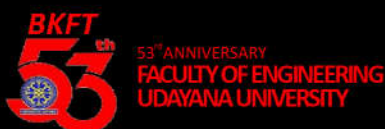




**2018 INTERNATIONAL CONFERENCE ON SMART-GREEN TECHNOLOGY
IN ELECTRICAL AND INFORMATION SYSTEM
(ICSGTEIS)**

**25 - 27 OCTOBER 2018
BALI, INDONESIA**

PROGRAM BOOK



WELCOME MESSAGE



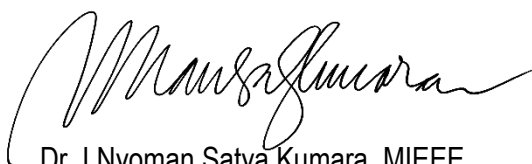
Welcome to the 2018 International Conference on Smart Green Technology in Electrical and Information Systems (ICSGTEIS), held on 25-27 October 2018, in Kuta, Bali, Indonesia. The conference is organized by the Department of Electrical Engineering and Postgraduate Program in Electrical Engineering, Faculty of Engineering Udayana University.

The ICSGTEIS 2018 provides forum for international researchers, experts, and students to share, exchange ideas, innovation, and experience on the latest research in the field of Smart-Green Technologies. The conference provides opportunity to strengthen collaboration and networking among participants while enjoying a religious atmosphere and traditional culture of Bali.

The ICSGTEIS covers a number of topics organized into tracks such as Energy and Power Engineering, Electronic Devices and Systems, Multimedia Telecommunications, and Software Engineering and Information Systems. All accepted papers are selected through peer review process. The committee have received 110 submissions and 43 papers are selected for presentation. In addition to the technical sessions the conference program also includes plenary lectures and social event.

I would like to take this opportunity to thank the keynote speakers for sharing their latest research in their respected fields within electrical and information systems. I also would like to thank IEEE Indonesia Section for their continuous support. Many thanks also go to the technical program and the organizing committees. Last but not least, thanks to all presenters and authors who participate in the conference without their attendance, this conference would not be possible.

I wish you all to have a great time and a successful conference while sampling the hospitality of Bali.



Dr. I Nyoman Satya Kumara, MIEEE
General Chair of ICSGTEIS 2018



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TOPICS

Energy and Power Engineering (EPE)

- Computer Applications in Power Systems
- Electric Vehicle
- Electromagnetic Compatibility
- Energy Conversion and Renewable Technologies
- Energy Management and Conservation
- Energy Policies
- High Voltage Engineering
- Power Electronics and Electric Drives
- Power System Stability and Power Quality
- Power Transmission and Distribution Systems
- Smart Grid and Distributed Generation

Electronic Devices and Systems (EDS)

- Biomedical Engineering
- Embedded Control and Applications
- Green Material and Electronic Devices
- Intelligent Control Systems
- Measurement and Instrumentations
- Mechatronics, Robotics, and Automation
- Metamaterials
- Microelectronics and Very Large-Scale Integration (VLSI)
- Nanotechnology
- Optoelectronics and Laser Applications
- Organic Electronics
- Photonic Crystal
- Sensors Technology
- Thin Film Technology

Multimedia Telecommunications (MTEL)

- Computer and Communication Networks
- Digital Signal Processing
- Distributed Source Coding
- Electromagnetic and Radio Propagation
- Internet of Things
- Multimedia Information Processing
- Network Security and Management
- Remote Sensing and GIS
- Smart City and Digital Village



- Vision, Graphics, and Visualization
- Wireless and Mobile Communications
- Wireless Sensor Network

Software Engineering and Information Systems (SEIS)

- Big Data
- Computing Algorithms
- E-Government, E-Health, E-Science, E-Transactions Systems
- E-Learning and M-Learning
- Games Theory and Applications
- Human-Computer Interaction and User Experience
- Information Systems and Management
- Intelligent System Design
- Knowledge Discovery in Databases
- Mobile, Cloud, Ubiquitous Computing, Quantum Computing
- Semantic Web
- Soft Computing



INTERNATIONAL ADVISORY BOARD

M. Ashari (Indonesia)
H. Orton (Canada)
Suwarno (Indonesia)
B. T. Phung (Australia)
T. Usagawa (Japan)
F. Y. Zulkifli (Indonesia)

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W. G. Ariastina
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General Secretary:

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N. P. Sastra
I M: A. Suyadnya



TECHNICAL PROGRAM COMMITTEE

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- Taufik (USA)



- K. Umeno (Japan)
- I. W. Widhiada (Indonesia)
- I. M. A. S. Wijaya (Indonesia)
- Y. Xuyong (China)



KEYNOTE SPEAKERS

Jean-Marie BONNIN

Institut Mines Télécom France/ IMT Atlantique – Inria
IRISA / D2 / TACOMA
France



After a PhD degree in computer science at the University of Strasbourg in 1998, Jean-Marie BONNIN came to ENST Bretagne for a research position.

Jean-Marie BONNIN is currently professor (HDR) in the “Networks, Security and Multimedia” department. He is a member of the IRISA / OCIF research team. Since 2013 he has been the *scientifique* director of the RTS (Network, Telecommunications and Services) IRISA's department.

Since 2001, he has been mainly interested in the convergence between IP networks and mobile telephony networks, and therefore in heterogeneous handover management. More recently, he has been involved in projects dealing with the mobility of the networks and its application to ITS (Intelligent Transportation System).

Jean-Marie BONNIN involved in several collaborative research projects at European level and in international academic collaborations with several countries, mainly in Asia and in North Africa.

Education

Habilitation à diriger des recherches, Université de Rennes 1, juin 2008
PhD in computer science, Strasbourg university, 1993-1998
License of sociology, Strasbourg university, 1991-1994
Master of science, Strasbourg university, 1991-1992
Maîtrise in computer science, Strasbourg university, 1990-1991
Maîtrise of Applied Mathematics, Strasbourg university, 1990-1991
License in computer science, Strasbourg university, 1989-1990
Person-Centered Approach International Institute, 1988-1990

Experiences

Since May 2013, Scientific Director of the Network, Telecommunications and Services IRISA's Department.
Since Dec 2009, Professor at Telecom Bretagne
Jul 2009 - Sep 2015, Head of the RSM Department at Telecom Bretagne
Sep 2001 - Nov 2009, Associate Professor, GET/ENST Bretagne
Sep 2007 - Sep 2010, Head of the Mobility research team, GET/ENST Bretagne
Sep 1998 - Aug 2001, Postdoc position, GET/ENST Bretagne
Sep 1997 - Aug 1998, Assistant Professor (ATER), Strasbourg I University
Sep 1996 - Aug 1997, Assistant Professor (ATER) in Computer Science Networks, Strasbourg II University

Topic:**Smart City: A Digital Mobility (R) Evolution****Abstract****Smart City: A Digital Mobility (R) Evolution**

How standards for cooperative ITS can become game changers in the transportation world.

