IEEE ISPCE-AS 2025

Programme

IEEE International Symposium on Product Compliance Engineering-Asia 2025

November 28-30, 2025

Sanya, China

https://dl2link.com/ISPCE-AS2025/

Organized by: IEEE Product Safety Engineering Society

Sponsored by: IEEE Product Safety Engineering Society, IEEE Consumer Technology Society

01 Messages from IEEE ISPCE-AS 2025 Organizing Committee

Dear Guests and colleagues of the ISPCE-AS 2025,

It is my great pleasure to invite and welcome you to the IEEE 2025 ISPCE-AS Symposium (ISPCE-AS 2025) organized by the Product Safety Engineering Society of the IEEE. ISPCE-AS 2025 will be held on 28-30 November 2025 in Sanya, China.

ISPCE-AS 2025 will fully dedicate to the theme "Product Safety for Smart City". Topics of ISPCE-AS 2025 cover (1) Emerging IoT technologies such as 5G, NB IoT, LoRa, Sigfox, RFID, NFC etc for safety applications e.g. landslides, IoTree, IoT water, …(2) Drones for building applications, healthcare, automobiles, road toll (3) artificial intelligence, robotics, stems, V2X, etc. (4) Mobile communication, transportation, energy efficiency (5) Public safety, critical communication (6) Internet of Things, Spectrum Policy (7) Inherently safer products and equipment (8) Product Safety services (9) Training and continuing education (10) Regulations and standards (11) Risk management (12) Workplace product safety (13) System and Software safety (14) Human factors, product compliance, smart sensors compliance. There will be Regular Sessions, Special Sessions, Tutorials and Visits. I am sure professionals and engineers may exchange ideas and learn from one another.

Please make yourself available for these three days of conference for informative scientific and technological presentations and discussions with professionals and colleagues.

The Organizing Committee (OC) does not only provide you the chance to enjoy an informative and stimulating atmosphere but also set up a first-class conference program. I want to make you aware that the City of Sanya is wonderful and professional environments for smart city development and thus are excellent venues for professional exchange. The OC is thoughtful to include the authentic food, welcome reception and conference dinner into the registration fee.

I am confident that we will have an excellent time during these three days at ISPCE-AS 2025 and that at the end of the conference we will learn new knowledge and ideas. Please join us at ISPCE-AS 2025!

Best wishes,

Organizing Committee, ISPCE-AS 2025

02 Organization of IEEE ISPCE-AS 2025

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Weifeng Zhao, PRC
Kim-Fung Tsang, H.K.

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02 Organization of IEEE ISPCE-AS 2025

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03 Programme Overview

Tentative Rundown on 29 November 2025 (Saturday)

Time	Event	Duration
9:00-9:30	Opening and Welcome Speech	30mins
9:30-10:05	Keynote speech 1: AI-Empowered Video Analytics Systems - By Prof. Haipeng Dai, Nanjing University, China	35mins
10:05-10:15	Q&A of Keynote speech 1	10mins
10:15-10:25	Coffee Break	10mins
10:25-11:00	Keynote speech 2: Preliminary Exploration of Edge Intelligence Design - By prof. Deyu Zhang, Central South University, China	35mins
11:00-11:10	Q&A of Keynote speech 2	10mins
11:10-11:45	Keynote speech 3: AIDT: Generative AI-Powered Digital Twin for Smart City Management - By prof. Longbiao Chen, Xiamen University, China	35mins
11:45-11:55	Q&A of Keynote speech 3	10mins
11:55-14:00	**Lunch Break**	
14:00-17:00	Session 1: PPT Report	15mins per author
14:00-17:00	Session 2: PPT Report	15mins per author
17:15-17:45	**Closing Ceremony**	30mins
END		

Tentative Rundown on 30 November 2025 (Sunday)

Time	Event	Duration
9:00-11:00	Visit Wuhan University of Technology Sanya Science and Education Innovation Park	120mins
END		

