]Department of Medicine, University of Melbourne, Western Hospital, Australia, [4]Baker IDI Heart & Diabetes Institute, Australia, [5]University of Melbourne, Australia

Disclosures: Robin Daly, None

MO0319 **Association of Diet Quality Measured by Healthy Eating Index and Bone Turnover Biomarkers among Postmenopausal Women in the National Health and Nutrition Examination Survey 1999-2002**

Maryam Hamidi*[1], Valerie Tarasuk[2], Paul Corey[3], Angela Cheung[4]. [1]University of Toronto/University Health Network-TGH, Canada, [2]Professor- Department of Nutritional Sciences- University of Toronto, Canada, [3]Professor- Dalla Lana School of Public Health-University of Toronto, Canada, [4]University Health Network, Canada

Disclosures: Maryam Hamidi, None

MO0320 **Effect of Milk Product with Soy Isoflavones on Bone Metabolism in Spanish Postmenopausal Women: A Randomized Controlled Trial**

Antonia García-Martín*[1], María Dolores Avilés-Pérez[1], Miguel Quesada-Charneco[1], Juristo Fonollá-Joya[2], José J Jiménez-Moleón[3], Manuel Muñoz-Torres[1]. [1]Bone Metabolic Unit. Endocrinology Division. San Cecilio University Hospital, Granada, Spain, [2]Investigation Department Puleva Biotech, Granada, Spain, [3]Epidemiology & Preventive Medicine Department, University of Granada, Spain

Disclosures: Antonia García-Martín, None

MO0321 **Factors influencing vitamin D deficiency in Saudi Arabian children and adolescents: impact of age, gender, lifestyle and nutrition**

Susan Lanham-New[1], Jalal Jalal[2], Maryam AL-Ghamdi*[3]. [1]University of Surrey, United Kingdom, [2]King Abdula-Aziz University, Saudi Arabia, [3]King Abdulaziz University, Saudi Arabia

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MO0322 **High Vitamin A serum Levels Are Associated with Low Bone Mineral Density (BMD) in postmenopausal osteoporotic women**
Jose Maria Mata-Granados*[1], Jose Manuel Quesada Gomez[1], Manuel Diaz Curiel[2], Manuel Sosa-Henriquez[3], Xavier Nogues[4], Victor Vila Fagos[5], Jose Luis Pérez-Castrillón[6], Javier Calvo Catalá[7], Carlos Gomez[8], Jorge Malouf[9], Pau Lluch Mezquida[10], Javier Pino Montes[11], Xavier Cortés[10], Joaquín Delgadillo[10]. [1]Gabinete Quesper, Spain, [2]Jimenez Diaz Fundacion, Spain, [3]University of Las Palmas de Gran Canaria, Spain, [4]Institut Municipal D'Investigació Mèdica, Spain, [5]Hospital, Spain, [6]University Hospital Rio Hortega, Valladolid Spain, Spain, [7]Hospital de Valencia, Spain, [8]Hospital Central de Asturias, Spain, [9]Hospital de la Santa Creu i Sant Pau, Spain, [10]Barcelona, Spain, [11]University of Salamanca, Spain
Disclosures: Jose Maria Mata-Granados, None

MO0323 **Is there a Relation Between Dietary Protein and Bone Loss in Men, Premenopausal Women or Postmenopausal Women in the Framingham Osteoporosis Study?**
Marian Hannan*[1], Shivani Sahni[2], Robert McLean[3], Kerry Broe[4], L. Adrienne Cupples[5], Katherine Tucker[6], Douglas Kiel[7]. [1]HSL Institute for Aging Research, and Harvard Medical School, USA, [2]Hebrew SeniorLife, Institute for Aging Research, Harvard Medical School, USA, [3]Hebrew SeniorLife, Harvard Medical School, USA, [4]Hebrew Senior Life, USA, [5]BUSPH, USA, [6]Northeastern University, USA, [7]Hebrew SeniorLife, USA
Disclosures: Marian Hannan, None

MO0324 **Long-Term Effect Of Phytoestrogens On The Ovariectomy Response In The Cynomolgus Monkey Model Of Osteoporosis**
Aurore Varela*, Susan Y. Smith. Charles River Laboratories, Canada
Disclosures: Aurore Varela, None

MO0325 **Plant Protein Intake is Associated with Bone Mineral Density (BMD) in Older Puerto Rican Women: The Boston Puerto Rican Health Study**
Shilpa Bhupathiraju*[1], Marian Hannan[2], Katherine Tucker[3]. [1]Tufts University, USA, [2]HSL Institute for Aging Research, and Harvard Medical School, USA, [3]Northeastern University, USA
Disclosures: Shilpa Bhupathiraju, None

OSTEOPOROSIS EPIDEMIOLOGY: FRACTURE OUTCOME

MO0326 **10-Year Fracture History in Seniors with Acute Hip Fracture: Are we Missing an Opportunity?**
Andreas Egli*[1], Robert Theiler[2], Bess Dawson-Hughes[3], Jana Henschkowski[4], Hannes B Staehelin[5], Heike Bischoff-Ferrari[6]. [1]Centre on Ageing & Mobility, Switzerland, [2]Triemli City Hospital, Switzerland, [3]Tufts University, USA, [4]University Hospital Zurich, Switzerland, [5]University of Basel, Switzerland, [6]University of Zurich, Switzerland
Disclosures: Andreas Egli, None

MO0327 **An epidemiological study of fragility fracture incidence and associated mortality**
Sonia Jean*[1], Etienne L. Belzile[2], Louis Bessette[3], K. Shawn Davison[2], Bernard Candas[4], Sylvie Dodin[5], Suzanne Morin[6], Jacques Brown[2]. [1]Institut National De Sante Publique, Canada, [2]Laval University, Canada, [3]Centre Hospitalier De L'Universite Laval, Canada, [4]Institut national de santé publique du Québec, Canada, [5]Université Laval, Canada, [6]McGill University Health Centre, Canada
Disclosures: Sonia Jean, None

MO0328 **Burden of Non-Hip-Non-Vertebral Fractures in Postmenopausal Women: Prospective Data From the Global Longitudinal Study of Osteoporosis in Women**
Christian Roux*[1], Frederick Hooven[2], Steven Boonen[3], Roland Chapurlat[4], Cyrus Cooper[5], Adolfo Diez-Perez[6], Andrea Lacroix[7], Stuart Silverman[8], Grigor Nika[9], Ethel Siris[10]. [1]Hospital Cochin, France, [2]University of Massachusetts Medical School, USA, [3]Center for Metabolic Bone Disease, Belgium, [4]E. Herriot Hospital, France, [5]University of Southampton, United Kingdom, [6]Hospital del Mar-IMIM-Autonomous University of Barcelona, Spain, [7]Fred Hutchinson Cancer Research Center, USA, [8]Cedars-Sinai/UCLA, USA, [9]COR, UMass Medical School, USA, [10]Columbia University College of Physicians & Surgeons, USA
Disclosures: Christian Roux, Alliance, Amgen, Lilly, Merck Sharp and Dohme, Novartis, Nycomed, Roche, GlaxoSmithKline, Servier, Wyeth, 5; Alliance, Amgen, Lilly, Merck Sharp and Dohme, Novartis, Nycomed, Roche, GlaxoSmithKline, Servier, Wyeth, 9

MO0329 **Corticosteroid Use Predicts Fractures Differentially according to Site of Fracture**
Risto J Honkanen*[1], Heli Koivumaa-Honkanen[2], Kari Salovaara[3], Marjo Tuppurainen[3], Joonas Sirola[3], Heikki Kröger[1]. [1]University of Kuopio, Finland, [2]University of Oulu, Finland, [3]Kuopio University Hospital, Finland
Disclosures: Risto J Honkanen, None

MO0330 **Factors Associated with Fracture Free Survival**
Jane Cauley*[1], Susan Ewing[2], Li-Yung Lui[3], Teresa Hillier[4], Steven Cummings[5], Kristine Ensrud[6]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]University of San Francisco, USA, [3]California Pacific Medical Center Research Institute, USA, [4]Kaiser Center for Health Research, USA, [5]San Francisco Coordinating Center, USA, [6]Minneapolis VA Medical Center / University of Minnesota, USA
Disclosures: Jane Cauley, None

MO0331 **Outcomes from the First 10years of the Fracture Liaison Service, a Systems-based approach to Fracture Secondary Prevention**
Mayrine Fraser[1], Frances Lovell[2], Alastair McLellan*[1]. [1]Western Infirmary, United Kingdom, [2]Royal Infirmary, United Kingdom
Disclosures: Alastair McLellan, None

MO0332 **Population-based Canadian Estimates of 10-year Fracture Risk by Age, Sex, Fracture Site and Trauma Status**
Lisa Langsetmo*[1], Claudie Berger[2], David Goltzman[3], Jerilynn Prior[4], Christopher Kovacs[5], Stephanie Kaiser[6], Alexandra Papaioannou[7], Jonathan Adachi[8], Robert Josse[9], Tassos Anastassiades[10], Tanveer Towheed[10], W.P. Olszynski[11], Nancy Kreiger[12]. [1]Canandian Multicenter Osteoporosis Study, Canada, [2]McGill University, Canada, [3]McGill University Health Centre, Canada, [4]University of British Columbia, Canada, [5]Memorial University of Newfoundland, Canada, [6]Dalhousie University, Canada, [7]Hamilton Health Sciences, Canada, [8]St. Joseph's Hospital, Canada, [9]St. Michael's Hospital, University of Toronto, Canada, [10]Queen's University, Canada, [11]Midtown Medical Center (#103), Canada, [12]University of Toronto, Canada
Disclosures: Lisa Langsetmo, None

MO0333 **Prediction of Short-Term Fracture Risk in Patients Presenting with a Non-Vertebral Fracture**
Kirsten Huntjens*[1], Tineke Geel van[2], Joop Bergh van den[3], Svenhjalmar Helden van[4], Piet Geusens[5]. [1]Maastricht University, The Netherlands, [2]Maastricht University, Netherlands, [3]VieCuri, Netherlands, [4]MUMC, Netherlands, [5]University Hasselt, Belgium
Disclosures: Kirsten Huntjens, None

MO0334 **Prevalence and Treatment Rate of Vertebral Fractures Detected by Densitometric Vertebral Fracture Assessment (VFA) in Swiss Mountain and Plain Areas: a Pilot Study**
Jotinder Schuematschek-Kainth*[1], Sebastian Bellwald[1], Albrecht Popp[1], Günter Menz[2], Oswald Lang[3], Matthias Stahl[4], Christoph Senn[1], Antonella Berlingieri[1], Romain Perrelet[1], Kurt Lippuner[1]. [1]Osteoporosis Policlinic, University of Bern, Switzerland, [2]Hochgebirgsklinik Davos, Switzerland, [3]HFR Tafers, Switzerland, [4]Kantonsspital Olten, Switzerland
Disclosures: Jotinder Schuematschek-Kainth, None

MO0335 **Prevalence of Symptomatic Vertebral Fractures in Premenopausal Women Newly Treated with High-Dose Glucocoriticoid**
Tomohiko Yoshida*. Chiba University Hospital, Japan
Disclosures: Tomohiko Yoshida, None

MO0336 **Rate of Proximal Humerus Fractures in a Defined Urban Population**
Thomas Westphal[1], Kathrin Baessgen[2], Veronika Rattay[2], Julia Wiedbusch[2], Thomas Mittelmeier[2], Hans-Christof Schober*[3], Patrick Haar[2]. [1]Klinikum Südstadt Rostock, Germany, [2]University of Rostock, Germany, [3]Klinikum Südstadt RostockKlinik Für Innere Medizin I, Germany
Disclosures: Hans-Christof Schober, None

MO0337 **Searching for Atypical Subtrochanteric Femoral Shaft Fractures**
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OSTEOPOROSIS EPIDEMIOLOGY: LIFESTYLE AND BONE (ALCOHOL, TOBACCO)

MO0338 **More Women than Men Require Hospital Admission after an Osteoporotic Fracture**

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Disclosures: Johann Césini, None

OSTEOPOROSIS EPIDEMIOLOGY: MENOPAUSE AND GONADAL STEROIDS

MO0339 **Body weight but not Serum C-Telopeptide Predicts Rate of Bone Loss During Menopausal Transition**

Elaine Cheung[1], Cora Bow*[2], Shirley Tsang[3], Cissy Soong[3], Shirley Yeung[3], Connie Loong[3], Anita Kan[4], Sue Lo[5], Grace Tang[4], Annie Kung[1]. [1]Department of Medicine, University of Hong Kong, Hong Kong, [2]Department of Medicine, The University of Hong Kong, Hong Kong, [3]Department of Medicine, University of Hong Kong, China, [4]Department of Gynaecology, University of Hong Kong, China, [5]Family Planning Association of Hong Kong, Hong Kong

Disclosures: Cora Bow, None

MO0340 **Total, Android and Gynoid Fat Mass in Normal Weight and Overweight Women. The Influence of Menopause**

Silvina Mastaglia*[1], Fabiana Solís[2], Alicia Bagur[3], Carlos Mautalen[4], Beatriz Oliveri[5]. [1]Seccción Osteopatía Médicas, Hospital de Clínicas, Universidad de Buenos Aires, Argentina, [2]Centro de Osteopatìas Médicas Dr. Carlos Mautalen, Buenos Aires, Argentina, [3]Sección Osteopatías Médicas, Hospital de Clínicas, Universidad de Buenos Aires. Centro de Osteopatìas Médicas Dr. Carlos Mautalen, Buenos Aires, Argentina, [4]Sección Osteopatías Médicas, Hospital de Clínicas, Universidad de Buenos Aires. Centro de Osteopatías Mèdicas Dr. Mautalen, Buenos Aires, Argentina, [5]Sección Osteopatías Médicas, Hospital de Clínicas, Universidad de Buenos Aires. Centro de Osteopatías Médicas Dr. Carlos Mautalen, Buenos Aires, Argentina

Disclosures: Silvina Mastaglia, None

OSTEOPOROSIS EPIDEMIOLOGY: RISK FACTORS

MO0341 **Elevated incidence of Fractures in Solid Organ Transplant Recipients on glucocorticoid-sparing immuno-suppressive regimens.**

Beatrice Edwards*[1], Amishi Desai[2], Joy Tsai[3], Hongyan Du[4], Andrew Bunta[5], Gabrielle Edwards[6], Allison Hahr[6], Michael Abecassis[6], Stuart Sprague[7]. [1]Northwestern University Medical School, USA, [2]University of Chicago, USA, [3]Medicine, Northwestern University, USA, [4]Northshore Healthcare System, USA, [5]Northwestern University Feinberg School of Medicine, USA, [6]Northwestern University, USA, [7]Northwestern University Evanston Northwestern Healthcare Center, USA

Disclosures: Beatrice Edwards, Novartis, 5; Amgen, 5; Procter and Gamble, 2; Roche, 5; Amgen, 5; Eli Lilly, 5

MO0342 **Evaluation of Contributors to Secondary Osteoporosis and Bone Loss in Patients Presenting with a Clinical Fracture**

Sandrine Bours*[1], Tineke Van Geel[2], Piet Geusens[3], H. Janzing[4], Marcel Janssen[4], G. Hoffland[4], P. Willems[5], Joop van den Bergh[4]. [1]Maastricht University Medical Centre, The Netherlands, [2]Maastricht University, The Netherlands, [3]University Hasselt, Belgium, [4]Viecuri MC Venlo, Netherlands, [5]Maastricht University Medical Centre, Netherlands

Disclosures: Sandrine Bours, None

MO0343 **Fractures in Obese Postmenopausal Women: Prevalence, Skeletal Location and Risk Factors. The Global Longitudinal Study of Osteoporosis in Women**
Juliet Compston*[1], Robert Lindsay[2], Cyrus Cooper[3], Adolfo Diez-Perez[4], Susan Greenspan[5], Frederick Hooven[6], Andrea Lacroix[7], Maurizio Rossini[8], Julie Flahive[9], Coen Netelenbos[10]. [1]University of Cambridge School of Clinical Medicine, United Kingdom, [2]Helen Hayes Hospital, USA, [3]University of Southampton, United Kingdom, [4]Hospital del Mar-IMIM-Autonomous University of Barcelona, Spain, [5]University of Pittsburgh, USA, [6]University of Massachusetts Medical School, USA, [7]Fred Hutchinson Cancer Research Center, USA, [8]Department of Rheumatology, University of Verona, Italy, [9]COR, UMass Medical School, USA, [10]VU Medical Center, The Netherlands
Disclosures: Juliet Compston, Servier, Procter & Gamble, Eli Lilly, 8; Servier, Shire, Nycomed, Novartis, Amgen, Procter & Gamble, Wyeth, Pfizer, Alliance for Better Bone Health, Roche, GlaxoSmithKline, 5; Servier R&D and Procter & Gamble, 2

MO0344 **High Prevalence of Hypovitaminosis D in Japanese Pregnant Women with Threatened Premature Delivery**
Megumi Shibata*[1], Atsushi Suzuki[2], Takao Sekiya[3], Sahoko Sekiguchi[1], Shogo Asano[1], Yasuhiro Udagawa[3], Mitsuyasu Itoh[1]. [1]Fujita Health University, Division of Endocrinology, Japan, [2]Fujita Health University Division of Endocrinology, Japan, [3]Fujita Health University, Department of Obstetrics & Gynacology, Japan
Disclosures: Megumi Shibata, None

MO0345 **Long-term Survivors of Advanced Head and Neck Cancer are not at Increased Risk for Osteoporosis or Fragility Fractures**
Siu-Ling Ma, Victoria Villaflor, Ezra Cohen, Everett Vokes, Tamara Vokes*. University of Chicago, USA
Disclosures: Tamara Vokes, None

MO0346 **Measures of Body Fat are Associated with Prevalent Vertebral Deformities in Older Women**
Laura Laslett*[1], Stella Last[1], Stephen Quinn[1], Tania Winzenberg[1], Graeme Jones[2]. [1]Menzies Research Institute, Australia, [2]Menzies Centre for Population Health Research, Australia
Disclosures: Laura Laslett, None

MO0347 **Relationship Between Osteopenia and Sexual Hormones in Human Immunodeficiency Virus-infected Patients**
Sharona Azriel*[1], Rafael Rubio[2], Federico Hawkins[2]. [1]Hospital Infanta Sofia, Spain, [2]University Hospital 12 de Octubre, Spain
Disclosures: Sharona Azriel, None

MO0348 **Renal Function and Fracture Risk in a Cohort of Community Dwelling Elderly Adults**
Lekshmi Nair, Thomas Weber*, Carl Pieper, Cathleen Colon-Emeric. Duke University Medical Center, USA
Disclosures: Thomas Weber, None

MO0349 **Risk Factors For Fractures Over Aged 50 In A Population-Based Cohort Of Older Women From The UK**
Emma Clark*, Miranda Cuming, Virginia Gould, Leigh Morrison, Jon Tobias. University of Bristol, United Kingdom
Disclosures: Emma Clark, None

MO0350 **Risk Factors for Subtrochanteric and Diaphyseal Femur Fractures: An Analysis from the Study of Osteoporotic Fractures**
Michael Kelly*[1], Rosanna Wustrack[1], Douglas Bauer[1], Lisa Palermo[1], Shane Burch[1], Katherine Wilt[2], Jane Cauley[3], Nicola Napoli[4], Marc Hochberg[5], Dennis Black[1]. [1]University of California, San Francisco, USA, [2]California Pacific Medical Center, USA, [3]University of Pittsburgh Graduate School of Public Health, USA, [4]University Campus Biomedico, Italy, [5]University of Maryland School of Medicine, USA
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MO0351 **Selective Serotonin Reuptake Inhibitor Use and Change in Bone Mineral Density Among Older Men**
Elizabeth Haney*[1], Smriti Shrestha[1], Susan Diem[2], Kristine Ensrud[3], Jane Cauley[4], Katie Stone[5], Eric Orwoll[1], Michael Bliziotes[6]. [1]Oregon Health & Science University, USA, [2]University of Minnesota, USA, [3]Minneapolis VA Medical Center / University of Minnesota, USA, [4]University of Pittsburgh Graduate School of Public Health, USA, [5]California Pacific Medical Center-Research Institute, USA, [6]OHSU/Portland VA Medical Research Center, USA
Disclosures: Elizabeth Haney, None

MO0352 **Statin Use is Associated with Increased Bone Mineral Density in Women, but not in Men**
Wei Zhou*[1], Wilma Hopman[2], Claudie Berger[3], Suzanne Morin[1], Lisa Langsetmo[4], Tanveer Towheed[2], Tassos Anastassiades[2], Rick Adachi[5], David Goltzman[1]. [1]McGill University Health Centre, Canada, [2]Queen's University, Canada, [3]McGill University, Canada, [4]Canandian Multicenter Osteoporosis Study, Canada, [5]McMaster University, Canada
Disclosures: Wei Zhou, None

MO0353 **TSH Directly Modulates Human Bone Metabolism Irrespective of Thyroid Hormone: Clinical Evaluation of 21 Patients with TSH Producing Pituitary Adenoma**
Nobuaki Ito*[1], Akira Takeshita[2], Megumi Miyakawa[2], Noriaki Fukuhara[3], Kenich Oyama[3], Shozo Yamada[3], Yasuhiro Takeuchi[4]. [1]University of Tokyo Hospital, Japan, [2]Toranomon Hospital Endocrine Center, Japan, [3]Department of Hypothalamus-Pituitary Surgery, Toranomon Hospital, Japan, [4]Toranomon Hospital, Japan
Disclosures: Nobuaki Ito, None

MO0354 **Vitamin D Levels and Incident Frailty Status in Older Women**
Kristine Ensrud*[1], Susan Ewing[2], Lisa Fredman[3], Marc Hochberg[4], Jane Cauley[5], Teresa Hillier[6], Steven Cummings[7], Kristine Yaffe[2], Peggy Cawthon[8]. [1]Minneapolis VA Medical Center / University of Minnesota, USA, [2]University of California - San Francisco, USA, [3]Boston University, USA, [4]University of Maryland School of Medicine, USA, [5]University of Pittsburgh Graduate School of Public Health, USA, [6]Kaiser Center for Health Research, USA, [7]San Francisco Coordinating Center, USA, [8]California Pacific Medical Center Research Institute, USA
Disclosures: Kristine Ensrud, None

MO0355 **Warfarin Use and Osteoporosis: Results of a Selected Screening Program**
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Disclosures: Christine Simonelli, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE MINERAL DENSITY

MO0356 **Lumbar Densitometry Analysis of Sequential Bone Mineral Density Gradient in the Evaluation of Vertebral Fractures**
Sumiaki Okamoto*[1], Sumitada Okamoto[1], Akira Itabashi[2], HItoshi Noguchi[3], Hiroyuki Suzuki[4]. [1]Okamoto Clinic SORF, Japan, [2]Saitama Center for Bone Research, Japan, [3]Noguchi Thyroid Clinic & Hospital Foundation, Japan, [4]Suzuki Orthodontic office, Japan
Disclosures: Sumiaki Okamoto, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE STRUCTURE

MO0357 **Low Areal Bone Mineral Density and Trabecular Microarchitectural Changes in Premenopausal Women with Epilepsy Treated with Antiepileptic Drugs**
Alison Pack*[1], Adi Cohen[2], Robert Pelgrift[1], Chiyuan Zhang[1], Donald McMahon[3], Elizabeth Shane[3]. [1]Columbia University, USA, [2]Columbia University Medical Center, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Alison Pack, None

MO0358 **Postmenopausal BMD Loss is Partially Compensated by Increased Bone Size during the First 15 Years but not Beyond**
Henrik Ahlborg[1], Magnus Karlsson[2], Ola Svejme*[3]. [1]Malmo University Hospital, Sweden, [2]Skåne University Hospital Malmö, Lund University, Sweden, [3]Lunds Universitet, Sweden
Disclosures: Ola Svejme, None

