Virtual Event • September 9-10, 2020



Funding for this conference was made possible (in part) by (1R13AR074882-01) from the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and all co-funding support provided by National Institute On Aging (NIA). The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

#### GENERAL MEETING INFORMATION

#### **Organizing Committee**

Claire M. Edwards, Ph.D. Theresa A. Guise, M.D. G. David Roodman, M.D, Ph.D.

**Co-Sponsored:** The Cancer and Bone Society (CABS)

**Support** This activity is supported by educational funding donations provided by:

Scanco Medical

#### CONTINUING MEDICAL EDUCATION



This activity has been planned and implemented by Creighton University Health Sciences Continuing Education (HSCE) and The American Society for Bone and Mineral Research (ASBMR) for the advancement of patient care. Creighton University Health Sciences Continuing Education is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing education for the healthcare team.

#### AMA PRA Statement

Creighton University Health Sciences Continuing Education designates this live activity for a maximum of 5.75 AMA PRA Category 1 Credit(s) <sup>TM</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity

AAPA accepts AMA category 1 credit for the PRA from organizations accredited by ACCME.

#### **Online Evaluation to Receive CME**

The online evaluation to receive CME will be available beginning Friday, September 11. You will receive an email from ASBMR with instructions on how to claim credit.

#### **Target Audience**

This meeting will bring together national and international investigators currently working in the field of cancer and bone, as well as young and established investigators, industry scientists, NIH intramural scientists and program staff, clinicians, endocrinologists and basic and translational researchers.

Virtual Event • September 9-10, 2020



#### Learning Objectives

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

- 1. Provide an understanding of the major advances have been made in the understanding of the symbiotic relationship between tumor cells and cells within the bone microenvironment that drive both tumor growth and survival and development of the associated bone disease.
- 2. Clarify the complex relationship within the tumor-bone niche has revealed key mechanisms that drive disease progression, including metabolic dysregulation, immune dysfunction and dormancy.
- 3. Share and exchange ideas of facilitation of the translation of basic science advances into clinical concepts.

#### ASBMR Expectations of Authors and Presenters

Through ASBMR meetings, the Society promotes excellence in bone and mineral research. Toward that end, ASBMR expects that all authors and presenters affiliated with the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone will provide informative and fully accurate content that reflects the highest level of scientific rigor and integrity.

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

Furthermore, ASBMR expects that:

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

#### **Disclosure Policy**

The ASBMR 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 12 months producing, marketing, re-selling or distributing health care goods or services, consumed by, or used on patients, with the exemption of non-profit or government organizations and non-health care related companies. When an unlabeled use of a commercial product, or an investigational use not yet approved for any purpose, is discussed during the presentation, it is required that presenters disclose that the product is not labeled for the use under discussion or that the product is still investigational. This policy allows the listener/attendee to be fully knowledgeable in evaluating the information being presented. The On-Site Program book will note those speakers who have disclosed relationships, including the nature of the relationship and the associated commercial entity.

Disclosure should include any affiliation that may bias one's presentation or which, if known, could give the perception of bias. This includes relevant financial affiliations of a spouse or partner. If an affiliation exists that could represent or be perceived to represent a conflict of interest, this must be reported in the abstract submission program by listing the name of the commercial entity and selecting the potential conflict(s) by clicking in the box next to the relationship type. Disclosures will be printed in the program materials. These situations may include, but are not limited to: (1) Grant/Research Support; (2) Consultant; (3) Speakers' Bureau; (4) Major Stock Shareholder; (5) Other Financial or Material Support.

Virtual Event • September 9-10, 2020



#### Copyright

Abstracts submitted to the ASBMR 2020 Annual Meeting and presented at the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone 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, mechanical, or other means, or intended use, is prohibited without the express written permission of the American Society for Bone and Mineral Research.

#### 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 (2020 Abstracts). Independent verification of diagnosis and drug dosages should be made. Discussions, views, and recommendations as to medical procedures, choice of drugs, and drug dosages are the responsibility of the authors.

#### Audio and Video Recording

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

The use of cameras, audio-recording devices, and video-recording equipment is strictly prohibited within all Virtual Scientific Sessions, the Virtual Exhibit Halls, and Virtual 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 Virtual Exhibit Hall. These rules are strictly enforced.

#### **Meeting Evaluation**

An online evaluation form for the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone will be available on the ASBMR Website at www.asbmr2020.org after the meeting and sent to you via email. Your participation in this evaluation is extremely important to us. Please take a moment to complete the evaluation of this meeting to aid in planning future meetings. Thank you in advance for your feedback.

