IEEE INTERNATIONAL CONFERENCE ON SYSTEM SCIENCE AND ENGINEERING ICSSE 2017

July 21–23, 2017
Venue: Ho Chi Minh City University of Technology and Education, Vietnam

CONFERENCE DIGEST

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Welcome

On behalf of the organizing committee it gives us great pleasure to welcome you to the annual International Conference on System Science and Engineering (ICSSE 2017) held in Ho Chi Minh City, Vietnam.

System Science and Engineering has been emerging as a research field that covers a wide spectrum of modern technology. A system can be considered as a collection of entities and their inter-relationships that gather together to form a whole greater than the sum of the entities. It also involves people, organizations, cultures, activities and inter-relationships among them. While systems composed of autonomous subsystems are not new, increasing data density, connectivity and ubiquitous computational resources have extended their interdependence and interaction complexity. This has in turn made the already difficult job of planning, developing and deploying complex systems even more difficult.

Technology advancement not only provides opportunities for improving system capabilities but also introduces development risks that must be weighed and managed. Thus, it is our goal to bring together scholars from all areas to have a forum to discuss, demonstrate and exchange research ideas in the scope of system science and engineering.

The conference is structurally organized in order to promote active participation of all attendees and presenters via plenary presentation sessions, keynote addresses, interactive workshops and panel discussions. In addition, facilities are provided for group meetings and one-on-one interaction of the participants to discuss issues of System Science and Engineering and to network with conference participants and organizations. ICSSE 2017 is jointly organized by a consortium of universities composing of the host university entitled University of Technology and Education, Vietnam, and Taiwan Association of System Science and Engineering (TASSE).

We would like to express our sincere thanks to all delegates, sponsors, supporters, exhibitors, conference speakers, special guests, session chairs, student volunteers and reviewers for making ICSSE 2017 a success. We wish you a pleasant and memorable stay in Vietnam and thank you for being here with us.

Yo-Ping Huang, NTUT, Taiwan
Ngo Van Thuyen, HCMUTE, Vietnam
General Chairmen, ICSSE 2017

Prof. Dr. Yo-Ping Huang, NTUT, Taiwan

Dr. Ngo Van Thuyen, HCMUTE, Vietnam

Opening and Welcome

Prof. Dr. Do Van Dung, President
Ho Chi Minh City University of Technology and Education, Vietnam

Distinguished participants,
Ladies and gentlemen,

On behalf of the Presidential Board of University of Technology and Education Ho Chi Minh City, I am very pleased to welcome you all here, the distinguished guests, outstanding researchers and representatives of press and media, to join in IEEE International conference on System Science and Engineering (ICSSE 2017).

It has been well known that economy of Vietnam developed rapidly in the past decades with a large amount of foreign direct investment (FDI). Many new industrial zones have been founded and the need of qualified engineers is increasing significantly day by day. Besides, Vietnam has been joining in many international societies to internationalize the national economy and reinforce a knowledge based economy. This requires new generations of engineers who are well-prepared with international knowledge and working skills. Accordingly, in order to meet these demands, globally updated methodology and philosophy of education are required and should be applied. Mobile-learning, online-learning, etc, are examples of such changes. The Vietnam government has also shown more and more concerns about this issue, especially for the higher education level. Many academic programs between Vietnam and other countries for equipping academic faculty with modern skills to adapt to the global integration have been carried-out. An example is the Higher Education of Engineering Alliance Program (HEEAP) with the United States in which faculty members from 5 top technology universities of Vietnam are trained with how to compose and vary curricula, teaching and studying methods and English skills amelioration. These actions are to equip students with flexible ability to match with the demands of international enterprises in the economical globalization process.

The need of global integration is also well recognized and emphasized by the President in HCMUTE in such a way that it is the main target of the 2013-2018 tenure. In general, the adaptation trends to develop technology education include amelioration of competencies and skills for students, improvement of relevant teaching methods and facilities; emphasis of applications of studying knowledge, quality assurance and accreditation of teaching programs, etc, Ho Chi Minh City University of Technology and Education (HCMUTE) has employed a lot of energy and effort to develop our scientific research abilities and teaching methods especially in engineering and technology fields with many excellent results. However, to shorten the time of reaching to the newest global achievements in engineering and technology, there is no better way than exchanging knowledge and experiences with outstanding experts from all over the world. Therefore, HCMUTE together with IEEE and TASSE organizes ICSSE2017 this time.

It is believed that the conference will be a good opportunity for participants from many countries, such as Australia, Taiwan, Korea, Italy, France, and Vietnam, to meet and exchange their respective researches in engineering and technology through professional discussion.

We would like to thank all participants for their participation and contributions to the conference. Many thanks also go to the organizing committee for their devoted assistance in the overall organization work. Thank you and wish you a good time in Vietnam.

Conference Information

The International Conference on System Science and Engineering 2017 (ICSSE 2017) will take place in Ho Chi Minh City during July 21-23, 2017.ICSSE 2017 is the annual conference. It will be held in beautiful Ho Chi Minh City, Vietnam. The ICSSE 2017 will explore issues related to the global future of engineering and technology. The conference features active participation and networking in formal and informal settings. This includes dynamic key note addresses and interactive sessions, workshops, and panel discussions.

Innovation in technology and engineering play a fundamental role, both economically and socially, in improving the quality of life for all citizens in the future knowledge-driven economies.

Moreover, the highly interdisciplinary nature of new technologies, and the impact of cyber-infrastructure appear to demand new paradigms in engineering education, research and development.

ICSSE 2017 brings together a wide range of engineering and technology education stake holders from around the globe to explore the building of new capacities in engineering and technology education that are essential in creating environmentally and socially sustainable the 21st century economies.

This conference aims to identify and explore the latest trends and developments that will shape the future worlds of engineering and technology education.

VENUE

The ICSSE 2017 venue is at the main campus of Ho Chi Minh City University of Technology and Education (HCMUTE) (www.hcmute.edu.vn) which is located at the eastern gate of Ho Chi Minh City, only 10km north-east of the city center and 17km from Tan Son Nhat International Airport. With over 26,000 students, HCMUTE is the second largest institution in education and research in engineering in the South of Vietnam. The university offers a wide range of courses covering from advance diploma to PhD programs. All Conference sessions will be staged at the university premises.

TRANSPORTATION

ICSSE 2017 will support back and forth transportation to all participants between Ho Chi Minh City Opera House (No.7, Cong Truong Lam Son Street, District 1) and HCMUTE (No.1, Vo Van Ngan, Thu Duc District) during the full 02 days of conference time (7:30am - 8:00amin the morning and 5:30pm - 6:30pmin the afternoon)

CONFERENCE REGISTRATION

The Conference Registration desk is located at Conference Foyer, 6th Floor, Center Building of HCMUTE main campus, with the following opening hours:
Day 1: Friday, July 21st 2017, from 08:00am to 05:00pm
Day 2: Saturday, July 22nd 2017, from 08:00am to 01:00pm

INFORMATION FOR PRESENTERS

A standard time allocation for a single paper presentation is 20 minutes, comprising 15 minutes for presentation and 5 minutes for questions and discussion. Please remember that all participants may come into your session from other break-out sessions of the conference or even from off-campus. It is important not to start early or fill gaps made by "no-show" with actual presentations. Fill the gaps with active discussion but don't get out of the program sequence, please. **Papers not presented will not be published in the Conference E-Proceedings.**

INFORMATION FOR SESSIONCHAIRS

A chair person has been allocated for all paper presentation and keynote sessions. Chairmen are requested to maintain timelines. Please assure the time allowed for each paper.

CONFERENCE PROCEEDINGS AND PUBLICATION

All the accepted and presented papers appear in the published E-proceedings. All the full papers submitted and presented at the conference have been considered by the awards committee for the best paper and presentation awards.

AWARDS

At ICSSE 2017 Best Paper awards will be presented to recognize excellent research and presentation.

- The awards will be awarded during the Gala Banquet on Day 2 (Saturday, July 22nd 2017)
- The judges' decision is final and no correspondence will be entered into.
- The judges reserve the right not to award Best Paper awards

ICSSE 2017 Best Paper Award Selection Criteria

- Present original and accurate scholarly work or practice.
- Be comprehensively detailed and stand-alone.
- Be presented in a manner consistent with the best academic standards.
- Stimulate delegates' interest and achieve delegate participation.
- Use visual aids that are technically excellent in design and execution, that present information in a relevant and innovative manner.
- Set the model for future ICSSE papers and presentations.

The awarded papers will be invited to publish in special issues of the International Journal of IEEE, if possible. The selected papers of the ICSSE 2017 may also be invited to publish in the forth coming edited books by Springer and IGI Global.

KEYNOTE SPEAKERS

Prof. Ljiljana Trajkovic
School of Engineering Science
Simon Fraser University, Canada
Email: ljilja@sfu.ca

Ljiljana Trajkovic received the Dipl. Ing. degree from University of Pristina, Yugoslavia, in 1974, the M.Sc. degrees in electrical engineering and computer engineering from Syracuse University, Syracuse, NY, in 1979 and 1981, respectively, and the Ph.D. degree in electrical engineering from University of California at Los Angeles, in 1986.

