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Diamond-Sponsor:

Co-Sponsors:
It is a great pleasure for the organizing committee to welcome you to the annual International Conference on System Science and Engineering (ICSSE 2019), which is held this year in Quang Binh University, Dong Hoi City, Quang Binh Province, Vietnam.

System Science and Engineering is obviously the research field that covers a wide spectrum of modern technologies due to the nature that a system itself comprises many components or sub-systems which come from different scientific fields. Nowadays, the combination is becoming more and more sophisticated in accordance with the rapid developments of research achievements, operation requirements taking into account people, cultures, activities and inter-relationships among them. Nevertheless, the countless new concepts in the era of Industrial Revolution 4.0 with the so-called Internet of Things, Artificial Intelligence, Big Data, Hybrid Cloud Computing, Cyber-physical Systems, etc. are challenging those who have been already familiar and working well with the traditional systems to change their mindsets and deal with new methodologies. Technology advancement on one hand provides opportunities for improving system capabilities, but on the other hand introduces development risks that must be weighed and managed.

To keep going on with a very successful annual series of International conference on system science and engineering that has been initiated since 2010, we are delighted to organize ICSSE 2019 to continue the stream of research in the field, to expose the most recent achievements and to promote active participation and networking of all attendees and presenters via plenary presentation sessions, keynote addresses, interactive workshops and panel discussions. As usual, ICSSE 2019 is jointly organized by a consortium of esteemed institutions including Ho Chi Minh City University of Technology and Education (Vietnam), Quang Binh University (Vietnam) and Taiwan Association of System Science and Engineering (TASSE, Taiwan).

We would like to express our sincere thanks to all delegates, conference speakers, special guests, session chairmen, reviewers, sponsors, supporters, exhibitors and volunteers for making ICSSE 2019 this wonderful success.

We wish you a pleasant and memorable stay in Vietnam. Thank you very much for being with us.

Do Van Dung, HCMUTE, Vietnam
Yo-Ping Huang, NTUT, Taiwan
Hoang Duong Hung, QBU, Vietnam

General Chairmen, ICSSE 2019
Dear participants,

On behalf of Ho Chi Minh City University of Technology and Education, I am very pleased to welcome you, the distinguished guests, researchers, colleagues, authors and students to join in the IEEE International conference on System Science and Engineering (ICSSE 2019).

The era of Industry 4.0 is pushing all of us not only to come up with new innovative ideas for modern systems but also to renovate our working manner and methodologies to avoid the risk of being out-of-date. Therefore, among the countless number of scientific aspects, system science and engineering must always be the first to update and put into application the most modern achievements such as cyber-physical system, blockchain, internet of things, artificial intelligence, machine learning, big data, virtual reality and augmented reality, hybrid cloud computing, and so on. It is predicted that future systems could be human-like intelligent, sophisticated, automatically upgradable and even globally linked to increase their capability to many folds. We strongly believe that inventors and researchers in system science and engineering from all around the world are working extremely hard to make such prospect become true.

The series of ICSSE conference has been initiated since almost a decade ago by TASSE, Taiwan, in order to continuously observe and update the latest development through the annual exchange of scholars and experts of the field. This year, HCMUTE is pleased to take the second chance to organize ICSSE 2019 in cooperation with Quang Binh University, IEEE and TASSE. We are so proud to see that, like in the ICSSE 2017 in HCMUTE campus, we have now in Vietnam again participants from almost 20 countries, such as Australia, France, China, India, Indonesia, Italy, Japan, Kazakhstan, Malaysia, New Zealand, Russia, Singapore, South Africa, South Korea, Sri Lanka, Taiwan, Thailand, United Kingdom and Vietnam who are gathering here today to share their most up-to-date research results in engineering and technology through many fruitful in-depth discussions. For HCMUTE and QBU, the two Vietnamese higher education institutions, this event also brings back to us one more big important and meaningful advantage. It is truly a great opportunity for our faculty members, researchers and students to witness and update with the state-of-the-art knowledge which could be utilized later to enrich their teaching and learning contents with respective suitable teaching and learning methodologies. The two universities have been taking an enthusiastic role in the development of system science and engineering in Vietnam through research and training to help foster the future human resource with well-equipped knowledge for the field.

We would like to thank all participants for saving your valuable time to attend and contribute to the conference. Also, we deeply thank the organizing committee and the co-organizer institutions for their devoted efforts in the overall organization work.

Finally, Vietnam is well-known as a peaceful country for tourism with many world-class sightseeing places, one of which is Quang Binh Province with the world heritage Phong Nha Cave, beautiful mountains, rivers, streams and sea beaches. The ICSSE 2019 organizing committee would like to make use of this special occasion to offer you, especially the foreign guests, a good city tour on the last day of the conference time. Please kindly arrange your time and register for the tour at the earliest so that our organizing committee could do the best preparation for you.

I wish you good health, happiness and an enjoyable time in Vietnam!

Thank you!
OPENING SPEECH

Distinguished participants,
Ladies and gentlemen,

It is my great honor to deliver the opening speech on behalf of Quang Binh University, the Host university for the prestigious ICSSE International Conference in 2019.

First of all, I would like to warmly welcome you all here to beautiful Dong Hoi City to attend the IEEE International Conference on System Science and Engineering. Being a main co-partner of holding the conference on System Science and Engineering, we find it a great opportunity for learning from and experiencing an academic event of System Science and Engineering because it involves people, organizations, cultures, activities and interrelationships among them.

As a local university, we are fully aware of the significance of changes and innovation in many aspects for greater development of the university in specific, the province and the whole country Vietnam in general. We highly encourage and appreciate desires of sharing outstanding ideas, connecting scholars, researchers, people and organizations as a whole together finding solutions to problems in our lives. Therefore, it is the goal of the conference to bring together scholars from all areas, both local and international, to have a forum to discuss, demonstrate and exchange research ideas in the scope of system science and engineering.

With our significant efforts, we look forward to a great success of the conference. Hopefully, you earn a great time working in Dong Hoi City, with the best sharing and discussion. We also believe that participants from almost 20 countries, such as Australia, France, China, India, Indonesia, Italy, Japan, Kazakhstan, Malaysia, New Zealand, Russia, Singapore, South Africa, South Korea, Sri Lanka, Taiwan, Thailand, United Kingdom Viet Nam will share the same language of innovation in science to exchange their respective research achievements in engineering and technology through professional discussion.

In ICSSE 2019, there are totally 133 papers to be presented divided into 8 separated sessions with various scientific topics and distinguished chairmen. Participants are kindly invited to join in the sessions of their interest in order to gain the most knowledge and experience. To make sure you are familiar with QBU Campus and able to find the session room correctly, please refer to the Conference booklet for the information you need.

This event would not have been possible without the support of all the stakeholders. We would like to thank all participants for your invaluable participation and contribution to the conference. Many thanks also go to the organizing committee for their devoted assistance in the overall organization work. Despite the fact that Quang Binh University is the host of the event, we highly appreciate the cooperation of the outstanding team from Ho Chi Minh City University of Technology and Education. Such collaboration is for sure a milestone of the desirable brotherhood relationship between our two universities.

Thank you and best wishes!

Prof. Dr. Hoang Duong Hung,
President
Quang Binh University, Vietnam
CONFERENCE INFORMATION

In this 2nd time being held in Vietnam, the annual International Conference on Science System and Engineering (ICSSE 2019) is going to take place in the beautiful Dong Hoi City, Quang Binh Province on 19th-21st July 2019. Initiated and technically supported by the Taiwan Association of System Science and Engineering (TASSE) since 2010, the conference has been focusing on issues related to the global future of engineering and technology. ICSSE 2019 keeps featuring all active participation and networking in both formal and informal settings through dynamic keynote addresses and interactive sessions, workshops and panel discussions on system science and engineering.

The sophisticated interdisciplinary nature of new technologies and the impact of cyber-infrastructure appear to demand new and dramatic paradigms in engineering education, research and development. ICSSE 2019 is thus an opportunity bringing together a wide range of engineering and technology stakeholders from around the globe to explore and build up new capacities in engineering and technology education that are essential in creating environmentally and socially sustainable 21st century economies. This conference aims to enhance the latest trends and achievements that will shape the future worlds of engineering and technology education.

VENUE

All Conference sessions of ICSSE 2019 will be staged at the main campus of Quang Binh University (QBU) which is located at the Dong Hoi City of Quang Binh Province, only around 4km from Dong Hoi Airport. Founded in 1959, QBU (https://quangbinhuni.edu.vn/) is the only public education organization in Quang Binh province for multi-disciplinary, multi-level education including Junior College, Bachelor and Master. Its mission is to train highly-qualified human resources primarily for Quang Binh and neighboring provinces in the central part of Vietnam; to promote international cooperation and collaboration with foreign universities in training, scientific research and culture exchanging; and to support training for the border provinces of Laos. Over more than half a century of establishment and development, with great contribution in education and training, the university has been honored with the Victory Medal, the Resistance Medal, the Labor Medal and Competitive Flag, Merit the Government, Ministry of Education & Training and Quang Binh Province.