As cities grow exponentially, transportation becomes a major challenge: more and more people commute, more and more goods need to be transported, and there is no more room to increase the existing infrastructure, and no more money to manage transportation systems efficiently as we used to in the past. Moreover, in most of the large cities, there are strong concerns about the quality of the air and the related health issues caused by growing pollution, the cost of which is estimated in the billions – and growing.

In parallel, the digital revolution has enabled the fast deployment of a multitude of new services that explore new ecosystems, as service providers can easily and directly reach a vast number of passengers. We see the emergence of a lot of new services without any control nor organizational framework managed by the city, with suboptimal use of common resources.

In Intelligent Transportation Systems (ITS), as for other smart city applications, resources (people, infrastructure, data, regulation) are usually specific to each service. This is especially true for the communication stack. The service often requires the deployment of dedicated communication infrastructure together with dedicated devices. Therefore, deployments on the road are often specific to a domain or even to a given application, which is expensive and hard to implement and even harder to maintain.

With IoT developments, everything can communicate with everything, opening the way for amazing applications and services no one imagined before reaching the end users. The development of citizen-initiated innovation (LabFab) and open source tools, allow each city to imagine and develop their own solutions for their very specific requirements, without relying on huge international companies. To come up with a solution that might “somewhat” match their needs. The availability of communication and computing infrastructure which are as open as possible come along with open data initiatives. Together, they could ease the experimentation of new solutions and lead to the emergence of new business models based on open data and open innovation.

Having standards for cooperative ITS (C-ITS) as open as possible could allow new services to rely on interactions between users, infrastructures and vehicles, breaking silos to open possibilities. It becomes possible to take advantage of existing communication infrastructure and the one that will be deployed for C-ITS to imagine new services. The cost would be reduced since the deployment of a city-scale infrastructure prior to the first experiment is no more required.



Tania Urmee

School of Engineering and Information Technology
Murdoch University
Perth, Australia



Tania graduated with Bachelor in Physics from Dhaka University, Bangladesh and Master's Degree in Energy Technology from Asian Institute of Technology (AIT), Thailand. She moved to Australia in 2006 to continue her studies at Murdoch University, where she completed a PhD on renewable energy in 2009. Tania started her career in 1996 after her graduation from Dhaka University and worked in different development organizations. She worked on energy issues in developing countries. Then she moved to Thailand and Australia for higher study. Tania joined at Murdoch University first as Associate Lecturer and then Lecturer in the School of Engineering and Energy.

Tania has been involved in developing and updated the unit curriculum in Energy Efficient Building Design, Renewable Energy and Sustainable Development and Greenhouse Science and Policy at Murdoch University. She has supervised postgraduate students and has attracted and administered some research grants and consultancy on behalf of the university.

Tania is a member of International Solar Energy Society and also a member in the Editorial boards of AIMS Energy Journal and Nature Scientific Reports.

Research areas

Tania's researches involved with technical, social, environmental and policy issues of renewable energy technologies, particularly solar, wind and microhydro projects. She has more than 15 years' experience in working with rural communities in Asia and Pacific region on solar photovoltaic (PV) electrification and energy efficiency.

Tania has been involved in energy auditing, energy policy analysis, decentralized electricity generation, co-generation, developing Energy Mapping tools for small and medium enterprise (SME), analysis of building energy efficiency and climate change mitigation and abatement research.

Research Interest

- Technical, social, environmental and policy issues of sustainable energy technologies
- Energy Access in developing countries
- Energy efficiency and Green Growth in Cities
- Life-cycle analysis

Current projects

Tania currently supervised the following projects: An Innovative Control Approach to Improve PV Integration into Remote Electricity Networks, Performance Improvement of Building Heating, Cooling and Ventilation System, The Effect of Dust on the Performance of Solar Photovoltaic Module, Innovative Control Strategy for Renewable Energy Based Standalone Microgrid.

Topic:**Paris Agreement, Mitigation Architecture and the role of Green Technology****Abstract**

We are passing through a remarkable moment in human history as climate change continues to affect both economic growth and human development. The scientific community now has more evidence on how climate change affects human health, water supplies, plants, animals and ecosystems, the agricultural sector, forests and the energy sector. This improved understanding about the drivers of climate change has led to the adoption of the Paris Agreement on climate change and the 2030 Agenda for Sustainable Development with the key aim to strengthen the global response to keep average global temperature rise below 2 degrees Celsius above pre-industrial levels. The Paris agreement reinforces the requirement that all developments need to be defined by lower emissions, increased resilience to impacts and sustainability.

Reducing GHG emissions will require technologies that harvest energy from clean sources, like wind and solar, energy-efficient technologies such as high-efficiency lighting, and transportation that can use energy from clean sources, such as electric vehicles and hydrogen fuel cell electric vehicles. This is leading us to witness a moment of unprecedented advancement in low emission technologies. As concerns mount over rising emissions, national policy makers now face an important question, “how to encourage the development, diffusion, and deployment of clean energy and energy-efficiency innovations in the developing world”. As technology is changing the foundation on which we build healthy societies, we must use it to accelerate climate action and open the door to a stable, secure future on a peaceful, prosperous planet.

Technology is already improving our understanding of climate change, giving us better models and concrete reasons to act towards achieving the goals. The inter-relationships with the Sustainable Development Goals (SDGs), where acting on climate also addresses public health, energy access, food, energy and water security and many more sustainable development issues. However, there are many barriers to the widespread deployment of technological solutions to climate change, especially in the developing world, where these advances stand to do the most good.

Many companies are now joining Google, Microsoft and Apple in the move to 100% clean energy under RE100 and other initiatives. Cities and consumers are moving to electric and hydrogen fuel operated vehicles because they are cheaper to operate, faster and more reliable, and produce far less carbon pollution, which in turn improves the health of citizens. Industries of various sizes and types are adopting technological innovation to reduce their climate footprint and decrease their energy intensity. These are all examples of how technology can spark climate action that allows companies and governments to reach (and eventually exceed) the Paris agreement emission targets.



