



UNIVERSITAS UDAYANA



2021 International Conference on Smart-Green Technology in Electrical and Information Systems (ICSGTEIS)

28 - 30 October 2021

BALI, INDONESIA

PROGRAM BOOK



WELCOME MESSAGE



It is my pleasure to welcome all participants of the 2021 International Conference on Smart Green Technology in Electrical and Information Systems (ICSGTEIS 2021), held in Bali, Indonesia, on 28-30 October 2021. The conference is aimed to serve as a forum for sharing and exchanging findings, ideas, innovations, and vision in smart and green technologies. The ICSGTEIS 2021 is delivered in a hybrid form and is organized by the Department of Electrical Engineering and the Postgraduate Study in Electrical Engineering, Faculty of Engineering, Udayana University.

The ICSGTEIS 2021 covers a number of topics, including Energy and Power Engineering, Electronic Devices and Systems, Multimedia Telecommunications, and Software Engineering and Information Systems. All accepted papers have been selected through peer reviewing process. The conference secretariat received 53 submissions and 30 papers have been selected for presentation. In addition to the paper presentations, the conference program also includes plenary lectures and social events.

I would like to take this opportunity to thank the keynote speakers: Associate Professor B.T. Phung of The University of New South Wales, Sydney Australia and Professor Tsuyoshi Usagawa, of Kumamoto University, Kumamoto, Japan, for sharing their perspectives and latest research in the area of electrical and information systems.

I would also like to express my appreciation to the IEEE Indonesia Section, the IEEE Udayana University Student Branch, Center for Community Based Renewable Energy (CORE) Udayana University, and Udayana Center for Learning Innovation in Asia Pacific (UCLIAP) for their continuous support to the conference.

Many thanks also go to the International Advisory Board, the Technical Program Committee and the Organizing Committee, for their effort in delivering the conference. Last but not least, thanks to all Presenters and Authors who have chosen ICSGTEIS 2021 to publish their research findings. Without their participation, this conference would not be possible.

I wish you all have a successful conference.

Wayan Gede Ariastina, PhD, MIEEE
General Chair of ICSGTEIS 2021





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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



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- 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





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- Prof. Taufik (USA)

KEYNOTE SPEAKERS

Associate Professor B.T. Phung



School of Electrical Engineering and Telecommunications
The University of New South Wales, Sydney, Australia
ORCID: <https://orcid.org/0000-0002-4079-5835>

Toan Phung received a Ph.D. in Electrical Engineering from the University of New South Wales in 1998. Since 2015, he is an Associate Professor in Energy Systems in the School of Electrical Engineering & Telecommunications. He is the Director of Academic Studies and in charge of the High Voltage laboratory. His research interests include dielectrics and electrical insulation materials, partial discharge, high-voltage phenomena and engineering applications, power system equipment and condition monitoring methods, smart sensing devices and systems, electromagnetic transients in power systems. He is a senior member of the IEEE, member of the IEEE Dielectrics and Electrical Insulation Society, and associate editor of the IEEE Systems Journal.

Topic:

Smart Condition Monitoring of The Electricity Networks

The electric grid is a vital infrastructure in present-day societies. It is becoming increasingly challenging to operate such a complex, continuously-evolving, dynamic system so that it can reliably deliver electricity from diverse generation sources to the end-users. Advances in sensing devices, digital technologies, communications, signal processing and data analytics together make it possible to build sophisticated monitoring systems. They can be deployed throughout the whole network to the grid edge, enabled capturing detailed information about the state of the grid, which includes not only time-synchronized electrical parameters but also many other physical parameters that are relevant to the health of the grid components for proper



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functioning. This presentation is to provide some insight on smart condition monitoring of the electricity supply networks and research projects at UNSW in this area.



Professor Tsuyoshi Usagawa



Graduate School of Science and Technology,
Kumamoto University, Kumamoto, Japan

Tsuyoshi Usagawa joined Kumamoto University in 1983 right after he received the M.E. degree from Tohoku University. In 1988, he received Dr. Eng. from Tohoku University. Since 2004 he is a professor and he is a member of IEEE, ASA, ASJ, INCE/J etc. He is interested in e-Learning contents and system, and acoustic signal processing.

Topic:

Paradigm Shift of Education under COVID-19
What we find and obtain at a university in Japan

COVID-19 make huge impact on education and other students' activities for all higher education institutes. Kumamoto University in Japan also struggle to keep the quality of education under various restriction. However, when we look back last 12 months' activities, we found many new outcomes and, as an institute, we obtain many progresses to prepare the coming educational digital transformation. This talk will share what we have done and what we have obtained as well as what we are planning to do now.



