

## *Looking Back to the 2023 PCMD Annual Scientific Symposium - November 15, 2023*



The 19th Annual Penn Center for Musculoskeletal Disorders Scientific Symposium was a great success. The symposium was held in the Smilow Rubinstein Auditorium on November 15, 2023. The keynote speaker, Charles Washabaugh, Ph.D., Program Director at the National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institute of Health gave a well received lecture titled "Navigating the NIH: The Program Director Perspective." Symposium attendees enjoyed scientific presentations from new Center members Drs. Lorenzo, Liao and Stewart. While at the symposium, attendees had the opportunity to view more than 75 posters which were judged in four categories.

The following posters presenters received awards: Biomechanics Core Winners: Kailin Chen, Riti Sharma, Katy Strand, Reshma Sudhesh; Histology Core Winners: Mary Kate Evans, Elisabeth Lemmon, Lance Murphy; MicroCT Core Winners: Giulia Lanzolla, Karthikeyan Rajagopal; Miscellaneous Winners: Michael Duffy, Emily Sharp, Carly Smith Ricardo Whitaker and Karen Xu.

Stay tuned for information on the 20th PCMD Symposium to be held November 20th, 2024.

## *2024 PCMD Pilot Grant Program NOW OPEN*

**Now Accepting Applications For  
PCMD Pilot Grant Program  
Deadline Wednesday, February 14, 2024 at 5pm**

The PCMD is now accepting applications for the 2024 Penn Center for Musculoskeletal Disorders Pilot and Feasibility Grant Program. Submissions should be related to musculoskeletal tissue injury and repair which is the broad focus of the Center. Note grants are only eligible for Full Members at Penn and/or CHOP (if you are not a member but would like to become one, please visit: <https://www.med.upenn.edu/pcmd/become-a-member.html> for instructions on joining).

Potential applicants are encouraged to send a short e-mail, with your name, a rough title of your proposed project, a sentence or two (at most) describing the global hypothesis or objective, and a note as to which of the 3 Research Cores (Biomechanics, Histology, MicroCT) you would use (core use is required for pilot funding) to Lou Soslowsky ([soslowsk@upenn.edu](mailto:soslowsk@upenn.edu)).

To upload your submission please visit this link <https://www.med.upenn.edu/pcmd/pilot-grant-upload-form.html>

## *PCMD Core News*

**Biomechanics Core:** The PCMD Biomechanics Core is delighted to announce that we have received our new new Hysitron TI-980 Triboindenter for nanoindentation testing. We hope to begin providing these services in February, 2024. Details regarding availability and pricing are still in development. Updates will be posted on the PCMD Biomechanics Core

Please feel free to contact the Director of the Biomechanics Core, Mike Hast, directly if you have any questions at [hast@penndmedicine.upenn.edu](mailto:hast@penndmedicine.upenn.edu)

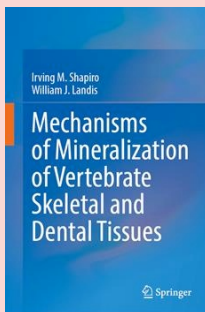
## Spotlight Publications/News From Our Members



### ***Congratulations to Nat Dymant, Ph.D. Recipient of the 2024 Kappa Delta Young Investigator Award!***

Nat Dymant, PhD has received notification that he is the recipient of the highly prestigious Kappa Delta Young Investigator Award administered by the American Academy of Orthopaedic Surgery for his work "*Novel insights into the mechanical and molecular regulation of tendon development and homeostasis for directing repair*". This is a strong recognition of his excellence, and that of his research team, as well as the environment we have here at Penn.

