



Heterogeneous Networking for Quality,
Reliability, Security and Robustness



RESEARCH ENVIRONMENT
LINKS



Newton Fund
Viet Nam

14th EAI International Conference on

HETEROGENEOUS NETWORKING FOR
QUALITY, RELIABILITY, SECURITY AND
ROBUSTNESS

DECEMBER 3, 2018 | HO CHI MINH CITY, VIETNAM



HCMUTE



Welcome message to QSHINE attendees

On behalf of the Technical Program Committee, we would like to welcome all of you to the 14th EAI International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QSHINE 2018) at Ho Chi Minh City University of Technology and Education, in the heart of the largest city in Vietnam! We are indeed delighted that the conference aims to providing a premier forum for presentation of research results and experience reporting on the cutting edge research in the general areas of heterogeneous networking. This year, we received 28 submissions from 76 authors and co-authors of 12 countries. Each paper received at least three peer technical reviews, comprised of more than 40 TPC members from academia, government laboratories, and industries. After carefully examining all the received review reports, the QSHINE 2018 TPC finally selected only very high quality papers (13 papers) for presentation at the conference and publication in the QSHINE 2018 proceedings.

The conference will feature keynotes from renowned world-class leaders in the area. Dr. Hoa Le Minh, Northumbria University at Newcastle, UK and Dr Vien Ngo, Glasgow School of Electronics, Electrical Engineering & Computer Science at Queen's University Belfast, UK will give talks on "The Emerging Optical Wireless Communications for Future Wireless Communications Networks" and "Intelligent & Robotic Systems: Realizing real-life AI Dream", respectively.

This year, the technical sessions reflect the growing interest in Internet of Things (IoT) Technology Enabling the Fourth Industrial Revolution including: Telecommunications Systems and Networks; Networks and Applications; Intelligent Systems and Applications; Information Processing and Data Analysis; Hardware and Software Design and Development; Signal Processing; Hardware and Software Design and Development; and Security and Privacy. Outstanding papers will be selected and invited for Special Issues in well-known international journals, i.e., ACM/Springer Mobile Networks & Applications (MONET) and EAI Endorsed Transactions on Mobile Communications and Applications.

A conference of this size cannot be organized without the hard work and dedication of many people. We want to thank all authors who submitted their manuscripts, as well as all the Track Chairs/Co-Chairs, TPC members, invited reviewers for all their contribution to the conference. Special gratitude goes to the Springer for their technical sponsorship. We would also like to recognize our Co-Organizer and Financial Sponsor, the **European Alliance for Innovation, Ho Chi Minh City University of Technology and Education, and Duy Tan University**.

We hope you all enjoy the Ho Chi Minh City and the QSHINE 2018 technical program and find this conference a productive opportunity to explore, exchange ideas, make new friends, and best of all come back next year to contribute future QSHINE conferences.

General Co-Chairs

Dr. Trung Q. Duong, Queen's University Belfast, United Kingdom

Prof. Dr. Do Van Dung, HCMC University of Technology and Education, Vietnam

Technical Program Committee Chair/ Co-Chairs

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Dr. Hoa Le Minh

Dr Hoa Le Minh is an Associate Professor at Northumbria University at Newcastle, UK. Prior to joining Northumbria University he was a research fellow at Siemens AG, Munich, Germany and at University of Oxford, UK. His research area is optical communications, visible light communications, sensor network and Smartphone technology in which he has published over 150 papers in journals and conferences. He participates in a number of European and industrial projects. Hoa has chaired a number of international conferences/workshops and sessions in telecommunications. He is currently the Chairman of IEEE Communications Society (ComSoc) Chapter of UK and Ireland, and the Editor of IEEE Communications Letters.



Dr. Vien Ngo

Dr Vien Ngo is a Lecturer (Assistant Professor) in the School of Electronics, Electrical Engineering & Computer Science at Queen's University Belfast since September 2017, UK. He has a PhD in Artificial Intelligence from Kyung Hee University in Korea in 2009. From October 2009 to May 2011, he was with the School of computing at National University of Singapore to work as a research fellow. From July 2011 to February 2013, he worked as a researcher at Ravensburg-Weingarten University of Applied Sciences in Germany. He then joined the Machine Learning and Robotics Lab in University of Stuttgart. His broad research interest lies in three main topics: i) Intelligent Systems: Reinforcement learning, policy search, deep reinforcement learning, planning under uncertainty (POMDPs), learning from human feedback; ii) Machine Learning: Probabilistic modelling, deep learning, Bayesian inference, active learning; and iii) Robotics: Motor skill learning, movement primitives, manipulation under uncertainty, model learning, motion planning, optimal control, and human-robot interaction.