VENUE

Swiss-Belresort Watu Jimbar

Jl. Danau Tamblingan 99A, Sanur 80228, Bali – Indonesia

Tel: (62-361) 849 7000

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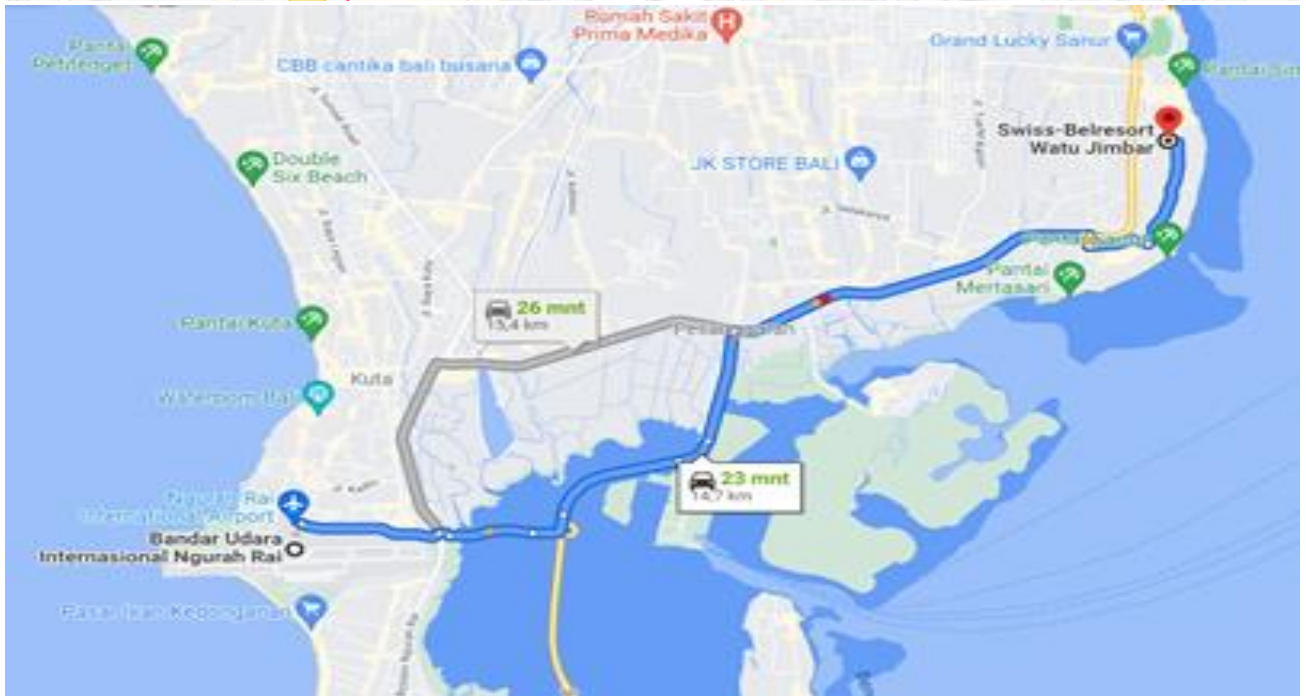
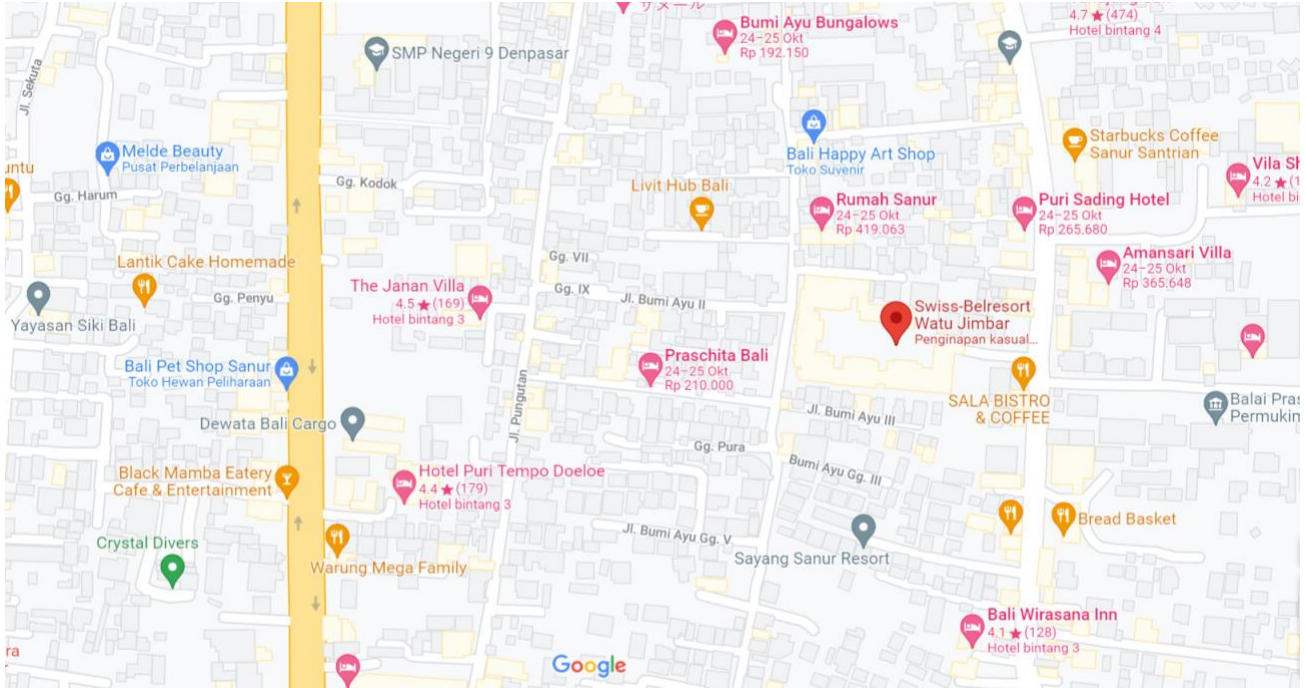
Website: <http://www.swiss-belresortwatu jimbar.com/>





