5th International Symposium of Mechanobiology
Agenda

Day 1: Friday 1 November, 2024			
Time	**Topic**	**Speaker**	**Venue**
8:45-9:15	Registration (Entrance Hall of Medical College)		
9:15-9:30	**Opening Ceremony & Group Photo** **Chair: Ming-Jer Tang**		Cheng-Sing Auditorium
9:30-10:20	**Plenary talk:** Still Playing with the C. elegans Touch Receptor Neurons **Chair: Ming-Jer Tang**	Martin Chalfie	
10:20-11:10	**Plenary talk:** Mechano-Immunoengineering for Cancer Therapy **Chair: Josh Chia-Ching Wu**	Song Li	
11:10-11:30	Coffee Break (Corridor outside Lobby of Cheng-Sing Auditorium)		
11:30-12:05	**Keynote speech:** Mechanical Waves Identify the Amputation Position during Wound Healing in the Amputated Zebrafish Tailfin **Chair: Wen-Tau Juan**	Keng-Hui Lin	Cheng-Sing Auditorium
12:05-13:20	Lunch Break		
13:20-14:10	**Plenary talk:** Cytoplasmic Dynamics and Mechanics in the Maturation and Aging of Mammalian Oocytes **Chair: Chia-Yih Wang**	Rong Li	Cheng-Sing Auditorium
14:10-14:45	**Keynote speech:** Deciphering the Principles of Epithelial Tissue Organization **Chair: Chao-Chun Yang**	Delphine Delacour	
14:45-15:20	**Keynote speech:** Cellular Mechanotransduction and Its Role in Aortic Valve Calcification **Chair: Ping-Yen Liu**	Sara Baratchi	
15:20-15:30	Coffee Break (Corridor outside Lobby of Cheng-Sing Auditorium)		
15:30-17:30	Poster Presentation (Corridor outside Cheng-Sing Auditorium)		
	ISMB International Committee Closed Door Meeting (4F Meeting Room)		
18:00-20:00	**Welcome Party for All Attendees** (Open Ground between College of Medicine and Center of Biomedical Excellency & Synergy Building)		

Day 2: Saturday 2 November, 2024

Time	Topic	Speaker	Venue
9:00-9:50	**Plenary talk:** Mechanogenetics for Cell ImmunoTherapy **Chair: Wen-Tai Chiu**	Peter Wang	3rd Lecture Hall
9:50-10:25	**Keynote speech:** DNA Sequence is Mechanosensitive and can Usefully Signal to Macrophages **Chair: Keng-Hui Lin**	Dennis Discher	
10:25-10:45	Coffee Break (Corridor outside 3rd Lecture Hall)		

	Session I / Matrix MB Venue: 2nd Lecture Hall Chair: Hui-Min Wang、Chun-Yen Liu		Session II / Mechanosensitive channels Venue: 3rd Lecture Hall Chair: Yu-Chun Lin	
	Topic	**Speaker**	**Topic**	**Speaker**
10:45-11:10	**Invited talk:** Matrix Mechanics in Sarcopenic Muscle: Kinesin-1 Control	Jean-Cheng Kuo	**Invited talk:** A Trans-Subunit Force Transduction Pathway from A Tension Sensor to the Gate in the Stretch-Dependent Mechanogating of MscL Channel	Masahiro Sokabe
11:10-11:35	**Invited talk:** Synthetic Sucrose Derivatives for Inhibiting Urinary Biofilms	Ming-Fa Hsieh	**Invited talk:** Mechanosensitivity of TRP Ion Channels	Boris Martinac
11:35-12:00	**Invited talk:** Wavy Structure Regulates Vascular Smooth Muscle Cell Phenotype	Grace Pen-Hsiu Chao	**Invited talk:** Post-Translational Modification Regulates a PIEZO Channel Complex	Charles Cox
12:00-13:15	Lunch Break TSMB Annual General Meeting (2nd Lecture Hall)			

	Session III / Intracellular MB Venue: 2nd Lecture Hall Chair: Shau-Ping Lin、Ting-Yuan Tu		Session IV / MB for Wound healing Venue: 3rd Lecture Hall Chair: Shyh-Jou Shieh	
	Topic	**Speaker**	**Topic**	**Speaker**
13:15-13:40	**Invited talk:** Mechanomedicine: from the Deep Sea to Space	Keiji Naruse	**Keynote speech:** Mechanobiological Effects of Geometry-Mediated Wound Healing	K. Jimmy Hsia
13:40-14:05	**Invited talk:** Keratin fusion variants and their functional impacts on cancer cell evolution/clonal selection during cancer development	Jim Jinn-Chyuan Sheu	**Invited talk:** Extracellular Vesicles from 3D-Cultured Adipose-Derived Stem Cells: Potential Application in Wound Healing	Nai-Chen Cheng
14:05-14:30	**Invited talk:** Dynamin-Mediated Membrane Remodeling in Muscle Development and Diseases	Ya-Wen Liu	**Invited talk:** 3D Organoid Platform for Cell and Gene Therapy in Unmet Medical Needs: Targeting Cholangiopathy and Advanced Liver Cancer	Rita Yen-Hua Huang

