

## AIS-I3S 2024 Tentative Program

### Main Conference Hall:

UTOWN AUDITORIUM 2 UT25-01-19

### Meeting Room for Sessions:

LECTURE THEATRE 50 UT25-01-12

LECTURE THEATRE 51 UT25-01-13

LECTURE THEATRE 52 UT25-02-07

LECTURE THEATRE 53 UT25-02-08

### Program Overview:

Day 1 – Thursday, 01 August					
	AUDITORIUM 2	LECTURE THEATRE 50	LECTURE THEATRE 51	LECTURE THEATRE 52	LECTURE THEATRE 53
7:30-9:00	<b>Registration</b>				
9:00-9:15	Opening Speech				
9:15-10:00	<b>Plenary Speech</b> <b>Chwee Teck Lim: Smart Wearable Technologies for AI Healthcare and the Health Metaverse</b>				
10:00-10:15	<b>Move to Symposium and Workshop rooms/Tea Break</b>				
10:15-12:00	SYM 5	WSP 2	WSP 10	WSP14	SYM 4
12:00-13:00	<b>Lunch Break</b>				
13:00-15:00	SYM 5	WSP 2	WSP 10	WSP 1	SYM 3
15:00-15:30	<b>Tea Break</b>				
15:30-18:00	SYM 5	WSP 2	WSP 10	WSP 1	SYM 3
18:00	<b>Refreshment</b>				

Day 2 – Friday, 02 August					
	AUDITORIUM 2	LECTURE THEATRE 50	LECTURE THEATRE 51	LECTURE THEATRE 52	LECTURE THEATRE 53
8:30-9:15	<b>Plenary Speech</b> <b>Ray-Hua Horng: Sensors Applications of ZnGaO Ultra Wide Bandgap Semiconductors</b>				
9:15-9:25	<b>Move to Symposium and Workshop rooms</b>				
9:25-10:15	WSP 9	SYM 2	WSP 1	SYM 5	WSP 4
10:15-10:30	<b>Tea Break</b>				
10:30-12:00	WSP 9	SYM 2	WSP 1	SYM 5	WSP 4
12:00-13:00	<b>Lunch Break</b>				
13:00-15:00	WSP 9	SYM 2	WSP 6&8	SYM 5	WSP 13
15:00-15:30	<b>Tea Break</b>				
15:30-18:00	WSP 9	SYM 2	WSP 6&8	SYM 5	WSP 13

Day 3 – Saturday, 03 August					
	AUDITORIUM 2	LECTURE THEATRE 50	LECTURE THEATRE 51	LECTURE THEATRE 52	LECTURE THEATRE 53
8:30-9:15	<b>Plenary Speech</b> <b>Inkyu Park:</b> Smart Environmental Monitoring by Low-Power / Self-Powered Gas Sensors and Artificial Intelligence				
9:15-9:25	Move to Symposium and Workshop rooms				
9:25-10:15		WSP 6&8	WSP 9	WSP 3	WSP 4
10:15-10:30	<b>Tea Break</b>				
10:30-12:00		WSP 6&8	WSP 9	WSP 3	WSP 4
12:00-13:00	<b>Lunch Break</b>				
13:00-15:00	Poster Session				
15:00-15:30	<b>Gathering for Shuttle Bus</b>				
15:30-18:00	<b>Social Activity</b>				
18:00	<b>Banquet Dinner</b>				

Day 4 – Sunday, 04 August					
	AUDITORIUM 2	LECTURE THEATRE 50	LECTURE THEATRE 51	LECTURE THEATRE 52	LECTURE THEATRE 53
8:30-9:15	<b>Plenary Speech</b> <b>Chengwei Qiu:</b> Metasurface-integrated Learning-enabled Photodetectors				
9:15-9:25	Move to Symposium and Workshop rooms				
9:25-10:15	SYM 1	WSP 3	WSP 12	WSP 7	WSP 11
10:15-10:30	<b>Tea Break</b>				
10:30-12:00	SYM 1	WSP 3	WSP 12	WSP 7	WSP 11
12:00-13:00	<b>Lunch Break</b>				
13:00-15:00	SYM 1	WSP 5	WSP 12	WSP 7	WSP 11
15:00-15:30	<b>Tea Break</b>				
15:30-18:00	SYM 1	WSP 5	WSP 12	WSP 7	WSP 11
18:00-18:45	<b>Award Ceremony @ Auditorium 2</b>				
18:45-	<b>Refreshment</b>				

Notes:

1. On 01 Aug, Day 1, the registration counter will commence operations promptly at 7:30 am. Opening ceremony will start at 9:00 am.
2. The registration counter will also be operational on 31 July from 14:00 to 19:00 pm.

<b>Symposium 1: Wearable AI Sensors</b>		
Day 4 – Sunday, 04 August		
<b>Chaired by Bin Yang</b>		
9:25-9:55	<b>Itoh Toshihiro</b> Keynote Speaker	Wristwatch-type device with AI-enhanced sensing functions and intuitive information display through the skin
9:55-10:15	<b>Kai Tao</b> Invited Speaker	Deep-learning Enabled Biomimetic Hydrogel Electronic Skin for Human-Machine Interaction System
<b>10:15-10:30</b>	<b>Tea Break</b>	
10:30-11:00	<b>Xinge Yu</b> Keynote Speaker	Skin electronics as haptic interface for VR and human-machine interaction
11:00-11:20	<b>Jianping Li</b> Invited Speaker	Research on blood analysis based on electrical impedance spectroscopy
11:20-11:35	<b>Liyun Zhen</b>	High-Resolution, Conformable Piezoelectric Interfaces for Motion Detection and Voice Recognition
<b>11:35-13:00</b>	<b>Lunch Break</b>	
<b>Chaired by Kai Tao</b>		
13:00-13:30	<b>Chuanfei Guo</b> Keynote Speaker	Iontronic skins and their applications in robotics and healthcare
13:30-13:50	<b>Xiangjun Liu</b> Invited Speaker	Surface engineering for the modulation of interfacial thermal transport in micro- and nanoelectronics
13:50-14:10	<b>Wenfeng Xiang</b> Invited Speaker	Preparation and sensing properties of flexible Ni nanowire composites
14:10-14:30	<b>Yan Xu</b> Invited Speaker	Nanofluidics: Evolving and Pioneering the Future of Sensing
14:30-14:50	<b>Weijin Guo</b> Invited Speaker	Fabrication of Off-stoichiometry Thiol-ene (OSTE) Microchips and Their Applications in Point-of-care Diagnostics
14:50-15:05	<b>Xinge Guo</b>	Fingertip E-Skin with Holistic Touch Awareness Empowered by Zero-Biased Artificial Neurons
<b>15:05-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Wenfeng Xiang</b>		
15:30-15:50	<b>Quan Wen</b> Invited Speaker	Tunable Micro-Nano Optics device and its Processing and Integration Technology
15:50-16:05	<b>Chia Chun Hu</b>	Optimization of optical packaged structure for wide-angle chip-scale package LEDs
16:05-16:20	<b>Jinlong Xu</b>	Triboelectric Mat Multimodal System for Sleep Pose Monitoring
16:20-16:35	<b>Xi Zhao</b>	AI-enhanced Tactile Sensors Aiming at Augmented Recognition for Intelligent Robotic Fingers
16:35-16:50	<b>Zhihao Ren</b>	Aluminium Nitride-Silicon Multilayer Photonic Integrated Circuits for Near-sensor AI Computing
16:50-17:05	<b>Yangyang Zhuge</b>	Investigation of Bayesian Neural Network Using Tuneable Photonic Integrated Circuits
17:05-17:20	<b>Weixin Liu</b>	Nano-electro-opto-mechanical grating for wavelength-selective switching
<b>18:00-18:45</b>	<b>Award Ceremony @Auditorium 2</b>	
<b>18:45-</b>	<b>Refreshment</b>	