OSTEOPOROSIS PATHOPHYSIOLOGY: DIETARY FACTORS

MO0359 **Iron Deficiency Negatively Affects Spine Bone Mineral Density and Bone Microarchitecture in Weanling Sprague Dawley Rats**
Krista Shawron*, McKale Davis, Elizabeth Rendina, Yan Wang, Edralin Lucas, Brenda Smith, Stephen Clarke. Oklahoma State University, USA
Disclosures: Krista Shawron, None

OSTEOPOROSIS PATHOPHYSIOLOGY: GLUCOCORTICOIDS

MO0360 **Body Composition and Bone Mineral Density in Patients with Multiple Sclerosis Treated with Low Dose Glucocorticoids**
Vit Zikan*[1], Michaela Tyblova[2], Ivan Raska[1], Eva Havrdova[2], Dana Michalska[1], Maria Luchavova[1]. [1]Department of Internal Medicine 3, Charles University Faculty of Medicine, Czech Republic, [2]Department of Neurology, Charles University Faculty of Medicine, Czech Republic
Disclosures: Vit Zikan, None

OSTEOPOROSIS PATHOPHYSIOLOGY: GONADAL STEROIDS

MO0361 **Subclinical Ovulatory Disturbances within Regular Menstrual Cycles are associated with Spinal Bone Loss−a meta-analysis of prospective data**
Jerilynn Prior*, Christine Hitchcock. University of British Columbia, Canada
Disclosures: Jerilynn Prior, None

OSTEOPOROSIS PATHOPHYSIOLOGY: MALE OSTEOPOROSIS

MO0362 **Older Men with High Osteoprotegerin Concentration Have Lower Cortical Density and Thickness - the STRAMBO Study**
Pawel Szulc*[1], Gerhard Hawa[2], Stephanie Boutroy[1], Nicolas Vilayphiou[1], Ali Chaitou[1], Pierre Delmas[1], Roland Chapurlat[1], Lorenz Hofbauer[3]. [1]INSERM 831 Unit, Université de Lyon, France, [2]BIOMEDICA, Austria, [3]Dresden Technical University Medical Center, Germany
Disclosures: Pawel Szulc, None

MO0363 **Osteoporosis in Asian men: Effect of Vitamin D**
Lan T Ho-Pham*[1], Thai Lai[2], Tong Nguyen[3], Tuan Nguyen[4]. [1]Pham Ngoc Thach University of Medicine, Vietnam, [2]People's Hospital 115, Vietnam, [3]MEDIC Pathology Center, Vietnam, [4]Garvan Institute of Medical Research, Australia
Disclosures: Lan T Ho-Pham, None

OSTEOPOROSIS PATHOPHYSIOLOGY: MISCELLANEOUS

MO0364 **Evaluation of Bone Mineral Density and Body Composition in Women with Dunnigan-Type Partial Familial Lipodystrophy**
Francisco Pereira[1], Luciana Monteiro*[2], Milton Foss[2], Maria Cristina Freitas[2], Renan Montenegro Júnior[3]. [1]University of Sao Paulo, School of Medicine of Ribeirao Preto, Brazil, [2]University of São Paulo, Brazil, [3]Faculty of Medicine of the Federal University of Ceará, Brazil
Disclosures: Luciana Monteiro, None

MO0365 **Helicobacter Pylori CagA Positive Strains Negatively Affect Bone Health: a Population Based Study**
Luigi Gennari*[1], Natale Figura[2], Daniela Merlotti[1], Maria Stella Campagna[2], Maria Beatrice Franci[2], Annalisa Avanzati[2], Barbara Lucani[2], Anna Calabrò[2], Stefania Lardiello[2], Giuseppe Martini[1], Ranuccio Nuti[1]. [1]University of Siena, Italy, [2]Department of Internal Medicine, Endocrine-Metabolic Sciences & Biochemistry, University of Siena, Italy
Disclosures: Luigi Gennari, None

MO0366 **The Association Between Serum Osteocalcin Levels and Metabolic Syndrome**
Sung Jin Bae*[1], Jae Won Choe[2], Yun-Ey Chung[3], Beom-Jun Kim[4], Seung Hun Lee[5], Ha Young Kim[6], Jung-Min Koh[1], Hong Kyu Kim[2], Ghi Su Kim[7]. [1]Asan Medical Center, South Korea, [2]Health Promotion Center, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [3]Department of Internal Medicine, Seoul Veterans Hospital, Seoul, Korea, South Korea, [4]Division of Endocrinology & Metabolism, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [5]Asan Medical Center, University of Ulsan College of Medicine, South Korea, [6]Wonkwang University Sanbon Medical Center, Korea, [7]University of Ulsan, South Korea
Disclosures: Sung Jin Bae, None

MO0367 **Vertebral Compression Fractures Resulting from Strenuous Recreational Exercise: When Good Intentions Crumble**
Mehrsheed Sinaki*[1], Daniel Hurley[2], Robert Wermers[1], Peter Tebben[1], Kurt Kennel[3], Matthew Drake[3]. [1]Mayo Clinic, USA, [2]College of Medicine, Mayo Clinic, USA, [3]Mayo Clinic College of Medicine, USA
Disclosures: Mehrsheed Sinaki, None

OSTEOPOROSIS PATHOPHYSIOLOGY: BONE REMODELING

MO0368 **A Developmental Perspective on Metacarpal Radiogrammetry and Trabecular Architecture from an Imperial Roman Skeletal Population**
Luca Bondioli[1], Patrick Beauchesne[2], Sabrina Agarwal*[2]. [1]Luigi Pigorini Museum, Rome, Italy, [2]University of California, USA
Disclosures: Sabrina Agarwal, None

MO0369 **The Effect of Endogenous Parathyroid Hormone on Iliac Bone Structure and Turnover in Healthy Postmenopausal Women**
D. Sudhaker Rao*[1], Shijing Qiu[1], Saroj Palnitkar[1], A. Michael Parfitt[2]. [1]Henry Ford Hospital, USA, [2]University of Arkansas for Medical Sciences, USA
Disclosures: D. Sudhaker Rao, None

OSTEOPOROSIS TREATMENT (CLINICAL): ANABOLIC AGENTS

MO0370 **Characteristics of a Puerto Rican Population Initiating Teriparatide Therapy in the DANCE Study**
Valerie Ruff*[1], Agaph Acosta[2], Oscar Soto[3], Xiaohai Wan[1], Yuqin Li[4], Kathleen Taylor[1]. [1]Eli Lilly & Company, USA, [2]Lilly Puerto Rico, Puerto Rico, [3]SARC San Juan Arthritis & Research, Puerto Rico, [4]Inventiv Clinical, USA
Disclosures: Valerie Ruff, Eli Lilly and Company, 1; Lilly USA, LLC, 3

MO0371 **Clinical Evaluation of a Nasal Spray Formulation of Teriparatide Demonstrates Rapid Absorption and Similar Systemic Exposure to Marketed Subcutaneous Teriparatide.**
Stephan Bart[1], Kristen Armstrong[2], Brian MacDonald*[3], Ruth Ann Subach[4], Gene Merutka[5]. [1]SNBL Clinical Pharmacology Center Inc, USA, [2]Zelos Therapeutics, Canada, [3]Zelos Therapeutics Inc, USA, [4]Travena Inc, USA, [5]Zelos Therapeutics, USA
Disclosures: Brian MacDonald, Zelos Therapeutics, 5

MO0372 **Effect of Treatment with Strontium Ranelate on Bone Turnover Markers and Bone Mineral Density in Women with Postmenopausical Osteoporosis without Prior Treatment**
María J. Moro-Álvarez*[1], Susana Sanz-Baena[1], Francisco Cogolludo-perez[2], Marjorie Andrade[2], Manuel Díaz-Curiel[2], Concepción de la Piedra[3]. [1]Department of Internal Medicine, Metabolic Bone Disease Unit, H. Central Cruz Roja, Spain, [2]Department of Internal Medicine, Metabolic Bone Disease Unit, Fundación Jiménez Díaz, Spain, [3]Department of Clinical Biochemistry. Fundación Jiménez Díaz, Spain
Disclosures: María J. Moro-Álvarez, None

MO0373 **Micro-MRI Based Virtual Bone Biopsy Detects Structural Remodeling Effects upon Anabolic Drug Treatment**
Yusuf Bhagat*[1], Jeremy Magland[1], Chamith Rajapakse[2], Michael Wald[3], Theresa Scattergood[1], Felix Werner Wehrli[3], Peter Snyder[1]. [1]University of Pennsylvania, USA, [2]University of Pennsylvania School of Medicine, USA, [3]University of Pennsylvania Medical Center, USA
Disclosures: Yusuf Bhagat, Micro MRI Inc., 5

MO0374 **PTH (1-84)-induced Bone Accrual is Accompanied by Enhanced Endothelium-dependent Vasodilation of the Bone Vasculature in Rats**
Rhonda Prisby*. University of Texas at Arlington, USA
Disclosures: Rhonda Prisby, None

MO0375 **Teriparatide [rhPTH (1-34)] can Improve the Osteosynthesis results in Unstable Hip Fractures. A series of 6 Clinical Cases**
Angel Oteo-Alvaro*[1], Lorenzo Castrejon[2], Ricardo Larrainzar[2], Pablo Maseres[2], Tomas Pampliega[2], Pablo Sarcangelo[2]. [1]Hospital General Universitario Gregorio Marañón, Spain, [2]MD, Spain
Disclosures: Angel Oteo-Alvaro, Lilly Es, 8

OSTEOPOROSIS TREATMENT (CLINICAL): BISPHOSPHONATES

MO0376 **Addressing Unmet Need - Setting up an IV Bisphosphonate Infusion Service for High Risk Patients Post Fractured Neck of Femur**
Eamonn Brankin*[1], Robin Munro[2], Wendy Feeney[2], Margaret Yates[2], Paul Mitchell[3], Andrew Gallagher[4], John Hinnie[5], Stephen Gallacher[6]. [1]NHS Lanarkshire Osteoporsosis Service, United Kingdom, [2]NHS Lanarkshire Osteoporosis Service, United Kingdom, [3]University of Derby, United Kingdom, [4]Victoria Infirmary, United Kingdom, [5]South Glasgow Osteoporosis Service, United Kingdom, [6]Southern General Hospital, United Kingdom
Disclosures: Eamonn Brankin, MSD, 2; The Alliance for Better Bone Health, 5; MSD, 5; Novartis, 2; Roche, 5

MO0377 **Bone Histomorphometry Analyses in a Sub-Group of Patients with Glucocorticoid-Induced Osteoporosis Treated with Once-Yearly Zoledronic Acid 5 Mg or Daily Oral Risedronate 5 Mg Over 1 Year**
Robert Recker*[1], David Reid[2], Philemon Papanastasiou[3], Daniel Chappard[4]. [1]Creighton University Osteoporosis Research Center, USA, [2]University of Aberdeen, United Kingdom, [3]Novartis Pharma AG, Switzerland, [4]INSERM, U922- LHEA, France
Disclosures: Robert Recker, None

MO0378 **Comparison of Oral and Intravenous Ibandronate on Acute Phase Response in Osteoporotic Patients**
Won Park[1], Seong Ryul Kwon[1], Min Jung Son[1], Mie Jin Lim*[2], Ji Yeol Youn[1], Chang Gi Moon[1]. [1]Inha University Hospital, South Korea, [2]Inha University Hospital, Korea
Disclosures: Mie Jin Lim, None

MO0379 **Effect of Alendronate on Radiographic Fracture Healing after Surgery for Low-energy Distal Radius Fractures**
Shigeharu Uchiyama*[1], Toshirou Itsubo[2], Koichi Nakamura[3], Yasunari Fujinaga[4], Toshihiko Imaeda[5], Shota Ikegami[6], Mikio Kamimura[7], Masumi Kadoya[4], Hiroyuki Kato[2], Shinshu Society for Surgery of the Upper Extremities Investigators[8]. [1]Shinshu University, School of Medicine, Japan, [2]Department of Orthopaedic Surgery, Shinshu University School of Medicine. Shinshu Society for Surgery of the Upper Extremities, Japan, [3]Department of Orthopaedic Surgery, Shinshu Univesrity School of Medicine. Shinshu Society for Surgery of the Upper Extremities, Japan, [4]Department of Radiology, Shinshu University School of Medicine, Japan, [5]Department of Food & Nutritional Environment, Kinjo Gakuin University, Japan, [6]Department of Orthopaedic Surgery, Shinshu University School of Medicine, Japan, [7]Center for Osteoporosis & Spinal Disorders, Kamimura Orthopaedic Clinic, Japan, [8]Shinshu University, Japan
Disclosures: Shigeharu Uchiyama, None

MO0380 **Effect of Once-yearly Zoledronic acid in Men after Recent Hip Fracture: Results from HORIZON Recurrent Fracture Trial**
Steven Boonen*[1], Eric Orwoll[2], Jay Magaziner[3], Cathleen Colon-Emeric[4], Jonathan Adachi[5], Christina Bucci-Rechtweg[6], Patrick Haentjens[7], Jean-Marc Kaufman[8], Dirk Vanderschueren[9], Kenneth Lyles[4]. [1]Center for Metabolic Bone Disease, Belgium, [2]Oregon Health & Science University, USA, [3]University of Maryland, Baltimore, USA, [4]Duke University Medical Center, USA, [5]St. Joseph's Hospital, Canada, [6]Novartis Pharmaceuticals, USA, [7]CEBAM, Belgian Centre for Evidence Based Medicine, Belgium, [8]University Hospital of Ghent, Belgium, [9]Catholic University of Leuven, Belgium
Disclosures: Steven Boonen, Eli Lilly, Novartis, Pfizer, Procter & Gamble, Sanofi-Aventis, and Roche, GlaxoSmithKline, 2; Amgen, Eli Lilly, Merck, Novartis, Procter & Gamble, Sanofi-Aventis, and Servier,, 8

MO0381 **Effect on Bone Mineral Density of Oral Bisphosphonates In Women with Osteoporosis and Breast Cancer Treated with Aromatase Inhibitors. Are Bone Turnover Markers Useful In These Patients?**

Enrique Casado*[1], Ivonne Vázquez[1], Marta Larrosa[1], Elsa Dalmau[2], Miquel Angel Seguí[2], Jordi Gratacós[1]. [1]Rheumatology. University Institute Parc Taulí (UAB), Spain, [2]Oncology. University Institute Parc Taulí, Spain

Disclosures: Enrique Casado, None

MO0382 **Effects of Intravenous Ibandronate Injection on Renal Function in Postmenopausal Women With Osteoporosis at High Risk for Renal Disease Compared With Ibandronate Infusion or Oral Alendronate-the DIVINE study**

Paul Miller*[1], Sergio Ragi Eis[2], Carlos Mautalen[3], Francisco Ramirez[4], Iris Jonkanski[5]. [1]Colorado Center for Bone Research, USA, [2]Cedoes - Centro de Diagnósticos e Pesquisa, Brazil, [3]Centro de Osteopatías Médicas, Argentina, [4]Roche Products Limited, United Kingdom, [5]F. Hoffmann-La Roche Ltd, Switzerland

Disclosures: Paul Miller, Procter & Gamble, Sanofi-Aventis, Merck, Eli Lilly, Amgen, NPS, Novartis, Roche, and GlaxoSmithKline,5; Procter & Gamble, Sanofi-Aventis, Roche, Eli Lilly, Merck, Novartis, and Amgen, 2

MO0383 **Efficacy Of Zoledronic Acid In Bone Mineral Density Increases In Postmenopausal Osteoporosis**

Corina Galesanu*[1], Mihail Romeo Galesanu[2]. [1]University of Medicine & Pharmacy, Romania, [2]Centre of Imaging & Radiologic Diagnostic, Romania

Disclosures: Corina Galesanu, None

MO0384 **Experience with Intravenous Zoledronic Acid Treatment for Osteoporosis in the Real Clinical Practice**

Diana Gonzalez De Bertini*[1], Beatriz Oliveri[2], Alicia Bagur[3], Carlos Mautalen[2]. [1]Centro de Osteopatías Medicas, Argentina, [2]Centro De Osteopatías Médicas, Argentina, [3]Hospital De Clinicas, Argentina

Disclosures: Diana Gonzalez De Bertini, None

MO0385 **Potential Under-treatment of Male Veterans with or at risk for Osteoporotic Fractures**

Robert Adler*[1], Todd Semla[2], Fran Cunningham[3], Leonard Pogach[4]. [1]McGuire VA Medical Center, USA, [2]Dept of Veterans Affairs National Pharmacy Benefits Management Services, USA, [3]Dept of Veterans Affairs Pharmacy Benefits Management Services, USA, [4]Dept of Veterans Affairs National Program Director for Endocrinology, USA

Disclosures: Robert Adler, GTX, Inc., 5; Eli Lilly, 5; Genentech, 2; Novartis, 2; Eli Lilly, 2; Merck, 5; Amgen, 2

MO0386 **Serum 25 Hydroxyvitamin D Concentrations and the Risk of Atypical Femoral Fractures Associated with Bisphosphonate Use : A Case Control Study.**

Alvin Choong-Meng Ng*, Joyce Suang-Bee Koh, Seo-Kiat Goh, Tet-Sen Howe. Singapore General Hospital, Singapore

Disclosures: Alvin Choong-Meng Ng, None

MO0387 **Subtrochanteric Femoral Stress Fractures in Patients on Chronic Bisphosphonate Therapy: A Case Series**

Jason Nitche[1], Carlos Sagebien[2], Robert Masella[2], Daniel Redziniak[2], Sunil Wimalawansa*[3]. [1]Dept. Orthopedic, UMDNJ-RWJMS, USA, [2]Orthopedic, UMDNJ-RWJMS, USA, [3]Robert Wood Johnson Medical School, USA

Disclosures: Sunil Wimalawansa, None

MO0388 **Switching Patterns Over 12 Months in Postmenopausal Women Initiating or Receiving Bone Loss Medications in the POSSIBLE EU® Study**

Luc Martinez*[1], Christian Roux[2], Rob Horne[3], Adolfo Diez-Perez[4], Francis Guillemin[5], Sergio Ortolani[6], Anne Marciniak[7], Matt Gitlin[8], Susan Shepherd[7], Gerd Moeller[8], Nick Freemantle[9]. [1]Société Française de Médecine Générale, Issy les Moulineaux, France, France, [2]Hospital Cochin, France, [3]School of Pharmacy, University of London, United Kingdom, [4]Hospital del Mar-IMIM-Autonomous University of Barcelona, Spain, [5]Nancy-University, EA 4360 Apemac, France, [6]Istituto Auxologico Italiano, Italy, [7]Amgen Ltd, United Kingdom, [8]Amgen (Europe) GmbH, Switzerland, [9]Birmingham University, United Kingdom

Disclosures: Luc Martinez, Amgen, Sanofi, Pfizer, Roche, Novonordisk, Mayoli-Spindler, 5

MO0389 **The Effect of a Single Infusion of Zolendronic Acid 5mgs Intravenously (iv) on Bone Density and Strength in Patients with Postmenopausal Osteoporosis. A Peripheral Quantitative Computed Tomography (pQCT) Study**
Konstantinos Stathopoulos*[1], Pelagia Katsimbri[2], Eratw Atsali[3], Euaggelia Kataxaki[4], Loukas Papas[5], Aristidis B. Zoubos[5], Grigoris Skarantavos[5]. [1]"Attikon" Athens University Hospital, Greece, [2]Bone Metabolic Unit, 1st Orthopedic UniversityClinic, "Attikon" Athens University Hospital, Greece, [3]3rd Pediatric University Clinic, "Attikon" Athens University Hospital, Greece, [4]Department of Rheumatology, Eleusina General Hospital "Thriassion", Greece, [5]Bone Metabolic Unit, 1st Orthopedic University Clinic, "Attikon" Athens University Hospital, Greece
Disclosures: Konstantinos Stathopoulos, None

MO0390 **Time to Onset of Efficacy of Antiresorptive Treatments for Osteoporosis is Important**
Charles Inderjeeth*[1], Kien Chan[2], Kevin Kwan[2], Michelle Lai[2]. [1]Sir Charles Gardner Hospital, Australia, [2]Sir Charles Gairdner Hospital, Australia
Disclosures: Charles Inderjeeth, Sanofi Aventis Australia, 2

MO0391 **Vitamin D Cut-off Level for Maximum Increase in Bone Mineral Density with Bisphosphonate Treatment in Osteoporotic Women**
Ippei Futami[1], Yuko Sakamoto[1], Tokuhide Doi[2], Kazuo Kaneko[1], Akifumi Tokita[1], Haruka Kaneko[1], Makoto Yamanaka[1], Muneaki Ishijima*[1], Lizu Liu[1]. [1]Juntendo University, School of Medicine, Japan, [2]Fukuoka Clinic, Japan
Disclosures: Muneaki Ishijima, None

MO0392 **Zoledronic Acid Reduces Femoral Bone Loss Following Total Hip Arthroplasty**
Dr. David Scott*[1], Jennifer Woltz[2], Christine Loiseau[2]. [1]Orthopaedic Specialty Clinic/ Spokane Joint Replacement Center, USA, [2]Spokane Joint Replacement Center, USA
Disclosures: Dr. David Scott, None

OSTEOPOROSIS TREATMENT (CLINICAL): COMPLIANCE AND PERSISTENCE

MO0393 **3-year Adherence to the Treatment of Osteoporosis in National Center of Osteoporosis in Poland. POMOST Study**
Jerzy Przedlacki*, Krystyna Księżopolska-Orłowska, Artur Grodzki, Dorota Bartuszek, Tomasz Bartuszek, Andrzej Świrski, Jan Musiał, Ewa Loth, Paweł Teter, Andrzej Łasiewicki. National Center of Osteoporosis, Poland
Disclosures: Jerzy Przedlacki, None

MO0394 **Attitudes Toward Compliance of Patients Participating in a Randomized Controlled Trial**
Deborah Gold*[1], Stuart Silverman[2], April Naegeli[3], Steven Watts[3], Russel Burge[3]. [1]Duke University Medical Center, USA, [2]Cedars-Sinai/UCLA, USA, [3]Eli Lilly & Company, USA
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MO0395 **Bone Density and Vitamin D Status in Liver Transplant Patients 10 Years After the First Assessment**
Elena Segal*[1], Yaakov Baruch[2], Marina Nodelman[3], Sophia Ish-Shalom[4]. [1]Rambam Health Care Campus, Israel, [2]Liver Diseases Unit, Rambam Health Care Campus, Israel, [3]Bone Metabolic Diseases Unit, Rambam Health Care Campus, Israel, [4]Rambam Health Care Campus, Technion Faculty of Medicine, Israel
Disclosures: Elena Segal, None

MO0396 **Predicting Patient's Readiness to Accept Osteoporosis Treatment: Application of the Stages of Change Model to Post Fracture Context**
Rebeka Sujic*[1], Dorcas Beaton[2], Morgan Slater[3], Earl Bogoch[1]. [1]St. Michael's Hospital, Canada, [2]Keenan Research Centre, St Michael's Hospital, Canada, [3]Mobility Program Clinical Research Unit, St. Michael's Hospital, Canada
Disclosures: Rebeka Sujic, None

MO0397 **Systematic Review on Interventions to Improve Osteoporosis Investigation and Treatment in Fragility Fracture Patients**
Joanna Sale*, Dorcas Beaton, Joshua (Harry) Posen, Victoria Elliot-Gibson, Earl Bogoch. St. Michael's Hospital, Canada
Disclosures: Joanna Sale, None

MO0398 **Use of Bisphosphonates and Calcium/Vitamin D Supplementation Following Low Trauma Hip Fracture - How well are we doing?**
Yew-Xin Teh*[1], Gregor Freystaetter[2], Nitin Trivedi[1]. [1]Saint Vincent Hospital, USA, [2]St Vincent Hospital, USA
Disclosures: Yew-Xin Teh, None