The UNFCCC admits that technology plays a central role in reaching its objectives and initiated technology-related efforts under the Technology Mechanism (TM), which is an umbrella mechanism established in 2010 at COP16. TM aims to scale up technology solutions in countries around the world. The objective of the TM is “to facilitate the implementation of actions for achieving the emission reduction target”. Its policy arm, the Technology Executive Committee (TEC), provides recommendations that support governments in tapping into technologies that foster achievement of their climate goals.

In South Africa a large-scale concentrated solar power plant with storage, developed by the private sector to operate in emerging markets, was chosen as the winner of the 2017 UN lighthouse challenge. The plant uses parabolic mirrors to reflect and concentrate the sun’s rays to produce heat, which then generates steam that powers turbines and produces electricity. Energy storage allows the plant to produce firm, dispatchable electricity even when the sun is not shining, offering a remarkable low-carbon solution to a growing African economy. The project resulted in channeling approximately USD\$900 million of private sector financing, and utilizes an innovative project finance structure with blended finance elements led by the International Finance Corporation (IFC), the private sector arm of the World Bank Group. This is a great example of leveraging private sector finance to fund renewable energy projects in emerging economies. The construction costs for large-scale concentrated solar power plants remain high compared to other clean technologies, and, combined with a limited track record, make investors cautious, especially in developing markets. This is just one of many examples of how technology can take the lead on climate action and sustainable development.

To avoid dangerous climate change, the world community must maintain consistent support to accelerate the implementation of low emission technologies, on both large and small scales, and particularly in developing countries with limited financial capacity and technological infrastructure. The Paris climate agreement is only the beginning.



Wei-Chung Teng

Commissioner of Taiwan National Communications Commission
Department of Computer Science and Information Engineering
National Taiwan University of Science and Technology
Taiwan



Wei-Chung Teng is Associate Professor of the Department of Computer Science and Information Engineering at National Taiwan University of Science and Technology, where he has joined since 2003. He received a B.S. and a M.S. from National Chiao Tung University at Taiwan. Later He received his Doctor of Engineering degree from the University of Tokyo in 2001.

His research interests span both network communication protocols and virtual reality. Much of his work has been on securing time synchronization protocols and improving the performance and precision of clock skew measurement over networks. He has also investigated human computer interaction in virtual reality systems.

Topic:

Traveler Models to Help Navigating the Streets in Virtual Reality

Abstract

Google Street View is a popular service that provides street views from most of the roads in the world. The click-and-jump interface is easy to interact with, and the spherical-panoramic images can be directly applied to constructing virtual environments, yet it is cumbersome to use the service to navigate downtown or drive through a route of several kilometers. In this talk, two implementations will be introduced to extend the service such that people can navigate the virtual environments intuitively as a traveler/tourist. User preference issue on the design of interface will also be addressed.



VENUE

Bali Rani Hotel

Jalan Kartika Plaza

Kuta, Badung

Bali 80361

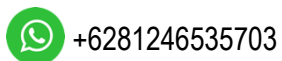
Indonesia

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+6281246535703



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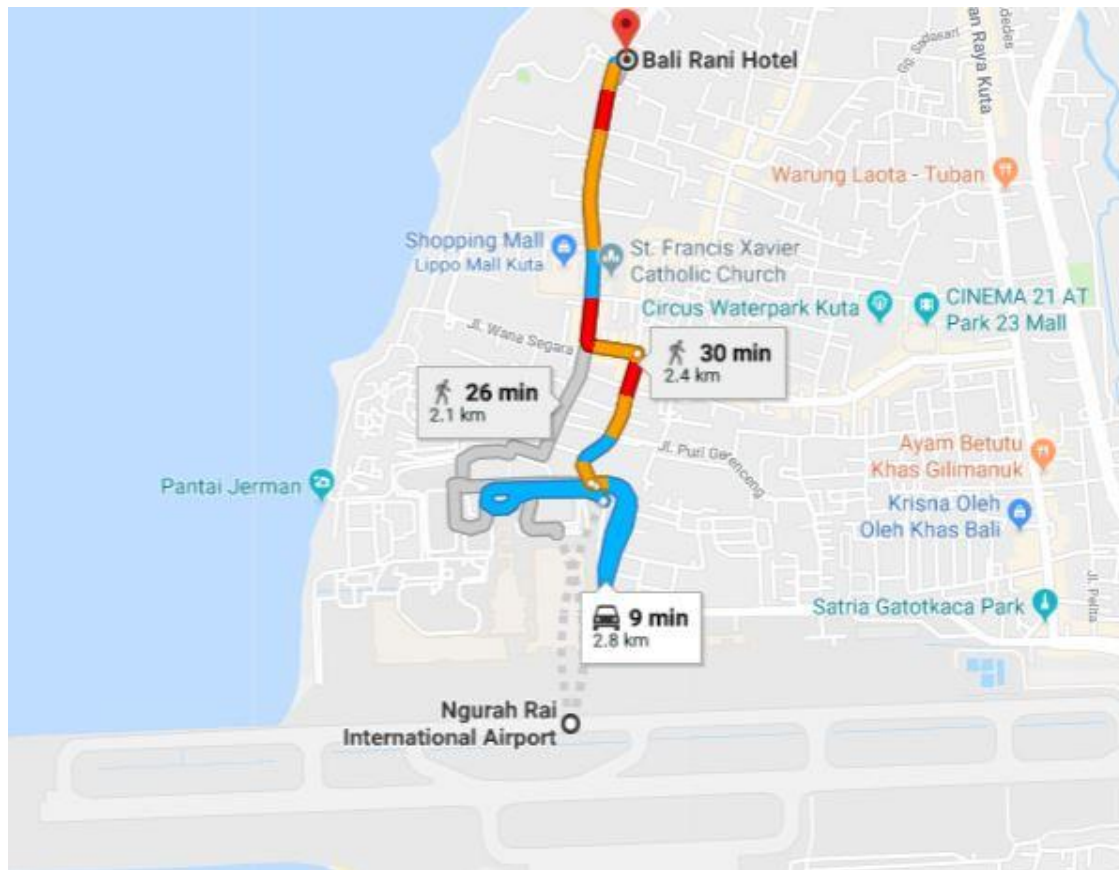


[Bali Rani Hotel](https://www.facebook.com/BaliRaniHotel)



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Located in a peaceful area at South Kuta, Bali Rani Hotel is only a short drive from Bali International Air Port 'Ngurah Rai' and just steps away from Bali's beach front shopping mall, international restaurants, the biggest water recreational park and other family entertainment including famous Kuta Beach.