She is currently a Professor in the School of Engineering Science at Simon Fraser University, Burnaby, British Columbia, Canada. From 1995 to 1997, she was a National Science Foundation (NSF) Visiting Professor in the Electrical Engineering and Computer Sciences Department, University of California, Berkeley. She was a Research Scientist at Bell Communications Research, Morristown, NJ, from 1990 to 1997, and a Member of the Technical Staff at AT&T Bell Laboratories, Murray Hill, NJ, from 1988 to 1990. Her research interests include high-performance communication networks, control of communication systems, computer-aided circuit analysis and design, and theory of nonlinear circuits and dynamical systems

Dr. Trajkovic serves as Junior Past President (2016–2017) of the IEEE Systems, Man, and Cybernetics Society and served as President (2014–2015), President-Elect (2013), Vice President Publications (2012–2013 and 2010–2011), Vice President Long-Range Planning and Finance (2008–2009), and a Member at Large of its Board of Governors (2004–2006). She served as 2007 President of the IEEE Circuits and Systems Society. She was a member of the Board of Governors of the IEEE Circuits and Systems Society (2001–2003 and 2004–2005). She is Chair of the IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections. She was Chair of the IEEE Technical Committee on Nonlinear Circuits and Systems (1998). She is General Co-Chair of SMC 2020 and served as General Co-Chair of SMC 2016 and HPSR 2014, Technical Program Co-Chair of ISCAS 2005, and Technical Program Chair and Vice General Co-Chair of ISCAS 2004. She served as an Associate Editor of the IEEE Transactions on Circuits and Systems (Part I) (2004–2005 and 1993–1995), the IEEE Transactions on Circuits and Systems (Part II) (1999–2001 and 2002-2003), and the IEEE Circuits and Systems Magazine (2001–2003). She was a Distinguished Lecturer of the IEEE Circuits and Systems Society (2010–2011 and 2002–2003). She is a Professional Member of IEEE-HKN and a Fellow of the IEEE.

KEYNOTE SPEAKERS

Prof. Wen-June Wang
National Central University, Taiwan
Chair Professor of Department of Electrical
Engineering
Email: wjwang@ee.ncu.edu.tw

Wen-June Wang received the B.S. Degree in the Department of Control Engineering from National Chiao-Tung University, Taiwan in 1980; and M.S. Degree in the Department of Electrical Engineering from Tatung University, Taiwan in 1984. Moreover, he received the Ph.D. degree in the Institute of Electronics from National Chiao-Tung University of Taiwan in 1987. Dr. Wang is presently a chair professor in the department of Electrical Engineering, National Central University, Taiwan. He was a visiting scholar for one year in the Department of Mechanical Engineering, Georgia Institute of Technology, USA in 1994 and a half year in the University of Louisville, from September 2016 to February 2017. Furthermore, he was the Dean of the College of Science and Technology, National Chi Nan University, Puli, Taiwan from 2005 to 2007 and served as the Dean of Research and Development Office, National Taipei University of Technology, Taiwan from 2007 to 2009. Until today, Dr. Wang has published more than 159 journal papers and 155 conference papers. He also received three times of the Distinguished Research Award from the National Science Council of Taiwan. From 2003 to 2006, he is the convener of the Control Engineering Group of National Science Council in Taiwan.

Dr. Wang was elected as an IEEE Fellow on 2008. He serves as a member of the editorial board of numerous journals including IEEE Trans. of Systems, Man, and Cybernetics Part-B, IEEE Trans. of Fuzzy Systems, and the International Journal of Electrical Engineers, etc. He was selected as a Distinguish lecturer of IEEE Region 10 from 2012 on. He is now the editor in chief of the International Journal of Fuzzy Systems. Furthermore, Dr. Wang served as the Chairman of Taipei Chapter, IEEE Control Systems Society, from 1999 to 2001, and serves as the Chairman of Taipei Chapter, IEEE Systems, Man, and Cybernetics from 2006 to 2008. His research interests include the areas of fuzzy systems, control, neural networks, robotics, and pattern recognition, etc.

PROGRAM OUTLINE

IMPORTANT INFORMATION FOR ALL PARTICIPANTS

• Please wear your ICSSE 2017 Conference name tag at all times to gain admission to presentation in break-out rooms.
• Name tags and tickets are required for Conference Gala Banquet.
• If you need any formation about the conference, please ask the student helpers or committee members for assistance.

FRIDAY, JULY 21st 2017

08:00am - 05:00pm	**Registration** Venue: Conference Foyer , 6th Floor, The Center Building
09:00am - 09:20am	**Opening Ceremony** Venue: Room No. A1-602, 6th Floor, The Center Building **Introduction** **Opening Welcome**
09:20am - 10:20am	**Keynote Address 1**
10:20am - 10:40am	**Morning Tea** Venue: Conference Foyer, 6th Floor, The Center Building

10:40am - 12:00am	**Breakout session No.1 (BS-1)** *Topic: Intelligent Healthcare System* *Venue: Room A1-1201*	**Breakout session No.2 (BS-2)** *Topic: Fuzzy Systems and Applications* *Venue: Room A1-1202*
	Breakout session No.3 (BS-3) *Topic: Power and Energy Systems* *Venue: Room A1-1203*	**Breakout session No.4 (BS-4)** *Topic: Computer Science and Image Processing* *Venue: Room A1-1204*
	Breakout session No.5 (BS-5) *Topic: Mechatronics Engineering* *Venue: Room A1-1206*	**Breakout session No.6 (BS-6)** *Topic: Mechanical and Automotive Engineering* *Venue: Room A1-1207*

12:00am - 01:30am	**Lunch break** Venue: Conference Foyer, 6th Floor, The Center Building
01:30pm - 03:30pm	**Breakout sessions (BS-1 to BS-6)** *Topics and Venues: Same as morning*
03:30pm - 03:45pm	**Afternoon Tea** Venue: At session sites, respectively
03:45pm - 05:25pm	**Breakout sessions (BS-1 to BS-6)** *Topics and Venues: Same as morning*
06:00pm - 08:00pm	**Welcome dinner** Venue: Kim Dung Restaurant, No. 02, Dang Van Bi Street, Thu Duc District, HCMC

SATURDAY, JULY 22nd 2017

Time	Event
09:00am - 09:20am	**Registration** Venue: Conference Foyer, 6th Floor, The Center Building
09:20am - 10:20am	**Keynote Address 2** Venue: Room No. A1-602, 6th Floor, The Center Building
10:20am - 10:40am	**Morning Tea** Venue: Conference Foyer , 6th Floor, The Center Building
10:40am - 12:00am	**Breakout session No.7 (BS-7)** *Topic: **Automation Engineering*** *Venue: Room A1-1201* **Breakout session No.8 (BS-8)** *Topic: **Communication and Electronics Engineering*** *Venue: Room A1-1202* **Breakout session No.9 (BS-9)** *Topic: **Industrial Engineering and Management*** *Venue: Room A1-1204* **Breakout session No.10 (BS-10)** *Topic: **Applied Physics and Thermal Engineering*** *Venue: Room A1-1206* **Breakout session No.11 (BS-11)** *Topic: **Electrical Engineering*** *Venue: Room A1-1207*
12:00am - 01:30pm	**Lunch break** Venue: Conference Foyer, 6th Floor, The Center Building
01:30pm - 03:30pm	**Breakout sessions (BS-7 to BS-11)** *Topics and Venues: Same as morning*
03:30pm - 03:45pm	**Afternoon Tea** Venue: At session sites, respectively
03:45pm - 05:25pm	**Breakout sessions (BS-7 to BS-11)** *Topics and Venues: Same as morning*
06:00pm - 08:00pm	**Gala Banquet dinner** Venue: Sesan Restaurant, No. 14, Einstein Street, Binh Tho Ward, Thu Duc District, HCMC *The best paper awards to be delivered at the Gala Banquet*

SUNDAY, JULY 23rd 2017

Time	Event
08:00am – 05:00pm	**Ho Chi Minh City tour** Venue: Gather at Ho Chi Minh City Opera House No.7, Cong Truong Lam Son Street, District 1 Departure: 08:00am

DETAILED CONFERENCE PROGRAM

FRIDAY, JULY 21st 2017

08:00am	**Registration**
	Venue: Conference Foyer, 6th Floor, The Center Building
09:00am	**Opening Ceremony**
	Venue: Room No. A1-602, 6th Floor, The Center Building
	Introduction
	Dr. Nguyen Vu Lan, Deputy Head of International Affairs Office, HCMUTE
	Opening Welcome
	Prof. Dr. Do Van Dung, President, HCMUTE, Vietnam
	Prof. Dr. Yo-Ping Huang, National Taipei University of Technology, Taiwan
	Guests of Honors
	Prof. Dr. Bui Van Ga, Deputy Minister, Ministry of Education and Training, Vietnam
	Vote of Thanks
	Dr. Ngo Van Thuyen, University Council Chairman, HCMUTE, Vietnam
09:20am	**Keynote Address**
	Venue: Room No. A1-602, 6th Floor, The Center Building
	<u>**Keynote Address 1:**</u>
	Data Mining and Machine Learning for Analysis of Network Traffic
	Prof. Dr. Ljiljana Trajkovic, School of Engineering Science,
	Simon Fraser University, Canada
	Chair: Prof. Dr. Yo-Ping Huang, National Taipei University of Technology, Taiwan
10:20am	**Morning Tea**
	Venue: Conference Foyer, 6th Floor, The Center Building
10:40am - 05:25pm	**Paper Presentations - Breakout Sessions**
	(12:00am - 01:30pm Lunch break)
	(03:30pm - 03:45pm Afternoon Tea break)

SATURDAY, JULY 22nd 2017

09:00am	**Registration**
	Venue: Conference Foyer, 6th Floor, The Center Building
09:20am	**Keynote Address**
	Venue: Room No. A1-602, 6th Floor, The Center Building
	<u>**Keynote Address 2:**</u>
	Unknown input methods based observer and controller synthesis for uncertain nonlinear systems
	Prof. Dr. Wen-June Wang
	Department of Electrical Engineering, National Central University, Taiwan,
	Chair: Assoc. Prof. Dr. Le Hieu Giang, Vice President, HCMUTE, Vietnam
10:20am	**Morning Tea**
	Venue: Conference Foyer, 6th Floor, The Center Building
10:40am - 05:25pm	**Paper Presentations - Breakout Sessions**
	(12:00am - 01:30pm Lunch break)
	(03:30pm - 03:45pm Afternoon Tea break)

