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ASEAN IVO

Of ASEAN institutes and NICT

# **About ASEAN IVO**

"ICT Virtual Organization of ASEAN Institutes and NICT (ASEAN IVO)" is a global alliance of institutes and universities in the ASEAN region and Japan focused on ICT research and development.

The mission of ASEAN IVO is to seek and identify strategic ICT research areas in the ASEAN region and support collaborative projects in them, promoting the international alliance amongst universities and research institutes in the ASEAN region and Japan.

Collaborative projects aim to address common challenges such as communication limitations in rural areas and disaster situations, language barriers, network security, energy, infrastructure, agriculture, and more.

# Activities

ASEAN IVO conducts and supports various activities for the promotion of international research collaboration, including the following:

- 1. Dialogue on the priorities for ICT research fields, addressing the overarching needs of the ASEAN region.
- 2. Forming international collaborative projects for research, field trials, etc.
- 3. Researcher exchange, etc.
- 4. Hosting academic workshops, exhibitions, etc.

# **Research collaboration**

New joint projects are selected for support through an annual call for proposals. All projects are required to include participant institutions from at least two different ASEAN countries. Proposals from all technical fields are welcome and are evaluated on the potential benefit of output.

### 2018 themes

- 1. Smart-Agriculture / Aquaculture / Farming
- 2. Smart Tourism
- 3. Smart Environment Protection
- 4. Information Reliability for Smart Society

### 2017 themes

- 1. Cyber-Security and its applications
- 2. Smart Society: ICT applications for community and environment

### 2016 themes

- 1. ICT Solutions to the Challenges surrounding Urbanization
- 2. Social Renovation in Rural Areas and/or Urban Areas

# Membership

Membership is open to universities, institutes and companies located in the ASEAN region. Membership conditions vary depending on the type of organization.

Organizations from non-ICT sectors can be accepted as member if their membership purpose is ICT applications for their field.

Private companies are welcome to apply for membership if the company applying provides matching funds for ASEAN IVO joint projects. No funding will be provided to the company.

# Why join ASEAN IVO?

Members can enjoy the benefits of the following opportunities:

### 1. Networking

Members can apply to make presentations on their research activities at ASEAN IVO forum, with the possibility of receiving support for travel expenses. This is an opportunity for all ASEAN IVO members to exchange ideas, discuss R&D topics and coordinate projects.

2. Financial support Universities and public research institutes are eligible to receive financial support for joint research projects with other ASEAN countries.

# **ASEAN IVO Forum**

ASEAN IVO Forum is an annual event where members present ideas for potential joint projects.

Forum 2018 will be held in Indonesia on November 27-28.

### Past events

2017: November 23-24, Bandar Seri Begawan, Brunei Darussalam

2016: November 24, Hanoi, Vietnam

2015: November 26, Kuala Lumpur, Malaysia

# 2016 Projects

- 1. Open Collaboration for Developing and Using Asian Language Treebank *PL: Masao Utiyama, NICT*
- 2. ASEAN Language Speech Translation thru' U-STAR PL: Li Haizhou, I<sup>2</sup>R
- 3. Mobile IoT PL: Sumei Sun, I<sup>2</sup>R
- 4. ASEAN forum for Software Defined System on Disaster Mitigation and Smart Cities PL: Ong Hong Hoe, MIMOS
- 5. IoT Open Innovation Platform PL: Boon Choong Foo, MIMOS
- 6. Cambodia NerveNet Field Testing (Operation Management and Content Development to Promote Connectedness of Cambodia Rural Area) PL: Meas Chamnan, NIPTICT
- 7. TV White Space (TVWS) Experimental for Application in Remote Area *PL: Hafizal Mohamad, MIMOS*
- 8. Research and development on short distance communication and imaging for applications in ASEAN region *PL: Vo Nguyen Quoc Bao, PTIT*