#### Use of ASBMR Name and Logo

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

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

#### **Future ASBMR Annual Meeting Dates**

ASBMR 2021 Annual Meeting Metro Toronto Convention Centre, Toronto, Ontario, Canada October 1-4, 2021

#### ASBMR 2021 Annual Meeting

Austin Convention Center, Austin, TX USA September 9-12, 2022 ASBMR Symposium

The Seed and Soil: Therapeutic Targets for Cancer and Bone Co-sponsored by the Cancer and Bone Society

Virtual Event • September 9-10, 2020



#### WEDNESDAY, SEPTEMBER 9 TUMOR DORMANCY

#### 10:00 am - 11:15 am ET

#### **Co-Chairs:**

Eric Hesse, MD, PhD, University Medical Centre Hamburg-Eppendorf , Germany and Julie Sterling, PhD, Vanderbilt University, United States

10:00 am	<b>Tumor Dormancy - Lessons Learnt from the HSC Niche</b> Russell Taichman, DMD, The University of Alabama at Birmingham, United States <i>Disclosures: None</i>
10:20 am	<b>Imaging Tumor Cell Dormancy in Bone</b> Michelle McDonald, PhD, Garvan Institute, Australia <i>Disclosures: None</i>
10:40 am	Hypoxic Control of Tumor Dormancy Rachelle Johnson, PhD, Vanderbilt University, United States Disclosures: None
11:00 am	Panel Discussion

BREAK

#### 11:15 am – 11:30 am ET

# METABOLISM & ADIPOSITY IN THE TUMOR-BONE ENVIRONMENT 11:30 am – 12:45 pm ET

#### **Co-Chairs:**

Theresa Guise, MD, Indiana University, United States Larry Suva, PhD, Texas A&M College of Veterinary Medicine, United States

11:30 am	Fueling Cancer in Bone - Adiposity and Metabolism in the Tumor-bone Microenvironment Claire Edwards, PhD, University of Oxford, United Kingdom Disclosures: None
11:50 am	<b>3D Study of Marrow Adipose Tissue and Cancer</b> Michaela Reagan, Maine Medical Centre Research Institute, United States <i>Disclosures: None</i>
12:10 pm	Osteocyte Regulation of Tumor Growth and Bone Metabolism in multiple myeloma Jesus Delgado-Calle, PhD, Indiana University, United States Disclosures: None
12:30 pm	Panel Discussion

#### BREAK

#### 12:45 pm – 1:15 pm ET

Virtual Event • September 9-10, 2020



ASBA

#### 1:15 pm - 2:30 pm ET

#### **Co-Chairs:**

Kathy Weilbaecher, MD, Washington University School of Medicine in St Louis, United States Hanna Taipaleenmaki, PhD, University Medical Centre Hamburg-Eppendorf, Germany

1:15 pm	Immune Control of Myeloma Development Madhav Dhodapkar, Emory University, United States Disclosures: None
1:35 pm	Advances in Targeting Tumor-bone Crosstalk Yibin Kang, PhD, Princeton University, United States Disclosures: None
1:55 pm	<b>Tumor associated macrophages and skeletal metastasis</b> Laurie McCauley, PhD, University of Michigan, United States <i>Disclosures: None</i>
2:15 pm	Panel Discussion

### PRESENTATION LIGHTNING VIEWING

Abstracts, Disclosures, and full author listing for Presenting Lightning Viewing can be found in the Online Itinerary Builder and ASBMR Abstracts Book.

#### 2:45 pm – 3:15 PM

## Myeloma-modified adipocytes exhibit metabolic dysfunction and a senescence-associated secretory phenotype (SASP)

Michaela Reagan, Maine Medical Center Research Institute, United States

### Integrin alpha-5 in human breast cancer is a mediator of bone metastasis and a therapeutic target for the treatment of osteolytic lesions

Philippe Clezardin, INSERM, UMR\_S1033, University of Lyon, France

### HDAC inhibitors rescue LIFR repression driven by the bone microenvironment

Courtney Edwards, Vanderbilt University Medical Scientist Training Program, United States

Low Magnitude Mechanical Signals Enhance the Effects of Zoledronic Acid to Reduce Osteolytic Lesion Area and Improve Cardiac Function in a Murine Model of Breast Cancer Bone Metastases Gabriel M. Pagnotti, Indiana University, United States

#### Stromal cell-guided transformation of MDS to AML

Álvaro Cuesta-Domínguez, Department of Physiology and Cellular Biophysics, Vagelos College of Physicians & Surgeons, Columbia University Irving Medical Center, United States

Virtual Event • September 9-10, 2020



Prostate Cancer-derived Extracellular Vesicles Negatively Affect Osteoblast Function Giulia Furesi, Department of Medicine III and Center for Healthy Aging, Dresden, Germany, Technische Universität Dresden, Germany, Germany

#### Non-activated T cells Increase Osteoclastogenesis and Breast Cancer Bone Metastases

Danna L. Arellano, Biomedical Innovation Department, CICESE, Posgrado de Ciencias de la Vida, CICESE, Mexico

#### **THURSDAY, SEPTEMBER 10**

#### **ORAL PRESENTATIONS**

Abstracts, Disclosures, and full author listing for Oral Presentations can be found in the Online Itinerary Builder and ASBMR Abstracts Book.