PROGRAM AT GLANCE

Date	Time	Program	Room
Thursday, 25 October 2018	08:00 – 17:00	Registration	
	09:00 – 09:30	Opening	Matahari
	09:30 – 10:15	Plenary Session 1	Matahari
	10:15 – 10:30	Coffee Break	
	10:30 – 12:15	Plenary Session 2	Matahari
	12:15 – 13:30	Lunch	Brasserie Restaurant
	13:30 – 15:00	Technical Session 1	Samudra/Cakrawala
	15:00 – 15:30	Coffee Break	
	15:30 – 17:00	Technical Session 2	Samudra/Cakrawala
	19:00 – 21:00	Conference Dinner	Brasserie Restaurant
Friday, 26 October 2018	08:00 – 12:00	Registration	
	09:00 – 10:30	Technical Session 3	Samudra/Cakrawala
	10:30 – 11:00	Coffee Break	
	11:00 – 12:30	Technical Session 4	Samudra/Cakrawala
	12:30 – 13:00	Closing	Samudra
	13:00 – 14:00	Lunch	Brasserie Restaurant
Saturday, 27 October 2018			
	08:00 – 17:00	Optional Bali Tours	



TECHNICAL SESSIONS

Technical Session 1

Energy and Power Engineering 1

Thursday, 25 October 2018; 13:30-15:00

Samudra

Session Chair: I. A. D. Giriantari

1. ID 268 **ANFIS-based Controller Application to Regulate Firing Angle of Inverter in Average Value Model-High Voltage Direct Current Transmission System**
I. M. Ginarsa, A.B. Muljono, I.M.A. Nrartha, I.P. Ardana
Dept. Electrical Engineering, University of Mataram. Dept. Electrical Engineering, Udayana University
2. ID 278 **Smart Energy Meter for Electric Vehicle Based on Bluetooth And GSM Technology**
I.M.A. Nrartha, A. B. Muljono, I M. Ginarsa, S. M. Al Sasongko, I.B.F. Citarsa
Dept. Electrical Engineering, University of Mataram.
3. ID 292 **Sustainable energy for all: Impacts of Sustainable Development Goals implementation on household sector energy demand in Indonesia**
Wayan G. Santika, Tania Urmee, Md. Anissuzaman, GM Shafiullah, Parisa A. Bahri
School of Engineering and Information Technology, Murdoch University
4. ID 319 **Auto-reclose Performance Evaluation on 500kV Transmission Line with Four Circuits on One Tower**
Aristo Adi Kusuma, Putu Agus Aditya Pramana, Kevin Gausultan H. M., Buyung Sofianto Munir
Transmission and Distribution Department, PLN Research Institute
5. ID 346 **Monitoring of Frequency Response in Java-Bali System during Loss of Generation Event**
Hariadi Aji, Adi Purwanto, Eko Yudo Pramono
Operation System Department, PT PLN (Persero) Unit Induk Pusat Pengatur Beban
6. ID 381 **An Assessment of Incentives Combination for Solar Energy Technologies – A Case Study for Chile**
Yeliz Simsek, Carlos Mata-Torres, Tania Urmee, Parisa Arabzadeh Bahri, Rodrigo Escobar
Department of Mechanical and Metallurgical Engineering Pontificia Universidad Católica de Chile
School of Engineering and Information Technology, Murdoch University



Technical Session 1

Joint Track : Multimedia Telecommunication / Electronic Devices and Systems

Cakrawala

Thursday, 25 October 2018; 13:30 – 15:00

Session Chair: Linawati

1. ID 282 **The Optical Band Gap Based on K-M Function on Layer of LiTaO₃ with Variation Treatment of Annealing Temperature**
Nani Djohan, Richie Estrada, Nina Sevani, Hendradi Hardhienata, Irzaman
 Department of Electrical Engineering, Krida Wacana Christian University
 Department of Information Technology, Krida Wacana Christian University
 Department of Physics, Bogor Agricultural University
2. ID 289 **Feature Learning Using Convolutional Neural Network for Cardiac Arrest Detection**
Minh Tuan Nguyen, Kim Kiseon
 School of Electrical Engineering and Computer Science, Gwangju Institute of Science and Technology
3. ID 315 **Design of Self-Tuning Regulator for Brushless DC Motor Speed Control**
Wahyudi, Mega Rosaliana, Sumardi, Budi Setiyono
 Electrical Engineering, Diponegoro University
4. ID 347 **Optimization of the Wideband Code Division Multiple Access Network at the BTS of Sempidi Area**
I Made Indra Wiguna, Gede Sukadarmika, Dewa Made Wiharta
 Department of Electrical Engineering, Udayana University
5. ID 387 **Monitoring Systems for Counting People using Raspberry Pi 3**
K.Rantelobo, M. A. Indraswara, N. P. Sastra, D. M. Wiharta, H. F. J. Lami, H. Z. Kotta
 Department of Electrical Engineering, Universitas Nusa Cendana, Departement of Electrical Engineering, Universitas Udayana
6. ID 452 **Contact Strategy for VDTN Data Collection in Smart Cities**
Ngurah Indra ER, Kamal Deep SINGH, Jean-Marie BONNIN,
 IRISA/ IMT-Atlantique, Rennes-France & Udayana University, Laboratoire Hubert Curien, Université Jean Monnet

Technical Session 2

Energy and Power Engineering 2

Samudra

Thursday, 25 October 2018; 15:30 – 17:00

Session Chair: W.G. Ariastina

1. ID 291 **Simple carrier-based Space Vector PWM schemes of dual - inverter fed three-phase open-end winding motor drives with equal DC-link voltage**
I K. Wiryajati, I. A. D. Giriantari, I N. Satya Kumara, Lie Jasa
 Dept. Electrical Engineering, University of Mataram.
 Dept. Electrical Engineering, Udayana University