OSTEOPOROSIS TREATMENT (CLINICAL): GONADAL STEROIDS AND SERMS

MO0399 **Changes of Volumetric Bone Densities and 3D-Bone-Structures under Therapy with Raloxifene measured with HRpQCT**
Maximilian Dambacher*[1], Maurus Neff[2], Radspieler Helmut[3]. [1]Metabolic Bone Diseases, Switzerland, [2]Osteoporosezentrum Zuerich, Switzerland, [3]Osteoporosezentrum Muenchen, Germany
Disclosures: Maximilian Dambacher, None

OSTEOPOROSIS TREATMENT (CLINICAL): HEALTH ECONOMICS

MO0400 **Determinants of Health-Related Quality of Life (HRQoL) in Postmenopausal Women Receiving or Initiating Bone Loss Medications: POSSIBLE EU® and POSSIBLE US™**
Nick Freemantle*[1], Francis Guillemin[2], Luc Martinez[3], Melanie Calvert[1], Cyrus Cooper[4], Ted Ganiats[5], Matthew Gitlin[6], Rob Horne[7], Anne Marciniak[8], Johannes Pfeilschifter[9], Susan Shepherd[8], Sally Wade[10], Anna Tosteson[11]. [1]University of Birmingham, United Kingdom, [2]Nancy University, EA 4360 Apemac, France, [3]Société Française de Médecine Générale, France, [4]University of Southampton, United Kingdom, [5]University of California San Diego School of Medicine, USA, [6]Amgen (Europe) Gambit, Zug, Switzerland, [7]School of Pharmacy, University of London, United Kingdom, [8]Amgen Ltd, United Kingdom, [9]Alfried Krupp Krankenhaus, Germany, [10]Wade Outcomes Research & Consulting, USA, [11]Dartmouth Medical School, USA
Disclosures: Nick Freemantle, Amgen, 2; Amgen, Eli Lilly, Pfizer, Sanofi-Aventis, 5

MO0401 **Direct Medical Costs Attributable to Peripheral Fractures in Post-menopausal Women**
Louis Bessette*[1], Sonia Jean[2], Marie-Pierre Lapointe-Garant[3], Etienne Belzile[1], K. Shawn Davison[3], Louis-Georges Ste-Marie[4], Jacques Brown[1]. [1]Laval University, Canada, [2]Institut National De Sante Publique, Canada, [3]Centre de recherche du CHUQ, Canada, [4]Hospital Saint-Luc, CHUM, Canada
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MO0402 **Fractures in Commercial and Medicare Patients Treated with Raloxifene or Alendronate: A Retrospective Database Analysis**
Shonda Foster*[1], Suellen Curkendall[2], Nianwen Shi[2], John Stock[1], Bong-Chul Chu[2], Russel Burge[1], David Diakun[2], John Krege[1]. [1]Eli Lilly & Company, USA, [2]Thomson Reuters, USA
Disclosures: Shonda Foster, Eli Lilly and Company, 3

MO0403 **Health Services Utilization after Fractures: Recent Evidence from Medicare**
David Becker*[1], Huifeng Yun[2], Meredith Kilgore[3], Jeffrey Curtis[1], Elizabeth Delzell[1], Lisa Gary[1], Kenneth Saag[1], Michael Morrisey[1]. [1]University of Alabama at Birmingham, USA, [2]Univiersity of Alabama at Birmingham, USA, [3]University of Alabama At Birmingham School of Public Health, USA
Disclosures: David Becker, Amgen, Inc., 2

MO0404 **Incremental Cost of Osteoporosis-related Fractures in a Large U.S. Managed Care Population**
H Viswanathan[1], J White[2], SW Wade*[3], J Yu[4], JR Curtis[5], B Stolshek[1], C Merinar[1], J Kallich[1], A Balasubramanian[1], J Adams[6]. [1]Amgen Inc, USA, [2]Wellpoint Inc., USA, [3]Wade Outcomes Research & Consulting, USA, [4]HealthCore, USA, [5]University of Alabama at Birmingham, USA, [6]RAND Corp, USA
Disclosures: SW Wade, Amgen Inc., 1; Amgen Inc., 3

MO0405 **Denosumab Administration is Not Associated With Fracture Healing Complications in Postmenopausal Women With Osteoporosis: Results From the FREEDOM Trial**

Silvano Adami*[1], Cesar Libanati[2], Jonathan Adachi[3], Steven Boonen[4], Steven Cummings[5], Luiz de Gregorio[6], Nigel Gilchrist[7], George Lyritis[8], Gerd Moeller[9], Santiago Palacios[10], Karel Pavelka[11], Heinrich Resch[12], Christian Roux[13], Daniel Uebelhart[14], Andrea Wang[2], Ethel Siris[15]. [1]University of Verona, Italy, [2]Amgen Inc, USA, [3]St. Joseph's Hospital, Canada, [4]Center for Metabolic Bone Disease, Belgium, [5]San Francisco Coordinating Center, USA, [6]Center for Clinical & Basic Research, Brazil, [7]CGM Research Trust, New Zealand, [8]University of Athens, Greece, [9]Amgen (Europe) GmbH, Switzerland, [10]Instituto Palacios, Salud y Medicina de la Mujer, Spain, [11]Institute of Rheumatology, Charles University Prague, Czech Republic, [12]Medical University Vienna, Austria, [13]Hospital Cochin, France, [14]University Hospital of Zurich, Switzerland, [15]Columbia University College of Physicians & Surgeons, USA

Disclosures: Silvano Adami, Merck, Amgen, Roche, BSK, 5; Amgen, Roche, Merck, Eli Lilly, 8

MO0406 **Effect of 24-week Green Tea Polyphenols Supplementation and Tai Chi Exercise on Bone Biomarkers in Postmenopausal Osteopenic Women**

Chwan-Li Shen*[1], Ming-Chien Chyu[2], James K Yeh[3], Yan Zhang[4], Barbara C Pence[4], Carol K Felton[4], Raul Y Dagda[4], Susan Doctolero[4], Jia-Sheng Wang[5]. [1]Texas Technology University Health Sciences Center, USA, [2]Texas Tech University, USA, [3]Winthrop-University Hospital, USA, [4]Texas Tech University Health Sciences Center, USA, [5]University of Georgia, USA

Disclosures: Chwan-Li Shen, None

MO0407 **Effects of Low Dose Calcium and Vitamin D Supplementation on Bone Density and Structure Measured In Vivo by µCT at the Distal Tibia in Postmenopausal Women with Osteopenia or Mild Osteoporosis**

Hendrikje Börst[1], Oliver Bock*[2], Gisela Beller[1], Martina Kratzsch[1], Heike Profittlich[1], Marlies Kalbow[1], Ralf Legler[1], Gabriele Armbrecht[3], Peter Martus[4], Dieter Felsenberg[2]. [1]Charité - Universitätsmedizin Berlin, Campus Benjamin Franklin, Germany, [2]Charité - Campus Benjamin Franklin, Germany, [3]Centre of Muscle & Bone Research, Charite-CBF, Germany, [4]Charite University Medicine, Germany

Disclosures: Oliver Bock, None

MO0408 **Efficacy and Safety of Oral Salmon Calcitonin in Postmenopausal Osteoporosis: Randomized, Double-Blind, Placebo-Controlled Trial**

Luis Augusto Russo[1], Edith Lau[2], Hai Tang[3], Milos Rajman[4], Christence Teglbjarg[5], Hans Christian Hoeck[5], Peter Alexandersen[6], Ivo Valter[7], Roland Chapurlat[8], Maria Luisa Brandi[9], Zydrune Visockiene[10], Henry G Bone[11], Michael McClung[12], Markus John[13], Juergen Loeffler[13], Michel Arnold[13], Bente Juel Riis[14], Moise Azria[13], Claus Christiansen*[14]. [1]Center for Clinical & Basic Research, Brazil, [2]Hong Kong Orthopaedic & Osteoporosis Center for Treatment & Research, Hong Kong, [3]Beijing Friendship hospital, China, [4]Center for Clinical & Basic Research, Czech Republic, [5]Center for Clinical & Basic Research, Denmark, [6]Center for Clinical & Basic Research A/S, Denmark, [7]Center for Clinical & Basic Research, Estonia, [8]E. Herriot Hospital, France, [9]University of Florence, Italy, [10]Center for Clinical & Basic Research, Lithuania, [11]Michigan Bone & Mineral Clinic, USA, [12]Oregon Osteoporosis Center, USA, [13]Novartis Pharma AG, Switzerland, [14]Nordic Bioscience A/S, Denmark

Disclosures: Claus Christiansen, None

MO0409 **Safety and Effectiveness Profile of Raloxifene in Long-term, Prospective, Observational Study (Final Report)**

Etsuro Hamaya*[1], Noriko Iikuni[2], Shigeru Nihojima[3], Shunji Yokoyama[3], Wakana Goto[2], Masanori Taketsuna[2], Akimitsu Miyauchi[4], Hideaki Sowa[5]. [1]Eli Lillly Japan KK, Japan, [2]Eli Lilly Japan KK, Japan, [3]Chugai Pharmaceutical Co., Ltd., Japan, [4]Omura municipal Hospital, Japan, [5]Eli Lilly Japan K.K., Japan

Disclosures: Etsuro Hamaya, Eli Lilly Japan, 3

MO0410 **Semi-mechanistic PK/PD Model of the Effect of Odanacatib, a Cathepsin K Inhibitor, on Bone Turnover to Characterize Lumbar Spine Bone Mineral Density in Two Phase II Studies of Postmenopausal Women**

Julie Stone[1], Le Thi Duong[2], Albert Leung[2], Jill Fiedler-Kelly[3], David Jaworowicz[3], Dosinda Cohn[1], Nadia Verbruggen[4], Julie Passarell[3], Aubrey Stoch[1], Stefan Zajic*[5]. [1]Merck & Co., Inc., USA, [2]Merck Research Laboratories, USA, [3]Cognigen, USA, [4]Merck & Co., Inc., Belgium, [5]Merck, USA

Disclosures: Stefan Zajic, Merck & Co., Inc., 3; Merck & Co., Inc., 1

OSTEOPOROSIS TREATMENT (CLINICAL): QUALITY OF LIFE

MO0411 **In Balloon Kyphoplasty for Osteoporotic Vertebral Body Fractures, the Potential of Reduction is Depending on the Time to Surgery**

Thomas Blattert*. Leipzig University Hospital, Germany

Disclosures: Thomas Blattert, Medtronic, 5

MO0412 **Kyphoplasty In Fresh Osteoporotic Vertebral Body Fractures - For How Long Should the Preceding Intensive Conservative Pain therapy Be Conducted?**

Janos Borgulya[1], Christian Günther*[2]. [1]Abt.Wirbelsäulenchirurgie, Germany, [2]Johannesbad Reha-Clinics, Germany

Disclosures: Christian Günther, None

OSTEOPOROSIS TREATMENT (CLINICAL): VITAMIN D AND METABOLITES

MO0413 **25-Hydroxyvitamin D Levels Increase Progressively With Higher Vitamin D Doses in Elderly Long-Term Care Residents**

Alexandra Papaioannou*[1], Jenna Johnson[2], Courtney Kennedy[2], George Ioannidis[3], Laura Pickard[2], Janet Pritchard[2], Joanne Dykeman[4], Sandra Dudziak[4], Jonathan Adachi[5]. [1]Hamilton Health Sciences, Canada, [2]McMaster University, Canada, [3]Sympatico, Canada, [4]Revera Inc., Canada, [5]St. Joseph's Hospital, Canada

Disclosures: Alexandra Papaioannou, Amgen, 2; Eli Lilly, 8; Procter and Gamble, 2; Novartis, 2; Merck Frosst, 8; Merck Frosst, 2; Eli Lilly, 2; sanofi-aventis, 8; Amgen, 8; Servier, 8

MO0414 **A New Active Vitamin D Analog, Eldecalcitol, Positive Effect on Hip Structural and Biomechanical Properties**

Masako Ito*[1], Toshitaka Nakamura[2], Masao Fukunaga[3], Masataka Shiraki[4], Toshio Matsumoto[5]. [1]Nagasaki University Hospital, Japan, [2]University of Occupational & Environmental Health, Japan, [3]Kawasaki Medical School, Japan, [4]Research Institute & Practice for Involutional Diseases, Japan, [5]University of Tokushima Graduate School of Medical Sciences, Japan

Disclosures: Masako Ito, Chugai, Takeda, Eli Lilly Japan, 2; Chugai, Astellas, Daiichi-Sankyo, JT,Asahi Kasei Pharma, Ono Pharm, 5

MO0415 **Chart Review Initiative to Characterize the Assessment and Management of Vitamin D Levels in Osteoporosis Patients in Clinical Practice**

Jonathan D. Adachi[1], Jacques Brown*[2]. [1]McMaster University, Canada, [2]Laval University, Canada

Disclosures: Jacques Brown, Wyeth, 9; AstraZeneca, 5; Servier, 5; Nycomed, 5; Wyeth, 5; Bristol-Myers Squibb, 5; Eli Lilly, 9; Novartis, 9; sanofi aventis, 5; Roche, 9; Novartis, 5; sanofi aventis, 9; Eli Lilly, 5; Pfizer, 9; Pfizer, 1; Merck, 9; Roche, 5; Procter & Gamble, 9; Bristol-Myers Squibb, 1; GlaxoSmithKline, 5; Amgen, 9; GlaxoSmithKline, 9; Amgen, 5; Merck, 5; Procter & Gamble, 5

MO0416 **Clinical History is Unreliable in Assessment of Vitamin D Status: To Know Your Patient's Vitamin D Status, 25(OH)D Measurement is Needed**

Neil Binkley*[1], Ellen Fidler[2], Diane Krueger[3]. [1]University of Wisconsin, USA, [2]University of Wisconsin Osteoporosis Clinical Research Program, USA, [3]University of Wisconsin, Madison, USA

Disclosures: Neil Binkley, None

MO0417 **The Effect of cis-9, trans-11 Conjugated Linoleic Acid on Parathyroid Hormone in Middle-Aged Men**

Jason DeGuire*[1], Nour Makarem[1], Catherine Vanstone[2], Suzanne Morin[3], Hope Weiler[1]. [1]McGill University, Canada, [2]Research coordinator, Canada, [3]McGill University Health Centre, Canada

Disclosures: Jason DeGuire, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): ANABOLIC AGENTS

MO0418 **A Nasal Spray Formulation of Teriparatide Produces Supratherapeutic Systemic Exposure But Does Not Cause Turbinate Bone Damage in a 3-Month Monkey Study**
Christopher Jerome[1], Gene Merutka[2], E. Priya Eddy*[2], Brian MacDonald[3]. [1]Think Bone Consulting, USA, [2]Zelos Therapeutics, USA, [3]Zelos Therapeutics Inc, USA
Disclosures: E. Priya Eddy, Zelos Therapeutics, 5

MO0419 **A Novel Parathyroid Hormone Fusion Protein Causes Sustained Increases in Bone Mineral Density in Ovarectomized Rat After Monthly or Single Dosing**
Ranjitha Katikaneni[1], Tulasi Ponnapakkam[1], Elease Bradford[1], Satish Pasala[1], Osamu Matsushita[2], Joshua Sakon[3], Robert Gensure*[1]. [1]Ochsner Clinic Foundation, USA, [2]Kitasato University Medical School, Japan, [3]University of Arkansas, USA
Disclosures: Robert Gensure, None

MO0420 **Alendronate and Parathyroid Hormone Treatment Improve Bone and Metabolic Health in the OVX Rat**
Andrea Trinward*[1], Steven Tommasini[2], Lisa Miller[3], Stefan Judex[4]. [1]State University of New York at Stony Brook, USA, [2]SUNY Stony Brook, USA, [3]Brookhaven National Laboratory, USA, [4]Stony Brook University, USA
Disclosures: Andrea Trinward, None

MO0421 **Bone Mineral Quality Assessed at Bone Structural Unit Level in Macaca fascicularis Monkeys is not modified by a 52-week treatment with Strontium Ranelate.**
Audrey Doublier*[1], Delphine Farlay[2], Yohann Bala[3], Xavier Jaurand[4], Dominique Bertrand[5], Georges Boivin[1]. [1]INSERM, France, [2]University of Lyon, France, [3]Université De Lyon, France, [4]Centre Technologique des Microstructures, Université de Lyon, France, [5]INRA, France
Disclosures: Audrey Doublier, SERVIER, 2

MO0422 **Dietary Dried Plum Increases Bone Mass**
Bernard Halloran*. VA Medical Center (111N), USA
Disclosures: Bernard Halloran, None

MO0423 **Effects of an Anti-resorptive and Anabolic Agent Alone or in Combination on the Micro-architecture and Mineralization of an Ovariectomized Rat**
Graeme Campbell*[1], Ricardo Bernhardt[2], Dieter Scharnweber[3], Steven Boyd[1]. [1]University of Calgary, Canada, [2]Technische Universität Dresden, Germany, [3]Technische Universitaet Dresden, Germany
Disclosures: Graeme Campbell, None

MO0424 **Optimization of the Pharmacodynamic Response to the Calcium-Sensing Receptor (CaSR) Antagonist MK-5442 (JTT-305) in the Sprague-Dawley Rat and Beagle Dog.**
Helmut Glantschnig*[1], Tara Cusick[2], John Fisher[2], Bindhu Karanam[2], Pascale Nantermet[2], Kevin Scott[2], Monica Tijerina[2], Nan Wei[2], Le Thi Duong[1]. [1]Merck Research Laboratories, USA, [2]Merck & Co., Inc., USA
Disclosures: Helmut Glantschnig, Merck & Co, 3

MO0425 **Rapid-Onset Anabolic Actions on Bone of 2-Methoxyestradiol**
Khalid Mohammad*[1], Lauren Dunn[2], Holly Davis[2], Xianghong Peng[1], Maria Niewolna[1], Theresa Guise[1], John Chirgwin[1]. [1]Indiana University, USA, [2]University of Virginia, USA
Disclosures: Khalid Mohammad, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): BISPHOSPHONATES

MO0426 **A Pilot Study on the Synergistic Effect of Anti-resorptive and Anabolic Treatment on Ovariectomized Rat**
Xiao Yang*[1], Yong Hoow Chan[1], Padmalosini Muthukumaran[1], Xiuli Chen[1], Taeyong Lee[2]. [1]nus, Singapore, [2]National University of Singapore, Singapore
Disclosures: Xiao Yang, None

MO0427 **Effect of Bisphosphonates on Menaquinone-4 Biosynthesis in Human Osteoblasts.**
Toshio Okano*[1], Kimie Nakagawa[1], Naoko Okuda[1], Yoshitomo Suhara[2], Yoshihisa Hirota[1]. [1]Kobe Pharmaceutical University, Japan, [2]Yokohama College of Pharmacy, Japan
Disclosures: Toshio Okano, None

MO0428 **Segregation of Pro-apoptotic and Anti-resorptive Functions of Risedronate In Vivo**
Takumi Matsumoto*[1], Yuichi Nagase[1], Tetsuro Yasui[2], Hironari Masuda[1], Kozo Nakamura[1], Sakae Tanaka[1]. [1]The University of Tokyo, Japan, [2]University of Tokyo, Japan
Disclosures: Takumi Matsumoto, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): CALCIUM AND DIETARY FACTORS

MO0429 **Lovaza® Prevents Aging Associated Bone Loss in C57BL/6 Mice by Inhibiting Inflammation and Bone Resorption**
Md Rahman*[1], Ganesh Halade[2], Jyothi Veigas[2], Kazi Nishu[2], Paul Williams[2], Gabriel Fernandes[2]. [1]University of Texas Health Science Center, USA, [2]UTHSCSA, USA
Disclosures: Md Rahman, None

MO0430 **Recommended Intake of Vitamin D2 is not as Effective as Vitamin D3 in Recovering Serum 25OHD in Vitamin D Insufficient Sham and OVX Rats**
Silvia Friedman[1], Clarisa Marotte[2], Macarena Gonzales Chaves*[3], Gabriel Bryk[4], Gretel Pellegrini[5], Susana Zeni[6]. [1]PhD, Argentina, [2]Biologist, Argentina, [3]Odontologist, Argentina, [4]Biochemist, Argentina, [5]seccion osteopatias medicas, Hospital de Clínicas José de San Martín, Argentina, [6]University of Buenos Aires, Argentina
Disclosures: Macarena Gonzales Chaves, None

MO0431 **The Effects of Colored Rice in the Prevention of Bone Loss in Ovarectomized Rats**
Jordan Teeple*[1], William Gilbert[1], Priyanka Sharma[1], Vidya Gadang[1], Yan Wang[1], Brenda Smith[2], Latha Devareddy[1]. [1]University of Arkansas, USA, [2]Oklahoma State University, USA
Disclosures: Jordan Teeple, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): GONADAL STEROIDS AND SERMS

MO0432 **Short Term Effects of a Transdermal Contraceptive Patch on Bone Turnover in Premenopausal Women**
Jason Vescovi*[1], Robert Foulds[1], Bruce Bain[2], Ira Jacobs[1]. [1]York University, Canada, [2]Defence Research & Development Canada Toronto, Canada
Disclosures: Jason Vescovi, None

MO0433 **The Novel Selective Androgen Receptor Modulator (SARM) ORM-11984 Prevents the Development of Osteopenia in Aged Orchidectomized Rats**
Jukka Morko*[1], Jukka Rissanen[2], ZhiQi Peng[3], Mari Suominen[3], Katja Fagerlund[3], Laura Ravanti[4], Riikka Oksala[4], Pekka J. Kallio[4], Jussi Halleen[3]. [1]Pharmatest Services Ltd, Fin, [2]Pharmatest Services,Limited, Finland, [3]Pharmatest Services Ltd, Finland, [4]Orion Corporation, Finland
Disclosures: Jukka Morko, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): OTHER AGENTS

MO0434 **A Hypertensive Drug Telmisartan Selectively Activates PPARg Pro-Adipocytic but not Anti-Osteoblastic Activities in Marrow Mesenchymal Stem Cells (MSCs)**
Beata Lecka-Czernik[1], Vipula Petluru*[2]. [1]University of Toledo College of Medicine, USA, [2]University of Toledo Medical Center, USA
Disclosures: Vipula Petluru, None

MO0435 **CEA Enantiomers Exerts Different Effects on Estrogen-Sensitive Bone and Cancer Cells**
Man-Sau Wong[1], Man-Chun Law[2], Tak-Hang Chan[3], Ka-chun Wong*[4]. [1]Hong Kong Polytechnic University, Hong Kong, [2]Co-lab, Hong Kong, [3]Co-supervisior, Hong Kong, [4]The Hong Kong Polytechnic University, Hong Kong
Disclosures: Ka-chun Wong, None

MO0436 **Inhibition of the Angiotensin Pathway Increases Bone Mass by Reducing Osteoclastogenesis**
Shan Chen*[1], Tarek Sibai[1], Tao Yang[1], Jianning Tao[1], Dobrawa Napierala[1], Brian Dawson[1], Jennifer Black[2], Yuqing Chen[1], Ming-Ming Jiang[1], Brendan Lee[1]. [1]Baylor College of Medicine, USA, [2]Vanderbilt University School of Medicine, USA
Disclosures: Shan Chen, None

MO0437 **Melatonin Functionalized on Novel Bone Regenerating Scaffolds Enhances Bone Remodeling Activity in a Model of Calvaria Defects**
William Clafshenkel*[1], James L. Rutkowski[2], Rachelle Palchesko[3], Jared Romeo[3], Kenneth McGowan[4], Ellen S. Gawalt[3], Paula A. Witt-Enderby[1]. [1]Graduate School of Pharmaceutical Sciences, Duquesne University, USA, [2]Department of Restorative Dentistry, State University of New York at Buffalo, USA, [3]Department of Chemistry & Biochemistry, Duquesne University, USA, [4]Westmoreland Advanced Materials, USA
Disclosures: William Clafshenkel, None