*PL* = *Project Leader* 

# 2017 Projects

- 1. A Hybrid Security Framework for IoT Networks *PL: Hoang Dang Hai, PTIT*
- 2. Smart Lighting for Internet of Things and Smart Homes *PL: Pham Tien Dat, NICT*
- 3. IoT System for Public Health and Safety Monitoring with Ubiquitous Location Tracking *PL: Chieng Heng Tze, MIMOS*
- 4. Evapotranspiration (ET)-Based Irrigation System with Internet of Things (IoT) Integration for Smart Farming Application Addressing the ASEAN Impending Water Crisis *PL: Jennifer Dela Cruz, Mapua University*
- 5. Study and evaluation of heterogeneous network for smart community and smart city applications *PL: Kultida Rojviboonchai, Chulalongkorn University*

# 2018 Projects

- 1. Event Analysis: Applications of computer vision and AI in smart tourism industry *PL: Somnuk Phon-Amnuaisuk, UTB*
- 2. Cyber-Attack Detection and Information Security for Industry 4.0 *PL: Nguyen Linh Trung, VNU-UET*
- 3. Scalable Distributed IoT Framework based on Mobile Robot Technology for High Performance Greenhouse Plants PL: Thu Ngo-Quynh, HUST
- 4. Smart Aquaculture Quality Monitoring (AQM) System with Internet of Things (IoT) PL: Widad Ismail, USM
- 5.NAPC: Networked ASEAN Peat Swamp Forest Communities *PL: Borhanuddin Mohd Ali, UPM*
- 6.A mesh-topological, low-power wireless network platform for a smart watering system PL: Udom Lewlompaisarl, NECTEC

http://www.nict.go.jp/en/asean\_ivo/

# **ASEAN IVO Member institutions**

# Brunei

- Universiti Brunei Darussalam (UBD)
- Universiti Teknologi Brunei (UTB)

# Cambodia

 National Institute of Posts, Telecommunications and Information and Communications Technology (NIPTICT)

## Indonesia

- Agency For The Assessment And Application of Technology (BPPT)
- Ministry of Communications and Information Technology (MCIT)
- Telkom University (Tel-U)
- Indonesian Institute of Sciences (LIPI)
- Institute Technology Bandung (ITB)

## Japan

- National Institute of Information and Communications Technology (NICT)
- NEC Solution Innovators (NES)

### Laos

• Faculty of Engineering, National University of Laos (NUOL)

# Malaysia

- MIMOS Berhad
- Universiti Teknologi Malaysia (UTM)
- Universiti Putra Malaysia (UPM)
- Universiti Sains Malaysia (USM)

### Myanmar

- University of Computer Studies, Yangon (UCSY)
- University of Computer Studies, Mandalay (UCSM)

# **Philippines**

Mapúa University (Mapúa)

## Singapore

- Institute for Infocomm Research (I<sup>2</sup>R)
- Singapore Advanced Research and Education Network (SingAREN)
- School of Humanities and Social Sciences, Nanyang Technological University (NTU)
- Faculty of Engineering, National University of Singapore (NUS)
- Singapore University of Technology and Design (SUTD)

# Thailand

- Chulalongkorn University (CU)
- National Electronics and Computer Technology Center (NECTEC)
- Chiang Mai University (CMU)
- Office of Information Technology Administration for Education Development, Commission on Higher Education (UniNet)
- Thai-Nichi Institute of Technology (TNI)
- National Institute of Metrology (NIMT)
- King Mongkut's Institute of Technology Ladkrabang (KMITL)
- King Mongkut's University of Technology Thonburi (KMUTT)

# Vietnam

- Posts and Telecommunications Institute of Technology (PTIT)
- Vietnam National University, Hanoi, International Francophone Institute (VNU IFI)
- Vietnam National University, Hanoi, University of Engineering & Technology (VNU UET)
- Vietnam National University, Hanoi, Information Technology Institute (VNU ITI)
- Institute of Information Technology, Vietnamese Academy of Science and Technology (IOIT)
- Hanoi University of Science and Technology (HUST)
- The University of Danang, Danang University of Science and Technology (DUT)
- Le Quy Don Technical University (LQDTU)
- Vietnam National University, Ho Chi Minh City, University of Information Technology (VNUHCM UIT)