***Congratulations Nat!***



### ***Mechanisms of Mineralization of Vertebrate Skeletal and Dental Tissues***

(Springer; publication date February 2024)

Irving M. Shapiro

Department of Orthopaedic Surgery, Thomas Jefferson University

William J Landis

School of Dentistry, University of California San Francisco

The book presents a multi-disciplinary approach to understanding mechanisms regulating the formation of mineral in vertebrate skeletal and dental tissues. The focus of the book is directed toward the mineralization process, an evolutionarily conserved system in which cells synthesize a complex and unique extracellular matrix into which mineral is deposited. Regulatory control is viewed through lenses that emphasize the genetic, physical-chemical, biochemical, structural, cellular and extracellular aspects of the mineralization process as they relate to crystal nucleation, growth and maturation. Throughout the book, defects in regulation at the genetic and transcriptional levels are linked to the numerous clinical problems associated with the mineralization of bone, cartilage, tendon, tooth, and soft tissues. The book serves as a comprehensive text for basic scientists and scholars working in the many areas that comprise hard tissue research, as well as undergraduate and graduate students, postdoctoral fellows and those contemplating working in the field of biomineralization or who need a review of a specific mineralization topic. The information contained in the book is relevant for clinicians and clinical scientists in the fields of orthopaedic surgery, veterinary medicine, dentistry, endocrinology, aging and genetics.



### ***Congratulations to Lorraine Boakye, M.D. who received the following awards:***

*Ruth Jackson Orthopaedic Society (RJOS)* - recipient of the 2024 Courage Award

*Orthopaedic Research and Education Foundation (OREF)* - Michael P. Kelly Sr. Leadership Fellowship Award

*American Orthopaedic Foot and Ankle Society (AOFAS)* - Clinical Scholar Career Development Program

*McCabe Fund Awardee* - 2024

**Congratulations** to Ana Peredo, Dr. Harvey Smith, Dr. Robert Mauck, and Dr. Bijan Dehghani and their whole team for their work being the cover article for Science Translation medicine, November 2023 issue!

Check it out!

**Tension-activated nanofiber patches delivering an anti-inflammatory drug improve repair in a goat intervertebral disc herniation model.**



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### ***Congratulations to John Kelly, IV, M.D.***

On his appointment to the Board of Trustees of the Orthopaedic Research and Education Foundation (OREF).

Dr. Kelly was awarded a grant from the Major League Baseball organization looking at pathomechanics of Labral injury and also elected as Second VP to Arthroscopy Assoc. of North America (AANA)



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### ***High Impact Publications***

#### **Boerckel Lab**

**YAP and TAZ couple osteoblast precursor mobilization to angiogenesis and mechanoregulation in murine bone development.**

Joseph M. Collins, Annemarie Lang, Cristian Parisi, Yasaman Moharrer, Madhura P. Nijsure, Jong Hyun Kim, Saima Ahmed, Gregorty Szeto, Ling Qin, Richardo Gottardi, Nathaniel Dymant, Niamh C. Nowlan, Joel D. Boerckel.

- Dev Cell 2023 Dec 18:S1534-5807(23)00650-0.

#### **Pacifici and Qin Lab**

**Activin A marks a novel progenitor cell population during fracture healing and reveals a therapeutic strategy**

Lutian Yao, Jiawei Lu, Leilei Zhong, Yulong Wei, Tao Gui, Luqiang Wang, Jaimo Ahn, Joel D Boerckel, Danielle Rux, Christina Mundy, Ling Qin, Maurizio Pacifici

- eLife. 2023 Dec 11:12:e89822.
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## **PENN CENTER FOR MUSCULOSKELETAL DISORDERS FUNDS AVAILABLE:**

### **PCMD FUNDS AVAILABLE:**

#### *Summary Statement Driven Funding Request*

If you have a recent summary statement from an NIH grant (eligible NIH mechanisms include all “R” grants such as R03, R21 and R01 and “K” grants such as K01, K08 on their first submission—please inquire regarding eligibility of other proposal mechanisms) which requires you to run additional experiments, gather additional data, provide feasibility for an approach, or similar, we can provide small funds (\$1,000-\$15,000) with a very short turn-around time in order to allow you to complete these experiments and resubmit your proposal with the best chance of success. Requests for funding will be evaluated on a rolling basis and priority will be given to Assistant Professors with encouraging initial review priority scores better than ~30-35%. The format of the “Summary Statement Driven Funding Request”, which is limited to **one page**, is as follows:

“ Name of PI (must be a PCMD full member)

“ Title of Project Request

“ Specific Purpose of Request with Stated Outcome/Goal Referring Explicitly to the Summary