<b>Symposium 2: Energy Harvesting Technology for Self-Sustained AIoT System</b>		
Day 2 – Friday, 02 August		
<b>Chaired by Huicong Liu</b>		
9:25-9:55	<b>Yuji Suzuki</b> Keynote Speaker	Machine-learning-based Design of Amorphous Polymer Electret for Vibration Energy Harvesting
9:55-10:15	<b>Hailing Fu</b> Invited Speaker	Rotational Energy Harvesting and Power Transfer for Self-Powered Sensing
<b>10:15-10:30</b>	<b>Tea Break</b>	
10:30-10:50	<b>Dibin Zhu</b> Invited Speaker	Self-powered in-pipe wireless monitoring systems enabled by flow energy harvesting

10:50-11:10	<b>Jian Lu</b> Invited Speaker	Advancement in Direct Electrification Devices for Distributed AI Sensors in the IoT Era
11:10-11:30	<b>Choi Kyungwho</b> Invited Speaker	Functional Composites for Energy Harvesting and Smart Sensors
11:30-11:50	<b>Hojin Lee</b> Invited Speaker	Energy Harvesting Metasurface-based Self-Sustained Sensor System
11:50-12:10	<b>Baik Sangyul</b> Invited Talk	Bioinspired Adhesive Interfaces Based on Multiscale Mechanical Design for Versatile Wearable Energy Devices
<b>12:10-13:00</b>	<b>Lunch Break</b>	
<b>Chaired by Fei Wang</b>		
<b>13:00-13:30</b>	<b>Yunlong Zi</b> Keynote Speaker	Tribo-photonics: an Emerging Field toward Fully-Self-Powered Wireless Sensing
13:30-13:50	<b>Fengxia Wang</b> Invited Speaker	A multi-module sensing and bi-directional HMI integrating interaction, recognition and feedback system
13:50-14:10	<b>Kangqi Fan</b> Invited Speaker	Low-frequency energy harvesting and its applications
14:10-14:30	<b>Younghoon Lee</b> Invited Speaker	Ionic materials for soft devices
14:30-14:45	<b>Reema Altwajri</b>	Optimizing ITO Annealing Conditions on Silicon Wafer for Enhanced Electrostatic Dust Cleaning in Solar Panels
<b>14:45-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Dukhyun Choi</b>		
<b>15:30-16:00</b>	<b>Jae Yeong Park</b> Keynote Speaker	Energy harvesting and wearable patch sensor technologies for battery-free and eco-friendly smart IoT systems
16:00-16:20	<b>Jeong Hyung Mo</b> Invited Speaker	Regulating and Concentrating Ion-flux/Electric-field on Electrode Materials for Energy Storage and Conversion System
16:20-16:40	<b>Zhengbao Yang</b> Invited Speaker	Triboelectric junction and self-charging face masks
16:40-16:55	<b>Yi Xi</b>	Pursuing high performance dielectric material of triboelectric nanogenerator
16:55-17:10	<b>Barnali Ghatak</b>	Different Harvesting circuits for triboelectric nanogenerators for wearable applications

<b>Symposium 3: Enabling Technologies for Neuromorphic Computing and Photonics Neural Networks</b>		
Day 1 – Thursday, 01 August		
<b>Chaired By Aaron Danner</b>		
13:00–13:20	<b>Joshua Yang</b> Invited Speaker	Analog computing with high precision and programmability enabled by memristors
13:20–13:40	<b>Kai Liu</b> Invited Speaker	Single-gate programmable graded doping for 2D reconfigurable MoTe2 devices
13:40–14:00	<b>Yida Li</b> Invited Speaker	BEOL Compatible Oxide Semiconductors and Memories for Integrated Circuits and Memory Centric Computing in the Post-Moore Era
14:00–14:20	<b>Chii-Chang Chen</b> Invited Speaker	Design of memory based on electro-optical NAND gates
14:20–14:40	<b>Xuwei Feng</b> Invited Speaker	Neuromorphic computing using 2D materials-based memtransistor
14:40–14:55	<b>Zian Xiao</b>	Artificial Intelligence-Enhanced Silicon Photonic Near-Infrared Multimodal Sensor Based on Mach-Zehnder Interferometer
14:55-15:10	<b>XinmiaoLiu</b>	A mid-infrared optoelectronic computing unit enabled by waveguide-integrated graphene photodetector
<b>15:10-15:30</b>	<b>Tea Break</b>	
<b>Chaired By Chii-Chang Chen</b>		
<b>15:30-16:00</b>	<b>Aaron Danner</b> Keynote Speaker	Ising Computers with Chip-Based Photonics
16:00-16:20	<b>Kelvin Xuanyao Fong</b>	Towards a scalable energy efficient hardware accelerator for neuromorphic computing

	Invited Speaker	
16:20-16:40	<b>Ngoc Thanh Duong</b> Invited Speaker	Ferroelectric Retinomorphic Hardware for In-sensor Computing
16:40-17:00	<b>Hui Zhang</b> Invited Speaker	On-Chip Training of Programmable Photonic Neural Networks
17:00-17:20	<b>Han Wang</b> Invited Speaker	Van der Waals Material Devices for Memory and AI Hardware Acceleration
17:20-17:40	<b>Chai Yang</b> Invited Speaker	Bioinspired in-sensor computing for artificial vision
17:40-18:00	<b>Linfeng Sun</b> Invited Speaker	Memristive two-dimensional materials for in-memory/sensor computing
<b>18:00</b>	<b>Refreshment</b>	

<b>Symposium 4: Haptic Technology for Future Metaverse Applications</b>		
Day 1 – Thursday, 01 August		
<b>Chaired by Xinge Yu</b>		
10:15-10:35	<b>Joonbum BAE</b> Invited Speaker	Wearable Interface Systems for Seamless Integration of Multiple Realities: From Metaverse to Avatar Robots
10:35-10:55	<b>Minglu ZHU</b> Invited Speaker	Modular Sensing and Feedback Techniques aiming at VR and Robotic Teleoperation
<b>Chaired by Lim Chwee Teck</b>		
10:55-11:10	<b>Zhongda SUN</b>	Multimodal tactile perception and sensation rings for VR/AR/MR applications
11:10-11:25	<b>Benish JAN</b>	Wearable Haptic Interface for Contact Force Feedback using Electrotactile Stimulation
11:25-11:40	<b>Priscilla HONG</b>	Empowering Smart Surfaces: Optimizing Dielectric Inks for In-Mold Electronics
<b>11:40-13:00</b>	<b>Lunch Break</b>	