2. ID 343 **A Study of Optimal Power Flow Interconnection Celukan Bawang Power Plant in 150 kV Bali Electricity System**
I Nyoman Aldy Munawan, Rukmi Sari Hartati, I Wayan Sukeyayasa
Electrical Engineering Department, Udayana University
3. ID 353 **The Evaluation of Ceramic Insulator Performance Around Thermal Power Plant in Indonesia**
Brian Bramantyo S.D.A. Harsono, Buyung Sofianto Munir, Nur Widi Priambodo, Handrea Bernando Tambunan
Transmission and Distribution, Department PLN Research Institute
4. ID 357 **Investigation of Fault Event that Affected by The Current Transformer Position**
Putu Agus Aditya Pramana, Aristo Adi Kusuma, Buyung Sofianto Munir, Arionmaro Asi Simaremare
Transmission and Distribution, Department PLN Research Institute
5. ID 360 **A Study of Corn Cob (Zea Mays) Utilization as Alternative Fuel for Biomass Power Plant in Sumbawa Island**
Ahmad Jaya, Rukmi Sari Hartati, I Nyoman Satya Kumara
Departement of Electrical Engineering Faculty of Engineering Udayana University
6. ID 361 **Intermittent Renewable Energy Source (IRES) Penetration Level into Bangka Power System**
Handrea Bernando Tambunan, Kevin Gausultan H. Mangunkusumo, Brian Bramantyo S.D.A. Harsono, Arionmaro Asi Simaremare, Nur Widi Priambodo, Buyung Sofianto Munir.
Transmission and Distribution, Department PLN Research Institute

Technical Session 2

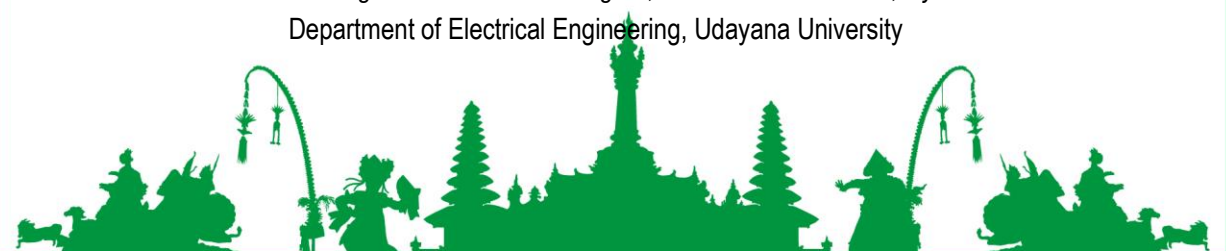
Software Engineering and Information Systems 1

Thursday, 25 October; 15.30 – 17.00

Session Chair: N. M. A. E. D. Wirastuti

Cakrawala

1. ID 286 **Supervised Deep Learning Based for Traffic Flow Prediction**
Hendrik Tampubolon, Pao-Ann Hsiung
Department of Information Systems, Krida Wacana Christian University
Department of Computer Science and Information Engineering, National Chung Cheng University
2. ID 312 **Development of SMS Sending Software for Balinese Script Text on Android Platform**
Ida Bagus Kade Dwi Suta Negara, NMAE Dewi Wirastuti, Nyoman Pramaita
Department of Electrical Engineering, Udayana University



3. ID 323 **Analysis and Implementation of K-means Clustering Algorithm for Motorized-vehicles Taxation Strategy (Case Study: Bali Regional Revenue Department)**
Novandika Dwipayana, Gede Rasben Dantes, Gede Indrawan
Program Pasca Sarjana Ilmu Komputer, Universitas Pendidikan Ganesha
4. ID 352 **Performance Evaluation of Caching Solution from Three Layers Perspective for Storage Performance in Vmware-based Virtualization Environment**
Marcel
Krida Wacana Christian University / UKRIDA
5. ID 377 **Developing Balinese Culture-Based Serious Game Model: I Rajapala as a Hunter**
I Nyoman Putu Suwindra, I Ketut Gede Darma Putra, I Made Sudarma, Nyoman Putra Sastra
Study Program of Doctoral Engineering Science, Udayana University.
Department of Information Technology Faculty of Engineering, Udayana University. Department of Electrical Engineering, Udayana University
6. ID 396 **E-KUBU: Smart Home Automation System for Housing Energy Management**
Gusti Ayu Mayani Kristina Dewi, NMAED Wirastuti, A.A. Istri Ngurah Eka Karyawati, I Ketut Gede Suhartana, I Wayan Santiyasa, I Komang Ari Mogi, I Gede Arta Wibawa, Ida Bagus Gede Dwidasmara, Nyoman Dita Pahang Putra
Faculty of Animal Husbandry, Udayana University
Department of Electrical Engineering, Faculty of Engineering, Udayana University
Department of Computer Science Faculty of Math and Science, Udayana University. Department of Civil Engineering Faculty of Engineering, UPN Veteran

Technical Session 3

Energy and Power Engineering 3

Friday, 26 October; 09:00-10:30

Session Chair: I. N. S. Kumara

Samudra

1. ID 364 **A Study of Conversion of Sardine Flour Used Cooking Oil into Biodiesel Using Microfiltration and Transesterification Techniques**
Rukmi Sari Hartati, Atmiral Ernes, I Nyoman Suprpta Winaya, Poppy Diana Sari
Electrical Engineering Department, Udayana University
Agricultural Product Technology Department, Majapahit Islamic University
2. ID 386 **Robot for Cleaning Solar PV Module to Support Rooftop PV Development**
I.P.G. Riawan, I.N.S. Kumara, C.G.I. Partha, I Nyoman Setiawan, D.A.S. Santiari
Department of Electrical Engineering, Udayana University
3. ID 388 **Comparison of Battery Reliability for Offshore Remote Telemetry Unit**
Bachtiar Rifai, N.M.A.E.D. Wirastuti
Magister of Electrical Engineering, Udayana University. Lab. Telecommunication System, Dept. Electrical Engineering, Udayana University
4. ID 389 **Performance Evaluation of 25 KW Community Microhydro in Seloliman Village East Java**
Haksari Laksmi Bestari, I Nyoman Satya Kumara, Wayan Gede Ariastina
Department of Electrical Engineering Faculty of Engineering, Udayana University

5. ID 390 **Comparison of PV Rooftop Energy Production at Denpasar City Office Buildings**

I Putu Eddy Saskara, I Nyoman Satya Kumara, I Wayan Sukerayasa

Departement of Electrical Engineering, Udayana University

6. ID 392 **Optimal PMU Placement in Bali 150 KV Network**

I G P Ari Suyasa, Rukmi Sari Hartati, Dewa Made Wiharta

PT PLN (Persero) P2B APB Bali Electrical Engineering Udayana University,
Electrical Engineering Udayana University

Technical Session 3

Software Engineering and Information Systems 2

Cakrawala

Friday, 26 October; 09:00-10:30

Session Chair: Y. Divayana

1. ID 316 **Virtual Backup Server Optimization on Data Centers using Neural Network**

Muhammad Riza Hilmi, Made Sudarma, Linawati

Department of Computer System STMIK STIKOM Bali. Department of Electrical and Computer Engineering Udayana University