MO0438 **Nanobodies Targeting RANK-Ligand are Strong Inhibitors of Human Osteoclast Differentiation *in Vitro***
Jussi Halleen*[1], Katja Fagerlund[1], Hans Ulrichts[2], Els Beirnaert[3], Sigrid Cornelis[2], Jukka Rissanen[4]. [1]Pharmatest Services Ltd, Finland, [2]Ablynx NV, Belgium, [3]Ablynx, Belgium, [4]Pharmatest Services,Limited, Finland
Disclosures: Jussi Halleen, IDS Ltd, 7; IDS Ltd, 5

MO0439 **Preclinical Assessment of Cell Based Therapies to Treat Type II Osteoporosis**
Jeffrey Kiernan*, William Stanford. University of Toronto, Canada
Disclosures: Jeffrey Kiernan, None

MO0440 **Vitamin K2 Prevents Hyperglycemia and Cancellous Osteopenia in Rats with Streptozotocin-induced Type 1 Diabetes**
Jun Iwamoto*[1], Azusa Seki[2], Tsuyoshi Takeda[1], Hideo Matsumoto[1], James Yeh[3]. [1]Keio University School of Medicine, Japan, [2]Hamri. Co., Ltd., Japan, [3]Winthrop University Hospital, USA
Disclosures: Jun Iwamoto, None

OSTEOPOROSIS TREATMENT (PRE-CLINICAL): VITAMIN D AND METABOLITES

MO0441 **The Combined Therapy of Alendronate and Eldecalcitol has Therapeutic Advantages over Monotherapy by Improving Bone Strength**
Sadaoki Sakai*[1], Masahiko Mihara[2], Hitoshi Saito[3], Fumiaki Takahashi[3], Ayako Shiraishi[4]. [1]Chugai Pharmaceutical Co., LTD., Japan, [2]Chugai Pharmaceutical Co., LTD, Japan, [3]Chugai Pharmaceutical Company, Limited, Japan, [4]Chugai Pharmaceutical Co.,Ltd., Japan
Disclosures: Sadaoki Sakai, Chugai Pharmaceutical Co., LTD, 3

MO0442 **Vitamin D_3 Enhances Collagen Maturation in Ovariectomized Rat Bones**
Hideaki Nagaoka*, Marnisa Sricholpech, Masahiko Terajima, Mitsuo Yamauchi. University of North Carolina, Chapel Hill, USA
Disclosures: Hideaki Nagaoka, None

OTHER DISORDERS OF BONE: CONGENITAL AND GENETIC BONE DISEASES

MO0443 **Bone Histomorphometry in Hypophosphatasia Diagnosed in Adults**
Robert Wermers*[1], Theresa Hefferan[1], Kathryn Berkseth[1], Donna Jewison[1], Matthew Drake[2], Michael Yaszemski[1], Peter Tebben[1]. [1]Mayo Clinic, USA, [2]Mayo Clinic College of Medicine, USA
Disclosures: Robert Wermers, None

MO0444 **ERCC-XPF Nuclease Is Required for Bone Homeostasis**
Qian Chen*[1], Andria Robinson[1], Paul Robbins[1], Laura Niedernhofer[2], Hong-Jiao Ouyang[3]. [1]UPMC, USA, [2]Hillman Cancer Center, UPMC, USA, [3]University of Pittsburgh, USA
Disclosures: Qian Chen, None

OTHER DISORDERS OF BONE: IDIOPATHIC HYPERCALCIURIA, NEPHROLITHIASIS

MO0445 **Increased Vitamin D Receptors in Genetic Hypercalciuric Stone Forming Rats are Biologically Active**
Kevin Frick*[1], John Asplin[2], Murray Favus[2], Christopher Culbertson[1], Stephanie Yee[1], Nancy Krieger[1], David Bushinsky[1]. [1]University of Rochester, USA, [2]University of Chicago, USA
Disclosures: Kevin Frick, None

OTHER DISORDERS OF BONE: OSTEOMALACIA/RICKETS

MO0446 **Higher Vitamin D Requirements in Older Persons**
Silvina Levis*. University of Miami School of Medicine, USA
Disclosures: Silvina Levis, None

MO0447 **Vitamin D Deficiency vs Vitamin D Insufficiency: An Example of How This Distinction Cannot Be Made**
Barbara Silva*[1], Carolina Kulak[2], Eduardo Dias[3], Bruno Camargos[4], John Bilezikian[5], Marta Sarquis[6]. [1]Columbia University Medical Center, USA, [2]Federal University of Parana, Brazil, [3]Endocrinology Unit, Felicio Rocho Hospital, Brazil, [4]Rua Padre Francisco Arantes, USA, [5]Columbia University College of Physicians & Surgeons, USA, [6]Department of Internal Medicine, Federal University of Minas Gerais, Brazil
Disclosures: Barbara Silva, None

OTHER DISORDERS OF BONE: PAGET'S DISEASE

MO0448 **Detection of Low Copy Numbers of Mutant *SQSTM1* Alleles in DNA from Peripheral Blood Cells in Paget's Disease of Bone**
Laetitia Michou*[1], Edith Gagnon[2], Jean Morissette[2], Jacques Brown[2]. [1]Centre De Recherche Du Chuq-Chul, Canada, [2]Laval University, Canada
Disclosures: Laetitia Michou, None

OTHER DISORDERS OF BONE: PARATHYROID DISEASES

MO0449 **Effect of Parathyroidectomy on Structural Cardiac Indices and Diastolic Dysfunction in Mild Primary Hyperparathyroidism**
Marcella Walker*, Marco Di Tullio, James Lee, Shunichi Homma, Chiyuan Zhang, Donald McMahon, Jessica Fleischer, Tamara Taggart, Julia Udesky, Rui Liu, Shonni Silverberg. Columbia University, USA
Disclosures: Marcella Walker, None

MO0450 **Ethnic Differences in the Presentation of Primary Hyperparathyroidism**
Naim Maalouf*[1], Jacob Grange[2]. [1]University of Texas Southwestern Medical Center, Dallas, USA, [2]University of Texas Southwestern Medical Center, USA
Disclosures: Naim Maalouf, None

MO0451 **Genetic Analysis of HRPT2 Gene in a Large Series of Parathyroid Tumors**
Filomena Cetani*, Chiara Banti, Elena Pardi, Simona Borsari, Feredica Saponaro, Claudio Marcocci. University of Pisa, Italy
Disclosures: Filomena Cetani, None

MO0452 **Identification and Characterization of a Novel C106R Mutation in the DNA Binding Domain of the GCMB Gene in a Family with Autosomal Dominant Hypoparathyroidism**
Sihoon Lee*[1], Hyon-Seung Yi[1], Young Sil Eom[1], Sangho Lee[2], Suntaek Hong[1], Harald Jueppner[3], Michael Mannstadt[4]. [1]Gachon University of Medicine & Science, South Korea, [2]Sungkyunkwan University, South Korea, [3]Massachusetts General Hospital, USA, [4]Massachusetts General Hospital Harvard Medical School, USA
Disclosures: Sihoon Lee, None

MO0453 **Implications of Vitamin D Status in Patients with Primary Hyperparathyroidism**
Liana Tripto Shkolnik*[1], Rafit Drori[1], Tali Schiller[1], Orit Twito[1], Pinchas Klein[1], Yair Liel[2], Anat Jaffe[1]. [1]Hillel Yaffe Medical Center, Israel, [2]Soroka University Medical Center, Israel
Disclosures: Liana Tripto Shkolnik, None

MO0454 **PTH Regulates the Distribution of Trabecular and Cortical Compartments of Bone**
Mishaela Rubin*[1], Hua Zhou[2], Shonni Silverberg[1], James Sliney[1], David Dempster[1], John Bilezikian[3]. [1]Columbia University, USA, [2]Helen Hayes Hospital, USA, [3]Columbia University College of Physicians & Surgeons, USA
Disclosures: Mishaela Rubin, None

MO0455 **Reduced Physical and Mental Health in Patients with Long Standing Hypoparathyroidism Compared to Healthy Controls**
Tanja Sikjaer*, Anne Kristine Amstrup, Lars Rejnmark, Leif Mosekilde. Aarhus University Hospital, Denmark
Disclosures: Tanja Sikjaer, None

OTHER DISORDERS OF BONE: RENAL BONE DISEASE

MO0456 **Bone Mineral Density and Bone Structure Discriminate Among Those With and Without Fractures in Early Stage Chronic Kidney Disease**
Sarah West*[1], Charmaine E. Lok[2], Angela Cheung[2], Sophie Jamal[3]. [1]University of Toronto, Canada, [2]University Health Network, Canada, [3]The University of Toronto, Canada
Disclosures: Sarah West, None

MO0457 **Changes in Poorly Mineralized Bone area after Parathyroidectomy for Renal Hyperparathyroidism**
Shigeru Otsubo[1], Aiji Yajima*[2], Kosaku Nitta[3]. [1]Department of Nephrology, Sangenjaya Hospital, Japan, [2]Towa Hospital, Japan, [3]Department of Medicine, Kidney Center, Tokyo Women's Medical University, Japan
Disclosures: Aiji Yajima, None

MO0458 **Changes in Trabecular and Cortical Volumetric Bone Mineral Density and Cortical Geometry after Renal Transplantation in Adults**
Mary Leonard*[1], Babette Zemel[1], Simin Goral[2], Debbie Foerster[3], Yusuf Bhagat[2], Felix Werner Wehrli[4]. [1]Children's Hospital of Philadelphia, USA, [2]University of Pennsylvania, USA, [3]The Children's Hospital of Philadelphia, USA, [4]University of Pennsylvania Medical Center, USA
Disclosures: Mary Leonard, None

MO0459 **Leads and Target Validation for the Treatment of Medial Vascular Calcification**
Tina Kiffer-Moreira*[1], Yalda Mostofi[2], Russell Dahl[2], Marc F. Hoylaerts[3], Sonoko Narisawa[1], Ying Su[2], W. Charles O'Neil[4], Nicholas D. P. Cosford[2], Jose Luis Millan[1]. [1]Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute, USA, [2]Program on Apoptosis & Cell Death & Conrad Prebys Center for Chemical Genomics, Sanford-Burnham Medical Research Institute, USA, [3]Center for Molecular & Vascular Biology, University of Leuven, Belgium, [4]Emory University, Renal Division, USA
Disclosures: Tina Kiffer-Moreira, None

OTHER DISORDERS OF BONE: RHEUMATOLOGIC AND OTHER SYSTEMIC ILLNESSES

MO0460 **Adiposity, Fat Distribution, Adipokines and Ghrelin Serum Levels in Knee Osteoarthritis**
Eric Toussirot*[1], Nhu Uyen Nguyen[2], Daniel Wendling[1], Gilles Dumoulin[3]. [1]Department of Rheumatology University Hospital, France, [2]Department of Physiology University Hospital, France, [3]Department of Physiology, University Hospital, France
Disclosures: Eric Toussirot, None

MO0461 **Association Between Hypovitaminosis D and Mortality in type 2 diabetes Patients during 7-years Follow-up**
Shogo Asano*[1], Atsushi Suzuki[2], Sahoko Sekiguchi[3], Megumi Shibata[3], Kumiko Jo[3], Maiko Kimura[3], Nobuki Hayakawa[3], Shigeo Imamura[1], Mitsuyasu Itoh[3]. [1]Toyokawa City Hospital, Japan, [2]Fujita Health University Division of Endocrinology, Japan, [3]Fujita Health University, Division of Endocrinology, Japan
Disclosures: Shogo Asano, None

MO0462 **Effect of Bisphosphonate Therapy on Changes in Volumetric BMD at the Metacarpal Bone in Patients with Rheumatoid Arthritis on Therapy with Biologics: A Pilot Study**
Daniel Aeberli*[1], Prisca Eser[2], Jolanda Widmer[2], Peter M Villiger[2]. [1]Inselspital Bern, University Hospital, Switzerland, [2]Department of Rheumatology, Clinical Immunology & Allergology, Inselspital Bern, Switzerland
Disclosures: Daniel Aeberli, None

MO0463 **Effect of Tocilizumab on Bone Metabolism in Patients with Rheumatoid Arthritis**
Daihei Kida*. National Hospital Organization Nagoya Medical Center, Japan
Disclosures: Daihei Kida, None

MO0464 **Exercise Improves Glucose Control in Patients with Type 2 diabetes through Undercarboxylated Osteocalcin**
Itamar Levinger*[1], Roger Zebaze[2], George Jerums[3], David Hare[4], Steve Selig[5], Ego Seeman[6]. [1]Victoria University, Australia, [2]Austin Health, Australia, [3]University of Melbourne & the Department of Endocrinology, Austin Health, Australia, [4]University of Melbourne & the Department of Cardiology, Austin Health, Australia, [5]Institute for Sport, Exercise & Active Living, School of Sport & Exercise Science, Victoria University, Australia, [6]Austin Health, University of Melbourne, Australia
Disclosures: Itamar Levinger, None

MO0465 **Hip Bone Geometry in HIV/HCV Co-infected Men and Age-, Race-matched Controls**
David Thomas[1], Thomas Travison[2], Shruti Mehta[1], Gretchen R Chiu[2], Mark S Sulkowski[1], Andre Araujo[2], Yvonne Higgins[1], Catherine G Sutcliffe[1], Thomas Beck[3], Todd Brown*[1]. [1]Johns Hopkins University, USA, [2]New England Research Institutes, USA, [3]Johns Hopkins Outpatient Center, USA
Disclosures: Todd Brown, None

MO0466 **Prevalence and Risk Factors Associated with Sarcopenia in Brazilian Community-dwelling Elderly Women: Comparison Between 2 Different Methodologies for Definition**
Diogo S Domiciano*[1], Jaqueline B Lopes[1], Camille Danilevicius[2], Marcelo Pinheiro[3], Liliam Takayama[1], Valeria F Caparbo[1], Rosa Pereira[1]. [1]Faculdade de Medicina da Universidade de São Paulo, Brazil, [2]Universidade De São Paulo, Brazil, [3]Sao Paulo Federal University/ Unifesp/ Escola Paulista De Medicina, Bra
Disclosures: Diogo S Domiciano, None

MO0467 **Subclinical Carotid Atherosclerosis in Subjects with Low 25-Hydroxyvitamin D Levels**
Angela Carrelli*[1], Hyesoo Lowe[2], Marcella Walker[3], Donald McMahon[2], Tanja Rundek[4], Ralph Sacco[4], Shonni Silverberg[3]. [1]New York Presbyterian- Columbia University, USA, [2]Columbia University College of Physicians & Surgeons, USA, [3]Columbia University, USA, [4]University of Miami Miller School of Medicine, USA
Disclosures: Angela Carrelli, None

MO0468 **TNF-alpha Blocking Therapy Induces an Early Shift in the Bone Turnover Balance in Ankylosing Spondylitis Patients with Active Disease**
Suzanne Arends[1], Elisabeth Brouwer[2], Anneke Spoorenberg[3], Martha Leijsma[2], Pieternella Houtman[3], Cees Kallenberg[2], E. Van Der Veer*[4]. [1]University Medical Center Groningen, The Netherlands, [2]University Medical Center Groningen, Netherlands, [3]Medical Center Leeuwarden, Netherlands, [4]Groningen University Hospital, Laboratory Medicine, The Netherlands
Disclosures: E. Van Der Veer, None

OTHER DISORDERS OF BONE: TRANSPLANTATION

MO0469 **Decreased Bone Mineral Density in Patients Submitted to Kidney Transplantation Is Related to Age, Hyperparathyroidism, Time on Dialysis and Low Body Mass Index**
Mario Sergio Zen[1], Paulo Gustavo Lacativa[1], Carolina Hammes Torres[1], Renato T. Goncalves[2], Laura Maria Mendonça[3], Maria Lucia Farias*[4]. [1]Division of Endocrinology, UFRJ, Brazil, [2]Division of Nephrology, UFRJ, Brazil, [3]Division of Densitometry, UFRJ, Brazil, [4]Federal University of Rio de Janeiro, Brazil
Disclosures: Maria Lucia Farias, None

MO0470 **Demineralized Allogenic Dentin Matrix Increases the Bone Formation Rate**
Neema Bakhshalian*, Shirin Hooshmand, Sara Campbell, Bahram Arjmandi. Florida State University, USA
Disclosures: Neema Bakhshalian, None

MO0471 **Effect of Vitamin D on Clinical Outcomes of Lung Transplant Recipients**
Thomas Cascino*[1], Ramon Durazo[2], Charles Alex[2], Pauline Camacho[3]. [1]Loyola University Chicago Stritch School of Medicine, USA, [2]Loyola University Medical Center, USA, [3]Loyola University of Chicago, USA
Disclosures: Thomas Cascino, None

STEROID HORMONES AND RECEPTORS: PTH/PTHRP

MO0472 **Time-dependent Effects of Glucocorticoids on Osteocyte Autophagy In Vivo**
Wei Yao*[1], Junjing Li[2], Mohammad Shahnazari[2], L. Darryl Quarles[3], Weiwei Dai[2], Min Guan[4], Lynda Bonewald[5], Nancy Lane[1]. [1]University of California, Davis Medical Center, USA, [2]UC Davis Medical Center, USA, [3]University of Tennessee Health Sciences Center, USA, [4]UC DavisMedical Center, USA, [5]University of Missouri - Kansas City, USA
Disclosures: Wei Yao, None

STEROID HORMONES AND RECEPTORS: SEX STEROIDS

MO0473 **Characterizing the Tissue-Specific Properties of Selective Estrogen Receptor Modulators in Breast, Uterine and Bone Cells**
Robert Nerenz*, Mark Meyer, J. Pike. University of Wisconsin-Madison, USA
Disclosures: Robert Nerenz, None

MO0474 **Early Programming of Reproductive Health by Soy Isoflavones**
Wendy Ward, Elsa Dinsdale*. University of Toronto, Canada
Disclosures: Elsa Dinsdale, None

MO0475 **GPR30 Deficiency Causes Increased Bone Mass, Growth Plate Proliferation, and in vitro Mineralized Nodule Formation in Male Mice**
Jeffery Ford[1], Asghar Hajibieigi[2], Deborah Clegg[3], Joseph Zerwekh[4], Orhan Oz*[4]. [1]Department of Radiology, UT Southwestern Medical Center, USA, [2]Department of Radiology, UT Southwestern Medical Center at Dallas, USA, [3]Department of Internal Medicine, UT Southwestern Medical Center at Dallas, USA, [4]University of Texas Southwestern Medical Center, Dallas, USA
Disclosures: Orhan Oz, None

STEROID HORMONES AND RECEPTORS: VITAMIN D AND ITS ANALOGS

MO0476 **A Gene Expression Profile of Keratinocyte Stem Cells from the VDR Null Mouse**
Marie Demay[1], Hilary Luderer*[2]. [1]Massachusetts General Hospital & Harvard Medical School, USA, [2]Massachusetts General Hospital, USA
Disclosures: Hilary Luderer, None

MO0477 **Direct Effects of 25-Hydroxyvitamin D_3 on Proliferation, Apoptosis, Cell Cycle, and Osteoblast Differentiation in Human MSCs Depend on CYP27B1/1a-Hydroxylase**
Shuo Geng*, Shuanhu Zhou, Julie Glowacki. Brigham & Women's hospital, USA
Disclosures: Shuo Geng, None

MO0478 **Effect of Calcitriol on Vitamin D Receptor, its Metabolizing Enzymes and Cell Proliferation in Porcine Coronary Artery Smooth Muscle Cells**
Gaurav Gupta*[1], Devendra Agrawal[2]. [1]Creighton University, USA, [2]Creighton University School of Medicine, USA
Disclosures: Gaurav Gupta, None

MO0479 **Fifty Mutations of 25-OH-D3-24-Hydroxylase (hCYP24A1) Provide Insights into its Regioselectivity & Substrate Specificity.**
Martin Kaufmann*, David E Prosser, Tessa Mathew, Glenville Jones. Queen's University, Canada
Disclosures: Martin Kaufmann, None

MO0480 **Human Colon and Serum Concentrations of 1,25-dihydroxyvitamin D are Positively Correlated**
Dennis Wagner*[1], Andre Dias[1], Theodorus van der Kwast[2], Reinhold Vieth[3]. [1]University of Toronto, Canada, [2]University Health Network, Canada, [3]Mount Sinai Hospital, Canada
Disclosures: Dennis Wagner, None

MO0481 **The Vitamin D Analog, Eldecalcitol [1α,25-dihydroxy-2β-(3-hydroxypropyloxy)vitamin D_3], Is a Potent Regulator of Calcium and Phosphate Metabolism.**
Alex Brown*[1], Jane Finch[2], Eduardo Slatopolsky[3], Cynthia Ritter[1]. [1]Washington University School of Medicine, USA, [2]Washington Univeristy School of Medicine, USA, [3]Washington University in St. Louis School of Medicine, USA
Disclosures: Alex Brown, Chugai Pharmaceutical, 2

MO0482 **Vitamin D_2 from Light-exposed Mushrooms: Bioavailability and Capacity to Suppress the Pro-inflammatory Response to LPS Challenge in Rats**
Mona Calvo*[1], Uma S. Babu[1], Larry H. Garthoff[2]. [1]Food & Drug Administration, USA, [2]Food & Drug Adminsitration, USA
Disclosures: Mona Calvo, None

MO0483 **Vitamin D3 and D2-Rich Yeast are Equally Effective in Improving Trabecular Bone Quality in Vitamin D Deficient Rats**
Emily Hohman*[1], Berdine Martin[1], Pamela Lachcik[1], Dennis Gordon[2], James Fleet[1], Connie Weaver[1]. [1]Purdue University, USA, [2]North Dakota State University, USA
Disclosures: Emily Hohman, None

MO0484 **ACTH Ameliorates Glucocorticoid-Induced Osteonecrosis of Bone**
Mone Zaidi[1], Li Sun[2], Lisa Robinson[3], Irina Tourkova[4], Li Liu[3], Yujuan Wang[4], Ling-Ling Zhu[5], Xuan Liu[5], Jianhua Li[6], Yuanzhen Peng[7], Jammel Iqbal*[5], Beatrice Yaroslavskiy[4], Xingming Shi[8], Alice Levine[5], Alex Kirschenbaum[5], Carlos Isales[9], Harry Blair[3]. [1]Mount Sinai Medical Center, USA, [2]Mount Sinai School of Medicine, USA, [3]University of Pittsburgh, USA, [4]Departments of Pathology & of Physiology & Cell Biology, University of Pittsburgh School of Medicine, & the Pittsburgh Veterans Affairs Medical Center, USA, [5]The Mount Sinai Bone Program, Mount Sinai School of Medicine, USA, [6]Tount Sinai School of Medicine, USA, [7]The Mount Sinai School of Medicine, USA, [8]Department of Orthopedic Surgery, Medical College of Georgia, USA, [9]Medical College of Georgia, USA
Disclosures: Jammel Iqbal, None

MEET-THE-PROFESSOR SESSIONS

1:30 pm - 2:30 pm **South Building: Rooms 703-712**

Cartilage Formation and Maintenance
South Building: Room 705
Mary B. Goldring, Ph.D.
Hospital for Special Surgery, USA
Disclosures: Mary Goldring, None

Foxo1 and Osteoblast Physiology
South Building: Room 706
Stavroula Kousteni, Ph.D.
Columbia University Medical Center, USA
Disclosures: Stavroula Kousteni, None

From Development to Disease: Hedgehog in Tumors and Arthritis
South Building: Room 704
Benjamin A. Alman, M.D., FRCSC
The Hospital for Sick Children, Canada
Disclosures: Benjamin Alman, None

Inflammation and Bone Loss in Rheumatic Disorders: Mechanisms and Approach to Management
South Building: Room 712
Mary C. Nakamura, M.D.
University of California, San Francisco, USA
Disclosures: Mary Nakamura, None

Phosphate Disorders in Childhood
South Building: Room 703
Ingrid Adele Holm, M.D., MPH
Children's Hospital Boston, USA
Disclosures: Ingrid Holm, None

Treatment and Prevention of Skeletal Complications in Men with Prostate Cancer
South Building: Room 709

Supported by an educational grant from Merck & Co., Inc.
Matthew R. Smith, M.D., Ph.D.
Massachusetts General Hospital, USA
Disclosures: Matthew Smith, Amgen 5; GTx 5; Novartis 5

Vitamin D and Immunity - Why Do We Need More?
South Building: Room 711

Chantal Mathieu, M.D., Ph.D.
Katholieke Universiteit Leuven, Belgium
Disclosures: Chantal Mathieu, None

STATE-OF-THE-ART LECTURE - CONNECTIONS BETWEEN LRP5, SEROTONIN AND THE SKELETON

Supported by an educational grant from Merck & Co., Inc.

