

The 4th International Conference on Intelligent Green Building and Smart Grid (IGBSG 2019)

September 6-9, 2019

Hosted by

China Three Gorges University

Yichang, China

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Welcome to IGBSG 2019

The 2019 International Conference on Intelligent Green Building and Smart Grid (IGBSG) will be held from September 6th to 9th, 2019, in Yichang, Hubei, China, where Three Gorges Project, the world's largest hydro-power project, is located.

The mission of IGBSG 2019 is to be the world's premier forum in the fields of theory, design, and implementation of intelligent building and smart grid.

Our goal is to make it also the leading platform for pioneering related researches and contributions to grand challenges.

The special theme of IGBSG 2019 are smart grid technologies, green buildings, communication systems, power electronics, health care systems, and e-applications, along with electromagnetic theory and its application, etc..

IGBSG 2019 will include oral and poster sessions in emerging topics and special sessions complementing the regular session.

IGBSG 2019 keynotes will be delivered by distinguished speakers around the world focusing on grand challenges in the targeted areas of the conference theme.

We and all of the organizing committee are doing everything in our power to organize a great IGBSG 2019.

We sincerely look forward to welcoming you to Yichang!



Huang Yuehua 黄悦华
General Chair of IGBSG2019

Committee

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Po-Tai Cheng

National Tsing-Hua University, Taiwan

Gerd Keiser

National Taiwan University of Science and Technology, Taiwan

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Program Overview

Saturday, Sept. 7, 2019, China Three Gorges University		
Time	Program	Room
08:00-08:25	Shuttle Bus To E2-702 in CTGU	In Front of Dongshan Hotel
08:30-09:20	Opening Ceremony	E2-702
09:20-09:40	Group Photo	Thanks Giving Square
09:40-10:20	K01. Keynote Speaker: Prof. Jih-Sheng (Jason) Lai, IEEE Fellow, Virginia Polytechnic Institute and State University, USA Speech: Power Electronics for Building Energy Saving and Technology Overview	E2-702
Break		
10:40-11:20	K02. Keynote Speaker: Prof. Paweł Śniatała, Poznan University of Technology, Poland Speech: “Small Size – Big Functionality” –Micro/Nano Electronics in Sensor Applications	E2-702
11:20-12:00	K03. Keynote Speaker: Prof. Po-tai Cheng, IEEE Fellow National Tsing Hua University, Taiwan Speech: Utility Grade Power Electronics towards a Green Future	E2-702
12:00-12:40	K04. Keynote Speaker: Prof. Poki Chen, National Taiwan University of Science and Technology, Taiwan Speech: Maximizing the efficiency of CMOS front-illuminated photovoltaic for self-powered sensor applications	E2-702
12:40-14:00	Lunch	Reception Center of CTGU
14:00-15:30	Session 1-Enterprise Exhibition: Demonstration of Smart Grid	E2-209
	Session 2-Emerging Technologies for Healthcare and Biomedical Applications	E2-411
	Session 3-Electrical Apparatus	E2-702
	Poster Session-1	Building E2 Entrance Hall
Break		
16:00-17:30	Session 4-Enterprise Exhibition: Application of ETAP	E2-209
	Session 5-Green Building and Smart-Grid Technologies	E2-411
	Session 6-Building and Home Communication Technologies	E2-702
17:40-18:00	Shuttle Bus to Dongshan Hotel	In Front of E2

		Building
18:00-20:00	Dinner	Dongshan Hotel

*Transportation: On your own, or shuttle bus from Dongshan Hotel to E2-702 in CTGU at **8:00** in front of Dongshan Hotel and at **17:40** form CTGU to Dongshan Hotel in front of E2 Building.

*Several labs will be open for visit during 12:00~18:00; you can check Floor Plan for details.

*Oral presentation will be **15** minutes including 3 minutes of Q&A. A Computer will be provided in the session room, please make sure you put your presentation file into the computer before session begins.

Sunday, Sept. 8, 2019, Dongshan Hotel		
Time	Program	Room
09:00-09:40	K05. Keynote Speaker: Prof. Faa-Jeng Lin Lin, IET Fellow, IEEE Fellow National Central University, Taiwan Speech: Development of Smart Grid in Taiwan 2019	No. 1 Meeting Room
09:40-10:20	K06. Keynote Speaker: Prof. B.M.ter Haar Romeny, EAMBES Fellow, Eindhoven University of Technology, Netherlands Speech: How Deep Learning, Human Vision and Medical Imaging benefit from each other	No. 1 Meeting Room
Break		
10:50-11:30	K07. Keynote Speaker: Prof. Xiangning Lin, Huazhong University of Science and Technology Speech: Multiform Energy Storage and Its Application in Integrated Energy Supply System	No. 1 Meeting Room
11:30-12:10	K08. Keynote Speaker: Prof. Desire D. Rasolomampionona, Warsaw University of Technology, Poland Speech: Evolution of Power System Protections - Issues to Solve and Challenges	No. 1 Meeting Room
12:30-14:00	Lunch	Dongshan Hotel
14:00-15:30	Session 7-Power Systems with Penetration of RE and EV	Qinyuanchun Hall
	Session 8-Electromagnetics	No. 2 Meeting Room
	Poster Session-2	No. 1 Meeting Room
Break		
16:00-17:30	Session 9-Operation, Optimization and Control of Microgrid	Qinyuanchun Hall
	Session 10-Power Electronics Technology-2	No. 2 Meeting Room
18:00-20:00	Conference Banquet and Award Ceremony	Huang Long Yan Guo Bin Ban Dao Hotel

Detailed Program

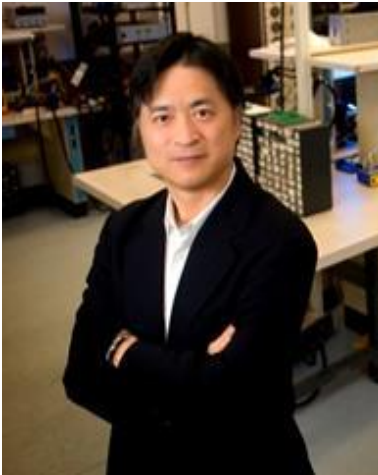
K01. Keynote Speaker: Prof. Jih-Sheng (Jason) Lai

Date: Saturday, Sept. 7, 2019

Time: 09:40-10:20

Room: E2-702

Chair: Dr. Shan Cheng (China Three Gorges University)



Power Electronics for Building Energy Saving and Technology Overview

Power electronics technologies have been quietly revolutionizing building energy saving. The most well-known example is the use of LED lighting, which saves more than 90% and 50% energy over the traditional incandescent and florescent lamps, respectively. However, the total lighting energy consumption is now well below 10%, but the motor related energy consumption remains more than 60% of the total energy consumption. The most obvious example is the air conditioning (AC) systems, which consume up to 50% of the total electricity during the peak demand hours worldwide. Improving AC efficiency with variable speed drives (VSDs) is well known, but the replacement of conventional non-VSDs is slow due to high cost and complexity. Recently the high-speed centrifugal compressor based AC systems have been successfully developed for large central air systems that are rated 75 kW and above. Such a centralized VSD based AC system can improve the seasonal energy efficiency ratio (SEER) by more than 20% over the conventional system. It is possible to decentralize the building AC system with small centrifugal compressor down to 6 kW level for each level of the building. Such a relatively low-powered turbo compressor requires a speed of 100,000 rpm to be efficient. Fortunately, the advent of wide bandgap (WBG) semiconductor devices allows power electronics to be designed efficiently with ultrahigh switching frequency for such high-speed ac compressors. This presentation will provide an overview of building electrical power consumption and the potential energy saving technologies, especially those powered by power electronics and motor drives. Critical elements such as high-speed motors, magnetic bearings, and WBG device based inverters will be introduced.

About Prof. Jih-Sheng (Jason) Lai

Jih-Sheng (Jason) Lai graduated from National Taiwan Normal University and received M.S. and Ph.D. degrees in electrical engineering from the University of

Tennessee, Knoxville, in 1985 and 1989, respectively. In 1989, he joined the Electric Power Research Institute (EPRI). From 1993, he worked with the Oak Ridge National Laboratory as the Power Electronics Lead Scientist. He joined Virginia Tech in 1996. Currently he is James. S. Tucker Endowed Chair Professor and the Director of Future Energy Electronics Center (FEEC). He has published more than 440 refereed technical papers, one book chapter, and two books. He holds 25 U.S. patents in the area of high power electronics and their applications. He received several distinctive awards including Technical Achievement Award in Lockheed Martin Award Night and 12 Best Paper Awards from IEEE conferences and journals. His student teams won the First Prize Award in Texas Instruments Analog Design Competition in 2011, the Grand Prize Award from International Future Energy Challenge in 2013, and the Top Three Award from the Google Little Box Challenge in 2016.

