Dennis Discher, University of Pennsylvania, Subgroup Chair

Mechanobiology Subgroup 2015 Symposium
Saturday, February 7, 2015
Baltimore, Maryland

10:00 AM Introduction by Dennis Discher, Subgroup Chair

Junior Investigator talks selected from submitted abstracts

10:05 AM Rishita Changede, Mechanobiology Institute, Singapore
Nanoscale Architecture of Integrin Clusters

10:20 AM Masatoshi Morimatsu, Stanford University
Visualizing the architecture of cellular adhesion complexes using fluorescent molecular force sensors

10:35 AM Jerome Irianto, University of Pennsylvania
Constricted cell migration damages DNA and drives lamin segregation

"Lightning talks" on Mechanobiology

10:50 AM Joshua Francois, University of California, San Diego
Mechanics of Neutrophil Migration in Three-Dimensional Matrices

10:56 AM Chii J. Chan, Cambridge University, United Kingdom
Unique Mechanical Properties of Cell Nuclei Regulated By Chromatin.

11:02 AM Zhangli Peng, University of Notre Dame
Modeling Transmigration of Malaria Infected Red Blood Cells Through Inter-Endothelial Slits in Human Spleens Using Dissipative Particle Dynamics.

11:08 AM Jaime Agudo, Max Planck Institute, Germany
Stability Regimes and Engulfment Patterns of Nanoparticles at Membranes.

11:14 AM Katelyn M. Spillane, National Institute for Medical Research, United Kingdom
Characterizing Mechanical Forces during B Cell Responses.

11:20 AM Flori H. Yellin, Johns Hopkins University
Electromechanical Model for Non-Excitable Cells.

11:26 AM Yulia Artemenko, Johns Hopkins University
Acute Mechanical Stimulation Activates the Chemotactic Signaling Network.

11:32 AM Nazha Hamdani, Ruhr University Bochum, Germany
Oxidative Stress Regulates Titin Elasticity By Affecting Ig-Domain Stability.

11:38 AM Kinjal Dasbiswas, Weizmann Institute of Science, Israel
Substrate Stiffness-Modulated Registry Phase Correlations In Cardiomyocytes Maps Structural Order To Coherent Beating.

11:44 AM Charles D. Cox, Victor Chang Cardiac Research Institute, Australia
Probing the Mechanosensitivity of PIEZO1 Channels.

11:50 AM Julian Hassinger, University of California, Berkeley
Role of Surface Tension in the Formation of Membrane Tubes.

12:00 PM Lunch Break

1:05 PM Ewa Paluch, University College London, United Kingdom
Actin Cortex Mechanics and Cell Shape Control in Migration and Division

1:40 PM Ulrich Schwarz, Heidelberg University, Germany
Stiffness Sensing Through Myosin II Minifilaments

2:15 PM Kenneth Yamada, NIH
Cell Migration

2:50 PM Break

3:10 PM Benoit Ladoux, Paris Diderot University, France
Adaptative Response of Cell Cytoskeleton Rheology and Ordering Governs Matrix Rigidity Sensing

3:45 PM Douglas Robinson, Johns Hopkins University
Molecular Mechanisms of Contractility-Based Cellular Mechanosensing

4:20 PM Roop Mallik, Tata Institute of Fundamental Research, India
Dynein Teams Assemble on Lipid Rafts to Generate Large Forces on Phagosomes

4:55 PM Yong Hwee Foo, National University Singapore
Investigation of the EnvZ/OmpR Bacterial Signaling System Using Single Particle Tracking and Single Molecule Force Spectroscopy

5:15 PM Subgroup Business Meeting

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