



AIMM 2024 PROGRAM

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.

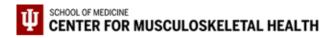
The Minnesota Medical Association designates this live activity for a maximum **9** PRA Category 1 Credit(s)TM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

SUPPORTED IN PART BY EDUCATIONAL GRANTS FROM:

NIH SUPPORT:

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SCANCO MEDICAL

2024 AIMM-ASBMR John Haddad Young Investigator Awardees



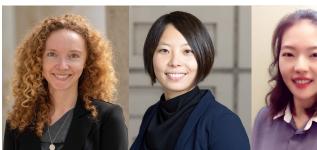






Above, from left to right:
Cora Best, PhD, University of Florida
Evan Buettmann, PhD – Virginia Commonwealth University
Marta Diaz del Castillo, PhD –University of Aarhus/Mayo Clinic
Connor Dolan, PhD – Texas A&M University
Guoli Hu, PhD - University of Texas Southwestern





Above, from left to right:

Japneet Kaur, PhD - University of Arkansas for Medical Sciences
Alexander Knights, PhD – University of Michigan
Rebecca Mountain, PhD – Maine Health Institute for Research
Eri Takematsu, PhD – Stanford University
Sung-Hee (Seanna) Yoon, PhD – MGH/Harvard Medical School

2024 AIMM Young Investigator Awardee



Emily Moore, PhD Harvard School of Dental Medicine

2024 Charles Turner Young Investigator Awardee



Katharina Kirschner Indiana University School of Medicine

AIMM/ASBMR JOHN HADDAD YOUNG INVESTIGATOR MEETING

PROGRAM

April 8-12, 2024 The Stonebridge Inn, Snowmass, Colorado

All events at the Stonebridge first floor conference room/dining areas

Breakfast starts service at 6:15am each day, Tue-Fri

Times listed are Mountain Time (MT)

MONDAY, APRIL 8

REGISTRATION opens at 2pm

4:30-4:45pm Michael Mannstadt, MD, AIMM President

Welcome

Session 1 Improving Orthopedic and Oral Regeneration and Repair

Session Chair: Nan Hatch, PhD (Univ of Michigan)

Co-Chair: Lauren Surface, PhD (Univ of Michigan)

2010 Haddad YI
2018 Haddad YI

Speakers

4:45-5:30pm Marco Bottino, DDS, PhD (Univ of Michigan)

Development of tissue- and patient-specific polymeric scaffolds

for coordinated regeneration of periodontal tissues.

5:30-6:15pm <u>Lukasz Witek, PhD</u> (NYU Dentistry)

Leveraging 3D Printing Technology for Orthopedic and

Craniomaxillofacial Applications: Regenerating Critical Sized Defects

6:15-6:30pm BREAK

6:30-7:00pm John Haddad Young Investigator - Connor Dolan, PhD (Texas A&M)

The Role of Mechanical Load and Piezo1 During Mouse Digit Tip Regeneration

7:00-7:15pm Discussion and Overview

8pm Welcome Reception for Registrants (no guests, please)

TUESDAY, APRIL 9

Session 2: Use It or Lose It

Session Chair: Mary Barbe, PhD (Temple University)

Co-Chair: Gabriel Pagnotti, PhD (MD Anderson) 2019 Haddad YI

Speakers

7:00-7:45am Lynda Bonewald, PhD (Indiana Univ)

Use it or lose it to age: bone and muscle communication

7:45-8:30am Mary Bouxsein, PhD (BIDMC, Harvard)

