

ASEAN IVO Forum 2025 Program

Date: Wednesday, November 19, 2025
Venue: Ballroom I and Napier, One Farrer Hotel, Singapore

- 09:30** Registration
MC: Dr. Ernest Kurniawan
A*STAR - Institute for Infocomm Research, Singapore
- 10:00** **Opening Session (Ballroom I)**
Opening Address
Dr. Sumei Sun,
Executive Director,
A*STAR - Institute for Infocomm Research(I²R), Singapore
- Opening Address
Dr. TOKUDA Hideyuki
President
National Institute of Information and Communications Technology (NICT), Japan
- Welcome Remarks
H.E. ISHIKAWA Hiroshi,
Ambassador Extraordinary and Plenipotentiary of Japan to Singapore
- Invited Talk
Turning Challenges into Innovation with ICT
Ms. Arisa Siong,
Tech Policy Director, Infocomm Media Development Authority (IMDA), Singapore
- 10:35** Group Photo & Break

Oral Session: 20minutes (15 minutes for presentation and 5 minutes for Q&A)

Venue: Ballroom I

11:10 **Session 1: ICT for food**
Chair: Dr. Franz A. de Leon, Department of Science and Technology – Advanced Science and Technology Institute (DOST-ASTI), Philippines

S1-1. ICT-Enabled Food Price Forecasting System for Food Security in the Philippines

John Bacus, Kyle Nicholas Afable, Kyle Dominic Barcelo, Kienth Bryan Pantojas
 Mapúa Malayan Colleges Mindanao, Philippines

S1-2. Automating Farmer Interview Transcriptions with Speech and Generative AI: A Low-Resource ASR Approach for Cambodian Agriculture

Heng Soklay*, Him Soklong**
 *Cambodia Academy of Digital Technology, Cambodia, **NLP, Research and Innovation, Institute of Technology of Cambodia

S1-3. Agricultural IoT System with Edge Intelligence

Hoang Trong Minh
 Posts and Telecommunications Institute of Technology (PTIT), Vietnam

12:10 Lunch

13:30 **Session 3: ICT for Inclusive Digital Services and Governance**
Chair: Dr. Shamsul Bin Sahibuddin, Universiti Teknologi Malaysia (UTM), Malaysia

S3-4. Empowering Paratransit Services in Developing Countries for Clean Energy Transition and Climate Action

Noriel Christopher Caños Tiglaos*, Mark Angelo Yunzal Tacderas**, Erris Samson Sanciango**
 *ational College of Public Administration and Governance, University of the Philippines, Diliman, Philippines, **SafeTravelPH Mobility Innovations Organization Inc., Philippines

Venue: Napier

11:10 **Session 2: ICT for Environment Protection and Disaster Prevention**
Chair: Dr. Nguyen Thanh Thuy, Vietnam National University, University of Engineering and Technology (VNU UET)

S2-1. AIoT-Based Early Warning and Monitoring System for Natural Disasters and Dam Flood Risks in Lao PDR

Khmla NonAlinsavath, Vimontha Khievongphachanh, Sanouphab Phomkeona
 National University of Laos, Laos

S2-2. FloodGuard: AI-driven Flood Prediction and Alert System for Flood-Prone Regions in ASEAN

Pikul Vejjanugraha*, Jessada Karnjana**,
 *Chiang Mai University, Thailand, **The National Electronics and Computer Technology Center (NECTEC), Thailand

S2-3. Project FireFly: UAV-IoT Systems for Early Forest Fire Detection and Environmental Monitoring in Northern Thailand

Dinesh Bhatia*, Henrik Hesse**
 *RMIT University Vietnam, Vietnam, **University of Glasgow, Singapore

12:10 Lunch

13:30 **Session 4: ICT for Health and Welfare 1**
Chair: Dr. Haji Abdul Hanif bin Dato Paduka Haji Mahadi, Universiti Brunei Darussalam, UBD, Brunei

S4-4. AI-Enabled IoT-Based Hand Rehabilitation System

Ahmad Azlan Bin Ab Aziz, Awg Md Sallehudin,
 Universiti Teknologi Brunei

S3-5. Braille Translators for Low-Resource Languages in ASEAN: Use case from Khmer Braille

Rottana Ly, Nab Mat, Kimhuoy Yann
Cambodia Academy of Digital Technology, Cambodia
Speaker: Nab Mat

S4-5. Integrating AI, Sensors, and Mobile Platforms for Community-Based Elderly Support in ASEAN

Kemas Wiharja*, Husneni Mukhtar*, Fadil Al Afgani*, Willy Anugrah Cahyadi*, Hardyman Barawi**, Dayang Kartini**
*Telkom University, Indonesia, **University Malaysia Serawak (UNIMAS), Malaysia

14:10

Session 5: ICT for Secure and Smart Community 1

Chair: Dr. Cheab Sovuthy, Cambodia Academy of Digital Technology, Cambodia

14:10

Session 6: ICT for Health and Welfare 2

Chair: Dr. Kanokvate Tungpimolrut, The National Electronics and Computer Technology Center (NECTEC), Thailand

S5-6. Handshake-Free Secure Device-to-Device Communications for Disaster Relief Operations

Sye Loong Keoh*, Raymond Ching Bon Chan**
*University of Glasgow Singapore, Singapore, **Singapore Institute of Technology, Singapore

S6-6. Qu-Alz: Quantum-Enhanced Early Prediction of Alzheimer's in Southeast Asia

Sayed Tahlil Hossain*, Victor Roi Roberto**, Dimas Sakti Widyatmaja***, Mutawally Nawwar***
*Universiti Teknologi Malaysia, Malaysia, **De La Salle University Manila, Philippines, ***Bandung Institute of Technology