CONFERENCE REGISTRATION

The Conference Registration desk is located at the Conference Hall, at the main campus of QBU, with the following opening hours:

Day 1: Friday, July 19th, 2019
From 02:00pm to 08:00pm

Day 2: Saturday, July 20th, 2019
From 07:00am to 08:00pm

Day 3: Sunday, July 21st, 2019
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 Q&A 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 and fill gaps made by “no-show” with actual presentations or active discussion but don’t get out of the program sequence, please.

INFORMATION FOR SESSION CHAIRMEN

A chairman has been invited for every keynote session or paper presentation session. Chairmen are requested to maintain timelines. Please assure the time allowed for each paper presentation.

CONFERENCE PROCEEDINGS AND PUBLICATION

All selected papers have been carefully peer-reviewed by reviewing committee and all presented papers will appear in the published proceedings with ISBN 978-1-7281-0525-3 (Xplore Compliant), Online ISSN 2325-0925, 978-1-7281-0523-9 (CD-ROM) and 978-1-7281-0524-6 (USB).

AWARDS

In ICSSE 2019, Best Paper Awards will be presented to recognize excellent research and presentations.

• The awards will be announced and given during the Gala Banquet on Saturday, July 20th 2019.
• Judges’ decision is the objective final conclusion according to preset standards.
• The judges reserve the right not to award Best Paper awards.
ICSSE 2019 Best Paper Award Selection Criteria

- Present original and accurate scholarly work or practice
- The paper has been pre-registered
- The paper must be orally presented for evaluation
- Be comprehensively detailed and 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
KEYNOTE SPEAKERS

Prof. Dr. Imre J. Rudas
Head of Steering Committee of University Research and Innovation Center
Óbuda University, Budapest, Hungary.
E-mail: rudas@uni-obuda.hu

Imre J. Rudas graduated from Bánki Donát Polytechnic, Budapest in 1971, received the Master Degree in Mathematics from the Eötvös Loránd University, Budapest, the Ph.D. in Robotics from the Hungarian Academy of Sciences in 1987, while the Doctor of Science degree from the Hungarian Academy of Sciences in 2004. He received Doctor Honoris Causa degree from the Technical University of Košice, Slovakia, from "Polytechnica" University of Timisoara, Romania, from Óbuda University, and from Slovak University of Technology in Bratislava. He was awarded by the Honorary Professor title of Wroclaw University of Technology in 2013. He is active as a full university professor. He served as the President of Budapest Tech from 2003 till 2010. He was the founder of Óbuda University, the successor of Budapest Tec and was elected as the first President in the period 2010-2014. He served as the President of the Hungarian Rector’s Conference and member of European University Association in 2008. Now he is the Head of the Steering Committee of the University Research and Innovation Center. He has been the president of the Central European Living Lab for Intelligent Robotics since 2014.

He is a Fellow of IEEE, Senior AdCom member of Industrial Electronics Society (IES), he served IES as a Vice-President in 2000-2001. He was elected as the Vice-President for Membership and Student Activities in IEEE System, Man and Cybernetics Society for the period 2015-2016. He is the Senior Past Chair of IEEE Hungary Section. He served IFSA (International Fuzzy System Association) as Vice-President and Treasurer for a period of 7 years; he had been the President of Hungarian Fuzzy Association for ten years. He had been the Vice-President of the Hungarian Academy of Engineers for four years. He serves as an associate editor of some scientific journals, including IEEE Transactions on Industrial Electronics, member of editorial board of Journal of Advanced Computational Intelligence, Editor-in-Chief of Acta Polytechnica Hungarica, member of various national and international scientific committees. He is the founder of the IEEE International Conference Series on Intelligent Engineering Systems (INES), IEEE International Conference on Computational Cybernetics (ICCC), IEEE International Symposium on Computational Intelligence and Informatics (CINTI, since 2000), IEEE International Symposium on Machine Intelligence and Informatics (SAMI, since 2003), IEEE International Symposium on Intelligent Systems and Informatics (SISY, since 2003), IEEE International Symposium on Applied Computational Intelligence and Informatics (SACI, since 2004), IEEE International Symposium on Logistics and Industrial Informatics (LINDI, since 2007). He has served as General Chair and Program Chair of numerous scientific international conferences. His present areas of research activities are Computational Cybernetics, Robotics, Cloud Robotics, Internet of Anything, Soft Computing, Fuzzy Control and Fuzzy Sets. He has edited and/or published 22 three books, published more than 800 papers in international scientific journal, conference proceedings and book chapters, and received more than 2000 citations.
Topic: Cyber-Physical System of Systems

Abstract:
Cyber-Physical Systems (CPSs) are the key elements of the Forth Industrial Revolution (Industry 4.0) that started in the early 2010s. Since that time the development has dramatically accelerated, increasing number of existing and distributed CPSs are integrated providing services that go beyond the services of any of its isolated CPSs forming Cyber-Physical Systems of Systems (CPSoS). In the world of CPSoS a new type of Internet should connect any objects, any devices, any knowledge, any cyber-physical systems, any firms, companies, anyone, ...i.e., anything! This is the basic idea of the term: Internet of Anything (IoA). Internet of Anything is the interconnection of any things (devices, systems, skills), anyone, anywhere and anytime within the existing Internet infrastructure. Our research team investigates new ideas to connect distributed CPSs systems and system elements (sensors, actuators, control logic, intelligent machines, data logging and data mining) to each other and represents them in a Virtual World forming a general-purpose information pool, which allows for large-scale CPSoS. The presentation summarizes the results and ideas of the software engine developed by our team, called MAXWHERE that provides effective working environments with spatial (Virtual Reality) multimodal arrangement and intelligent connectivity. The fundamental idea behind MAXWHERE is the generalization of the Document Object Model (DOM) introducing the Where Object Model (WOM) concept that covers the conventional WEB contents as well as the VR/AR building blocks in a coherent way empowered by the newest generation web APIs.

Typical applications of MAXWHERE includes industrial monitoring and facility support, context-based collaborative working environment, industrial training, and Interactive live presentations.
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.


Title: Complex Networks

Abstract:

The Internet, social networks, power grids, gene regulatory networks, neuronal systems, food webs, social systems, and networks emanating from augmented and virtual reality platforms are all examples of complex networks. Collection and analysis of data from these networks is essential for their understanding. Traffic traces collected from various deployed communication networks and the Internet have been used to characterize and model network traffic, analyze network topologies, and classify network anomalies. Data mining and statistical analysis of network data have been employed to determine traffic loads, analyze patterns of users’ behavior, and predict future network traffic while spectral graph theory has been applied to analyze network topologies and capture historical trends in their development. Recent machine learning techniques have proved valuable for predicting anomalous traffic behavior and for classifying anomalies in complex networks. Further applications of these tools will help improve our understanding of the underlying mechanisms that govern behavior, improve their performance, and enhance their security of social networks such as Facebook, LinkedIn, Twitter, Internet blogs, forums, and websites.
Yo-Ping Huang received the Ph.D. degree in electrical engineering from Texas Tech University, Lubbock, TX, USA. He is currently a Professor in the Department of Electrical Engineering and Director of AIOT R&D Center, National Taipei University of Technology, Taipei, Taiwan, where he served as the Secretary General. He was a Professor and the Dean of Research and Development, the Dean of the College of Electrical Engineering and Computer Science, and the Department Chair with Tatung University, Taipei. His current research interests include fuzzy systems design and modeling, deep learning modeling, intelligent control, medical data mining, and rehabilitation systems design.

Prof. Huang serves as the President of the Taiwan Association of Systems Science and Engineering, IEEE SMCS BoG, Chair of the IEEE SMCS Technical Committee on Intelligent Transportation Systems, Associate Editor of IEEE Trans. on SMC: Systems, Associate Editor of Int. Journal of Fuzzy Systems, and the Chair of the Taiwan SIGSPATIAL ACM Chapter. He was the Chair of IEEE SMCS Taipei Chapter, the Chair of the IEEE CIS Taipei Chapter, and the CEO of the Joint Commission of Technological and Vocational College Admission Committee, Taiwan. He is an IET Fellow and an International Association of Grey System and Uncertain Analysis Fellow.

