

Mechanical Forces in Cell Biology
Mechanics & Information at the scale of cells & tissues
October 4-6, 2016

Venue: National Centre for Biological Sciences (Dasher)

October 4, 2016, Tuesday

14:00 - 16:50 **Registration**
16:00 - 16:50 **Welcome mixer**

Session 1

16:50 - 17:00 **Welcome Address**
 Raghu Padinjat

Chair:- Raghu Padinjat
National Centre for Biological Sciences, Bangalore

17:00 - 18:00 **Michael Sheetz**
 Rigidity Sensing Contractions Inhibit Transformed Growth

18:00 - 18:30 **Discussion**

18:30 onwards **Conference Dinner**

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October 5, 2016, Wednesday

Session 2

Chair:- Mukund Thattai

National Centre for Biological Sciences, Bangalore

09:00 – 09:45	Frank Julicher Dynamics and mechanics of developing epithelia
09:45 – 10:15	Vijay KumarK. A mechanism of biological pattern formation through mechanochemical feedback
10:15 – 11:00	Joachim Spatz Mechanotransduction in Collective Cell Migration
11:00 – 11:15	Discussion
11:15 – 11:30	Tea/Coffee Break

Session 3

Chair:- Srikanth Sastry,

Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore

11:30 – 12:00	Alexander Bershadsky Self-organization of actomyosin cytoskeleton and cell morphogenesis
12:30 – 12:30	Sriram Ramaswamy Confined active fluids within and without the cell
12:30 – 13:00	Gautam Menon Nuclear Architecture and Active Matter
13:00 – 13:15	Discussion
13:15 – 14:15	Lunch
14:15 – 16:00	Poster Session

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Session 4

Chair:-Namrata Gundiah

Indian Institute of Science, Bangalore

16:00 – 16:45	Daniel Kiehart Forces and Their Regulation in Cell Sheet Morphogenesis: Dorsal Closure in Drosophila as a Model System
16:45 – 17:15	Maithreyi Narasimha Exploring the origins of heterogeneity and collectivity in cell behavior during epithelial fusion
17:15 – 17:30	Mandar Inamdar Modeling spatiotemporal velocity and deformation patterns in epithelia during collective cell migration
17:30 – 17:45	Discussion
17:45 : 18:00	Tea/Coffee Break
18:00 – 18:15	Mukesh Kumar Phosphatidic acid and Arf1 regulated kinesin-1 recruitment on hepatocyte lipid droplets to control VLDL secretion
18:15 – 18:30	Vaishnavi Ananthanarayanan Myo1 mediates the anchoring of cortical dynein in fission yeast via phospholipid PI(4,5)P ₂
18:30 – 19:00	Pramod Pullarkat Active and passive mechanics of axonal actin cytoskeleton
19:00 onwards	Dinner

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October 6, 2016, Thursday

Session 5

Chair:- Shashi Thutupalli

National Center for Biological Sciences, Bangalore

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| 09:00 – 09:45 | Masatoshi Takeichi
Cortical contractility regulates polarized epithelial architecture |
| 09:45 – 10:15 | Srikala Raghavan
Role of Mechanical Signaling in Maintaining Stem Cell Quiescence in Mouse Skin |
| 10:15 – 10:45 | Colin Jamora
Mechanical and epigenetic regulation of wound-healing |
| 10:45 – 11:15 | Maria Garcia-Parajo
The role of nanoclustering and diffusion on integrin activation in the immune system |
| 11:15 – 11:30 | Coffee Break |

Session 6

Chair:- Sandeep Krishna

National Center for Biological Sciences, Bangalore

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| 11:30 – 12:00 | Linda Kenney
Super-resolution imaging of Salmonella SPI-2 regulation: a view from 20 nm to 30,000 feet |
| 12:00 – 12:30 | GV Shivashankar
Nuclear Mechanics of Genome Reprogramming |
| 12:30 – 01:00 | Satyajit Mayor
Rafts come alive: actively driven organization of membrane components in living cells triggered by Integrin signalling.
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Discussions |

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13:00 – 14:00	Lunch
14:00 – 16:00	Poster Session

Session 7

Chair:- M K Mathew
National Center for Biological Sciences, Bangalore

16:00 – 16:30	Raj Ladher A FGFR1-protocadherin-15 signalling axis is required for inner ear mechanosensory hair cell morphology
16:30 – 17:00	Sabyasachi Rakshit Resolving the structure and force-sensing behavior of cadherin-23
17:00 – 17:15	Richard Morris Signature of mechanosensitive gating
17:15 – 17:30	Manish Singh Kushwah Eps15 homology domain protein 1 (EHD1) catalyses membrane fission by a novel mechanism
17:30 – 17:45	Madan Rao Discussions&Concluding Remarks
18:00 – 18:30	High Tea