SESSION CHAIRMEN

FRIDAY, JULY 21st 2017

Breakout session No.1 (BS-1) *Topic:* ***Intelligent Healthcare System*** *Venue: Room A1-1201*	10:40am – 12:00am	**Prof. Dr. Bing-Fei Wu,** *Taiwan* **Assoc. Prof. Dr. Nguyen Truong Thinh,** *Vietnam*
	01:30pm – 03:30pm	**Prof. Dr. Yo-Ping Huang,** *Taiwan* **Dr. Nguyen Thanh Hai,** *Vietnam*
	03:45pm – 05:25pm	**Prof. Dr. Tsu-Tian Lee,** *Taiwan* **Dr.Nguyen Manh Hung,** *Vietnam*
Breakout session No.2 (BS-2) *Topic:* ***Fuzzy Systems and Applications*** *Venue: Room A1-1202*	10:40am – 12:00am	**Prof. Dr. Wen-June Wang,** *Taiwan* **Prof. Dr. Nob. Harada,** *Japan*
	01:30pm – 03:30pm	**Prof. Dr. Pei-Jun Lee,** *Taiwan* **Dr. Nguyen Minh Tam,** *Vietnam*
	03:45pm – 05:25pm	**Prof. Dr. Chih-Chie Liang,** *Taiwan* **Dr. Nguyen Minh Tam,** *Vietnam*
Breakout session No.3 (BS-3) *Topic:* ***Power and Energy Systems*** *Venue: Room A1-1203*	10:40am – 12:00am	**Prof. Dr. Li Wang,** *Taiwan* **Assoc. Prof. Dr. Truong Viet Anh,** *Vietnam*
	01:30pm – 03:30pm	**Assoc. Prof. Dr. Quyen Huy Anh,** *Viet Nam* **Dr. Nguyen Nhan Bon,** *Vietnam*
	03:45pm – 05:25pm	**Prof. Dr. Nob. Harada,** *Japan* **Dr. Vo Viet Cuong,** *Vietnam*
Breakout session No.4 (BS-4) *Topic:* ***Computer Science and Image Processing*** *Venue: Room A1-1204*	10:40am – 12:00am	**Prof. Dr. Wen-Shyong Yu,** *Taiwan* **Dr.Le My Ha,** *Vietnam*
	01:30pm – 03:30pm	**Prof. Dr. Huei-Yung Lin,** *Taiwan* **Dr.Dang Thanh Dung,** *Vietnam*
	03:45pm – 05:25pm	**Dr.Nguyen Phuong,** *Vietnam* **Dr.Le My Ha,** *Vietnam*
Breakout session No.5 (BS-5) *Topic:* ***Mechatronics Engineering*** *Venue: Room A1-1206*	10:40am – 12:00am	**Prof. Dr. Kuo-Ho Su,** *Taiwan* **Assoc. Prof. Dr. Le Hieu Giang,** *Vietnam*
	01:30pm – 03:30pm	**Prof. Dr. Shun-Feng Su,** *Taiwan* **Assoc.Prof.Dr.Truong Nguyen Luan Vu,** *Vietnam*
	03:45pm – 05:25pm	**Prof. Dr. Rong-Jyue Wang,** *Taiwan* **Dr. Pham Huy Tuan,** *Vietnam*
Breakout session No.6 (BS-6) *Topic:* ***Mechanical and Automotive Engineering*** *Venue: Room A1-1207*	10:40am – 12:00am	**Prof. Dr. Do Van Dung,** *Vietnam* **Dr. Le Thanh Phuc,** *Vietnam*
	01:30pm – 03:30pm	**Assoc. Prof. Dr. Dang Thien Ngon,** *Vietnam* **Dr. Nguyen Van Trang,** *Vietnam*
	03:45pm – 05:25pm	**Assoc. Prof. Dr. Do Thanh Trung,** *Vietnam* **Dr. Pham Son Minh,** *Vietnam*

SATURDAY, JULY 22nd 2017

Breakout session No.7 (BS-7) *Topic:* ***Automation Engineering*** *Venue: Room A1-1201*	10:40am – 12:00am	**Prof. Dr. Chih-Min Lin,** *Taiwan* **Assoc. Prof. Dr. Tran Thu Ha***, Vietnam*
	01:30pm – 03:30pm	**Dr. Shang-Chih Lin,** Taiwan **Dr. Truong Dinh Nhon***, Vietnam*
	03:45pm – 05:25pm	**Assoc. Prof. Dr. Nguyen Thanh Phuong***, Vietnam* **Dr. Vo Minh Huan***, Vietnam*
Breakout session No.8 (BS-8) *Topic:* ***Communication and Electronics Engineering*** *Venue: Room A1-1202*	10:40am – 12:00am	**Prof. Dr. Ching-Chih Tsai***, Taiwan* **Prof. Dr. Kun Ching Wang***, Taiwan*
	01:30pm – 03:30pm	**Assoc. Prof. Dr. Bing-Hong Liu***, Taiwan* **Assoc. Prof. Dr. Pham Hong Lien***, Vietnam*
	03:45pm – 05:25pm	**Prof. Dr. Kyeong-Sik Min***, Korea* **Dr. Pham Ngoc Son***, Vietnam*
Breakout session No.9 (BS-9) *Topic:* ***Industrial Engineering and Management*** *Venue: Room A1-1204*	10:40am – 12:00am	**Prof. Dr. Jen-Der Day***, Taiwan* **Assoc. Prof. Dr. Le Chi Kien***, Vietnam*
	01:30pm – 03:30pm	**Assoc. Prof. Dr. Nguyen Ngoc Phuong***, Vietnam* **Dr. Nguyen Vu Lan***, Vietnam*
	03:45pm – 05:25pm	**Prof. Dr. Ming-Sen Hu***, Taiwan* **Prof. Dr. Francisco Javier Cabrerizo***, Spain*
Breakout session No.10 (BS-10) *Topic:* ***Applied Physics and Thermal Engineering*** *Venue: Room A1-1206*	10:40am – 12:00am	**Prof. Dr. Jyh-Horng Chou***, Taiwan* **Assoc. Prof. Dr. Hoang An Quoc***, Vietnam*
	01:30pm – 03:30pm	**Prof. Dr. Dung-An Wang***, Taiwan* **Assoc. Prof. Dr. Dang Thanh Trung***, Vietnam*
	03:45pm – 05:25pm	**Assoc. Prof. Dr. Tran Ngoc Dam***, Vietnam* **Dr. Le Minh Nhut***, Vietnam*
Breakout session No.11 (BS-11) *Topic:* ***Electrical Engineering*** *Venue: Room A1-1207*	10:40am – 12:00am	**Dr. Phan Van Ca***, Vietnam* **Dr. Nguyen Phan Thanh***, Vietnam*
	01:30pm – 03:30pm	**Prof. Dr. Han-Jung Song***, Korea* **Assoc. Prof. Dr. Huynh Thanh Cong***, Viet Nam*
	03:45pm – 05:25pm	**Prof. Dr. Hung-Ching Lu***, Taiwan* **Dr. Nguyen Thi Mi-Sa***, Vietnam*

Day 1 (Friday, July 21st 2017)

BS-1   Intelligent Healthcare System (14 papers)
Venue: Room No. A1-1201, 12th Floor, The Center Building
Friday, July 21st 2017

10:40am - 12:00am

Chair: **Prof. Dr. Bing-Fei Wu,** *National Chiao Tung University, Taiwan*

Assoc. Prof. Dr. Nguyen Truong Thinh, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **SS01-Design Strategies to Improve Self-feeding Device - FeedBot for Parkinson Patients**, Nguyen Truong Thinh, Tran Tan Thanh and La Hoang Thang

(2) **SS04-Camera-based Heart Rate Measurement Using Continuous Wavelet Transform**, Bing-Fei Wu, Po-Wei Huang, Tsong-Yang Tsou, Tzu-Min Lin and Meng-Liang Chung

(3) **SS15-Edge Detection Based On Fuzzy C Means In Medical Image Processing System**, Mong Hien Nguyen, Thanh Binh Nguyen and Quoc Viet Ngo

(4) **SS06-Adaptive Exploration Strategies for Reinforcement Learning**, Kao-Shing Hwang, Chi-Wei Hsieh and Wei-Cheng Jiang

01:30pm - 03:30pm

Chair: **Prof. Dr. Yo-Ping Huang**, *National Taipei University of Technology, Taiwan*

Dr. Nguyen Thanh Hai, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **SS07-Using Voice and Gesture to Control Living Space for the Elderly People**, Haobijam Basanta, Yo-Ping Huang and Tsu-Tian Lee

(2) **SS09-Kinematic Measurement of the Ankle Joint using a 6 d.o.f. electro-goniometer**, V. Thang Nguyen, L. T. Giang Huynh , V. A. Dung Cai, M. Tam Nguyen

(3) **SS12-Hands-Free Control of an Electric Wheelchair Using Face Behaviors**, Viet Ngo Ba, Hai Nguyen Thanh and Thuyen Ngo Van

(4) **SS13-Long-tail Effect on ECG Classification,** Thai Nguyen Huu, Nghia Nguyen Thanh, Binh Duong Van, Hai Nguyen Thanh and Hung Nguyen Manh

(5) **SS14-Error-Rate Analysis for ECG Classification in Diversity Scenario**, Thuy Le Thi Minh, Nghia Nguyen Thanh, Binh Duong Van, Hai Nguyen Thanh and Hung Nguyen Manh