Swiss-Belresort Watu Jimbar also has successfully obtained CHSE (Clean, Healthy, Safety, and Environment) certification from the Ministry of Tourism and Economy Creative (Kemenparekraf) by meeting cleanliness, health, safety and environmental standards in the hospitality sector amid the Covid-19 pandemic.





Swiss-Belresort Watu Jimbar is a 4-star international ayung located in Sanur, Bali. Sanur's beautiful sandy beach is only a five-minute walk from the resort and close to a variety of restaurants, shops, entertainment venues and tourist attractions.



PROGRAM AT GLANCE

Date	Time	Program	Room
Thursday, 28 October 2021	08:00 - 17:00	Registration	
	09:00 - 09:30	Opening	Jimbar Ballroom
	09:30 - 10:00	Coffee Break	
	10:00 - 11:00	Plenary Session 1	Jimbar Ballroom
	11:00 - 12:00	Plenary Session 2	Jimbar Ballroom
	12:00 - 13:30	Lunch	
	13:30 - 15:00	Technical Session 1	Jimbar 1/ Jimbar 2
	15:00 - 15:30	Coffee Break	
	15:30 - 17:00	Technical Session 2	Jimbar 1/ Jimbar 2
Friday, 29 October 2021	08:00 - 12:00	Registration	
	09:00 - 10:30	Technical Session 3	Jimbar 1/ Jimbar 2
	10:30 - 11:00	Coffee Break	
	11:00 - 12:30	Technical Session 4	Jimbar 1/ Jimbar 2
	12:30 - 13:00	Closing	Jimbar 1
	13:00 - 14:00	Lunch	
Saturday, 30 October 2021			
	08:00 - 17:00	Optional Bali Tours	

Note:

Indicated time is Local Bali Time (GMT+08:00)



