ISEE 2025 – DETAIL PROGRAM

The 2025 International Symposium on Electrical and Electronics Engineering
HCMC University of Technology, October 23-24, 2025

THURSDAY, OCTOBER 23, 2025		
Time	**Content**	**Speaker**
Plenary session-Hall B6		
07:30-08:30	Registration	
08:30-09:00	Opening Ceremony	
09:00-09:45	**Keynote 01:** Bilevel Optimization in the power and energy fields Chair:	Prof. Yoshikazu Fukuyama, Meiji University, Japan
09:45-10:30	**Keynote 02:** Optical Connectivity in the AI Era Chair:	TBA Marvell Technology Vietnam
10:30-10:45	Coffee break	
10:45-11:30	**Keynote 03(*):** Secure and Scalable IoT: An IoT Network Platform Based on Network Overlay and MAC Chair:	Prof. Tony Q.S. Quek, Singapore University of Technology and Design (Online via Google meeting)
11:30-12:15	**Keynote 04:** Enhanced Power Quality in Water Electrolysis Power Supplies via Vienna Rectifiers Chair:	Prof. Hag Wone Kim, Korea National University of Transportation
12:15-13:30	Lunch break	

THURSDAY, OCTOBER 23, 2025

Room: XXX B6

Time	Content	Speaker
PES-1: Power & Energy Systems-Time 13:30-15:10 **Co-Chairs:**		
13:30-13:50	A Multi-Objective Approach for Integrated Energy Hub Including Waste Incineration Plant, Carbon Capture and Energy Storage Systems	Vinh Thanh Phan *Soonchunhyang University, Korea*
13:50-14:10	A Proposed Hybrid Conditional Multi-Modal Deep Learning Framework for Harmonic Source Identification at PCC Regarding Photovoltaics	Cuong Chi Dang *Ho Chi Minh City University of Technology, Vietnam*
14:10-14:30	Applying Newton-Raphson Based Optimization to Find Optimal Electric Vehicle Charging Station Locations in Distribution Networks	Hung Duc Nguyen; Khoa Hoang Truong *Ho Chi Minh City University of Technology, Vietnam*
14:30-14:50	Strategic Turbine Addition in Existing Wind Farms: a Symbiotic Organisms Search Algorithm Approach	Khoa Dang Nguyen *Can Tho University, Vietnam*
14:50-15:10	Day-Ahead Load Forecasting in Microgrids via CNN-LSTM Enhanced with Reinforcement Learning	Nhat An Ho; Hương Phạm; Minh Trinh Duc *Vietnam National University of Agriculture*
15:10-15:30	Coffee break	
PES-2: Power & Energy Systems-Time 15:30-16:50 **Co-Chairs:**		
15:30-15:50	Mitigating the Effects of Renewable Energy Fluctuations in Power Sytem Using PSO-Optimized Control Algorithms	Phong Thanh Tran *The University of Science – VNUHCM, Vietnam*
15:50-16:10	Fault-Probability-Aware Objective for Relay Setting Optimization in Distribution Networks Using an Enhanced Symbiotic Organisms Search Algorithm	Tuan Khanh Dang; Nhat Huy Huynh *Ho Chi Minh City University of Technology, Vietnam*

Time	Title	Author
16:10-16:30	Information-Theoretic Multi-View Clustering for Robust and Interpretable Analysis of Electrical Load Profiles	Thang Trong Nguyen *Ho Chi Minh City University of Technology, Vietnam*
16:30-16:50	An Improved Coronavirus Herd Immunity Optimization Algorithm for Optimal Scheduling of Electric Vehicle Charging and Discharging with Integrated Distributed Generation	Thien Minh Vo *Can Tho University of Technology, Vietnam*
16:50-17:10	Maximum Torque Distribution per Loss for Dual Three-Phase PMSM for Transportation	Le Tam Pham; Ngac Ky Nguyen *Arts et Metiers Institute of Technology, France*