(6) **09-Medical Classification using Interval Intuitionistic Fuzzy Sets**, Chih-Min Lin and Jing Zhao

03:45pm - 05:25pm

Chair: **Prof. Dr. Tsu-Tan Lee,** *Tamkang University, Taiwan*

Dr.Nguyen Manh Hung, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **36-A study of Aloe Vera Peeling and Dicing system**, Tuong Phuoc Tho and Nguyen Truong Thinh

(2) **126-Analysis and Design of Transtibial Prosthesis**, Jhon Hernandez Martin, Luis Alberto Parra Piñeros, German Antonio Mendieta

(3) **177-An Effective Video-based Model for Fall Monitoring of the Elderly**, L.U. Thuc Hoang, Van Tuan Pham and Jenq-Neng Hwang

(4) **192-Kinect-based Virtual Training System for Rehabilitation**, The Chien Hoang, Ha Trang Dang, Viet Dung Nguyen

BS-2   Fuzzy Systems and Applications (15 papers)
Venue: Room No.A1-1202, 12th Floor, The Center Building
Friday, July 21st 2017

10:40am - 12:00am

Chair: **Prof. Dr. Wen-June Wang,** *National Central University, Taiwan*

Prof. Dr. Nob. Harada, *Nagaoka University of Technology, Japan*

(1) **SS03-Emergency control of load shedding based on coordination of artificial neural network and analytic hierarchy process algorithm**, Trong Nghia Le, Nguyen Ngoc Au and Huy Anh Quyen

(2) **SS10-Extended Kalman Filter for Channel and Carrier Frequency Offset Estimation**, Lien Pham and Quang Nguyen

(3) **SS11-States and Disturbance Observer-Based Controller Synthesis for Polynomial System**, Van-Phong Vu and Wen-June Wang

(4) **SS05-Adaptive Neural Networks Dynamic Surface Control Algorithm for 3DOF Surface Ship**, Tu Uyen Hoang Thi, Tuan Pham, Tu Vu Van, Quang Le and Xuan Minh Phan

Chair: **Prof. Dr. Pei-Jun Lee**, *National Chi Nan University, Taiwan*
  Dr. Nguyen Minh Tam, *HCMC University of Technology and Education, Vietnam*

(1) **SS16-Implementation of Hybrid Adaptive Fuzzy Sliding Model Control and Evolutionary Neural Observer for Biped Robot Systems**, Tran Thien Huan, Phan Duc Huynh, Cao Van Kien, and Ho Pham Huy Anh

(2) **SS17-Implementation of Adaptive Fuzzy Sliding Mode Control for Nonlinear Uncertain Serial Pneumatic-Artificial-Muscle (PAM) Robot System**, Cao Van Kien, Tran Thien Huan, Do Thanh Thai and Ho Pham Huy Anh

(3) **SS18-A Neural Control of The Parallel Gas Turbine with Differential Link**, Nguyen Hoang Mai

(4) **SS19-A Fuzzy control for obstacle avoidance Implemented in the wheel robot with FPGA**, Zheng-Kai Chiu and Pei-Jun Lee

(5) **SS22-Multi-Focus Application in Mobile Phone**, Trong-An Bui, Chih-Chun Lin and Pei-Jun Lee

(6) **26-Self-Evolving Function-Link Interval Type-2 Fuzzy Neural Network for Nonlinear System Identification**, Chih-Min Lin and Tien-Loc Le

03:45pm - 05:25pm

Chair: **Prof. Dr. Chih-Chie Liang**, *National Taiwan University of Science and Technology, Taiwan*
  Dr. Nguyen Minh Tam, *HCMC University of Technology and Education, Vietnam*

(1) **60-Design and Implementation of a RBF-based PI Controller for PMSM Drives**, NguyenPhan Thanh and NguyenMinh Tam

(2) **66-Application of fuzzy Taguchi method to improve the dimensional accuracy of Fused Deposition Modeling processed product,** Nghi Huynh Huu, Tuan Nguyen Anh, Luan Ha Ngoc and Ha Thai Thi Thu

(3) **88-Temperature prediction and Model Predictive Control (MPC) of a distillation column using an Artificial Neural Network based model**, Dang Xuan Hieu, Dinh Thi Lan Anh, Nguyen Doan Phuoc, Dinh Van Thanh and Do Duc Cuong

(4) **109-Harmonic Elimination based on Fuzzy Logic in combination with Hysteresis Control Algorithm**, Phan Thanh Hien, Dang Van Huyen and Nguyen Duy Cuong

(5) **191-Non-Pre-process Calibration of Depth image Based on Fuzzy C-Mean**, Chih-Chie Liang, Shun-Feng Su and Ming-Chang Chen

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BS-3 Power and Energy Systems (15 papers)
Venue: Room No.A1-1203, 12th Floor, The Center Building
Friday, July 21st 2017

10:40am - 12:00am

Chair: **Prof. Dr. Li Wang**, *National Cheng Kung University, Taiwan*
  Assoc. Prof. Dr. Truong Viet Anh, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **5-Surge protection on the power lines, considering the influenced factors**, Trung Le Quang, Anh Quyen Huy and Tu Vu Phan

(2) **18-Analysis of Voltage-Variation Results of Taiwan Power System Connected with a Ring-type High-Capacity Offshore Wind Farm**, Li Wang, Quang-Son Vo, Hsieh Min-Han, Cheng-Tai Wu, Chieh-Lung Lu, Bing-Lin Kuan, Xiu-Yu Lu and Anton V. Prokhorov

(3) **20-Hybrid Damping Controller for STATCOM to Enhance Power Quality in Multi-Machine System**, Huu Vinh Nguyen, Kim Hung Le and Hung Nguyen

(4) **44-Hybrid Classifer Model for Dynamic Stability Prediction in Power System**, Ngoc Au Nguyen, Trong Nghia Le, Huy Anh Quyen, Binh Phan Thi Thanh, and Thai Binh Nguyen

01:30pm - 03:30pm

Chair: **Assoc. Prof. Dr. Quyen Huy Anh,** *Ho Chi Minh City University of Technology, Viet Nam*
  Dr. Nguyen Nhan Bon, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **49-Control of power in an island Microgrid using Adaptive Droop control**, Phuong Le Minh, Hoa Pham Thi Xuan, Duy Hoang Vo Duc and Huy Nguyen Minh

(2) **50-Control of power sharing in an island Microgrid using virtual impedance**, Phuong Le Minh, Hoa Pham Thi Xuan, Duy Hoang Vo Duc and Huy Nguyen Minh

(3) **67-Voltage Stability Enhancement of the Bac Lieu Wind Power System Connected to Power Grid using A STATCOM**, Dinh-Nhon Truong, Ngo Van-Thuyen and Nguyen Thi Mi-Sa

(4) **70-Wavelet-Based Neural Network for Recognition of Faults at Nha Be Power Substation of the Vietnam power system**, Bon Nhan Nguyen, Anh Huy Quyen, Phuc Huu Nguyen and Trieu Ngoc Ton

(5) **84-A Dead–Beat Current Controller Based Wind Turbine Emulator**, Vo Thanh Ha, Vu Hoang Phuong, Nguyen Tung Lam, and Nguyen Phung Quang

(6) **94-A New Control Strategy of Power Sharing In Islanded Microgrids**, Phuong Le Minh, Duy Hoang Vo Duc, Hoa Pham Thi Xuan and Huy Nguyen Minh

03:45pm - 05:25pm

Chair: **Prof. Dr. Nob. Harada,** *Nagaoka University of Technology, Japan*

Dr. Vo Viet Cuong, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **95-Control of Power Inverter In Islanded Microgrids Based On Online Line Impedance Estimation**, Phuong Le Minh, Hoa Pham Thi Xuan, Duy Hoang Vo Duc and Huy Nguyen Minh

(2) **110-Design of Dynamic-Static VAr Compensation based on Microcontroller for Improving Power Factor**, Dang Van Huyen, Phan Thanh Hien and Nguyen Duy Cuong

(3) **181-Zero CO2 Emission Electric Power Generation using Magnetohydrodynamic Generator**, Nob. Harada, Kazumasa Takahashi, Toru Sasaki and Takashi Kikuchi

(4) **198-Comparative Simulation Results of DVR and D-STATCOM to Improve Voltage Quality in Distributed Power System**, Van Minh Nguyen, Quoc Khanh Bach and Viet Phuong Pham

(5) **200-Improve Power Oscillation Stability in A Grid Connected Wind Power System by Using A Static Var, Compensator**, Van-Tri Bui, Dinh-Nhon Truong and Dac-Loc Ho

BS-4 Computer Science and Image Processing (14 papers)
Venue: Room No. A1-1204, 12th Floor, The Center Building
Friday, July 21st 2017

10:40am - 12:00am

Chair: **Prof. Dr. Wen-Shyong Yu**, *Tatung University, Taiwan*

Dr.Le My Ha, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **34-Implementation of Media Player Simulator Using Kinect Sensors**, Wen-Shyong Yu and Kuo-Yao Huang

(2) **42-An anomaly-based Network Intrusion Detection System using Deep learning**, Van Nguyen Thanh, Thinh Tran Ngoc and Sach Le Thanh

(3) **74-Occlusion Vehicle Detection Algorithm in Crowded Scene for Traffic Surveillance System**, Hung Ngoc Phan, Long Hoang Pham, Duong Nguyen-Ngoc Tran and Synh Viet-Uyen Ha

(4) **77-Nighttime Vehicle Detection and Classification via Headlights Trajectories Matching**, Tuan-Anh Vu, Long Hoang Pham, Tu Kha Huynh and Synh Viet-Uyen Ha

01:30pm - 03:30pm

Chair: **Prof. Dr. Huei-Yung Lin,** *National Chung Cheng University, Taiwan, Taiwan*