TECHNICAL SESSIONS

Technical Session 1

Energy and Power Engineering 1

Thursday, 28 October 2021; 13.30 – 15.00

Jimbar 1

Session Chair: I N. S. Kumara

Session Co-Chair: I N. Setiawan

1. ID 3947 **Dielectric Dissipation Factor Measurement of Power Equipment under Distorted Excitation Voltage**
(Virtual)
Pratic A Muntakim
School of Electrical Engineering and Telecommunications, University of New South Wales, Sydney, Australia
Junyang Zhang
School of Electrical Engineering and Telecommunications, University of New South Wales, Sydney, Australia
Shubin Zhang
School of Electrical Engineering and Telecommunications, University of New South Wales, Sydney, Australia
B.T. Phung
School of Electrical Engineering and Telecommunications, University of New South Wales, Sydney, Australia
2. ID 3868 **The E3A Framework: Assessment Of Energy Availability, Accessibility & Acceptability at the Provincial Level in Indonesia**
(Virtual)
Maria Retnanestri
Electrical Engineering Department, Institut Teknologi Nasional Yogyakarta, Yogyakarta, Indonesia
Hugh Outhred
IPEN Pty Ltd, Sydney, Australia
3. ID 4107 **A Study of Leakage Current Characteristic of Silicone Rubber Surface after Subjected to Ultraviolet Light**
(Virtual)
Abdul Syakur
Dept. of Electrical Engineering, Universitas Diponegoro, Semarang, Indonesia
Jumrianto
Dept. of System & Information Tech., IVET University, Semarang, Indonesia
Dessy Ariyanti
Dept. of Chemical Engineering, Universitas Diponegoro, Semarang, Indonesia
Munawar Agus Riyadi
Dept. of Electrical Engineering, Universitas Diponegoro, Semarang, Indonesia
Devi
Dept. of Electrical Engineering, Universitas Diponegoro, Semarang, Indonesia
Lusianna Silalahi
Dept. of Electrical Engineering, Universitas Diponegoro, Semarang, Indonesia
Wisnu Puji Rahayu
Dept. of Electrical Engineering, Universitas Diponegoro, Semarang, Indonesia
4. ID 3971 **Condition Monitoring of Wind Turbine Gearbox Using Multidimensional Hybrid Outlier Detection**
(Virtual)
Siyu Zhu
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China

Zheng Qian

School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China

Bo Jing

School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China

Miaoquan Han

School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China

Zhengkai Huang

Mobile Eco-Utilities Group, User Quality and Performance Department, Baidu, Beijing, China

Fanghong Zhang

CSIC HaiZhuang Wind power Co. Ltd., Chongqing, China

Technical Session 1

Joint Track: Multimedia Telecommunications/Software Engineering and Information Systems

Thursday, 28 October 2021; 13.30 – 15.00

Jimbar 2

Session Chair: NMAE Dewi Wirastuti

Session Co-Chair: G. Sukadarmika

1. ID 3952 (Virtual) **Simulation of Signal Propagation Channel 802.11n in Indoor Condition from Direct Measurement**
Made Sutha Yadnya
Department of Electrical Engineering, Faculty of Engineering, University of Mataram
I Wayan Sudiarta
Department of Physics, Faculty of Mathematics and Natural Science, University of Mataram
I Gede Wedashwara Wedarama
Informatics Engineering, Faculty of Engineering, University of Mataram
2. ID 3941 (Virtual) **Quality of Service in Internet Network Based on Different Distances from Access Point**
Noveri Lysbetti Marpaung
Department of Electrical Engineering, Faculty of Engineering, University of Riau, Pekanbaru, Indonesia
Era Yohana Oktaviani Silalahi
Department of Electrical Engineering, Faculty of Engineering, University of Riau, Pekanbaru, Indonesia
3. ID 3920 (Virtual) **Domain Concept of E-Government Evaluation Framework in Indonesian Local Government**
Moh Hidayat Koniyo
Department of Informatics Engineering, Universitas Negeri Gorontalo, Gorontalo, Indonesia
Ida Ayu Dwi Giriantari
Department of Electrical Engineering, Udayana University, Bali, Indonesia
Made Sudarma
Department of Electrical Engineering, Udayana University, Bali, Indonesia
N. M. A. E. D. Wirastuti
Department of Electrical Engineering, Udayana University, Bali, Indonesia
4. ID 4961 (Virtual) **A Review on Swarm Intelligence Based Approach for Automatic Document Summarization**
I Made Widiartha
Doctoral Engineering Departement, Udayana University, Denpasar, Indonesia
Rukmi Sari
Doctoral Engineering Departement, Udayana University, Denpasar, Indonesia

