

## Program at a Glance

Day 1 - 22 Nov. 2024	
15:00-17:30	Registration

Day 2 - 23 Nov. 2024	
7:30- 9:00	Registration
	Shanghai Hall
9:00- 9:15	Opening Speech
9:15- 10:00	Plenary Speech: Prof. Dr. Jingang Lai, IEEE Senior Member Title: Distributed Collaborative Intelligent On High-Density Renewable Energy Clusters
10:00- 10:45	Plenary Speech: Prof. Dr. Adrian Ioinovici, IEEE Fellow Title: Switched-capacitor Multilevel Inverters for Photovoltaics Supplied Grids
10:45- 11:30	Plenary Speech: Prof. Dr. Chang-Pu Sun, Academician Title: Quantum Reliability and Safety Issues (Online)
11:30- 12:00	Group Photo & Poster Session
12:00- 13:00	Lunch Break
	Wuhan Hall
	Zhuhai Hall
13:00- 15:00	Session 5
15:00- 15:30	Tea Break
15:30- 18:30	Session 5
18:30- 20:00	Gala Dinner (Shanghai Hall)

Day 3 - 24 Nov. 2024	
	Wuhan Hall
	Zhuhai Hall
8:30- 10:30	Session 5
10:30- 11:00	Tea Break
11:00- 12:30	Session 13
12:30- 14:00	Lunch Break & Poster Session
14:00- 15:30	Session 13
15:30- 16:00	Tea Break
16:00- 18:00	Session 17
18:00- 18:30	Closing and Award Ceremony (Wuhan Hall)
18:30- 20:00	Dinner

# ICSEE' 2024 Program

武汉厅 (Wuhan Hall)		
23 Nov. 2024		
S5: Nanotechnology Electronics		
Chaired by Prof. Dr. Haibo Shu and Prof. Dr. Lin Wang		
13:00-13:30	Keynote Speaker <b>Prof. Dr. Dehui Li</b>	Low-dimensional chiral perovskites and their heterostructures for optoelectronic applications
13:30-13:50	Invited Speaker <b>Prof. Dr. Shuang Qiao</b>	Boosting bulk photovoltaic effect in transition metal dichalcogenide by edge semimetal contact
13:50-14:10	Invited Speaker <b>Dr. Jie Deng</b>	On-chip infrared polarization detection
14:10-14:30	Invited Speaker <b>Prof. Dr. Xiaolong Chen</b>	Tune photovoltaic effect in two-dimensional materials and its applications
14:30-14:50	Invited Speaker <b>Prof. Dr. Junran Zhang</b>	Two-dimensional halide optoelectronic materials and devices
15:00-15:30	Tea Break	
15:30-16:00	Keynote Speaker <b>Prof. Dr. Chao Zhu</b>	Surface/interface-dominated growth dynamics of novel transition metal dichalcogenide monolayers
16:00-16:20	Invited Speaker <b>Dr. Wei Gao</b>	Two-dimensional polar reconfigurable Schottky barrier phototransistor
16:20-16:40	Invited Speaker <b>Dr. Jiangbin Wu</b>	New Principle Calculating Device Based on Low-dimensional Materials
16:40-17:00	Invited Speaker <b>Prof. Dr. Qingqing Ji</b>	Engineering Hysteresis in MoS2 Transistors
17:00-17:20	Invited Speaker <b>Prof. Dr. Qingliang Feng</b>	Electrochemical exfoliation of black phosphorus
17:20-17:40	Invited Speaker <b>Prof. Dr. Xing Zhou</b>	Ion-electron coupled two-dimensional materials
17:40-18:00	Invited Speaker <b>Prof. Dr. Shengli Zhang Team</b>	TBD
18:30-20:00	Gala Dinner (Shanghai Hall)	

**珠海厅 (Zhuhai Hall)****23 Nov. 2024****S11. Power Electronics, Electrical Grid and Energy Systems.****S15. Instrumentation and Measurement****Chaired by Prof. Dr. Wei Wang**

13:00-13:30	Keynote Speaker <b>Prof. Dr. Shunli Wang</b>	Science and Engineering of Smart Energy Storage System Safety Monitoring Electronics with Industrial Application
13:30- 13:45	Selected Speaker <b>Guang-Ping Zheng</b>	Energy storage properties of novel high-entropy dielectric materials
13:45- 14:00	Selected Speaker <b>Chen Chen</b>	Permeability-Gradient Nanocrystalline Toroidal Core with Uniform Magnetic Flux Density Distribution
14:00- 14:15	Selected Speaker <b>Prof. Dr. Supachai Prainetr</b>	Optimized CO <sub>2</sub> Emission Forecasting for Thailand's Electricity Sector Using Multivariate Gray Models
14:15- 14:30	Selected Speaker <b>Prof. Dr. Nutchanun Prainetr</b>	Optimization in Wind Power System Methodologies
14:30-14:45	Selected Speaker <b>Supus Kotpay</b>	Optimizing Fault Detection Algorithms in Synchronous Generators Using Wavelet Transform and Fuzzy Logic for Enhanced Fault Analysis
14:45-15:00	Selected Speaker <b>Prof. Sittadach Morkmechai</b>	A Novel Real-Time Monitoring and Fault Detection Platform for Enhanced Reliability in BLDC Motor Drive Systems
15:00-15:15	Selected Speaker <b>Xin Mai</b>	Realization of Vibration Detection for Large Equipment based on High-speed Photography Technology
15:15-15:45	<b>Tea Break</b>	

