



MINNESOTA
MEDICAL
ASSOCIATION

**AIMM/ASBMR JOHN HADDAD
YOUNG INVESTIGATORS MEETING**

April 4 - 8, 2022

SNOWMASS COLORADO

The purpose of this conference is to bring scientists and clinicians together in a format of open verbal communication that permits the translation of basic science advances into clinical concepts. Physicians and scientists working in the field of bone and mineral metabolism are encouraged to participate.

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Minnesota Medical Association and AIMM. The Minnesota Medical Association (MMA) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Minnesota Medical Association designates this live activity for a maximum of *24 AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity. This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint providership of the Minnesota Medical Association and Advances in Mineral Metabolism. The Minnesota Medical Association (MMA) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

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**NIH: NATIONAL INSTITUTE OF ARTHRITIS AND
MUSCULOSKELETAL AND SKIN DISEASE**



SCANCO MEDICAL



AIMM/ASBMR JOHN HADDAD YOUNG INVESTIGATORS MEETING

PROGRAM

April 4 – 8, 2022, Monday – Friday
The Stonebridge Inn, Snowmass, Colorado

<https://aimmmeeting.org/>

All events at the Stonebridge 1st Floor Conference Room/Dining Area, or via Zoom

Tuesday - Friday, 6:15-7:00am - Buffet Breakfast

Times provided are in Mountain Time (MT)

2022 AIMM/ASBMR John Haddad Young Investigator Awardees

Rafiou Agoro, Ph.D., Indiana University, USA

Thomas Ambrosi, Ph.D., Stanford University, USA

Julian Meyer Berger, Ph.D., Columbia University Medical Center, USA

Seoyeon Bok, Ph.D., Weill Cornell Medicine, USA

Joo Hyun Lim, Ph.D., Baylor College of Medicine, USA

Fatma Mohamed, Ph.D., Ohio State University, USA

Perla Reyes Fernandez, Ph.D., University of Alabama at Birmingham, USA

Jad Sfeir, M.D., Mayo Clinic, USA

Jialiang Wang, Ph.D., Massachusetts General Hospital, USA

Natalie Wee, Ph.D., St. Vincent's Institute of Medical Research, Australia

2022 AIMM Young Investigator Awardee

Diego Grinman, Ph.D., Yale University, USA

2022 Charles Turner Young Investigator Awardee

Julián Balanta Melo, DDS, PhD, Indiana University, USA

MONDAY, APRIL 4

2:30 - 6:00 pm Registration

Afternoon to Evening Session 4:25 -7:30 pm

4:25-4:30 pm: Mary Barbe, Temple University, *AIMM President*: Introduction and Welcome

Session 1: Towards a better understanding of mechanisms driving osteoarthritis pain

Chair: *Tamara King, University of New England*

Co-Chair: *Christian Wright, 2020 Young Investigator, Indiana University*

Speaker

4:30-5:15 pm: Jeff Driban, Tufts Medical Center

Better understanding pain in relation to pathology in osteoarthritis patients

5:15-6:00 pm: Tom Appleton, SJHC London

Synovial macrophages and knee pain in osteoarthritis

6:00-6:15 pm: Break

6:15-6:45 pm: Joohyun Lim, PhD, 2022 ASBMR John Haddad Young Investigator, Baylor College of Medicine – Pathomechanisms of joint dysfunction in Osteogenesis Imperfecta
6:45-7:15 pm: Diego Grinman, PhD, 2022 AIMM Investigator, Yale University - Hypercalcemia Causes Anorexia in a Mouse Model of Humoral Hypercalcemia of Malignancy
7:15-7:30 pm: Discussion and Overview

8:15 pm: Welcome Reception for in-person MEETING REGISTRANTS

TUESDAY, APRIL 5

Morning 7-9:30 am

Session 2: Biomimetic Scaffolds in Bone Regeneration (Basic-Translational)

Chair: *Alex Lambi, UCLA*

Co-Chair: *Gabriel Pagnotti, 2019 Young Investigator, MD Anderson*

Speakers

7:00-7:45 am: Justine Lee, UCLA

Extracellular Matrix-Inspired Materials in Calvarial Regeneration

7:45-8:30 am: Paolo Coelho, NYU

Personalized Scaffolds for Extremity and Craniofacial Bone Reconstruction

8:30-8:45 am: Break

8:45-9:15 am: Seoyeon Bok, PhD, 2022 ASBMR John Haddad Young Investigator, Weill Cornell Medicine - A multi-stem cell basis for craniosynostosis

