

## ASEAN IVO Forum 2022

Date: Tuesday, November 29  
Venue: Meeting Hall, 2nd Floor, Building 4,  
Faculty of Engineering, Chulalongkorn University

### Oral session

08:30	Registration		Dr. Sarun Sumriddetchkajorn Acting Executive Vice President National Science and Technology Development Agency, Thailand
09:30	Opening Address MC: Dr. Prachya Boonkwan, NECTEC Ms. Sumita Khichar, CU		
	Prof. Supot Teachavorasinskun, D.Eng. Dean Faculty of Engineering, Chulalongkorn University, Thailand	10:25	Group Photo
	Dr. Chai Wutitiwatchai, Executive Director NECTEC, Thailand	10:30	Break
	Dr. TOKUDA Hideyuki President NICT, Japan	<b>10:40</b>	<b>Session 1: ICT for food</b> <b>Chair: Dr. Somnuk Phon-Amnuaisuk, UTB, Brunei</b>
09:45	Invited Talk 1 (ICT R&D Policy) Ms. Kasama Kongsmak Executive Vice President Digital Economy Promotion Agency (DEPA), Thailand		Development of Nano-Sensor for Halal Authentication in Food Rafidah Petra <sup>1</sup> , Somnuk Phon-Amnuaisuk <sup>1</sup> , Limm Tiong Hoo <sup>1</sup> , Datin Hajah Norliza Dato Seri Setia Haji Mahalle <sup>2</sup> , Nor Azlin Ghazali <sup>3</sup> <sup>1</sup> Universiti Teknologi(UTB), Brunei, <sup>2</sup> Universiti Islam Sultan Sharif Ali(UNISSA), Brunei, <sup>3</sup> Universiti Sains Malaysia, Malaysia
10:05	Invited Talk 2 (ICT R&D Program)		The IOT application in Clean Agriculture (CA) by using N, P, K Sensor to monitor and understand the nutrients in the soil Somsanouk Pathoumvanh National University of Laos, Laos

	<p>Controlled Environment Agriculture for the Effective Growth of Plants in Indoor Farming                  Jocelyn Flores Villaverde, Noel Linsangan, Gawayne Escalona, Cyrel Manlises                  Mapua University, Philippines</p> <p>Research and Proposed Model of Wireless Sensor Network with Machine Learning to Monitor the Development of Medicinal Plants Artichoke                  DANG Thanh Hai                  Da Lat University, Vietnam</p>		
<b>11:40</b>	<p><b>Session 2: ICT for Environment Protection and Disaster Prevention</b>  <b>Chair: Dr. Alisa Kongthon, NECTEC, Thailand</b></p> <p>Emotional Utility of Climate Change Awareness: Understanding People's Mood and Tone                  Pawarat Nontasil, Jedsada Phengsuwan                  National Electronics and Computer Technology Center, Thailand</p> <p>ICT as a Key for Environmental Sustainability, Energy Conservation and to mitigate chemical pollution in the industries.                  Reddy Prasad D.M.<sup>1</sup>, Mohammad Hazwa Azri<sup>1</sup>, Thirumurugan Shanmugam<sup>2</sup>, Radha Rammohan<sup>3</sup>, Ravi Kumar Patchmuthu<sup>1</sup>  <sup>1</sup>Universiti Teknologi Brunei(UTB), Brunei  <sup>2</sup>University of Technology and Applied Sciences(UTAS), Suhar, Oman,  <sup>3</sup>Presidency University, India</p>	<b>13:00</b>	<p><b>Session 3: ICT for Secure and Smart Community-1</b>  <b>Chair: Dr. Sam Sethserey, CADT, Cambodia</b></p> <p>Estimating the Optimal Evacuation Route for Emergency Events                  Myint Myint Sein<sup>1</sup>, Thin Lai Lai Thein<sup>1</sup>, Tham Mau Luen<sup>2</sup>, Yasunori Owada<sup>3</sup>, Nordin Bin Ramli<sup>4</sup>, Suvit Poomrittigul<sup>5</sup>  <sup>1</sup>University of Computer Studies, Yangon (UCSY), Myanmar,  <sup>2</sup>Universiti Tunku Abdul Rahman (UTAR), Malaysia,  <sup>3</sup>National Institute of Information and Communications Technology(NICT), Japan,  <sup>4</sup>MIMOS Berhad, Malaysia,  <sup>5</sup>Pathum Wan Institute of Technology (PIT), Thailand</p> <p>Indoor human localization and identification using commodity WiFi                  Thayheng Nhem                  Cambodia Academy of Digital Technology (CADT), Cambodia</p> <p>Blockchain development to enhance the performance of logistics service provider networks                  Suriyan Jomthanachai<sup>1</sup>, Wai Peng Wong<sup>2</sup>  <sup>1</sup>Prince of Songkla University, Songkhla, Thailand  <sup>2</sup>Monash University, Malaysia</p>
<b>12:10</b>	Lunch (50 mins)	<b>13:45</b>	<p><b>Session 4: ICT for Secure and Smart Community-2</b>  <b>Chair: Dr. Biplab Sikdar, NUS, Singapore</b></p> <p>Trustable Global Navigation Satellite System (GNSS) for Secure Community and Applications                  CHEE KIAT Seow<sup>1</sup>, Sye Loong Keoh<sup>1</sup>, Qi Cao<sup>1</sup>, Soon Yim Tan<sup>2</sup>, Dinesh Manandhar<sup>3</sup>  <sup>1</sup>University of Glasgow Singapore, Singapore,</p>



Agency(BRIN) ,Indonesia,  
<sup>2</sup>Universiti Teknologi Malaysia(UTM), Malaysia

Automatic Service Recording System Using Network-Based  
Monitoring Approach  
Boonchai Ngamwongwattana, Pornpimol Ramonudom  
National Electronics and Computer Technology Center,  
Thailand

AI and IOT Predictive Maintenance in Smart Monitoring  
System  
Hammam Riza, Rahmat Darmawan, M Indriatmoko  
KORIKA/SIM, Indonesia

16:50 Closing Address  
Dr. YANO Hiroyuki, Chair, ASEAN IVO Steering Committee

### Poster session

Time: 08:30 – 17:00  
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1. Early warning of excessive heat effect on human health using deep learning models  
Tuyet Nam Thi Nguyen  
Saigon University, Vietnam
2. Monitoring and Warning System for Forest Fire Hotspots in Myanmar  
Thin Lai Lai Thein  
University of Computer Studies, Yangon, Myanmar
3. Visual-Peat: The Adoption of Visual IoT in the disaster management for Peatland areas in ASEAN  
Wida Susanty Haji Suhaili  
Universiti Teknologi Brunei, Brunei
4. Robust Security Key Algorithm for Scalable Broker Framework in Internet of Things (IoT) - Enabled Smart Cities  
Mohamad Khairi Ishak  
Universiti Sains Malaysia, Malaysia
5. Indoor Particulate Matter Does Matter: Edge-Based Computing for IoT Enabled Indoor Air Quality Monitoring  
Thinagaran Perumal  
Universiti Putra Malaysia, Malaysia