Dewa Made Wiharta

Doctoral Engineering Departement, Udayana University, Denpasar, Indonesia

Technical Session 2

Electronic Devices and System

Thursday, 28 October 2021; 15.30 – 17.00

Jimbar 1

Session Chair: Yoga Divayana

Session Co-Chair: Ngurah Indra ER

1. ID 3839 **Performance analysis of artificial leg robot movement with PID control**
(In person) **W.Widhiada**
Mechanical Engineering dept., Faculty of Technology, University of Udayana, Badung, Indonesia
I.K.A. Admika
Mechanical Engineering dept., Faculty of Technology, University of Udayana, Badung, Indonesia
I.G.P.A.Suryawan
Mechanical Engineering dept., Faculty of Technology, University of Udayana, Badung, Indonesia
2. ID 3796 **BLDC Motor Control using a Complex Programmable Logic Device with Hall-Sensors**
(In person) **Muhammad Fajri Sachruddin**
Department of Electrical Engineering, Universitas Hasanuddin, Makassar, Indonesia
Faizal Arya Samman
Deptatment of Electrical Engineering, Universitas Hasanuddin, Makassar, Indonesia
Rhiza S. Sadjad
Department of Electrical Engineering, Universitas Hasanuddin, Makassar, Indonesia
3. ID 3770 **Three-phase Four-leg Inverter LC Filter Using FCS MPC**
(In person) **Asep Andang**
Dept. of Electrical Engineering, Universitas Siliwangi, Tasikmalaya, Indonesia
Trio Adi Pamungkas
Dept. of Power Plant, Cemindo Gemilang Bayah, Lebak, Indonesia
Nundang Busaeri
Dept. of electrical engineering, Universitas Siliwangi, Tasikmalaya, Indonesia
Rukmi Sari Hartati
Dept. of electrical engineering, Universitas Udayana, Denpasar, Indonesia
Ida Bagus Gede Manuaba
dept. of electrical engineering, Universitas Udayana, Denpasar, Indonesia
I Nyoman Satya Kumara
Dept. of electrical engineering, Universitas Udayana, Denpasar, Indonesia
4. ID 3794 **DC-AC Inverter 220-230 VAC for Home Scale Photovoltaic Systems**
(Virtual) **Faizal Arya Samman**
Department of Electrical Engineering, Universitas Hasanuddin, Makassar, Indonesia
Muhammad Aswan
Department of Electrical Engineering, Universitas Hasanuddin, Makassar, Indonesia
Andi Ejah Umraeni Salam
Department of Electrical Engineering, Universitas Hasanuddin, Makassar, Indonesia

Technical Session 2

Energy and Power Engineering 2

Thursday, 28 October 2021; 15.30 – 17.00

Jimbar 2

Session Chair: K. O. Saputra

Session Co-Chair: P. E. Duta Nugraha

1. ID 3942 **Carrier Based PWM Methods of Dual Cascaded Inverter for Solar Power Plant Solid State Transformer**
(Virtual)
I Nyoman Wahyu Satiawan
Department of Electrical Engineering, University of Mataram, Mataram, Indonesia
Ida Bagus Fery Citarsa
Department of Electrical Engineering, University of Mataram, Mataram, Indonesia
I Made Budi Suksmadana
Department of Electrical Engineering, University of Mataram, Mataram, Indonesia
Pravat Kumar Ray
Department of Electrical Engineering, National Institute of Technology Rourkela, India
2. ID 3942 **Modeling and Power Management of Electric Vehicle Charging System**
(Virtual)
Pravat Kumar Ray
Department of Electrical Engineering, National Institute of Technology, Rourkela, India
Anindya Bharatee
Department of Electrical Engineering, National Institute of Technology, Rourkela, India
Sampita Panda
Department of Electrical Engineering, National Institute of Technology, Rourkela, India
I Nyoman Wahyu Satiawan
Department of Electrical Engineering, University of Mataram, Mataram, Indonesia
3. ID 3830 **Improvement efficiency of photovoltaic system using modified perturb and observe**
(Virtual)
Ratna Ika Putri
Electrical Department, State Polytechnic of Malang, Malang, Indonesia
Ferdian Ronilaya
Electrical Department, State Polytechnic of Malang, Malang, Indonesia
Ika Noer Syamsiana
Electrical Department, State Polytechnic of Malang, Malang, Indonesia
Lie jasa
Electrical Department, Udayana University, Bali, Indonesia
4. ID 3971 **Novel Application of Heterogeneous Ensemble Learning in Fault Diagnosis of Photovoltaic Modules**
(Virtual)
Jingyue Wang
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China
Liliang Wang
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China
Jiaqi Qu
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China
Zheng Qian
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China