9:15-9:30 am: Discussion and Overview

Mid-day break: Ski Race – 1-3 pm

Afternoon to Evening 4-7:30 pm

4-4:45 pm: Young Investigator Mentoring Sessions

4:45-5:00 pm: Break

Session 3: Young Investigator Session

Chair: *Michael Mannstadt, Massachusetts General Hospital-Harvard*

Co-Chair: *Sabashini Ramchand, 2020 Young Investigator, Harvard University*

5:00-5:30 pm: Julian Meyer Berger, PhD, 2022 ASBMR John Haddad Young Investigator, Columbia University Medical Center

Harnessing the skeletal response during exercise to treat muscle diseases

5:30-6:00 pm: Julián Balanta Melo, DDS, PhD, 2022 AIMM Charles Turner Young Investigator, Indiana University School of Medicine – Masseter thickness index as an anthropometric prognostic biomarker in head & neck cancer cachexia: A retrospective pilot study
6:00-6:30 pm: Rafiou Agoro, PhD, 2022 ASBMR John Haddad Young Investigator, Indiana University Osteoblast/Osteocyte scRNAseq Reveals Heterogeneous Bone Cell Populations and Distinct Skeletal Gene Sets Altered in CKD
6:30-7:00 pm: Natalie Wee, PhD, 2022 ASBMR John Haddad Young Investigator, St. Vincent's Institute of Medical Research, Australia
Identifying the cells and signals that increase cortical bone strength
7:00-7:15 pm: Discussion and Overview

8:15pm: 35TH SPECIAL ANNIVERSARY DINNER for Registrants & Guests

WEDNESDAY, APRIL 6

Morning 7-9:30 am

Session 4: Alternative osteoclastogenesis pathways (Basic Science)

Chair: *Ren Xu, 2019 Young Investigator, Xiamen University, China*

Co-Chair: *Christian Jacome-Galarza, 2020 Young Investigator, Harvard Medical Center*

Speakers:

7:00-7:45 am: Baohong Zhao, 2010 Young Investigator, Hospital of Special Surgery
A noncanonical, RANKL-independent pathway drives inflammatory osteoclastogenesis
7:45-8:30 am: Jian Luo, Tongji University
LGR4 as a new receptor for RANKL regulates bone resorption and bone metastasis

8:30-8:45 am: Break

Chair: Mary Barbe, Temple University

8:45-9:15 am: Fatma Mohamed, PhD, 2022 ASBMR John Haddad Young Investigator, Ohio State University - Dental effects of hypophosphatasia: Insight from animal models

9:15-9:30 am: Discussion and Overview

12:00-1:30pm: Mid-day consultations between Young and Established Investigators

Afternoon to Evening

4:00-5:00 pm BUSINESS MEETING

5:00-6:00 pm Meet the Professor Session 1a, Charles Chan
Meet the Professor Session 1b, Paolo Coelho

Session 5: The stem cell basis of bone formation (Basic)

Chair: *Kurt Hankenson, 2003 Young Investigator, University of Michigan*

Co-Chair: *Roman Thaler, 2019 Young Investigator, Mayo Clinic*

Speakers

6:00-6:45 pm: Charles Chan, Stanford University

Identification of human and mouse skeletal stem cells

6:45-7:30 pm: Matt Greenblatt, 2015 Young Investigator, Cornell

A periosteal stem cell specialized for intramembranous bone formation

8:30-10:00pm: Past-Presidents' Dinner for Young Investigators & Invited Speakers

April 7 Thursday

Morning 7-9:30 am

Session 6

Cell Bioenergetics and Metabolism (Basic-Translational)

Chair: *Elizabeth Rendina-Ruedy, 2019 Young Investigator, Vanderbilt*

Co-Chair: *Michael Friedman, 2020 Young Investigator, Virginia Commonwealth University*

Speakers

7:00-7:45 am: Fanxin Long, Childrens Hospital of Philadelphia

Glucose metabolism in bone biology and disease

7:45-8:30 am: Courtney Karner, 2017 Young Investigator, UT Southwestern

Amino Acid Metabolism and Osteogenesis

8:30-8:45 am: Break

Chair: *Marc Wein, 2014 Young Investigator, MGH-Harvard*

Co-Chair: *Michael Friedman, 2020 Young Investigator, Virginia Commonwealth University*