Dr. Lai is an IEEE Fellow and the recipient of 2016 IEEE Industry Applications Society Gerald Kliman Innovation Award. He is the Founding Chairs of Asian Conference on Energy, Power and Transportation Electrification (ACEPT-2016) and IEEE Future Energy Challenge (IFEC-2001), General Chairs of IEEE Workshop on Computers in Power Electronics (COMPEL 2000) and IEEE Applied Power Electronics Conference (APEC 2005). Currently he serves as the Publications Chair for IEEE Transportation Electrification Community, Editorship for IEEE Journal of Emerging and Selected Topics in Power Electronics (JESTPE) and MDPI Journal on Energies.

K02. Keynote Speaker: Prof. Paweł Śniatała

Date: Saturday, Sept. 7, 2019

Time: 10:40-11:20

Room: E2-702

Chair : Dr. Shan Cheng (China Three Gorges University)

“Small Size – Big Functionality”–Micro/Nano Electronics in Sensor Applications



The development of new electronic technologies allows increasing the complexity of modern System on Chip devices (SoC). They contain the complete analog and digital processing chain. Analog solutions are also often applied in portable (or even implantable) devices, where the power consumption and the circuit area are critical issues. One of the important application areas of such devices are biosensors, which are important parts of systems monitoring biological processes. Electrochemical techniques are applied in many biosensors. Detecting neurotransmitters, oxidation

during quantal release, waterborne pathogens, antigen-antibody binding events are examples, which apply this technique. During the electrochemical detection, the sensor uses a potentiostat, which maintains a constant voltage difference between a reference electrode and a working electrode to produce an electrochemical reaction. The resulting electron transfer reveals information regarding species concentration. Another technique uses carbon nanotubes (CNT) for this purpose. All mentioned sensing techniques convert a physical/chemical phenomenon into an electrical current. Important part of such measurement devices is an ADC.

The presentation will discuss two case studies related to biosensors. One will cover IoT for water monitoring system and the second will focus on Ultra-Low Power Current Mode Sigma-Delta Modulator for electrochemical sensor based on the amperometry technique. The proposed solution will be presented in the context of current and future trends of micro- and nano-electronics and More-than-Moore idea.

About Prof. Paweł Śniatała

Prof. Paweł Śniatała received the M.S. degree in Telecommunication, M.S. degree in Computer Science and Ph.D. degree in Microelectronics all from Poznan University of Technology, Poland. He received the habilitation degree (D.Sc.) in electronics in 2016. From 1998 to 2002 he was with the Department of Computer Engineering at the Rochester Institute of Technology (USA). He returned to Poznan University of Technology to take a position in the Faculty of Computing, where currently, he is the Vice Dean for Industrial Cooperation. He also graduated the international MBA study in joint programme George State University and Poznań University of Economics.

His area of interests focuses on VLSI circuits for digital and mixed analog-digital signal processing systems. However, following his computing science background, he is also involved in research projects related to eHealth area. He was involved in several industrial projects e.g.: control and monitoring systems for gas mine systems, control systems for water treatment plant for Warsaw (Wieliszew) and teletechniques systems for Wrocław airport, trigeneration system for “Powiśle Park” Warszawa.

K03. Keynote Speaker: Prof. Po-tai Cheng

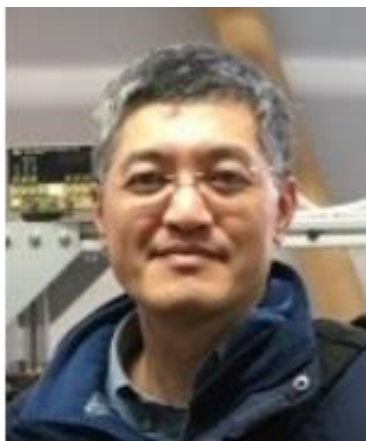
Date: Saturday, Sept. 7, 2019

Time: 11:20-12:00

Room: E2-702

Chair : Dr. Shan Cheng (China Three Gorges University)

Utility Grade Power Electronics towards a Green Future



Global warming is a critical issue for the survival of all on the earth. The Paris Agreement of United Nations Climate Change Conference (COP21) of 2015 presents a clear road map of replacing fossil fuels with renewable energy resources as the most effective solution of decarbonization. The power conversion technology plays a crucial role in the integration of renewable energy resources into the existing power grid.

This presentation will introduce the speaker's high power converter research in recent years as a part of Taiwan's development of renewables and smart grid, and how the industry adopts these technologies into their product development.

About Prof. Po-tai Cheng

Po-tai Cheng (S'96-M'99-SM'09-F'18) received the B.S. degree from National Chiao Tung University, Hsinchu, Taiwan, in 1990, and the Ph.D. degree from the University of Wisconsin-Madison, Madison, WI, USA, in 1999. He is currently a professor of Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan. His research interests include high-power converters and applications, and power electronics technologies for smart grid.

Dr. Cheng was a Member-at-Large of the IAS Executive Board 2014-2015 and 2018, and the chairperson of the Education Department, IAS 2019. He serves as a Distinguished Lecturer of IAS in 2019-2020, and of PELS in 2014-2017. He is currently an associate editor for IEEE TRANSACTIONS ON POWER ELECTRONICS.

K04. Keynote Speaker: Prof. Poki Chen

Date: Saturday, Sept. 7, 2019

Time: 12:00-12:40

Room: E2-702

Chair : Dr. Shan Cheng (China Three Gorges University)



Maximizing the efficiency of CMOS front-illuminated photovoltaic for self-powered sensor applications

There is a tremendous need for sensors to accommodate the booming markets for IoT, Industry 4.0, intelligent building, environmental monitoring, home security and care, health care system and even implanted electronic medicine. One of the major challenges is to power such enormous sensors in an efficient and inexpensive way.

Either wired or wireless power supply is not only money- but also time-wasting for outdoor applications. Energy harvestings become popular and viable solutions to compose the so-called self-power sensors. Among them, on-chip solar cell gets much more attention than the others due to its readiness and easiness to access.


To get high conversion efficiency, back-illuminated solar cell can be adopted. However, it requires expensive non-standard processing such as substrate thinning, substrate removal, surface texturing and Integrated Passive Devices (IPD) flip-chip packaging. To be fully integrated with the standard CMOS circuits, front-illuminated solar cell is a much better alternative at the expense of lower efficiency due to the shielding effect of metal lines for photocurrent conduction. Different CMOS layers and layout topologies are explored to increase the PN junction depletion region density per area and the corresponding aperture ratio to enhance the conversion efficiency. The photovoltaic chips from a few batches and processes are measured and compared. Some easy-to-understand rules are summarized to maximize the output power of front-illuminated CMOS solar cell. With the standard TSMC 0.18 μ m CMOS process, a record-breaking 31.5% conversion efficiency is finally achieved.

About Prof. Poki Chen

Poki Chen (M'05) was born in Chia-Yi, Taiwan, R.O.C., in 1963. He received the B.S., M.S. and Ph.D. degrees in Electrical Engineering Department from National Taiwan University (NTU), Taipei, Taiwan, in 1985, 1987 and 2001, respectively. During 1998-2001, 2001-2006 and 2006-2011 he was a Lecturer, an Assistant Professor, and an Associate Professor correspondingly in Electronic

Engineering Department of National Taiwan University of Science and Technology (NTUST). He is a Professor in Electronic and Computer Engineering Department of NTUST. Currently, he serves as the Associate Editors for IEEE Transactions on Very Large Scale Integration Systems (TVLSI) and IEEE Access since 2011 and 2013. He is the organizer of IEEE International Conference on Intelligent Green Building and Smart Grid (IGBSG) since 2014 and serves as keynote/invited speakers, TPC members, session chairs for various IEEE conferences, such as SOCC, VLSI-DAT, IFEEC, ISESD, NoMe TDC, ISNE, ASID ... and so forth.

His research interests include analog / mixed-signal IC design and layout with special interest in time-domain signal processing circuits, such as time-domain smart temperature sensor, time-to-digital converter (TDC), digital pulse converter (DTC), time-domain ADC and high accuracy DAC. He is also interested in creating innovative analog applications for FPGA platforms, such as FPGA smart temperature sensor, FPGA digital-to-time and time-to-digital converters.



K05. Keynote Speaker: Prof. Faa-Jeng Lin

Date: Sunday, Sept. 8, 2019

Time: 9:00-9:40

Room: No. 1 Meeting

Room, Dongshan Hotel

Chair : Dr. Lei Liu (Queensland University of Technology)



Development of Smart Grid in Taiwan 2019

The policy and development of smart grid in Taiwan will be introduced in this talk. In Taiwan, the National Energy Program (NEP)- Smart Grid General Project Phase 1 was implemented from 2010 to 2013. Phase 2 was launched in 2014 and slated to continue for five years. The objectives of NEP- Smart Grid General Project are meant to enhance the robustness of the power grid, reduce greenhouse gas emission, increase the penetration rate of renewable energy and develop smart grid industry in Taiwan. This talk will introduce the positioning of the Smart Grid General Project among overall smart grid development, the results of Phase 1, and the smart grid technology commercialization process of Phase 2.