2. ID 317 **Development of Learning Vector Quantization Neural Network for Forecasting Fluctuations in Commodity Prices**

I Putu Oka Wisnawa, Agus Dharma, Made Sudarma

Department of Electrical and Computer Engineering Faculty of Engineering Udayana University

3. ID 325 **Prediction of Sales Transaction Using Adaboost, Random Forest and Linear Regression in Retail Company**

Y. I. T. Widyanto, G.R. Dantes, I. N. Sukajaya

Post-Graduate Computer Science Program, Universitas Pendidikan Ganesha

4. ID 326 **Geographic Information System for Balinese Handicraft Export Distribution using K-Medoid and Elbow Method**

DA Indah Cahya Dewi, IA Dwi Giriantari, M Sudarma

Department of Electrical Engineering Post Graduate Program, Udayana University. Department of Electrical Engineering Udayana University

5. ID 344 **Opinion Mining on Twitter Social Media to Classify Racism Using Combination of POS Tagging, Naive Bayes Classifier, and K-Nearest Neighbor**

M. Azman Maricar, I Nyoman Satya Kumara, Made Sudarma.

Department of Electrical and Computer Engineering, Post Graduate Program, Udayana University. Department of Electrical and Computer Engineering Udayana University

6. ID 351 **Instrumentation Checking Information System for Sanglah Geophysical Station**

Ida Bagus Putu Teguh Brahmantika, I Gusti Komang Diafari Djuni, Duman Care Khrisne

Department of Electrical Engineering, Udayana University

Technical Session 4

Energy and Power Engineering 4

Samudra

Friday, 26 October; 11:00-12:30

Session Chair : W. G. Ariastina

1. ID 394 **Performance Evaluation of Roof Top Smart Microgrid at Udayana University**
Ida A.D. Giriantari, Intan A. Medina, I W. Sukerayasa, Rina Irawati
Department of Electrical Engineering, Udayana University. R&D Center for Electricity, New, Renewable Energy and Energy Conservation Technology MEMR Republic of Indonesia
2. ID 399 **New Turbine Design Model NEST-LIE**
Lie Jasa, I Putu Ardana. Ratna Ika Putri
Electrical Engineering Department, Udayana University. Electrical Department, Politeknik Negeri Malang
3. ID 454 **Implementation of Grid-connected PV Plant in Remote Location in Sumbawa Island of Indonesia: Lesson Learned**
INS Kumara, T Urmee, Y Divayana, IN Setiawan, AAGA Pawitra, A Jaya
Department of Electrical Engineering Faculty of Engineering, Udayana University. School of Engineering and Information Technology, Murdoch University. Department of Electrical Engineering Faculty of Engineering, Universitas Teknologi Sumbawa

Technical Session 4

Software Engineering and Information Systems 3

Cakrawala

Friday, 26 October; 11:00-12:30

Session Chair: M. Sudarma

1. ID 391 **Evaluation of Integrated University Management Information System Using COBIT 5 Domain DSS**
Ayu Indah Saridewi, Dewa Made Wiharta, Nyoman Putra Sastra
Electrical Engineering, Udayana University
2. ID 393 **Nonformal Test-Based Gamification Model to Improve Student Motivation**
Adi Panca Saputra Iskandar, Made Sudarma, Komang Oka Saputra
Department of Electrical Engineering Faculty of Engineering, Udayana University
3. ID 403 **Indonesian Herbs and Spices Recognition using Smaller VGGNet-like Network**
D. C. Khrisne, I M. A. Suyadnya
Department of Electrical Engineering Faculty of Engineering, Udayana University.
4. ID 458 **Database of Indonesian Sign Systems**
Risky Aswi Ramadhani, I Ketut Gede Dharma Putra, I Made Sudarma, Ida Ayu Dwi Giriantari
Program Doktor Ilmu Teknik, Udayana University



PRESENTATION

Presentation Arrangement

- The formal language of the conference is English.
- All accepted and registered papers will be presented in oral presentation.
- Each presentation is allocated for 15 minutes. Presenters are required to contact session chair before session commences.
- For presentation purpose, a projector screen, LCD projector and a notebook computer with standard software are provided. To avoid possible software incompatibility, it is recommended to bring your own computer.

Name Tag

Participants are obliged to always wear the provided name badge during the conference.

Mobile Phone

The use of mobile phone in the conference room is restricted. Please switch off your mobile phone or put it in silent mode.



SOCIAL EVENTS

Conference Dinner

Thursday, 25 October 2018

Time: 19.00 – 21.00

Location: Bali Rani Hotel – Brasserie



The Conference Dinner will take place at the Brasserie, Bali Rani's Hotel pool side restaurant.

Stylishly designed, this restaurant is located near the lobby. Its concentration of authentic and classic dishes also some notable Asian specialties, from Sandwich, Burger corner to Indonesian food and Fusion Japanese Food. Featuring predominantly local products as well as choices of imported grade meats served by friendly and attentive staff.



HOW TO GET TO THE CONFERENCE LOCATION



The most convenient way to get to the conference venue (Bali Rani Hotel) from the airport is by airport taxi. The taxi stand is available at the arrival area, both for domestic and international terminals. It takes approximately 5 – 10 minutes from the airport to the venue, and at a cost of about IDR 120,000. Please note that the indicated fare is for guidance only and may be changed from time to time.

Although most of the taxi drivers in Bali understand English well, sometimes you may find a difficulty to communicate with them. In that case, it may be useful to show the following note to the taxi driver.

Tolong antar saya ke alamat ini:

**Bali Rani Hotel
Jalan Kartika Plaza, Kuta.**

In English:

Please take me to the following address:

**Bali Rani Hotel
Jalan Kartika Plaza, Kuta.**



GENERAL INFORMATION

Visa

In accordance with the Regulation of Minister of Law and Human Right of the Republic of Indonesia Number 26, 2013, citizens of 61 countries and 1 region are eligible for obtaining Visa on Arrival (VOA). This visa can be obtained directly when you are landed at the certain airports and seaport in Indonesia, regardless of the purpose of your visit.