8:45-9:15 am: Thomas Ambrosi, PhD, 2022 ASBMR John Haddad Young Investigator,
Stanford University
Decoding Skeletal Stem Cell Diversity to Identify New Therapeutic
Targets For Skeletal Aging and Disease

9:15-9:45 am: Perla Reyes Fernandez, PhD, 2022 ASBMR John Haddad Young Investigator,
University of Alabama at Birmingham – Role of Perlecan and the $\alpha_2\delta_1$ subunit of voltage-
sensitive calcium channels in skeletal mechanoadaptation and age-associated bone fragility

9:45-10:00 am: Discussion and Overview

12:00-1:30pm: Mid-day consultations between Young and Established Investigators

Afternoon to Evening:

3-4:00 pm **Meet the Professor Session 2a**, Fanxin Long – in person

Meet the Professor Session 2b, Baohong Zhao – remote

4:00-5:00 pm Young investigator break out rooms - Scientific discussions

Session 7

5:00-7:00 pm Late-Breaking Young Investigator and Basic/Translational Science topics

Chair: *Marc Wein, 2014 Young Investigator, MGH-Harvard*

1. Shawon Debnath, 2020 Young Investigator - The stem cell basis of bone versus fat formation
2. Hans van Leeuwen - Microfluidics-based evidence that mesenchymal stromal cells-derived biochemical factors and biomechanical signal synergize to control endothelial cell function
3. Yuji Mishina - New modes for spatio-temporal coupling of bone formation and bone resorption governed by osteoclasts
4. Rene St Arnaud - A small molecule lead compound blocking FIAT activity increases osteogenesis
5. Dana Gaddy - Sheep model of Hypophosphatasia
6. Steven Harris - Multiomic single cell RNA-seq and single cell ATAC-seq to better understand Periodontal Stem Cell Differentiation

7:00 -7:15 pm: Discussion and Overview

8:30pm Awards Dinner and Ceremony - Registrants & Guests

April 8, Friday

Morning 7-9:30 am

Session 8

Risk assessment and management of glucocorticoid induced osteoporosis (Clinical)

Chair: *Rob Gensure, 2002 Young Investigator, Tufts*

Co-Chair: *Alanna Green, 2019 Young Investigator, University of Sheffield, UK*

Speakers

7:00-7:45 am: Emily Stein, HSS

Mechanisms of osteoporosis induced by glucocorticoid therapy

7:45-8:30 am: Suzanne Cadarette, University of Toronto

Therapeutic strategies for glucocorticoid-induced osteoporosis

8:30-8:45 am: Break

Chair: *Rob Gensure, 2002 Young Investigator, Tufts*

Co-Chair: *Christian Jacome-Galarza, 2020 Young Investigator, Harvard*

8:45-9:15 am: Jad Sfeir, MD, 2022 ASBMR John Haddad Young Investigator, Mayo Clinic

Skeletal health in type 2 diabetes

9:15-9:45 am: Jialiang Wang, PhD, 2022 ASBMR John Haddad Young Investigator,
Massachusetts General Hospital
Mechanistic Dissection of the Osteoblast-to-Osteocyte Transition
9:45-10:00 am: Discussion and Overview

12:00-1:30pm: Mid-day consultations between Young and Established Investigators

Session 9

4 - 6:00 pm Late-Breaking Past Young Investigator and Clinical Topics Sessions

Chair: *Xiangli Yang, The University of Texas Health Science Center at Houston*

1. Michael Friedman, 2020 Young Investigator
Genetic variation and the response to hindlimb unloading
2. Joy Wu, 2008 Young Investigator
Management of bone metastases in metastatic neuroendocrine tumors
3. Robert Gensure, 2002 Young Investigator
Siblings with X-linked Hypophosphatemic Rickets, a Tale of Two Therapies
4. Alanna Green, 2019 Young Investigator
Targeting osteoblasts enhances Karonudib toxicity in myeloma
5. Bryan Ho/Clemens Bergwitz
Bilateral nephrocalcinosis and renal failure in a female with digenic
homozygous SLC34A3 and heterozygous NPHP4 mutations
6. Richard Bockman
Male Osteoporosis and Fracture Outcomes

6:00 pm Strategic planning discussions (for in-person attendees)

SEE YOU NEXT YEAR!!!

April 3 - 7, 2023