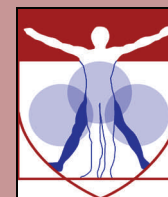


Musculoskeletal Messenger



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University of Pennsylvania Penn Center for Musculoskeletal Disorders

Penn Researchers Awarded \$3.2 Million to Continue Musculoskeletal Disorders Center

Researchers from the University of Pennsylvania have been awarded another five-year (2011-2016), \$3.2 million grant from the National Institutes of Health (NIH) to continue the programs of the Penn Center for Musculoskeletal Disorders. Penn is one of five institutions nationally with this Center award and the only one of the three up for renewal in the cycle to be re-funded. Through the review by the NIH, Penn scored a perfect "ten" and was hailed as "exceptional" by the review panel! We are very proud of this and thank all of our mem-

bers for all their efforts in contributing to our continued success and recognition.

The Center aims to continue to enhance and advance the research productivity of investigators in the broad topic of musculoskeletal tissue injury and repair. The Center provides a pilot and feasibility internal grant program, an annual symposium, seminars, and other educational programs for researchers. Additionally, the Center supports four research Cores to enhance musculoskeletal research. These are the:

1. **Molecular Profiling Core**
2. **Biomechanics Core**
3. **Histology Core**
4. **Imaging Core**

For more information, please visit our website at www.med.upenn.edu/pcmd/

You can also view the official press release for our NIH grant renewal at the following website: www.ups.upenn.edu/news/News_Releases/2011/09/musculoskeletal/

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If you have any news or information that you would like included in the next issue of this newsletter, please email us at:

centermd@mail.med.upenn.edu

A Look Back at the PCMD Annual Scientific Symposium – October 26, 2011

We are thrilled to announce that we had 187 registrants for the 8th Annual Penn Center for Musculoskeletal Disorders Scientific Symposium in the BRB Auditorium/Lobby on October 26, 2011!

The keynote speaker, Steven R. Goldring, M.D, Hospital for Special Surgery, Weill Cornell Medical School gave a well-received lecture titled "Mechanisms of Pathological Bone Remodeling: Pathology Teaches Physiology".

Symposium attendees enjoyed seven scientific presentations from new Center members Drs. Maurizio Pacifici, Michael Ostap, Dean Richardson, and

PCMD Pilot Grant recipients Drs. Sunday Akintoye, Robert Pignolo, Susan Volk, and Shannon Fisher. We also heard from our 4 Core Directors regarding our available facilities. While at the symposium, attendees had the opportunity to view 45 posters which were judged in five categories. The following poster winners received prizes:

Yun-Ruei Christine Kao (1st place), Chandra Abhishek (2nd place), and Fengchang Zhu (3rd place) for their winning posters in the Molecular Profiling Category; Mara Schenker (1st place), Ben Freedman (2nd place), and Mandy Wallace (3rd

place) for their winning posters in the Imaging Category; Su Heo (1st place), Brian Cosgrove (2nd place), and Kris Miller (3rd place) for their winning posters in the Biomechanics Category; Shuji Asai (1st place), Xianrong Zhang (2nd place), and Mara Schenker (3rd place) for their winning posters in the Histology Category; and Valerie Siclari (1st place), Jan-Jan Liu (2nd place), and Yoichi Ohta (3rd place) for their winning posters in the Miscellaneous Category. Pictures from the Symposium are available at www.med.upenn.edu/pcmd/2011SymposiumPictures.shtml.

Remember to include reference to support from the Center in your abstracts and publications. Cite Grant NIH/NIAMS P30AR050950 from the National Institute of Arthritis and Musculoskeletal And Skin Diseases of the NIH.

Histology and Biomechanics Core Information

PCMD Histology Core

Director: Robert Pignolo, MD, PhD

The Histology Core (HC) provides guidance and training on the capabilities, advantages, and disadvantages of various methodologies to assess musculoskeletal tissue structure and composition through formal educational enrichment programs and one-on-one interactions. It provides expertise and service for histological and histomorphometric assays of musculoskeletal tissues. The HC also develops new histologically-based techniques applicable to musculoskeletal research as well as provides funding for development of new projects, including pilot and feasibility projects. Small feasibility/pilot grants (\$500-\$2,500) are available on a rolling basis.