The Visa on Arrival is not a Working Visa nor a Visitor Visa. Therefore, it cannot be converted to obtain other immigration permits. The maximum stay permitted for the visa on arrival is 30 days. The Visa on Arrival can be extended for another 30 days. For the list of eligible countries, visa requirements and the list of Indonesian airports and seaports with VOA facilities, please visit: <http://www.embassyofindonesia.org/index.php/visa-requirements-2/>

Customs

Generally, Indonesian customs allows a maximum of one liter of alcoholic liquor, 200 cigarettes or 25 cigars or 100 grams tobacco and a reasonable amount of perfume per adult. Personal goods up to a value of USD 250.- per passenger or USD 1,000.- per family may also be allowed. Note that bringing weapons, illegal drugs or pornography into the country is prohibited.

Airport Tax

Most of Indonesia airports require a departure tax despite many travelers, domestic or international would have preferred if it is included in the air tickets instead. The tax must be paid in Rupiah (IDR), so do prepare an adequate amount of the Indonesian Rupiah before flying out. The amount of the airport tax varies from one airport to another. Per 1 January 2018, a maximum departure tax of IDR 225,000 is levied for travelers on international flights and IDR 100,000 for domestic flights.

Business Hours

Government offices open at 8 am to 3 pm Monday to Friday. Most of the shops in the Denpasar city center and other towns close in the afternoon for a siesta (usually 1 pm to 5 pm) and reopen in the evening until about 9 pm.



Climate

With sunshine throughout the year, Bali has a tropical monsoon climate, with pleasant day temperatures between 20 to 33 degrees Celsius. Rainy season starts from October to March, when the West monsoon brings heavy showers and high humidity. June to September is considered the dry season, with low humidity and cool breeze in the evening, the best time for some outdoor activities.

Currency

Only Rupiah (Indonesian currency) is acceptable at regular stores and restaurants. Certain foreign currencies and major credit cards are accepted by most hotels, restaurants and souvenir shops.

Per 1 October 2018, EUR 1 (Euro) equals to about IDR 17,433 (Indonesian Rupiah), USD 1 (US Dollar) is about IDR 15,053 and AUD 1 (Australian Dollar) is about IDR 10,810. There is no guarantee that the rate will be equal from one money changer to another. Please ask the person at the counter desk before proceed.

Traveler's Check and Credit Cards

Traveler's checks are accepted by leading banks and hotels in principal cities. The use of traveler's checks in Indonesia is as popular as in any other countries. Diners Club and American Express, Visa and Master Card are widely accepted at hotel, department stores, shops, restaurants and night clubs.

Electricity

The electricity in Indonesia is 220 volts at 50 hertz.

IDD (International Direct Dialing)

Country Code = Indonesia: +62
Area Code = Denpasar: +62-361

Transportation

Because the island is relatively small, it is not difficult to get around Bali by various modes of transportation. The traditional types of transportation to the high-class limousine are available, however; traditional transportation may be inconvenient for some visitors.



If you plan to explore Bali in half day or full day trip, the best way is hiring a car with the driver. The average rate varies depending on the type of the vehicle. There are many independent car rentals around the island. If you wish to have better services, you may ask your Travel Agent. You also can hire a tour guide of your own language.

The other possibility is to rent a self-drive car. An international driving license from your own country is required. This rule is also applicable for motorbike rental. A safety helmet is a compulsory when riding a motorbike. Meanwhile, bicycles are normally available for rent at the hotels.

Taxi is the most efficient and convenient transportation to travel around Denpasar and nearby destinations. A number of taxi companies are listed as follows:



No.	Company	Telephone Number (+62 361)
1.	Bali Taksi (Blue Bird Group)	701111, 701621
2.	Koperasi Taxi Ngurah Rai	724724, 724725
3.	Komotra Bali (Blue Bird Group)	499449, 499468
4.	Koperasi Jimbaran Taxi (Blue Bird Group)	709801
5.	Koperasi Wisata Nusa Bali (Blue Bird Group)	771661, 773030
6.	Wahana Dharma Taksi (Blue Bird Group)	244555

On-line Taxis

In addition to the above options there are also online taxis like grabcar / go-car. Therefore, install the apps on your mobile phone so you can book your trips on-line.



MEDICAL SERVICES AND HOSPITALS

Ambulance Service: 118

- **Sanglah General Public Hospital**
Jalan Diponegoro, Dauh Puri Klod Denpasar Barat, Bali 808113
Tel : (+62 361) 227911
E-mail : info@sanglahhospital.com
Web: www.sanglahhospital.com
- **BIMC Hospital Kuta**
Jalan By Pass Ngurah Rai 100X, Kuta
Telephone: (+62 361) 761263
Fax: (+62 361) 764345
E-mail: info@bimcbali.com
Web: <http://www.bimcbali.com/>
- **BIMC Hospital Nusa Dua**
Kawasan BTDC Blok D, Nusa Dua
Telephone: (+62 361) 3000 911
Fax: (+62 361) 3001 150
E-mail: nusadua@bimcbali.com
Web: <http://www.bimcbali.com/>
- **SOS Medika Klinik Kuta (International SOS)**
Jalan By Pass Ngurah Rai 505X, Kuta
Telephone: (+62 361) 710505
Fax: (+62 361) 710515
E-mail : sos.bali@internationalsos.com
Web: <http://www.sosindonesia.com/default.aspx?tabid=56>
- **Ubud Clinic (24 Hour)**
Jalan Raya Campuhan No. 36, Ubud
Telephone: (+62 361) 974911
Fax: (+62 361) 974910
E-mail : ubudclinic@yahoo.com
Web: <http://www.ubudclinic.baliklik.com/>
- **Rumah Sakit Ari Canti**
Jalan Raya Mas No.88x, MAS, Ubud, MAS, Ubud, Kabupaten Gianyar, Bali 80571
Telephone: (+62 361) 974573
- **Rumah Sakit Umum Bali Mandara**
Jl. By Pass Ngurah Rai No.548, Sanur Kaun, Denpasar Sel., Kota Denpasar, Bali
Telephone: (0361) 4490566



FOREIGN REPRESENTATIVE OFFICE

- **Consulate Office of Australia**
Australian Consulate-General Bali
Bali and Nusa Tenggara Barat
Address: Jalan Tantular, Renon No. 32 Denpasar, Bali-80324
Tel: +62361-2000100; Facsimile: +62361-2000195
E-mail : bali.congen@dfat.gov.au
Web: <https://bali.indonesia.embassy.gov.au/blli/home.html>
- **Consulate Office of Brazil**
Honorary Consulate of Brazil - Bali
Address: Jalan Raya Legian No. 186, Kuta-80361
Tel: +62-361-757775; Fax: +62-361-751005
E-mail: brazilconsul@bali.net
- **Consulate Office of Chile**
Chilean consulate
Address: Jalan Sunset Road No.10, Kuta, Kabupaten Badung, Bali
Tel : (+62) (361) 756 781
E-mail : chilehoncusulate@bali-vila.com