About Prof. Faa-Jeng Lin

Faa-Jeng Lin received his B.S. and M.S. degrees in electrical engineering from National Cheng Kung University in Tainan, Taiwan, and his Ph.D. degree in electrical engineering from National Tsing Hua University in Hsinchu, Taiwan, in 1983, 1985, and 1993 respectively. Currently, he is a Chair Professor at the Department of Electrical Engineering, National Central University, Taiwan. His research interests include AC and ultrasonic motor drives, power electronics, renewable energies, microgrid and smart grid, fuzzy and neural network control theories, and nonlinear control theories. He has published more than 195 SCI journal papers including 87 IEEE Trans. papers and more than 120 conference papers and 15 patents in the areas of motor drives, renewable energies, intelligent control, nonlinear control, and mechatronics. Several of these papers have helped to establish research areas such as fuzzy neural network control of motor drives and motion control systems, and resonant converters for piezo-ceramic motor drives. Professor Lin is also the chair and principle investigator of Smart Grid Focus Center, National Energy Project II in Taiwan. This center aims to integrate Taiwan's R&D resources in smart grid and renewable energy resources to formulate overall development strategies of smart grid and supporting smart grid industries development. He was the Chair of the Power Engineering Division at the National Science

Council in Taiwan; the Chair of the IEEE IE/PELS Taipei Chapter from 2007 to 2009; the Chair of the IEEE CIS Taipei Chapter from 2012 to 2015. He is an associate editor of IEEE Transactions on Fuzzy Systems and IEEE Transaction on Power Electronics. He received the Crompton Premium Best Paper Award from the IEE, UK, in 2002; the Outstanding Research Awards from the National Science Council, Taiwan, in 2004, 2010 and 2013; the Outstanding Professor of Electrical Engineering Award in 2005 from the Chinese Electrical Engineering Association, Taiwan; the Excellent Patent Awards in 2014, 2015 and 2016 from National Central University; the Outstanding Professor of Engineering Award in 2016 from the Chinese Institute of Engineers, Taiwan. Moreover, he is a Fellow of the Institution of Engineering and Technology (IET) since 2007 and a Fellow of IEEE since 2017.

K06. Keynote Speaker: Prof. B.M.ter Haar Romeny

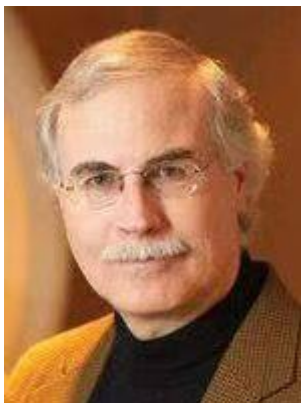
Date: Sunday, Sept. 8, 2019

Time: 9:40-10:20

Room: No. 1 Meeting

Room, Dongshan Hotel

Chair : Dr. Lei Liu (Queensland University of Technology)



How Deep Learning, Human Vision and Medical Imaging benefit from each other

Artificial Intelligence sees breakthroughs everywhere. It enables self-driving cars, face identification, speech recognition, intelligent design everywhere, and diagnosis in healthcare. However it is largely a black box, and much of the applications are still quite heuristic. There are many striking similarities with human vision. Just as in many other fields, many discoveries are done in modern brain research.

These findings give important clues to understand the mechanisms of deep neural nets. Medical imaging sees performance come close or even better than human experts. Here, like everywhere else, the availability of big data is key. We discuss the example of large-scale retinal screening for diabetes detection in detail to illustrate the beneficial coherence between the topics discussed above.

About B. M.ter Haar Romeny

Prof. B. M.ter Haar Romeny is (since Dec 2017) emeritus professor in Biomedical Image Analysis at Eindhoven University of Technology in the Netherlands. He acquired his MSc in Applied Physics from Delft University of Technology and PhD from Utrecht University. He co-established the Image Sciences Institute in Utrecht, before moving to Eindhoven as full professor in

2001.

His research interests focus on biologically inspired image analysis algorithms, multi-valued 3D visualization, especially brain connectivity and computer-aided diagnosis (in particular for diabetes), and image guided surgery, directed towards neurosurgery.

He is President of the Dutch Society for Pattern Recognition and Image Processing, and has been President of the Dutch Society for Biophysics & Biomedical Engineering and the Dutch Society of Clinical Physics.

He initiated the 'Scale-Space' conference series in 1997 (now SSVM). He is reviewer for many journals, conferences and science foundations, and organized many Summer Schools. Prof. Romeny is Senior Member of IEEE, Fellow of EAMBES, Board member of IAPR, and Honorary Chair Professor at NTUST. He is an awarded teacher, and a frequent keynote lecturer.

K07. Keynote Speaker: Prof. Xiangning Lin

Date: Sunday, Sept. 8, 2019

Time: 10:50-11:30

Room: No. 1 Meeting

Room, Dongshan Hotel

Chair : Dr. Lei Liu (Queensland University of Technology)

Multiform Energy Storage and Its Application in Integrated Energy Supply System



With the increasingly coupling of the electric power system with coal/gas/thermal/water supply systems, the energy supply of smart urban system will be undertaken by an integrated energy supply system. Intelligent green building and smart grid are the two major subjects for the development of integrated energy system, of which the optimal operation and control are both inseparable from energy storage.

Energy storage system can effectively store different forms of energy, reduce the coupling degree between energy production and absorption, and improve the flexibility of energy production and system operation. Compared with the conventional battery storage system, multi-form energy storage can efficiently and flexibly realize the conversion between multiple energy sources, and is the key link of the future integrated energy supply system. Therefore, it is necessary to study the configuration and optimal operation strategy of the multi-form energy storage system and its application in

intelligent green buildings and smart grids.

In order to solve the problem of photovoltaic energy absorption with high penetration in smart urban buildings, a new thermal/cooling absorption system integrated in intelligent buildings is proposed. It uses phase change energy storage to meet the cooling and heating demands of power users, and also improves the load distribution characteristics of integrated energy communities and promote the economy effects of renewable generation and consumption. Focusing on the difficulty of flexible transportation and consumption of energy resources in pelagic islands, an energy transmission network based on all-electric vessels is proposed, the vessels are equipped with large capacity battery energy storage system and can flexibly load and unload batteries. In addition, to solve the problem of the consumption of renewable energy in regional energy networks, a comprehensive optimal dispatching strategy of coal-wind-hydrogen energy network is put forward considering the efficiency of hydrogen energy storage.

About Prof. Xiangning Lin

Prof. Xiangning Lin is IEEE senior member and New Century Talent of the Ministry of Education, the winner of Outstanding Youth Fund of Hubei Province, the director of “Electrical Safe and Efficient Usage” in the Ministry of Education Engineering Research Centre of Huazhong University of Science & Technology, the member of academic committee of Ministry of Education Key Laboratory of Smart Grid Dispatching and Control of Shandong University, and among the editorial board of magazine “Int. J. Power & Energy Conversion”, “Electric Power Automation Equipment”, “Electrical System Protection and Control” and “Proceeding of Electrical System and Automation”. He was devoted to the research field of Electric Security Defense in ALSTOM in UK, Huazhong University of Science & Technology and Virginia Polytechnique Institute and State University in the USA, and has been at the forefront of the field of international electrical disciplines. His research field covers relay protection and automatic safety control, fault simulation and condition monitoring, the application of modern intelligent and information technology in the aspects of the power system. He has published more than 100 papers in IEEE Transaction and Chinese Society for Electrical Engineering and other influential international and domestic academic journals in electrical disciplines. In 2006 the most-cited author ranking of electrotechnical disciplines, he ranked the first place over the country. He has published three monographs, won provincial achievement awards in science and technology three times, presided over and committed

national, provincial and ministerial level of scientific and technological projects more than 30 times, accumulated project funds more than 20 million yuan.