<b>Symposium 5. Advances in Intelligent Sensors and Robots for AI-Enhanced Applications - Industry 5.0, Digital Twin, Smart Homes, Healthcare, and Rehabilitation</b>		
Day 1 – Thursday, 01 August		
<b>Chaired by Tao Chen</b>		
10:15-10:35	<b>Long Li</b> Invited Speaker	Wearable Triboelectric Sensors Enabled Human-machine Interface for AIoT-Based Applications
10:35-10:55	<b>Zhen Wen</b> Invited Speaker	Triboelectric Tactile Sensors
10:55-11:05	<b>Jaehong Lee</b> Invited Speaker	Wireless 1D soft mechanical sensors for personalized rehabilitation
11:05-11:25	<b>Sanghoon Lee</b> Invited Speaker	Imperceptible and reusable dermal surface electromyography for lower extremity neuro-prosthetic control and clinical assessment
11:25-11:45	<b>Youngjun Cho</b>	Long-term stability of hybrid bionic interface and its applications
11:45-12:00	<b>Weixin Liu</b>	Nano-electro-opto-mechanical grating for wavelength-selective switching
<b>12:00-13:00</b>	<b>Lunch Break</b>	
<b>Chaired by Haotian Chen</b>		
13:00-13:20	<b>Zhiran Yi</b> Invited Speaker	Artificial Intelligence Calling for Sensor-actuator-integration
13:20-13:40	<b>Yingzhong Tian</b> Invited Speaker	Multimodal Sensors Enabled Soft Robotic System Aiming at Intelligent Manipulation
13:40-13:55	<b>Tianning Chu</b>	A Dynamic Instruction Obfuscation Method Based on LLVM
13:55-14:10	<b>Yongchao Zou</b>	Miniature High-Sensitivity Vector Hydrophone Based on Micro-Opto-Mechanical Resonators

14:10-14:25	<b>Nuha Alekhmimi</b>	An innovate of EIS free redox MMP-2 and MMP-9 based sensing platform for detecting ALI / ARDS and sepsis
14:25-14:40	<b>Hemant Kumar</b>	Development of AI-Enabled Sensors for Detecting Adulterants in Mandi Milk Samples
14:45-15:00	<b>Veena Shivanna</b>	Accident Detection and Emergency Support System for Scooters Based on Edge AI technology
<b>15:00-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Xuan Li</b>		
15:30-15:50	<b>Xinkai Xie</b> Invited Speaker	Enabling advanced gesture control of remote vehicles with an intelligent electronic glove
15:50-16:10	<b>Qiongfeng Shi</b> Invited Speaker	Advances in Robotic E-Skin for Multimodal and Intelligent Perception Systems
16:10-16:25	<b>Nan Jiang</b>	A Dual-Mode Wearable Sensor with Coupled Electrophysiological and Pressure Sensing
16:25-16:40	<b>Abhra Chowdhury</b>	Deep-Learning based Robot Navigation using LSTM based Human Activity Sensing and Recognition
16:40-16:55	<b>Girolamo Di Francia</b>	Robots for advanced Operation and Management process in photovoltaic large utilities
16:55-17:10	<b>Sahil Sawhney</b>	CareTaker.ai – A Smart Health Monitoring and Caretaker Assistant System for Elder Healthcare
17:10-17:25	<b>Sathya Duraisamy</b>	Edge Computing and Blockchain based data security in IoMT
17:25-17:40	<b>Zhihao Ren</b>	Aluminium Nitride-Silicon Multilayer Photonic Integrated Circuits for Near-sensor AI Computing
17:40-17:55	<b>Yangyang Zhuge</b>	Investigation of Bayesian Neural Network Using Tuneable Photonic Integrated Circuits
<b>18:00</b>	<b>Refreshment</b>	

Day 2 – Friday, 02 August		
<b>Chair Yifan Wang</b>		
9:25-9:55	<b>Jin Xie</b> Keynote Speaker	Applications of piezoelectric micromachined ultrasonic transducers in human health monitoring and human-machine interaction
9:55-10:15	<b>Haotian Chen</b> Invited Speaker	Mimicking Psychophysical Dimensions of Human Touch with Soft Tactile Sensors and actuators
<b>10:15-10:30</b>	<b>Tea Break</b>	
10:30-11:00	<b>Zhou Li</b> Keynote Speaker	Self-Power Cardiovascular Medical Sensors and Devices
11:00-11:20	<b>Cheol Song</b> Invited Speaker	Noninvasive Diabetes Classification using DSCA and Machine Learning
11:20-11:35	<b>Yu-Chien Lee</b>	Design and Application of Multimodal Intelligent Robotic Arm Grasping System Based on Generative Artificial Intelligence
11:35-11:50	<b>Beenish Bakhtawar</b>	Multi-Sensing IoT Platform for Smart Leak Diagnostics
11:50-12:05	<b>Azmath Mubeen</b>	Enhanced Skin Lesion Classification Using Deep Learning , Integrating with Sequential Data Analysis: A Multiclass Approach
12:05-12:20	<b>Azamt Yeshmukhametov</b>	Design and development self-powered TENG sensor embedded robotic hand with ML based signal processing
<b>12:00-13:00</b>	<b>Lunch Break</b>	
<b>Chaired by Sanghoon Lee</b>		
13:00-13:20	<b>Hui Huang</b> Invited Speaker	Printed Electronics and Sensors for AI Healthtech
13:30-13:50	<b>Yifan Wang</b> Invited Speaker	Multimodal Artificial Skins for Soft Robotic Perception

13:50-14:10	<b>Bo Meng</b> Invited Speaker	Machine Learning-Assisted Haptic Intelligence with hybridized Tactile Sensors
14:10-14:30	<b>Jaichandar Kulandaidasan Sheba</b>	Easiness of Acceptance Metric for Gamification of Elderly Rehabilitation using Virtual Reality.
14:30-14:45	<b>Anna Joseph</b>	Wearable Real-Time Obstacle Detection, Distance And Size Estimation Using A Custom Trained Yolov8 Model And Time Of Flight Technique
14:45-15:00	<b>Uzair Bhatti</b>	Transforming Petrochemical Safety Through AI: Comparative Analysis and Deployment of Visual Analyzer Technologies
<b>15:00-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Jun Wu</b>		
15:30-16:00	<b>Zhuo Li</b> Keynote Speaker	Flexible pressure/strain sensors and quantum tunneling effect
16:00-16:20	<b>Quan Yuan</b> Invited Speaker	Oven-Controlled Piezoelectric MEMS Resonator for Timing Applications
16:20-16:35	<b>Wei Tang</b> Invited Speaker	TBD
16:35-16:50	<b>VISHWESH MISHRA</b>	ECG Analysis Using Data Based ML Techniques to Predict Patients Heart Condition
16:50-17:05	<b>Minami ASHIKAGA</b>	Classification and Application of Microvascular Geometry Using Image Processing
17:05-17:15	<b>Gulnur Kalimuldina</b>	Self-powered triboelectric sensors for healthcare applications
17:15-17:35	<b>Husnain Arshad</b>	IoT-Based Multi-Sensing Monitoring System for MiC Modules Safety During Transportation and Assembly
17:35-17:50	<b>Akanksha Singh</b>	RPA to Drive Healthcare Automation
17:50-18:05	<b>Alessandro Leone</b>	Deep Transfer Learning approach in smartwatch-based fall detection system

<b>Workshop 1: MEMS, NEMS and Edge Applications</b>		
Day 1 – Thursday, 01 August		
<b>Chaired By Hemin Zhang</b>		
<b>13:00-13:30</b>	<b>Ting Zhang</b> Keynote Speaker	The Vacuum Interconnected Nanotech Workstation (Nano-X): A New Paradigm for Nano-fabrication
13:30-13:50	<b>Chen-Kuei Chung</b> Invited Speaker	Advances in the Fabrication of Nanoporous Anodic Aluminum Oxide and Its Applications to Sensors
13:50-14:10	<b>Chun-Wei Tsai</b> Invited Speaker	Advanced Light Emitting Diode Packaging with MEMS Technology
14:10-14:30	<b>Kaichen Xu</b> Invited Speaker	Hybrid Laser Manufacturing of Flexible and Conformal Electronics
14:30-14:45	<b>XiaoyongFang</b>	A two-axis large-aperture metal-based electromagnetic scanning mirror for LiDAR application
14:45-15:00	<b>Cheng Yi Wu</b>	Development of a High Resolution Quartz Crystal Resonator Force/Torque Sensor in Wrench Sleeve Extension Rod
<b>15:00-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Jin Xie</b>		
15:30-16:00	<b>Huajun Liu</b> Keynote Speaker	Developing high-performance piezoelectric thin films for MEMS
16:00-16:20	<b>Xining Zang</b> Invited Speaker	Laser extreme manufacturing for biomedical and harsh environment Applications