#### 10:00 am - 10:40 am ET

#### **Co-Chairs:** Conor Lynch, PhD, Moffitt Cancer Center, United States Penny Ottewell, PhD, University of Sheffield, United Kingdom

	Hayley Sabol, Indiana University, United States
	Hayley Sabol, Indiana University, United States Disclosures: None
10:15 am	FOXP1 Drives Osteosarcoma Development by Repressing P53 Signaling Hanjun Li, Shanghai Jiao Tong University School of Medicine, China
10:20 am	Macrophage Efferocytosis of Apoptotic Prostate Cancer Cells Activates TIM- 3/CEACAM1/SHP-2 Signaling to Support Bone Metastatic Progression Veronica Mendoza-Reinoso, University of Michigan School of Dentistry, United States Disclosures: None
10:25 am	Panel Discussion

BREAK

10:40 am - 11:00 am ET

Virtual Event • September 9-10, 2020

#### BONE-TARGETED THERAPIES IN CANCER

ASBMI

#### 11:00 am - 12:20 pm ET

#### **Co-Chairs:**

Cathy Van Poznack, MD, University of Michigan, United States G. David Roodman, MD, PhD, Indiana University, United States

- 11:00 am History of Bone-targeted Therapies in Cancer Graham Russell, MD, PhD, University of Oxford, United Kingdom Disclosures: None
- 11:15 amTargeting Prostate Cancer Bone Disease<br/>Kenneth Pienta, MD, Johns Hopkins School of Medicin, United States<br/>Disclosures: None
- 11:30 amAdvances in Treatment of Breast Cancer Bone Metastasis<br/>Rob Coleman, MD, University of Sheffield, United Kingdom<br/>Disclosures: None
- 11:45 amNew Approaches in Myeloma Bone Disease<br/>Noopur Raje, MD, Harvard Medical School, United States<br/>Disclosures: None
- 12:00 pm Panel Discussion

#### **COLLABORATION BREAK**

#### 12:20 pm – 2:00 pm ET

#### 12:25 pm The New Normal – Room 1

Julie Rhodes

This talk will focus on pandemic-related topics such as learning to teach over Zoom, how to give interviews and be professional online, lab communications, mental health, and productivity during the pandemic.

#### 12:45 pm Breakout into Collaboration Rooms

Note you will be able to switch into different rooms at the break out times (every 15 minute) to participate in the chat discussion of each topic listed below

Room 1: Maintaining the mentor/mentee relationship

Moderator: Julie Rhoades

#### **Room 2: Finding your next position**

Moderator: Rachelle Johnson

**Room 3: Maintaining productivity in the age of Zoom** Moderator: Patricia Juarez

**Room 4: Keeping up virtual appearances: Online professionalism** Moderator: Connor Lynch

Virtual Event • September 9-10, 2020

#### POSTERS

ASB

All posters presented at the ASBMR Symposium: The Seed and Soil: Therapeutic Targets for Cancer and Bone will also be presented at the ASBMR 2020 Annual Meetin Virutal Event, September 11-15, 2020. Abstracts, disclosures, and full author listing for poster presentations can be found in the Online Itinerary Builder and ASBMR Abstracts Book.

#### The Stem Cell Basis of Bifurcation between Adipogenic versus Osteogenic Lineages

Shawon Debnath, Department of Pathology and Laboratory Medicine, Weill Cornell Medicine, United States

**Treatment with zoledronate subsequent to denosumab in osteoporosis: a randomized trial** Anne Sophie Sølling, Department of Endocrinology and Internal Medicine, Aarhus University Hospital, Denmark

**Blocking of osteocyte Toll-like receptor signaling uncouples bone resorption from inflammation** Tetsuya Yoshimoto, Indiana University School of Dentistry, Indiana Center for Musculoskeletal Health, Indiana University School of Medicine, United States

Single cell analysis reveals transient expansion of marrow adipogenic lineage precursors as the mechanism for bone marrow recovery after radiation

Lutian Yao, University of Pennsylvania, United States

### Bone marrow adipogenic lineage precursors (MALPs) promote osteoclastogenesis in bone remodeling and pathologic bone loss

Wei Yu, Department of Orthopaedic Surgery, Perelman School of Medicine, University of Pennsylvania, United States

### Garetosmab, an Inhibitor of Activin-A, Reduces Formation of Heterotopic Bone and Soft Tissue Flare-Ups in Patients with Fibrodysplasia Ossificans Progressiva

Eduardo Forleo-Neto, Regeneron Pharmaceuticals, United States

### Myeloma-modified adipocytes exhibit metabolic dysfunction and a senescence-associated secretory phenotype (SASP)

Michaela Reagan, Maine Medical Center Research Institute, United States

### TAF12, a Member of TFIID Transcription Factor Complex, Contributes to Osteoclast Differentiation and Bone Resorption In Vivo

Kazuaki Miyagawa, Division of Hematology and Oncology, Department of Medicine, Indiana University, United States

#### Lactobacillus reuteri prevents Early Stages of Glucocorticoid-induced Avascular Necrosis of Femoral Head. Ho Jun Kang, Michigan State University, United States

**TNFR2 signaling pathway mediated by 14-3-3e instructs macrophage plasticity in inflammatory arthritis** Wenyu Fu, New York University Medical Center, United States

### Bone Tissue and Osteoblasts from X-linked type XVIII OI with defects in Regulated Membrane Proteolysis have Distinct Features

Allahdad Zarei, Section on Heritable Disorders of Bone and Extracellular Matrix, National Institute of Child Health and Human Development, National Institutes of Health, United States

Virtual Event • September 9-10, 2020

A self-amplifying, self-propagating loop of Yap and Shh drives formation and expansion of heterotopic ossification Qian Cong, Department of Developmental Biology, Harvard School of Dental Medicine, Harvard Stem Cell Institute, United States

ASB

#### LepR-expressing stem cells are essential for alveolar bone regeneration

Shiwen Zhang, State Key Laboratory of Oral Diseases & National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China, China