**Session 7. Control, Robotics and Autonomous Systems****Session 10. Machine and Computer Vision for Electronics****Session 8. Deep Learning and Data Analytics in Electronics****Chaired by Prof. Dr. Zhiyuan Zhu**

15:45-16:15	Keynote Speaker <b>Prof. Dr. Zhiyuan Zhu</b>	3D integrated PIN detector and self-powered sensing
16:15-16:30	Selected Speaker <b>Sheying Li</b>	A system control and waveform acquisition framework for kicker at SHINE
16:30-16:45	Selected Speaker <b>Wen Li</b>	Finite-time Sequential Layered Switching Control for Transition Process of Tilt-rotor Aircraft
16:45-17:00	Selected Speaker <b>Hongyang Sun</b>	Map construction of a tracked heavy-duty robot based on an improved RBPF-SLAM algorithm in an unknown environment
17:00-17:15	Selected Speaker <b>Hao Yuan</b>	Stability study of electroless capacitor-less drive system based on BP neural network
17:15-17:30	Selected Speaker <b>Max Chen</b>	Analysis and Experimental Evaluation on Switched-Capacitor Equalizer for Nickel-Zinc Battery Energy Storage System
17:30-17:45	Selected Speaker <b>Kangkang Zhang</b>	Applying Existing Large Language Models for PCB Routing
18:30-20:00	<b>Gala Dinner (Shanghai Hall)</b>	

**武汉厅 (Wuhan Hall)****24 Nov. 2024****S5: Nanotechnology Electronics**

Chaired by Prof. Dr. Haibo Shu and Prof. Dr. Lin Wang

8:30-9:00	Keynote Speaker <b>Prof. Dr. Qing Liu</b>	Ferroelectricity at two dimensional limit
9:00-9:15	Selected Speaker <b>Yushuang Zhang</b>	Defect Engineering of 2D Semiconductors for Emission and Carrier Polarity

**S13. Millimeter and Terahertz Wave Technology**

Chaired by Prof. Dr. Chaohai Du

9:15-9:45	Keynote Speaker <b>Prof. Dr. Xiaotao Han</b>	Development of a 1 THz Gyrotron terahertz wave source based on 40 T flat-top pulsed magnetic field
9:45-10:05	Invited Speaker <b>Prof. Dr. Ping Zhang</b>	Study on electronic Terahertz radiation source combining vacuum electronics and semiconductor Technologies
10:05-10:25	Invited Speaker <b>Dr. Xiang Gao</b>	High-Sensitivity, Lightweight and Miniature Cryogenic Receiver Technologies for Terahertz Communication and Sensing Applications
10:30-11:00	Tea Break	
11:00-11:20	Invited Speaker <b>Dr. Jun He</b>	Design and Development of Q-band Amplitude-Phase Coherent Space Traveling Wave Tube
11:20-11:40	Invited Speaker <b>Dr. Yuan Zheng</b>	Low-loss Terahertz Traveling Wave Tube
11:40-12:00	Invited Speaker <b>Dr. Xingwang Bian</b>	Research and Application of Terahertz Traveling Wave Tube Technology
12:00-12:20	Invited Speaker <b>Dr. Shaomeng Wang</b>	Investigation on THz Traveling Wave Tubes with Gradient-Dispersion Properties
12:20-14:00	Lunch Break	
14:00-14:30	Keynote Speaker <b>Prof. Dr. Chaohai Du</b>	Free-Electron-Exciting On-Chip Terahertz Devices
14:30-14:50	Invited Speaker <b>Prof. Dr. Donghui Xia</b>	Development of the 1 MW 105GHz ECRH system and related technologies on J-TEXT
14:50-15:10	Invited Speaker <b>Dr. Shaozhe Zhang</b>	A system of the 40T Flat-top Pulsed Magnet Field for 1THz Gyrotron
15:10-15:30	Invited Speaker <b>Dr. Xianfei Chen</b>	Competition and cooperation of vortex waves with oppositely rotating directions in THz gyrotron
15:30-16:00	Tea Break	
16:00-16:20	Invited Speaker <b>Prof. Dr. Houxiu Xiao</b>	Development of Terahertz Gyrotrons for Frontier Scientific Applications in WHMFC