Dr.Dang Thanh Dung, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **112-Scene Recognition in Traffic Surveillance System using Neural Network and Probabilistic Model**, Duong Nguyen-Ngoc Tran, Long Hoang Pham, Ha Manh Tran and Synh Viet-Uyen Ha

(2) **127-Automatic Detection of Common Mispronunciations of Vietnamese Speakers of English Using SVMs**, Thanh-Dung Dang and Kim-Giao Dang Thi

(3) **135- Accurate RGB-D Camera Based on Structured Light Techniques,** Van-Luan Tran and Huei-Yung Lin

(4) **141-Data Warehouse Designing for Vietnamese Textual Document-based Plagiarism Detection System**, Phan Hieu Ho, Trung Hung Vo and Ngoc Anh Thi Nguyen

(5) **159-Performance Evaluation of Multi-hop Cooperative Transmission Protocol with Hardware Noises and Presence of Eavesdropper**, Luu Gia Thien, Phu Tran Tin, Tran Thong Nhat, Tran Trung Duy and Miroslav Voznak

(6) **167-The Effect of Color Space on Discriminating Power of Color Local Texture Feature for Color Face Recognition**, Thanh-Dung Dang

03:45pm - 05:25pm

Chair: **Dr.Nguyen Phuong,** *Ho Chi Minh City University of Technology and Education, Vietnam*

Dr.Le My Ha, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **173-Study on Measurement System For Non-Uniform Diameter Spring By Machine Vision**, Anh Tuan Do, Quang-Cherng Hsu, Feng-Chang Tang

(2) **184-Deploying Environment for Processing Ede Ethnic Minority Language in Vietnam**, Hoang Thi My Le and Phan Huy Khanh

(3) **190-Measurement of Oil Film Thickness of a Connecting-rod Big End Bearing by using Image Processing Technique**, Thi-Thanh-Hai Tran and My-Ha Le

(4) **206-A Robust Technique for Salient Map Generation and Object Detection,** Nguyen Duy Dat

(5) **210-Construction a New Algorithm for High Average Utility Itemsets Mining,** Phuong Nguyen and Duc Duy Nguyen

BS-5 Mechatronics Engineering (15 papers)
Venue: Room No. A1-1206, 12th Floor, The Center Building
Friday, July 21st 2017

10:40am - 12:00am
Chair: **Prof. Dr. Kuo-Ho Su**, *Chinese Culture University, Taiwan*
Assoc. Prof. Dr. Le Hieu Giang, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **16-Advanced IMC-PID Controller Design for the Disturbance Rejection of First Order Plus Time Delay Processes**, Truong Nguyen Luan Vu, Le Hieu Giang, Le Linh and Vo Lam Chuong

(2) **17-Pattern Recognition Based on Heuristic Neural Network**, Kuo-Ho Su, Tan-Feng Lee and Hao Yu Liao

(3) **22-A Cascade Controller for Tracking and Stabilization of Wheeled mobile robotic Systems**, Phuong Nam Dao, Manh Hung Nguyen, Trung Ty Nguyen, Van Hau Pham and Thanh Long Nguyen

(4) **35-Design and Development of Service Robot based Human - Robot Interaction (HRI)**, Kittiwad Kantharak, Chaiporn Somboonchai, Nguyen Trong Tuan and Nguyen Truong Thinh

01:30pm - 03:30pm
Chair: **Prof. Dr. Shun-Feng Su,** *National Taiwan University of Science and Technology, Taiwan*
Assoc. Prof. Dr. Truong Nguyen Luan Vu, *HCMC University of Technology and Education, Vietnam*

(1) **37-Using ANFIS to Predict Picking Position of the Fruits Sorting System**, Tuong Phuoc Tho and Nguyen Truong Thinh

(2) **53-The Telepresence Robot for Teaching English**, Cheng-Hao Hu, Rong-Jyue Wang and Tsuen-Suei Ke

(3) **54-Analytical Design of PID Controller for Enhancing Ride Comfort of Active Vehicle Suspension System**, Truong Nguyen Luan Vu, Do Van Dung, Nguyen Van Trang and Phan Tan Hai

(4) **72-Adaptive PID Tracking Control Based Radial Basic Function Networks for a 2-DOF Parallel Manipulator**, Van-Truong Nguyen, Chyi-Yeu Lin, Shun-Feng Su and Quoc-Viet Tran

(5) **78-Optimizing The Structure Of Rbf Neural Network-Based Controller For Omnidirectional Mobile Robot Control**, Tung Thanh Pham, Dang Hoang Le, Chi-Ngon Nguyen, Tu Dinh Nguyen and Cuong Chi Tran

(6) **85-Dynamic Programming based Control for Perturbed Discrete Time Nonlinear Systems**, Van Hung Pham, Hoai Nam Nguyen and Doan Phuoc Nguyen

03:45pm - 05:25pm
Chair: **Prof. Dr. Rong-Jyue Wang,** *National Formosa University, Taiwan*
Dr. Pham Huy Tuan, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **91-Design of a Compliant Bio-Inspired Camera-Positioning Mechanism for Autonomous Mobile Robots**, Ngoc-Phuong Hoang and Huy-Tuan Pham

(2) **101-Experimental Investigation of Speed Control of Hydraulic Motor Using Proportional Valve**, Hai Tran Ngoc, CungLe and Anh Dung Ngo

(3) **125-An Extended Navigation Framework for Autonomous Mobile Robot in Dynamic Environments using Reinforcement Learning Algorithm**, Nguyen Van Dinh, Nguyen Hong Viet, Lan Anh Nguyen, Hong Toan Dinh, Nguyen Tran Hiep, Pham Trung Dung, Trung-Dung Ngo and Xuan-Tung Truong

(4) **140-Fault Detection and Isolation for Robot Manipulators Using Statistics**, Cao Thanh Trung, Hoang Minh Son, Dao Phuong Nam, Tran Nhat Long, Do Tien Toi, Phan Anh Viet

(5) **208-Advanced Control Methods for Two-Wheeled Mobile Robots,** Khanh G. Tran, Phuoc D. Nguyen and Nam H. Nguyen

BS-6 Mechanical and Automotive Engineering (14 papers)
Venue: Room No.A1-1207, 12th Floor, The Center Building
Friday, July 21st 2017

10:40am - 12:00am
Chair: **Prof. Dr. Do Van Dung,** *Ho Chi Minh City University of Technology and Education, Vietnam*
Dr. Le Thanh Phuc, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **24-Effects of Resistance, Capacitance and Self-Inductance on Accumulated Energy in the Hybrid Ignition System**, Do Van Dung, Do Quoc Am, Nguyen Tan Ngoc

(2) **56-Computational Analysis on Hybrid Electric Motorcycle with Front Wheel Electric Motor using Lithium Ion Battery**, Van Trang Nguyen, Pyung Hwang and Thinh Huynh

(3) **59-Active Fault Tolorant Torque Distribution Control of 4 In-Whel Motors Electric Vehicles Based on Karmal Filter Approach**, Trung-Hieu Nguyen, Bo-Chiuan Chen, Dejun Yin, and Phuoc-Son Huynh

(4) **73- Experimental Research on Fuel Control System of Internal Combustion Engine using Dual Fuel LPG - Diesel,** Long Giang Nguyen Van, Dzung Do Van, Huynh Phuoc Son

01:30pm - 03:30pm

Chair: **Assoc. Prof. Dr. Dang Thien Ngon,** *Ho Chi Minh City University of Technology and Education, Vietnam*

Dr. Nguyen Van Trang, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **75-An Approach to the Automatic Detection of Weld Defects in Radiography Films Using Digital Image Processing**, Dang Thien Ngon, Le Chi Cuong and Ha Nguyen Ngoc

(2) **76-Research on Using PID Algorithm to Control Simulation Model of Regenerative Braking System Based on Driving Cycles**, Duong Tuan Tung, Do Van Dung and Nguyen Truong Thinh

(3) **87-Tool Path Optimization in CNC Punching Machine for Sheet Metal Manufacturing**, Tan Nguyen Thanh, Huy-Tuan Pham, Thi Hong Minh Nguyen

(4) **98-Combustion Modeling of a Common Rail multi-injection Diesel Engine Fuelled with Diesel and Biodiesel**, Nguyen Khong Van, Trung Tran Anh, Vu Nguyen Hoang and Van Nguyen Cao

(5) **117-Development of a WEDM system with high machining efficiency**, Kien T. Hoang

(6) **103-Pulsed Cooling Control for Improving the Part Warpage**, Thanh Trung Do and Pham Son Minh

03:45pm - 05:25pm

Chair: **Assoc. Prof. Dr. Do Thanh Trung,** *Ho Chi Minh City University of Technology and Education, Vietnam*

Dr. Pham Son Minh, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **138-Designing and Manufacturing a Rotary Feeder**, Van Huu Thinh

(2) **143-A Digital Image Correlation Setup for the Analysis Of Lead-Free Solder Alloys**, Q.B. Tao, L. Benabou, N.H. Tran, and D.B. Luu

(3) **163-A study on Surface Modification for Tribological Application in MEMS**, Duc Cuong Pham, Duc Quy Tran and Eui-Sung Yoon

(4) **186-Optimal Design of High Precision Compliant Guide Mechanism Using Gene Algorithm and Taguchi– Based Sensitivity Analysis**, Van-Khien Nguyen, Huy-Tuan Pham, Huy-Hoang Pham

Day 2 (Saturday, July 22nd 2017)

BS-7 Automation Engineering (15 papers)
Venue: Room No.A1-1201, 12th Floor, The Center Building
Saturday, July 22nd 2017

