

Cell & Tissue Hydraulics Mini-Symposium			
October 20-22, 2021			
Venue: Virtual			
Programme			
Updated 15 October 2021			
Singapore Standard Time	Wednesday October 20, 2021	Thursday October 21, 2021	Friday October 22, 2021
	Day 1: Cellular Hydraulics	Day 2: Tissue Hydraulics	Day 3: Organ/Organismal Hydraulics
1530 - 1730	Poster Session 1	Free Discussion	Free Discussion
1745 - 1800	Opening Remarks		
1800 - 1830	Matthieu Piel Institut Curie, France <i>TBA</i>	Arezki Boudaoud École Polytechnique, France <i>The hydraulic control of plant growth</i>	L.Mahadevan Harvard University, USA <i>Active hydraulics</i>
1830 - 2050	Session 1: Cell Volume Regulation Chair: Jennifer Young	Session 3: Development Chair: Chii Jou Chan	Session 5: Organoids and in vitro Systems Chair: Virgile Viasnoff
1830 -1855	Chloe Roffay University of Geneva Switzerland <i>Passive coupling of membrane tension and cell volume during active osmotic cell response</i>	Li-Kun Phng Riken Center for Biosystems Dynamics Research, Japan <i>Endothelial cell mechanoresponse to haemodynamic forces during blood vessel lumenization</i>	Qiutan Yang Friedrich Miescher Institute, Switzerland <i>Cell fate coordinates mechano-osmotic forces in intestinal crypt formation</i>
1855 - 1920	Ming Guo Massachusetts Institute of Technology, USA <i>Supracellular fluid flow coordinates spatial patterns of cell volume and cell mechanics in 3D multicellular clusters</i>	Olivier Ali & Benoit Landrein ENS de Lyon, INRIA, CNRS, France <i>The mechanics of seed size control in plants</i>	Dirk Drasdo INRIA Saclay-Île de France, France, IfAdo- Leibniz Research Centre for Working Environment and Human Factors, Germany <i>Models guiding towards mechanisms and experimental designs in multicellular in vitro and in vivo systems and how we can make them virtual twins</i>
1920 - 1945	Sean Sun John Hopkins University, USA <i>Role of water and hydraulic pressure in cell dynamics</i>	Akankshi Munjal Duke University School of Medicine, USA <i>ECM-derived pressure shaped by cellular stiffness drives inner ear morphogenesis in zebrafish</i>	Britta Trappman MPI, Germany <i>Regulation of angiogenic sprouting by the extracellular matrix</i>
1945 - 2010	Yoel Forterre CNRS, Aix-Marseille, France <i>Active Actuation of the Venus Flytrap Carnivorous Plant: Hydraulics or Mechanics?</i>	Adam Martin Massachusetts Institute of Technology, USA <i>Dynamics of hydraulic and contractile wave-mediated fluid transport during Drosophila oogenesis</i>	Virgile Viasnoff Mechanobiology Institute, Singapore <i>How osmotic pressure shapes luminal cavities into tubes -The case of bile canaliculi</i>
2010 - 2050	Q&A Session 1	Q&A Session 3	Q&A Session 5
2050 - 2110	BREAK		
2110 - 2330	Session 2: Cellular Flow Chair: Andrew Holle	Session 4: Tissue Homeostasis Chair: Yuchen Long	Session 6: Theory and Experimental Tools Chair: Tetusaya Hiraiwa
2110 - 2135	Janis Burkhardt University of Pennsylvania, USA <i>Sphingosine-1-phosphate induces bleb-based T cell migration</i>	Claire Amadio-Dessalles Ecole Polytechnic, France <i>Hydraulic microvessel-on-chip to subject cell monolayers to tensile stresses</i>	Herve Turlier Collège de France & CNRS, France <i>Hydraulic and osmotic control of biological cavity formation and maintenance</i>
2135 - 2200	Konstantinos Konstantopoulos Johns Hopkins University, USA <i>Hydraulic cues regulate cell phenotype and migration directionality in confined microenvironments</i>	Celeste Nelson Princeton University, USA <i>How fluid pressure regulates branching morphogenesis</i>	Dagmar Iber ETH, Switzerland <i>A novel computational framework for high resolution 4D tissue simulations</i>
2200 - 2225	Ryan Petrie Drexel University, USA <i>The Ras-MAPK pathway regulates hydraulic pressure and the mode of 3D cell migration</i>	Philipp Niethammer The Sloan Kettering Institute USA <i>Wound detection by osmotic surveillance</i>	Nikola Dudukovic Lawrence Livermore National University, USA <i>Cellular Fluidics: Using Architected Materials to Tune Multiphase Interfaces in 3D</i>
2225 - 2250	Kerwyn Casey Huang Stanford University, USA <i>Regulation of cell elongation and division under fluctuating resource constraints</i>	Muriel Grammont ENS de Lyon, France <i>Genetics and Mechanics of Epithelial cell flattening in Drosophila</i>	Jose Dinneny Stanford University, USA <i>Walls and water: establishing methods to visualize molecular crowding and cell wall integrity through live imaging</i>
2250 - 2330	Q&A Session 2	Q&A Session 4	Q&A Session 6
2330 - 0200 +1	Free Discussion	Poster Session 2	Closing & Free Discussion