16:20-16:40	<b>Zhikang Li</b> Invited Speaker	Research on the key technologies and typical applications of MEMS ultrasonic transducers
16:40-17:00	<b>Hemin Zhang</b> Invited Speaker	Energy Transfer in Coupled Microelectromechanical Resonators
17:00-17:20	<b>Sagnik Ghosh</b> Invited Speaker	Near-zero power event-driven MEMS sensor switches: a step towards an extended battery life for Internet-of-Things (IoTs) applications
17:20-17:35	<b>Zhongbin Zhang</b>	A Multi-parameter Wireless MEMS Sensing System with High Flexibility and Integration for Servo Mechanism
17:35-17:50	<b>Haoqi Lyu</b>	The degenerate mode of free-standing Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> NEMS piezoelectric resonators for 1:1 internal resonance
17:50-18:05	<b>ZHOU QIANG</b>	Improving the Performance of Quartz Crystal Resonator based Torque Sensor by Metalizing Method
18:05-	<b>Refreshment</b>	

Day 2 – Friday, 02 August		
<b>Chaired by Ting Zhang</b>		
9:25-9:55	<b>Huicong Liu</b> Keynote Speaker	MEMS based energy harvesting and sensing technology for self-sustained and intelligent systems
9:55-10:15	<b>Kaiming Hu</b> Invited Speaker	Light-controlled Mechanical Self-assembly Technology for Flexible micro/nano-fabrication
10:15-10:30	<b>Tea Break</b>	
10:30-11:00	<b>Nan Wang</b> Keynote Speaker	Design of Piezoelectric MEMS Thin-Film Acoustic-Wave devices for RF Applications
11:00-11:20	<b>Cheng Tu</b> Invited Speaker	Monolithic Integrated Multisensor Technology based on TPoS Resonators
11:20-11:40	<b>Zaifa Zhou</b> Invited Speaker	System-level modeling of MEMS and Its MEMS-IC Collaborative Design Applications
11:40-11:55	<b>Eiko Nakazawa</b>	Ultrasonic imaging sensor with a single transmitter/receiver system based on spatial encoding using selective activation of distributed electrodes
11:55-12:10	<b>Ryoichi Morita</b>	Development of a Miniaturized Switching Voltage Divider Circuit Using PhotoMOS Relay for Estimation of Brain Source Localization in Brain-Machine Interface Applications
12:10-13:00	<b>Lunch Break</b>	

<b>Workshop 2: Metamaterials and Nanophotonics</b>		
Day 1 – Thursday, 01 August		
<b>Chaired by Jinghua Teng</b>		
10:15-10:45	<b>Xin Zhang</b> Keynote Speaker	Towards dynamic metamaterials and metadevices
10:45-11:05	<b>Qin Chen</b> Invited Speaker	On-chip integrated plasmonic sensors
11:05-11:25	<b>Prakash Pitchappa</b> Invited Speaker	Enhancing Terahertz Sensors with Metasurfaces: Towards Ultrahigh Sensitivity
11:25-11:40	<b>Cheng Xu</b>	Revealing the origin of circular dichroism from planar chiral metamaterials via tailored near-field coupling strengths
11:40-11:55	<b>Hiroyuki Takei</b>	Ubiquitous chemical sensors; low-cost high-performance nano-structured sensors for surface-enhanced Raman spectroscopy (SERS)
11:55-13:00	<b>Lunch Break</b>	



<b>Chaired by Sunmi Shin</b>		
13:00-13:30	<b>Jinghua Teng</b> Keynote Speaker	Surface Enhanced Resonance Raman, Plasmon and Infrared Absorption Spectroscopy for Bio-Sensing
13:30-13:50	<b>Lip-Ket Chin</b> Invited Speaker	Nanoplasmonic biosensor for multiplex molecular profiling in plasma samples
13:50-14:10	<b>Hyoungsoo Kim</b> Invited Speaker	Plasmonic metasurfaces of cellulose nanocrystal matrices with quadrants of aligned gold nanorods for photothermal anti-icing
14:10-14:25	<b>Junsheng Xie</b>	Metamaterial-mediated Graphene Photodetectors in Long-Wave Infrared for Polarization Detection and Chemical Sensing
14:25-14:40	<b>Md Islam</b>	Design and Analysis of A Tunable Metal-Dielectric-Graphene-Dielectric-Metal Stack for Sensing Application In Visible Range
14:40-14:55	<b>Weixin Liu</b>	Subwavelength-engineered suspended silicon waveguide platform for long-wave infrared gas spectroscopy
14:55-15:30	<b>Tea Break</b>	
<b>Chaired By Prakash Pitchappa</b>		
15:30-15:50	<b>Sunmi Shin</b> Invited Speaker	TBD
15:50-16:05	<b>Kai-Chieh Chang</b>	New scheme of electrically tunable metasurface based on dual-gate MOS structure for LiDAR sensor application
16:05-16:20	<b>Yinpeng Wang</b>	THz MEMS based multifunctional reconfigurable intelligent surfaces
16:20-16:35	<b>Hong Zhou</b>	Surface plasmon-phonon polaritons for de-overlapping infrared vibrations
16:35-16:50	<b>Yi Xu</b>	Highly sensitive refractive index sensors based on surface exciton polariton-enhanced Goos-Hänchen and Imbert-Fedorov shifts
16:50-17:05	<b>Siyu Xu</b>	Unveiling Efficient Acousto-Optic Modulation In Silicon Photonics Through Heterogeneous Integration With Lithium Niobate
17:05-17:20	<b>Qiqi Dai</b>	Deep Generative Model-Assisted Terahertz Metamaterial Design for Beam Steering
17:20-17:35	<b>Dongxiao Li</b>	Overcoupled plasmonic nanoantennas for broadband molecular fingerprint retrieval
17:35-17:50	<b>Zhihao Ren</b>	Ultrasensitive Mid-infrared Plasmonic Nanoantenna Sensors Empowered by Machine Learning
17:50-18:05	<b>Jingkai Zhou</b>	Mixture Spectroscopy Analysis using Artificial-Intelligence-Enhanced Mid-infrared Lab-on-a-Chip Integrating Graphene Photodetector
17:50-	<b>Refreshment</b>	

<b>Workshop 3: Sensors and IC Sensors Using CMOS MEMS and CMOS Compatible Materials</b>		
<b>Day 3 – Saturday, 03 August</b>		
<b>Chaired by Yi-Kuen Lee</b>		
9:25-9:55	<b>Mario Lanza</b> Keynote Speaker	Hybrid 2D/CMOS microchips
9:55-10:15	<b>Tao Wu</b> Invited Speaker	AlN/AlScN Thin Film based Piezoelectric Micromachined Ultrasonic Transducers
10:15-10:30	<b>Tea Break</b>	
10:30-10:50	<b>Chih-Ting Lin</b> Invited Speaker	CMOS-Based Field-Effect Biochemical Sensing Device
10:50-11:10	<b>Wei-Chang Li</b> Invited Speaker	Energy Localization for Ultra-Sensitive Sensors in CMOS-MEMS technology
11:10-11:30	<b>Xiaoyi Wang</b> Invited Speaker	CMOS-MEMS magnetic tactile sensor
11:30-11:50	<b>Wenjuan Liu</b> Invited Speaker	New strategies for high-power, high-frequency laterally-excited bulk acoustic resonators
11:50-12:05	<b>Nan Wang</b>	RF MEMS Surface Acoustic Wave sensor based on the AlN/Sapphire for High-Temperature Applications
12:05-12:20	<b>Jingyi Xu</b>	SEU Array: A Fully Integrated and High-Throughput Microelectrode Array Platform for Electrochemical Sensing Applications