**Topic: AloT Systems and their Applications**

**Abstract:**
Through several waves of downhills and uphills in the past decades, Artificial Intelligence (AI) has now evolved into a must have new technology or tool in every domain. Furthermore, with the advent of powerful GPU, AI-related research or AI-based applications have sprouted in every corner of the world. Originated from pure internet connectivity the Internet of Things (IoT) has become a structure that can collect every piece of data from physical devices, daily activities, images or video into a data reservoir. As a result, tons of data are automatically generated into an enterprise database in a single day. This creates continuing demands on applying AI, IoT, and big data analytics to extract juicy contents from the huge databases. This talk will address from the AI and IoT, big data mining and system engineering perspective for systems developed to resolve the sensing, networking and applications faced in healthcare, defect image detection in manufacturing, and agriculture. Case study of AIOT in exercise monitoring and control using Kinect and Tensor flow, rehabilitation monitoring and tracking on joint rehabilitation monitoring after Total Knee Arthroplasty Reconstruction (TKA), Parkinson's Disease (PD) using sensor devices, ophthalmological images classification, AOI defect image detection and labelling, fruit, vegetable and fish growth monitoring will be demonstrated in the talk.
## PROGRAM OUTLINE

### IMPORTANT INFORMATION FOR ALL PARTICIPANTS

- Please wear your ICSSE 2019 Conference name tag at all times to gain admission to presentation in break-out rooms.
- Name tags and tickets are also required for Conference Gala Banquet.
- In case you may need any further information about the conference, please ask the student assistant volunteers or committee members.

### FRIDAY, JULY 19th 2019

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<td>Registration</td>
<td>Conference Hall, The Main Campus of Quang Binh University</td>
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<tr>
<td>03:30 pm - 05:30 pm</td>
<td>Committee Meeting</td>
<td>Conference Hall, The Main Campus of Quang Binh University</td>
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<tr>
<td>06:00 pm - 08:00 pm</td>
<td>Welcome dinner</td>
<td>Sai Gon Quang Binh Hotel, 20 Quach Xuan Ky street, Hai Dinh Ward, Dong Hoi City</td>
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</tbody>
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### SATURDAY, JULY 20th 2019

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<tr>
<th>Time</th>
<th>Event</th>
<th>Venue</th>
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<tbody>
<tr>
<td>07:00 am - 05:30 pm</td>
<td>Registration</td>
<td>Conference Hall, The Main Campus of Quang Binh University</td>
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<tr>
<td>07:30 am - 08:10 am</td>
<td>Opening Ceremony</td>
<td>The Main Campus of Quang Binh University</td>
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<td>Music Performance of QBU students</td>
<td>The Main Campus of Quang Binh University</td>
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<td>Introduction</td>
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<td>Opening Welcome</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>08:10 am - 09:00 am</td>
<td>Keynote Address 1</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>09:00 am - 09:50 am</td>
<td>Keynote Address 2</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>09:50 am - 10:05 am</td>
<td>VinTech City – Universities: Research Partnership Program</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:05 am - 10:10 am</td>
<td>Group Photo</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:10 am - 10:30 am</td>
<td>Morning Tea break</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.2 (BS-2)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Neural Networks and Fuzzy Systems</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Venue: Room No. 2</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.3 (BS-3)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Renewable Energy and Power Systems</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Venue: Room No. 3</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.4 (BS-4)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Information and Communication Engineering</td>
<td>The Main Campus of Quang Binh University</td>
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<td>Venue: Room No. 4</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.5 (BS-5)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Industrial Engineering and Management</td>
<td>The Main Campus of Quang Binh University</td>
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<td>Venue: Room No. 5</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.6 (BS-6)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Electrical and Electronics Engineering</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Venue: Room No. 6</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.7 (BS-7)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Mechatronics Engineering</td>
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<td>Venue: Room No. 7</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td>10:30 am - 12:00 am</td>
<td>Breakout session No.8 (BS-8)</td>
<td>The Main Campus of Quang Binh University</td>
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<td></td>
<td>Topic: Mechanical and Automotive Engineering</td>
<td>The Main Campus of Quang Binh University</td>
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<tr>
<td></td>
<td>Venue: Room No.8 (Conference Hall)</td>
<td>The Main Campus of Quang Binh University</td>
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<td>12:00 am - 01:30 pm</td>
<td>Lunch break</td>
<td>Luxe Palace Restaurant, No. 35 Tran Quang Khai Street, Dong Hoi City, Quang Binh Province</td>
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<td>(Pick up service will be available and covered by Organisers)</td>
<td>Luxe Palace Restaurant, No. 35 Tran Quang Khai Street, Dong Hoi City, Quang Binh Province</td>
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**SATURDAY, JULY 20th 2019 (Cont.)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
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</table>
| **01:30pm - 03:00pm** | Breakout session No.1 (BS-1)  
Topic: *Special Session (Student authors)*  
Venue: Room No. 1  

Breakout session No.2 (BS-2)  
Topic: *Neural Networks and Fuzzy Systems*  
Venue: Room No. 2  

Breakout session No.3 (BS-3)  
Topic: *Renewable Energy and Power Systems*  
Venue: Room No. 3  

Breakout session No.4 (BS-4)  
Topic: *Information and Communication Engineering*  
Venue: Room No. 4  

Breakout session No.5 (BS-5)  
Topic: *Industrial Engineering and Management*  
Venue: Room No. 5  

Breakout session No.6 (BS-6)  
Topic: *Electrical and Electronics Engineering*  
Venue: Room No. 6  

Breakout session No.7 (BS-7)  
Topic: *Mechatronics Engineering*  
Venue: Room No. 7  

Breakout session No.8 (BS-8)  
Topic: *Mechanical and Automotive Engineering*  
Venue: Room No. 8 *(Conference Hall)*  |
| **03:30pm - 03:50pm** | Afternoon Tea break  
Venue: At session sites, respectively |
| **03:50pm - 05:30pm** | Breakout sessions (BS-1 to BS-8)  
Topics and Venues: Same as above  |
| **06:00pm - 08:00pm** | Gala banquet  
Venue: Luxe Palace Restaurant,  
No. 35 Tran Quang Khai Street, Dong Hoi City, Quang Binh Province  
(Pick up service will be available and covered by Organisers) |

**SUNDAY, JULY 21st 2019**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Details</th>
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</table>
| **08:00am - 08:30am** | Registration  
Venue: The Main Campus of Quang Binh University |
| **08:30am - 08:50am** | Opening Welcome  
Music Performance of QBU students  
Representative of Board of President, QBU  
Venue: The Main Campus of Quang Binh University |
| **08:50am - 09:40am** | Keynote Address 3  
Venue: The Main Campus of Quang Binh University |
| **09:40am - 10:00am** | Morning Tea break  
Venue: The Main Campus of Quang Binh University |
| **10:00am - 11:30am** | Breakout session No.2 (BS-2)  
Topic: *Neural Networks and Fuzzy Systems*  
Venue: Room No. 2  

Breakout session No.4 (BS-4)  
Topic: *Information and Communication Engineering*  
Venue: Room No. 4  

Breakout session No.6 (BS-6)  
Topic: *Electrical and Electronics Engineering*  
Venue: Room No. 6  

Breakout session No.7 (BS-7)  
Topic: *Mechatronics Engineering*  
Venue: Room No. 7  |
| **11:30am - 01:00pm** | Lunch  
Venue: Luxe Palace Restaurant,  
No. 35 Tran Quang Khai Street, Dong Hoi City, Quang Binh Province  
(Pick up service will be available and covered by Organisers) |
DETAILED CONFERENCE PROGRAM

FRIDAY, JULY 19th 2019

2:00pm - 03:30pm  Registration
3:30pm - 05:30pm  Committee Meeting
   Venue: Conference Hall, The Main Campus of Quang Binh University

6:00pm - 08:00pm  Welcome dinner
   Venue: Sai Gon Quang Binh Hotel, 20 Quach Xuan Ky Street, Hai Dinh Ward, Dong Hoi City

SATURDAY, JULY 20th 2019

07:00am   Registration
   Venue: Conference Hall, The Main Campus of Quang Binh University

07:30am   Opening Ceremony
   Venue: Conference Hall, The Main Campus of Quang Binh University
   Music Performance of QBU students
   Introduction
   Dr. Vo Thi Dung, Director, Department of Scientific Management and International Relations, QBU, Vietnam
   Opening & Welcome
   Prof. Dr. Do Van Dung, President, HCMUTE, Vietnam
   Prof. Dr. Yo-Ping Huang, President of TASSE, Taiwan
   Prof. Dr. Hoang Duong Hung, President, QBU, Vietnam
   Guest of Honors
   Dr. Tran Nam Tu, Representative of Ministry of Education and Training
   Presenting Flowers and Certificate to Keynote Speakers and Sponsors

08:10am   Keynote Address
   Venue: Conference Hall, The Main Campus of Quang Binh University
   Chair: Assoc. Prof. Dr. Ngo Van Thuyen, HCMUTE, Vietnam
   Keynote Address 1:
   Cyber-Physical System of Systems
   Prof. Dr. Imre J. Rudas
   Head of Steering Committee of University Research and Innovation Center Óbuda University, Budapest, Hungary
   Keynote Address 2:
   Complex Networks
   Prof. Dr. Ljiljana Trajkovic
   School of Engineering Science Simon Fraser University, Canada

9:50am   VinTech City – Universities: Research Partnership Program
   Representative of VinTech City
   Venue: Conference Hall, The Main Campus of Quang Binh University

10:05am   Group Photo
   Venue: Conference Hall, The Main Campus of Quang Binh University

10:10am   Morning Tea
   Venue: Conference Hall, The Main Campus of Quang Binh University