**S17. Quantum Technology**

Chaired by TBD

16:20-16:50	Keynote Speaker <b>Dr. Leilei Huang</b>	Hybrid Quantum-Classical Communication Techniques: Bridging the Gap Between Quantum and Classical Networks
16:50-17:10	Invited Speaker <b>Prof. Dr. Hongyi Zhou</b>	Continuous-Variable Source-Independent Quantum Random Number Generator with Phase-insensitive Detectors
17:10-17:30	Invited Speaker <b>Prof. Dr. Xiaolong Su</b>	Continuous-variable entanglement assisted quantum communication through fiber channels
17:30-17:50	Invited Speaker <b>Dr. Liang Xu</b>	Direct characterization of general quantum processes via generalized weak values
18:00-18:30	Closing and Award Ceremony (Wuhan Hall)	

珠海厅 (Zhuhai Hall)

24 Nov. 2024

**S4. Communications and Networks**  
**S6. Signal Processing and Applications**

Chaired by Prof. Dr. Ting Wang

8:30-9:00	Keynote Speaker <b>Prof. Dr. Yangming Zhao</b>	Communication Protocol Design for Quantum Data Networks: Opportunities and Challenges
9:00-9:30	Keynote Speaker <b>Prof. Dr. Pei Liu</b>	Statistical Description of Channel Estimation Error in Massive MIMO Systems With Ricean Fading
9:30-10:00	Keynote Speaker <b>Prof. Dr. Lu Wang</b>	Vision-Inspired Perception: New Frontiers in Industrial and Home Health Technologies
10:00-10:30	Tea Break	
10:30-11:00	Keynote Speaker <b>Prof. Dr. Leimin Wang</b>	Dynamical analysis and finite-time control of memristive neural networks
11:00-11:15	Selected Speaker <b>Zeyu Wang</b>	Application of the GPU Tensor Core in EEG Signal Processing: A Case on Independent Component Analysis
11:15-11:30	Selected Speaker <b>Pan Lu</b>	A Cost-Effective Solution for Shortlines' Rail Track Condition Monitoring: An Automated AI Rail Extraction Framework for Low-Density LiDAR data Without Sensor Configurations

**S12. Microelectronics**  
**(Miniaturized Electronic Devices and Systems, Silicon Chips, and Integrated Circuits)**

Chaired by Prof. Hei Wong

11:30-11:45	Invited Speaker <b>Prof. Dr. Bo Yi</b>	Fabrication and TCAD Optimization for a SiC Trench MOSFET with Integrated TJBS
11:45-12:15	Invited Speaker <b>Dr. Shuangzan Lu</b>	Key technologies for large-size silicon-based III-nitride epitaxy
12:30-14:00	Lunch Break	
14:00-14:30	Keynote Speaker <b>Dr. Jun Liu</b>	Compound Semiconductor Material Technology and Industrial Development Trends Introduction
14:30-14:50	Invited Speaker <b>Dr. Changyu Hu</b>	Silicon MOSCAP ring modulator: arbitrary design rule of the modulation bandwidth, phase efficiency and compactness
14:50-15:10	Invited Speaker <b>Dr. Hanxiang Jia</b>	Fabrication of wafer-level Al <sub>1-x</sub> Sc <sub>x</sub> N stack layer for SMR-BAW application
15:10-15:30	Invited Speaker <b>Dr. Xiaoming Ge</b>	High-efficiency, low-damage GaN etching technology
15:30-16:00	Tea Break	
16:00-16:30	Keynote Speaker <b>Prof. Dr. Shurong Dong</b>	TBD
16:30-16:50	Invited Speaker <b>Dr. Zhiheng Quan</b>	Heterogeneous integration of Silicon-Photonic Integrated circuits by Transfer Printing
16:50-17:10	Invited Speaker <b>Dr. Jieqiong Zhang</b>	Wafer Bonding Technology for 3D Heterogeneous Integration Applications
17:10-17:30	Invited Speaker <b>Dr. Shili Xiang</b>	A new technique for manufacturing floating T-gate of GaN high electron mobility transistor
17:30-17:50	Invited Speaker <b>Dr. Bo Zhao</b>	Nano-TSV Fabrication for 3D-IC Integration Application
18:00-18:30	Closing and Award Ceremony (Wuhan Hall)	

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## List of Posters

Name	Title
Xiaoyu Chen	Research on Health Evaluation Method of Medical Device based on Multiple Electrical Performance Parameters
Zini Zhuang	Vehicle VIN Recognition Based on Deep Learning and OCR
Meng Zhang	An Optimization of the Biomagnetism Model for the BEST Software
Meng Zhang	AFORRD: An automatic and flexible circadian rhythm disturbances regulation device
Huicong Liu	Multi-scale vehicle image enhancement based on hybrid chaotic particle swarm algorithm
Yue Cheng	Tellurium/MoS <sub>2</sub> heterojunction for wavelength-tunable polarity self-driven photodetector and optically switchable inverter
MUHAMMAD AHSAN IQBAL	Thermally Activated Delayed Fluorescence Triplet State Excitons for High-Performance Organic Photodetectors
Dawei Zhou	Growth of millimeter-sized 2D metal iodide crystals induced by ion-specific preference at water-air interfaces
Guixiang Zhan	Twist-varied interlayer couplings in two-dimensional chiral homojunctions
Congzhou Li	Rare earth halide double perovskite for broad range controllable photoluminescence