K08. Keynote Speaker: Prof. Dauphin Rasolomampionona

Date: Sunday, Sept. 8, 2019

Time: 11:30-12:10

Room: No. 1 Meeting

Room, Dongshan Hotel

Chair : Dr. Lei Liu (Queensland University of Technology)



Evolution of Power System Protections - Issues to Solve and Challenges

This lecture is devoted to the general evolution of power system protections during the last few decades. A short history of protective relaying is presented at the beginning. Then a systematic review of the improvements made into the protection technology is presented in the next part of the lecture. A particular emphasis was placed in the passage from mechanical, to solid state and modern protective technologies based on telecommunication applications protective relaying, the beginning of which is the very old differential relay systems and pilot relays. Then the conception of adaptive relaying and its possibility of implementation is presented by showing the different solutions proposed by different authors. The next part of the lecture is devoted to the implementation of Wide-Area Monitoring, Protection, and Control, which was made possible thanks to the introduction of phasor technology in protection technology. Finally a general presentation of microgrids and the impact of their implementation on the protection philosophy is presented step by step. An extensive presentation of this technology is given in the first subsection of this part, and then the changes to be made to the protective relaying technology are given in the next subsection. An extensive conclusion of the whole subjects presented is given at the end of the presentation.

About Prof. Desire Dauphin Rasolomampionona

Désiré D. Rasolomampionona (M'05) received the Graduate degree from Warsaw University of Technology, Warsaw, Poland, in 1988, the Ph.D. degree in 1994, and the Habilitation in 2008. Since 1994, he has been as an Associate Professor with Warsaw University of Technology. He is currently the Head of the Division of Electrical Power Apparatus,

Protection and Control. He is also the current IEEE/IA Poland Joint Chapter Chair. His research interests include the issues of electrical power control and protection, control of the power system operation, and the use of telecommunications and modern information technologies in electrical power engineering. Since 2017, prof. Rasolomampionona is involved in a few scientific and technical projects related to Microgrid implementation and Microgrid Protections.

Session 2- Emerging Technologies for Healthcare and Biomedical Applications, Saturday, Sept. 7, Time: 14:00-15:30, Room: E2-411

#1570531382 Human Height Estimation with Vision-based Method

Tsung-Han Tsai, Yu-Chcen Lee, Chiang-Chin Yang
National Central University

#1570576308 The Improvement of Quine-McCluskey Method Using Set Covering Problem for Safety Systems

Pavel Šeda; Miloš Šeda; Jiri Hosek; Jan Dvorak; Jindriska Sedova
Brno University of Technology Masaryk University

#1570561344 Evolution from a Door Bell into an IP Door Phone

Daniel Hofman; Jenq-Shiou Leu; Pavel Troller
National Taiwan University of Science and Technology; Czech Technical University in Prague

#1570522400 Do Real Life Visuals Help Students to Learn Engineering

Aaron Lei Liu; Ghavam Nourbakhsh; Gerard Ledwich; Wendy Miller; Binxin Zhu; Negareh Ghasemi
Queensland University of Technology; The University of Queensland

#1570531506 A Contactless Healthcare System with Face Recognition

Jia-Wei Lin, Ming-Hung Lu, and Yuan-Hsiang Lin
National Taiwan University of Science and Technology

**Session 3-Electrical Apparatus, Saturday, Sept. 7, Time: 14:00-15:30,
Room: E2-702**

#1570549707 HIL Simulation for the Closure Process of Contactors Based on Neural Network

Han Zhiping; Tang Longfei
Fuzhou University

1570587803 Simulation Analysis of On-Load Voltage and Capacity Regulation of 10kV New Energy-Saving Transformer

Xiaofeng ZHAO, Peng CHEN, Yangjue HUANG, Zhujiang LI, Huanqiang ZHANG
Electric Power Research Institute of Guangdong Power Grid

#1570585412 Protection of Shared Tower for Aeronautical Radio Navigation Station

Ni Li; Xingfa Liu; Xianyi Jiang; Tang Bo; Qiaosha Xiao
China Electric Power Research Institute; Wuhan Xindian Electrical Co., Ltd; China Three Gorges University

#1570585413 Shielding Failure Trip-out Rate algorithm based on Improved EGM transmission line

Shaojun Dai; Liu Jianben; Li Huang; Ziyi Liu; Qiaosha Xiao; Gang Liu
State Grid Hubei Electric Power Co., Ltd; China Electric Power Research Institute; China Three Gorges University

#1570567526 The doubly-fed wind power generation system based on smart grid lab

Hongyan Dong; Hongmin Guo
China Three Gorges University

#1570559876 Design of Multiphase Interleaved Equalization Circuit Based on Graph Theory

Shuailong Dai; Feng Ye; Yujue Ding; Yumei Huang; Yewen Wei
China Three Gorges University

**Poster Session-1, Saturday, Sept. 7, Time: 14:00-15:30, Building E2:
Entrance Hall**

The maximum size of the poster will be A1 Portrait (594mm*841mm). The template can be available from “<http://igbsg.ctgu.edu.cn/in/11>”.

Poster No.	Paper ID	Paper Title
A1-1	1570522798	An Inductor Current Balancing Technique for FLDLL Based Four-phase Buck Converter with Transient-modulated Constant On-time Control for Load Transient Response
A1-2	1570530544	Novel Space-Vector Pulse-Width-Modulation Mechanism for Three-Level Neutral-Point-Clamped Z-Source Inverter
A1-3	1570530679	Research on Evaluation Method of Open-loop Scheme of Electromagnetic Loop Network Based on Comprehensive Weight
A1-4	1570530862	Design of series fault arc waveform generating device
A1-5	1570535104	Harmonic Threshold Estimation for Identification of Abnormal Data
A1-6	1570535107	Design of High-Efficiency Single-Input Triple-Outputs DC-DC Converter
A1-7	1570535396	A Method of Mechanical Fault Feature Extraction for High-Voltage Circuit Breaker Via CEEMDAN and Weighted Time-Frequency Entropy
A1-8	1570545856	A High-Performance AWG-based Optical WDM Two-SubRing Network
A1-9	1570547639	Maximum Power Extraction with Improved Terminal Load Voltage for Standalone Wind Generating Systems Based on Model Predictive Control
A1-10	1570548528	Three-Phase Four-Wire Harmonic Analysis based on ZBUS Power-Flow Solutions for Radial Distribution Systems
A1-11	1570550110	Challenges and Solutions in Current Power Wireless Private Network
A1-12	1570550219	Technical and Economic Analysis of ACCC Applied in UHV-DC Power Transmission Lines
A1-13	1570550852	An Indicator Reduction Method for Contactor's Performance Evaluation

A1-14	1570554279	Design of Traffic-Signal Condition Detection System Based on Intelligence
A1-15	1570555900	Optimum Design of Wireless Charging System Based on Magnetic Coupling
A1-16	1570587630	Fault location of multistage feeders in distribution network
A1-17	1570556741	Research and Applications of Key Technologies of Quantum Secure Communication in Energy Internet
A1-18	1570556898	A Novel Integrated Transformer Structure for High Efficiency LLC Converter
A1-19	1570558004	Mal-operation Phenomenon of Converter Transformer and Lead Wire Differential Protection during the Energization of "12-Pulse" Converter Transformer Group
A1-20	1570558890	A Ripple-Based DC-DC Buck Converter with Random Switching Frequency
A1-21	1570559811	Hippocampal Neurons Model Implementation on FPGA
A1-22	1570560131	Bi-level Optimal Scheduling of Microgrid with Integrated Power Station Based on Stackelberg Game
A1-23	1570560157	Research on the Efficiency and Influence Factors of Resistance Reducing Agent in Transmission line Grounding Grid
A1-24	1570560162	Optimization Research on Grounding Resistance of Power Transmission Line Tower Foundation
A1-25	1570560166	Structural Optimization of UHV Transmission Line Tower Foundation With External Flexible Graphite Composite Grounding Material
A2-1	1570560324	Modeling and Research on Grounding Impedance of Large Ground Grid under Complex Geological Conditions
A2-2	1570560330	Electric Power Balancing Optimization Considering Thermal Units in Peak-regulating Ancillary Service Market
A2-3	1570560506	Research on Overvoltage Protection Strategy of Oil-Gas Pipeline Based on Non-metallic Grounding Material
A2-4	1570560538	Study on Resistance Reduction Efficiency of Grounding Module in Transmission Tower Grounding Grid
A2-5	1570560563	Application of ETAP in distributed power supply and micro grid interconnection

