

Materials, Mimics & Microfluidics: Engineering Tools for Mechanobiology (#3M2021) July 21-23, 2021 Hybrid Conference PROGRAMME		
		Updated 20 July 2021
Day 1: Wednesday, July 21, 2021		
	0945-1000	Opening Remarks Andrew HOLLE & SAW Thuan Beng Mechanobiology Institute - National University of Singapore, Singapore
	Session 1 MEMS and Microfluidic Tools Chair: Surabhi SONAM DY Patil International University, India	
1000-1200	1000-1030	Jennifer Hyunjong SHIN Korea Advanced Institute of Science & Technology (KAIST), South Korea <i>Electric Field-induced Dynamic Responses in Cells</i>
	1030-1045	Bee-Luan KHOO City University of Hong Kong, Hong Kong <i>Microdevices for Disease Modeling and Detection</i>
	1045-1100	Daniele VIGOLO The University of Sydney, Australia <i>Modulating the Properties of Biocompatible Materials via Microfluidic Thermophoretic Transport to Control Cellular Activity</i>
	1100-1115	Xumei GAO University of Melbourne, Australia <i>Comprehensive Multiplexed Superfusion System Enabling Physiological Emulation for In vitro Cell Culture</i>
	1115-1130	Ikbal CHOUDHURY Johns Hopkins University, USA <i>Epithelial Cells Sense Hydraulic Pressure Gradients by modulating the frequency of Calcium Oscillations via Piezo-1</i>
	1130-1145	HOU Han Wei Nanyang Technological University, Singapore <i>Microfluidics Impedance Cytometry for Single Cell Biophysical Profiling</i>
	1145-1200	Lena NEUFELD Tel Aviv University, Israel <i>Novel Perfusable Microfluidic Engineered Vascular 3D Bioprinted Tumor Model for Drug Screening</i>
	1200-1300	Lunch
1300-1320	Exhibitor Showcase Yvonne NG Atlantis Bioscience Pte Ltd, Singapore <i>Stiffness Matters: Accelerating the Adoption of Soft Substrates for Cell Culture</i>	
1320-1340	Exhibitor Showcase TAN Shi Ming Carl Zeiss Pte. Ltd., Singapore <i>Your Automated Microscope for Live Cell Imaging</i>	
1340-1400	Break	
	Session 2 Soft Biomaterials Chair: Andrew HOLLE Mechanobiology Institute - National University of Singapore, Singapore	
1400-1600	1400-1430	TAN Lay Poh Nanyang Technological University, Singapore <i>Role of Physical Conditions in Influencing Cell Fate</i>
	1430-1445	Sue MCGLASHAN The University of Auckland, New Zealand <i>A Mechanobiology Approach to Study the Pathogenesis of Osteoarthritis</i>
	1445-1500	Ketaki BACHAL Indian Institute of Technology, Bombay, India <i>Role of Mechanical Micro-environment in Aggressive Nature of Relapsed Glioblastoma Cells post-Radiotherapy</i>
	1500-1515	Yu Suk CHOI The University of Western Australia, Australia <i>Stiffness Gradient Hydrogel Platforms for Mechanobiology</i>
	1515-1530	Yu-Han HUNG National Yang Ming Chiao Tung University, Taiwan <i>Human Dental Pulp Stem Cell Adhesion and Proliferation on Cross-linked Self-Assembled Chiral Polypeptide Multilayer Films</i>
	1530-1545	Surabhi SONAM DY Patil International University, India <i>Gel Based Force Measurement Tools: Cellular and Sub Cellular Scale</i>
	1545-1600	Congying WU Peking University, China <i>Phase Separation in Focal Adhesion Maturation and Durotaxis</i>
1700-1900	Poster Session - Singapore Satellite Centre	