10:30am - 05:30pm  Paper Presentations - Breakout Sessions
   Venue: Session Rooms (No.1-8), The Main Campus of Quang Binh University

   (12:00am - 01:30pm    Lunch break)
   (03:30pm - 03:50pm    Afternoon Tea break)
   (06:00pm - 08:00pm    Gala banquet)
### SUNDAY, JULY 21st 2019

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>08:00am</td>
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<td><strong>Music Performance of QBU students</strong></td>
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<td><strong>Introduction</strong></td>
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<tr>
<td></td>
<td><em>Dr. Vo Thi Dung</em>, Director, Department of Scientific Management and International Relations, QBU, Vietnam</td>
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<tr>
<td></td>
<td><strong>Opening Welcome</strong></td>
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<td><em>Prof. Dr. Hoang Duong Hung</em>, President, QBU, Vietnam</td>
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<td>Venue: Conference Hall, The Main Campus of Quang Binh University</td>
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<tr>
<td>08:50am</td>
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<td>Venue: Conference Hall, The Main Campus of Quang Binh University</td>
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<td>Chair: <em>Assoc. Prof. Dr. Hoang An Quoc</em>, HCMUTE, Vietnam</td>
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<tr>
<td></td>
<td><strong>Keynote Address 3:</strong></td>
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<td></td>
<td><strong>AloT Systems and their Applications</strong></td>
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<tr>
<td></td>
<td><em>Prof. Yo-Ping Huang</em></td>
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<td></td>
<td>Department of Electrical Engineering, National Taipei University of Technology</td>
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<td>09:40am</td>
<td>Morning Tea</td>
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<td>Venue: Conference Hall, The Main Campus of Quang Binh University</td>
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<tr>
<td>10:00am-11:30am</td>
<td>Paper Presentations - Breakout Sessions</td>
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<tr>
<td>11:30am-01:00pm</td>
<td>Lunch break</td>
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<td>Venue: Luxe Palace Restaurant,</td>
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### SESSION CHAIRMEN

**SATURDAY, JULY 20th 2019**

<table>
<thead>
<tr>
<th>Breakout session No. 1 (BS-1)</th>
<th>Time</th>
<th>Chairmen</th>
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</thead>
<tbody>
<tr>
<td><strong>Topic: Special Session (Student authors)</strong></td>
<td>01:30pm – 03:30pm</td>
<td>Prof. Dr. Wen-June Wang, Taiwan</td>
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<td>Assoc. Prof. Dr. Pei-Jun Lee, Taiwan</td>
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<td>Assoc. Prof. Dr. Truong Dinh Nhon, Vietnam</td>
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<td>03:50pm – 05:30pm</td>
<td>Prof. Dr. Wen-June Wang, Taiwan</td>
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<td>Assoc. Prof. Dr. Truong Dinh Nhon, Vietnam</td>
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<td><strong>Venue: Room No. 1</strong></td>
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<tr>
<th>Breakout session No. 2 (BS-2)</th>
<th>Time</th>
<th>Chairmen</th>
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<tbody>
<tr>
<td><strong>Topic: Neural Networks and Fuzzy Systems</strong></td>
<td>10:30am – 12:00am</td>
<td>Prof. Dr. Chen-Chien Hsu, Taiwan</td>
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<tr>
<td></td>
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<td>Dr. Fuminori Kobayashi, Japan</td>
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<td></td>
<td>01:30pm – 03:30pm</td>
<td>Prof. Dr. Huei-Yung Lin, Taiwan</td>
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<td>Dr. Pham Ngoc Son, Vietnam</td>
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<td></td>
<td>03:50pm – 05:30pm</td>
<td>Prof. Dr. Chen-Chien Hsu, Taiwan</td>
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<td>Dr. Shang-Chih Lin, Taiwan</td>
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<td><strong>Venue: Room No. 2</strong></td>
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<tr>
<th>Breakout session No. 3 (BS-3)</th>
<th>Time</th>
<th>Chairmen</th>
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<tbody>
<tr>
<td><strong>Topic: Renewable Energy and Power Systems</strong></td>
<td>10:30am – 12:00am</td>
<td>Dr. Vu Van Phong, Taiwan</td>
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<td>Dr. Dinh Truc Ha, Vietnam</td>
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<td></td>
<td>01:30pm – 03:30pm</td>
<td>Dr. Dao Phuong Nam, Vietnam</td>
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<td>Dr. Tran Vi Do, Vietnam</td>
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<td></td>
<td>03:50pm – 05:30pm</td>
<td>Assoc. Prof. Dr. Hoang An Quoc, Vietnam</td>
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<td>Dr. Vu Van Phong, Vietnam</td>
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<td><strong>Venue: Room No. 3</strong></td>
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<tr>
<th>Breakout session No. 4 (BS-4)</th>
<th>Time</th>
<th>Chairmen</th>
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<tbody>
<tr>
<td><strong>Topic: Information and Communication Engineering</strong></td>
<td>10:30am – 12:00am</td>
<td>Dr. Pritpal Singh, India</td>
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<td>Dr. Pham Ngoc Hung, Vietnam</td>
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<td></td>
<td>01:30pm – 03:30pm</td>
<td>Prof. Dr. Chan-Yun Yang, Taiwan</td>
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<td>Dr. Hoang Van Dung, Vietnam</td>
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<td>03:50pm – 05:30pm</td>
<td>Prof. Dr. Yue-Shan Chang, Taiwan</td>
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<td>Assoc. Prof. Dr. Jiann-Jone Chen, Taiwan</td>
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<td><strong>Venue: Room No. 4</strong></td>
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<tr>
<th>Breakout session No. 5 (BS-5)</th>
<th>Time</th>
<th>Chairmen</th>
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<tr>
<td><strong>Topic: Industrial Engineering and Management</strong></td>
<td>10:30am – 12:00am</td>
<td>Prof. Dr. Josef Langerman, South Africa</td>
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<td>Dr. Nguyen Quoc Khanh, Vietnam</td>
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<td>01:30pm – 03:30pm</td>
<td>Assoc. Prof. Dr. Chih-Hua Tai, Taiwan</td>
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<td>Dr. Nguyen Phan Anh Huy, Vietnam</td>
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<td>03:50pm – 05:30pm</td>
<td>Assoc. Prof. Dr. Chih-Hua Tai, Taiwan</td>
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<td>Dr. Nguyen Phan Anh Huy, Vietnam</td>
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<td><strong>Venue: Room No. 5</strong></td>
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<th>Breakout session No. 6 (BS-6)</th>
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<tr>
<td><strong>Topic: Electrical and Electronics Engineering</strong></td>
<td>10:30am – 12:00am</td>
<td>Prof. Dr. Kuang-Yow Lian, Taiwan</td>
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<td>Prof. Dr. Hsuan-Ming Feng, Taiwan</td>
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<td>01:30pm – 03:30pm</td>
<td>Prof. Dr. Chih-Min Lin, Taiwan</td>
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<td>Prof. Dr. Ching-Chih Tsai, Taiwan</td>
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<td>03:50pm – 05:30pm</td>
<td>Dr. Le My Ha, Vietnam</td>
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<td>Dr. Kavalchuk Ilya, Vietnam</td>
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<td><strong>Venue: Room No. 6</strong></td>
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<th>Breakout session No. 7 (BS-7)</th>
<th>Time</th>
<th>Chairmen</th>
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<tr>
<td><strong>Topic: Mechatronics Engineering</strong></td>
<td>10:30am – 12:00am</td>
<td>Assoc. Prof. Dr. Nguyen Truong Thinh, Vietnam</td>
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<td>Assoc. Prof. Dr. Do Duc Ton, Kazakhstan</td>
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<td>01:30pm – 03:30pm</td>
<td>Assoc. Prof. Dr. Dang Thien Ngon, Vietnam</td>
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<td>Dr. Nguyen Viet Hung, Vietnam</td>
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<td>03:50pm – 05:30pm</td>
<td>Assoc. Prof. Dr. Dang Thien Ngon, Vietnam</td>
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<td>Dr. Tran Ngoc Dang Khoa, Vietnam</td>
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<td><strong>Venue: Room No. 7</strong></td>
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<tr>
<th>Breakout session No. 8 (BS-8)</th>
<th>Time</th>
<th>Chairmen</th>
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<tr>
<td><strong>Topic: Mechanical and Automotive Engineering</strong></td>
<td>10:30am – 12:00am</td>
<td>Prof. Dr. Youn Cheol Park, Korea</td>
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<td>Dr. Le Minh Nut, Vietnam</td>
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<td>01:30pm – 03:30pm</td>
<td>Assoc. Prof. Dr. Dang Thanh Trung, Vietnam</td>
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<td>Dr. Hoang Trung Kien, Vietnam</td>
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<td>03:50pm – 05:30pm</td>
<td>Assoc. Prof. Dr. Do Thanh Trung, Vietnam</td>
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<td>Assoc. Prof. Dr. Van Huu Thinh, Vietnam</td>
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| Breakout session No. 2 (BS-2) | 10:30am – 11:30am | Prof. Dr. Kang-Hyun Jo, Korea  
Dr. Zhongyang Han, China |
---|---|---|
**Topic:** Neural Networks and Fuzzy Systems  
**Venue:** Room No. 2 |
| Breakout session No. 4 (BS-4) | 10:30am – 11:30am | Assoc. Prof. Dr. Phan Van Ca, Vietnam  
Dr. Dang Xuan Ba, Vietnam |
---|---|---|
**Topic:** Information and Communication Engineering  
**Venue:** Room No. 4 |
| Breakout session No. 6 (BS-6) | 10:30am – 11:30am | Assoc. Prof. Dr. Vo Viet Cuong, Vietnam  
Assoc. Prof. Dr. Truong Dinh Nhon, Vietnam |
---|---|---|
**Topic:** Electrical and Electronics Engineering  
**Venue:** Room No. 6 |
| Breakout session No. 7 (BS-7) | 10:30am – 11:30am | Assoc. Prof. Dr. Nguyen Truong Thinh, Vietnam  
Dr. Le Van Nhu, Vietnam |
---|---|---|
**Topic:** Mechatronics Engineering  
**Venue:** Room No. 7 |
BREAKOUT SESSIONS OF DAY 2
(SATURDAY, JULY 20th 2019)