Spaceflight and bone health

8:30-8:45am Break

8:45-9:15am	John Haddad Young Investigator - <u>Evan Buettmann</u> , PhD (Virginia Commonwealth Univ) Cellular and Molecular Mechanobiology of Bone Fracture Healing During Disuse		
9:15-9:30am	Discussion and Overview		
	GROUP PHOTO		
12:00-1:30pm	Mid-day consultations between Young and Established Investigators		
3:00-4:00pm	Meet the Professor		
	<u>Luiz Bertassoni, DDS, PhD</u> (Oregon Health & Science Univ) Bone-on-a-chip Model		
	Rihana Bokhari, PhD (Baylor College of Medicine Center for Space Medicine) The State of Musculoskeletal Research to Support Future Space Exploration		
Session 3	John Haddad Young Investigators Session Session Chair: Courtney Karner PhD (UT Southwestern) Co-Chair: Petra Simic, MD, PhD (Harvard Med School) 2017 Haddad YI		
<u>Speakers</u>	2024 John Haddad Young Investigators		
4:30-5:00pm	Alexander Knights, PhD (Univ of Michigan) Osteophyte formation in post-traumatic osteoarthritis		
5:00–5:30pm	Guoli Hu, PhD (UT Southwestern) Glutamine Metabolism and Bone Homeostasis		
5:30–6:00pm	Japneet Kaur, PhD (Univ of Arkansas) Metastatic Breast Cancer Cells Induce Osteocyte Senescence		

6:00-6:15pm Break

6:15 6:45pm Cora Best, PhD (Univ of Florida)

Genetic influences on vitamin D metabolism

Contributing to Osteolytic Bone Destruction

6:45–7:00pm Rebecca Mountain, PhD (Maine Health Institute for Research)

Investigating the Impact of Social Isolation on Skeletal Health

8-10:00pm: WELCOME DINNER for Registrants and Guests

WEDNESDAY, APRIL 10

Session 4:	Harnessing signaling pathways to generate and maintain bone			
	Session Chair: Yuji Mishina, PhD (Univ of Michigan Dentistry) Co-Chair: Christoph Zechner, MD, PhD (UT Southwestern)			
<u>Speakers</u> 7:00-7:45am	Francesca Mariani, PhD (Keck School of Medicine, USC) Hedgehog signaling activates Sox9+ sentinel cells to drive large-s	cale bone repair		
7:45-8:30am	Marc Wein, MD, PhD (MGH/Harvard) Building bone by blocking salt inducible kinases	2014 Haddad YI		
8:30-8:45am	Break			

8:45-9:15am John Haddad Young Investigator - Seanna Yoon, PhD (MGH/Harvard)

The Role of Salt-Inducible Kinases (SIKs) in renal PTH actions

9:15-9:30am Discussion and Overview

> 1:00-2:30pm **SKI RACE**

12:00-1:30pm	Mid-day	consultations	between \	∕oung and	Established	Investigators

Meet the Professor 3:00-4:00pm

Career Development: Leadership roles in science.

Laura Calvi, MD and Mary Bouxsein, PhD

Crosstalk in cartilage and bone cells Session 5:

Chair: Steve Popoff, PhD (Temple University)

Co-Chair: Alex Lambi, MD, PhD (Univ of New Mexico)

Karen Lyons, PhD (UCLA) 4:30-5:15pm

BMP/TGFbeta crosstalk in cartilage formation and maintenance

5:15-6:00pm Laura Calvi, MD (Univ of Rochester) 2002 Haddad YI

Osteoblastic/stromal cell cross talk with neutrophils and macrophages in bone homeostasis

6:00-6:15pm Break

6:15-6:45pm John Haddad Young Investigator - Marta Diaz del Castillo, PhD (Aarhus Univ/Mayo)

Microenvironmental alterations during multiple myeloma tumorigenesis

6:45-7:15pm Charles H. Turner Young Investigator - Katharina Kirschner (Univ of Indiana)

Macrophage Polarization and Bone Homeostasis during Chronic Kidney Disease (CKD)

7:15-7:30am Discussion and Overview

THURSDAY. APRIL 11

Stem cells-Updated studies on marrow vs. periosteal stem cells Session 6

Session Chair: Matt Greenblatt, MD (Weill-Cornell)

Co-Chair: Beth Rendina-Ruedy, PhD 2022 2019 Haddad YI

7:00-7:45am Thomas Ambrosi, PhD (UC Davis)

2022 Haddad YI Diversity and central regulation of skeletal stem cells

7:45-8:30am Brya Matthews, PhD (Univ of Auckland) 2014 Haddad YI

Heterogeneity of adult murine and human periosteum progenitors.