# Horizontal fissuring at the osteochondral interface: a novel and unique pathological feature in patients with obesity-related osteoarthritis

Lianzhi Chen, University of Western Australia, Australia

### Intestinal Vitamin D Receptor in Adult Mice is Essential to Maintain Bone Mass When Calcium Intake is Low but Dispensable When Calcium Intake is Adequate

Heng Jiang, Dept. of Nutrition Science, Purdue University, United States

NaQuinate: A drug that Selectively Synergizes with Mechanical Loading Stimuli In Vivo to Generate Greater Cortical Bone Mass and Architectural Modifications Behzad Javaheri, Royal Veterinary College, United Kingdom

### Phlpp1 Is Induced By Estrogen In Osteoclasts And Its Loss In Ctsk-Expressing Cells Does Not Protect Against Ovx-Induced Bone Loss

Ismael Karkache, University of Minnesota, United States

#### Differential iron requirements of osteoblast and adipocyte differentiation

Erica Clinkenbeard, Indiana University School of Medicine, United States

#### HIF Signaling Prevents Outgrowth of Breast Cancer Cells in Lung but not Bone

Vera Todd, Vanderbilt University, United States

**Risk Factors for the Development of Heterotopic Ossification After Hip Arthroplasty: A Retrospective Review** Sukhmani Singh, UCSF, United States

### Saturated and Unsaturated Bone Marrow Lipids Have Distinct Effects on Bone Density and Fracture Risk in Older Adults

Gina Woods, University of California, San Diego, United States

### aE-catenin Deletion in Skeletal Stem and Progenitor Cells (SSPCs) Increases their Adipogenic Potential and Protects Against Diet- or Age-induced Obesity and Hyperglycemia

Karen De Samblancx, Laboratory of Skeletal Cell Biology and Physiology (SCEBP), Skeletal Biology and Engineering Research Center (SBE), Department of Development and Regeneration, KU Leuven, Belgium

#### STAT3 controls osteoclast differentiation and bone homeostasis by regulating NFATc1 transcription

Yang Yiling, Shanghai Jiaotong University School of Medicine, China

#### CD10: A novel marker of bone marrow adipocyte progenitors

Abbas Jafari, Department of Cellular and Molecular Medicine, University of Copenhagen, Denmark

Virtual Event • September 9-10, 2020

**PTH protects osteocytes from oxidative stress-induced death and senescence** Yuhei Uda, Henry M. Goldman School of Dental Medicine, Boston University, United States

## Macrophage Efferocytosis of Apoptotic Prostate Cancer Cells Activates TIM-3/CEACAM1/SHP-2 Signaling to Support Bone Metastatic Progression

Veronica Mendoza-Reinoso, Department of Periodontics and Oral Medicine, University of Michigan School of Dentistry, United States

ASBI

# Hypophosphatemia Associated with Intravenous Ferric Carboxymaltose Complicated by Multiple Insufficiency Fractures

Christie Turin, University of Pennsylvania, United States

**Bone marrow adipocytes induce multiple myeloma cell adipomimicry and dexamethasone resistance** Mariah Farrell, Maine Medical Center Research Institute, United States

#### Feasibility, safety and effectiveness of a pilot 16-week home-based, high-impact exercise intervention in postmenopausal women with low bone mineral density

Carrie-Anne Ng, Department of Medicine, School of Clinical Sciences at Monash Health, Monash University, Australia

### Aberrant DNA methylation and gene expression profiles in the bone marrow stroma of AML patients carrying IDH1 or IDH2 mutations

Paraskevi Vgenopoulou, Department of Physiology and Cellular Biophysics, Columbia University Irving Medical Center, United States

#### **Inhibition of Activin A with Garetosmab Improved Parameters of Lung Function in Patients with FOP** Cynthia Portal-Celhay, Regeneron Pharmaceuticals, United States

## Treatment of established bone metastases can be achieved by combinatorial osteoclast blockade and depletion of Gr1+ cell subsets

Seunghyun Lee, Washington University in St.Louis, United States

#### PPARG in Osteocytes Regulates Sclerostin Expression, Bone Mass and Marrow Adiposity

Sudipta Baroi, University of Toledo, College of Medicine and Life Sciences, United States

### The Wnt-Inhibitor DKK-1 as a Prognostic Marker and Molecular Target in Human Triple-Negative Breast Cancer

Teresa Stefania Dell'Endice, Division of Endocrinology, Diabetes and Bone Diseases, Department of Medicine III, TU Dresden Medical Center, Fetscherstraße 74, D-01307 Dresden, Germany, Germany

## Denosumab is Non-inferior to Zoledronic Acid as Bone Protection in Post-menopausal Breast Cancer: A 2-year Prospective Follow-up Study

Kristian Buch-Larsen, Department of Endocrinology, Rigshospitalet, Denmark

#### **PTHrP Overexpression in Mammary Tumors Causes Anorexia: A Possible Role of Lipocalin-2** Diego Grinman, Yale University, United States

Virtual Event • September 9-10, 2020

### Loss of Osteogenic Dickkopf-1 Ameliorates Cortical and Trabecular Bone Loss by Suppressing Bone Resorption in Male Mice With Type 1 Diabetes Mellitus