1:30 pm - 2:30 pm **South Building: Hall F**

Co-Chairs
Roland Baron, D.D.S., Ph.D.
Harvard School of Medicine and of Dental Medicine, USA
Disclosures: Roland Baron, Amgen 5; Merck 5

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

1:30 pm **Regulation of Bone Mass by the Direct Action of LRP5 in Bone**
Matthew Warman, M.D.
Children's Hospital Boston, USA
Disclosures: Matthew Warman, None

2:00 pm **Update on the Regulation of Bone Mass by Gut Serotonin**
Patricia Ducy, Ph.D.
Columbia University, USA
Disclosures: Patricia Ducy, None

CLINICAL ROUNDTABLE/CASE CONFERENCE: SECONDARY CAUSES OF OSTEOPOROSIS

Supported by an educational grant from Eli Lilly and Company

1:30 pm - 2:30 pm **South Building: Hall G**

Co-Chair
Felicia Cosman, M.D.
Helen Hayes Hospital, USA
Disclosures: Felicia Cosman, Amgen 8; Novartis 5; Merck 5; lilly 2; Novartis 8; Amgen 5; Lilly 8; lilly 5

Speakers:
Juliet E. Compston, M.D., FRCP
University of Cambridge School of Clinical Medicine, United Kingdom
Disclosures: Juliet Compston, Alliance for Better Bone Health, Amgen, Novartis, Nycomed, MSD, Procter & Gamble, Gilead, Roche/GSK, Servier, Eli Lilly, Warner Chilcot, Ono Pharmaceuticals, Crescent Diagnostics, 5; Osteotronix 2; Nycomed 2

Neil Binkley, M.D.
University of Wisconsin, USA
Disclosures: Neil Binkley, Amgen Inc. 2; Eli Lilly 5; Eli Lilly 2; Novartis 5; Merck 2; Amgen Inc. 5; Tarsa 2; Merck 5

CONCURRENT ORAL SESSION 31: BONE CARTILAGE: MATRIX FORMATION AND MINERALIZATION

2:45 pm - 4:15 pm **South Building: Room 801AB**

Moderators:
Marian F. Young, Ph.D.
National Institutes of Health, USA
Disclosures: Marian Young, None

Anne M. Delany, Ph.D.
University of Connecticut Health Center, USA
Disclosures: Anne Delany, None

2:45 pm 1181 **Osteopontin Plays a Pivotal Role in Sympathetic Control of Bone Mass**
Masashi Nagao*[1], Yoichi Ezura[2], Yoshitomo Saita[3], Tetsuya Nakamoto[1], Tadayoshi Hayata[4], Yayoi Izu[1], Ryo Hanyu[1], Hiroaki Hemmi[1], Takuya Notomi[5], Susan Rittling[6], Hisashi Kurosawa[7], Kazuo Kaneko[8], David Denhardt[9], Masaki Noda[1]. [1]Tokyo Medical & Dental University, Japan, [2]Tokyo Medical & Dental University, Medical Research Insititute, Japan, [3]Juntendo University, Department of Ortopedics, Japan, [4]Medical Reserach Institute, Tokyo Medical & Dental University, Japan, [5]GCOE, Tokyo Medical & Dental University, Japan, [6]The Forsyth Institute, USA, [7]Dept of Orthopedics, Juntendo Univ, School of medicine, Japan, [8]Dept of Orthopetics, Juntendo Univ school of medicine, Japan, [9]Department of Cell Biology & Neuroscience, Rutgers University, USA
Disclosures: Masashi Nagao, None

3:00 pm 1182 **In Vivo Evidence for a Limiting Role of Bone Sialoprotein (BSP) in Primary Bone Formation and Resorption : The Marrow Ablation Model Under PTH Challenge**
Ndéyé-Marième Wade-Gueye[1], Maya Boudiffa[2], Arnaud Vanden-Bossche[1], Farida Gueniche[1], Norbert Laroche[1], Jane Aubin[3], Laurence Vico[4], Marie-Helene Lafage-Proust[5], Luc Malaval*[6]. [1]Université de Lyon, INSERM U890, Université Jean Monnet, 42023 Saint-Etienne, France, [2]IRCM, Canada, [3]University of Toronto Faculty of Medicine, Canada, [4]University of St-Etienne, France, [5]INSERM Unit 890, France, [6]INSERM U890-Université de Lyon-Université Jean Monnet, Saint-Etienne, France
Disclosures: Luc Malaval, None

3:15 pm 1183 **Collagen Extracellular Matrix (ECM) Assembly Dynamics in Living Osteoblasts and Generation of a Collagen-GFP Transgenic Mouse**
Suzan Kamel*[1], Yongbo Lu[2], Patricia Veno[1], Charlotte Phillips[3], Vladimir Dusevich[1], Sarah Dallas[4]. [1]University of Missouri, Kansas City, USA, [2]Texas A&M University System Health Science Center, USA, [3]University of Missouri-Columbia, USA, [4]University of Missouri - Kansas City, USA
Disclosures: Suzan Kamel, None

3:30 pm 1184 **PHOSPHO1 Is Essential for Mechanically Competent Mineralization and Avoidance of Greenstick Fractures**
Carmen Huesa*[1], Manisha Yadav[2], Mikko Finnila[3], Simon Goodyear[4], Simon Robins[5], Katherine E. Tanner[6], Richard Aspden[5], Jose Luis Millan[2], Colin Farquharson[7]. [1]Roslin instituteUniversity of Edinburgh, United Kingdom, [2]Burnham Institute for Medical Research, USA, [3]Department of Medical Technology, University of Oulu, Finland, [4]University of Aberdeem, United Kingdom, [5]University of Aberdeen, United Kingdom, [6]Mechanical Engineering, University of Glasgow, United Kingdom, [7]Roslin Institute, University of Edinburgh, United Kingdom
Disclosures: Carmen Huesa, None

3:45 pm 1185 **A Novel Mechanism for Modulation of Canonical Wnt Signaling by the ECM Component, Biglycan**
Agnes Berendsen*[1], Tina Kilts[1], Marian Young[2]. [1]NIDCR, National Institutes of Health, USA, [2]National Institutes of Health, USA
Disclosures: Agnes Berendsen, None

4:00 pm 1186 **Collagen XXIV Regulates Osteoblast Differentiation Through Crosstalk of STAT1/Smad7 and TGF-β/Smad3 Signal Pathways**
Gang Liang, Shuying Yang*. State University of New York at Buffalo, USA
Disclosures: Shuying Yang, None

CONCURRENT ORAL SESSION 32: STEROID HORMONES AND RECEPTORS

2:45 pm - 4:15 pm **South Building: Room 716AB**

Moderators:
Shigeaki Kato, Ph.D.
University of Tokyo, Japan
Disclosures: Shigeaki Kato, None

J. Wesley Pike, Ph.D.
University of Wisconsin-Madison, USA
Disclosures: J. Pike, None

2:45 pm 1187 **Activation Function-1 in Estrogen Receptor-α but not Endogenous Estradiol is Required for the Osteogenic Response to Mechanical Loading in Female Mice**
Sara Windahl*[1], Leanne Saxon[2], Anna Borjesson[1], Cecilia Engdahl[1], Klara Sjogren[1], M Christina Antal[3], Andrée Krust[3], Pierre Chambon[3], Lance Lanyon[2], Joanna Price[4], Claes Ohlsson[1]. [1]Centre for Bone & Arthritis Research, Sweden, [2]Royal Veterinary College, United Kingdom, [3]Institut de Génétique et de Biologie Moléculaire et Cellulaire, INSERM, France, [4]University of Bristol, United Kingdom
Disclosures: Sara Windahl, None

3:00 pm 1188 **The Role of Estrogen Receptor-α AF-1 and AF-2 for the Effects of Estradiol in Bone**
Anna Borjesson*[1], Sara Windahl[1], Marie Lagerquist[2], Cecilia Engdahl[3], Baruch Frenkel[4], Klara Sjögren[1], Jenny Kindblom[2], Maria Cristina Antal[5], Andrée Krust[5], Pierre Chambon[5], Claes Ohlsson[1]. [1]Centre for Bone & Arthritis Research, Sweden, [2]Sahlgrenska University Hospital, Sweden, [3]Centre for Bone & Arthritis Researc, GU, Sauhlgrenska Academy, Medicine, Sweden, [4]University of Southern California, USA, [5]IGBMC, France
Disclosures: Anna Borjesson, None

3:15 pm 1189 **Physiological Impact of Osteoblastic Androgen Receptor in Androgen Anabolic Action**
Yuuki Imai*[1], Shino Kondoh[1], Min Ni[2], Kazuki Inoue[1], Takahiro Matsumoto[1], Kunio Takaoka[3], Shigeyuki Wakitani[4], Myles Brown[2], Shigeaki Kato[5]. [1]The University of Tokyo, Japan, [2]Dana-Farber Cancer Institute, USA, [3]Osaka City University Medical School, Japan, [4]Osaka City University Graduate School of Medicine, Japan, [5]University of Tokyo, Japan
Disclosures: Yuuki Imai, None

3:30 pm 1190 **Increased Bone VDR Impairs Osteoclast and Osteoblast Activities with Low Dietary Calcium in a Mouse Model**
Nga Lam*[1], Peter O'Loughlin[2], Rebecca Sawyer[1], Howard Morris[1], Paul Anderson[1]. [1]Endocrine Bone Research, SA Pathology, Australia, [2]Endocrine Bone Research, SA Pathology, Australia
Disclosures: Nga Lam, None

3:45 pm 1191 **Androgen Prevents Hypogonadal Bone Loss Primarily Through Osteocyte-mediated Inhibition of Resorption and is not Anabolic**
Anthony Semirale[1], Xiao-Wei Zhang[2], Dawn Olson[3], Urszula Iwaniec[3], Russell Turner[3], Kristine Wiren*[4]. [1]Oregon Health Sciences University, USA, [2]VA Medical Center & OHSU, USA, [3]Oregon State University, USA, [4]Veterans Affairs Medical Center, Oregon Health & Science University Research Ser, USA
Disclosures: Kristine Wiren, None

4:00 pm 1192 **The 1,25D3-MARRS Receptor/PDIA3/ERp57 is Required for Intestinal Cell Phosphate Uptake**
Ilka Nemere*[1], Natalio Garbi[2], Gunter Hammerling[2]. [1]Utah State University, USA, [2]Division of Molecular Immunology, German Cancer Research Center DKFZ, Germany
Disclosures: Ilka Nemere, None

CONCURRENT ORAL SESSION 33: BONE AND CARTILAGE: MECHANISMS TO PRESERVE SKELETAL HOMEOSTASIS

2:45 pm - 4:15 pm **South Building: Room 718AB**

Moderators:
Akira Yamaguchi, D.D.S., Ph.D.
Tokyo Medical and Dental University, Japan
Disclosures: Akira Yamaguchi, None

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

2:45 pm
1193 **FSH Markedly Increases Bone Mass in Mice via Ovary-dependent Mechanisms**
Robert Kalak[1], Charles Allan[1], Kirsten McTavish[1], Colin Dunstan[2], Hong Zhou*[3], David Handelsman[1], Markus Seibel[3]. [1]ANZAC Research Institute, The University of Sydney, Australia, [2]University of Sydney, Australia, [3]Bone Research Program, ANZAC Research Institute, The University of Sydney, Australia
Disclosures: Hong Zhou, None

3:00 pm
1194 **2010 YOUNG INVESTIGATOR AWARD**
Intestinal Calcium Absorption Regulates Serum Calcium by Compensatory Modifications in Bone Mass and Mineralization
Liesbet Lieben*[1], Ritsuko Masuyama[1], Karen Moermans[1], Jan Schrooten[2], Peter Baatsen[3], Roger Bouillon[1], Geert Carmeliet[1]. [1]Laboratory of Experimental Medicine & Endocrinology, Katholieke Universiteit Leuven, Belgium, [2]Department of Metallurgy & Materials Engineering, Katholieke Universiteit Leuven, Belgium, [3]Center for Human Genetics/VIB, Katholieke Universiteit Leuven, Belgium
Disclosures: Liesbet Lieben, None

3:15 pm
1195 **Resistance to Bone Loss Through Altered Stem Cell Physiology in CMKLR1-Deficient Mice**
Christopher Sinal, Shanmugam Muruganandan*. Dalhousie University, Canada
Disclosures: Shanmugam Muruganandan, None

3:30 pm
1196 **Membrane-type MMPs MT1-MMP and MT3-MMP are Essential for Postnatal Skeletal Homeostasis**
Joanne Shi*, Mi-Young Son, Susan Yamada, Pamela Gehron Robey, Kenn Holmbeck. NIDCR, USA
Disclosures: Joanne Shi, None

3:45 pm
1197 **Transgenic Over-expression of Human TRPV6 in Intestine Increases Calcium Absorption Efficiency and Improves Bone Mass in Mice**
Min Cui*, James Fleet. Purdue University, USA
Disclosures: Min Cui, None

4:00 pm
1198 ***Lrp5* is Required for *Sost* Deficiency Induced Mineral Apposition Rate Increases**
Jonathan Gooi*[1], Ina Kramer[2], Christine Halleux[1], Michaela Kneissel[1]. [1]Novartis Institutes for Biomedical Research, Switzerland, [2]Novartis Institutes for BioMedical Research, Che
Disclosures: Jonathan Gooi, None

CONCURRENT ORAL SESSION 34: OSTEOPOROSIS EPIDEMIOLOGY: FRACTURE PREVENTION

2:45 pm - 4:15 pm **South Building: Hall F**

Moderators:
Eugene V. McCloskey, M.D., MRCP, M.B.
University of Sheffield, United Kingdom
Disclosures: Eugene McCloskey, None

Ann E. Kearns, M.D., Ph.D.
Mayo Clinic College of Medicine, USA
Disclosures: Ann Kearns, None

2:45 pm **Does Osteoporosis Therapy Invalidate FRAX® for Fracture Prediction?**
1199 William Leslie*[1], Lisa Lix[2], Helena Johansson[3], Anders Oden[4], Eugene McCloskey[5], John Kanis[6]. [1]University of Manitoba, Canada, [2]University of Saskatchewan, Canada, [3]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [4]Consulting statistician, Sweden, [5]University of Sheffield, United Kingdom, [6]University of Sheffield, Belgium
Disclosures: William Leslie, None

3:00 pm **Non-Hip Femoral Fractures in Patients on Bisphosphonate Therapy: a Population-Based**
1200 **Study from Olmsted County, Minnesota**
Alvin Ng*[1], Matthew Drake[2], Stephen Sems[2], Sara Achenbach[3], Elizabeth Atkinson[4], L. Joseph Melton[5], Bart Clarke[2]. [1]Mayo Clinic Division of Endocrinology, Diabetes, Metabolism, & Nutrition, USA, [2]Mayo Clinic College of Medicine, USA, [3]Mayo Clinic Divsion of Biostatistics, Department of Health Sciences Research, USA, [4]Mayo Clinic Division of Biostatistics, Department of Health Sciences Research, USA, [5]Mayo Clinic Division of Epidemiology, Department of Health Sciences Research, USA
Disclosures: Alvin Ng, None

3:15 pm **A Retrospective Analysis of all Atypical Femur Fractures Seen in a Large California HMO**
1201 **from the Years 2007 to 2009**
Richard Dell[1], Denise Greene[1], Susan Ott*[2], Stuart Silverman[3], Eric Eisemon[4], Tadashi Funahashi[1], Annette Adams[1]. [1]Kaiser, USA, [2]University of Washington, USA, [3]Cedars Sinai, USA, [4]Maimonides Medical Center, USA
Disclosures: Susan Ott, None

3:30 pm **Long-term Mortality after Low-energy Fractures at Middle-age - a Study of 22 000 Men and**
1202 **11 000 Women**
Anna H Holmberg*[1], Jan-Åke Nilsson[2], Peter M Nilsson[3], Kristina Åkesson[4]. [1]Dpt of Orthopedics, Skåne University Hospital, Malmö, Sweden, [2]Dpt of Orthopedics, Skåne University Hospital, Malmö, Sweden, [3]Dpt of Internal Medicine, Skåne University Hospital, Malmö, Sweden, [4]Dpt of Clinical Sciences, Malmö, Clinical & Molecular Osteoporosis Research Unit, dpt of orthopedics, Skane University Hospital, Malmö, Sweden
Disclosures: Anna H Holmberg, Novartis, Amgen, 5

3:45 pm **Bone Age- a Novel Index of Age Based on Bone Mineral Density: A Multi-cohort Analysis**
1203 Yahtyng Sheu*[1], Anne Newman[1], Peggy Cawthon[2], Tamara Harris[3], Frances Tylavsky[4], Kristine Ensrud[5], Eric Orwoll[6], Jane Cauley[1]. [1]University of Pittsburgh Graduate School of Public Health, USA, [2]California Pacific Medical Center Research Institute, USA, [3]Intramural Research Program, National Institute on Aging, USA, [4]University of Tennessee, Memphis, USA, [5]Minneapolis VA Medical Center / University of Minnesota, USA, [6]Oregon Health & Science University, USA
Disclosures: Yahtyng Sheu, None

4:00 pm **Direct Comparison of Four National FRAX® Tools for Fracture Prediction**
1204 William Leslie*[1], Lisa Lix[2], Helena Johansson[3], Anders Oden[4], Eugene McCloskey[5], John Kanis[6]. [1]University of Manitoba, Canada, [2]University of Saskatchewan, Canada, [3]Swedish University of Agricultural Sciences, The Biomedical Center, Sweden, [4]Consulting statistician, Sweden, [5]University of Sheffield, United Kingdom, [6]University of Sheffield, Belgium
Disclosures: William Leslie, None

CONCURRENT ORAL SESSION 35: OSTEOPOROSIS PRECLINICAL TREATMENT STUDIES: NEW DIRECTIONS AND TARGETS FOR THERAPIES

2:45 pm - 4:15 pm **South Building: Hall G**

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

Thomas John Martin, M.D., DSc
St. Vincent's Institute of Medical Research, Australia
Disclosures: Thomas John Martin, None

2:45 pm 1205 **Lipoxygenase Alox15 is a Cell Autonomous Amplifier of Oxidative Stress in Osteoblasts and the Skeleton of Estrogen Deficient and Aged Mice**
Robert Jilka*, Maria Jose Almeida, Elena Ambrogini, Leslie Climer, Stavros Manolagas. University of Arkansas for Medical Sciences, USA
Disclosures: Robert Jilka, None

3:00 pm 1206 **Tissue-Specific Knock-in of Constitutively Active IKKβ Leads to Bone Loss in Mice.**
Kaihua Zhang*[1], Jesse Otero[1], Muhammad Alhawagri[1], Isra Darwech[1], Yousef Abu-Amer[2]. [1]Washington University, USA, [2]Washington University in St. Louis School of Medicine, USA
Disclosures: Kaihua Zhang, None

3:15 pm 1207 **Neuropeptide Y, Y6 Receptor, a Novel Regulator of Bone Mass and Energy Homeostasis**
Frank Driessler*[1], Ernie Yulyaningshi[2], Ronaldo Enriquez[2], Amanda Sainsbury[2], Herbert Herzog[2], John Eisman[1], Paul Baldock[1]. [1]Garvan Institute of Medical Research, Australia, [2]Garvan Institute, Australia
Disclosures: Frank Driessler, None

3:30 pm 1208 **Brain-derived Neurotrophic Factor Regulates Bone Mass and Energy Homeostasis via the Central Nervous System**
Claudia Camerino*[1], Peter Hauschka[2], Majd Zayzafoon[3], Maribel Rios[4]. [1]Center for Advanced Orthopaedic Beth Israel Deaconess Medical Center Boston, USA, [2]Children's Hospital Boston, USA, [3]University of Alabama at Birmingham, USA, [4]Tufts University school of medicine, Department of Neuroscience, USA
Disclosures: Claudia Camerino, None

3:45 pm 1209 **PTH Attenuates H_2O_2- and Glucocorticoid-induced Suppression of Wnt Signaling via an Akt-dependent Mechanism: a Mechanistic Explanation for the Efficacy of Intermittent PTH in Old Age- and Glucocorticoid-induced Osteoporosis**
Maria Jose Almeida*, Shoshana Bartell, Stavros Manolagas, Robert Weinstein, Robert Jilka. University of Arkansas for Medical Sciences, USA
Disclosures: Maria Jose Almeida, None

4:00 pm 1210 **RAD140: A Novel Non-steroidal SARM with Anabolic Activity in Rats and Non-human Primates**
Gary Hattersley*[1], Maysoun Shomali[1], Kyla Gallacher[2], C. Richard Lyttle[3], Chris Miller[2]. [1]Radius, USA, [2]Radius Health, Inc, USA, [3]Radius Health Inc, USA
Disclosures: Gary Hattersley, Radius, 3

CONCURRENT ORAL SESSION 36: BONE LOSS AND FRACTURES IN THE YOUNG

2:45 pm - 4:15 pm **South Building: Room 714AB**

Moderators:
Adi Cohen, M.D., MHS
Columbia University Medical Center, USA
Disclosures: Adi Cohen, None

Madhusmita Misra, M.D., MPH
Massachusetts General Hospital, USA
Disclosures: Madhusmita Misra, None

2:45 pm 1211 **Oral Contraceptive Use and Change in Bone Density among Adolescent and Young Adult Women: Results from a Prospective Study**
Delia Scholes*[1], Laura Ichikawa[2], Rebecca Hubbard[2], Andrea LaCroix[3], Leslie Spangler[2], Jeannette Beasley[2], Susan Ott[4]. [1]Group Health Cooperative, Group Health Research Institute, USA, [2]Group Health Cooperative, USA, [3]Women's Health Initiative, Fred Hutchinson Cancer Research Ctr, USA, [4]University of Washington, USA
Disclosures: Delia Scholes, None

3:00 pm 1212 **Effect of Gonadal and Adrenal Steroid Replacement on Bone Cross-Sectional Geometry in Young Women with Anorexia Nervosa: A Hip Structural Analysis Study**
Amy DiVasta*[1], Henry Feldman[1], Meryl Leboff[2], Thomas Beck[3], Catherine Gordon[4]. [1]Children's Hospital Boston, USA, [2]Brigham & Women's Hospital, USA, [3]Johns Hopkins Outpatient Center, USA, [4]Children's Hospital Boston & Harvard Medical School, USA
Disclosures: Amy DiVasta, None