Services include paraffin and plastic histology, frozen section histology, immunohistochemistry, do-in-yourself histology and, as a self-service, bone histomorphometry. One-time, fixed-amount introductory core awards (\$300) are available to all new HC users. Quality Control (QC) of the HC is maintained via the oversight of the Core Director, review of the Quality Assurance & Oversight Committee, and by regular evaluation and calibration of equipment. Quality control guidelines by the Armed Forces Institute of Pathology (AFIP) are used as translated by the National Society for Histotechnology line item checklist for QC. The HC director, Robert J. Pignolo,

MD, PhD, is available for consultation by appointment.

Dr. Pignolo's core presentation at the PCMD Symposium can be found at www.med.upenn.edu/pcmd/Histology-Core_2011Presentation.shtml

PCMD Biomechanics Core

Director: Robert L. Mauck, PhD

Technical Staff: David Beason, MS

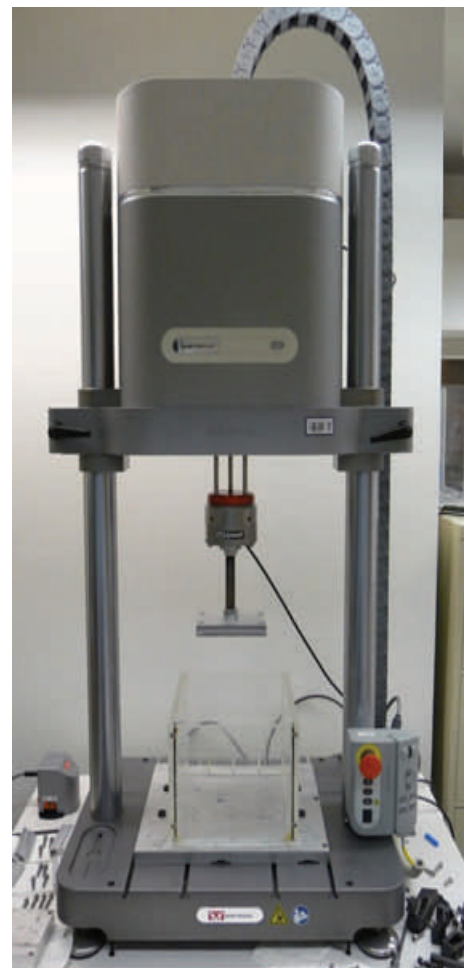
The goal of the Biomechanics Core of the PCMD is to provide state of the art mechanical testing capabilities to the Penn musculoskeletal research community. Located on the 4th floor of Stemmler Hall, the Biomechanics Core is replete with testing devices and expertise for analysis across a number of modalities and length scales. These include devices and fixtures for testing in tension, compression, and indentation of soft and hard musculoskeletal tissues, with capacity to test specimen sizes representative of those from mouse to man.

Additionally, we continue to grow the capabilities of the Biomechanics Core with acquisition of new equipment (see recent acquisition of new high frequency Instron Electropuls testing device, shown at right) and development of new testing tools and devices based on user needs. Any PCMD member may be trained to use equipment individually (with fees charged on an hourly basis) or contract for testing, design, and machining services to be performed

by the Core Director and Technical Staff. PCMD members interested in incorporating mechanical evaluation in their work should visit our website (www.med.upenn.edu/pcmd/biomechanics.shtml) and/or contact Rob Mauck (lemauck@upenn.edu) to schedule an initial consultation.

Dr. Mauck's core presentation at the PCMD Symposium can be found at

www.med.upenn.edu/pcmd/BiomechanicsCore_Symposium2011.shtml



PCMD FUNDS AVAILABLE: Summary Statement Driven Funding Request

Penn Center for Musculoskeletal Disorders introduces a new funding mechanism! 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 "P" grants such as P20, P50, P60 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 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

In addition to the one page proposal, the PDF of the complete summary statement must be provided. Funding through this mechanism is available by submitting the one page proposal and summary statement to centermd@mail.med.upenn.edu.

If you have any questions or comments, please contact us at the e-mail provided above.