A2-6	1570560583	Design and Optimization of High Frequency Transformer with Nanocrystalline Core
A2-7	1570560596	Research and Application of Smart Grid Early Warning Decision Platform Based on Big Data Analysis
A2-8	1570560805	A Novel Supraharmonics Measurement Method Based on Flexible Atom Filtering
A2-9	1570561241	Research on Electric Field Distribution and Protection Technology of Live line Workers on $\pm 500\text{kV}$ Flexible DC Transmission Lines
A2-10	1570562165	Graphical Modeling and simulation of the Power Station Switch System
A2-11	1570562873	Multi-objective Economic Operation of Microgrid Based on Immune Particle Swarm Optimization
A2-12	1570563657	The design and application of distribution management system to Port Moresby grid
A2-13	1570563671	Selection and protection of earthing transformer
A2-14	1570567068	A High-gain Floating-Interleaved Three-level Boost Converter
A2-15	1570567139	Simulation of Frequency Characteristics of Longitudinal Magnetic Field Distribution of Cup-Shaped Contacts in Vacuum Interrupter
A2-16	1570570258	Research on Power-off Replacement Calculation of Transmission Line Insulators Based on Life Cycle Cost
A2-17	1570570272	Research on Induced voltage and Current in Deenergized Line of Double-Circuit Transmission Lines on the Same Tower
A2-18	1570570928	Experiment and Simulation of Steel Core Crimping and Breaking of Large Cross-Section Conductor
A2-19	1570570971	Analysis of Temperature Distribution Characteristics of Fuses under Different Arrangement of Ring Network Cabinet Based on Multi-Physical Field Coupling
A2-20	1570570997	Temperature Rise Analysis of the Insulating Blanket in the Live Working of 10 kV Distribution Line
A2-21	1570572069	A New Method for Windage Yaw Detection of Composite Insulator Based on Video Analysis
A2-22	1570572606	Integration of Wideband and Narrowband Communication in Power Wireless Private Network

A2-23	1570582936	A Comparative Study on Lifetime Models in IGBT Power Modules
A2-24	1570560316	Design of Direct Drive Modular Permanent Magnet Generator With Magnetic Slot Wedges and Step-Skewed Outer Rotor for Wind Power Applications
A2-25	1570560319	Analysis of Reluctance Torque in Interior Permanent Magnet Synchronous Machines With Fractional Slot Concentrated Windings
A2-26	1570562107	Fractional Slot Concentrated Windings Interior Permanent Magnet Traction Motor With Modular Stator
A2-27	1570585030	Parameter optimization design method of LCL filter based on harmonic stability of VSC system
A2-28	1570589732	Research of Probabilistic Modeling Method Aimed at Uncertain Factors
A2-29	1570587883	Analysis and Improvement of Bridge Differential Protection Behavior of smart converter substation
A2-30	1570587880	Improved adaptive current I segment protection of smart converter substation
A2-31	1570560383	Simulation of Lightning Protection Effect for Overhead Ground Wire of 10kV Distribution Lines
A2-32	1570556383	Analysis of aerodynamic characteristics of iced six-bundle conductors under different working conditions
A2-33	1570587567	Design of Docker-Based Cloud Platform for Smart Medicine Box
A2-34	1570551765	Research and Implementation of an Intelligent Medicine Box
A2-35	1570587820	Construction and Application of Electromagnetic Transient Computing Platform
A2-36	1570587633	Voltage Optimization Control of Asynchronous Wind Turbine Based on Magnetic Energy Regeneration Switch

**Session-5: Green Building and Smart-Grid Technologies, Saturday,
Sept. 7, Time: 16:00-17:30, Room: E2-411**

#1570531557 Simulation Analysis of AC Contactor Based on Virtual Prototyping Design Platform

Fan Jun; Xu Zhihong
Fuzhou University

#1570550850 Design and Evaluation of a Bi-directional Data Acquisition and Control System for Small-scale Solar Power

Yu-Chun Chou, Pin-Chieh Huang, Yi-Yu Liu
National Taiwan University of Science and Technology

#1570560470 TOU Electricity Price Optimization Model for Multi-Customer Considering The PV Ratio Coefficient

Hejun Yang; Lei Wang; Zhengpeng Gong; Xinyu Zhang
Hefei University of Technology

#1570560509 Dynamic Price Optimization Strategy for Charging Power Station with Electric Vehicles

Zhaobin Wei; Mengyu Zhao; Weilin Liao; Shan Cheng; Zhi Li
China Three Gorges University; China Three Gorges Corporation

#1570560452 The Key Technology of the Coordinated Control System of Wind Power and Energy-intensive Load

Zhang YanQi; Ningbo Wang; Kun Ding; Zhou Qiang; Gao Pengfei; Zhang Zhenzhen
State Grid Gansu Electric Power Corporation Electric Power Research Institute

**Session-6: Building and Home Communication Technologies,
Saturday, Sept. 7, Time: 16:00-17:30, Room: E2-702**

#1570539084 Analysis of a New Hybrid Sturdy MASH-11 Delta-Sigma Modulator

Chia-Yu Yao

National Taiwan University of Science and Technology

#1570550265 Enhanced Successive Cancellation for Decoding of Polar Codes with Very Low

Latency through Multiple Parity Checks

Kuen-Tsair Lay; Chin-Hsin Chang

National Taiwan University of Science and Technology

#1570531486 Digital Image Transmission with Polar Codes and Median Filtering

Kuen-Tsair Lay; Han-Ting Huang

National Taiwan University of Science and Technology

#1570519082 Using A Smart Plug based on Consumer Electronics to Support Low-Power Smart Home

Trio Adiono, Maulana Yusuf Fathany, Sinantya Feranti Anindya, Syifaul Fuada, Irfan Gani Purwanda
Universitas Pendidikan Indonesia; Pusat Mikroelektronika Institut Teknologi Bandung; Institut
Teknologi Bandung, Indonesia

#1570560512 Application of LoRa and NB-IoT in Ubiquitous Power Internet of Things: A Case Study of Fault Indicator in Electricity Distribution Network

Jinrui Tang; Jing Li; Ao Zhong; Binyu Xiong; Xinhao Bian; Yang Li

Wuhan University of Technology

#1570566779 Feature selection of Complex Power Quality Disturbances and Parameter Optimization of Random Forest

Renming Wang; Hongyang Wang; Lingyun Wang

China Three Gorges University

**Session-7: Power Systems with Penetration of RE and EV, Sunday,
Sept. 8, Time: 14:00-15:30, Room: Qinyuanchun Hall**

#1570560139 Integrated Energy Optimization of Dispatching a Charging Station with Electric Vehicles

Mengyu Zhao; Zhaobin Wei; Kang-Yi Xv; Lijun He; Chang He; Hai Yan
China Three Gorges University

1570558168 Multi-source Coordination and Scheduling Strategy of New Energy with High Proportion of Wind Power, Photovoltaic and Photo thermal

Xiong Wei; Zhang Xiaoying; Wang Kun; Chen Wei; Wang Xiaolan
Lan zhou University Of Technology

#1570560480 Valley-Period Dispatched Strategy of Electric Vehicles in Charging Station

Hejun Yang, Yeyu Zhang, Yinghao Ma, Zhenyu Hao
Hefei University of Technology

#1570560114 A Day-ahead Scheduling Optimization Model of Multi-Microgrid Considering Interactive Power Control

Lijun He; Zhaobin Wei; Hai Yan; Kang-Yi Xv; Meng-yu Zhao; Shan Cheng
China Three Gorges University

#1570557571 Economic Dispatching of CCHP Microgrid Considering Grid-connected Revenue

Jian Yang; Lingyun Wang; Pinduan Hu; YunNing Zhang; Xiaomin Wang
China Three Gorges University

#1570560131 Bi-level Optimal Scheduling of Microgrid with Integrated Power Station Based on Stackelberg Game

Kaixuan Ni; Zhaobin Wei; Hai Yan; Kang-Yi Xu; Li-Jun He,; Shan Cheng
China Three Gorges University

**Session-8: Electromagnetics, Sunday, Sept. 8, Time: 14:00-15:30,
Room: No.2 Meeting Room**

#1570530809 Design of Voltage-adaptive CMOD for Electromagnetic Mechanism

Wu Jingxuan; Xu Zhihong

Fuzhou University

#1570585407 Analysis of Lightning Strike Characteristics and Electromagnetic Environment of Wind Turbine Blades

Jiangong Zhang; Gang Liu; Tang Bo; Xingfa Liu; Ziyi Liu; Bocheng Li

China Electric Power Research Institute; China Three Gorges University; State Key Laboratory of Power Grid Environmental Protection

#1570530816 Design of point contact arc generator based on closed-loop control

Bai Hui; Xu Zhihong

Fuzhou University

#1570585408 Transmission Line Electrification Spanning Construction Technology

Xiaobin Li; Yi Chen; Dongbo Zhan; Tang Bo; Xu Liang; Qingsong Shi

Guangdong Power Grid Co.; China Three Gorges University

#1570585405 Research on EMC of On-line Monitoring Equipment on Shared Tower

Xingfa Liu; Ni Li; Yong Peng; Nan Zhang; Tang Bo; Bocheng Li

China Electric Power Research Institute; China Three Gorges University

Poster Session-2, Sunday, Sept. 8, Time: 14:00-15:30, No. 1 Meeting Room, Dongshan Hotel

The maximum size of the poster will be A1 Portrait (594mm*841mm). The template can be available from “<http://igbsg.ctgu.edu.cn/in/11>”.

