Current Trainees

Kwang Kim, BS
University of Pittsburgh

The Development of Magnesium-Based Interference Screws for Anterior Cruciate Ligament Reconstruction

Katrina Knight, BS
University of Pittsburgh

"Restoration of Vaginal Tone via Muscle-Derived Stem Cells: A Potential Therapy for Pelvic Organ Prolapse"

Callie Miller, BS
University of Pittsburgh

Modeling Rotational Alignment of Actin Filaments by Myosin II Motors

Britta Rauck, BS
University of Pittsburgh

"Effects of Hydrogel Properties on Glial Survival and Phenotype"

John Szymanski, BS
Carnegie Mellon University

Using Fibronectin Nanofabrics to Determine the Role of Matrix Protein Unfolding in Cell Signaling Pathways

Stephanie Wong
Carnegie Mellon University

Guidance of Cell Migration for Tissue Regeneration

University of Pittsburgh Carnegie Mellon

Department of Bioengineering, BiRM Training Program
Dr. Savio L-Y. Woo, P.I.
405 Center for Bioengineering
300 Technology Drive
Pittsburgh, PA 15219

Program funding by: NIBIB

UNIVERSITY OF PITTSBURGH
SWANSON school of engineering
bioengineering

UNIVERSITY OF PITTSBURGH
SWANSON school of engineering
bioengineering

McGowan Institute for Regenerative Medicine

NIBIB

BiRM

Biomechanics in Regenerative Medicine Training Program

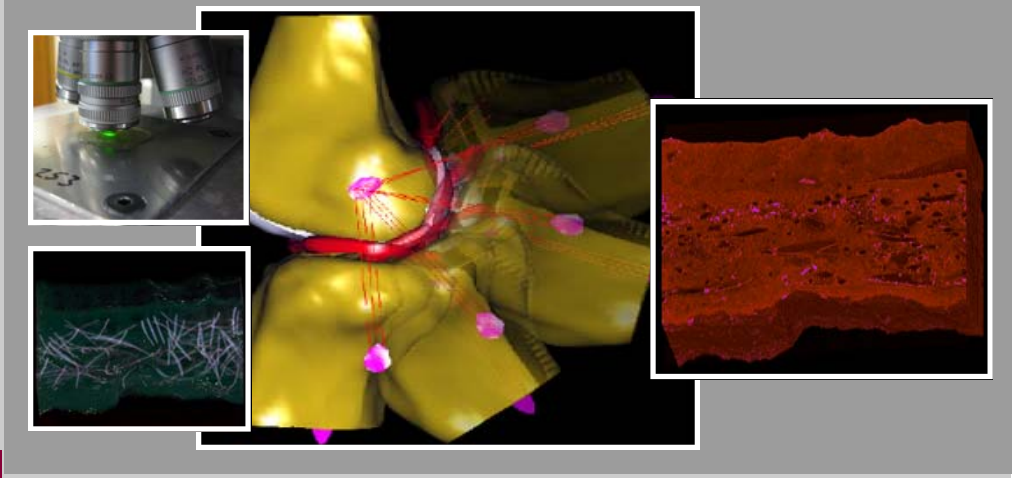
University of Pittsburgh

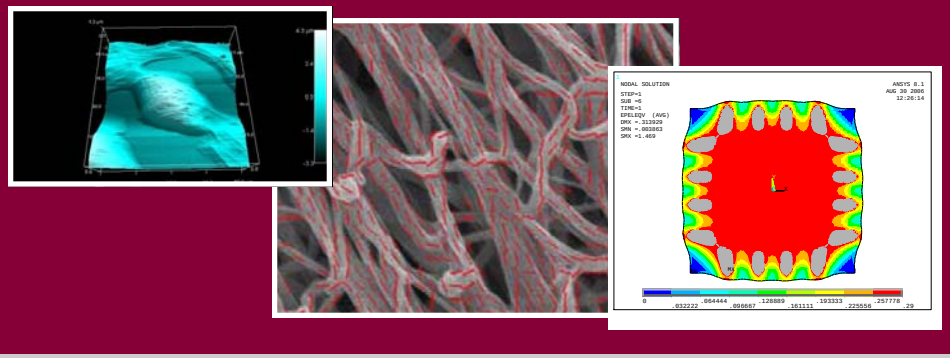
Carnegie-Mellon University

Through the National Institute of Biomedical Imaging and Bioengineering (NIBIB), funding for PhD training in a cross-disciplinary Biomechanics in Regenerative Medicine program is now available through the University of Pittsburgh's Department of Bioengineering and Carnegie Mellon University's Department of Biomedical Engineering.

