

**Perelman School of Medicine  
Nano/Bio Interface Center  
Pennsylvania Muscle Institute**

# **Building Cellular Complexity One Molecule at a Time**

Research Retreat and Symposium  
March 30, 2012, BRB Lobby and Auditorium

**\*Online Registration Deadline March 23!\***

[www.med.upenn.edu/pmi/nbic\\_registration\\_2012.shtml](http://www.med.upenn.edu/pmi/nbic_registration_2012.shtml)

*Emergence of Cell Shape during Locomotion*

**Julie Theriot, Ph.D.**, Stanford School of Medicine

*Engineering Molecular Motor and Cargo Activity at Penn*

**Yale E. Goldman, M.D., Ph.D.**, University of Pennsylvania

*Cytoskeletal Pattern Formation: Self Organization of Driven Filaments*

**Andreas Bausch, Ph.D.**, Technische Universität Muenchen

*Mechanics of Cell Motility Initiation and Turning*

**Alex Mogliner, Ph.D.**, University of California, Davis

*Blood Clot Structure and Mechanics from Nanometers to Centimeters*

**John Weisel, Ph.D.**, Perelman School of Medicine, University of Pennsylvania

*Brownian Motion and Structural Change in Biofilaments and Their Networks*

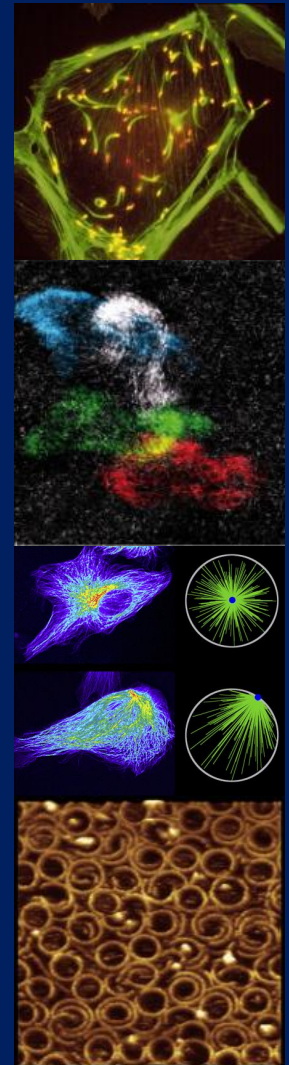
**Prashant Purohit, Ph.D.**, University of Pennsylvania

*Force-Transducing Couplers for the Microtubule Depolymerization Motor*

**Ekaterina L. Grishchuk, Ph.D.**, University of Pennsylvania

*From Motors to Morphology*

**Jonathon Howard, Ph.D.**, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden



**All are invited to present posters. Ca\$h prize for top student/post-doc poster.  
Student & post-doc speakers will be selected from submitted poster abstracts.**

Organized by Haim H. Bau, Russell J. Composto, Yale E. Goldman, Erika L. F. Holzbaur, Phil Nelson,  
Prashant Purohit, and John W. Weisel

For additional information contact Jody Dantzig-Brody, Ph.D. at [dantzig@mail.med.upenn.edu](mailto:dantzig@mail.med.upenn.edu)

# Building Cellular Complexity One Molecule at a Time

- 8:30 – 9:00 Refreshments and Poster Setup
- 9:00 – 9:05 Welcome – Yale E. Goldman M.D., Ph.D.
- 9:05 – 9:40 *Emergence of Cell Shape during Locomotion*  
**Julie Theriot, Ph.D.**  
Department of Biochemistry, Stanford School of Medicine
- 9:40 – 10:05 *Engineering Molecular Motor and Cargo Activity at Penn*  
**Yale E. Goldman, M.D., Ph.D.**  
Department of Physiology, Pennsylvania Muscle Institute, Nano-Bio Interface Center  
Perelman School of Medicine, University of Pennsylvania
- 10:05 – 10:20 Student or Post-Doc Talk Chosen from Submitted Abstracts
- 10:20 – 10:50 Coffee Break and Posters
- 10:50 – 11:25 *Cytoskeletal Pattern Formation: Self Organization of Driven Filaments*  
**Andreas Bausch, Ph.D.**  
Department of Cellular Biophysics, Technische Universität Muenchen
- 11:20 – 12:00 *Mechanics of Cell Motility Initiation and Turning*  
**Alex Mogliner, Ph.D.**  
Department of Mathematics and Department of Neurobiology, Physiology and Behavior  
University of California, Davis
- 12:00 – 2:00 Lunch, Vendor Show, and Poster Session
- 2:00 – 2:25 *Blood Clot Structure and Mechanics from Nanometers to Centimeters*  
**John Weisel, Ph.D.**  
Department of Cell and Developmental Biology, Perelman School of Medicine,  
University of Pennsylvania
- 2:25 – 2:50 *Brownian Motion and Structural Change in Biofilaments and Their Networks*  
**Prashant Purohit, Ph.D.**  
Department of Mechanical Engineering and Applied Mechanics, University of Pennsylvania
- 2:50 – 3:05 Student or Post-Doc Talk Chosen from Submitted Abstracts
- 3:05 – 3:30 Coffee Break and Posters
- 3:30 – 3:55 *Force-Transducing Couplers for the Microtubule Depolymerization Motor*  
**Ekaterina L. Grishchuk, Ph.D.**  
Department of Physiology, Perelman School of Medicine, University of Pennsylvania
- 3:55 – 4:30 *From Motors to Morphology*  
**Jonathon Howard, Ph.D.**  
Max Planck Institute of Molecular Cell Biology and Genetics
- 4:30 – 4:45 Poster Award Presentation
- 4:45 – 5:45 Wine and Cheese Reception