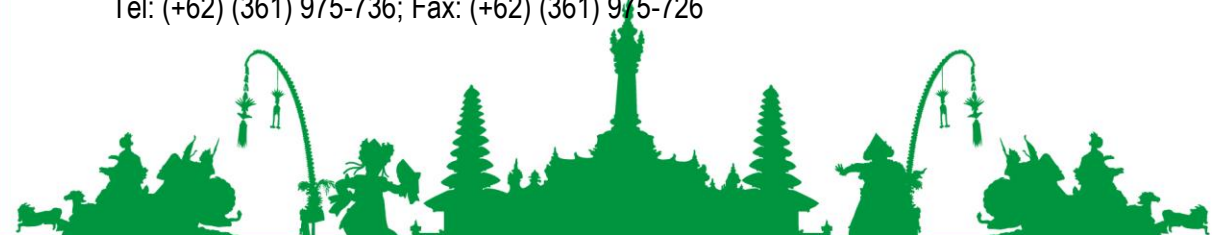
Chile (Honorary Consulate)
Jalan Pengembak Gang 1, No. 3, Sanur-80227, Bali, Indonesia
Tel: +62-361-281503; Fax: +62-361-285216
- **Consulate Office of the Czech Republic**
Address: Jalan Pengembak 17, 80228 Sanur - Bali
Tel: +62-361-286465; Fax: +62-361-286408
E-mail : bali@honorary.mzv.cz
Web: <https://www.mzv.cz/jnp/en/index.html>
- **Consular Agency of France**
Consular Agency of France
Address: Jalan Mertasari Gang II, No. 8, Sanur Kauh, Denpasar.
Tel: +62-361-285485; Fax: +62-361-286406

French Consulate General
Address: Jl. Umalas I No.80, Kerobokan, Kuta, Kabupaten Badung, Bali 80117
Tel: (0361) 4730834
- **Consulate Office of Germany**
Address: Jalan Pantai Karang 17, Sanur, Denpasar.
Tel: +62-361-288535, +62-361-288826; Fax: +62-361-288826
E-mail : sanur@hk-diplo.de



- **Consulate Office of Hungary**
Address: Jalan Bypass Ngurah Rai No. 219, Sanur
Tel: +62-361-287701; Fax: +62-361-735232
E-mail : huconbali@gmail.com
- **Consulate Office of Italy**
Address: Lotus Enterprise Building, Jalan Bypass Ngurah Rai, Jimbaran, Denpasar
Tel: +62-361-701005; Fax +62-361-701005
E-mail : italconsbali@italconsbali.org
- **Consulate Office of Japan**
Address: Jalan Raya Puputan, Renon Denpasar No.170
Tel: +62-361-227628; Fax: +62-361-231308
Web: https://www.denpasar.id.emb-japan.go.jp/itprtop_id/index.html
- **Consulate Office of Malaysia**
Honorary Consul
Address: Alam Kulkul Boutique Resort, Jalan Pantai Kuta, Legian, Bali 80030
Tel: +62-361-752520 / +62-361-766373; Fax: +62-361-766373
E-mail : info@consulmalaysia-bali.com
- **Consulate Office of Mexico**
Honorary Consulate of Mexico
Address: Puri Astina Building, Jalan Prof. Moh. Yamin 1-A, Renon, Denpasar
Tel: +62-361-223266; Fax: +62-361-244568
- **Consulate Office of Netherlands**
Address: Jalan Raya Kuta No: 127, Kuta
Tel: +62-361-761502 / +62-361-754897; Fax: +62-361-752777
Web: <http://www.norway.or.id/Embassy/Consulates/>
- **Consulate Office of Norway & Denmark**
Address: Mimpi Resort, Kawasan Bukit Permai, Jimbaran
Tel: +62-361-701070 (ext. 32); Fax: +62-361-701073, +62-361-701074
Web: <http://www.norway.or.id/Embassy/Consulates/>
- **Consulate Office of Spain**
Address: Istana Kuta Galeria Blok Valet II/11, JL. Patih Jelantik, Kerobokan, Kuta, Denpasar, 80361, Kuta, Badung Regency, Bali 80361
Tel: +62-361-769286; Fax: +62-361-769186

Address: Jl. Raya Sanggingan Banjar Lungsiakan Kedewatan, Ubud Bali 80571 Indonesia
Tel: (+62) (361) 975-736; Fax: (+62) (361) 975-726



- **Consulate Office of Sweden& Finland**
Address: Segara Village Hotel, Jalan Segara Ayu, Sanur-80228
Tel: +62-361-288407 / +62-361-282223; Fax: +62-361-287242

- **Consulate Office of Switzerland & Austria**
Address: Kompleks Istana Kuta Galleria, Blok Valet 2 No. 12, Jalan Patih Jelantik Kuta-80361
Tel: +62-361-751735; Fax: 62-361-754457
Web: <https://www.eda.admin.ch/jakarta>

- **Consulate Office of Thailand**
Address: Jl. Pemuda II No.9, Sumerta Kelod, Denpasar Tim., Kota Denpasar, Bali 80239,
Tel: +62-361-263310 / +62 812-3825-542; Fax: 62-361-238044
Web: www.thaiembassy.org/jakarta/en/home

- **Consulate Office of Timor Leste**
Address: Jalan Prof. Yamin No. 4, Renon Denpasar
Tel: +62-361-235093; Fax: +62-361-235092
E-mail: cgtl@dpsbali.com

- **Consulate Office of the United Kingdom**
Address: Jalan Tantular No 32 Renon, Denpasar, Bali 80234 Indonesia
Telephone (+62) (21) 2356 5200; Fax (+62) (21) 3983 5538
E-mail : Consulate.Bali@fco.gov.uk

- **Consular Agency of the United States of America**
Address: Jalan Hayam Wuruk 310, Tanjung Bungkak, Denpasar-80235
Tel: +62-361-233605; Fax: +62-361-222426
E-mail: CABali@state.gov
Web: <https://id.usembassy.gov/>

- **Consulate Office of India**
Address: Jl. Raya Puputan No. 163 | Denpasar, Bali 80235 | Indonesia
Tel : (+62) (361) 259 500 | (+62) (361) 259 502
E-mail : info@cgibali.in





UNIVERSITAS UDAYANA

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ICSGTEIS 2018 SECRETARIAT

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