BS-1 Special Session (Student authors, 11 papers)
Venue: Room No. 1
Saturday, July 20th 2019

01:30pm - 03:30pm
Chair: Prof. Dr. Wen-June Wang, National Central University, Taiwan
       Prof. Dr. Pei-Jun Lee, National Chi Nan University, Taiwan
       Assoc. Prof. Dr. Truong Dinh Nhon, Ho Chi Minh City University of Technology and Education, Vietnam
(1) 10-Control of Mobile Robot to Track Target by Using Image Processing, Quang Thinh Truong, Ha Quang Thinh Ngo, Thanh Phuong Nguyen and Hung Nguyen
(2) 38-Human Detection and Tracking for Autonomous Human-following Quadcopter, Manh-Cuong Le and My-Ha Le
(3) 75-Prediction of Tourist Behaviour : Tourist Visiting Places by Adapting Convolutional Long Short-Term Deep Learning, Jaruwan Kanjanasupawan, Tipajin Thaipisutikul, Yi-Cheng Chen, Timothy K. Shih and Anongnart Srivihok
(4) 77-A Generalized Space Vector Modulation for Cascaded H-Bridge Multi-Level Inverter, Chung Mai Van, Phuong Vu Hoang, Son Pham Cong, Tu Nguyen Xuan, Minh Tran Trong and Lien Nguyen Van
(6) 98-MPPT Design for a DC Stand-Alone Solar Power System with Partial Shaded PV Modules, Ngo Sy, Chian-Song Chiu and Wei-En Shao

03:30pm - 05:30pm
Chair: Prof. Dr. Wen-June Wang, National Central University, Taiwan
       Prof. Dr. Pei-Jun Lee, National Chi Nan University, Taiwan
       Assoc. Prof. Dr. Truong Dinh Nhon, Ho Chi Minh City University of Technology and Education, Vietnam
(1) 157-A Quasi-Z-Source T-Type Inverter with Fault-Tolerant Capability, Duc-Tri Do, Minh-Khai Nguyen, Thanh-Hai Quach, Van-Nho Nguyen, Thanh-Phuong Nguyen and Vinh-Thanh Tran
(2) 158-A Novel Offset Function for Three-Level T-Type Inverter to Reduce Switching Loss, Vinh-Thang Tran, Thanh-Hai Quach, Duc-Tri Do, Minh-Khai Nguyen, My-Ha Le and Ngoc-Anh Truong
(3) 162-Mango Classification System Uses Image Processing Technology and Artificial Intelligence, Nguyen Duc Thong, Nguyen Truong Thinh and Huynh Thanh Cong
(4) 163-Application of Intelligent Lighting Control for Street Lighting System, Nguyen Van Doai and Tran Phuong Nam

BS-2 Neural Networks and Fuzzy Systems (15 papers)
Venue: Room No. 2
Saturday, July 20th 2019

10:30am - 12:00am
Chair: Prof. Dr. Chen-Chien Hsu, National Taiwan Normal University, Taiwan
       Dr. Fuminori Kobayashi, Kyushu Institute of Technology (retired), Japan
(1) 8-Robust U-Net-Based Road Lane Markings Detection for Autonomous Driving, Le-Anh Tran and My-Ha Le
(2) 17-Adaptive Dynamic Surface Control for Path Following of Ships, Tuan Nguyen Khac, Dung Vo Tien, Le Ngo Thi and Thang Le Tran
(3) 24-Space-and-Cost-Efficient Neural Control/Sensory Element Using an Analog FPGA, Fuminori Kobayashi and Tetsuo Furukawa
(4) 47-Adaptive Neural Network Controller-Based Chattering-Free Sliding Mode for 6-DOF Industrial Manipulators, Minh-Chi Le, Shun-Feng Su, Van-Truong Nguyen, Lee-Wei Chen and Van-Yen Nguyen.
01:30pm - 03:30pm
Chair: Prof. Dr. Huei-Yung Lin, National Chung Cheng University, Taiwan
Dr. Pham Ngoc Son, Ho Chi Minh City University of Technology and Education, Vietnam
(1) 50-A Time-Frequency Signal-Based Convolutional Neural Network Algorithm for Fault Diagnosis of Gasoline Engine Fuel Control System, Shang-Chih Lin, Shun-Feng Su and Yennun Huang
(2) 54-Remote HeartRate Measurement Based on Signal Feature Detection in Time Domain, Bing-Fei Wu, Bing-Ruei Tsai, Yin-Cheng Tsai, Yin-Yin Yang, Po-Wei Huang and Kuan-Hung Chen
(3) 63-Using BEMD in CNN to Identify Landslide in Satellite Image, Trong-An Bui, Pei-Jun Lee, Kai-Yew Lum, Chia-Ray Chen and Shiuan-Hal Shiu
(4) 71-Development of a 3D Semantic Segmentation Camera Based on Mask Regional Convolutional Neural Network, Van Luan Tran and Huei-Yung Lin
(5) 95-A Method for High Resolution Satellite Image Compression Using Type-1 and Type-2 Fuzzy Sets, Pritpal Singh, Yo-Ping Huang, Tsu-Tian Lee and Hoang An Quoc

03:50pm - 05:30pm
Chair: Prof. Dr. Chen-Chien Hsu, National Taiwan Normal University, Taiwan
Dr. Shang-Chih Lin, Academia Sinica, Taiwan
(3) 113-Real-Time Facial Expression Recognition Based on CNN, Keng-Cheng Liu, Chen-Chien Hsu, Wei-Yen Wang and Hsin-Han Chiang
(4) 117-Neural Network Based Adaptive Control of Web Transport Systems, Cuong Nguyen Manh, Dinh Nguyen Duc, Dung Pham Tien, Manh Tran Van, Lam Nguyen Tung and Ly Tong Thi
(5) 131-Advanced Intelligent Fuzzy Control of Standalone PV-Wind-Diesel Hybrid System, Ho Pham Huy Anh, Le Vinh Truong and Cao Van Kien

BS-3 Renewable Energy and Power Systems (14 papers)
Venue: Room No. 3
Saturday, July 20th 2019
10:30am - 12:00am
Chair: Dr. Vu Van Phong, Ho Chi Minh City University of Technology and Education, Vietnam
Dr. Dinh Truc Ha, The University of Danang – University of Science and Technology Danang, Vietnam
(1) 48-A New Maximum Power Point Tracking Algorithm for the Photovoltaic Power System, Binh Nam Nguyen, Van Tan Nguyen, Thi Bich Thanh Truong, Van Kien Pham, Duong Hung Hoang and Hong Viet Phuong Nguyen
(2) 52-Multi-Objectives Problem for Load Shedding in Micro Grid, Binh Phan, Nghia Le, Son Pham and Tan Le
(3) 53-Transient Stability of Low Voltage Micro Grid, Binh Phan, Hai Nguyen, Phuc Le, Hung Nguyen and Nghia Le
(4) 62-Dynamic Voltage Stability Enhancement of a Grid-Connected Wind Power System by ANFIS Controlled Static Var Compensator, Van-Tri Bui, Thi-Trang Hoang, Thanh-Long Duong and Dinh-Nhon Truong