12:20-13:20	<b>Lunch Break</b>
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Day 4 – Sunday, 04 August

<b>Chaired by Wei-Chang Li</b>		
9:25-9:50	<b>Jianlin Chen</b> Invited Speaker	Next-Generation Inertial Sensors: Monolithic Integration for Acceleration and Angular Velocity Measurements
9:50-10:10	<b>Yi Zou</b> Invited Speaker	Coupling Manipulation Enabled Ultra-Dense Waveguide Array
10:10-10:30	<b>Tea Break</b>	
<b>Chaired by Nan Wang</b>		
10:30-11:00	<b>Chang-Po Chao</b> Keynote Speaker	High-Accuracy Prediction of Ventricular Tachycardia Based on PPGs Towards Effective Pre-warning of Sudden Cardiac Death
11:00-11:20	<b>Ying Zhang</b> Invited Speaker	ScAIN RFMEMS Filter on RFSOI Circuitry
11:20-11:40	<b>Zhiqiang Mu</b> Invited Speaker	Single Crystal Aluminum Nitride Piezoelectric Film for Acoustic Applications
11:40-12:00	<b>Xudong Zou</b> Invited Speaker	The degenerate mode of free-standing Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> NEMS piezoelectric resonators for 1:1 internal resonance
12:00-12:15	<b>Ji Xia</b>	A MEMS Fiber-Optic Acoustic Sensor Based on Extrinsic Fabry-Perot Interferometer
12:15-12:30	<b>Hong Liu</b>	Development of Electrochemical Sensing Mega-array on the Order of Ten Thousand and Resolution of Its Complex Signals for Applications
12:30-13:20	<b>Lunch Break</b>	

**Workshop 4: Si Photonics for Sensing and Edge Computing**

Day 2 – Friday, 02 August

<b>Chair Yan Yang</b>		
9:25-9:55	<b>Yunfeng Xiao</b> Keynote Speaker	Ultrahigh-Q microcavity optics and photonics - sensing applications
9:55-10:15	<b>Daquan Yang</b> Invited Talk	Microcavity multimode spectral sensing and intelligent detection
10:15-10:30	<b>Tea Break</b>	
10:30-11:00	<b>Xianshu Luo</b> Keynote Speaker	Next-generation photonic technology with multiple material system for photonic computing and sensing
11:00-11:30	<b>Kah Wee Ang</b> Keynote Speaker	Neural Network Accelerator based on Compute-in-Memory Hardware
11:30-11:50	<b>Yongjun Huang</b> Invited Speaker	High-precision inertial sensing based on 2D PhC cavity optomechanics
11:50-12:10	<b>Bowei Dong</b> Invited Speaker	High-dimensional convolutional processing using an integrated photonic in-memory computing platform with continuous-time data
12:10-12:25	<b>Haoyang Sun</b>	MEMS-enabled ultralow power consumption programmable arbitrary order mode switch
12:25-13:25	<b>Lunch Break</b>	

Day 3 – Saturday, 03 August

<b>Chaired by Guangya Zhou and Yunfeng Xiao</b>		
9:25-9:55	<b>Guangya Zhou</b> Keynote Speaker	On-chip integrated MEMS tunable silicon nanophotonic devices and their applications
9:55-10:15	<b>Yiming Ma</b> Invited Speaker	High-Performance and Generalized On-Chip Fourier Transform Spectrometer Using MEMS In-Plane Reconfiguration
10:15-10:30	<b>Tea Break</b>	

10:30-10:50	<b>Yan Yang</b> Invited Speaker	Si photonic technology for quantum computing
10:50-11:10	<b>Guanyu Chen</b> Invited Speaker	High-Speed Photonic Devices for Optical Transmission and Computing
11:10-11:30	<b>Niall James Tumilty</b> Invited Speaker	P-type multilayered hexagonal boron nitride; electrical properties and pn junction device
11:30-11:45	<b>Ji Xia</b>	Optomechanical Frequency Comb in a Nonlinear Cavity Optomechanical System
11:45-12:00	<b>Siyu Xu</b>	Enabling Silicon-On-Lithium-Niobate Mid-Infrared Electro-Optic Modulator With Micro-Transfer Printing Technique
12:00-12:15	<b>Angel Diéguez</b>	Microscopes all around
12:15-13:30	<b>Lunch Break</b>	

<b>Workshop 5: Advanced Semiconductors and Heterogeneous Integration for Sensing Systems and Applications in 6G (e.g., compound semiconductors, 2D materials, chiplet, and system-in-package, etc.)</b>		
Day 4 – Sunday, 04 August		
<b>Chaired by Po-Liang Liu</b>		
13:00-13:30	<b>Sam Zhang</b> Keynote Speaker	Progress in Infrared Transparencies under Opto Electro Thermo and Mechanical Environment
13:30-13:50	<b>Cheng- Mu Tsai</b> Invited Speaker	Large Field-of-View Scanning in LiDAR using Computer-Generated Holography with a Spatial Light Modulator
13:50-14:10	<b>Jenchuan Tung</b> Invited Speaker	Electronic, magnetic, and optical properties of the Zn <sub>1-0.125x</sub> T <sub>0.125x</sub> Ga <sub>2</sub> O <sub>4</sub> (T=Fe, Co, Ni, x=0, 1,2,3,4,5,6,7) spinel oxide: a first-principle study
14:10-14:25	<b>Fong-Zhi Chen</b> Invited Speaker	Gas Sensor Technology Develoement and Collabroation Cases Study in TIRI, NARLabs
14:25-14:40	<b>Tatsuo Hasegawa</b>	Flexible two-dimensional piezoelectric sensor array based on extremely sharp switching printed organic transistors
14:40-14:55	<b>Xue-Wen Liu</b>	Numerical Analysis of Avalanche Breakdown Characteristics in InGaAs/AlGaAsSb Single-Photon Avalanche Diodes
14:55-15:30	<b>Tea Break</b>	
<b>Chair TBD</b>		
15:30-15:50	<b>Po-Liang Liu</b> Keynote Speaker	Advancements in Gas Sensing Technologies: Surface Modifications in ZnGa <sub>2</sub> O <sub>4</sub> (111) and Transition Metal Doping in SnO <sub>2</sub> Analyzed via Ab Initio Studies
15:50-16:05	<b>Chang-Hong Shen</b> Invited Speaker	Wafer-scale Monolithic 3D Integration of 2D materials-based FETs with Si FinFET
16:05-16:20	<b>Chiao-Chi Lin</b> Invited Speaker	Triggering fields of self-powered Wiegand sensors for the applications in 6G sensing and IoT networks
16:20-16:35	<b>Takenori Fujiwara</b> Invited Speaker	TBD
16:35-16:50	<b>Zong-Ying Shen</b>	Optimized Surface Modification of MOCVD-Grown ZnO film with Silver Nanoparticles for Highly Selective NO <sub>2</sub> Detection
18:00-18:45	<b>Award Ceremony @ Auditorium 2</b>	
18:45-	<b>Refreshment</b>	