THURSDAY, OCTOBER 23, 2025		
Room: YYY B6		
Time	**Content**	**Speaker**
CAS-1: Control & Automation-Time 13:30-14:50 **Co-Chairs:**		
13:30-13:50	Research on an Adaptive Super-Twisting Sliding Mode Fault Tolerant Control for Wheeled Mobile Robot	Bao Nguyen Nguyen *Ho Chi Minh City University of Technology, Vietnam*
13:50-14:10	Predicting the Behavior of Cracks on Offshore Structures over Time Based on the Optical Flow Method Combined with the Support Vector Regression Optimization Model	Dung Ngo *Ho Chi Minh City University of Technology, Vietnam*
14:10-14:30	Warehouse Management System Integrated with Scheduling Algorithm for Small and Medium-Sized Manufacturing Plants	Nguyen The Anh Tu *Ho Chi Minh City University of Technology, Vietnam*
14:30-14:50	Reinforcement Learning-Based Adaptive PID Optimal Control for Active Suspension System	Phuong Duy Huynh *Ho Chi Minh City University of Technology, Vietnam*
14:50-15:10	Adaptive Time-Delay Estimation-Driven Model-Free Sliding Mode Control for Robotic Manipulator Systems	Tien Dung Le *The University of Danang, Vietnam*
15:10-15:30	Coffee break	
CAS-2: Control & Automation -Time 15:30-17:10 **Co-Chairs:**		
15:30-15:50	Coordinate-Consistent Localization via Continuous-Time Calibration and Fusion of UWB and SLAM Observations	Tien-Dat Nguyen *Ho Chi Minh City University of Technology, Vietnam*
15:50-16:10	Event-Triggered Robust Optimal Control: Application to Single-Wheel Self-Balancing Robots	Thien Duc Huynh *Ho Chi Minh City University of Technology, Vietnam*

16:10-16:30	Real-Time Deep Learning Approach for Outdoor Mobility Support of the Visually Impaired	Vinh Do; Phuc Hoang; Bui Anh *Ho Chi Minh City University of Technology, Vietnam*
16:30-16:50	States and Disturbance Observers for Sensorless Control of PMSM with Overcurrent Protection	Vo Hoang-Dung *Ho Chi Minh City University of Technology, Vietnam*
16:50-17:10	Design and Implementation of Autonomous Vehicle System Model for Transporting Goods in Warehouse	Tuan Nguyen-Thanh *Ho Chi Minh City University of Technology, Vietnam*

THURSDAY, OCTOBER 23, 2025

Room: XXX B6

Time	Content	Speaker
PEA-1: Power Electronic and Applications-Time 13:30-15:10 **Co-Chairs:**		
13:30-14:10	**Invited talk:** Hybrid thermal modeling and IR-based validation for junction temperature estimation	Vo Nguyen Qui Tu *Infineon Technologies Vietnam Company Ltd.*
14:10-14:30	Load Current Prediction Using Recent Deep Learning Technology for Auxiliary Power Supply Systems in Railway Vehicles	Hag Wone Kim *Korea National University of Transportation*
14:30-14:50	Improving the Efficiency of Push-Pull Converter Using Resonance	Chan-Viet Nguyen *Ho Chi Minh City University of Technology, Vietnam*
14:50-15:10	Deadbeat Current Control for 4 Level Nested Neutral Point Clamped Inverter	Hiếu Nguyễn; Duy-Long Nguyen *Hanoi University of Science and Technology, Vietnam*
15:10-15:30	Coffee break	
PEA-2: Power Electronic and Applications -Time 15:30-16:50 **Co-Chairs:**		
15:30-15:50	A Hybrid Symmetric Zero-Average-CMV PWM Strategy to Reduce Current Ripple for a Three-Level NPC Converter	Khoa Pham *Ho Chi Minh City University of Technology, Vietnam*
15:50-16:10	Simplified Model Predictive Control of LC-Filtered 4 Level T-Type Nested Neutral Point Clamped Inverter	Pham Duc; Hiếu Nguyễn *Hanoi University of Science and Technology, Vietnam*
16:10-16:30	Application of Neural Networks for Fault Detection of Module in Decentralized DC/DC Power Converters	Phu Cong Nguyen *Ho Chi Minh City University of Technology, Vietnam*

16:30-16:50	Switching-Cell Current Source DC-DC Converters	Tan Luong Van *Ho Chi Minh City University of Industry and Trade, Vietnam*
16:50-17:10	Development of a Phase Synchronization Detection Device for Low-Voltage Power Grid Integration	Thang Viet Tran; Quoc Van Nguyen *HUTECH University, Vietnam*