ASB

Souad Daamouch, Department of Medicine III and Center for Healthy Aging, Technische Universität, Germany

### ABT263 attenuate irradiation-induced bone loss in mice through cleaning senescent osteocytes and inhibiting SASP production

Qinghe Geng, Central Lab, Pizhou Hospital, Xuzhou Medical University, China

### A Simultaneous Bone and Muscle Surgical Injury Model Reveals Age/Gender Differences in Musculoskeletal Healing

Claudia Cristina Biguetti, Bone-Muscle Research Center, CONHI, The University of Texas at Arlington, United States

A natural small molecule targeting miR487b-Wnt5a interaction to promote myogenic potential in vitro Zhenjian Zhuo, The Chinese University of Hong Kong, Hong Kong

**Dyrk1a-Related Down Syndrome Bone Defects Abrogated by Temporally-Targeted Pharmacological Intervention** Jonathan LaCombe, IUPUI, United States

Inhibition of PAD4 Mediated Neutrophil Extracellular Traps Prevents Fibrotic Osseointegration Failure in a Murine Model of Tibial Implantation

Emile-Victor Kuyl, Hospital for Special Surgery, United States

Low doses of the bone-targeted Notch inhibitor BT-GSI exhibit higher anti-myeloma activity and preserve bone compared to unconjugated GSI or zolendronic acid. Tania Amorim, Indiana University School of Medicine, United States

Quantitative histone acetylation analysis of GATA3 and PAX1 transcription factor genes in primary hyperparathyroidism PRIYANKA SINGH, PhD, India

**Zoledronic Acid Improves Bone Quality and Muscle Function in High Bone-Turnover State** Trupti Trivedi, Indiana University School of Medicine, United States

Semaphorin-3F, a potential biomarker for Lymphatic Anomalies and Bone Cell Function Ernesto Solorzano, NEOMED, United States

**Syngeneic Murine Bladder Cancer Growing in Bone Responds to Anti-PD-1 Treatment** Mari I. Suominen, Pharmatest Services, Finland

Glutamine Metabolism in Cartilage Tumors Hongyuan Zhang, Department of Orthopaedic Surgery, Duke University, United States

#### Elevated mature osteoblastic 11B-HSD1 contributes to high-fat-diet induced obesity

Chuanxin Zhong, Law Sau Fai Institute for Advancing Translational Medicine in Bone and Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong SAR, People's Republic of China., Hong Kong

Virtual Event • September 9-10, 2020

Musculoskeletal and cardiac defects in the Presenilin-1 (PSEN1) L166P KI mouse model of Alzheimer Disease. Vidyani Suryadevara, Indiana Center for Musculoskeletal Health, Department of Pathology & Laboratory Medicine, Indiana University School of Medicine, Indianapolis, IN 46202, United States

ASB

A patient-derived in vitro disease model for Muenke Syndrome reveals defects in neural crest development. Fahad Kidwai, NIH, United States

Osteocytic Wnt protects unloading-induced bone loss via increased endochondral ossification Xiaolin Tu, Chongqing Medical University, China

Prrx1-CreAlplfl/fl mice, a model for further investigations into the pathophysiological changes in hypophosphatemia

Victoria DeMambro, Maine Medical Center Research Institute, United States

Transcriptomic analysis of aged mouse bone identifies novel genes enriched for genetic associations with bone fracture and bone mineral density in human Serra Kaya, University of California San Francisco, United States

Partial Depletion of Ccr2+ Myeloid Cells Reduces Endochondral Heterotopic Ossification without Inhibiting Muscle Repair in Fibrodyplasia Ossificans Progressiva Mice Cody M Elkins, Emory University, United States

#### Predicting Mortality and Re-fracture Following an Initital Fracture

Thao P. Ho-Le, Healthy Aging Theme, Garvan Institute of Medical Research, Australia

#### Runx2 Regulates Cytoskeletal Dynamics in Bone Metastatic Breast Cancer Cells

Ahmad Othman, Rush University Medical Center, United States

### Musculoskeletal and cardiac defects in the microtubule associated protein Tau (MAPT) P301S Tg+ mouse model of Frontotemporal Dementia.

Anuradha Valiya Kambrath, Indiana Center for Musculoskeletal Health, Department of Pathology & Laboratory Medicine, Indiana University School of Medicine, Indianapolis, IN 46202, United States

### A simple-to-use nomogram for identifying individuals at high risk of denosumab-associated hypocalcemia in postmenopausal osteoporosis: a real-world cohort study

Kyoung Jin Kim, Department of Internal Medicine, Severance Hospital, Endocrine Research Institute, Yonsei University College of Medicine, Republic of Korea

#### **Tibial Bone Quality in Former Bariatric Surgery Patients with Knee Osteoarthritis**

Breanne S. Baker, Department of Orthopaedic Surgery and Thompson Laboratory of Regenerative Orthopaedics, Missouri Orthopaedic Institute – University of Missouri, Columbia, MO, United States

## Aromatase Inhibitor Induced Bone Loss in Postmenopausal Women with Breast Cancer: A Systematic Review and Meta-analysis of Randomized Controlled Trials

Abir Bou Khalil, American University of Beirut, Lebanon

Virtual Event • September 9-10, 2020

Bisphosphonate protects cortical bone at key locations of the femur in aromatase-inhibitor associated bone loss: a 3D cortical bone mapping study