Poster No.	Paper ID	Paper Title
B1-1	1570528907	Zero Ripple High-Gain DC/DC Converter Based on Switched Capacitor Network
B1-2	1570529198	Stability Analysis of Single-phase Voltage Source Converters Based on Linearization Theory
B1-3	1570530096	A robust planning considering multiple uncertainties of distributed generation
B1-4	1570530372	Calculation of Absorbed Energy of ZnO Arrester for DC Circuit Breaker in Distribution Network
B1-5	1570530686	Pareto Optimal Distribution Network Grid Planning Based on Safety Efficacy Cost Model
B1-6	1570530740	Discussion on Operation State Evaluation of Low Voltage Distribution Network
B1-7	1570530743	Recent Advances in Distributed Cooperative Droop Control of DC Microgrids: A Brief Survey
B1-8	1570531224	A Bridgeless Dual Boost PFC Converter with Power Decoupling Based on Model Predictive Current Control
B1-9	1570531406	Hybrid Control Strategy of DC-DC Converters Based on Admissible Edge-Dependent Average Dwell Time
B1-10	1570531424	Switching Rule Design for DC-DC Converters with Mode-Dependent Average Dwell Time
B1-11	1570531524	A second-order screening method for Preventive regions
B1-12	1570531539	Study on the Optimal Configuration of Current Limiter in HVDC Grid
B1-13	1570531813	Research on Intelligent Terminal Unit for Power Distribution Automation and Maintenance
B1-14	1570534516	Impacts of SVG Location and Capacity on Voltage Recovery Characteristics in Hunan Network

B1-15	1570543931	Analysis of Brazilian blackout on March 21st,2018 and revelations to security for Hunan Grid
B1-16	1570552458	Research on Low Voltage Ride Through Strategy and Fault Calculation Equivalent Model of Power Electronic Transformer
B1-17	1570552612	Sliding Mode Control Based Direct Power Control and Equivalent Space Vector Modulation of Three-Switched Two-Level Rectifier
B1-18	1570553723	Multi-core Parallel Processing Technique for Short-circuit Computation of Power Systems
B1-19	1570554004	Research on Arc Model of Disconnecter for Conduction Interference of Electronic transformer
B1-20	1570554336	A Review of Power Electronic Parametric Fault Diagnosis Methods
B1-21	1570554657	Observer-Based Adaptive Model Predictive Control for Interleaved Boost DC-DC Converter
B1-22	1570555347	A Review of Battery State of Health Estimation
B1-23	1570555590	Effect of Al doping on nonlinearity and residual voltage of ZnO ceramic resistor
B1-24	1570556848	Fault Identification and Reclosing Technology for DG Access to Distribution Network
B1-25	1570574572	Conductive Concrete for Green and Secure Buildings
B2-1	1570557746	LoRa-based Communication Technology for Overhead Line Internet of Things
B2-2	1570558099	A Sliding Model Controller Improved with RBF Neural Network for Hydro-turbine Governing System
B2-3	1570558435	Research on efficiency improvement strategy of a new type of photovoltaic power generation conversion system
B2-4	1570559191	A Survey of Constant Switching Frequency Model Predictive Control in Power Electronics
B2-5	1570559209	Design and Analysis of Carbon Fiber Eight-split Wires Hook for UHV Transmission Line
B2-6	1570559609	Identification Method of Current Transformer's Tail Current Based on Waveform Characteristics
B2-7	1570559786	Collaborative Regulation Control Optimization on Demand Side of Microgrid Based on Multi-agent

B2-8	1570559790	Security Constrained Unit Commitment Considering Time Shift of Air-conditioning Load for Demand Response
B2-9	1570560027	PV reactive voltage regional autonomy control strategy for Q(U) improvement in distribution network
B2-10	1570560032	Three Level Coupled Inductor High Step-Up DC-DC Converter With Reduced Switch Voltage Stresses For Renewable Energy System
B2-11	1570560086	Design of Power Electronic Device Controller With Multi-Time Scale Control and Protection
B2-12	1570560125	Locating Forced Oscillation Source Using Granger Causality Analysis and Delay Estimation
B2-13	1570558123	Research on Improved Algorithm of Hourly Diffuse Radiation Model
B2-14	1570560496	Optimization Method of Under Frequency Load Shedding Schemes for Systems with High Permeability New Energy
B2-15	1570560519	Impact of Inverter Interfaced Generators on Distance Protection
B2-16	1570560544	Novel indicator system and evaluation strategy for charging security of electric vehicle
B2-17	1570560545	A Novel Scheme of Single-Line-Grounded-Fault Detection and Its Practical Implementation for Non-Effective Grounded System
B2-18	1570560576	Unit Commitment Considering Electrolytic Aluminum Load for Ancillary Service
B2-19	1570560582	Anti-misoperation Scheme for Large Power Grid Based on Topology Analysis
B2-20	1570565304	Two-stage Energy Storage Power Converter with Coordinated Control
B2-21	1570565830	Velocity characteristics of vacuum arc cathode spot under medium frequency
B2-22	1570583352	Research on Optimal Operation of Wind Power-Pumped Storage Joint System Based on Improved Bat Algorithm
B2-23	1570584398	The Vibration Prediction of Hydro-generating Units based Grey Relational Analysis and Fuzzy Support Vector Regression
B2-24	1570584440	An Integrated Safety Management System Based on Ubiquitous Internet of Things in Electricity for Smart Pumped-storage Power Stations

B2-25	1570553190	Coordination Dispatch for the Wind Farm-Combined Heat and Power-Electric Boiler Considering Real-Time Pricing
B2-26	1570565845	Equal-Potential Transfer Path and Arc Energy Calculation Method for Live Working of ± 800 kV DC Transmission Line based on FEM
B2-27	1570554185	Analysis of Magnetic Field of Magnetic Gear during Overload
B2-28	1570589233	Research on Improvement of Line Loss Algorithm Based on Three-phase Unbalance Degree
B2-29	1570560169	Research on the Influence of Coal Price Fluctuation on Electricity Price Research on the Influence of Coal Price Fluctuation on Electricity Price
B2-30	1570560182	Multi-objective Operation Mode Optimization of Medium Voltage Distribution Networks based on Improved Binary Particle Swarm Optimization
B2-31	1570529999	A Regional Smart Power Grid Distribution Transformer Planning Method Considering Life Cycle Cost
B2-32	1570588498	Survey of Frequency Response Analysis on Winding Deformation of Transformers
B2-33	1570531546	A Method to Optimize Peak Load Regulation in Power Grid Considering HVDC
B2-34	1570565553	Design of battery fast charging method combined with improved interleaved topology
B2-35	1570550635	Electromagnetic Torque Control for Three-phase Permanent Magnet Synchronous Motor
B2-36	1570529999	A Regional Smart Power Grid Distribution Transformer Planning Method Considering Life Cycle Cost
B2-37	1570534711	The influence of STATCOM Operation on Voltage Stability of Power Grid
B2-38	1570542286	Static Voltage Stability Analysis under different accident conditions

**Session 9-Operation, Optimization and Control of Microgrid, Sunday,
Sept. 8, Time: 16:00-17:30, Room: Qinyuanchun Hall**

#1570560464 An Enhanced Drop Control Method for DC Microgrids with Accurate Current Sharing and DC Bus Voltage Restoration

Weiming Jiang; Jinbin Zhao; Keqing Qu; Ling Mao; Yuxin Zhu; Haifeng Liu
Shanghai University of Electric Power

#1570529814 Waveform Characteristic Analysis and Recognition of Short-circuit Fault in Grid-connected AC Microgrid

Ming Zhao; Xin Zheng
Fuzhou University

#1570560038 Operation Mode and Economic Analysis of Concentrating Solar Power Station

Zhang Xingping; Zhang Xiaoying; Yang Yuanbo; Wang Kun; Chen Wei; Wang Xiaolan
Lanzhou University of Technology

#1570558136 Coordinated optimization scheduling of wind power, photovoltaic, photo-thermal and hydropower considering the schedule ability of photo-thermal power stations

Hou Bingchen; Zhang Xiaoying; Wang Kun; Chen Wei; Wang Xiaolan
Lanzhou University of Technology

#1570560365 Intra-day Tie-line Scheduling Model Considering New Energy Fluctuation

Zhi Cai; Hui Cui; Chuancheng Zhang; Yi Lu; Guofang Zhang; Dawei Zhang
China Electric Power Research Institute

#1570560723 Nonlinear Optimal Control of Residential Energy Management System With Rooftop PV and Lithium-Ion Batteries

Yang Li; Yesen Yang; Jinrui Tang; Binyu Xiong; Deng XiangTian; Difei Tang
Wuhan University of Technology; University of Alberta