<b>Workshop 6: Sensors, Implanted Energy Harvesters and Devices, and In-body IoT Technology for Prosthesis and Electroceuticals</b>
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<b>Workshop 8: Biosensors and Chemosensors</b>		
Day 2 – Friday, 02 August		
Chair TBD		
13:00-13:30	<b>Huangxian Ju</b> Keynote Speaker	Nanobiosensing promotes the development of analytical chemistry for life science
13:30-13:50	<b>Huacheng Zhang</b> Invited Speaker	Pillar[5]arene-Au NPs-based Hybrid Nanocomposites for the Electrochemical Detection of p-Nitrophenol
13:50-14:10	<b>Dongsheng Li</b> Invited Speaker	Virtual Sensor Array for Identification and Selective Detection of VOCs
14:10-14:25	<b>Cheng Xu</b>	Metamaterials-enabled ultrasensitive biomolecule sensing via enhanced vibrational circular dichroism spectroscopy
14:25-14:40	<b>Mahmoud Almasri</b>	An impedance biosensor for rapid detection of chronic wasting disease prion protein
14:40-14:55	<b>Moon Il Kim</b>	Highly Innovative Biosensing via Active Site Engineered Nanozymes
14:55-15:30	<b>Tea Break</b>	
Chaired by Zhou Li		
15:30-15:50	<b>Alexander Star</b> Keynote Speaker	Carbon nanotube-based field-effect transistor biosensors
15:50-16:05	<b>Xuemin Du</b> Invited Speaker	Adaptive neural interface materials and devices
16:05-16:20	<b>Sylwia Karon</b>	The development of customizable biosensing platforms for multiplex immunodetection of various infection-related biomarkers based on DNA-directed immobilization
16:250-16:35	<b>Hong Zhou</b>	AI-enhanced mid-infrared hyperspectral imaging of SARS-CoV using plasmon-phonon-based nanosensors
16:35-16:50	<b>Anwasha Mukherjee</b>	Machine learning enabled selective determination of gases using a single electrostatically formed silicon nanowire sensor
16:50-17:05	<b>Han Yan</b>	Investigating the expansion behavior of silicon nitride nanopores
17:05-17:20	<b>Prastika Krisma Jiwanti</b>	Electrochemical sensor of fluoroquinolone antibiotic using modified screen-printed carbon electrode

Day 3 – Saturday, 03 August		
Chaired by Huangxian Ju and Ray-Hua Horng		
9:25-9:45	<b>Faezeh Arab Hassani</b> Invited Speaker	Frontiers in Organ-assist Solutions: Pioneering Soft Device Technologies for Tomorrow's Healthcare
9:45-10:00	<b>Dongxiao Li</b>	Tailoring light-matter interactions in metamaterials for ultrasensitive and ultra-broadband biosensing
10:00-10:15	<b>Abdullah Aljaafari</b>	Gas Sensing Performance of Zinc Oxide Nanoparticles Fabricated via Ochradenus baccatus Leaf
10:15-10:30	<b>Tea Break</b>	
10:30-10:45	<b>Sivaramakrishnan Ganesan</b>	Label-free Optical Biosensor for Real-time Early Detection of Multiple Autoimmune Diseases
10:45-11:00	<b>Dezhi Feng</b>	Gel-based electrochemical DNA synthesis for quasi-solid-state data storage
11:00-11:15	<b>Kaylyn Leung</b>	Increasing the In Vivo Stability of Electrochemical-Aptamer Based Sensors
11:30-13:00	<b>Lunch Break</b>	

<b>Workshop 7: Sensors for Agriculture Applications and Harsh Environment</b>		
Day 4 – Sunday, 04 August		
Chaired by Lan Zhang		
9:25-9:45	<b>Xudong Fang</b> Invited Speaker	Pressure Sensors and Strain Sensors for Potential Applications in Harsh Environments and Agriculture
9:45-10:05	<b>Naoki Shiraishi</b> Invited Speaker	Development of agricultural soil sensors for data-driven variable fertilization system

10:05-10:20	<b>Yifei Luo</b>	Wearable Electrophysiology Sensors for Plant Health Monitoring and Beyond
10:20-10:30	<b>Tea Break</b>	
<b>Chaired by Itoh Toshihiro</b>		
10:30-10:50	<b>Nogami Hirofumi</b> Invited Speaker	Wireless photoplethysmographic sensor nodes designed for wear on a cow's tail
10:50-11:10	<b>Michitaka Yamamoto</b> Invited Speaker	Development of Microbial Fuel Cells for Sustainable Power Supply of Dairy Cattle Rumen Bolus
11:10-11:25	<b>Haobo Qi</b>	Tough organic hydrogels with multimodal sensing capabilities
11:25-11:40	<b>Matteo Anedda</b>	Enhancing Wildfire Risk Management through Sensor-Based AI Integration in Social IoT Frameworks
11:40-11:55	<b>Yanqin Yang</b>	A transparent electronic skin sensor for digital-twin enhanced vertical farming technology
12:00-13:00	<b>Lunch Break</b>	
<b>Chaired by Ryutaro Maeda</b>		
13:00-13:20	<b>Lan Zhang</b> Invited Speaker	Advancement in Direct Electrification Devices for Distributed AI Sensors in the IoT Era
13:20-13:50	<b>Wataru Iwasaki</b> Invited Speaker	Rapid analysis of blood retinol level in cattle
13:50-14:05	<b>Junsheng Xie</b>	Artificial Intelligence-Enhanced Mid-Infrared Multi-Band Plasmonic Platform for Spectroscopic Analysis of Trace Volatile Organic Compound Mixtures
14:05-14:20	<b>Lidiya wilwet</b>	Development Of A DNA Biosensor For The Authentication Of Pacific white shrimp ( <i>Penaeus vannamei</i> ) In Raw And Processed Shrimps
14:20-14:35	<b>Luwei Wang</b>	Development of Self-sustainable Multimodal IoT Sensing System for Plant Monitoring
14:35-15:30	<b>Tea Break</b>	
<b>Chaired by Wataru Iwasaki</b>		
15:30-15:45	<b>Ziqi Zhao</b>	A Wireless Passive Multiparameter Sensor for Cryogenic Applications
15:45-16:00	<b>Mangaka Matoetoe</b>	Fabrication of gold cysteine Zeoliticimidazole framework sensor for epidermal growth factor biomarker
18:00-18:45	<b>Award Ceremony @ Auditorium 2</b>	
18:45-	<b>Refreshment</b>	

<b>Workshop 9: Flexible, Stretchable and Wearable Sensors</b>		
Day 2 – Friday, 02 Aug		
<b>Chaired by Hyoungsoo Kim</b>		
9:25-9:55	<b>Ying-Hao Chu</b> Keynote Speaker	MICAtronics for flexible and transparent sensors
9:55-10:15	<b>Hoon Eui Jeong</b> Invited Speaker	Skn-mountable wearable sensors with smart adhesion properties
10:15-10:30	<b>Tea Break</b>	
10:30-11:00	<b>Jianyong Ouyang</b> Keynote Speaker	Conducting Polymers for Flexible and Wearable Electronics
11:00-11:20	<b>Yajing Shen</b> Invited Speaker	Magnetic Field Based Soft Tactile Sensor for Robotic Manipulation
11:20-11:40	<b>Wei Zhai</b> Invited Speaker	Highly Sensitive and Mechanically Robust Hierarchical Conductive Soft Materials for Flexible Electronics
11:40-11:55	<b>Tian Li</b>	Robust and Skin-Integrated In-Situ Conductive Biogel with Enhanced Detection Capability for Electrophysiological signals
11:55-12:10	<b>Shuto Hayashi</b>	Non-contact sleep stage estimation using millimeter-wave sensor
12:10-13:00	<b>Lunch Break</b>	
<b>Chaired by Hoon Eui Jeong</b>		
13:00-13:30	<b>Xuhui Sun</b> Keynote Speaker	Self-Powered Sensing Based on Triboelectric Effect and Impedance Matching Effect
13:30-14:00	<b>Yan Wang</b> Invited Speaker	Ultrathin gas-permeable electronic skins for health monitoring