ASB

Namki Hong, Yonsei University College of Medicine, Republic of Korea

**Phagocytosis by mesenchymal stromal cells: A facultative process that induces senescence** Emily Quarato, University of Rochester, United States

Modulation of Bone Marrow Mesenchymal Stem Cell Differentiation by Osteocytic Connexin Hemichannels Jingruo Zhang, Department of Biochemistry and structural biology, UT Health San Antonio, United States

Assessing the host inflammatory response to a novel 3D-printed hydroxyapatite (HA) and demineralized bone matrix (DBM) composite using a rodent posterolateral spinal fusion model Chawon Yun, Northwestern University Feinberg School of Medicine, United States

**Improved Bone Fracture Repair through Targeted Delivery of Angiogenic Agents** Jeffery Nielsen, Purdue University, United States

NaQuinate, a Vitamin K Catabolite, is Found in Blood after Oral Vitamin K1 Administration and Reduces Osteoclast Activity Without Effecting Osteoclast Number in Culture Isabel Orriss, Royal Veterinary College, United Kingdom

Inhibition of Hypoxia Inducible Factor (HIF) Signaling Ameliorates Radiation Induced Marrow Adiposity Colleen Wu, Duke University School of Medicine, United States

The influence of undercarboxylated osteocalcin on endothelial function in normal and high glucose conditions Alexander Tacey, Victoria University, Australia

The Safety of Withdrawal from Denosumab Therapy in Fibrous Dysplasia and McCune Albright Syndrome Maartje Meier, Leiden University Medical Center, Netherlands

Osteoblasts Derived from Mouse Mandible Enhance Tumor Growth of Prostate Cancer More Than Osteoblasts Derived from Long Bone

Yusuke Shiozawa, Wake Forest University Health Sciences, United States

#### The role of nonhuman primates as a model for diabetes pathophysiology

Roberto J. Fajardo, Clinical and Applied Science Education, University of the Incarnate Word School of Osteopathic Medicine, United States

### The Changing Partners of FOXO1 Under High Serotonin Levels in Winnie Mouse Model of Spontaneous Chronic Colitis

Shilpa Sharma, Australian Institute for Musculoskeletal Science, The University of Melbourne and Western Health, Melbourne, Australia. Department of Medicine-Western Health, The University of Melbourne, Melbourne, Australia, Australia

#### Trends in emergency department visits for fall-related fractures among U.S. children 2001-2015.

Carlos Orces, Laredo Medical Center, United States

Virtual Event • September 9-10, 2020

**Serum total periostin is an independent marker of overall survival in non-small cell lung cancer** Cyrille Confavreux, Inserm UMR1033 - Hospices Civils de Lyon - Université de Lyon, France

#### **Investigating the Effect of Yoda1 on Osteocytes Mechanoregulation of Breast Cancer Bone Metastasis** Chun-Yu Lin, University of Toronto, Canada

#### Lipid Signaling Mediators regulates myogenesis with ageing

Ahmed Al Saedi, Department of Medicine - Western Health, The University of Melbourne, Australia

**Development of a New Therapeutic Modality for Bisphosphonate-Related Osteonecrosis of the Jaw** Shuting Sun, BioVinc, United States

**Prediction of Cyclic Load from Strain Measurement in a Long Bone using an Artificial Neural Network Algorithm** Saeed Mouloodi, Depts Veterinary BioSciences and Mechanical Engineering, The University of Melbourne, Australia

ASB

### Sclerostin loop3: a potential target for developing a next generation sclerostin inhibitor for bone anabolic therapy with low cardiovascular concern

Yuanyuan Yu, Law Sau Fai Institute for Advancing Translational Medicine in Bone and Joint Diseases (TMBJ), School of Chinese Medicine, Hong Kong Baptist University, Hong Kong

# Genome-wide association (GWAS) meta-analysis of skull bone mineral density identifies determinants of osteoporosis and craniosynostsis

Carolina Medina Gomez, ErasmusMC, Netherlands

#### Novel use of Burosumab (Crysvita) in a girl with Fanconi syndrome.

Nandini Vijayakanthi, Division of Pediatric Endocrinology, Department of Pediatrics, Emory University School of Medicine, Children's Healthcare of Atlanta, United States

### Independent effects of estrogen and follicle stimulating hormone on marrow cell populations identified by single cell RNA-Seq analysis

Vanessa Sherk, University of Colorado Anschutz Medical Campus, United States

#### Prevalence of Frailty and Associated Factors in a National Observational Cohort of Rheumatic Diseases.

Katherine D. Wysham, VA Puget Sound Health Care System/University of Washington, United States

#### Assessing the Efficacy of Herbal Teas on Bone Health in an Osteopenic Population: OsTea

Fahima Munmun, Duquesne University Graduate School of Pharmaceutical, Administrative and Social Sciences, United States

#### **Oxylipins Mediate Radiation-induced Marrow Adipose Tissue Expansion**

Jason A Horton, Upstate Medical University, United States

### Leveraging data from bivariate genome-wide association meta-analysis to unravel novel pleiotropic pathways of bone-muscle crosstalk

Katerina Trajanoska, Department of Internal Medicine, Erasmus MC University, Netherlands, Netherlands