10:40am - 12:00am
Chair: **Prof. Dr. Chih-Min Lin,** *Yuan Ze, Taiwan*

Assoc. Prof. Dr. Tran Thu Ha, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **23-An Approach Robust Nonlinear Model Predictive Control with State-dependent Disturbances via Linear Matrix Inequalities**, Nguyen Thanh Binh, Nguyen Anh Tung, Dao Phuong Nam, Cao Thanh Trung

(2) **29-Asymptotic Stability of the Whole Tractor-Trailer Control System**, Pham Van Hau, Dao Phuong Nam, Nguyen Thu Ha, Pham Tam Thanh, Hoang The Hai, Hoang Duc Hanh

(3) **33-Output feedback Controller using High-Gain Observer in Multi-Motor Drive Systems**, Phuong Nam Dao, Tuan Thanh Pham and Xuan Tinh Tran

(4) **45-Input Constrained Hover Control with Receding Horizon LQR for Disturbed TRMS**, Dinh Van Nghiep, Nguyen Nhu Hien, Nguyen Thu Ha and Nguyen Doan Phuoc

01:30pm - 03:30pm
Chair: **Dr. Shang-Chih Lin,** *Research Center for Information Technology Innovation, AcademiaSinica, Taiwan*

Dr. Truong Dinh Nhon, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **46-Adaptive Backstepping Hierarchical Sliding Mode Control for Uncertain 3D Overhead Crane Systems,** Hai Le Xuan, Thai Nguyen Van, Anh Le Viet, Nga Vu Thi Thuy and Minh Phan Xuan

(2) **47-Robust H-infinity Backstepping Control Design of a Wheeled Inverted Pendulum System**, Binh Nguyen, Hung Nguyen Manh, Tung Nguyen, Phuong Nam Dao and Thanh Long Nguyen

(3) **51-Hybrid Control for Swing up and Balancing Pendubot System: An Experimental Result**, Vinh Toan Tran, Thu Ha Tran and Vi Do Tran

(4) **79-Design and simulate a Fuzzy autopilot for an Unmanned Surface Vessel**, Nhat Minh Do, Phung Hung Nguyen, Duy Anh Nguyen

(5) **86-Application of BPNN Algorithm to Learning High Dimensional Features for Solving Induction Motor Defect Problems**, Shang-Chih Lin and Yen-Nun Huang

(6) **89-A Non-Geometric Method for Inverse Kinematics Solution of a Delta-Structure Ship Motion Simulator and its Trajectory Control**, Chau Giang Nguyen, Nhat Minh Do, Tri Cong Phung, Duy Anh Nguyen

03:45pm - 05:25pm
Chair: **Assoc. Prof. Dr. Nguyen Thanh Phuong,** *Ho Chi Minh University of Technology(HUTECH), Vietnam*

Dr. Vo Minh Huan, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **114-Complementary Authenticator Design for Ground Control Station to Identify Unmanned Aerial Vehicles Based on Channel-tap Power**, Trong Nghia Le, Lan Anh Nguyen Thi, Trong Khanh Nghiem, Hong Viet Nguyen, Dang Khoa Truong, Tran Hiep Nguyen, Van Cong Hoang, and Minh Dong Pham

(2) **115-Active Disturbance Rejection Control Design for Integrated Guidance and Control Missile based SMC and Extended State Observer**, Hong Toan Dinh, Dang Khoa Truong, Tran Hiep Nguyen, Xuan Tung Truong and Cong Dinh Nguyen

(3) **118-Sliding Mode Control of a Three Phase Induction Motor based on RBF Network**, Vinh Quan Nguyen, Minh Tam Nguyen ,Van Nho Nguyen and Hoai Nghia Duong

(4) **172-Experimental Comparison of Complementary Filter and Kalman Filter Design for Low-Cost Sensor in Quadcopter**, H.-Q.-T. Ngo, T.-P. Nguyen, V.-N.-S. Huynh, T.-S. Le and C.-T. Nguyen

(5) **199-Adaptive Tracking Control Based On CMAC for nonlinear Systems**, Van-Phuong Ta, Xuan-Kien Dang and Thanh-Quyen Ngo

BS-8 Communication and Electronics Engineering (15 papers)
Venue: Room No.A1-1202, 12th Floor, The Center Building
Saturday, July 22nd 2017

10:40am - 12:00am
Chair: **Prof. Dr. Ching-Chih Tsai,** *National Chung Hsing University, Taiwan*

Prof. Dr. Kun Ching Wang, *Shih Chien University, Taiwan*

(1) **21-Synchronization Control Of Bilateral Teleoperation Systems by Using Wave Variable Method Under Varying Time Delay**, Nguyen Anh Tung, Nguyen Thanh Binh, Tran Hoang Anh, Dao Phuong Nam, Nguyen Minh Dong

(2) **28-ATTS-DF: Adaptive Tracking Solution to The Target for Data Fusion In Wireless Sensor Networks**, Duong-Viet Huy and Nguyen-Dinh Viet

(3) **30-Intelligent Predictive Temperature Control Using PSO-RGA for Transfer Mold Heating Processes in Semiconductor Die Packaging Machines**, Ching-Chih Tsai, Feng-Chun Tai and Ren-Syuan Liu

(4) **32-Speech/Music Discrimination using Hybrid-Based Feature Extraction for Audio Data Indexing**, Kun-Ching Wang, Yung-Ming Yang and Ying-Ru Yang

01:30pm - 03:30pm

Chair: **Assoc. Prof. Dr. Bing-Hong Liu,** *National Kaohsiung University of Applied Sciences, Taiwan*
Assoc. Prof. Dr. Pham Hong Lien, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **43-An Adaptive Control Law against Time – Varying Delays in Bilateral Teleoperation Systems**, Tran Hoang Anh, Tung Nguyen, Binh Nguyen, Phuong Nam Dao and Van Tu Vu

(2) **64-On Information Securing Capability of Cognitive Radio Networks Under Primary Interference and Artificial Noise**, Khuong Ho-Van, Trong Nguyen-Duc, An Vuong-Binh, Thiem Do-Dac, Trung Nguyen-Huu and Lien Pham-Hong

(3) **105-Optimizating Power Consumption Using Multi-Bit Flip-Flop Technique In Tetris Game On Fpga**, Minh Huan Vo

(4) **119-Statistical Analysis on Variation Tolerance of Time-Shared Twin Memristor Crossbar for Pattern Matching,** Son Truong Ngoc, Khoa Pham Van, Wonsun Yang and Kyeong-Sik Min

(5) **129-Implementing the On-Chip Backpropagation Learning Algorithm On Fpga Architecture**, Minh Huan Vo

(6) **153-Device-to-Device Communication Assisted Decode-and-Forward Relaying: Model and Outage Analysis**, Huu-Phuc Dang, Thanh-Duc Le, Hong-Nhu Nguyen, Si-Phu Le, Dinh-Thuan Do, Jaroslav Zdralek, Miroslav Voznak

03:45pm - 05:25pm

Chair: **Prof. Dr. Kyeong-Sik Min,** *Kookmin University, Korea*
Dr. Pham Ngoc Son, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **155-Detecting Critical Nodes for Network Vulnerability Assessment under Cascading Failures**, Shi-Ming Hu, Jung-Te Chou, Bing-Hong Liu, Shao-I Chu, Thinagaran Perumal and Van-Trung Pham

(2) **156-A New Overlap Circle Technique for Reducing Data Aggregation Time in Wireless Sensor Networks**, Yao-Yu Jhuang, Tong Lin, Tan Dat Nguyen, Shao-I Chu, Bing-Hong Liu and Van-Trung Pham

(3) **157-Mobile charging and data gathering in multiple sink wireless sensor networks: How and Why**, Tan Dat Nguyen, Shao-I Chu, Bing-Hong Liu, Chao-Ho Chen, Hoang Sa Dang and Thinagaran Perumal

(4) **158-An Efficient Mobile Sink Scheduling Method for Data Collection in Wireless Sensor Networks**, Yi-Hsuan Yang, Tong Lin, Bing-Hong Liu, Shao-I Chu, Chih-Yuan Lien and Van-Trung Pham

(5) **161-Digital implementation of Decentralized Control for Multilevel Converter**, Guillaume Gateau, Phan Quoc Dung, Marc Cousineau, Phuong Uyen Tran Do and Nhan Le Huu

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BS-9 Industrial Engineering and Management (15 papers)
Venue: Room No.A1-1204, 12th Floor, The Center Building
Saturday, July 22nd 2017

10:40am - 12:00am

Chair: **Prof. Dr. Jen-Der Day,** *Kaohsiung University of Applied Sciences, Taiwan*
Assoc. Prof. Dr. Le Chi Kien, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1) **4- Developing a System of Systems management framework for the Fukushima Daiichi Nuclear Disaster recovery**, Indra Gunawan, Alex Gorod, Leonie Hallo and Tiep Nguyen

(2) **7-A Hybrid Approach To Cost-Benefit Analysis In Transport Infrastructure Projects,** Tiep Nguyen, Stephen Cook, Vernon Ireland and Indra Gunawan

(3) **10-Determining the Effects of Marketing Mix on Customers' Purchase Decision Using the Grey Model GM(0,N) - Case Study of the Western-style Coffeehouse Chains in Vietnam,** Yu-Chien Chai, Ying-Fang Huang and Hoang-Sa Dang

(4) **14-The Effect Of Ethanol, Butanol Addition On The Equivalence Air–Fuel Ratio, Engine Performance And Pollutant Emission Of An Si Engine Using Gasohol Fuels,** Nguyen Quang Trung, Huynh Tan Tien and Phan Minh Duc