3:15 pm 1213 **Altered Bone Composition in Fracture Prone Children With Vertebral Fracture**
Inari Tamminen*[1], Mervi K Mäyränpää[2], Mikael Turunen[3], Hanna Isaksson[3], Outi Makitie[4], Jukka S Jurvelin[3], Heikki Kroger[5]. [1]Bone & Cartilage research Unit (BCRU), University of Eastern Finland, Finland, [2]Department of Pediatric Surgery & Department of Pediatrics, Hospital for Children & Adolescents, Helsinki University Hospital, Finland, [3]Department of Physics & Mathematics, University of Eastern Finland, Finland, [4]Hospital for Children & Adolescents, University of Helsinki, Finland, [5]Kuopio University Hospital, Finland
Disclosures: Inari Tamminen, None

3:30 pm 1214 **Fractures in Healthy Adolescent Boys are Associated with Reduced Bone Strength as Assessed by Finite Element Analysis at Weight-Bearing Skeletal Site**
Thierry Chevalley*[1], Jean-Philippe Bonjour[2], Bert Rietbergen[3], Serge Ferrari[4], Rene Rizzoli[5]. [1]University Hospitals of Geneva Division of Bone Diseases, Switzerland, [2]University Hospital of Geneva, Switzerland, [3]Eindhoven University of Technology, The Netherlands, [4]Geneva University Hospital & Faculty of Medicine, Switzerland, [5]University Hospital, Switzerland
Disclosures: Thierry Chevalley, None

3:45 pm 1215 **High-Resolution pQCT Assessed Trabecular Bone Volume Fraction Is Independently Associated with X-ray Verified Forearm Fractures in Young Men**
Robert Rudäng*[1], Anna Darelid[2], Dan Mellstrom[3], Claes Ohlsson[4], Mattias Lorentzon[5]. [1]Center for Bone Research at the Sahlgrenska Academy, Dept. of Internal Medicine, University of Gothenburg, Sweden, Sweden, [2]Gothenburg University, Sweden, [3]Sahlgrenska University Hospital, Sweden, [4]Centre for Bone & Arthritis Research, Sweden, [5]Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Robert Rudäng, None

4:00 pm 1216 **Cortical Consolidation Due to Increased Mineralization and Endosteal Contraction in Young Adult Men - a Five Year Longitudinal Study**
Anna Darelid*[1], Claes Ohlsson[2], Johanna Melin[1], Dan Mellstrom[3], Mattias Lorentzon[4]. [1]Center for Bone Research at the Sahlgrenska Academy, Dept. of Internal Medicine, University of Gothenburg, Gothenburg, Sweden, Sweden, [2]Centre for Bone & Arthritis Research, Sweden, [3]Sahlgrenska University Hospital, Sweden, [4]Center for Bone Research at the Sahlgrenska Academy, Sweden
Disclosures: Anna Darelid, None

COFFEE BREAK

4:00 pm - 4:30 pm **South Building: Hall E**

CONCURRENT ORAL SESSION 37: OSTEOBLASTS: INSIGHTS ON OSTEOBLAST GENE REGULATION

4:30 pm - 6:00 pm **South Building: Room 718AB**

Moderators:
Stephen E. Harris, Ph.D.
University of Texas Health Science Center at San Antonio, USA
Disclosures: Stephen Harris, None

Xu Cao, Ph.D.
Johns Hopkins University, USA
Disclosures: Xu Cao, None

4:30 pm 1217 **microRNA-29 Modulates WNT Signaling in Human Osteoblasts Through a Positive Feedback Loop**
Kristina Kapinas*, Catherine Kessler, Gloria Gronowicz, Anne Delany. University of Connecticut Health Center, USA
Disclosures: Kristina Kapinas, None

4:45 pm 1218 **A Regulatory Loop of Runx2 Downregulates Expression of the miR-23a~27a~24-2 Cluster which Targets SATB2 for Control of the Osteoblast Differentiation Program**
Mohammad Hassan*[1], Jonathan Gordon[1], Marcio M. Beloti[2], Carlo M. Croce[3], Andre Van Wijnen[1], Janet L. Stein[1], Gary Stein[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]University of Massachusetts Medical Schools, USA, [3]Ohio State University, USA
Disclosures: Mohammad Hassan, None

5:00 pm 1219 **Exploring Structural and Instructional Features of *CYP24A1* Distal Enhancers.**
Paul Goetsch*[1], Mark Meyer[2], John Stamatoyannopoulos[3], J. Pike[2]. [1]University of Wisconsin - Madison, USA, [2]University of Wisconsin-Madison, USA, [3]University of Washington, USA
Disclosures: Paul Goetsch, None

5:15 pm 1220 **SIRT2 is a Protein Deacetylase Involved in the Regulation of Osteoblastogenesis by Inhibiting Adipogenesis**
Jonathan Gordon*, Mohammad Hassan, Hai Wu, Andre Van Wijnen, Janet Stein, Gary Stein, Jane Lian. University of Massachusetts Medical School, USA
Disclosures: Jonathan Gordon, None

5:30 pm 1221 **Contributions of PTH-mediator CREB to Postnatal Bone Mass in Human and Mouse Through Regulation of Osteoblast Function**
Hongbin Liu*[1], Rongrong Zhang[1], Shanshan Dong[2], James Edwards[3], Seon-Yle Ko[4], Hong-Wen Deng[5], Ming Zhao[2]. [1]Department of Basic Medical Sciences, UMKC School of Medicine, USA, [2]University of Missouri - Kansas City, USA, [3]Vanderbilt University Medical Center, USA, [4]Dankook University, School of Dentistry, South Korea, [5]University of Missouri, Kansas City Medical School, USA
Disclosures: Hongbin Liu, None

5:45 pm 1222 **MicroRNA-138 Targets Focal Adhesion Kinase and Regulates I*n Vivo* Bone Formation**
Hanna Taipaleenmaki*[1], Tilde Eskildsen[1], Jan Stenvang[2], Basem Abdallah[3], Nicholas Ditzel[4], Sakari Kauppinen[5], Moustapha Kassem[6]. [1]Endocrine Research Laboratory (KMEB), Odense University Hospital, Denmark, [2]MicroRNA Research Unit, Department of Cellular & Molecular Medicine, University of Copenhagen, Denmark, [3]Odense University Hospital , University of South Denmark, Denmark, [4]Endocrine Research Laboratory (KMEB), Department of Endocrinology & Metabolism, Denmark, [5]Santaris Pharma, Denmark, [6]Odense University Hospital, Denmark
Disclosures: Hanna Taipaleenmaki, None

CONCURRENT ORAL SESSION 38: DISORDERS OF BONE: MOUSE MODELS OF METABOLIC BONE DISEASE

4:30 pm - 6:00 pm **South Building: Room 801AB**

Moderators:
Marc K. Drezner, M.D.
University of Wisconsin, USA
Disclosures: Marc Drezner, None

Mary Ruppe, M.D.
University of Texas Health Science Center at Houston, USA
Disclosures: Mary Ruppe, None

4:30 pm **2010 YOUNG INVESTIGATOR AWARD**
1223 **Long-Term Lack of Fgf-23 Induces Severe Secondary Hyperparathyroidism in Vitamin D Receptor-Ablated Mice**
Carmen Streicher*[1], Olena Andrukhova[1], Ute Zeitz[1], Beate Lanske[2], Reinhold Erben[1]. [1]University of Veterinary Medicine, Austria, [2]Harvard School of Dental Medicine, USA
Disclosures: Carmen Streicher, None

4:45 pm **PHEX Has Distinct Roles in Regulating Cancellous and Cortical Bone Mineralization**
1224 Peter Rowe*[1], Anne-Marie Hedge[1], Yan Hong[1], Aline Martin[2], Lesya Zelenchuk[1], Valentin David[2]. [1]University of Kansas Medical Center, USA, [2]UTHSC, USA
Disclosures: Peter Rowe, None

5:00 pm **Phex Mutations in a Murine Model of X-linked Hypophosphatemia Result in Impaired**
1225 **Phosphate Sensing**
Shoji Ichikawa*[1], Anthony M. Austin[2], Amie K. Gray[2], Michael Econs[2]. [1]Indiana University-Purdue University Indianapolis, USA, [2]Indiana University School of Medicine, USA
Disclosures: Shoji Ichikawa, None

5:15 pm **Evidence that the Mineralization Defect in *hyp*-mice Results from the Uncoupled Effects of**
1226 **SOST/sclerostin on Osteoblast Mineralization and Proliferation**
Baozhi Yuan*[1], Jennifer Meudt[2], Robert Blank[2], Jian Feng[3], Marc Drezner[2]. [1]University of Wisconsin, Madison, USA, [2]University of Wisconsin, USA, [3]Texas A&M Health Science Center, USA
Disclosures: Baozhi Yuan, None

5:30 pm **Lrp5 G171V and A214V Knock-in Mice are Protected from the Osteopenic Effects of Sost**
1227 **Overexpression**
Alexander Robling*[1], Matt Warman[2], Teresita Bellido[3], Paul Niziolek[3]. [1]Indiana University, USA, [2]Children's Hospital Boston, USA, [3]Indiana University School of Medicine, USA
Disclosures: Alexander Robling, None

5:45 pm **Augmentation of cAMP Signaling in the Mouse Renal Proximal Tubule by Targeted in vivo**
1228 **Expression of the Extra-large Gsα Variant XLαs**
Zun Liu[1], Hiroko Segawa[1], Cumhur Aydin[2], Reinhold Erben[3], Lee Weinstein[4], Vladimir Marshansky[1], Leopold Frohlich[5], Murat Bastepe*[1]. [1]Massachusetts General Hospital, Harvard Medical School, USA, [2]Gulhane School of Medicine, Ankara, Turkey, [3]University of Veterinary Medicine, Austria, [4]National Institute of Diabetes & Digestive & Kidney Diseases, USA, [5]Medical University of Graz, Austria
Disclosures: Murat Bastepe, None

CONCURRENT ORAL SESSION 39: CANCER AND BONE: SOLID TUMORS AND TREATMENTS

4:30 pm - 6:00 pm **South Building: Room 716AB**

Moderators:
Majd Zayzafoon, M.D., Ph.D.
University of Alabama at Birmingham, USA
Disclosures: Majd Zayzafoon, None

Jitesh Pratap, Ph.D.
Rush University Medical Center, USA
Disclosures: Jitesh Pratap, None

4:30 pm 1229 **Parathyroid Hormone -Related Protein (PTHrP) Gene Ablation in Breast Cancer Cells Inhibits Invasion in vitro and Metastasis in vivo: Role of Akt and CXCR4**
Richard Kremer[1], William Muller[2], Peter Siegel[3], Anne Camirand[4], Andrew Karaplis[5], Jiarong Li*[5]. [1]McGill University, Royal Victoria Hospital, Canada, [2]Rosalind & Morris Goodman Cancer Research Centre, Department of Biochemistry, Canada, [3]Goodman Cancer Research Centre, McGill University, Canada, [4]Sir Mortimer B. Davis Jewish General Hospital, McGill University, Canada, [5]McGill University, Canada
Disclosures: Jiarong Li, None

4:45 pm 1230 **Unveiling Dual Functions of p53 in Preventing Breast Cancer Bone Metastasis by Simvastatin Targeting CD44 and PTEN**
Chandi Mandal*[1], Nayana Ghosh-Choudhury[2], Toshiyuki Yoneda[3], Goutam G Choudhury[4], Nandini Ghosh-Choudhury[1]. [1]University of Texas Health Science Center at San Antonio, USA, [2]University of Texas Health Science Center, USA, [3]Osaka University Graduate School of Dentistry, Japan, [4]University of Texas Health Science Center & South Texas Veterans Administration, USA
Disclosures: Chandi Mandal, None

5:00 pm 1231 **2010 YOUNG INVESTIGATOR AWARD**
CyclicCHAD is a Novel Biological Agent for the Treatment of Breast Cancer-Induced Bone Metastases Targeting All the Players of the Vicious Cycle.
Mattia Capulli*[1], Anna Rufo[2], Marina Alamanou[1], Barbara Peruzzi[2], Marta Capannolo[1], Ole Kristoffer[3], Kaare M. Gautvik[3], Lisbet Haglund[4], Dick Heinegard[4], Anna Teti[1], Nadia Rucci[1]. [1]Department of experimental Medicine, University of L'Aquila, Italy, [2]Department of Experimental Medicine, University of L'Aquila, Italy, [3]Department of Clinical Chemistry, Ullevaal University Hospital & Institute of Biochemistry, University of Oslo, Norway, [4]Department of Experimental Medical Science, Lund University, Sweden
Disclosures: Mattia Capulli, None

5:15 pm 1232 **Bone-Targeted Therapy With Zoledronic Acid Combined With Adjuvant Ovarian Suppression Plus Tamoxifen or Anastrozole: 62-Month Outcomes From the ABCSG-12 Trial in Premenopausal Women With Endocrine-Responsive Early Breast Cancer**
Michael Gnant*[1], P. Dubsky[1], C. Singer[1], R. Greil[2], B. Mlineritsch[2], H. Stoeger[3], H. Eidtmann[4], R. Jakesz[1], S. Poestlberger[5], G. Luschin-Ebengreuth[3]. [1]Medical University of Vienna, Austria, [2]Paracelsus Medical University Salzburg, Austria, [3]Medical University of Graz, Austria, [4]Universitäts Frauenklinik Kiel, Germany, [5]Hospital of the Sisters of Mercy, Austria
Disclosures: Michael Gnant, None

5:30 pm 1233 **Up-regulation of CGRP Expression by Acid-activated Calcium Channel Nociceptor Trpv1 is Involved in Bone Pain**
Masako Nakanishi*[1], Kenji Hata[1], Tomotaka Nagayama[1], Toshihiko Nishisho[2], Toshiyuki Yoneda[1]. [1]Osaka University Graduate School of Dentistry, Japan, [2]BIGLOBE NEC, Japan
Disclosures: Masako Nakanishi, None

5:45 pm 1234 **Subnuclear Targeting Deficient Mutations of Runx2 Abrogate Cellular Migration and Metastasis in Prostate Cancer Cells**
Jacqueline Akech*[1], John J. Wixted[1], Krystin Bedard[1], Margaretha van der Deen[1], Sadiq Hussain[1], Karthiga Gokul[1], Andre Van Wijnen[1], Janet L. Stein[1], Lucia R. Languino[1], Dario C. Altieri[1], Jitesh Pratap[1], Evan Keller[2], Gary Stein[1], Jane Lian[1]. [1]University of Massachusetts Medical School, USA, [2]University of Michigan, USA
Disclosures: Jacqueline Akech, None

CONCURRENT ORAL SESSION 40: BONE BIOMECHANICS AND QUALITY

4:30 pm - 6:00 pm **South Building: Room 714AB**

Moderators:
Christopher R. Jacobs, Ph.D.
Columbia University, USA
Disclosures: Christopher Jacobs, None

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

4:30 pm 1235 **Evaluation of Blood Flow and Skeletal Kinetics during Loading Induced Osteogenesis using PET Imaging**
Ryan Tomlinson*, Kooresh Shoghi, Matthew Silva. Washington University in St. Louis School of Medicine, USA
Disclosures: Ryan Tomlinson, None

4:45 pm 1236 **The Effect of Age on the Biomechanical Properties of Cortical Bone as a Function of Loading Rate**
Daniel Nicolella*[1], Sidney Chocron[1], Arthur Nicholls[1], Don Moravits[1], Travis Eliason[1], Ryan Potter[1], Todd Bredbenner[1], Lorena Havill[2]. [1]Southwest Research Institute, USA, [2]Southwest Foundation for Biomedical Research, USA
Disclosures: Daniel Nicolella, None

5:00 pm 1237 **Age-Related Changes in Bone Microarchitecture and Strength of the Distal Radius May Explain Sex Differences in Forearm Fracture Risk**
Heather Macdonald*, Kyle Nishiyama, Jane Kang, David Hanley, Steven Boyd. University of Calgary, Canada
Disclosures: Heather Macdonald, None

5:15 pm 1238 **High-Frequency, Low-Magnitude Mechanical Signals Do Not Prevent Bone Loss in the Absence of Muscle Activity**
Sarah Manske*[1], Steven Boyd[1], Craig A. Good[1], Ronald Zernicke[2]. [1]University of Calgary, Canada, [2]University of Michigan, USA
Disclosures: Sarah Manske, None

5:30 pm 1239 **Increased Cortical Porosity during Puberty May Increase Distal Radius Fracture Risk in Boys: A HR-pQCT Study**
Kyle Nishiyama*[1], Heather Macdonald[1], Melonie Burrows[2], Heather McKay[2], Steven Boyd[1]. [1]University of Calgary, Canada, [2]University of British Columbia, Canada
Disclosures: Kyle Nishiyama, None

5:45 pm 1240 **Effects of Non-Enzymatic Glycation on Trabecular Bone Fragility May be Mediated Through Changes in Bone Matrix Quality and Microarchitecture**
Deepak Vashishth, Lamya Karim*. Rensselaer Polytechnic Institute, USA
Disclosures: Lamya Karim, NIH-NIA AG20618, 2

CONCURRENT ORAL SESSION 41: OSTEOPOROSIS EPIDEMIOLOGY: TRANSLATIONAL GENETICS OF BONE

4:30 pm - 6:00 pm **South Building: Hall F**

Moderators:
Hong-Wen Deng, Ph.D.
University of Missouri, Kansas City Medical School, USA
Disclosures: Hong-Wen Deng, None

David Karasik, Ph.D.
Hebrew SeniorLife, USA
Disclosures: David Karasik, None

4:30 pm **2010 YOUNG INVESTIGATOR AWARD**

1241 **Contributions of Cortical and Trabecular Bone to Age-related Declines in Vertebral Strength are not the Same for Men and Women**

Blaine Christiansen*[1], David Kopperdahl[2], Douglas Kiel[3], Tony Keaveny[4], Mary Bouxsein[5]. [1]University of California - Davis Medical Center, USA, [2]O.N. Diagnostics, USA, [3]Hebrew SeniorLife, USA, [4]University of California, Berkeley, USA, [5]Beth Israel Deaconess Medical Center, USA

Disclosures: Blaine Christiansen, None

4:45 pm **Men and Women With Similar Spine aBMD Have Different Bone Size, Volumetric Density,**

1242 **and Strength: The Framingham Study**

Kerry Broe*[1], Douglas Kiel[2], Xiaochun Zhang[2], Elizabeth Samelson[3], Blaine Christiansen[4], Ching-An Meng[5], R Manoharan[6], J D'Agostino[6], Thomas Lang[7], Serkalem Demissie[8], LA Cupples[8], Mary Bouxsein[6]. [1]Hebrew Senior Life, USA, [2]Hebrew SeniorLife, USA, [3]Hebrew SeniorLife, Harvard Medical School, USA, [4]University of California - Davis Medical Center, USA, [5]Hebrew SeniorLife, Institute for Aging Research, USA, [6]Beth Israel Deaconess Medical Center, USA, [7]University of California, San Francisco, USA, [8]Boston University School of Public Health, Department of Biostatistics, USA

Disclosures: Kerry Broe, None

5:00 pm **2010 YOUNG INVESTIGATOR AWARD**

1243 **Meta-analysis of Genome-wide Association Studies Identifies 34 loci that Regulate BMD with Evidence of Both Site Specific and Generalized Effects: the GEFOS Consortium**

Karol Estrada*[1], Gudmar Thorleifsson[2], Evangelos Evangelou[3], Daniel Koller[4], J. Brent Richards[5], Laura Yerges-Armstrong[6], Liesbeth Vandenput[7], Najaf Amin[8], Nicole Glazer[9], Omar Albagha[10], Ryan Minster[11], Stephen Kaptoge[12], Sumei Xiao[13], Yi-Hsiang Hsu[14], Prof. Andre G. Uitterlinden[8], Annie Kung[15], Candace Kammerer[16], Claes Ohlsson[17], Cornelia M van Duijn[18], David Evans[19], David Karasik[20], Douglas Kiel[20], Elizabeth Streeten[21], Emma Duncan[22], Jane Cauley[16], James F Wilson[23], John Robbins[24], Jonathan Reeve[25], M Zillikens[26], Matthew Brown[27], for the AOGC consortium, Mattias Lorentzon[28], Michael Econs[4], Munro Peacock[29], Pak Sham[30], Scott Wilson[31], Stuart Ralston[10], Tamara Harris[32], Tim Spector[33], Unnur Thorsteinsdottir[2], YongMei Liu[34], John Ioannidis[35], Unnur Styrkarsdottir[2], Fernando Rivadeneira[1], for the GEFOS consortium. [1]Erasmus University Medical Center, The Netherlands, [2]deCODE Genetics, Iceland, [3]University of Ioannina School of Medicine, Greece, [4]Indiana University School of Medicine, USA, [5]McGill University, Canada, [6]University of Maryland, USA, [7]University of Gothenburg, Sweden, [8]Erasmus University Medical Center, Netherlands, [9]University of Washington, USA, [10]University of Edinburgh, United Kingdom, [11]University of Pittsburgh, USA, [12]University of Cambridge Bone Research Group, United Kingdom, [13]Hong Kong University, Peoples Republic of China, [14]Hebrew SeniorLife & Harvard Medical School, USA, [15]Department of Medicine, University of Hong Kong, Hong Kong, [16]University of Pittsburgh Graduate School of Public Health, USA, [17]Centre for Bone & Arthritis Research, Sweden, [18]Erasmus Univesity Medical Center, Netherlands, [19]University of Bristol, United Kingdom, [20]Hebrew SeniorLife, USA, [21]University of Maryland School of Medicine, USA, [22]University of Queensland, Australia, [23]University of Edinburgh, Teviot Place, United Kingdom, [24]University of California, Davis Medical Center, USA, [25]Strangeways Research Laboratory, United Kingdom, [26]Erasmus MC Rotterdam, The Netherlands, [27]University of Queensland Diamantina Institute for Cancer, Immunology & Metabolic Medicine, Australia, [28]Center for Bone Research at the Sahlgrenska Academy, Sweden, [29]Indiana University Medical Center, USA, [30]University of Hong Kong, China, [31]Sir Charles Gardner Hospital, Australia, [32]Intramural Research Program, National Institute on Aging, USA, [33]King's College London, United Kingdom, [34]Wake Forest University of Health Sciences, USA, [35]Sympatico, Canada

Disclosures: Karol Estrada, None

5:15 pm **Contribution of Genetic Profiling to Individualized Prognosis of Fracture**

1244

Bich Tran*[1], Nguyen Nguyen[2], Vinh Nguyen[3], Jacqueline Center[2], John Eisman[2], Tuan Nguyen[2]. [1]Garvan Institute of Medical Research, Aus, [2]Garvan Institute of Medical Research, Australia, [3]School of Electrical Engineering & Telecommunications, University of New South Wales, Australia

Disclosures: Bich Tran, None

5:30 pm 1245 **Systems Genetics Identifies *Bicc1* as a Regulator of Bone Mineral Density**
Charles Farber*[1], Ana Lira[1], Yi-Hsiang Hsu[2], Brian Bennett[3], Luz Orozco[3], Gregory Hong[1], Atila van Nas[3], Hyun Kang[3], Eleazar Eskin[3], Elizabeth Bryda[4], Douglas Kiel[5], Thomas Drake[3], Clifford Rosen[6], Aldons Lusis[3]. [1]University of Virginia, USA, [2]Hebrew SeniorLife & Harvard Medical School, USA, [3]University of California, Los Angeles, USA, [4]University of Missouri, USA, [5]Hebrew SeniorLife, USA, [6]Maine Medical Center, USA
Disclosures: Charles Farber, None