Virtual Event • September 9-10, 2020

## Visceral Fat Metabolic Activity Evaluated by 18F-FDG PET/CT Predicts Osteoporosis in Healthy Postmenopausal Korean Women

ASB

Kisoo Pahk, Korea University Anam Hospital, Republic of Korea

#### Validation of a novel musculoskeletal image analysis software (Tissue CompassTM)

Mahdi Imani, Department of Medicine, Western Health and the Australian Institute for Musculoskeletal Science (AIMSS), Melbourne Medical School, The University of Melbourne, St Albans, Melbourne, VIC, Australia., Australia

#### Humoral Hypercalcemia of Malignancy in Recurrent Pulmonary Papillomatosis

Ansha Goel, Medstar Georgetown University Hospital, United States

**Bone mineral density in children with cerebral palsy and spina bifida treated with ibandronate** Vladimir Kenis, H.Turner National Medical Research Center for ?hildren's Orthopedics and Trauma Surgery, Russian Federation

#### The Diagnostic Journey in Fibrodysplasia Ossificans Progressiva: Insights from the FOP Registry

L. Adam Sherman, International FOP Association, United States

#### Assessing The Impact Of Calcitonin In Management Of Hypercalcemia

Malik Faheem, Division of Endocrinology, Stanford University, United States

### Multicentric Carpotarsal Osteolysis Syndrome (MCTO) Has a Generalized High Turnover Bone Phenotype, High s RANKL and Responds to Denosumab

Ravit Regev, The Hospital for Sick Children, University of Toronto, Canada

## Longitudinal Evaluation of Saturated and Unsaturated Vertebral Marrow Adipose Tissue (MAT) Over 3 Years in Older Men and Women

Trisha Hue, University of California, San Francisco, United States

### Sodium Benzoate (NaB) attenuates osteoporosis and enhances bone health via modulating host osteoimmune system

Rupesh K. Srivastava, All India Institute of Medical Sciences (AIIMS), India

**Role of Senescence in Age- and Radiation- Associated Bone Marrow Adiposity** Abhishek Chandra, Mayo Clinic, United States

Sex differences in skeletal development and maintenance mediated by the osteoblastic glucocorticoid receptor Anuj Sharma, Augusta University, United States

**GNAS product XLas, but not Gsa, exhibits variable allele-specific expression in bone marrow stromal samples:** "next-generation" sequencing (NGS) to determine parental contribution. Qiuxia Cui, Endocrine Unit, Department of Medicine, Massachusetts General Hospital and Harvard Medical School; Zhongnan Hospital, Wuhan University, United States

**Preclinical evaluation of a novel 3D-printed composite scaffold using a rodent posterolateral spinal fusion model** Chawon Yun, Northwestern University Feinberg School of Medicine, United States

Virtual Event • September 9-10, 2020

# BIOCHEMICAL ALGORITHM TO IDENTIFIFY INDIVIDUALS WITH ALPL VARIANTS BETWEEN SUBJECTS WITH PERSISTENT HYPOPHOSPHATASAEMIA

ASB

C. Tornero, Department of Rheumatology. La Paz University Hospital., Spain

### Deep learning-based image segmentation performs well when trained and tested on similar, dissimilar, and combined image data

Emilie N. Henning, Department of Mechanical and Aerospace Engineering, University of Colorado Colorado Springs, United States

Long-term effectiveness of Asfotase Alfa in adults with pediatric-onset Hypophosphatasia in routine clinical practice

Franca Genest, 10rthopaedic Clinic King-Ludwig-Haus, University of Würzburg, Würzburg, Germany, Germany

Clinical characteristics, therapeutic outcome and follow up of 66 patients of Paget Disease from South India Krishna Mori, Sri Ramchandra Medical College, India

Dose-dependent Effect of Zolendronic Acido n the Development of Medication-associated Jaw Osteonecrosis (MRONJ) Like-lesion in C57Bl/6 Mice – A Histological Preliminary Study

Nataira Momesso, Department of Basic Sciences, School of Dentistry, São Paulo State University (UNESP), Araçatuba, SP, Brazil

### **Effects of Infigratinib, a Selective FGFR1-3 Tyrosine Kinase Inhibitor, on Dentoalveolar Development** Sarah Aitken, National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institutes of Health (NIH), United States

#### **Improved prediction of fracture risk leveraging a genome-wide polygenic risk score** Tianyuan Lu, McGill University, Canada

Effect of vitamin D supplementation on hip structural geometry in the elderly

Aya Bassatne, American University of Beirut, Lebanon

### Incidence and predictors of fractures in older adults with and without obesity defined by body mass index versus body fat percentage

Anoohya Gandham, Department of Medicine, School of Clinical Sciences at Monash Health, Monash University, Clayton, Victoria, Australia, Australia

# A Clinically Handy Novel Mechanical Parameter to Quantify the Microarchitecture Effect on Apparent Modulus of Trabecular Bone

Yongqiang Jin, The University of Hong Kong, Hong Kong

# ENDOTHELIAL CELL PHYSIOLOGY IN A MICROFLUIDIC DEVICE AND THEIR RESPONSE TO MESENCHYMAL STROMAL CELLS

Shuang Zhang, Internal Medicine, Erasmus University Medical Center, Netherlands

#### Assessment of bone mineral density, cortical bone thickness and bone marrow fat at the proximal femur in HIVinfected subjects