“The next generation of biomechanical engineers need exposure to biomechanics as a universal approach to solving problems across *hierarchical scales* and *physiological systems*.”

The goal of the Biomechanics in Regenerative Medicine (BiRM) training program is to provide a solid foundation upon which to build a productive and independent career in biomechanics and regenerative medicine. This is accomplished through integrating contemporary cell and molecular biology within the context of a rigorous biomechanics curriculum as an approach to increasingly interdisciplinary research problems.





Program Leadership

Savio L-Y. Woo, PhD, DSc, DEng
Principal Investigator
Distinguished University Professor and Director,
Musculoskeletal Research Center
Department of Bioengineering
University of Pittsburgh

James Antaki, PhD
Co-Principal Investigator
Professor
Biomedical Engineering
Computer Science
Carnegie-Mellon University

Supporting Faculty

Steve Abramowitch, PhD
Assistant Professor, Bioengineering
University of Pittsburgh

Alejandro Almarza, PhD
Assistant Professor, Oral Biology
University of Pittsburgh

Stephen Badylak, DVM, PhD, MD
Professor, Surgery
University of Pittsburgh

Harvey Borovetz, PhD
Professor and Chair, Bioengineering
University of Pittsburgh

John Brigham, PhD
Assistant Professor
Civil Engineering
University of Pittsburgh

Rakie Cham, PhD
Associate Professor, Bioengineering
University of Pittsburgh

Kris Dahl, PhD
Associate Professor
Chemical Engineering
Carnegie Mellon University

Lance Davidson, PhD
Assistant Professor, Bioengineering
University of Pittsburgh

Adam Feinberg, PhD
Assistant Professor
Biomedical Engineering
Carnegie Mellon University

Jeffrey Hollinger, DDS, PhD
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Carnegie-Mellon University

Kang Kim, PhD
Assistant Professor, Medicine
University of Pittsburgh

Philip LeDuc, PhD
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Mechanical Engineering
Carnegie-Mellon University

Kerem Pekkan, PhD
Assistant Professor
Biomedical Engineering
Carnegie-Mellon University

Anne Robertson, PhD
Associate Professor
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University of Pittsburgh

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University of Pittsburgh

Kenji Shimada, PhD
Theodore Ahrens Professor
Mechanical Engineering
Carnegie Mellon University

Sanjeev Shroff, PhD
Gerald McGinnis Chair and
Professor, Bioengineering
University of Pittsburgh

George Stetten, MD, PhD
Whiteford Professor, Bioengineering
University of Pittsburgh

David Vorp, PhD
Professor, Bioengineering
University of Pittsburgh

William Wagner, PhD
Professor, Surgery
University of Pittsburgh

Jessica Zhang, PhD
Assistant Professor
Mechanical Engineering
Carnegie-Mellon University

Program Objectives

- To allow students immediate exposure to the research environment
- To provide students with diverse interdisciplinary coursework
- To encourage research collaboration by removing “roadblocks” of traditional programs
- To focus on biomechanics of tissue engineering and regenerative medicine as an important aspect in the research process through involvement with the McGowan Institute for Regenerative Medicine

Training Details

Trainees will have the opportunity to select a research area from a broad pool of faculty. Additionally, cross-institutional courses and research seminars are offered. Two summer rotations within various cell/molecular biology labs serve to reinforce the biological component of the program. The breadth of research areas that span various physiological systems allows for a unique opportunity for trainees to become highly skilled problem solvers while avoiding over specialization.

Financial Support

Financial support is provided for two years for qualified applicants and includes full tuition, monthly stipend, and health insurance. Third year funding may be available for students wishing to pursue additional courses.

To Apply

Highly motivated second year Ph.D. level graduate students with a minimum GPA of 3.25 are encouraged to apply. Candidate evaluation will be based upon:

- Research background and interest
- Reference letters
- GPA
- Personal statement

Interested students should contact Mrs. Diann DeCenzo (ddecenzo@pitt.edu) for an application.