#1570560155 A Wide Output Non-Isolated Boost-Buck Converter

Haifeng Liu, Keqing Qu, Yue Wang, Weiming Jiang, Jinbin Zhao, Jiongyuan Xu
Shanghai University of Electric Power

**Session 10-Power Electronics Technology, Sunday, Sept. 8, Time:
16:00-17:30, Room: No.2 Meeting Room**

#1570531530 High Power High Step-up DC-DC Converter Based on Multiple Input-Terminal Voltage Multiplier

Binxin Zhu; Han Wang; Yao Chen; Mahinda Vilathgamuwa
China Three Gorges University; Queensland University of Technology

#1570530668 Multiple Input-Terminal Voltage Multiplier Circuit

Binxin Zhu; Yao Chen; Han Wang; Mahinda Vilathgamuwa
China Three Gorges University; Queensland University of Technology

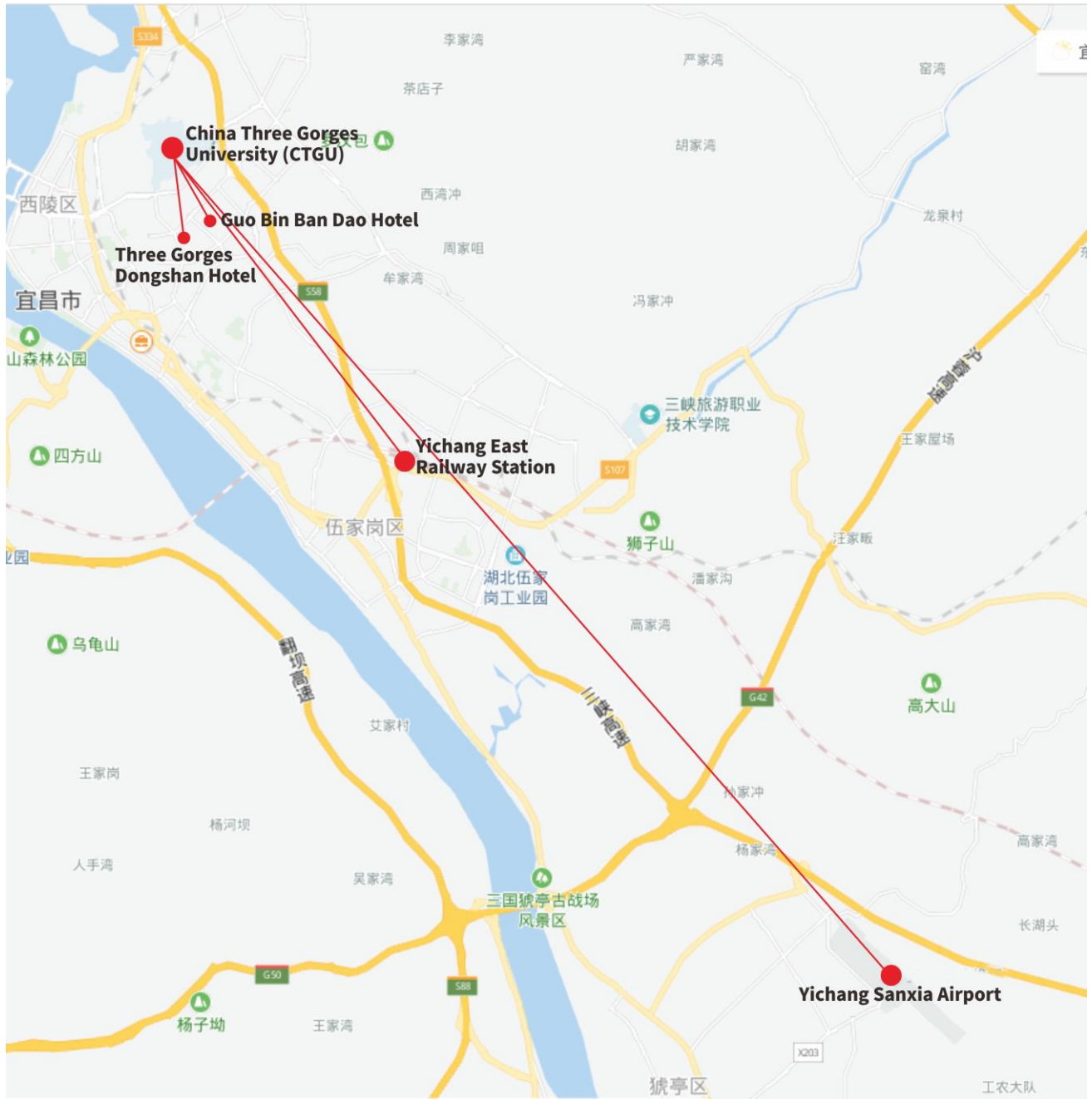
#1570560454 Charging and Discharging Control Strategy of Dump Truck Braking Energy Recovery System Based on Self-adaption Two-Degree-of Freedom PID

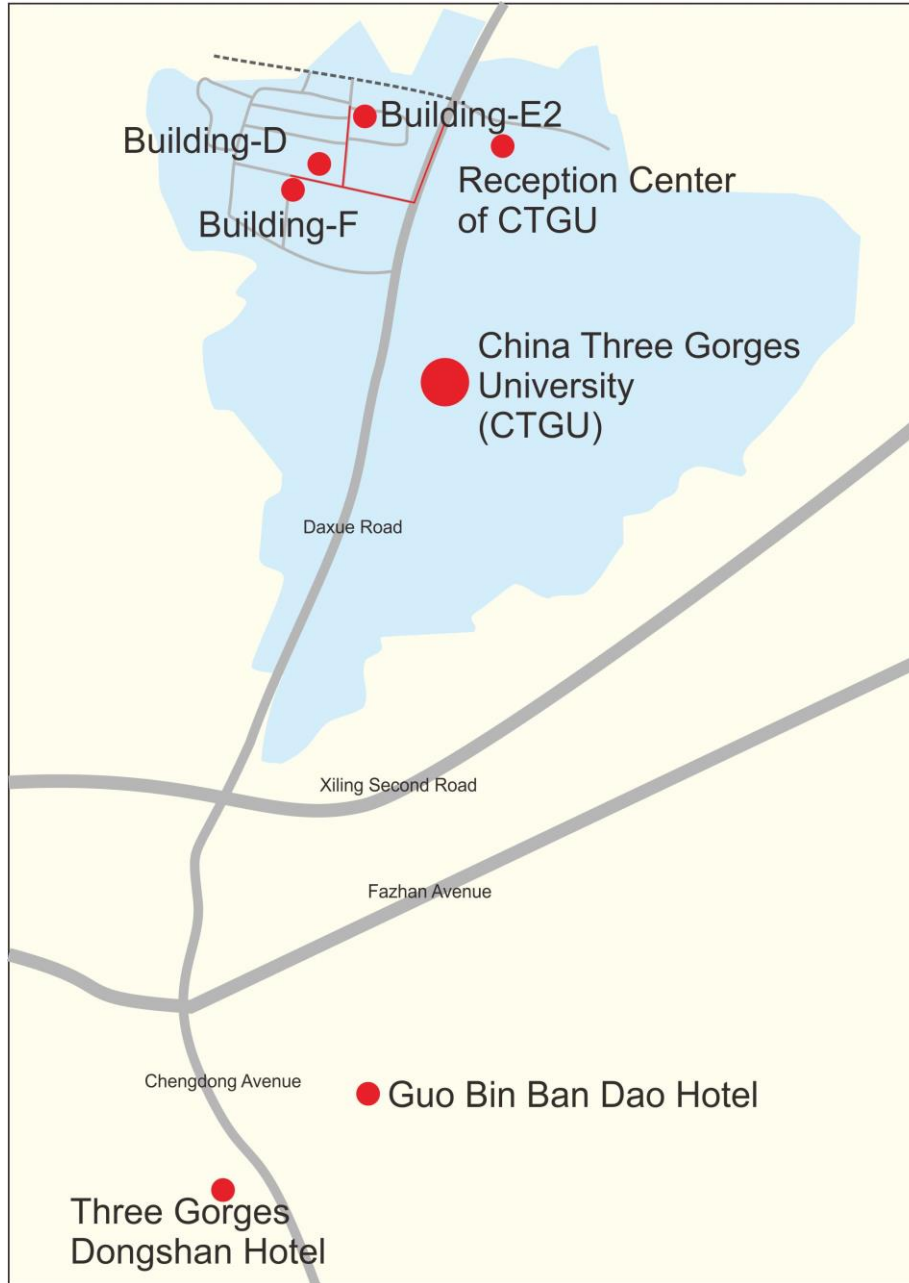
Wang Yang, LIU Jian, LI Yang, LIU Kui, ZHANG Yan, WANG Xiang-sheng
Wuhan Institute of Technology

#1570565067 Calculation of Transient Magnetic Field of DC Field during Bipolar Short Circuit of Flexible DC Converter Station

Wei Cai; Jinglan Zhang; Yuan Zhao; Hu Yinghong; Xuebao Li; Long Pang; Dangguo Xu; Xinsheng Ma; Chao Zhang; Yankun Zhao
Electric Power Research Institute of State Grid JiBei Electric Power Co Ltd; North China Electric Power University

Conference Venue





From Yichang East Railway station to Dongshan Hotel:

1. Taxi: ~20 minutes (~25 RMB).
2. Bus: Route b68,807 from Yichang East Railway station to Mobile Communication Building Station.

