MBI
MECHANOBIOLOGY INSTITUTE
National University of Singapore

- MINI SYMPOSIUM -
Actin Cytoskeleton-Based Mechanisms of Establishing Left-Right Asymmetry in Biological Systems

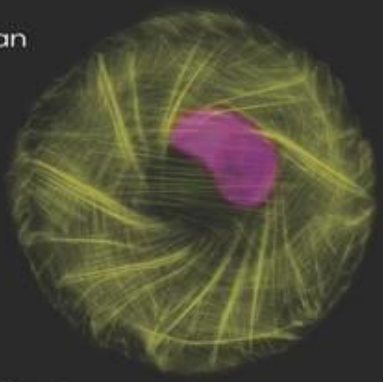
30 October 2019

Mechanobiology Institute
National University of Singapore

10:00 - 16:40 pm

5A Engineering Drive 1, T-Lab
Level 5 Meeting Room

Today we are witnessing an important moment in the studies of emerging left-right asymmetry in organisms. Exciting new findings show that in many biological systems the actin cytoskeleton is responsible for establishing left-right asymmetry. At this mini symposium, novel mechanisms driving development of chirality in *Drosophila*, snails, *C. elegans*, and cultured human cells, based on the function of actin associated proteins (unconventional myosins and formins) will be presented and discussed, along with the "nodal flow" mechanism based on function of cilia. We hope the meeting will help to elucidate common principles underlying chiral development in living systems.



Speakers

Reiko Kuroda
(Chubu University; The University of Tokyo, Japan)

Stephane Noselli
(Institut de Biologie Valrose, France)

Teije Middelkoop
(BIOTEC TU Dresden, Germany)

Stephan Grill
(MPI-CBG; BIOTEC TU Dresden, Germany)

Sudipto Roy
(IMCB, A*STAR, Singapore)

Tee Yee Han
(MBI, Singapore)

Alexander Bershadsky
(MBI, Singapore; WIS, Israel)

Free admission. No registration required.
Tea break will be provided.

Actin Cytoskeleton-Based Mechanisms of Establishing Left-Right Asymmetry in Biological Systems Mini Symposium 2019

Date: Wednesday, October 30, 2019
Venue: Mechanobiology Institute, National University of Singapore, 5A Engineering Drive 1, T-Lab Building, Singapore 117411 (Level 5 Seminar Rooms)

Time	Programme
10:00 – 10:15	Welcome Remarks
10:15 – 11:00	**Stéphane Noselli** *Institut de Biologie Valrose (iBV), France* **The conserved Myosin 1D controls multiscale chirality in Drosophila**
11:00 – 11:30	Coffee Break
11:30 – 12:15	**Sudipto Roy** *Institute of Molecular and Cell Biology (IMCB), A*STAR, Singapore* **How Does Left-Right Asymmetry Arise Within the Vertebrate Body?**
12:15 – 14:00	Lunch (for invited guests only)
14:00 – 14:45	**Reiko Kuroda** *Chubu University and The University of Tokyo, Japan* **A single formin gene determines the organismal chirality from the one-cell stage – a case of fresh water snail Lymnaea stagnalis**
14:45 – 15:30	**Teije Middelkoop (Stephan Grill's Lab)** *MPI-CBG and BIOTEC TU Dresden, Germany* **Chiral actomyosin flows during early embryonic development in C. elegance**
15:30 – 15:50	Coffee Break
15:50 – 16:35	**Yee Han Tee /Alexander Bershadsky** *Mechanobiology Institute, NUS, Singapore* **Emergence of left-right asymmetry in single cell and cell groups**
16:35 – 16:40	Closing Remarks