14:30-14:50	Coffee Break (Corridor outside 3rd Lecture Hall)			
	Session V / MB in morphogenesis **Venue: 2nd Lecture Hall** **Chair: Rita Yen-Hua Huang**		**Session VI / New Tech for MB** **Venue: 3rd Lecture Hall** **Chair: Yang-Kao Wang**	
	Topic	**Speaker**	**Topic**	**Speaker**
14:50-15:15	**Invited talk:** Multiscale Mechanobiology in Wound Healing and Skin Development	Hans I-Chen Harn	**Invited talk:** Trapping and Manipulating Drug-loaded Microbubbles by Acoustic Vortex Tweezers	Chih-Kuang Yeh
15:15-15:40	**Invited talk:** Uncovering Multiscale Cellular Organization and Associated Biomechanical Adaptation in Feather Morphogenesis	Wen-Tau Juan	**Invited talk:** Encoding Mechanical and Chemical Information in Cell Membrane Organization: a Sensory Engram	Satyajit Mayor
15:40-16:05	**Invited talk:** Mechanoregulation of Tubulogenesis in Renal Proximal Tubular Epithelial Cells	Cheng-Hsiang Kuo	**Special lecture:** The Fluid Flow and Thermal Stimulation affect the Sperm Motility and Fertilizing Ability	Tomoko Kawai
16:05-16:15	Coffee Break (Corridor outside 3rd Lecture Hall)			
16:15-17:30	Oral Presentation Session (3rd Lecture Hall)			
17:45-20:00	**Invited Dinner for All Speakers**			

Day 3: Sunday 3 November, 2024			
Time	**Topic**	**Speaker**	**Venue**
9:00-9:35	**Keynote speech:** Mechanical Deformation Drives Selection of Mechanoresilient Cancer Cells **Chair: Grace Pen-Hsiu Chao**	Chwee Teck Lim	3rd Lecture Hall
9:35-10:10	**Keynote speech:** Cooperative Tissue Engineering Approach by Growing Scaffold Materials **Chair: Ming-Fa Hsieh**	Michiya Matsusaki	
10:10-10:35	**Keynote speech:** Ocular Mechanosensing **Chair: Ching-Li Tseng**	David Krizaj	
10:35-10:55	Coffee Break (Corridor outside 3rd Lecture Hall)		
10:55-11:30	**Keynote speech:** Stretching or Pulling ion Channels for Touch **Chair: Yu-Min Kuo**	Gary Lewin	3rd Lecture Hall
11:30-12:05	**Keynote speech:** Exploring the Interplay between Mechanics and Mechanosensing in Mammalian Cells **Chair: Jason Pei-Shiue Tsai**	Massimo Vassalli	
12:05-12:30	**Closing Remarks & ISMB Handover Ceremony** **Oral and Poster Award** **Chair: Ming-Jer Tang**		

5th ISMB Oral Presentation

Time	Title	Presenter
16:15-16:20	Discoidin domain receptor 1 promotes focal adhesion maturation and suppresses podosome formation through integrin β1 activation triggered by matrix rigidity	**Po-Yu Chen** PhD student/National Cheng Kung University
16:20-16:25	Engineering a microcirculating 3D culture system to mimic tumor-vascular interaction	**Chuan-Hui Lu** PhD student/National Tsing Hua University
16:25-16:30	STOML3 ring formation facilitates mechanotranduction	**Tzu-Lun Huang** Post-doc/Max delbruck center
16:30-16:35	Comparative analysis of interspecies diversity in cortical stiffness using atomic force microscopy	**Misato Iwashita-Masaoka** Post-doc/Korea Brain Research Institute
16:35-16:45	Enhanced Mitochondria and Transfer from Adipose-Derived Stem Cell Spheres via the EZH2-PPAR Axis for Tissue Repair and Regeneration	**Ming-Min Chang** Assistant Prof./National Cheng Kung University
16:45-16:55	Imaging of Dynamic Vinculin Conformational Changes by High-Speed Atomic Force Microscopy	**Noriyuki Kioka** Prof./Kyoto University
16:55-17:05	Shear-Induced detachment of cilia as a physiological response	**Kenjiro Yoshimura** Prof./Shibaura Institute of Technology
17:05-17:15	Novel Fluorescent GaOOH Nanoparticles for Cellular Imaging	**Benchaporn Lertanantawong** Prof./Mahidol University
17:15-17:25	Reducing Scar Formation in Wound Healing via Hydrogel- Mediated Wound Tension and Inflammation Reduction	**Tzu-Wei Wang** Prof./National Tsing Hua University