04 Programme in Detail

Opening

Date & Time: November 29th (Saturday), 9:00-11:55
Venue: Crowne Plaza Sanya Yazhou Bay, No.1 Xindao Street, Yazhou Science and Technology City, Sanya, Hainan
Host: Prof. Haijun Zhang

Opening Speech from General Chair of IEEE ISPCE-AS 2025: *Kim-Fung Tsang, City University of Hong Kong*

Keynote Speech

Date & Time: November 29th (Saturday), 9:30-11:55
Venue: Crowne Plaza Sanya Yazhou Bay, No.1 Xindao Street, Yazhou Science and Technology City, Sanya, Hainan

1. **Keynote speech: AI-Empowered Video Analytics Systems**
   Prof. Haipeng Dai, Nanjing University, China
   Time: 9:30-10:05

2. **Keynote speech: Preliminary Exploration of Edge Intelligence Design**
   By prof. Deyu Zhang, Central South University, China
   Time:10:25-11:00

3. **Keynote speech: AIDT: Generative AI-Powered Digital Twin for Smart City Management**
   - By prof. Longbiao Chen, Xiamen University, China
   Time:11:10-11:45

Session 1

Date & Time: November 29th (Saturday), 14:00-17:00
Venue: Crowne Plaza Sanya Yazhou Bay, No.1 Xindao Street, Yazhou Science and Technology City, Sanya, Hainan

1. (14:00-14:15) **Cloud-Edge Structure Based Adaptive Optimal Aeration Control for WWTP**
   Dingyuan Chen, Cuili Yang and Junfei Qiao
2. (14:15-14:30) **A Robust Single Snapshot DOA Estimation using Sparse Embedding and Cross-Covariance Attention Model**
   Fang Wang, Chao Wang, Fangfang Chen, Tingkai Hu and Yawei Shi
3. (14:30-14:45) **An Enhanced Matrix Completion-Based Interference Mitigation Method for FMCW Radar**
   Long Zeng, Shuiqiang Yang, Bing Liao, Bin Gu and Zhen Luo
4. (14:45-15:00) **An actionable part semantic segmentation method base on multi-view feature fusion for embodied robotics**
   Jialei An, Jing Zhao, Naiqi Wu, Ke Huang, Lijuan Yang and Menghua Zhang
5. (15:00-15:15) **Unsupervised Sparse Imaging in 3D mmWave SAR with Physical Priors**
   Junjie Xu, Zhihao He, Chou Wang, Bing Liu, Hailing Xiong and Zhen Luo
6. (15:15-15:30) **A Super-Resolution Point Cloud Generation Method for mmWave Radar**
   Fang Wang, Chao Wang, Peng Gao, Zhenyu Wu, Xingpeng Yang and Yawei Shi
7. (15:30-15:45) **Research on Short-Term Charging Volume Prediction of Charging Stations Based on Dynamically Adaptive GNN Feature-Enhanced XGBoost**
   Wuxiao Chen, Zhijun Jiang, Yuqing Cai, Han Lin, Chenhan Zhang, Xuan Deng and Junfan Ma

8. (15:45-16:00) **Enhancing Smart City Energy Efficiency: A Clustering Framework for Charging Stations Based on Temporal Behavior Patterns**
   Wuxiao Chen, Zhijun Jiang, Yuqing Cai, Han Lin, Chenhan Zhang, Xuan Deng and Junfan Ma
9. (16:00-16:15) **Learned Image Compression for High-Fidelity 3D Microscopic Measurement Data with Channel-Wise Entropy Regularization**
   Dong Gao, Jian Liu, Jie Yu, Hongliang Guo, Lu Zhang and Peng Han
10. (16:15-16:30) **Identification of Key Points and Supply Chain Risk Assessment for China's Crude Oil Import Ports**
    Ke'Ao Bao, Jinshan Dai, Hao Li and Jingjing Cao
11. (16:30-16:45) **An Adaptive Multi-task Learning Framework for Traffic Speed Prediction**
    Jiwei Hu, Ruitao Sun, Gaofeng Tong, Lin Li and Jingling Yuan
12. (16:45-17:00) **TF-DiffEEG: High-Fidelity iEEG Reconstruction from Scalp EEG via Dual-Domain Diffusion**
    Yihang Dong, Kim-Fung Tsang and Shuqiang Wang