14:00-14:20	<b>Xiaomin Xu</b> Invited Speaker	Ultraflexible Organic Electronics Toward Seamless Human Integration
14:20-14:40	<b>Yuyang Sun</b>	Three-dimensional flexible electronic armor with bimodal sensory ability toward an intelligent colonoscopic continuum robot
14:40-14:55	<b>Hao Jin</b>	Deep Learning-Assisted Triboelectric Whisker for Online State Estimation of An Underwater Vehicle
<b>14:55-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Inkyu Park</b>		
<b>15:30-16:00</b>	<b>Caofeng Pan</b> Keynote Speaker	TBD
16:00-16:20	<b>Bingpu Zhou</b> Invited Speaker	Magnetism-coupled Flexible Devices as Wearable Interactive and Sensing Interfaces
16:20-16:40	<b>Achu Chandran</b> Invited Speaker	Flexible and Printed Devices for Energy Harvesting, Health Care and Sustainability
16:40-16:55	<b>Jyoti Jaiswal</b>	On-skin flexible pH sensor based on a working Sb <sub>2</sub> O <sub>3</sub> /Sb and a reference AgIO <sub>3</sub> /Ag thin film electrode for real-time sweat sensing
<b>Chaired by Joonbum Bae</b>		
16:55-17:10	<b>Huicong Liu</b>	3D flexible electronic armor with bimodal sensory ability toward intelligent colonoscopic continuum robot
17:10-17:25	<b>Wenlong Xu</b>	Hydrogel-based flexible wearable sensors and human-computer interaction

Day 3 – Saturday, 03 Aug		
<b>Chaired by Chuanfei Guo</b>		
9:25-9:55	<b>Sheng Xu</b> Keynote Speaker	Wearable ultrasound technology
9:55-10:15	<b>Zhuo Li</b> Invited Speaker	Flexible pressure/strain sensors and quantum tunneling effect
<b>10:15-10:30</b>	<b>Tea Break</b>	
10:30-11:00	<b>Xiong Pu</b> Keynote Speaker	Mechanoionic effect-based iontronics for sensing and energy harvesting
11:00-11:20	<b>Yang Li</b> Invited Speaker	Intelligent Cognitive Electronic Skin and System
11:20-11:35	<b>Xingfu Wan</b>	A triboelectric-based proprioceptive sensor for wake classification
11:35-11:50	<b>Yuyao Lu</b>	A Stretchable and Thin Laser-Induced Graphene & Hydrogel Composite for Wearable Electronics
<b>11:50-13:00</b>	<b>Lunch Break</b>	

<b>Workshop 10: Self-Powered Sensors and Sensing Systems</b>		
Day 1 – Thursday, 01 August		
<b>Chair TBD</b>		
<b>10:15-10:45</b>	<b>Sang-Woo Kim</b> Keynote Speaker	Powering Implantable Medical Devices and Manipulating Pathogens Based on Contact Electrification
10:45-11:05	<b>Dongzhi Zhang</b> Invited Speaker	Nanogenerator-based self-powered gas sensing systems
11:05-11:25	<b>Ruiyuan Liu</b> Invited Speaker	Flexible self-charging power sources
11:25-11:45	<b>Pengbo Wan</b> Invited Speaker	Flexible Multifunctional Polymer Nanocomposites-Based Electronic Sensing Wearables
11:45-12:00	<b>Xinge Guo</b>	Deep-Learning Empowered Self-Sustainable Caregiving Walking Stick
<b>12:00-13:00</b>	<b>Lunch Break</b>	
<b>Chaired by Xuhui Sun</b>		
<b>13:00-13:30</b>	<b>Chenguo Hu</b> Keynote Speaker	Rational Strategies for Harvesting Mechanical Energy by Triboelectric Nanogenerator
13:30-14:00	<b>Tingrui Pan</b>	FAST: An Iontronic Intelligence-Enabled Medical Wearable

	Keynote Speaker	
14:00-14:20	<b>Xin Xia</b> Invited Speaker	From triboelectric charge generation and discharge to high performance triboelectric nanogenerator
14:20-14:40	<b>Haiyang Zou</b> Invited Speaker	Real-time monitoring of health status based on self-powered triboelectric nanogenerator for healthcare products
14:40-15:00	<b>Mingfa Peng</b> Invited Speaker	Solution-processed quantum dots based heterostructure for high-performance photodetectors
<b>15:00-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Xiong Pu</b>		
15:30-16:00	<b>Dukhyun Choi</b> Keynote Speaker	Mechanical energy conversion systems and Interfacial designs for commercial IoT applications via high-performance triboelectrification
16:00-16:20	<b>Kai Xiao</b> Invited Speaker	Neuro-inspired ionic computing materials and devices
16:20-16:40	<b>Yao Wang</b> Invited Speaker	Flexible Thermoelectrics: From Energy Harvesting to Human-Machine Interaction
16:40-16:55	<b>Zhongda Sun</b>	E-brace enabled wearable diagnosis platform for the treatment of adolescent idiopathic scoliosis
16:55-17:10	<b>Yina Liu</b>	A 3D Charge Model for Triboelectric Nanogenerators
17:10-17:25	<b>Lingshuang Kong</b>	Solvent-Free Ion Conductive Elastomer Thermoelectric Self-Powered Sensors
17:25-17:40	<b>Xuecheng Qu</b>	Bias-free Cardiac Monitoring Capsule
<b>17:40-</b>	<b>Refreshment</b>	

<b>Workshop 11: IoT Sensors and System Integration</b>		
Day 4 – Sunday, 04 Aug		
<b>Chaired by Mehmet Rasit Yuce</b>		
<b>9:25-9:55</b>	<b>Fei Wang</b> Keynote Speaker	Energy Harvesting Devices for Self-powered Wireless Sensing Applications
9:55-10:15	<b>Yun-Ju Lee</b> Invited Speaker	Wearable Inertial Sensing: Human Performance and Environmental Monitoring
<b>10:15-10:30</b>	<b>Tea Break</b>	
<b>10:30-11:00</b>	<b>Sam Ge</b> Keynote Speaker	Spiral advancement of robotics and Artificial Intelligence
11:00-11:20	<b>Masood Ur Rehman</b> Invited Speaker	TBD
11:20-11:40	<b>Yang Yang</b> Invited Speaker	Design and Development of Marine Biotelemetry Tags for Animal and Environmental Monitoring
<b>12:00-13:00</b>	<b>Lunch Break</b>	
<b>Chair TBD</b>		
<b>13:00-13:30</b>	<b>Mehmet Rasit Yuce</b> Keynote Speaker	Energy Harvesting and Sensing for Wearables and Smart IoT Applications
13:30-14:00	<b>Minyi Xu</b> Keynote Speaker	TBD
14:00-14:20	<b>Xiangyu Chen</b> Invited Speaker	TBD
14:20-14:40	<b>Nagarajan Ganapathy</b> Invited Speaker	Smart Platform to offer Evidence-based Personalized Support for Healthy and Independent Living in Private Spaces
14:40-14:55	<b>Cheikh Mohamed</b>	Multi-Sensor Fusion Positioning System for Connected Vehicles
<b>15:00-15:30</b>	<b>Tea Break</b>	
<b>Chair TBD</b>		
15:30-16:00	<b>Yi-Kuen Lee</b> Keynote Speaker	TBD
16:00-16:20	<b>Tarikul Islam</b> Invited Speaker	TBD
16:20-16:35	<b>Dan Fang</b>	Eigenfrequency-based Wearable Interface for One-step Reconstruction of Surface Topology through One Channel without Crosstalk