Julio Carballido-Gamio, Department of Radiology, University of Colorado Anschutz Medical Campus, United States

Virtual Event • September 9-10, 2020

Possibilies of Trabecular Bone Score to Reflect Activity and Progression of Ankylosing Spondilitis in Young Patients

ASB

Konstantin Kolpakov, RICEL - Branch of IC&G SB RAS, Russian Federation

Synthesis and in vitro evaluation of a bispecific aptamer targeting both Sclerostin and Dickkopf-1 Zhenjian Zhuo, The Chinese University of Hong Kong, Hong Kong

**C3H substrain variation results in decreased bone density and fat mass in C3H/HeJ mice** Kathleen Becker, University of New England, United States

**Pull out strength of the screw and compression force of vertebra gain with a 3-month course of romosozumab treatment: Prospective study using finite element analysis** Koji Ishikawa, Department of Orthopaedic Surgery, Showa University School of Medicine, Japan

**Physiological And Nutrition-related Effects On Bone Marrow Adipocyte Formation** George Soultoukis, Leibniz Association, Germany

Atypical Parathyroid Adenoma Causing Parathyroid Crisis Tammy Tavdy, Montefiore Medical Center/Albert Einstein College of Medicine, United States

New technology REMS demonstrated good accuracy for the diagnosis of osteoporosis defined by DXA, in Brazilian adult women.

Débora Meira Ramos Amorim, Federal University of Sao Paulo, Brazil

**The Dynamics of Mice and Human Bone Marrow Adipose Tissue in Response to Feeding and Fasting** Gisela Pachon-Pena, MMCRI, United States

NaQuinate Protects Against Ovariectomy-Induced Changes in Cortical Bone Mass and Architecture Through a Regionally Targeted Mechanism

Amy Lock, Royal Veterinary College, United Kingdom

#### Modulation of osteoclast behaviors by the immune microenvironment

Margaret Durdan, University of Michigan, United States

Higher diet quality score increases weight loss during moderate caloric restriction with no greater loss of bone mineral density.

Anna Ogilvie, Rutgers University, United States

**Erdheim-Chester disease - Unusual presentation with isolated skeletal lytic lesions** Amulya Yalamanchi, Sri Ramachandra medical college, India

Kynurenine Promotes Age-Related Bone Loss via Upregulating RANKL–Induced Osteoclastogenesis and Inhibiting Bone Marrow Mesenchymal Stem Cells Osteogenesis Nada Eisa, Dept. Pathology, Medical University of South Carolina, United States

**RNA-binding protein Cpeb4 is required for osteoclastogenesis.** 

Masamichi Li, Department of Molecular Pharmacology, Graduate School of Pharmaceutical Sciences and Faculty of Pharmaceutical Sciences, Tokyo University of Science, Japan

Virtual Event • September 9-10, 2020

Excessive mechanical strain accelerates intervertebral disc degeneration by disrupting the intrinsic circadian rhythm of nucleus pulposus cells

Li-Bo Jiang, Zhongshan Hospital, Fudan University, China

Pelvic Ring Fragility Fractures: A Debilitationg Fracture Occurring in Elderly Ambulatory Patients with Monoclonal Gammopathy of Uncertain Significance, Pernicious Anemia, Hyponatremia, and Associated with High Mortality

ASBA

Michael Lovy, Desert Oasis Healthcare, United States

Factors Contributing to Fracture in Pernicious Anemia Patients Presenting with Symptomatic Subacute Vertbral Compression Fractures

Michael Lovy, Desert Oasis Healthcare, United States

**Bilateral Atypical Femur Fractures as a Presenting Manifestation of Unrecognized Hypophosphatasia.** Madhav Chittimalla, Henry Ford Health System, United States

Effect of Fucoidan, a Sulfated Polysaccharide, Extracted from the Algae Macrocystis pyrifera, Sargassum muticum, and Undaria pinnatifida on Bone Remodeling Brenda Iduarte, CICESE, Mexico

**Coracoid Stress Fracture in a Tennis Player – A Rare Sports Injury** Clay Larkin, University of Kentucky, United States

**Sacral Fractures in the Setting of Newly Diagnosed Rectal Cancer in Pregnancy: A Gravid Issue.** Parvathy Madhavan, University of Connecticut Health Center, United States

#### Aging delays epimorphic regeneration in mice

Regina Brunauer, Texas A&M University, United States

**Results of a Multidisciplinary Clinic to Prevent Second Fragility Fracture** 

Nariman Saba Khazen, Carmel and Lin Medical Center, Haifa, Israel, Israel

**Pregnancy associated Osteoporosis - Transient Osteoporosis of Hip** Krishna Mori, Sri Ramchandra Medical College, India

A Cross-sectional study for changes in proportion of bone mineral density after corticosteroid therapy in postmenopausal women with rheumatoid arthritis

Kwangyoon Kim, Ajou University hospital, Republic of Korea

Visceral Adipose Tissue and Major Adverse Cardio-vascular Events: A Systematic Review and Meta-analysis Protocol of Observational and Randomized Controlled Trials Marlene Chakhtoura, American University of Beirut Medical Center, Lebanon