Statement for Justification

• Research Design and Methods

• Budget with Brief Justification

Funding through this mechanism is available by submitting the one page proposal to

[pcmd@pennmedicine.upenn.edu](mailto:pcmd@pennmedicine.upenn.edu)

## Affiliate Member Core Funding - Now Available

### ***PCMD Funds Available for Affiliate members:***

Affiliate members are now eligible for financial and intellectual support for PCMD core use. Center facilities and intellectual guidance are available to learners at all levels (e.g., faculty, trainees, staff) at other institutions. To a large extent, this effort is to provide increased opportunities to engage investigators at affiliate institutions (defined broadly) that do not have extensive resources supporting musculoskeletal research.

All potential requests for support should start with an email to either a Core Director/s or to Lou Soslowsky at [soslowsk@upenn.edu](mailto:soslowsk@upenn.edu) to discuss your needs. For more information on this please visit the Affiliate Member Core Funding page at

<https://www.med.upenn.edu/pcmd/affiliate-member-core-funding.html>

## Upcoming Seminars 2023-2024

January

23

**Tuesday, 130pm-2:30pm/CRB Austrian Auditorium - Joint with IRM**

*Title: "Myostatin: A Molecular Rheostat for Muscle Mass"*

**Se-jin Lee, M.D., Ph.D.**

Presidential Distinguished Professor, Genetics and Genome Sciences

Joint Appointment, The Jackson Laboratory for Genomic Medicine

MD/PhD Executive Committee Chair

University of Connecticut

February

20

**Tuesday, 130pm-230pm/CRB Austrian Auditorium**

*Title: "Perspectives on Tendon Development"*

**Ronen Schweitzer, Ph.D.**

Interim Director of Research, Shriners Hospital for Children - Portland

Professor in Orthopaedics and Cell, Developmental and Cancer Biology

Oregon Health & Science University

March

19

**Tuesday, 130pm-230pm/CRB Austrian Auditorium - Joint with IRM**

*Title: "Bone Building Molecular Targets: Lessons from Mechanical Signaling in Skeletal Tissues"*

**Alexander Robling, Ph.D.**

Chair, Anatomy, Cell Biology & Physiology

Indiana University, School of Medicine

April

15

**Monday, 3pm-4pm/CRB Austrian Auditorium - Joint with Pennsylvania Muscle Institute**

**Joint with Pennsylvania Muscle Institute**

*Title: "Mechanisms of Hippo Pathway Dysregulation in Sarcomas"*

**Munir Tanas, M.D.**

Associate Professor of Pathology

Carver College of Medicine

University of Iowa Health Care

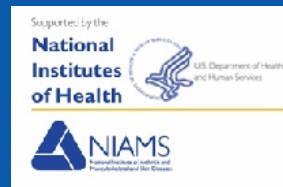
May

**Tuesday, 130pm-230pm/CRB Austrian Auditorium - Joint with IRM**

*Title: "Interrogating Osteoclast Biology by Live Cell Imaging Reveals Novel Insight into their Cellular and Resorption Dynamics"*

[View All Activities...](#)[Orthopaedic  
Research Club  
\(ORC\) Seminars](#)[Membership  
Page](#)

**IMPORTANT INFORMATION**  
**Remember to include reference to support from the Center** in your abstracts and publications. Cite Grant NIH/NIAMS P30AR069619 from the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the NIH.  
 Support has also been provided by the Perelman School of Medicine at the University of Pennsylvania.



Penn Center for Musculoskeletal Disorders  
 University of Pennsylvania  
 3<sup>rd</sup> Fl Stemmler Hall, 3450 Hamilton Walk  
 Philadelphia, PA 19104-6081  
 Phone: 215-898-8654  
[www.med.upenn.edu/pcmd](http://www.med.upenn.edu/pcmd)

If you have any news or information that you would like included in the next issue of the Musculoskeletal Messenger newsletter, please email the information to: [pcmd@pennmedicine.upenn.edu](mailto:pcmd@pennmedicine.upenn.edu)

University of Pennsylvania | 3450 Hamilton Walk, 371 Stemmler Hall, Philadelphia, PA 19104

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