Technical Session 3

Energy and Power Engineering 3

Friday, 29 October 2021; 09.00 – 10.30

Jimbar 1

Session Chair: I N. Setiawan

Session Co-Chair: I N. S. Kumara

1. ID 3968 **Preliminary Performance Evaluation of a 52.2 kWp Rooftop PV System in PT PLN Research Institute**
(In person)
Agussalim Syamsuddin
Research Division, PT PLN (Persero) Research Institute, Jakarta, Indonesia
2. ID 3802 **The Development of Laboratory-Scale Oscillating Water Column OWC Test Rig with Real-Time Data Monitoring System**
(In-person)
Nurul Hiron
Department of Electrical Engineering, Faculty of Engineering, Siliwangi University, Indonesia
Ida Ayu Dwi Giriantari
Department of Electrical Engineering, Faculty of Engineering, Udayana University, Indonesia
Lie Jasa
Department of Electrical Engineering Faculty of Engineering, Udayana University, Indonesia
I Nyoman Satya Kumara
Department of Electrical Engineering Faculty of Engineering, Udayana University, Indonesia
3. ID 3802 **Green Campus Establishment Through Carbon Emission and Energy Efficiency Control**
(In-person)
Nundang Busaeri
Department of Electrical Engineering, Siliwangi University, Indonesia
Nurul Hiron
Department of Electrical Engineering, Siliwangi University, Indonesia
Ida Ayu Dwi Giriantari
Department of Electrical Engineering, Udayana University, Indonesia
Wayan Gede Ariastina
Department of Electrical Engineering, Udayana University, Indonesia
I. B. Alit
Department of Electrical Engineering, Udayana University, Indonesia
4. ID 3946 **SWOT Analysis for Biodiesel Utilization for Diesel Power Plants in Indonesia**
(Virtual)
Mujammil Asdhiyoga Rahmanta
Electrical Engineering Department, Engineering Faculty, University of Indonesia, Depok, Indonesia
Rinaldy Dalimi
Electrical Engineering Department, Engineering Faculty, University of Indonesia, Depok, Indonesia

Technical Session 3

Joint Track: Software Engineering and Information Systems/Multimedia Telecommunications

Friday, 29 October 2021; 09.00 – 10.30

Jimbar 2

Session Chair: G. Sukadarmika

Session Co-Chair: NMAE Dewi Wirastuti

1. ID 3971 **A fast and lightweight neural network for curve detection in structured-light vision sensing**
(Virtual)
Congyang Zhao
Key Laboratory of Precision Opto-mechatronics Technology, Beihang University, Beijing China
Xiaoyu Zhang
Key Laboratory of Precision Opto-mechatronics Technology, Beihang University, Beijing China
Jianing Yang
Key Laboratory of Precision Opto-mechatronics Technology, Beihang University, Beijing China
Liliang Wang
Key Laboratory of Precision Opto-mechatronics Technology, Beihang University, Beijing China
Fuqiang Zhou
Key Laboratory of Precision Opto-mechatronics Technology, Beihang University, Beijing China
Zheng Qian
Key Laboratory of Precision Opto-mechatronics Technology, Beihang University Beijing China
2. ID 3971 **Wind Turbine Condition Monitoring Based on Autoencoder and K-means**
(Virtual)
Miaoquan Han
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China
Zheng Qian
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China
Bo Jing
School of Instrumentation and Optoelectronic Engineering, Beihag University, Beijing, China
Siyu Zhu
School of Instrumentation and Optoelectronic Engineering, Beihang University, Beijing, China
Fanghong Zhang
CSIC HaiZhuang Wind power Co. Ltd., Chongqing, China
3. ID 4198 **Gamification Model in Scheduling and Attendance System of Traditional Village Activities**
(Virtual)
N.M.A.E.D. Wirastuti
Study Program of Electrical Engineering, Faculty of Engineering, Udayana University, Bali, Indonesia
Komang Oka Saputra
Study Program of Electrical Engineering, Faculty of Engineering, Udayana University, Bali, Indonesia
Kadek Darmaastawan
Post Graduated Study Program of Electrical Engineering, Faculty of Engineering, Udayana University, Bali, Indonesia
Is-Haka Mkwawa
School of Engineering, Computing and Mathematics, University of Plymouth, United Kingdom
4. ID 4020 **Design and Simulation of Log Periodic Dipole Array Antenna for 162 MHz AIS receiver**
(Virtual)
I G A K Diafari D.H.
Dept. of Electrical Engineering, Udayana University, Denpasar, Indonesia
I Made Oka Widyantara