Chair: Assoc. Prof. Dr. Nguyen Ngoc Phuong, *Ho Chi Minh City University of Technology and Education, Vietnam*
Dr. Nguyen Vu Lan, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1)   **52-Information Granulation of Linguistic Information as a Basis for Improving Consensus in Group Decision Making**, Francisco Javier Cabrerizo, Ignacio Javier Perez, Sergio Alonso, Raquel Ureña and Enrique Herrera-Viedma

(2)   **61-An adaptive Latent Semantic Analysis for Text mining**, Hong Tuyet Tu, Tuoi T. Phan and Khu P. Nguyen

(3)   **69- Applying of norm optimal iterative learning control on a multivariable test facility**, Thanh Van Dinh

(4)   **80-Development and Optimization of Automated Storage and Retrieval Algorithm in Warehouse by Combining the Storage Location Identification and Route Planning Method,** Ngoc Cuong Truong, Truong Giang Dang, Duy Anh Nguyen

(5)   **90-Design a Hybrid Energy System for Household using Small Vertical Wind Turbine**, Quoc Trong Nguyen, Hoang Lien Son Chau, Thien Ngon Dang, Duy Anh Nguyen

03:45pm - 05:25pm

Chair: Prof. Dr. Ming-Sen Hu, *Air Force Institute of Technology, Taiwan*
Prof. Dr. Francisco Javier Cabrerizo, *University of Granada, Spain*

(1)   **132-The Development of a High Vacuum Glove Box Control System with Cycling Cleaning and Regeneration,** Ming-Sen Hu and Liang-Hsiu Chen

(2)   **145-Predicting of the Performance of Franchise Industry using Grey models – Case study in United States,** Thuy-Mai-Trinh Nguyen, Jen-Der Day, Chia-Nan Wang and Hoang-Sa Dang

(3)   **194-Estimating the efficiency of Third party Logistics over the world,** Thi Kim Lien Nguyen and Jen-Der Day

(4)   **195-Using Super SBM Model for ranking: A case study of banks in Viet Nam,** Quoc Chien Luu, Gu-Hong Lin and Ngoc Bao Tu Nguyen

BS-10   Applied Physics and Thermal Engineering (14 papers)
Venue:Room No.A1-1206, 12th Floor, The Center Building
Saturday, July 22nd 2017

10:40am - 12:00am

Chair: Prof. Dr. Jyh-Horng Chou, *National Kaohsiung University of Applied Sciences, Taiwan*
Assoc. Prof. Dr. Hoang An Quoc, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1)   **1-Prediction Analysis of Oxygen Content in the Water for the Fish Farm in Southern Taiwan,** Po-Yuan Yang, Jinn-Tsong Tsai and Jyh-Horng Chou

(2)   **3-Solving The Problem Of Heat Transfer Of Cooling Shed For Animals,** Thai Ngoc Son, Vo Chi Chinh and Pham Quoc Thang

(3)   **13-Evaluation Of Heat And Mass Transfer Coefficients In Horizontal Tube Falling Film NH_3-H_2O Absorber,** Quoc-An Hoang, Hiep-Chi Le, Nghia-Hieu Nguyen

(4)   **27-Identification and Dynamic Matrix Control Algorithm for a Heating Process,** Vo Lam Chuong, Truong Nguyen Luan Vu and Lee Moonyong

01:30pm - 03:30pm

Chair: Prof. Dr. Dung-An Wang, *National Chung Hsing University, Taiwan*
Assoc. Prof. Dr. Dang Thanh Trung, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1)   **41-The Effect Of Different Geometrical Configurations On The Performances Of Gas–Liquid Cylindrical Cyclone Separators (GLCC),** Ho Minh Kha, Nguyen Ngoc Phuong and Nguyen Thanh Nam

(2)   **68-Environmental Enhancing Adhesion Properties Wood–Plastic Composites By Plasma At Atmospheric Pressure,** Tran Dam

(3)   **83-An Experimental Comparison Between A Microchannel Cooler And Conventional Coolers Of A Co_2 Air Conditioning Cycle**, Dangtri Ho, Thanhtrung Dang, Chihiep Le, and Tronghieu Nguyen

(4)   **96-Environmental Treating Wastewater From Laboratory By Plasma At Atmospheric Pressure,** Tran Dam

(5)   **122-Ultrasonic Spot Welds Of Carbon Paper And Proton – Exchange-Membrane For Applications In Membrane-Electrode-Assemblies Of Fuel Cells,** Quang Khoa Dang, Thien Ngon Dang, Fangbor Weng, and Dung-An Wang

(6)   **146-A High Dynamic Range, High Precision Framework For Measuring Machinery Part Using Structured Light**, Tu Nguyen, Truong Tran, Mai Nguyen and Tuan Pham

Chair: **Assoc. Prof. Dr. Tran Ngoc Dam,** *Ho Chi Minh City University of Technology and Education, Vietnam*
Dr. Le Minh Nhut, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1)   **171-Study On The Thixoforming For Pressing Process With Aluminum Material,** Nguyen Vinh Du, Pham Son Minh and Luu Phuong Minh

(2)   **174-Shoes Surface Bonding By Cold Plasma Technology,** Tran Ngoc Dam and Do Thai Quan

(3)   **203-Analytical Modeling Fast Pyrolysis Of Biomass Particles In Fluidized Bed Reactor,** Vu-Duy Pham, Huy-Quoc Nguyen, Vang-Van Tran, Lam-Nguyen Dinh and Hung-Duong Hoang

(4)   **209-Improvement Of Conventional Solar Drying System,** Nguyen Vu Lan

BS-11   Electrical Engineering (14 papers)
Venue: Room No.A1-1207, 12th Floor, The Center Building
Saturday, July 22nd 2017

10:40am - 12:00am

Chair: **Dr. Phan Van Ca,** *Ho Chi Minh City University of Technology and Education, Vietnam*
Dr. Nguyen Phan Thanh, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1)   **82-Sensorless Speed Control Of A Three-Phase Induction Motor: An Experiment Approach**, Vo Thanh Ha, Nguyen Van Thang, Duong Anh Tuan, Pham Thi Hong Hanh

(2)   **92-Implementation For Indirect Matrix Converter Fed Open-End Winding Load Using Space Vector Pulse Width Modulation,** Viet C. Nguyen ,Tuyen D. Nguyen, Nhuan A. Le, Dzung Q. Phan

(3)   **102-Robust Control For Buck Converter Based On Optimization,** Dao Phuong Nam, Tran Anh Vu, Nguyen Van Quyen, Nguyen Thi Viet Huong, Pham Thi Viet Huong

(4)   **108-Sliding Mode Control Of A Three Phase Induction Motor Based On Reference Model,** Vinh Quan Nguyen, Minh Tam Nguyen, Van Nho Nguyen and Hoai Nghia Duong

01:30pm - 03:30pm

Chair: **Prof. Dr. Han-Jung Song,** *Inje University, Korea*
Assoc. Prof. Dr. Huynh Thanh Cong, *Ho Chi Minh City University of Technology, Viet Nam*

(1)   **134-A Study On Development Of A Velocity-Time Measuring System For Motorcycles Using Wireless Connection**, Huynh Thanh Cong, Nguyen Ho Xuan Duy, Akihiko Azetsu, Nguyen Trong Thuc

(2)   **136-A Photovoltaic Emulator Using Dspace Controller With Simple Control Method And Fast Response Time**, Phuc Huu To and Dzung Phan

(3)   **137-Improving The Performance Of A Three Phase Current-Source Active Power Filter With A Predictor Algorithm**, Phuc Huu To

(4)   **151-Diagnostic Of Batteries Based On Microcontroller And Smartphone**, Pascal Maussion, Quoc Dzung Phan, Thanh Chi Le and Bruno Dagues

(5)   **178-Experimental Design Of Pc-Based Servo System**, H.-Q.-T. Ngo, T.-P. Nguyen, T.-S. Le, V.-N.-S. Huynh and H.-A.-M. Tran

(6)   **179-Modelling Of Logistic Network Of Disaster Relief Using Similarity To Electric Circuit,** Yorvarak Chata, Kazumasa Takahashi, Nob. Harada, Kazumasa Takahashi and Takashi Kikuchi

03:45pm - 05:25pm

Chair: **Prof. Dr. Hung-Ching Lu,** *Tatung University, Taiwan*
Dr. Nguyen Thi Mi-Sa, *Ho Chi Minh City University of Technology and Education, Vietnam*

(1)   **180-Multi Parametric Programming And Exact Linearization Based Model Predictive Control Of A Permanent Magnet Linear Synchronous Motor**, Dao Phuong Nam, Nguyen Hong Quang, Nguyen Manh Hung and Nguyen Trung Ty

(2)   **202-Tracking Design With Single-Input Cmac Based Sliding Mode Controller,** Hung-Ching Lu and Yu-Min Lin

(3)   **204-A Dual-Mode 1.8-V -Output Dc-Dc Buck Converter With On-Chip Capacitor Multiplier In 0.18 Um CMOS,** Van-Ha Nguyen, Yongsea Mo, Wonju Song, Sunghyun Ji, Wonyoung Jung and Hanjung Song

(4)   **205-Design Of A 5-V -Output Boost Dc-Dc Converter With Improved Protection Functions For Battery-Operated Devices,** Yongsea Mo, Wonju Song, Ja-kyeong Lee, Yeji Han, Sandeep Kumar and Han-Jung Song