Monday Morning, December 3, 2018

Registration: (07:30-08:30)

Venue: Entrance of QSHINE

Opening Session: (08:30-09:00)

Room: QSHINE

Speakers:

Assoc. Prof. Dr. Do Van Dung, President of HCMC University of Technology & Education, Vietnam

Dr. Nguyen-Son Vo, Duy Tan University, Vietnam

Keynote 1 (09:00-10:00)

Room: QSHINE

Speaker: Dr. Hoa Le Minh, Northumbria University at Newcastle, United Kingdom

Title: The Emerging Optical Wireless Communications for Future Wireless Communications Networks

Chair: Dr. Vien Anh Ngo, Queen's University Belfast, United Kingdom

COFFE BREAK (10:0 – 10:30)

December 3, 2018

Monday Morning Session-SP (10:30-11:45)

Room QSHINE

Session Title: Security & Privacy

Session Chair/Co-Chair:

Dr. Taeshik Shon, Ajou University, Korea

Dr. Le Chi Kien, HCMC University of Technology & Education, Vietnam

280311: Improving Privacy for GeoIP DNS Traffic, Lanlan Pan (Geely Automobile Research Institute, China), Xuebiao Yuchi (Chinese Academy of Sciences, China), Xin Zhang (China Internet Network Information Center, China), Anlei Hu (China Internet Network Information Center, China), and Jian Wang (Geely Automobile Research Institute, China)

280408: Deep Reinforcement Learning based QoS-aware Routing in Knowledge-defined Networking, Pham Tran Anh Quang (Inria, Univ Rennes, CNRS, IRISA, France), Yassine Hadjadj-Aoul (Univ Rennes, Inria, CNRS, IRISA, France), and Abdelkader Outtagarts (Nokia Bell Labs, France)

280613: Throughput Optimization for Multirate Multicasting through Association Control in IEEE 802.11 WLAN, Dhrubajyoti Bhaumick and Sasthi C. Ghosh (Advanced Computing and Microelectronics Unit, Indian Statistical Institute, India)

280654: An NS-3 MPTCP Implementation, Kashif Nadeem (Lahore University of Management Sciences, Pakistan) and Tariq M. Jadoon (Lahore University of Management Sciences, Pakistan)

280514: A Novel Security Framework for Industrial IoT based on ISA 100.11a, Hyunjin Kim, Sungjin Kim, Sungmoon Kwon, Wooyeon Jo and Taeshik Shon (Ajou University, Korea)

LUNCH BREAK (11:45-13:30)

December 3, 2018

Monday Afternoon Keynote-Keynote 2 (13:30-14:30)

Room: QSHINE

Speaker: Dr Vien Ngo, Queen's University Belfast, United Kingdom

Title: Intelligent & Robotic Systems: Realizing real-life AI Dream

Chair: Dr. Hoa Le Minh, Northumbria University at Newcastle, United Kingdom

Monday Afternoon Session-TN(14:30-15:30)

Room QSHINE

Session Title: Telecommunications Systems and Networks

Session Chair/Co-Chair:

Dr. Phan Van Ca, HCMC University of Technology & Education, Vietnam

Dr. Pham Ngoc Son, HCMC University of Technology & Education, Vietnam

280565: Social-aware Caching and Resource Sharing Optimization for Video Delivering in 5G Networks, Minh-Phung Bui (Duy Tan University and Van Lang University, Vietnam), Nguyen-Son Vo (Duy Tan University, Vietnam), Tien-Thanh Nguyen (Quang Binh Department of Science and Technology, Vietnam), Quang-Nhat Tran, and Anh-Tuan Tran (Ho Chi Minh City University of Transport, Vietnam)

280336: Energy Efficiency in QoS Constrained 60 GHz Millimeter-Wave Ultra-dense Networks, H. T. Nguyen (Inje University, Korea), H. Murakami, K. Nguyen, K. Ishizu, F. Kojima (National Institute of Information and Communications Technology, Japan), J.D. Kim, S.H. Chung (Pusan National University, Korea) and W.J. Hwang (Inje University, Korea)