Dept. of Electrical Engineering, Udayana University, Denpasar, Indonesia

D. M Wiharta

Dept. of Electrical Engineering, Udayana University, Denpasar, Indonesia

Putu Ardana

Dept. of Electrical Engineering, Udayana University, Denpasar, Indonesia

Nyoman Pramaita

Dept. of Electrical Engineering, Udayana University, Denpasar, Indonesia

Technical Session 4

Software Engineering and Information Systems

Friday, 29 October 2021; 11.00 – 12.30

Jimbar 1

Session Chair: Ngurah Indra ER

Session Co-Chair: Yoga Divayana

1. ID 3938 **Clustering of Earthquake and Volcanic Eruption Trauma Survivor Groups using K-Means Algorithm**
(In-person)
Sri Widyanti Ginting
Doctoral Engineering Science, Udayana University, Denpasar, Indonesia
Rukmi Sari Hartati
Doctoral Engineering Science, Udayana University, Denpasar, Indonesia
Made Sudarma
Doctoral Engineering Science, Udayana University, Denpasar, Indonesia
Ida Bagus Alit Swarmardika
Doctoral Engineering Science, Udayana University, Denpasar, Indonesia
2. ID 3921 **Determination of Effective Radio Frequency Monitoring Locations Using Fuzzy-Analytical Hierarchy Process**
(In person)
Gede Eka Cahyadi
Balmon Kelas I Denpasar, Ditjen SDPPI-Kemkominfo, Denpasar, Indonesia
Gede Sukadarmika
Electrical Engineering, Universitas Udayana, Denpasar, Indonesia
Yoga Divayana
Electrical Engineering, Universitas Udayana, Denpasar, Indonesia
Nyoman Putra Sastra
Electrical Engineering, Universitas Udayana, Denpasar, Indonesia
3. ID 4969 **Impact of Covid-19 Pandemic on Electricity Consumption and Nighttime Lights Based on NPP-VIIRS DNB Image Products**
(In person)
A.R. As-syakur
Research Center for Environment, Udayana University, Bali, Indonesia
W.G. Ariastina
Department of Electrical Engineering, Udayana University, Bali, Indonesia
I N.S. Kumara
Department of Electrical Engineering, Udayana University, Bali, Indonesia
I M.O. Guna Antara
Research Center for Environment, Udayana University, Bali, Indonesia
T. Osawa
Center for Research and Application of Satellite Remote Sensing, Yamaguchi University, Yamaguchi, Japan
D.A.N. Cahyani
Bali Distribution Center, PT PLN (Persero), Bali, Indonesia

Technical Session 4

Software Engineering and Information Systems

Friday, 29 October 2021; 11.00 – 12.30

Jimbar 2

Session Chair: P. E. Duta Nugraha

Session Co-Chair: K. O. Saputra

1. ID 3813 **Palmprint Identification using SVM and CNN Method**
(Virtual)
Ayu Wirdiani
Information Technology, Udayana University, Denpasar, Indonesia
Darma Putra
Information Technology, Udayana University, Denpasar, Indonesia
Made Sudarma
Electrical Engineering, Udayana University, Denpasar, Indonesia
Rukmi Sari Hartati
Electrical Engineering, Udayana University, Denpasar, Indonesia
2. ID 3919 **EEG Study of Dasa Aksara Yoga and Improved Focus on Distance Learning Student**
(Virtual)
I Putu Agus Eka Darma Udayana
Dept. of Engineering Science, Udayana University, Denpasar, Indonesia
Made Sudarma
Dept. of Electrical Engineering, Udayana, University, Denpasar, Indonesia
I Ketut Gede Darma Putra
Dept. of Information Technology, Udayana University, Denpasar, Indonesia
I Made Sukarsa
Dept. of Information Technology, Udayana University, Denpasar, Indonesia
3. ID 3923 **Design and Control System of Sluice Gate With Web-Based Information**
(Virtual)
I Gusti Made Ngurah Desnanjaya
Computer System Engineering, STMIK STIKOM Indonesia, Denpasar, Indonesia
I Made Aditya Nugraha
Fisheries Mechanization, Marine and Fisheries Polytechnic of Kupang, Kupang, Indonesia

Note:

Indicated time is Local Bali Time (GMT+08:00)

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 and is followed by Q&A for a maximum of 5 minutes. Presenters are required to join before the session commences.

In-Person Presenters

- For presentation purpose, a projector screen, LCD projector and a notebook computer with standard software are provided.
- **In-person participants must comply with the COVID-19 Protocol. Please see detailed requirement on the [[Covid-19 Protocol](#)].**
- Participants are obliged to always wear the provided name badge during the conference.
- The use of mobile phone in the conference room is restricted. Please switch off your mobile phone or put it in silent mode.

Virtual Presenters

- Virtual sessions use **Cisco Webex Meetings Platform**. Presenters may download the application from [[this link](#)]. Make sure that the application is ready before the session commences.
- The required network bandwidth for virtual presenter may vary, depending on a number of variables. As a reference, a minimum upload/download speed of 4 Mbps should be used. Conference organizer does not responsible for the error due to unreliable connection in the presenter side.
- In order to reduce the possibility for errors during live day, **virtual participants are requested to provide a pre-recorded presentation video with a maximum duration of 15 minutes**. The preferred video format is .mp4 with a minimum resolution of 1280x720 pixels. **Please email the download link of the video to the conference secretariat (icsgteis@unud.ac.id).**
- The presentation is followed by Q&A session, for a maximum of 5 minutes. In order to facilitate interaction among the conference participants, the Q&A must be a live session.
- The meeting links will be emailed to the participant once the registration is cleared. **The virtual meeting rooms will be opened for network testing on Wednesday 27 October 2021, starting at 13.00 Bali Time (GMT+8), for about 3 hours.** Virtual participants are invited to join this trial.