Time	Content	Speaker
FRIDAY, OCTOBER 24, 2025		
Room: ZZZ B6		
Time	Content	Speaker
CES-1: Communication Engineering Systems-Time 08:00-09:40 **Co-Chairs: Assoc. Prof. Ha Hoang Kha & Dr. Hoang Manh Ha**		
08:00-08:20	SEMT: Static-Expansion-Mesh Transformer Network Architecture for Remote Sensing Image Captioning	Khang Truong *Ho Chi Minh City University of Technology, Vietnam*
08:20-08:40	The Impact of Frequency Bands on Acoustic Anomaly Detection of Machines Using Deep Learning-Based Model	Tin Nguyen *Ho Chi Minh City University of Technology, Vietnam*
08:40-09:00	Optimizing Siamese Neural Networks with Top-k Hard Triplet Mining for Handwritten Signature Recognition	Chau Dang; Tram Pham *Ho Chi Minh City University of Technology, Vietnam*
09:00-09:20	Sum-Rate Maximization in Multi-Cell Multi-IRS MIMO Systems via Joint Precoder and Reflection Coefficient Optimization	Ha Hoang Kha *Ho Chi Minh City University of Technology, Vietnam*
09:20-09:40	Sum-Rate Optimization in RIS-Aided mmWave Massive MIMO Systems	Ha Hoang Kha *Ho Chi Minh City University of Technology, Vietnam*
09:40-10:00	Coffee break	
CES-2: Communication Engineering Systems-Time 10:00-11:20 **Co-Chairs: Assoc. Prof. Ha Hoang Kha & Dr. Hoang Manh Ha**		
10:00-10:20	Two-Stage Framework for Automated Caries Segmentation: From ROI-Based Prediction to Full-Image Mask Reconstruction	Huy Nhat Huynh *Ho Chi Minh City University of Technology, Vietnam*
10:20-10:40	Towards Scalable EEG-Based Emotion Recognition for Mental Health: A Multi-Task Learning Approach	Ly Khanh Nguyen *Ho Chi Minh City University of Technology, Vietnam*

10:40-11:00	Transformer-Based Multimodal Learning for Human-Machine Interface with 6LoWPAN Networks	Song Ngoc Minh Chan *Ho Chi Minh City University of Technology, Vietnam*
11:00-11:20	Enhancing Urban Traffic Safety with VANET: A Simulation-Based Multi-Scenario Alert System	Tai Duc Vo *Ho Chi Minh City University of Technology, Vietnam*

Time	Content	Speaker
FRIDAY, OCTOBER 24, 2025		
Room: WWW B6		
EES-1: Electronics & Embedded-Time 08:00-09:20 **Co-Chairs:**		
08:00-08:20	A Comprehensive Review on Vision and Deep Learning Based Brain Tumor Detection: Advancements	Jetendra Joshi *NIIT University, India*
08:20-08:40	A Comprehensive Review of Vision and IoT Based Smart Soil Nutrient and Crop Monitoring: Challenges and Opportunities	Jetendra Joshi *NIIT University, India*
08:40-09:00	Blockchain - Based Remote Firmware Update for IoT Systems	Vinh Truong Quang *Ho Chi Minh City University of Technology, Vietnam*
09:00-09:20	Efficient Anomaly Detection Using Machine Learning in IoT Sensor Network	Jetendra Joshi *NIIT University, India*

FRIDAY, OCTOBER 24, 2025

Room: XXX B6

Time	Content	Speaker
PES-3: Power & Energy Systems-Time 13:30-14:50 **Co-Chairs:**		
08:00-08:20	Dual Loop Voltage Control with ABC-Frame PR Current Control and Load Current Compensation in Locomotive Auxiliary Power Units	Jaeha Hwang *Korea National University of Transportation*
08:20-08:40	Load Frequency Control Design for Two Area Power System	De Huynh Tan; Van Nguyen Ngoc Thanh *Ton Duc Thang University, Vietnam*
08:40-09:00	Speed Estimation of a Wound Rotor Induction Machine Using Stator Current Spectrum	Nguyen Ngoc Tu *Ho Chi Minh City University of Technology, Vietnam*
09:00-09:20	Enhancing Reactive Power Sharing in Microgrids Through Emulated Capacitive Reactance Compensation of Soft-Saturating Filter Inductors	Pham Minh Duc *Ho Chi Minh City University of Technology, Vietnam*
09:20-09:40	mSDFT-Based Cascaded Control with an ANN-Tuned PI for Harmonic Mitigation in Grid-Tied Inverters	Pham Minh Duc; Kien Trinh *Ho Chi Minh City University of Technology, Vietnam*
09:40-10:00	Coffee break	
PES-4: Power & Energy Systems-Time 15:30-17:20 **Co-Chairs:**		
10:00-10:20	Implement Real-Time Energy Cost Optimization for Microgrids by Using a Battery Energy Storage System Based on OPAL-RT	Phuc Nguyen Van; Phong Nguyen *FPT Digital, Vietnam*
10:20-10:40	Applying the MSE Index to Detect Total Speed Sensor Failure in Induction Motor Drives	Phuong Duy Nguyen *Saigon University, Vietnam*

10:40-11:00	An Improved Method to Simulate the Frequency Response Characteristic of the Complex Liquid-Solid Dielectric of Power Transformers	S. H. Cuong Nguyen *Southern Power Company - Electric Testing Company, Vietnam*
11:00-11:20	Improved Autotransformer Model for Frequency Response Analysis Studies	S. H. Cuong Nguyen *Southern Power Company - Electric Testing Company, Vietnam*
11:20-11:40	Next-Gen Predictive Maintenance of Medium Voltage Cable Insulation Using Intelligent Parameter Estimation	Naveen Garg *Cameron LNG, USA*