5:45 pm 1246 **A Large Meta-Analysis of Genome Wide Association Studies (GWAS) from the "CHARGE" and "GEFOS" Consortia Identifies Several Significant Loci for Lean Body Mass**
Serkalem Demissie[1], Tamara B. Harris[2], Lisette Stolk[3], Gudmar Thorleifsson[4], Laura Yerges-Armstrong[5], John Robbins[6], Sophie Van Wingerden[7], Unnur Thorsteinsdottir[4], Liesbeth Vandenput[8], Yongmei Liu[9], Ida Malkin[10], Janina Ried[11], Weihua Zhang[12], Jing Hua Zhao[13], Jian'an Luan[13], Albert Smith[14], Daniel Koller[15], Karol Estrada[16], Andre Uitterlinden[17], Fernando Rivadeneira[16], Braxton Mitchell[18], Jeff O'Connell[19], Nicole Glazer[20], Unnur Styrkarsdottir[21], CM van Duijn[22], David Karasik[23], Yi-Hsiang Hsu[24], Mattias Lorentzon[25], Tamara B. Harris[2], Michael Econs[15], Gregory Livshits[26], Tim Spector[27], Angela Döring[11], H. Erich Wichmann[28], John Chambers[29], Jaspal Kooner[30], Zoltan Kutalik[31], Toby Johnson[32], Dawn Waterworth[33], Ruth Loos[13], Nicholas J. Wareham[13], Tuomas Kilpilainen[13], Vilmundur Gudnason[34], Claes Ohlsson[35], Jane Cauley[36], M Zillikens[37], Douglas Kiel*[23]. [1]Department of Biostatistics, Boston University School of Public Health, USA, [2]National Institute on Aging, USA, [3]Departments of Internal Medicine & Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands, [4]deCODE Genetics, Reykjavík, Iceland, Iceland, [5]University of Maryland, USA, [6]University of California, Davis Medical Center, USA, [7]Department of Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands, [8]University of Gothenburg, Sweden, [9]Wake Forest University of Health Sciences, USA, [10]Sackler Faculty of Medicine, Israel, [11] Institute of Epidemiology, Helmholtz Zentrum München, German Research Center for Environmental Health, Germany, [12]Department of Epidemiology & Public Health, Imperial College, United Kingdom, [13]MRC Epidemiology Unit, Institute of Metabolic Science, United Kingdom, [14]Icelandic Heart Association, Kopavogur, Iceland, University of Iceland, Iceland, [15]Indiana University School of Medicine, USA, [16]Erasmus University Medical Center, The Netherlands, [17]Rm Ee 575, Genetic Laboratory, The Netherlands, [18]University of Maryland, Baltimore, USA, [19]School of Medicine, University of Maryland, USA, [20]University of Washington, USA, [21]Decode Genetics, Iceland, [22]Department of Epidemiology, Erasmus Medical Center, Netherlands, [23]Hebrew SeniorLife, USA, [24]Hebrew SeniorLife, Harvard Medical Scool, USA, [25]Center for Bone Research at the Sahlgrenska Academy, Sweden, [26]Sackler Faculty of Medicine, Tel Aviv University, Israel, [27]King's College London, United Kingdom, [28]Institute of Epidemiology, Helmholtz Zentrum München, German Research Center for Environmental Health, Neuherberg, Germany, Institute of Medical Informatics, Biometry & Epidemiology, Ludwig-Maximilians-Universität & Klinikum Großhadern, Germany, [29] Department of Epidemiology & Public Health, Imperial College London, United Kingdom, [30]National Heart & Lung Institute, Imperial College London, United Kingdom, [31] Department of Medical Genetics, University of Lausanne, Switzerland, [32]Clinical Pharmacology, William Harvey Research Institute, Barts & The London School of Medicine & Dentistry, Queen Mary, University of London, United Kingdom, [33] Medical Genetics, GlaxoSmithKline, USA, [34]Icelandic Heart Association Research Institute, Iceland, [35]Centre for Bone & Arthritis Research, Sweden, [36]University of Pittsburgh Graduate School of Public Health, USA, [37]Erasmus MC Rotterdam, The Netherlands
Disclosures: Douglas Kiel, None

CONCURRENT ORAL SESSION 42: OSTEOPOROSIS TREATMENT: PHARMACOLOGIC AND NON-PHARMACOLOGIC

4:30 pm - 6:00 pm **South Building: Hall G**

Moderators:
Angela M. Cheung, M.D., Ph.D.
University Health Network, Canada
Disclosures: Angela Cheung, None

Lorenz C. Hofbauer, M.D.
Dresden Technical University Medical Center, Germany
Disclosures: Lorenz Hofbauer, None

4:30 pm 1247 **Effect of Odanacatib on Bone Density and Bone Turnover Markers in Postmenopausal Women with Low Bone Mineral Density: Year 4 Results**

Neil Binkley*[1], Henry Bone[2], John Eisman[3], David Hosking[4], Bente Langdahl[5], Ian Reid[6], Heinrich Resch[7], Jose Rodriguez Portales[8], Romana Petrovic[9], Carolyn Hustad[10], Carolyn DaSilva[10], Arthur Santora[11], Antonio Lombardi[12]. [1]University of Wisconsin, USA, [2]Michigan Bone & Mineral Clinic, USA, [3]Garvan Institute of Medical Research, Australia, [4]Nottingham City Hospital, United Kingdom, [5]Aarhus Sygehus, Aarhus University Hospital, Denmark, [6]University of Auckland, New Zealand, [7]Medical University Vienna, Austria, [8]Pontificia Universidad Católica de Chile, Chile, [9]Merck Sharpe & Dohme, Belgium, [10]Merck, USA, [11]Merck Research Laboratories, USA, [12]Merck & Co., Inc., USA

Disclosures: Neil Binkley, Merck, 2

4:45 pm 1248 **A New Active Vitamin D Compound, Eldecalcitol, Is Superior to Alfacalcidol in Preventing Fractures in Osteoporotic Patients**

Toshio Matsumoto*[1], Masako Ito[2], Yasufumi Hayashi[3], Takako Hirota[4], Yusuke Tanigawara[5], Teruki Sone[6], Masao Fukunaga[7], Masataka Shiraki[8], Toshitaka Nakamura[9]. [1]University of Tokushima Graduate School of Medical Sciences, Japan, [2]Nagasaki University Hospital, Japan, [3]Tokyo Metropolitan Rehabilitation Hospital, Japan, [4]Kyoto Koka Women's University, Japan, [5]Keio University, Japan, [6]Kawasaki Medical School, Jpn, [7]Kawasaki Medical School, Japan, [8]Research Institute & Practice for Involutional Diseases, Japan, [9]University of Occupational & Environmental Health, Japan

Disclosures: Toshio Matsumoto, Eli Lilly, 5; Chugai, 5; Asahi Kasei Pharma, 5; Astellas, 5; Ono Pharmaceutical, 2; JT, 5; Daiichi-Sankyo, 5; Teijin Pharma, 5

5:00 pm 1249 **Effects of Weight Loss, Exercise, or Combined on Bone Mineral Density and Markers of Bone Turnover in Frail Obese Older Adults**

Krupa Shah*[1], Nehu Parimi[2], Suresh Chode[2], David Sinacore[2], Nicola Napoli[3], Reina Armamento-Villarea[4], Dennis Villareal[4]. [1]University of Rochester School of Medicine, USA, [2]Washington University School of Medicine, USA, [3]University Campus Biomedico, Italy, [4]University of New Mexico School of Medicine, USA

Disclosures: Krupa Shah, None

5:15 pm 1250 **Teriparatide Treatment of Osteoporotic Women Increases Cortical Bone at Critical Sites in the Proximal Femur: An In Vivo Study using High Resolution Cortical Thickness Mapping**

Andrew H Gee[1], Graham M Treece[1], Paul Mayhew[1], Jan Borggrefe[2], Kenneth Poole*[1]. [1]University of Cambridge, United Kingdom, [2]University of Schleswig-Holstein, Germany

Disclosures: Kenneth Poole, None

5:30 pm 1251 **The Effect of Teriparatide on Bone Material Properties is Not Different in Postmenopausal Women Who Were Previously Treatment-naive or Treated With Alendronate**

Birgit Buchinger*[1], Sonja Gamsjaeger[1], Harald Dobnig[2], Jan J. Stepan[3], David B. Burr[4], Helmut Petto[5], Imre Pavo[6], Klaus Klaushofer[1], Eleftherios P. Paschalis[1]. [1]Ludwig Boltzmann Institute of Osteology at Hanusch Hospital of WGKK & AUVA Trauma Centre Meidling, 4th Med. Dept. Hanusch Hospital, Austria, [2]Division of Endocrinology & Nuclear Medicine, Medical University of Graz, Austria, [3]Institute of Rheumatology, Faculty of Medicine, Czech Republic, [4]Dept of Anatomy & Cell Biology, Indiana University School of Medicine, USA, [5]Eli Lilly & Company Austria, Austria, [6]Eli Lilly & Company, Austria

Disclosures: Birgit Buchinger, None

5:45 pm 1252 **Nitroglycerin Improves Bone Mineral Density, Bone Geometry, and Bone Strength: Results from a Two-Year Randomized Controlled Trial**

Sophie Jamal*[1], Celeste Hamilton[2], Dennis Black[3], Angela Cheung[4], Steven Cummings[5]. [1]The University of Toronto, Canada, [2]Women's College Hospital/University of Toronto, Canada, [3]University of California, San Francisco, USA, [4]University Health Network, Canada, [5]San Francisco Coordinating Center, USA

Disclosures: Sophie Jamal, None

BONE STRENGTH WORKING GROUP

Sponsored by the Canadian Bone Strength Working Group

Supported by an educational grant from Amgen Canada Inc.
Ticked Required

6:30 pm - 9:30 pm **South Building: Room 701A**

Co-chairs:
David Kendler, M.D.
Prohealth Center, Canada

Angela Cheung, M.D., Ph.D.
University of Toronto, Canada

6:30 pm **Registration and Dinner**

7:00 pm **Welcome and Introduction**
Richard Kremer, M.D., Ph.D.
McGill University, Canada

7:10 pm **Contribution of Trabecular Microarchitecture and its Heterogeneity to the Mechanical Behavior of Human L3 Vertebrae**
Julien Wegrzyn, M.D.
INSERM U831 - Université de Lyon, France

7:22 pm **Differences in Bone Quality as Determined by HRpQCT in Postmenopausal Chinese and Caucasian Women**
Xiaowei Sherry Liu, Ph.D.
Columbia University, USA

7:34 pm **A New Active Vitamin D Analog, Eldecalcitol, Positive Effect on Hip Structural and Biomechanical Properties**
Masako Ito, M.D.
Nagasaki University Hospital, Japan

7:46 pm **A Longitudinal HR-pQCT Study of Alendronate Treatment in Post-Menopausal Women with Low Bone Density: Relations Between Bone Micro-Architecture and μFE Estimates of Bone Strength**
Andrew Burghardt
University of California, San Francisco, USA

Keynote Debate

8:00 pm **Bone Quantity Versus Bone Quality: Which is the Key Determinant of Bone Strength?**
For Bone Quantity – Paul Kosteniuk, Ph.D.
Amgen, USA

For Bone Quality – David Burr, Ph.D.
Indiana University, USA

9:00 pm **Questions and Discussion / Final Vote**

9:25 pm **Concluding Remarks**

Disclosures: Dr. Richard Kremer – ; Dr. David Kendler – Amgen 2, 5, 8, Biosante 2, Eli Lilly 2, 5, 8, GSK 2, Novartis 2, 5, 8, Pfizer 2, Roche 2; Dr Angela Cheung – Amgen 2, 5, Astra Zeneca 2, Eli Lilly 2, 5, Merck 2, 9 Novartis 9, Warner Chilcott 9; Dr. Masako Ito – Asahi Kasei Pharm 5, Astellas 5, Chugai 2,5, Daiichi-Sankyo 5, Eli Lilly 2, JT 5, Takeda 2; Dr. Paul Kosteniuk – Amgen1,3,6; Dr. David Burr –Alliance for Better Bone Health 2, 5, Amgen 5, Eli Lilly, 2, 5, 8, NephroGenex 9.

MOLECULAR BIOLOGY AND PATHOLOGY OF BONE WORKING GROUP

Epigenetic Control and Regulatory Networks for Bone Biology and Pathology

Supported by educational grants from Abbott Laboratories and the Tissue Repair Research Unit, Pfizer Inc.

Ticket Required

7:00 pm - 9:00 pm **South Building: Room 803AB**

7:00 pm **Light Fare and Opening Remarks**

Moderators:
Barbara Kream, Ph.D.
The University of Connecticut Health Center, USA

Andre J. van Wijnen, Ph.D.
University of Massachusetts Medical School, USA

7:05 pm **New Paradigms in Gene Regulation: Enhancers, Transcription Factors, and Epigenetic Marks**
J. Wesley Pike, Ph.D.
University of Wisconsin-Madison, USA

7:30 pm **Combinatorial Control of Gene Expression**
Rene St-Arnaud, Ph.D.
Shriners Hospital for Children, Canada

7:55 pm **Wnt Signaling in Arteriosclerotic Bone Disease and Vascular Mineralization**
Dwight A. Towler, M.D., Ph.D.
Washington University, USA

8:20 pm **The Role of Transcription Factor Phosphorylation in the Control of Osteoblast Activity**
Renny T. Franceschi, Ph.D.
University of Michigan, School of Dentistry, USA

8:45 pm **Open Discussion**

Organizers:
Gary S. Stein, Ph.D. and Jane B. Lian, Ph.D.

Advisory Committee:
Sylvia Christakos, PhD; Barbara Kream, PhD; Nicola C. Partridge, PhD; J. Wesley Pike, PhD; Thomas Spelsberg, PhD; John M. Wozney, PhD; Marian F. Young, PhD; and with appreciation from the late great Gregory R. Mundy, MD.

Disclosures: Dr. Barbara Kream –Nothing to disclose. Dr. Andre J. van Wijnen–Nothing to disclose. Dr. J. Wesley Pike–Nothing to disclose. Dr. René St. Arnaud–Nothing to disclose. Dr. Dwight A. Towler –Company A, 2; Company B, 2; Company C, 5; Company D, 5; Company E, 5; Company F, 3. Dr. Renny T. Franceschi–Nothing to disclose.

WORKING GROUP ON MUSCULOSKELETAL REHABILITATION IN PATIENTS WITH OSTEOPOROSIS

Non-Pharmacology Management of Osteoporosis

Ticket Required

7:00 pm - 9:00 pm **South Building: Room 717AB**

Chairs:
Mersheed Sinaki, M.D., M.S.
Mayo Clinic and Mayo Clinic College of Medicine, USA

Michael Pfeifer, M.D.
Institute of Clinical Osteology Gustav Pommer, Germany

7:00 pm **Welcome and Introduction**
Mehrsheed Sinaki, M.D., M.S.
Mayo Clinic and Mayo Clinic College of Medicine, USA

Part I: Invited Presentations
(Presentation 25 minutes – Q & A - 5 minutes)

7:05 pm **Clinical Science Lecture: Physical Functional Performance as Related to Vertebral Fracture via Safe Functional Motion (SFM) Score**
Christopher P. Recknor, M.D.
United Osteoporosis Center, USA

7:35 pm **Basic Science Lecture: Osteoblasts and Mechanical Loading**
Bart L. Clarke, M.D.
Mayo Bone Core Group Mayo Clinic and Mayo Clinic College of Medicine, USA

Part II: Selected Presentations from the ASBMR Official Program:
(Presentation 8 minutes, Q & A – 2 minutes)

8:05 pm **Exercise Loading Does not Account for Polar or Radial Distribution of Cortical Density at Weight-bearing Tibial Mid-diaphysis ("YOUNG INVESTIGATOR AWARD")**
Ari Heinonen, M.D.
University of Jyvaskyla , FINLAND

8:20 pm **Effects of a Simple, Low-intensity Back Extension Exercise on Quality of Life and Back Extensor Strength in Patients with Osteoporosis and Vertebral Fractures: A 6-month Randomized Controlled Trial**
Naohisa Miyakoshi, M.D.
Akita University Graduate School of Medicine, Japan

8:35 pm **Exercise May Prevent Regional Bone Loss Induced By Monosodium Iodoacetate Osteoarthritis Model ("YOUNG INVESTIGATOR AWARD")**
Arnaud Boudenot, M.D.
Inserm Unit U658 Hopital Porte Madeleine Orléans France, France

8:50 pm **The Lifetime OsteoGenic Exercise Score: A Method to Estimate Bone Status in Young Adult Women**
Jo MWelch, Ph.D.
Dalhousie University, Canada

9:05 pm **Summary and Closure**
Michael Pfeifer, M.D.
Institute of Clinical Osteology Gustav Pommer, Germany

9:10 pm **Adjourn**

Disclosures: Bart L. Clarke has no relationships to disclose , Christopher P. Recknor has no relationships to disclose

THE CKD:MBD WORKING GROUP

Ticket Required

7:30 pm - 9:30 pm **South Building: Room 701B**

7:30 pm **The Emerging Systems Biology of the CKD-MBD New Organ to Organ Connections**
Susan Schiavi, Ph.D, M.S.
Genzyme Corporation, USA

7:55 pm **Sclerostin and the Regulations of Bone Formation: Wnt Inhibition and a PTH Target**

8:20 pm **Osteocytes, FGF23, and Mechanotransduction**

8:45 pm **Abstract Presentations**

TUESDAY, OCTOBER 19, 2010

DAY-AT-A-GLANCE

Time/Event/Location — **All locations in the Metro Toronto Convention Centre/South Building**

8:00 am - 9:00 am 287
Louis V. Avioli Memorial Lecture - Transcriptional Control of Skeletogenesis
South Building: Hall G

9:00 am - 9:05 am 287
Presentation of the ASBMR Shirley Hohl Service Award
South Building: Hall G

9:05 am - 9:10 am 287
Presentation of the ASBMR Louis V. Avioli Memorial Founders Award
South Building: Hall G

9:30 am - 11:00 am 287
ASBMR/ISCD/NOF Co-Sponsored Symposium on Osteonecrosis of the Jaw (ONJ): What Have We Learned?
South Building: Hall G

9:30 am - 11:00 am 288
Concurrent Oral Session 43: Factors Influencing Stem Cells
South Building: Room 716AB

9:30 am - 11:00 am 289
Concurrent Oral Session 44: Issues in Osteoporosis Management
South Building: Room 718AB

11:00 am - 12:30 pm 290
State-of-the-Art Lecture - Stem Cells and the Future of Medicine
South Building: Room 716AB

11:00 am - 12:30 pm 290
Symposium - Shining Light on Vitamin D: What is the Evidence for Redefining Vitamin D Sufficiency?
South Building: Room 718AB

LOUIS V. AVIOLI MEMORIAL LECTURE - TRANSCRIPTIONAL CONTROL OF SKELETOGENESIS

8:00 am - 9:00 am **South Building: Hall G**

8:00 am **Transcriptional Control of Skeletogenesis**
Benoit De Crombrugghe, M.D.
University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Benoit De Crombrugghe, None

PRESENTATION OF THE ASBMR SHIRLEY HOHL SERVICE AWARD

9:00 am - 9:05 am **South Building: Hall G**

PRESENTATION OF THE ASBMR LOUIS V. AVIOLI MEMORIAL FOUNDERS AWARD

9:05 am - 9:10 am **South Building: Hall G**

ASBMR/ISCD/NOF CO-SPONSORED SYMPOSIUM ON OSTEONECROSIS OF THE JAW (ONJ): WHAT HAVE WE LEARNED?

9:30 am - 11:00 am **South Building: Hall G**

Co-Chairs
Paul D. Miller, M.D., FACP
Colorado Center for Bone Research, USA
Disclosures: Paul Miller, None

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

9:30 am **Further Definition of the ONJ Problem: An Update on the Epidemiology**
Jane A. Cauley, Ph.D.
University of Pittsburgh Graduate School of Public Health, USA
Disclosures: Jane Cauley, None

9:45 am **Experience with ONJ in Oncology Patients**
Robert F. Gagel, M.D.
University of Texas M.D. Anderson Cancer Center, USA
Disclosures: Robert Gagel, None

10:00 am **Cell Biology of ONJ**
Sotirios Tetradis, Ph.D., D.D.S.
UCLA, USA
Disclosures: Sotirios Tetradis, None

10:15 am **Prevention and Management of Osteonecrosis in the Osteoporosis Patient**
Leon Assael, D.M.D.
Oregon Health and Science University, USA
Disclosures: Leon Assael, Merck, 5; Novartis, 8

10:30 am **Panel Discussion**

CONCURRENT ORAL SESSION 43:
FACTORS INFLUENCING STEM CELLS

9:30 am - 11:00 am **South Building: Room 716AB**

Moderators:
David W. Rowe, M.D.
University of Connecticut Health Center, USA
Disclosures: David Rowe, None

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

9:30 am 1253 **Osteogenic Differentiation and In Vivo Complementation of Osteoblast-Deficient Embryos by Induced Pluripotent Stem Cells**
James Oh[1], Alyssa Riley[2], Xiaojing Huang[2], Sean Wu[2], Joy Wu*[3]. [1]Endocrine Unit, Massachusetts General Hospital, USA, [2]Cardiovascular Research Center, Massachusetts General Hospital, USA, [3]Massachusetts General Hospital, USA
Disclosures: Joy Wu, None

9:45 am 1254 **2010 YOUNG INVESTIGATOR AWARD**
IGFBP-2 from Mesenchymal Stromal Cells (MSCs) in the Bone Marrow Niche Regulates Hematopoietic Stem Cell Proliferation and Marrow Engraftment
Anne Breggia*[1], Masanobu Kawai[1], Eliza Grlickova-Duzevik[2], David Clemmons[3], Clifford Rosen[1]. [1]Maine Medical Center, USA, [2]Maine Medical Center Research Institute, USA, [3]University of North Carolina, USA
Disclosures: Anne Breggia, None

10:00 am 1255 **Differentiation of Hematopoietic Cell Lineages is Altered in the Absence of Sclerostin**
Corey Cain*[1], Gabriela Loots[2], Randell Rueda[1], Jennifer Manilay[1]. [1]University of California, Merced, USA, [2]LLNL/UC Merced, USA
Disclosures: Corey Cain, None

10:15 am 1256 **Gsα-Dependent Signaling in the Osteoblast Lineage Regulates Bone Marrow Hematopoietic Niches**
Engin Ozcivici[1], Cris Lo Celso[2], Stefania Lymperi[2], David Scadden[3], Henry Kronenberg[4], Joy Wu*[4]. [1]Mass General Hospital, USA, [2]Center for Regenerative Medicine, Massachusetts General Hospital, USA, [3]Center for Regenerative MedicineMassachusetts General Hospital, USA, [4]Massachusetts General Hospital, USA
Disclosures: Joy Wu, None

10:30 am 1257 **Ovariectomy Expand the Hemopoietic Stem Cell Pool Through the T cell Costimulators CD40L and OX40**
J.-Y. Li*, H. Tawfeek, B. Bedi, J. Adams, M. N. Weitzmann, R. Pacifici. Division of Endocrinology, Metabolism & Lipids, Emory University School of Medicine, USA
Disclosures: J.-Y. Li, None

10:45 am 1258 **Stem Cell Antigen 1 Positive (Sca-1+) Cell-Based Gene Therapy with a Modified Fibroblast Growth Factor 2 (FGF2) Produces Contrasting Skeletal Effects on Femur as Opposed to Tail Vertebra in Mice**
Susan Hall*[1], Shin Tai Chen[1], Suburraman Mohan[1], Jon Wergedal[1], Apurva K. Srivastava[2], Daila S. Gridley[3], Kin-Hing William Lau[1]. [1]Jerry L. Pettis Memorial VA Medical Center, USA, [2]National Institure of Health, USA, [3]Department of Radiation Medicine, Loma Linda University School of Medicine, USA
Disclosures: Susan Hall, None

CONCURRENT ORAL SESSION 44: ISSUES IN OSTEOPOROSIS MANAGEMENT

9:30 am - 11:00 am **South Building: Room 718AB**

Moderators:
Barbara P. Lukert, M.D.
University of Kansas Medical Center, USA
Disclosures: Barbara Lukert, None