280381: Priority-based Device Discovery in Public Safety D2D Networks with Full Duplexing, Zeeshan Kaleem (COMSATS University Islamabad, Pakistan), Muhammad Yousaf (Telecommunications Engineering Department, UET Taxila, Pakistan), Syed Ali Hassan (National University of Sciences and Technology (NUST), Pakistan), Nguyen-Son Vo (Duy Tan University, Vietnam), and Trung Q. Duong (Queen's University Belfast, UK)

280554: Modified Direct Method for Point-to-Point Blocking Probability in Multi-service Switching Networks with Resource Allocation Control, M. Głabowski, M. Sobieraj, and M. Stasiak (Poznan University of Technology, Poland)

COFFEE BREAK (15:30-16:00)

December 3, 2018

Monday Afternoon Session—NA(16:00-17:00)

Room QSHINE

Session Title: Networks and Applications

Session Chair/Co-Chair:

Dr Nguyen-Son Vo, Duy Tan University, Vietnam

Dr Nguyen Quang Sang, Duy Tan University, Vietnam

280410: Inconsistencies among Spectral Robustness Metrics, Xiangrong Wang (Delft University of Technology, the Netherlands), Ling Feng (Institute of High Performance Computing A*STAR, Singapore), Robert E. Kooij (Delft University of Technology, the Netherlands and Singapore University of Technology and Design, Singapore), and Jose L. Marzo (Institute of Informatics and Applications University of Girona, Spain)

280555: QoS Criteria for Energy-aware Switching Networks, Mariusz Głabowski (Poznan University of Technology, Poland), M. Stasiak (Poznan University of Technology, Poland), and M.D. Stasiak (Poznan University of Economic and Business, Poland)

280642: Modelling Overflow Systems with Queuing in Primary Resources, Mariusz Głabowski, Damian Kmiecik, and Maciej Stasiak (Poznan University of Technology, Poland)

280677: Exploring YouTube's CDN Heterogeneity, Anh-Tuan Nguyen (Sorbonne Université, France), Olivier Fourmaux (Sorbonne Université, France), and Christophe Deleuze (Univ. Grenoble Alpes, France)

BANQUET AND BEST PAPER AWARD (18:00-20:30)

NO TECHNICAL SESSIONS ON TUESDAY

STEERING COMMITTEE

Imrich Chlamtac

Bruno Kessler Professor, University of Trento, Italy (Chair)

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Nguyen Gia Nhu, Duy Tan University, Vietnam

Berk Canberk, Istanbul Technical University, Turkey

Demos Chairs

Truong Ngoc Son, HCMC University of Technology and Education, Vietnam

Nguyen Quang Sang, Duy Tan University, Vietnam

Zoran Hadzi-Velkov, Ss. Cyril and Methodius University, Macedonia

Local Chairs

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Hoang An Quoc, HCMC University of Technology and Education, Vietnam

Nguyen Minh Tam, HCMC University of Technology and Education, Vietnam

Le Chi Kien, HCMC University of Technology and Education, Vietnam

Chau Ngoc Thin, HCMC University of Technology and Education, Vietnam

Conference Manager

Andrea Piekova, European Alliance for Innovation (EAI)