Study Design and Biostatistics Support (available through ITMAT) and Special Seminar

The Institute for Translational Medicine and Therapeutics (ITMAT) is offering a new program here at Penn. This is a Study Design and Biostatistics Core that is available to ITMAT members and is described at: www.itmat.upenn.edu/ctrc/sdab/. This site has a link to study design, data management, and statistical guidance support that is available and an e-mail address (sdab@mail.med.upenn.edu) for contact. Many of you are already members of ITMAT, but if you are not, you can join

from the link at:

www.itmat.upenn.edu/membership.shtml and I would encourage you to do so to be able to take advantage of this excellent resource.

To further aid our community in statistical design and support, Dr. Kathleen J. Propert, ScD, Professor of Biostatistics at Penn has been invited by our PCMD to deliver a seminar entitled "Statistically Significant Collaborations: How Biostatistics Can Contribute to Multidisciplinary Research".

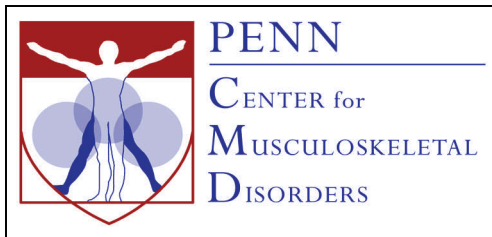
This special seminar will be held on Monday, January 9, 2012 at 12:00pm in BRB 252 and pizza will be served!

Dr. Propert's research expertise is in the design and conduct of interventional studies, particularly for pre-clinical animal models and early stage clinical trials. Her current applied focus is on translational research in various disease areas.

2012 Orthopaedic Surgery New PhD Faculty Recruited

Please welcome X. Sherry Liu, Ph.D. who will join Penn as Assistant Professor of Orthopaedic Surgery in January 2012. Dr. Liu obtained her Ph.D. from Columbia University and is currently completing her postdoctoral fellowship at Columbia's medical school. Her research interests are imaging and image analyses of biological tissues, bone biomechanics, and osteoporosis. If you are interested in learning more about Dr. Liu please visit her website at the McKay Lab at <http://www.med.upenn.edu/orl/people/liu/liu.shtml>.





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Supported by the



Remember to include reference to support from the Center in your abstracts and publications. Cite Grant NIH/NIAMS P30AR050950 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.

Upcoming Events

**Tuesday, December 13, 2011,
1:00-2:00pm/BRB 251**

Stem Cell Mobilization and Wnt Signaling – Two Approaches to Enhancing Bone Regeneration
D. Rick Sumner, Ph.D.
Professor for Medical Research and Chair, Anatomy and Cell Biology
Rush Medical College

**Monday, January 9, 2012,
12:00-1:00pm/BRB 252**

Statistically Significant Collaborations: How Biostatistics Can Contribute to Multidisciplinary Research
Kathleen Propert, Ph.D.
Professor of Biostatistics, Department of Biostatistics and Epidemiology
University of Pennsylvania Perelman School of Medicine

**Tuesday, January 24, 2012,
1:00-2:00pm/BRB 251**

Chondrocyte Beta-catenin Signaling Regulates Osteoclastogenesis
Di Chen, M.D., Ph.D.
Professor of Biochemistry, John W. and Helen Watzek Endowed Chair
Rush University Medical Center

**Tuesday, February 28, 2012,
1:00-2:00pm/BRB 251**

The Carpus: the Beauty and the Beast of the Upper Extremity
J.J. Trey Crisco, Ph.D.
Henry Frederick Lippitt Professor of Orthopaedic Research, Director Bioengineering Laboratory, Brown University and Rhode Island Hospital

**Tuesday, March 27, 2012,
1:00-2:00pm/BRB 251**

Magnetic Resonance Imaging of Short T2 Tissues
Graeme Bydder, MB, ChB
Professor of Radiology
University of California, San Diego

Tuesday, April 24, 2012, 1:00-2:00pm/BRB 251

The Role of the Osteocyte in Muscle-Bone Crosstalk
Lynda F. Bonewald, Ph.D.
Interim Vice Chancellor for Research and Curators Professor
University of Missouri at Kansas City

Tuesday, May 29, 2012, 1:00-2:00pm/TBA

Extracellular Microfibrils: Structural and Instructive Regulators of Bone and Cardiovascular Function
Francesco Ramirez, D.Sc.
Professor of Pharmacology and Systems Therapeutics, Professor of Medicine-Cardiology
Mount Sinai Medical Center