01:30pm - 03:30pm
Chair: Dr. Dao Phuong Nam, Hanoi University of Science and Technology, Vietnam
Dr. Tran Vi Do, Ho Chi Minh City University of Technology and Education, Vietnam
(1) 66-Analysis of Uncertainties for the Operation and Stability of an Islanded Microgrid, Van Tan Nguyen, Duong Hung Hoang, Huu Hieu Nguyen, Kim Hung Le, The Khanh Truong and Quoc Cuong Le
(3) 138-Optimal Placement and Sizing of Wind Farm in Vietnamese Power System Based on Particle Swarm Optimization, Dinh Thanh Viet, Tran Quoc Tuan and Vo Van Phuong
(4) 161-An Adaptive Backstepping Control for Switched Systems in Presence of Control Input Constraint, Nguyen Truong Thanh, Pham Ngoc Sam and Dao Phuong Nam
(5) 182-A Method to Estimate the Yield of Photovoltaic Power Plant Solely in MATLAB/Simulink, Phuong Truong Le, Hoang An Quoc, Ngo Van Thuyen, Huan-Liang Tsai
03:50pm - 05:30pm
Chair: Assoc. Prof. Dr. Hoang An Quoc, Ho Chi Minh City University of Technology and Education, Vietnam
Dr. Vu Van Phong, Ho Chi Minh City University of Technology and Education, Vietnam
(1) 194-A New Metric to Quantify the Vulnerability of Power Grids, Dinh Truc Ha, Nicolas Retière and Jean-Guy Caputo
(2) 196-Dynamic Stability Improvement Issues with a Grid-Connected Microgrid System, Dinh-Nhon Truong, Mi-Sa Nguyen Thi, Hieu-Giang Le, Van-Dung Do, Van-Thuyen Ngo and An-Quoc Hoang
(4) 202-Potential Industrial Sectors Promising for Commercialization of Solar PV Rooftop Applications in Danang City, Dinh Truc Ha, Van Kien Pham and Hong Viet Phuong Nguyen
(5) 224-CO2 Reduction Potential by Putting Electric Vehicles into Operation in Phu Quoc Island, Viet Nam, Hoang-Phuong Nguyen, Viet-Cuong Vo, Tan-Dong Le, Thi-Thanh-Binh Phan, Thanh-Phong Tran and Le-Duy-Luan Nguyen

BS-4 Information and Communication Engineering (15 papers)
Venue: Room No. 4
Saturday, July 20th 2019

10:30am - 12:00am
Chair: Dr. Pritpal Singh, National Taipei University of Technology, India
Dr. Pham Ngoc Hung, Hanoi University of Science and Technology, Vietnam
(1) 61-A Wireless Sensor Network for Aquaculture Using Raspberry Pi, Arduino and Xbee, Khanh Nguyen Tuan
(2) 92-Controlling Web Traffic and Preventing DoS/DDoS Attacks in Networks with the Proxy Gateway Security Solution Built on Open Hardware, Chinh N. Huynh, Tam T. Huynh, Thinh V. Le and Hanh Tan
(3) 103-Higher Order Mutant Generator for Lustre Programs, Le Van Phol, Nguyen Thanh Binh and Loannis Parissis

01:30pm - 03:30pm
Chair: Prof. Dr. Chan-Yun Yang, National Taipei University, Taiwan
Dr. Hoang Van Dung, Quang Binh University, Vietnam
(1) 115-Manipulator Robot System in Navigation and Action Implement Designs, Hsuan-Ming Feng, Ren-Jie Chen, Ching-Chang Wong
(2) 127-Energy Efficient Performance Analysis of NOMA for Wireless Down-link in Heterogeneous Networks under Imperfect SIC, Thuy-Duong Nguyen, Van-Ca Phan and Phuc Q. Truong
(3) 128-The Performance Characteristics of TCP with Network Coding in Power Line Communication Network, Nguyen Viet Ha, Le Van Hau, Tran Thi Thao Nguyen and Masato Tsuru
(4) 143-A Comparative Study for Classification of Skin Cancer, Tri Cong Pham, Giang Son Tran, Thi Phuong Nghiem, Antoine Doucet, Chi Mai Huu and Van-Dung Hoang
(5) 146-Predicting Hospital Readmission Patterns of Diabetic Patients Using Ensemble Model and Cluster Analysis, Hung N. Pham, Anurag Chatterjee, Balasubramanian Narasimhan, Choon Wee Lee, Diksha Kumari Jha, Edric Yeng Fai Wong, Stella Ellyanti, Quang H. Nguyen, Binh P. Nguyen and Matthew C. H. Chua
(6) 149-Multimodal Detection of Parkinson Disease Based on Vocal and Improved Spiral Test, Hung N. Pham, Trang T. T. Do, Kelvin Yi Jie Chan, Gopa Sen, Andy Y. K. Han, Pier Lim, Teresa Siew Loon Cheng, Quang H. Nguyen, Binh P. Nguyen and Matthew C. H. Chua

03:50pm - 05:30pm
Chair: Prof. Dr. Yue-Shan Chang, National Taipei University, Taiwan
Assoc. Prof. Dr. Jiann-Jone Chen, National Taiwan University of Science and Technology, Taiwan
(1) 154-A Consulting System for Estimating Costs of an Information Technology Hardware Project Based on Law of Public Investment, Huan Pham Do, Nhon V. Do and Hien D. Nguyen
(2) 164-A Wireless Physical Layer Security Method Based on Binary Exclusive-Or Jamming Message and CSI Alignment, Tien-Thanh Nguyen, Van-Dung Hoang and Truc-Thanh Tran
(3) 165-Impact Analysis of Imperfect CSIs on Secrecy Performance of Two-hop Cooperative Communication Networks, Le Tien Si and Pham Ngoc Son
(4) 167-High Performance and Security Design for Cryptosystem Using Simultaneous Multiple Hardware Threads and Power Aware Technique, Que-Yen Luong Ha, Trong-Tuan Nguyen, Dac-Binh Ha and Minh-Tam Ngo Le
(5) **171-Utilize Neighboring LCU Depth Information to speedup FVC/H.266 Intra Coding**, Jiann-Jone Chen, Yi-Ying Chiu, Cheng-Hwa Lee, Yao-Hong Tsai.

**BS-5 Industrial Engineering and Management (12 papers)**

**Venue:** Room No. 5  
**Saturday, July 20th 2019**

10:30am - 12:00am  
Chair: **Prof. Dr. Josef Langerman, University of Johannesburg, South Africa**  
**Dr. Nguyen Quoc Khanh, Ho Chi Minh City University of Technology and Education, Vietnam**  

1. **7-New Organisational Models That Break Silos in Organisations to Enable Software Delivery Flow**, Mahlomola Motingoe and Josef J. Langerman
2. **55-A Simulation Modelling Approach for Selection of Inventory Policy in a Supply Chain**, Vo Thi Kim Cuc, Nguyen Truong Thi and Nguyen Thi Le Thuy
3. **64-A Systematic Framework to Integrate TRIZ into DFSS for New Product Development**, Yousef Amer, Mariel Sheryn B. Ong, Atiya Al-Zuheri, Linh Thi Truc Doan and Dung Thi My Tran

01:30pm - 03:30pm  
Chair: **Assoc. Prof. Dr. Chih-Hua Tai, National Taipei University, Taiwan**  
**Dr. Phan Nguyen Anh Huy, Ho Chi Minh City University of Technology and Education, Vietnam**

1. **99-Thermal Data Fusion for Building Insulation**, Dongyeb Han and Jungwon Huh
3. **104-Identifying Money Laundering Accounts**, Chih-Hua Tai and Tai-Jung Kan
4. **121-A Proposed Genetic Algorithm Approach for The Kidney Exchange Problem**, Diana Dababneh, Yousef Amer, Linh Thi Truc Doan and Dung Thi My Tran

03:50pm - 05:30pm  
Chair: **Assoc. Prof. Dr. Chih-Hua Tai, National Taipei University, Taiwan**  
**Dr. Phan Nguyen Anh Huy, Ho Chi Minh City University of Technology and Education, Vietnam**

2. **191-Technology Innovation and Firm Performace IN Vietnam’s SME Sector**, Nguyen Thi Anh Van

**BS-6 Electrical and Electronics Engineering (15 papers)**

**Venue:** Room No. 6  
**Saturday, July 20th 2019**

10:30am - 12:00am  
Chair: **Prof. Dr. Kuang-Yow Lian, National Taipei University of Technology, Taiwan**  
**Prof. Dr. Hsuan-Ming Feng, National Quemoy University, Taiwan**

1. **2-A New Novel Fractional Optimal Sliding Mode Control for Lower-limb Exoskeleton**, Do Xuan Phu, Tran Quang Nhu and Nguyen Duc Thin
2. **16-Handling Missing Data Using Standardized Load Profile (SLP) and Support Vector Regression (SVR)**, Nguyen Tuan Dung and Nguyen Thanh Phuong
3. **20-Interval Type-2 Petri CMAC Design for 4D Chaotic System**, Tien-Loc Le, Chih-Min Lin and Tuan-Tu Huynh
4. **44-High Efficiency GaN Fet Based Three Port Halfbridge Converter**, Anh Tuan Duong, Phuong Vu, Dai Duong Vu, Phi Anh Nguyen, Bao Binh Pho and Quang Dang Bui

01:30pm - 03:30pm  
Chair: **Prof. Dr. Chih-Min Lin, Yuan Ze University, Taiwan**  
**Prof. Dr. Ching-Chih Tsai, National Chung Hsing University, Taiwan**