TPC COMMITTEE

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Bin Wu	Tianjin University, China
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Chen Ling	Dalian University of Technology, China
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Cong Trang Mai	Queen's University Belfast, UK
Dac-Binh Ha	Duy Tan University, Vietnam
Dang Viet Hung	Duy Tan University, Vietnam
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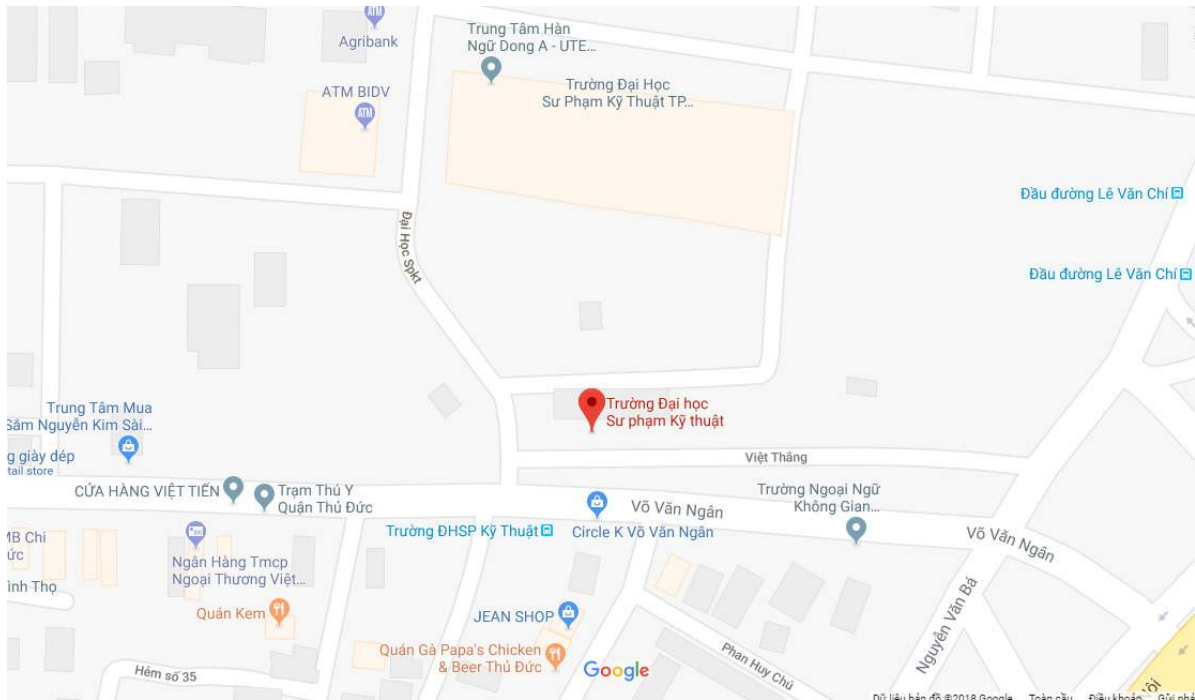
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DIRECTIONS



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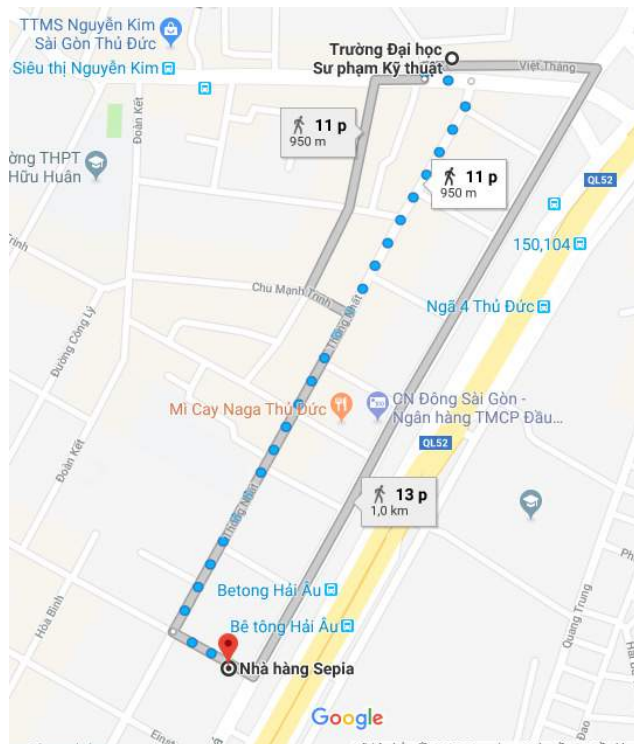
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Lunch and Gala Dinner at SEPIA Restaurant

(by shuttle at the main gate of the conference)



DIRECTIONS



SEPIA Restaurant

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<http://qshine.org>

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Once a year, EAI brings together a comprehensive range of researchers, key industry figures, and innovation stakeholders in Internet of Things, Smart Cities, Future Internet, and eHealth.

At EAI 360° Summits, members get a singular opportunity to exchange experiences from their year-round activities and to turn them into presentations, discussions, demonstrations, and meetings.

EAI 360° Summits are designed to provide a 360 degree perspective on the bleeding edge of ICT, and to help innovative research reach the market through community.

www.ehealth360.org

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EAI was created by leaders from industry, research, and policy-making organisations to engage the global community with the shared goal of securing Europe's future competitiveness through innovation.

With over 40.000 members from 167 countries, EAI engages the global community to explore ways in which innovation in technology and business can benefit society at large.

EAI is involved in the technical program development of events, including scientific meetings, trade events, training workshops, seminars, and fairs worldwide.

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Thank you for participating at EAI conference and

We hope to see you again!