Day 2: Thursday, July 22, 2021

Session 3	
Nanoscale Tools Chair: Jennifer YOUNG Mechanobiology Institute - National University of Singapore, Singapore	
1000-1200	1000-1030 Xingyu JIANG Southern University of Science and Technology (SUSTech), China <i>Nanoparticles/Microfluidics for Drug Delivery/Bioelectronics</i>
	1030-1045 Jonathan CHOI The Chinese University of Hong Kong, Hong Kong <i>Promoting Intracellular Delivery by Gentle Compression and Nanosubstrate Engineering</i>
	1045-1100 Huanwen MU Nanyang Technological University, Singapore <i>Membrane Curvature-facilitated Oncogenic Ras Clustering on Nanobars</i>
	1100-1115 Roey ELNATHAN Monash University, Australia <i>Engineered Cell-nanostructured Interfaces: from Self-assembly to Cellular Manipulation</i>
	1115-1130 Dhiraj BHATIA Indian Institute of Technology, Gandhinagar, India <i>DNA Nanotechnology based Emerging Technologies for Biological and Biomedical Applications</i>
	1130-1145 ZHAO Wenting Nanyang Technological University, Singapore <i>Nanoscale Membrane Topography Manipulation For Curvature-Guided Protein Accumulation at Cell Surface</i>
	1145-1200 James CATHEW Monash University, Australia <i>Next Generation Cell Culture Tools Featuring Micro- and Nanotopographies for Biological Screening</i>
1200-1300	<p style="text-align: center;">Lunch</p>
1300-1320	<p style="text-align: center;"> Exhibitor Showcase Oriol NOS Impetux, Spain <i>SENSOCELL: A Multiple Optical Trapping Platform Combining Direct Force Spectroscopy & Fluorescence Imaging</i> </p>
1320-1400	<p style="text-align: center;">Break</p>
Session 4	
Active Cellular and Molecular Deformation Chair: Jonathan CHOI The Chinese University of Hong Kong, Hong Kong	
1400-1600	1400-1430 Barbara CHAN The University of Hong Kong, Hong Kong <i>Mechanical Loading Induced Changes in Actin Protrusions and Cell-matrix Adhesion Structures using Microplate-based Compression System</i>
	1430-1445 Lun Wei LEE National Cheng Kung University, Taiwan <i>Cyclic Stretching Force Induces MDCK Cell Columnarization through Suppression of FAK Activity and Upregulation of Tight Junction Proteins</i>
	1445-1500 YAN Jie Mechanobiology Institute - National University of Singapore, Singapore <i>The Mechanical Stability of Opto-chemical Molecular Switches and their Applications in Mechanotransduction Studies</i>
	1500-1515 Motoshi KAYA The University of Tokyo, Japan <i>Single-molecule Properties of Cardiac Myosin Leading to Cardiac Function</i>
	1515-1530 Naotaka NAKAZAWA Kyoto University, Japan <i>Mechanical Stress by Extracellular Confinement Triggers a Mode Transition of Neuronal Migration</i>
	1530-1545 Grace CHAO National Taiwan University, Taiwan <i>Zyxin and Actin Structure Confer Anisotropic Mechanotransduction</i>
	1545-1600 Nicola LACALENDOLA The University of Auckland, New Zealand <i>Biomechanical Properties from Pipette Ion Currents</i>
1700-1900	<p style="text-align: center;">Social Event (Archery Club) - Singapore Satellite Centre</p>

Day 3: Friday, July 23, 2021

Session 5	
Bio-inspired and Biomimetic Materials Chair: Yu Suk CHOI The University of Western Australia, Australia	
1000-1030	Jelena RNJAK-KOVACINA University of New South Wales, Australia <i>Engineering Pro-vascular Microenvironments using Biomimetic Silk Biomaterials</i>
1030-1045	Silviya ZUSTIAK Saint Louis University, USA <i>Hydrogel Matrix Presence and Composition Influence Drug Responses of Encapsulated Glioblastoma Spheroids</i>
1045-1100	Lining JU The University of Sydney, Australia <i>Using Single-cell Mechanobiology Techniques to Decipher Integrin Affinity Modulation in Platelets under Disturbed Blood Flow Conditions.</i>
1100-1115	Danielle VAHALA The University of Western Australia, Australia <i>Breast Cancer Spheroid Mechanosensation in 3D Linear Stiffness Gradient Hydrogels</i>
1115-1130	Po-Ling KUO National Taiwan University, Taiwan <i>Role of Increased Interstitial Hydrostatic Pressure in Fibroblast and Cancer Cells Motility</i>
1130-1145	Fu Lai WEN Academia Sinica, Taiwan <i>Mechanical Waves during Re-epithelialization Process in Amputated Zebrafish Tail Fins</i>
1145-1200	Brendan KENNEDY University of Western Australia, Australia <i>Optical Coherence Elastography for Micro-scale Imaging of Tissues and Biomaterials</i>
1200-1300	Lunch
1300-1340	Satellite Showcase
1340-1400	Break
Session 6	
Innovating Imaging/ In Vivo Tools Chair: Wenting ZHAO Nanyang Technological University, Singapore	
1400-1430	Hiroimi YANAGISAWA University of Tsukuba, Japan <i>Matrix-mediated Mechanotransduction in the Aortic Wall</i>
1430-1445	Jie-Min JIA Westlake University, China <i>Interrogate ischemic stroke in real-time by utilizing nanoparticles</i>
1445-1515	Pai-Chi LI National Taiwan University, Taiwan <i>Shear-wave Stiffness Measurements of 3D Cell Culture Systems</i>
Poster Talks	
1515-1520	Byeongwook JO The University of Tokyo, Japan
1520-1525	TEE Yee Han Mechanobiology Institute - National University of Singapore, Singapore
1525-1530	Yuta ANDO Kyoto University, Japan
1530-1535	Chiao-Yu TSENG Academia Sinica, Taiwan
1535-1540	Mao OTAKE University of Yamanashi, Japan
1540-1545	Samuel BARNETT Mechanobiology Institute - National University of Singapore, Singapore
1545-1600	Closing Remarks Andrew HOLLE & SAW Thuan Beng Mechanobiology Institute - National University of Singapore, Singapore

	Poster talk
	Plenary talk
	Invited talk
	Selected talk from submitted abstracts