Session 2

Date & Time: November 29th (Saturday), 14:00-17:00
Venue: Crowne Plaza Sanya Yazhou Bay, No.1 Xindao Street, Yazhou Science and Technology City, Sanya, Hainan

1. (14:00-14:15) **EMCA-CASNet: Integrating Multi-Scale Convolution and Attention for Multi-View 3D Perception**
   Chengcheng Zheng, Xinjie Zhou, Wenhui Hu, Weiwei Liu, Ke Xiao, Hao Zhang, Hualin Ren and Penglin Dai
2. (14:15-14:30) **Knowledge-Data Dual-Guidance and Progressive Transfer: A Novel Method for Cross-Condition Fault Diagnosis of Diesel Engines**
   Yanzhuo Lin, Yu Wang, Mingquan Zhang, Xiangze Li, Ruijie Hu and Cheng Zhu
3. (14:30-14:45) **Towards Personalized QoE: A Multi-Agent Reinforcement Learning Approach for Vehicular Video Streaming**
   Yu Wang, Penglin Dai, Ke Xiao and Xincao Xu
4. (14:45-15:00) **A Self-Updating Indoor Localization Framework Based on Incremental Learning Using Wireless Signals from a Mobile Single-Station**
   Yaoxin Duan, Sheng Tao, Yue Liu, Kam-Yiu Lam, Wendi Nie and Yongli Song
5. (15:00-15:15) **Performance Evaluation of Large-Scale Instruments in Universities Based on Cloud Model**
   Tingting Gu, Zhimeng Wang, Zhitao Yuan and Lei Zhang
6. (15:15-15:30) **Adaptive Two-Layer Inspection Framework for Mitigating Security Risks in Large-Scale Vertical Domain Language Models**
   Wei Liang, Zhengkai Guo, Junqiang Li, Xiaocui Li, Junfeng Yang, Yangyan Zeng and Xiaokang Zhou
7. (15:30-15:45) **CAMP: Consensus and Inference-driven Decentralized Multi-Agent Path finding**
   Wenbin Chen, Haoxiang Zhao, Longfei Zhang, Mengwei Li and Bingyi Liu

8. (15:45-16:00) **An Adaptive Fusion Technology for Load Identification and State Awareness in Energy Storage Systems**
   Junjie Liu, Junjun Huang, Jian Liu, Jian Wang, Shuhui Yi, Zhixin Li and Jiahao Sun
9. (16:00-16:15) **A Power Quality Disturbance Recognition Method Based on Generative Adversarial Network and Multi-Instance Learning**
   Junjie Liu, Shuhui Yi, Jian Liu, Jian Wang, Junjun Huang, Zhixin Li and Jiahao Sun
10. (16:15-16:30) **Optimization of Filter Aid Dosage in Beer Filtration Process Based on Machine Learning**
    Guangwei Xia, Quan Wang and Luyun Guo
11. (16:30-16:45) **A Novel Transformer-Based Fuzzing Framework for Industrial Control Protocols**
    Yingzi Wu, Qin Qi, Jingyi Hu, Rao Kuang, Zengwang Jin, Junyi Ding and Ping Chen

Closing Ceremony

Time: November 29th (Saturday), **17:15-17:45**
Venue: Crowne Plaza Sanya Yazhou Bay, No.1 Xindao Street, Yazhou Science and Technology City, Sanya, Hainan

Summary Speech from Prof. Bingyi Liu, PC Co-Chair of IEEE ISPCE-AS 2025

Thank You!

Thank you for attending the IEEE ISPCE-AS 2025!

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