COVID-19 PROTOCOL

COVID-19 Protocol for in-person participants

- In addition to the general procedure for Covid-19 prevention, in-person participants have to comply with the following Covid-19 Protocol:
 - Have received a complete (2 doses) Covid-19 vaccine. Showing proof of vaccine is required before entering the conference venue.
 - Have a non-reactive Swab Antigen / PCR Test result. Note that the Swab Antigen Test result is valid for 48 hours only. Participants with a test time longer than 48 hours before arrival to the conference venue, have to repeat the test onsite.
- Please note that all requirements related to the Covid-19 protocol may vary depends on the latest situation.
- The Swab Antigen Test is available onsite and is free of charge for in-person participants. Please refer to the following timetable:
 - **Wednesday, 27/10/2021: 14.00 – 16.00**
 - **Thursday, 28/10/2021: 08.30 – 10.30**
 - **Friday, 29/10/2021: 08.30 – 10.30**

Note that the indicated time is Bali time (GMT +8)

HOW TO GET THE CONFERENCE LOCATION



The most convenient way to get to the conference venue (Swiss-Belresort Watu Jimbar) 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 20-30 minutes from the airport to the venue, and at a cost of about IDR 150,000. 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 :

**Swiss-Belresort Watu Jimbar
Jalan Danau Tamblingan No.99A, Sanur**

in English :

Please take me to the following address :

**Swiss-Belresort Watu Jimbar
Jalan Danau Tamblingan No.99A, Sanur**

GENERAL INFORMATION

Information regarding Coronavirus disease (COVID-19)

The ICSGTEIS 2021 committee is monitoring the situation related to COVID-19 and in conducting this conference we strictly implement health protocols. The latest information regarding the handling of COVID-19 in Indonesia by the Government of Indonesia can be accessed through the official website at the following link: <https://covid19.go.id/>. In addition, the latest information regarding the handling of COVID-19 in Bali province can be accessed through the official website at the following link: <https://infocorona.baliprov.go.id/>.

Visa

By Presidential Decree of 21 of 2016 dated on 2 March 2016 on Visa-Free, replacing Presidential Regulation Number 104/2015 on Amendments to Presidential Regulation Number 69/2015 on Visa-Free, Indonesia now provides special Short Stay Visa Free facilities for tourists who are nationals of a total 169 countries who wish to travel to Indonesia.

Tourist Visa Free Facilities are valid for 30 days, are non-extendable and cannot be transferred into any other type of visa. The Visa Free facility can be used for the following purposes: government duties, education, social-cultural purposes, tourism, business, family visits and on transit.

For the list of eligible countries, visa requirements and the list of Indonesian airports and seaports according to Presidential Decree No. 21 of 2016, please visit: <https://www.imigrasi.go.id/en/berita/berita-utama/998-169-countries-get-visa-free-facility> or <https://www.imigrasi.go.id/id/bebas-visa-kunjungan/#free-visa-countries-list>.

Customs

Generally, Indonesian customs allows a maximum of one liter of alcoholic liquor, 200 cigarettes or 50 cigars or 100 grams tobacco and 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



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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 shops in Denpasar city centre and other towns close in the afternoon for a siesta (usually 1 pm to 5 pm) and re-open 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 driest season, with low humidity and cool breeze in the evening, the best time for any 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 souvenirs shops.

For foreign exchange rates, please visit: <https://www.bi.go.id/en/statistik/informasi-kurs/transaksi-bi/Default.aspx>. There is no guarantee that the rate will be equal from one money changer to another. Please ask the person at 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. Dinners Club and American Express, Visa and MasterCard are widely accepted at hotel, department stores, shops, restaurants and night clubs.

Electricity

The electricity in Indonesia is 220 volt 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 below:



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

On-line Taxis





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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



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- **Rumah Sakit Umum Bali Mandara**

Jl. By Pass Ngurah Rai No.548, Sanur Kauh, 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 : chilehoncusalate@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



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- **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 Kukul 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/>



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- **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



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ICSGTEIS 2021 Secretariat

Department of Electrical Engineering
Faculty of Engineering Udayana University
Bali – Indonesia
Email: icsgteis@unud.ac.id





ICSGTEIS 2021 SECRETARIAT

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