8:30-8:45am **Break**

8:45-9:15am	John Haddad Young Investigator - <u>Eri Takematsu, PhD</u> (Stanford) Deciphering Skeletal Stem Cell Interaction with Immune Cells at Bone Regenerative Interface to Advance BMP-2 Based Bone Regenerative	ation
9:15-9:45am	AIMM Investigator – <u>Emily Moore, PhD</u> (Harvard School of Dental Med) Understanding periosteal signaling to harness its osteogenic potential	
9:45am	BOARD MEETING	
12:00-1:30pm	Mid-day consultations between Young and Established Investigators	3
3:00-4:00pm	Meet the Professor	
	<u>Dan Perrien, PhD</u> (Emory) Building a pathway to elevate (and possibly recruit) diverse trainees	
	Kristy Nicks, PhD (NIH) NIH Initiatives Addressing Diversity in Science	
4:00–5:00pm	BUSINESS MEETING- ALL REGISTRANTS INVITED with Election of New Board Members	
Session 7 :	Late-Breaking Clinical and Basic Science Topics Session Chair: Xiangli Yang, PhD (UTHealth Houston) Co-Chair: Shirley Wang, PhD (UT Southwestern)	2022 Haddad YI
5:00-5:15pm	Andre van Wijnen - Integration of bone anabolic stimuli by a therapeutically druggable epigenetic master switch	
5:15-5:30pm	<u>Lauren Surface</u> - Genome-wide analyses reveal regulation of osteogenic phosphate sensing by TGFb signaling	2018 Haddad YI
5:30-5:45pm	Florent Elefteriou Nf1-null osteoprogenitors akin rotten apples in a barrel	2004 Haddad YI
5:45-6:00pm	Break	
6:00-6:15pm	Hans van Leeuwen Follistatin-compound hFSTΔHBS-FC improves bone and muscle mass during immobilization and ageing and adds to bone effect of bisphosphon	ates
6:15-6:30pm	<u>Clemens Bergwitz</u> - Exercise capacity of mice with skeletal muscle specificablation and transgenic expression of Pi transporter	ic
6:30-6:45pm	Yuji Mishina - Orchestration of growth factor signaling and endocrine disruptor signaling on craniofacial development	
6:45-7:00pm	Petra Simic - GPAT2 Regulates Mineral and Bone Disorder in Chronic Kid	dney Disease

8:00-10:00pm AWARDS DINNER for Registrants and Guests

Friday, April 12

Session 8	Exercise effects on the skeleton Session Chair: Clemens Bergwitz, MD (Yale University) Co-Chair: Diana Athonvarangkul (Yale University)	2023 Haddad YI
7:00 7:45am	Ken Kozloff, PhD (Univ of Michigan) Bone stress injuries, wearable technology, and the quantifiable you.	
7:45-8:30am	Katie Taylor (USARIEM) Bones and Basic Army Training	
8:30– 9:15am	Discussion and Overview	
12:00-1:30pm	Mid-day consultations between Young and Established Investigators	5
3:00-4:00pm	Meet the Professor - Targeted to YIs, but ALL Welcome	
	Kristy Nicks, PhD (NIH) Meet the PO: the NIH funding process and careers with the NIH	
Session 9	Late Breaking Basic/Translational Science Topics Session Chair: Michaela Reagan, PhD (Maine Health/Tufts) Co-Chair: Kelly Roszko, PhD (NIH)	2016 Haddad YI 2017 Haddad YI
4:30-4:45pm	Melissa Kacena Can Al be used to Write Credible Scientific Review Articles?	2003 Haddad YI
4:45-5:00pm	Renny Franceschi - The Collagen Receptor, Discoidin Domain Receptor BMP-induced Ossification and Fibrodysplasia Ossificans	2 (DDR2) Regulates
5:00-5:15pm	<u>Jill Fehrenbacher</u> - Placental tissue derived preparations enhance bone had pain behaviors in a surgically induced murine fracture model.	ealing and reduce
5:15-5:30pm	Break	
5:30-5:45pm	Ryan Tomlinson The HMGB1-TLR4-NGF signaling axis in load-induced bone formation	2018 Haddad YI
5:45-6:00pm	Kelly Roszko 18F-NaF PET/CT for Quantification and Characterization of Soft Tissue C in Hyperphosphatemic Familial Tumoral Calcinosis	2017 Haddad YI Calcification
6:15-6:30am	Discussion and Overview	

Thank you for your participation!

See you next year!! April 7-11, 2025