2. **80-Disturbance Observer Synthesis for Linear Systems: Application for DC Motor**, Van-Phong Vu and Ton Duc Do
3. **81-Heart-Rate Monitoring Device Based on Fluxgate Sensors**, Van Su Luong, Anh Tuan Nguyen, Thanh Loan To and Thi Hoai Dung Tran
(4) **116-Tension Regulation of Roll-to-Roll Systems with Flexible Couplings**, Ly Tong Thi, Lam Nguyen Tung, Cao Duc Thanh, Dich Nguyen Quang and Quyen Nguyen Van

(5) **129-A High Precision Indoor Positioning System Based on Ultra-wideband Sensors**, Ru-Feng Liu, Hua-Ting Yuan and Kuang-Yow Lian

(6) **130-Advanced PMSM Machine Parameter Identification Using Modified Jaya Algorithm**, Ho Pham Huy Anh, Pham Quoc Khanh and Cao Van Kien

**03:50pm - 05:30pm**

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

Dr. Kavalchuk Ilya, RMIT University, Vietnam

(1) **156-Smart Key System Design for Electric Bike for Vietnam Environment**, Veerandi Maleesha Kulasekara, Ilya Kavalchuk and Andrew Smith

(2) **177-LQR Based SMC for Three-Phase-Inverter with LC Filter in Renewable Energy Conversion Systems**, Zholtayev Darkhan Muratovich and Ton Duc Do

(3) **180-Rotating Sensor for Multi-Direction Light Intensity Measurement**, Dung A. Hoang, Thai Thanh Tung, Cuong M. Nguyen and Kien P. Nguyen

(4) **186-Implementation and Analysis of Control Strategies in Guided Munition**, Nguyen Thi Anh and Nguyen Tien Dat


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**BS-7**  
**Mechatronics Engineering (15 papers)**

*Venue: Room No. 7*

*Saturday, July 20th 2019*

**10:30am - 12:00am**

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

Assoc. Prof. Dr. Do Duc Ton, Nazarbayev University, Kazakhstan

(1) **26-Remote Healthcare for the Elderly, Patients by Tele-presence Robot**, Nguyen Dao Xuan Hai, Luong Huu Thanh Nam, Nguyen Truong Thinh

(2) **49-An Approach of Shoulder Movement Analysis Using Opensim Software**, Tran Vi Do, Tran Manh Son, Paolo Dario and Stefano Mazzoleni

(3) **58-A Novel Platform of Autonomous Vehicle in Multi-Disciplinary Industry**, Thanh Luan Nguyen, Ha Quang Thinh Ngo, Thanh Phuong Nguyen and Hung Nguyen

(4) **65-Adaptive Nonsingular Fast Terminal Sliding Mode Tracking Control for Parallel Manipulators with Uncertainties**, Van-Truong Nguyen, Shun-Feng Su, Anh-Tu Nguyen and Van-Thien Nguyen

**01:30pm - 03:30pm**

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

Dr. Nguyen Viet Hung, Hanoi University of Industry, Vietnam

(1) **86-Fault-Tolerant Control of IPMSMs Based on an Modified Sliding Mode Observer**, Zhanat Makhataeva, Bayandy Sarsembayev and Ton Duc Do

(2) **87-Sliding Mode Control with High-Order Disturbance Observer Design for Disturbance Estimation in SPMSM**, Bayandy Sarsembayev, Tatiana Kalganova, Azamat Kaibaldiyev, Ton Duc Do and Yernar Zhetpissov

(3) **89-Integral Sliding Mode Controller Design for Permanent Magnet Synchronous Machines**, Kanat Suleimenov, Md. Hazrat Ali and Ton Duc Do

(4) **90-Combined H-∞ and Integral Sliding Mode Controllers for Robust Speed Control of Permanent Magnet Synchronous Motor with Load Torque Observer**, Azamat Kaibaldiyev, Yernar Zhetpissov, Bayandy Sarsembayev and Ton Duc Do

(5) **101-Mathematical model of the dynamics of a robotic assembly using vibration technology and adaptation**, Mikhail Vladimirovich Vartanov, Vladimir Kirillovich Petrov and Minh Tu Ho

(6) **120-A Study of Signal Detection Based On a Compliant Bistable Mechanism**, Thien Ngon Dang and Ngoc Dang Khoa Tran.


**03:50pm - 05:30pm**

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

1. **137-Big Vibration Data Diagnosis of Bearing Fault Base on Feature Representation of Autoencoder and Optimal LSSVM-CRO Classifier Model**, VietHung Nguyen, Tien Dung Hoang, VanTrong Thai and XuanChung Nguyen
2. **179-A New Novel Exponential Optimal Sliding Mode Control and Its Application for Lower-limb Exoskeleton**, Nguyen Quoc Van and Do Xuan Phu
3. **187-Radially Symmetric-Tangent Phase Mask to Obtain Invariant Imaging System to Defocus**, HuuCuong Thieu, Vannhu Le, Dinhbao Bui, MinhNgiah Pham, Vanbang Le and Vandum Pham
4. **193-Design of Cable Measuring System of a Robot Spraying Pesticides in Agricultural Farm**, Nguyen Duc Tai and Nguyen Truong Thinh
5. **192-Study on Ankle Rehabilitation Device Using Linear Motor**, Dao Minh Duc, Le Thi Thuy Tram, Pham Dang Phuoc and Tran Xuan Tuy

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**BS-8 Mechanical and Automotive Engineering (16 papers)**

**Venue: Room No. 8 (Conference Hall)**  
Saturday, July 20th 2019

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**10:30am - 12:00am**

**Chair:** Prof. Dr. Youn Cheol Park, Jeju National University, Korea  
Dr. Le Minh Nhut, Ho Chi Minh City University of Technology and Education, Vietnam

2. **59-Research on Factors Influencing the Formation Graphite and Effect of Graphite on Mechanical Properties of Grey Cast Iron**, Pham Thi Hong Nga, Tran Ngoc Thien, Patricia Josepha Pritadewi, Vo Ngoc Yen Phuong
4. **70-Study on Vibration Transmissibility Characteristic of a Novel Asymmetric Nonlinear Model Using Pneumatic Spring**, Vo Ngoc Yen Phuong, Nguyen Minh Ky and Le Thanh Danh

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**01:30pm - 03:30pm**

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

1. **79-Analysis of Bus Structural Performance During Full Frontal Impact**, Nguyen Phu Thuong Luu
2. **91-Design and Fabrication of Vibrating Electrode for Vibration-assisted EDM**, Hoang Trung Kien, Ta Nguyen Minh Duc and Nguyen Hoai Nam
3. **93-A New Approach to Corrosion Mapping of Fuel Tank from Collected Images Using Phased Array Technology**, Thanh Tuan To and Thien Ngon Dang
5. **97-A Numerical Simulation on Heat Transfer Behaviors in the Gas Cooler of a CO2 Air Conditioning System**, Thanhtruong Dang, KienCuong Giang, Hoangtuan Nguyen and Baphuoc Le

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**03:50pm - 05:30pm**

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

1. **118-A Study on The Wave Energy Converter Using Mechanical PTO**, Van Huu Thinh and Phan Cong Binh
3. **133-A Decision Support Model in Additive Manufacturing and CNC Machining**, Ngoc Thang Tran, Van Mai Dang and Minh Tai Le
5. **221-Experimental Study on External Air Heating for an Injection Molding Process**, Minh The Uyen Tran, Son Minh Pham and Thanh Trung Do
6. **222-Simulation Study on Polishing of Complex Surfaces by Non-Newtonian Fluids**, Nguyen Duc Nam
BREAKOUT SESSIONS OF DAY 3
(SUNDAY, JULY 21st 2019)

BS-2 Neural Networks and Fuzzy Systems (4 papers)
Venue: Room No. 2
Sunday, July 21st 2019

10:00am - 11:30am
Chair: Prof. Dr. Kang-Hyun Jo, University of Ulsan, Korea
Dr. Zhongyang Han, Dalian University of Technology, China

(1) 136-Goods Recognition Using Tiny YOLOv2 Network for a Collaborative Air-Ground Robotic System in Indoor Warehouses, Ching-Chih Tsai, Xin-Cheng Lin and Feng-Chun Tai

(2) 141-A Word Similarity Feature-Based Semi-Supervised Approach for Named Entity Recognition, Ze Wang, Zhongyang Han, Jun Zhao, Wei Wang and Feng Jin


(4) 173-PydNet: An Efficient CNN Architecture with Pyramid Depthwise Convolution Kernels, Van-Thanh Hoang and Kang-Hyun Jo

BS-4 Information and Communication Engineering (5 papers)
Venue: Room No. 4
Sunday, July 21st 2019

10:00am - 11:30am
Chair: Assoc. Prof. Dr. Phan Van Ca, Ho Chi Minh City University of Technology and Education, Vietnam
Dr. Dang Xuan Ba, Ho Chi Minh City University of Technology and Education, Vietnam