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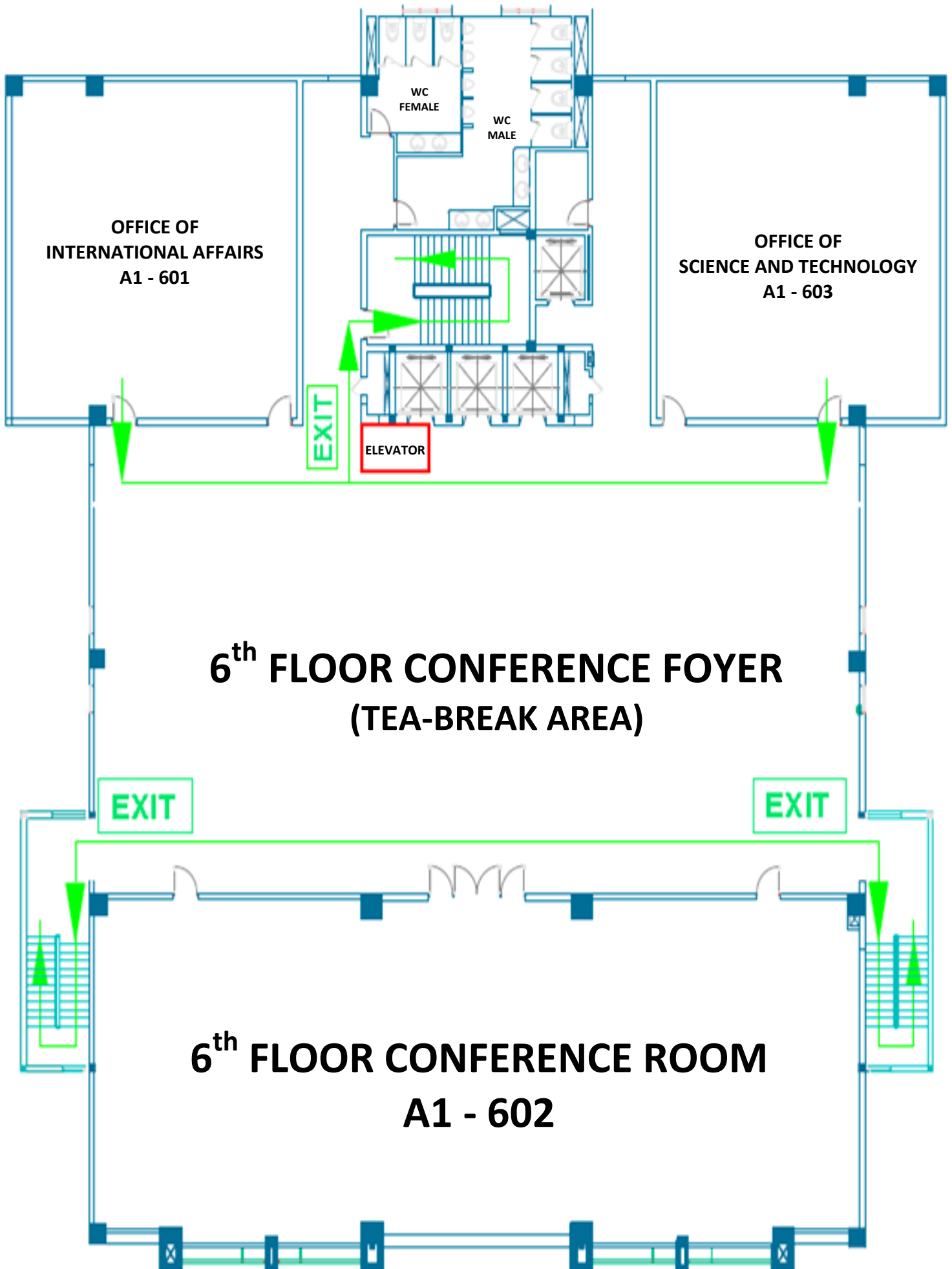
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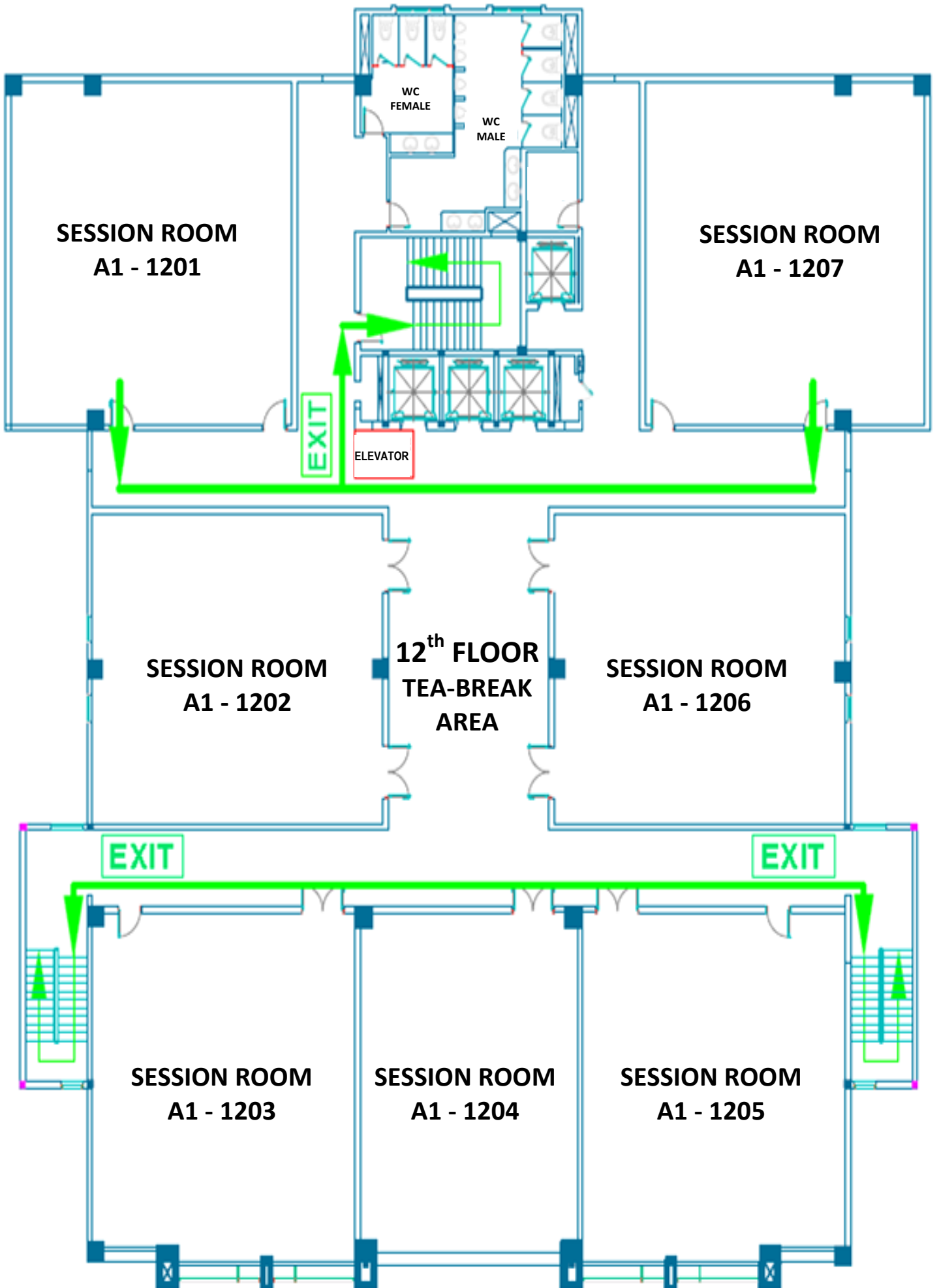**Nguyen Vu Lan**, HCMUTE, Vietnam
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SCIENCE AND TECHNOLOGY
A1 - 603

EXIT

ELEVATOR

6th FLOOR CONFERENCE FOYER
(TEA-BREAK AREA)

EXIT

EXIT

6th FLOOR CONFERENCE ROOM
A1 - 602

SESSION ROOM
A1 - 1201

SESSION ROOM
A1 - 1207

WC
FEMALE

WC
MALE

EXIT

ELEVATOR

SESSION ROOM
A1 - 1202

12th FLOOR
TEA-BREAK
AREA

SESSION ROOM
A1 - 1206

EXIT

EXIT

SESSION ROOM
A1 - 1203

SESSION ROOM
A1 - 1204

SESSION ROOM
A1 - 1205

FULL DAY SIGHSEEING HO CHI MINH CITY
23RD JULY 2017

Ho Chi Minh City (HCMC) is a city of commerce and culture center of Viet Nam. From the finest of hotels to the cheapest of guesthouses, the classiest of restaurants to the tastiest of street stalls, the choicest of boutiques to the scrum of the markets, HCMC is a city of energy and discovery.

Wander through timeless alleys to incense-infused temples before negotiating chic designer malls beneath sleek 21st-century skyscrapers. The ghosts of the past live on in buildings that one generation ago witnessed a city in turmoil, but now the real beauty of the former Saigon's urban collage is the seamless blending of these two worlds into one exciting mass.

TOUR PROGRAM:

08:00am Our bus will pick you up at Ho Chi Minh City Opera House (No.7, Cong Truong Lam Son Street, District 1) and then take tour with visits to

- *Independent Palace* built in 1869, former palace for the French governor of Indochina;
- *War Museum* which exhibits photographs and weapons of Vietnam wars,
- *Notre Dame Cathedral* built by French in 1883 and totally untouched by war, and
- *General Post Office* by the Cathedral.

12:00am Enjoy very good buffet lunch at local restaurant

01:30pm Explore the China Town, you will also see **Thien Hau pagoda** built in early 19th century,

- **Chinatown and Binh Tay market,** with a stop for a while at lacquer shop, you can buy some gifts for your friends, and then more shopping at
- **Ben Thanh market** and **Saigon Square**.

05:00pm Send you back to hotel.

End of trip.

HCMUTE

HO CHI MINH CITY
UNIVERSITY OF TECHNOLOGY AND EDUCATION

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