S5-7. AIoT-Enabled Smart Traffic Management for Sustainable and Low-Carbon ASEAN Cities

Norulhusna Ahmad*, Khoirul Anwar**, Chalee Vorakulpipat***, Nordin ramli, Pham Minh Trien****,
*Universiti Teknologi Malaysia, Malaysia, **Telkom University, Indonesia, ***National Electronics and Computer Technology Center, Thailand, ****MIMOS Berhad, Malaysia

S6-7. Development of a Spectroscopic AI-IoT Database Using Surface-Enhanced Raman Spectroscopy for Tuberculosis Diagnostic Screening Across Thailand and Laos

Kiatichai Faksri*, Somsouk Phanhkongsy**, Noppadon Nuntawong**, Mati Horprathum**,
*Khon Kaen University, Thailand, **National Electronics and Computer Technology Center, Thailand
Speaker: Noppadon Nuntawong

S5-8. GNSS-API: GNSS Anomaly Perception and Intelligence (AI/ML Driven)

Chee Kiat Seow*, Soon Yim Tan**, Noriel Tiglao***, Lin Yola****, Sye Loong Keoh*, Hua Seng Tan, Jimmy****, Qi Cao*, Dinesh Manandhar*****
*University of Glasgow, Singapore, **Nanyang Technological University, Singapore, ***University of the Philippines, Philippines, ****Universitas Indonesia, Indonesia, *****Singapore Land Agency, Singapore, *****The University of Tokyo

S6-8. AI-Powered Internet-of-Medical-Things System for Contactless Monitoring of Dengue Fever in ASEAN

Hoang Thi Yen*, Van-Phuc Hoang*, Nguyen Linh Trung**, Guanghao Sun**, Ng Yin Kwee****, Nguyen Vu Trung****, Le Thi Hoi*****, Phutphalla Kong*****
*Le Quy Don Technical University, Vietnam **Vietnam National University, Vietnam, ***The University of Electro-Communications, Japan, ****Nanyang Technological University, Singapore, *****Ministry of Health, Vietnam, *****Hanoi Medical University (HMU), Vietnam, *****Cambodia Academy of Digital Technology, Cambodia
Speaker: Van Phuc Hoang

15:10 Break

15:40 Session 7: ICT for Secure and Smart Community 2
Chair: Dr. Khin Mar Soe, University of Computer Studies, Yangon, Myanmar

S7-9. Envisioning a Secure, Hyper-Connected Future: Cybersecurity for 5G, 6G & Beyond

Marcus Tan

A*STAR, Institute for Infocomm Research (I²R), Singapore

S7-10. HackAware: Cybersecurity and Privacy Awareness and Personalized Multilingual Chatbot

Aye Nyein Mon, Wai Yan Tun, Phyo Zaw Linn, Thi Han Soe, Lynn Myat Bhone, Hein Htet San

University of Computer Studies, Yangon, Myanmar

16:20 Session 9: ICT for Advanced Technologies and Applications 1
Chair: Dr. Biplab Sikdar, NUS, Singapore

S10-11. Toward Society 5.0: Cross-Industry Open Service Platform and Invitation to Innovation Bridge @TOKYO

Aika Yamashita, Kentaro Ishizu

National Institute of Information and Communications Technology, Japan

S10-12. TN-NTN Convergence for Ubiquitous Connectivity in Future Networks

Ernest Kurniawan

A*STAR - Institute for Infocomm Research, Singapore

15:10 Break

15:40 Session 8: ICT for Advanced Technologies and Applications 2
Chair: Ms. Woro Indah Widiastuti, Ministry of Communication and Digital Affairs (MCDA), Indonesia

S8-9. Real-Time Wave Energy Forecasting Using Physics-Informed Kolmogorov-Arnold Networks and Wave Tank Experiments

Ho Jun Ang, Hayati Pg Hj Md Yassin, Daphne Teck Ching Lai

Universiti Brunei Darussalam, Brunei

S8-10. Resource-Efficient Approach for Large-Scale Genome-Wide Association Studies

Mulya Agung*, Albert Tenesa**, Mustafa İsmail Özkaraca**, Pau Navarro**

*Institut Teknologi Sains Bandung, Indonesia, **University of Edinburgh, University of Edinburgh, United Kingdom

16:20 Session 10: ICT for Advanced Technologies and Applications 3
Chair: Dr. Choong Khong Neng, MIMOS Berhad, Malaysia

S10-11. Research and Development on Multilingual, Multimodal, and Multicultural Application of Large Language Models for the ASEAN Region

Chenchen Ding

National Institute of Information and Communications Technology, Japan

S10-12. Real-Time Transcription and Translation for Code-Switched Speech in Lecture Video

Hay Mar Soe Naing, Khin Mar Soe, Hsu Myat Mo,

University of Computer Studies, Yangon, Myanmar

17:00 Closing (Ballroom I)
Dr. YANO Hiroyuki, Chair, ASEAN IVO Steering Committee

Poster Session

Time: 9:30 – 17:10

Venue: Ballroom I, One Farrer Hotel, Singapore

1. Automated Rice Plant Disease Classification Using an Enhanced VGG19 Model for Sustainable Agriculture in Eastern Shan State, Myanmar
Aye Thida Win
University of Computer Studies (Kyaing Tong), Myanmar
2. Machine Learning Approaches in Scattered Data Approximation
Samsul Ariffin Abdul Karim
Universiti Utara Malaysia, Malaysia
3. IoT-Enabled Smart Cubicles: Designing Secure and Adaptive Workspaces for Academic Communities
Athifa Sri Ismiranti,
Telkom University, Indonesia
4. Sor-Ser: Personalizing Language Learning Through AI to Strengthen ASEAN's Educational Foundation
Dr. Born Seanghort
Cambodia Academy of Digital Technology