(1) 172-Data Visualization for Air Quality Analysis on Bigdata Platform, Yu-Ren Zeng, Yue Shan Chang and You Hao Fang

(2) 174-Convolutional Equalizer – A Convolutional Approach to Equalize Input Features in Dimension, Liyu,Yu, K. Settu, B. H. Sudantha and C. Y. Yang

(3) 184-Design and Implementation of Chatbot Framework for Network Security Cameras, Truong Van Cuong and Tran Minh Tan

(4) 211-Performance Analysis of NOMA for Wireless Downlink in Multi-tiers Heterogeneous Network, Quoc-Thanh Trinh, Phuc Q.Truong and Van-Ca Phan

(5) 220-Implementing the Markov Decision Process for Efficient Water Utilization with Arduino Board in Agriculture, Tran Kim Toai and Vo Minh Huan

BS-6 Electrical and Electronics Engineering (5 papers)
Venue: Room No. 6
Sunday, July 21st 2019

10:00am - 11:30am
Chair: Assoc. Prof. Dr. Vo Viet Cuong, Ho Chi Minh City University of Technology and Education, Vietnam
Assoc. Prof. Dr. Truong Dinh Nhon, Ho Chi Minh City University of Technology and Education, Vietnam

(1) 199-Gain-Learning Sliding Mode Control of Robot Manipulators with Time-Delay Estimation, Dang Xuan Ba and My-Ha Le

(2) 214-Robust Control of a Three-phase Induction Motor, Quan Vinh Nguyen, Bon Nhan Nguyen and Tam Minh Nguyen

(3) 215-Analysis of the Particular Improvement in the Generator-Grid with Adaptive Prediction Model, Tran Van Dung, Nguyen Hoang Mai and Nguyen Doan Phuoc

(4) 216-Sliding Mode Control for Cascaded Multilevel Inverters, Vinh Quan Nguyen, Thanh Lam Le, Minh Tam Nguyen

(5) 225-Forecast on Electricity Demand for Industry and Construction Sectors in Vietnam by 2030, Viet-Cuong Vo
BS-7 Mechatronics Engineering (6 papers)
Venue: Room No. 7
Sunday, July 21st 2019
10:00am - 11:30am
Chair: Assoc. Prof. Dr. Nguyen Truong Thinh, Ho Chi Minh City University of Technology and Education, Vietnam
Dr. Le Van Nhu, Le Quy Don Technical University, Vietnam

1. 201-A Research on Automated Guided Vehicle Indoor Localization System via CSI, Minh Khoi Huynh and Duy Anh Nguyen
2. 203-Command-Based Autopilot System for Ships Using Neural Network – PID Controller, Long Le Ngoc Bao, Duy Anh Nguyen and Vo Hong Hai
3. 204-Fuzzy Controller Design for Autonomous Underwater Vehicles Path Tracking, Duy Anh Nguyen, Do Duy Thanh, Nguyen Tran Tien and Pham Viet Anh
4. 206-Storage Assignment Policy and Route Planning of AGVS in Warehouse Optimization, Ly Gia Bao, Truong Giang Dang and Nguyen Duy Anh
5. 207-Applying Sliding Mode Control to Massage Robot Apply for Healthcare Therapy, Phan Thanh Phuc, Nguyen Duc Tai and Nguyen Truong Thinh
6. 209-Detection and Classification Defects on Exported Banana Leaves by Computer Vision, Duong Tan Dat, Nguyen Dao Xuan Hai and Nguyen Truong Thinh
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VENUE LAYOUTS

A. PRESIDENTIAL BOARD BUILDING
B. LEARNING RESOURCE CENTER
C. CONFERENCE HALL (Breakout session No. 8 (BS-8))
Breakout session No. 1 (BS-1)
Topic: Special Session (Student authors)
Venue: Room No. 1
Breakout session No. 2 (BS-2)
Topic: Neural Networks and Fuzzy Systems
Venue: Room No. 2

Breakout session No. 3 (BS-3)
Topic: Renewable Energy and Power Systems
Venue: Room No. 3

Breakout session No. 4 (BS-4)
Topic: Information and Communication Engineering
Venue: Room No. 4
Breakout session No. 5 (BS-5)
Topic: Industrial Engineering and Management
Venue: Room No. 5

Breakout session No. 6 (BS-6)
Topic: Electrical and Electronics Engineering
Venue: Room No. 6

Breakout session No. 7 (BS-7)
Topic: Mechatronics Engineering
Venue: Room No. 7
I. Scientific and technological research fields
There is no limit but the following fields should be focused on: Mechanical and Automatic Engineering, Electrical – Electronics and Information Technology; Chemistry, Pharmacy and Food Technology; Material Technology; Biotechnology; Urban Development and Management. Among these, priority is given to products, services and solutions that are applied directly to production and bring high socio-economic efficiency with co-investments from other sources.

II. Implementation methods
1. Ordered research
Organizations submit applications according to the list of science and technology tasks annually announced by Ho Chi Minh City Department of Science and Technology.

2. Sponsored research
Organizations propose their own scientific and technological tasks. The maximum support fund is 1 billion VND for tasks in the fields of natural sciences and engineering sciences; and a maximum of 500 million VND for tasks in the field of social sciences and humanities.

3. Featured product development
Organizations coordinate with enterprises in proposing scientific and technological tasks to form and develop target products with large market size and high economic value. Contribution from the companies is required not to be less than 50% of the total cost.

4. Start-up project
Incubator organizations propose innovation projects. The support budget shall not exceed 2 billion VND/ project.

III. General Information
1. Detailed information:
   http://www.dost.hochiminhcity.gov.vn
   For the Start-up project, please visit http://sihub.vn/speedup2019/

2. Proposal submission:
   Online or by courier or Email.
   For the Start-up project, please submit through http://sihub.vn/speedup2019/
   or through email: speedup@sihub.vn

3. Submission time:
   Starting from 01/03/2019

4. Result announcement:
   - For proposals submitted before 31/03: Consideration and selection in April.
   - For proposals submitted before 30/06: Consideration and selection in July
   - For proposals submitted before 30/09: Consideration and selection in October

5. Contact information:
Ho Chi Minh City Department of Science and Technology
Office of Science Management: Mr. Pham Van Xu
No. 244 Dien Bien Phu Street, Ward 7, District 3, Ho Chi Minh City.
Tel: 028.39322147.
Email: quanlykhoahoc.skhc@tphcm.gov.vn
VinTech City - a member of VinGroup - was established with the mission of providing comprehensive support for applied research and developing a tech-startup ecosystem in Vietnam following the success model of “Silicon Valley”. To realize such mission, VinTech City focuses its activities on three fundamental areas: Technological workforce, Tech products, and a supporting ecosystem and infrastructure. Among these factors, the workforce and tech products with competitive edges have been considered the stepping stones of the development strategy of VinTech City.

Keeping in mind such development direction, VinTech City supports science and technology companies, scientists, innovators, university lecturers and students with additional resources in order to help them to create science and technology products with competitive edges, and works as the bridge as well as the supporting ecosystem to enable the commercialization potential of tech products. In May 2019, VinTech City officially introduced 06 key programs focusing on technological workforce development and supports for applied research projects for Vietnamese worldwide. Namely, VinTech City is implementing the VinTech Fund for Applied Research; the Research Laboratory Sponsorship program; the “Enterprise Semester” program; the SAP Training program; the Sponsorship program for events related to applied research and technological workforces; and finally, the “Tech and Start-up” clubs for students. Such wide range of support activities and programs demonstrate the comprehensive cooperation between Vingroup and the science and technology universities in Vietnam.

VinTech Fund: From Lab to Market

Among the aforementioned programs, VinTech Fund has been managed by VinTech City with the objectives of providing financial resources and other supports in order to bring science and technology products with significant commercialization potential closer to the reality of the market. VinTech Fund has received overwhelming response from the science and technology community since its announcement, as it offers not only financial grant up to U$500,000 but also supports from business perspectives to overcome the constraints of product test and commercialization challenges. For Vietnamese research community worldwide, VinTech Fund opens the door for fostering research collaboration inside and outside Vietnam.

Vietnamese researchers, who works at prestigious research institutes and universities, can contribute to the development of science and technology in Vietnam through research collaboration, tech product development, and educational activities with domestic universities within the sponsorship framework of VinTech Fund. Moreover, VinTech Fund also provides effective support to Vietnamese expatriate researchers to test, deploy and commercialize their research results in Vietnam, in the neighbor regions, and with a further aim for the global market.

We believe that VinTech City can serve as a catalyst for ‘Made in Vietnam’ tech products in the market and accomplish the mission of supporting Vietnam startup and technology ecosystem.

APPLICANTS

a. Experts, researchers, technology lecturers currently working at Vietnamese universities;
b. Experts, technology researchers currently working abroad
c. Tech start-ups

APPLICATION TYPE

1. Independence: Group (a)-via their respective university
2. Partnership: Group (b) and (c) - under partnership with Vietnamese universities
   Condition: Commit to support one(s) of the universities signed MoU with VinGroup

CONTACT

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