From Yichang Sanxia Airport to Dongshan Hotel

1. Taxi: ~50 minutes (~100 RMB)
2. Bus: take Airport Shuttle Bus from airport to Yiling Square, and then take route 31 to Mobile Communication Building Station.

From Dongshan Hotel to China Three Gorges University (CTGU)

1. Taxi: ~10 minuts (~10 RMB)
2. Walk: 25 minutes
3. Bus: Route b21, b17, b613, 23 from Mobile Communication Building to Reception Center of CTGU

You can show these to the driver

<p>请带我到东山酒店</p> <p>Please take me to Dongshan Hotel</p>
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<p>请带我到三峡大学接待中心</p> <p>Please take me to the reception center of CTGU</p>
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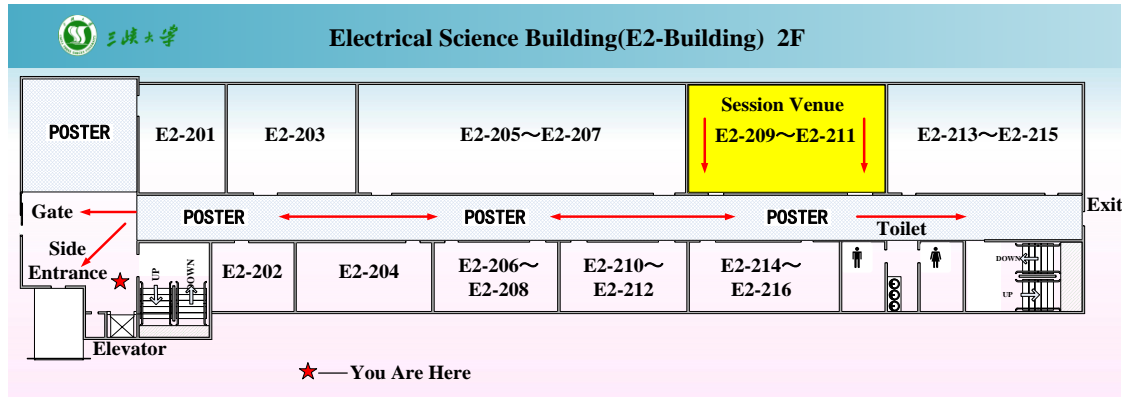
Shuttle buses during conference

Saturday, Sep. 7	
Departing	Route
08:00	Dongshan Hotel → China Three Gorges University
18:00	China Three Gorges University → Dongshan Hotel
Monday, Sep. 9	
08:00	Dongshan Hotel → China Three Gorges Dam
11:50	China Three Gorges Dam → Dongshan Hotel

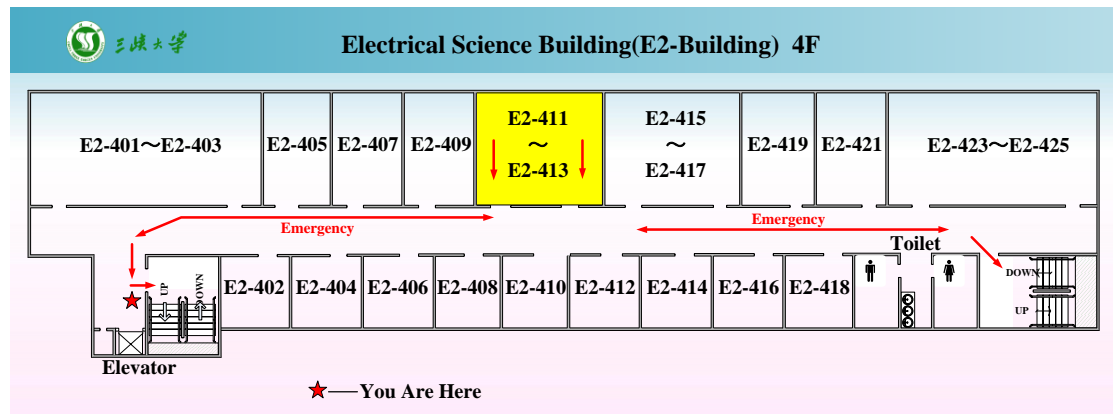
Floor Plan

- E2-Building

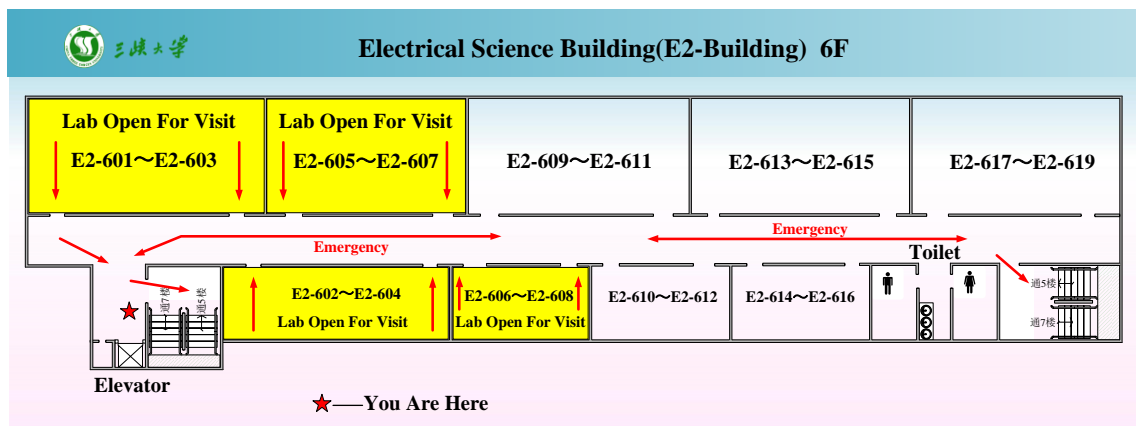
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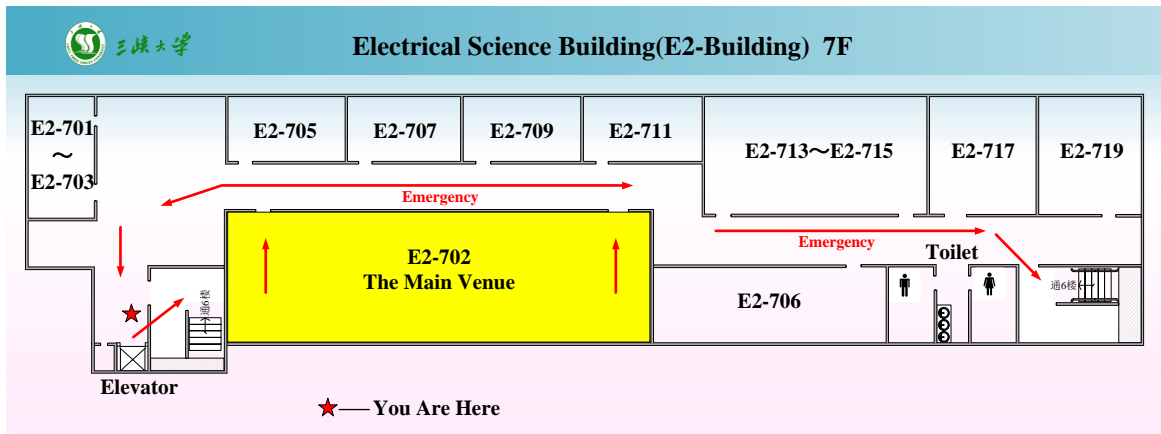
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6F



7F



Social Events & Conference Excursion

Sep. 6 Reception: Justine's Restaurant (1F, Dongshan Hotel)

Sep. 8 Banquet: Huang Long Yan (Guo Bin Ban Dao Hotel)

*10 minute walk from Dongshan Hotel to Guo Bin Ban Dao Hotel.

Sep. 9 Conference Excursion

*Buses will depart in front of Dongshan Hotel at 8:00 and return to the hotel afterward.

*Due to the regulations of China Three Gorges Dam, **any visitor must bring a personal ID (identity card, passport or travel permit)**, otherwise he/she will be rejected.

8:00	Depart from Dongshan Hotel
9:00-11:50	China Three Gorges Dam
11:50-12:50	Return to Dongshan Hotel