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

9:30 am **Directing Mesenchymal Stem Cells to Bone to Increase Bone Formation**
1259 Wei Yao*[1], Min Guan[2], Ruiwu Liu[2], Kit Lam[2], Mohammad Shahnazari[2], Jan Nolta[2], Nancy Lane[1]. [1]University of California, Davis Medical Center, USA, [2]UC Davis Medical Center, USA
Disclosures: Wei Yao, None

9:45 am **Lrp5-deficient Mice are Responsive to the Osteo-anabolic Action of Sclerostin Antibody**
1260 Alexander Robling*[1], Matthew Warman[2], Chris Paszty[3], Charles Turner[4]. [1]Indiana University, USA, [2]Howard Hughes Medical Institute, Department ofGenetics, Harvard Medical School, USA, [3]Amgen, Inc., USA, [4]Indiana University, Purdue University Indianapolis, USA
Disclosures: Alexander Robling, None

10:00 am **Sclerostin Inhibition by Monoclonal Antibody Reversed Trabecular and Cortical Bone Loss in**
1261 **Orchiectomized Rats with Established Osteopenia**
X Li*[1], KS Warmington[1], Q-T Niu[1], FJ Asuncion[1], M Barrero[1], X Xia[2], M Grisanti[1], E Lee[1], Thomas Wronski[2], MS Ominsky[1], WS Simonet[1], C Paszty[1], HZ Ke[1]. [1]Amgen Inc, USA, [2]University of Florida, USA
Disclosures: X Li, Amgen Inc., 1; Amgen Inc., 3

10:15 am **PTH Efficacy in a Bone Healing Model with T-Cell Deficient Rats**
1262 Masahiko Sato*, M.D. Adrian, Anita Harvey, Q.Q. Zeng, Yanfei Linda Ma. Lilly Research Labs, USA
Disclosures: Masahiko Sato, Eli Lilly & Co, 3

10:30 am **Elevated Bone Mass in Mice Treated with Anti-Dickkopf-1 Neutralizing Antibodies**
1263 Robert Brommage*, Jeff Liu, Dawn M. Bright, Deon D. Smith, Sabrina Jeter-Jones, Christopher M. DaCosta, Sayadeth Khounlo, Melanie K. Shadoan, David R. Powell, David G. Potter. Lexicon Pharmaceuticals, USA
Disclosures: Robert Brommage, Lexicon Pharmaceuticals, 3

10:45 am **Inhibition of ALK3 (BMPRIA) Signaling Using RAP-661, a Novel Soluble BMP Antagonist,**
1264 **Decreases Sclerostin Expression and Increases Bone Mass.**
Nicolas Solban*[1], Milton Cornwall-Brady[1], Yoshimi Kawamoto[1], June Liu[1], Benjamin Umiker[1], Shana Walrond[1], Rita Steeves[1], Kathryn Underwood[1], Ravi Kumar[1], Jasbir Seehra[1], Ernesto Canalis[2], R. Scott Pearsall[1]. [1]Acceleron Pharma, USA, [2]St. Francis Hospital & Medical Center, USA
Disclosures: Nicolas Solban, Acceleron Pharma, 1; Acceleron Pharma, 3

STATE-OF-THE-ART LECTURE - STEM CELLS AND THE FUTURE OF MEDICINE

11:00 am - 12:30 pm **South Building: Room 716AB**

Co-Chairs
Paul H. Krebsbach, D.D.S., Ph.D.
Univ of Michigan, Sch of Dentistry, USA
Disclosures: Paul Krebsbach, NIH 2; Tissue Regeneration Systems Inc. 5

Jane E. Aubin, Ph.D.
University of Toronto Faculty of Medicine, Canada
Disclosures: Jane Aubin, None

11:00 am **Interactions of Bone and Bone Marrow**
David T. Scadden, M.D.
Center for Regenerative MedicineMassachusetts General Hospital, USA
Disclosures: David Scadden, None

11:45 pm **Enabling Stem Cell Therapies Through Synthetic Stem Cell-Niche Engineering**
Peter Zandstra, Ph.D.
University of Toronto, Canada
Disclosures: Peter Zandstra, None

SYMPOSIUM - SHINING LIGHT ON VITAMIN D: WHAT IS THE EVIDENCE FOR REDEFINING VITAMIN D SUFFICIENCY?

11:00 am - 12:30 pm **South Building: Room 718AB**

Co-Chairs
J. Christopher Gallagher, M.D.
Creighton University Medical Center, USA
Disclosures: J. Christopher Gallagher, None

Francis H. Glorieux, M.D., Ph.D.
Shriners Hospital for Children and McGill University, Canada
Disclosures: Francis Glorieux, Novartis 2

11:00 am **How Much Vitamin D Do We Need?**
Roger Bouillon, M.D., Ph.D.
Laboratory for Experimental Medicine and Endocrinology, Belgium
Disclosures: Roger Bouillon, None

11:10 am **Immunobiology of Vitamin D**
Chantal Mathieu, M.D., Ph.D.
Katholieke Universiteit Leuven, Belgium
Disclosures: Chantal Mathieu, None

11:30 am **Role of Vitamin D in the Prevention of Cancer and Cardiovascular Disease**
JoAnn E. Manson, M.D., Dr.PH
Harvard Medical School, USA
Disclosures: JoAnn Manson, None

11:50 am **Role of Vitamin D in Muscle Functions, Falls, and Frailty**
Heike A. Bischoff-Ferrari, M.D., DrPH
University of Zurich, Switzerland
Disclosures: Heike Bischoff-Ferrari, MSD 5; DSM Nutritional Products 5; Nestle 5; Amgen 5

12:10 pm **A Two Body Problem: Vitamin D During Pregnancy and Lactation**
Christopher S. Kovacs, M.D.
Memorial University of Newfoundland, Canada
Disclosures: Christopher Kovacs, None

EXHIBITS

We encourage you to visit the Exhibit Hall to learn about the newest bone and mineral related products and services, talk to experts about advancements in the bone and mineral field and thank our supporters for their participation. The company descriptions below were provided by each exhibiting company and do not represent an endorsement by ASBMR of any company, product or service.

Exhibit Hall Hours

Friday, October 15, 2010. . . . . 5:45 p.m. - 7:00 p.m.

Saturday, October 16, 2010 . . . . . 9:30 a.m. - 4:30 p.m.

Sunday, October 17, 2010 . . . . . 9:00 a.m. - 4:00 p.m.

Monday, October 18, 2010 . . . . . 9:30 a.m. - 4:30 p.m.

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Salem, NH, USA
Booth # 1510
ALPCO is committed to supplying the highest quality immunoassays for research and clinical use, while maintaining our position as a leading provider of esoteric products for bone metabolism. New in 2010: the Sclerostin ELISA.

American Orthopaedic Association
Rosemont, Illinois, USA
Booth # 1223
Own the Bone is a multidisciplinary, web-based, quality improvement program designed to improve utilization of evidence-based management in fragility fracture patients. Through its Own the Bone Program, the American Orthopaedic Association has taken a leadership role to close the treatment gap and change physician/patient behavior to reduce the incidence of fractures.

Amgen
Thousand Oaks, California, USA
Booth # 925
Amgen, a biotechnology pioneer, discovers, develops and delivers innovative human therapeutics. Our medicines have helped millions of patients in the fight against cancer, kidney disease, rheumatoid arthritis and other serious illnesses.

Arthroteq Preclinical Services
Guelph, Ontario, Canada
Booth # 920
Arthroteq delivers on-time and on-value preclinical research services including animal models for orthopedics, inflammation, and orthobiology. Analytical outcomes include advanced imaging, in-vitro testing, histopathology, and pain assessment. Contact us to plan your next study! contact@arthroteq.com

Bayer HealthCare
Morristown, New Jersey, USA
Booth # 1409
Bayer HealthCare LLC's Consumer Care Division is headquartered in Morristown, NJ. It is a global marketer of over-the-counter medications and nutritional supplements with a portfolio of some of the most trusted and recognizable brands in the world. Citracal will be featured at booth 1409.

b-cube
Schlieren, Zurich, Switzerland
Booth # 922
b-cube is an innovative service provider for high quality microCT imaging and 3D data analysis. We support our clients to efficiently quantify and visualize their research and development projects through standardized or customized analysis concepts.

Biomedica
Vienna, Austria
Booth # 1321
Biomedica is specialized in the research, development and production of innovative immunoassays for bone metabolism products, including OPG, free sRANKL, Cathepsin K and DKK-1. Our latest product is the Sclerostin ELISA. Website: www.bmgrp.com.

Bioptics
Tucson, Arizona, USA
Booth # 1605
Bioptics is a leading developer of digital radiology imaging systems for use in the clinical and pre-clinical settings. Our CMOS detectors on the BioVISION and CoreVISION systems provide the highest quality images for all your research needs.

Bioquant Image Analysis Corporation
Nashville, Tennessee, USA
Booth # 1503
We provide digital research pathology software, services, and instruments for the analysis of bone tissues and cell cultures. Hard tissue histology services. Fluorescent, brightfield, and polarized light slide scanning. Automated histomorphometry. Web-based collaboration tools.

Charles River
Wilmington, Massachusetts, USA
Booth # 1212
Charles River specializes in non-clinical bone research using animal models to evaluate the safety and efficacy of drug candidates for osteoporosis, arthritis, and orthopedics. Integrated services include densitometry, histomorphometry, biomechanics, micro-CT, and biomarker evaluations.

CoreLab Partners, Inc.
Princeton, New Jersey, USA
Booth # 1507
CoreLab Partners provides clinical trial sponsors, best-in-class independent medical image assessment solutions and centralized cardiac safety and efficacy services; all designed to facilitate successful new drug development in the bio-pharmaceutical and medical device market sectors.

Corning Life Sciences
Lowell, MA, USA
Booth # 1423
Corning Life Sciences has addressed the need for a reliable, cost-effective, bone-like mineral surface, for both routine resorption assays and high-throughput screening, with its new Corning Osteo Assay Surface multiple well plates.

Covance Inc.
Princeton, New Jersey, USA
Booth # 1509
Covance is one of the world's largest and most comprehensive drug development services companies. Covance has the people, processes, client service, and global resource capabilities to respond to the toughest drug development challenges.

CSM Instruments
Peseux, Neuchatel, Switzerland
Booth # 1603
CSM Instruments offers Nanoindentation instruments and testing services for the characterization (Hardness, Elastic Modulus and Working Energy) of intrinsic bone tissue quality and all other mineralized biological materials such as dentine, enamel and calcified cartilage.

DaVinci Biomedical Research
S. Lancaster, Massachusetts, USA
Booth # 1419
DaVinci is a CRO performing preclinical animal studies, GLP and Non-GLP. We provide expertise in osteoinduction, osteoconduction, and osteogenesis in various applications relating to spine, long/small bone, maxillofacial, cranial in a large array of animal models.

DiaSorin, Inc.
Stillwater, Minnesota, USA
Booth # 1425
DiaSorin is a world-leader in immunodiagnostic assays for endocrinology, bone and mineral metabolism, infectious and autoimmune diseases. Our LIAISON® 25 OH Vitamin D TOTAL Assay and the LIAISON® Analyzer offer automated solutions for cost-effective, consistent results.

Elsevier
New York, New York, USA
Booth # 1606
Stop by Elsevier's booth and discover where the most cutting-edge research in bone biology is published in print and online. Recent and upcoming book publications include *Osteoimmunology*, edited by Lorenzo, Choi, Horowitz and Takayanagi, and *Principles of Bone Biology*, edited by Orwoll, Bilezikian and Vanderschueren. Visit us online at elsevierdirect.com for more information or to place an order.

European Calcified Tissue Society
Bristol, United Kingdom
Booth # 908
The European Calcified Tissue Society is the major organization in Europe for researchers and clinicians working in the field of calcified tissues and related fields. To find out more, please visit our website at www.ectsoc.org.

FASEB MARC Program
Bethesda, Maryland, USA
Booth # 1604
FASEB MARC Program provides activities to support the training of minority students, postdoctorates, faculty and researchers in the life sciences. Travel awards for meetings, grantsmanship seminars and support for student summer research experiences are available.

Faxitron X-Ray, LLC
Lincolnshire, Illinois, USA
Booth # 924
Faxitron radiography and irradiation systems are small, safe, and simple units that can be located directly in the research facility to protect the integrity of the colony. The high-resolution digital and film radiography systems are used to screen, track, and evaluate structural and tissue changes.

GE Healthcare
Madison, Wisconsin, USA
Booth # 1313
Healthymagination, GE's new commitment to health, will change the way we approach healthcare, with more than 100 innovations focused on addressing three critical needs: lowering costs, touching more lives and improving quality. www.gehealthcare.com

Genentech
South San Francisco, California, USA
Booth # 1107
Genentech is a leading biotechnology company that discovers, develops, manufactures and commercializes medicines to treat patients with serious or life-threatening medical conditions. The company, a member of the Roche Group, has headquarters in South San Francisco, California.

Genzyme Corporation
Cambridge, Massachusetts, USA
Booth # 1421
Genzyme is dedicated to making a positive impact on the lives of patients with serious diseases and offers many innovative therapies including Renvela® (sevelamer carbonate) and Hectorol® (doxercalciferol capsules and injection). For information, visit www.genzyme.com.

Hologic
Bedford, Massachusetts, USA
Booth # 1405
By combining high resolution imaging for the rapid assessment of bone density and vertebral fractures with FRAX®, Hologic Discovery offers the best diagnostic and reporting tools available. Discovery - the key to early detection - now and in the future!

International Bone and Mineral Society (IBMS)
Chicago, Illinois, USA
Booth # 1324
IBMS is the international organization that facilitates the generation and dissemination of knowledge of bone and mineral metabolism through communication, community, training, and multi-disciplinary meetings throughout the world.

Immundiagnostik AG
Bensheim, Hessen, Germany
Booth # 1613
Leading 25 and 1,25 Vitamin D diagnostics in ELISA and HPLC. Innovative marker Myostatin as regulator of muscle growth. Bone metastasis risk-indicator and research tool Bone Sialoprotein. Extensive panel of bone metabolism markers and antibodies.

Immunodiagnostic Systems
Scottsdale, Arizona, USA
Booth # 1220
IDS offers high value, specialty immunoassays for bone, cartilage, and growth disorders. IDS-iSYS Immunoassay System is an advanced automated chemiluminescent benchtop analyzer with calciotropic hormone, bone turnover and growth assays for research and clinical use.

Immutopics International
San Clemente, California, USA
Booth # 1218
Immutopics designs, develops and manufactures diagnostic kits for the quantitative determination of FGF-23 and bioactive intact PTH. For over 20 years the company continues to be a leading source of innovative assays for assessing disorders of bone and mineral metabolism in human, rat, mouse and other mammalian models.

Institute of Musculoskeletal Health and Arthritis
Ottawa, Ontario, Canada
Booth # 1325
IMHA's vision is to sustain health and enhance quality of life by eradicating the pain, suffering and disability caused by arthritis, musculoskeletal, oral and skin conditions.

International Society for Clinical Densitometry
Middletown, Connecticut, USA
Booth # 1520
ISCD is dedicated to advancing excellence in assessment of skeletal health through education, certification, accreditation, and supporting clinical and scientific advances in the field. ISCD also champions patient access to bone mass measurement and other assessment technologies.

Jarrow Formulas, Inc.
Los Angeles, California, USA
Booth # 1225
Leading formulator/supplier of nutritional supplements. Promotes optimal bone health with efficacious, cutting-edge formulations based on nutritional research that includes clinically validated bone support formula Bone-Up, JarroSil Activated Silicon and Vitamin D 5,000 i.u.

Kubtec X-Ray
Milford, Connecticut, USA
Booth # 1513
XPERT series of cabinet x-ray systems with digital detectors from 2" x 2" to 17" x 17". All models are portable and include high resolution imaging software with touch screen monitors and optional BMD software.

Kureha Special Laboratory Co., Ltd.
Tokyo, Japan
Booth # 1610
To support your research on bone and mineral metabolism, we can provide various bone analysis services, e.g. processing undecalcified-tissue specimen, histomorphometry, BMD, micro-CT imaging, evaluation of bone strength and bone quality with Raman spectroscopy etc. http://www.kureha-special-labo.com

Lilly USA, LLC
Indianapolis, Indiana, USA
Booth # 1525
Lilly, an innovation-driven corporation, is developing a portfolio of pharmaceutical products by applying the latest research from its own laboratories and from collaborations with eminent scientific organizations. Lilly provides answers for some of the most urgent medical needs.

Lone Oak Medical Technologies, LLC
Doylestown, Pennsylvania, USA
Booth # 1602
Please visit booth 1602 and see our updated accuDEXA peripheral BMD screening device, lightweight, and with DICOM capabilities. Also view a new study showing how much more accurate the accuDEXA is as compared to other BMD peripheral screening devices.

Medtronic
Memphis, Tennessee, USA
Booth # 1512
Medtronic's Kyphon Products Division, based in Sunnyvale, CA, is the center of excellence for percutaneous-based minimally invasive spinal therapies. Its U.S. product portfolio includes: KYPHON® Balloon Kyphoplasty, the X-STOP® Interspinous Spacer, and the Discyphor Direct® Catheter System.

Merck
Whitehouse Station, New Jersey, USA
Booth # 911
Today's Merck is a global healthcare leader working to help the world be well. For more information, visit www.merck.com.

Millipore Corporation
Billerica, Massachusetts, USA
Booth # 1002
Millipore offers the largest portfolio of biomarker immunoassays including RIAs, ELISAs, Multiplex Assays using the Luminex® xMAP® technology (MILLIPLEX®MAP) for the better understanding of the mechanisms of diseases such as bone metabolism, diabetes, obesity, cancer, cardiovascular disease, inflammation and more, providing consistent, high-quality products for drug discovery and development.

Mindways Software, Inc.
Austin, Texas, USA
Booth # 1508
Mindways produces QCT bone densitometry products for spine and hip bone density measurements, bone geometry and biomechanical assessment and tissue composition.

National Osteoporosis Foundation (NOF)
Washington, District of Columbia, USA
Booth # 1608
NOF's mission is to prevent osteoporosis and related fractures, promote lifelong bone health, to help improve the lives of those affected by osteoporosis and to find a cure through programs of awareness, advocacy, education and research.

NIH Osteoporosis and Related Bone Diseases ~ NRC
Bethesda, Maryland, USA
Booth # 1322
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.

Novartis Pharma AG
Basel, Switzerland
Booth # 1207
For information please visit: www.novartis.com.

Orthometrix, Inc.
Naples, Florida, USA
Booth # 930
Based on pQCT technology, our XCT scanners are bone diagnostic and monitoring devices developed to make three-dimensional assessments of cortical and trabecular bone in one single evaluation.

Osteogenesis Imperfecta Foundation
Gaithersburg, Maryland, USA
Booth # 926
The OI Foundation is the only national voluntary health agency dedicated to finding treatments and a cure for OI as well as to educate and raise awareness about osteogenesis imperfecta.

OsteoMetrics, Inc.
Decatur, Georgia, USA
Booth # 1413
Redefining Bone Histomorphometry worldwide since 1989. Now available with outstanding live digital camera support, on-screen pen measurement, thresholding, complete set of Cortical Bone measurements, greatly expanded set of non-specific measurements, and comprehensive GLP validation package.

Osteoporosis Canada
Toronto, Ontario, Canada
Booth # 1211
Osteoporosis Canada is a registered charity that educates, empowers and supports individuals and communities in the risk-reduction and treatment of osteoporosis.

Pacific Biomarkers, Inc.
Seattle, Washington, USA
Booth # 1227
PBI is a biomarker services laboratory supporting pre-clinical work and Phase I-IV clinical trials. Capabilities include biomarker analysis, immunogenicity testing, cell based assays, and novel biomarker assay development.

The Paget Foundation
New York, New York, USA
Booth # 1323
The Paget Foundation provides information for patients and healthcare professionals on Paget's disease of bone and other benign bone diseases. Through its Bone and Cancer Foundation program it also provides information on cancer and bone.

PharmaLegacy Laboratories
Shanghai, China
Booth # 1224
PharmaLegacy is a preclinical specialty CRO that serves to R & D in therapeutics for Bone Metabolism/Orthopaedics and Tissue Engineering. We provide quality, timely and cost saving execution for experiments under GLP and AAALAC operations.

Pharmatest Services
Turku, Finland
Booth # 1505
Pharmatest offers unique in vitro and in vivo lead validation services for testing the efficacy of new drug candidates designed to treat osteoporosis, cancer-induced bone disease or osteoarthritis. Our services can also be used for determining adverse effects on bone.

Quidel Corporation
San Diego, California, USA
Booth # 1311
The Quidel® Specialty Products Group identifies, develops, manufactures and markets unique diagnostic and research assays and reagents with applications in bone health, inflammatory diseases and oncology. Our kits and reagents are marketed worldwide under the Quidel® and MicroVue® brands.

Ratoc System Engineering Co., Ltd.
Tokyo, Bunkyo-ku, Japan
Booth # 1326
TRI/D-BON software performs bone strength by FEM stress analysis separating trabecular and cortical bones and measures 3D morphometry. The results assist you with diagnosis of osteoporosis progress and medication effects.

Scanco Medical
Zurich, Switzerland
Booth # 1320
Scanco Medical (www.scanco.ch) is the leading global provider of in vivo and specimen microCT systems and contract based scanning services. The systems, together with standardized analysis and visualization software, provide for a 3-dimensional comprehensive measurements.

Siemens Healthcare
Hoffman Estates, Illinois, USA
Booth # 1518
Preclinical PET, SPECT and CT imaging solutions provide insight into disease biology and evaluation of novel therapeutic options in small animal models. The use of imaging technology for in vivo studies in small animal models is a powerful technique.

Siemens Healthcare
Malvern, Pennsylvania, USA
Booth # 1522
Siemens Healthcare is one of the world's largest suppliers to the healthcare industry and the first full-service diagnostics company. Siemens is known for bringing together innovative medical technologies, healthcare information systems, management consulting and support services, to help customers achieve tangible, sustainable, clinical and financial outcomes. www.usa.siemens.com/healthcare

Springer
New York, New York, USA
Booth # 1524
Springer offers cutting-edge titles, including Sydney Lou Bonnick's *Bone Densitometry in Clinical Practice*, Third Edition, *Primer on the Rheumatic Diseases*, edited by Klippel et al., *Journal of Bone and Mineral Metabolism*, *Osteoporosis International*, *Clinical Orthopaedics and Related Research*, and *Calcified Tissue International*.

Warner Chilcott
Rockaway, New Jersey, USA
Booth # 1100
Warner Chilcott is a leading specialty pharmaceutical company focused on women's healthcare, gastroenterology, dermatology and urology segments of the US and Western European pharmaceutical markets. An integrated company, with internal resources dedicated to development, manufacturing and promotion of its products.

Wiley-Blackwell
Hoboken, New Jersey, USA
Booth # 1327
Wiley-Blackwell publishes the *Journal of Bone and Mineral Research* and the *Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism* on behalf of the ASBMR. Wiley-Blackwell is the international scientific, technical, medical and scholarly publishing business of John Wiley & Sons. For more information, please visit www.wileyblackwell.com or http://www.interscience.wiley.com.

Xradia Inc.
Concord, California, USA
Booth # 1004
Xradia designs and manufacturers high-resolution, non-destructive 3D X-ray CT imaging solutions. The company enables discovery and innovation through sub-micron resolution, high contrast 3D imaging and quantitative analysis for life sciences research applications. www.xradia.com.

CREATE YOUR OWN SCHEDULE

Friday, October 15, 2010

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Saturday, October 16, 2010

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Sunday, October 17, 2010

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Monday, October 18, 2010

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Tuesday, October 19, 2010

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Aarnisalo, P. 1077
Abbassi, S. MO0072, SU0069
Abboud Werner, S. L. SA0185
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Abecassis, M. MO0341
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