16:35-16:50	<b>Sahil Sawhney</b>	Secure IoT Device with Single Channel Communication for Resource Constrained Applications
16:50-17:05	<b>Prithvi Krishna Chittoor</b>	AI-Enhanced Mosquito Surveillance and Targeted Robotic Fumigation for Efficient Disease Vector Control in Urban Landscapes
<b>18:00-18:45</b>	<b>Award Ceremony @ Auditorium 2</b>	
<b>18:45-</b>	<b>Refreshment</b>	

<b>Workshop 12: Advances in Sensor Applications</b>		
Day 4 – Sunday, 04 Aug		
Chaired by Sang-Seok Lee and Changsheng Wu		
9:25-9:55	<b>Sang-Seok Lee</b> Keynote Speaker	Thermoelectric Generation, Sensors and Systems for Water Quality Monitoring
9:55-10:15	<b>Changsheng Wu</b> Invited Speaker	Contact-free, wireless wearable physiological sensors based on plasmonic metamaterials
<b>10:15-10:30</b>	<b>Tea Break</b>	
10:30-10:50	<b>Kyung-In Jang</b> Invited Speaker	Bio-to-Byte: Stealthy Neural Recorder for primates
10:50-11:10	<b>Christian Pedersen</b> Invited Speaker	Confocal LiDAR for volumetric monitoring and classification of microplastic and zoo plankton in the water column
11:10-11:25	<b>Anna Kurzych</b>	Fiber-Optic Seismograph performance investigation during artificial explosions at the field test performed at the Szopowe, Poland
11:25-11:40	<b>Zixuan Zhang</b>	Deep Learning Enabled Multimodal Sensory Face Masks for Decoding Lip Language and Biological Signals
<b>12:00-13:00</b>	<b>Lunch Break</b>	
Chaired Xianjie Pu		
13:00-13:20	<b>Monica Florescu</b> Invited Speaker	Enhancing Biosensing Capabilities: Enzyme-Based and Nanomaterial-Modified Sensors for Molecular Analysis
13:20-13:35	<b>Dong Liu</b>	Application of Portable Sensors in Exploring Environmental Exposures
13:35-13:50	<b>Wanjia Han</b>	Multilayer ceramics sensing microsystem for the inside pressure and temperature monitoring of lithium battery
13:50-14:05	<b>Jikai Zhang</b>	Ultra-thin Surface Acoustic Wave Sensor for Wireless Ultra-high Temperature Strain Sensing and Temperature Decoupling
14:05-14:20	<b>Wenning Di</b>	New Type of High Performance Magnetoelectric Sensors Based on Piezoelectric/Magnetostrictive Materials
14:20-14:35	<b>Jianwei Chen</b>	Novel pyroelectric infrared detector and its application in toxic gas monitoring for harsh environment
<b>14:30-15:30</b>	<b>Tea Break</b>	
Chaired by Monica Florescu		
15:30-15:50	<b>Xianjie Pu</b> Invited Speaker	Deep learning enabled triboelectric motion and feedback sensors
15:50-16:05	<b>Chimwemwe Miti</b>	Electromechanical Sensors as a Precise Needle Entry Notification System in Surgery
16:05-16:20	<b>Keshav Kaushik</b>	Understanding the Impact of Signal Quality on Remote Photoplethysmography
16:20-16:35	<b>Naoya Yamamoto</b>	Completely Non-Contact Detection of NICU Neonates in Need of Care by Video Analysis
<b>18:00-18:45</b>	<b>Award Ceremony @ Auditorium 2</b>	
<b>18:45-</b>	<b>Refreshment</b>	

<b>Workshop 13: MicroTAS and Lab-on-a-chip</b>		
Day 2 – Friday, 02 Aug		
Chaired by Chia-Hung Chen		
<b>13:00-13:30</b>	<b>Michinao Hashimoto</b> Keynote Speaker	Direct ink writing for flexible and stretchable microfluidic electronics
13:30-13:50	<b>Yang Hui Ying</b>	TBD



	Invited Speaker	
13:50-14:10	<b>Tiantian Kong</b> Invited Speaker	Self-Enriching Coacervate Droplets with Selectively Diffusive Interfaces for Ultra-Sensitive Digital Bioassays
14:10-14:30	<b>Kento Yamagishi</b> Invited Speaker	Direct ink writing for flexible and stretchable microfluidic electronics
14:30-14:50	<b>Yuya Morimoto</b> Invited Speaker	Biohybrid system formed by integration of cultured tissues and microdevices
14:50-15:10	<b>Kenichi Funamoto</b> Invited Speaker	Microfluidic devices to control oxygen and pH for cellular experiments
<b>15:10-15:30</b>	<b>Tea Break</b>	
<b>Chaired by Michinao Hashimoto</b>		
15:30-16:00	<b>Chia-Hung Chen</b> Keynote Speaker	Uncovering functional single cells through intelligent microfluidic analysis
16:00-16:20	<b>Moeto Nagai</b> Invited Speaker	Image Cytometry and Targeted Light Irradiation for High-throughput Process of Single Cells
16:20-16:40	<b>Daisuke Yoshino</b> Invited Speaker	Construction of microfluidic devices/lab-on-a-chip with high aspect ratio structures based on CNC micro milling
16:30-16:50	<b>Kerwin Kwek Zeming</b> Invited Speaker	Translation of integrated microfluidic devices for rapid detection of severe host immune responses in clinics
16:50-17:10	<b>Kenta Iitani</b> Invited Speaker	Enzyme-based biofluorometric gas sensing systems for analysis of human metabolism
17:10-17:30	<b>Zhugen Yang</b> Invited Speaker	Origami-paper microfluidic devices for point-of-care diagnostics
17:30-17:50	<b>Ting-Hsuan Chen</b> Invited Speaker	TBD
17:50-18:10	<b>Koki Yoshida</b> Invited Speaker	3D printing for fabrication of the paper-based microfluidic analytical device and the soft actuator
18:10-18:30	<b>Shireen Goh</b> Invited Speaker	Innovative Micro-bioreactor Technologies Integrating Real Time Sensors and Microfluidics
18:30-18:45	<b>Suhanya Duraiswamy</b>	Integration of AI-Enhanced PCR on Chip for Improved Pathogen Detection and Diagnosis in Bloodstream Infections
18:45-19:00	<b>Zhixian Zhu</b>	High-throughput Enrichment of Portal Venous Circulating Tumor Cells for Highly Sensitive Diagnosis of CA19-9-negative Pancreatic Cancer Patients Using Inertial Microfluidics

<b>Workshop 14: Industry Forum and Commercialization of Sensors and AI-Enabled Service</b>		
Day 1 – Thursday, 01 August		
<b>Chaired by Yao Zhu and Prof. J. Andrew Yeh</b>		
<b>10:15-10:45</b>	<b>Da-Jeng Yao</b> Keynote Speaker	Next generation of Intelligent Factories
<b>10:45-11:15</b>	<b>Yu-Cheng Lin</b> Keynote Speaker	From Science to Business—Using In Vitro Diagnostic Rapid Tests
11:15-11:30	<b>Yanqin Yang</b>	Multi-Modality Deep Learning assisted Robust Mat Monitoring System for Smart Home
11:30-11:45	<b>Riku Saito</b>	The Effect of Emotional Changes on Performance during a Baseball Game Based on Wearable Heart Rate Measurement
<b>11:45-13:00</b>	<b>Lunch Break</b>	

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