



Title:

Next Generation Technology of Information Security and Information Processing

Abstract:

There have been unprecedented advances in developing technologies to enable the next generation networks, while many new challenges and opportunities are emerging. According to Cisco, more than 50 billion devices are expected to be connected to the Internet by 2020. These connected things will generate huge volume of data. Thus, information security problem has become critical and challenging since so many contents, devices and users connected to the Internet. Furthermore, how to analyze and find the potential information of these data to facilitate human life is still an open issue. In addition, many salient issues are affecting the data transmission process, such as energy consumption, resource allocation, scalable deep coverage. The next generation technology of information security and information processing workshop at IEEE ICAIS/ICCCS 2019 aims to consolidate and disseminate the latest developments and advances in the aforementioned areas. This workshop invites participation from academic, industry, and government researchers working in the information security and information processing problems, including technologies, theories, services, architectures, and protocols. This workshop will provide a platform for researchers to get together, to present a latest snapshot of the cutting-edge research, as well as to shed light on future directions in this exciting area.

Scope and Topics:

The objective of this workshop is to invite authors to submit original manuscripts that demonstrate and explore current advances in all aspects of information security and information processing. The workshop solicits novel papers on a broad range of topics, including but not limited to:

- ✧ Wireless network security and privacy
- ✧ Big data for information processing
- ✧ Privacy protection, trust in Big Data
- ✧ Deep learning, reinforcement learning, machine learning for communications and networking
- ✧ Blockchain technology for information security
- ✧ Artificial intelligence in networks
- ✧ Energy saving in data transmitting and collecting
- ✧ Energy efficient resource allocation
- ✧ Post-Quantum Cryptography

**Program Committee Chairs:**

Miao Pan, University of Houston, USA

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Miao Pan received his B.S. degree from Department of Electrical Engineering at Dalian University of Technology in 2004, an M.S. degree from Department of Electrical and Computer Engineering at Beijing University of Posts and Telecommunications in 2007, and the Ph.D. degree in Electrical and Computer Engineering from University of Florida in 2012. He is currently serving as an assistant professor in the Department of Electrical and Computer Engineering at University of Houston. His research interests include cognitive radio networking, underwater communications and networking, cybersecurity, and cyber-physical systems, and funded more than \$1.2 M by NSF and other funding agencies in those research areas. His publications achieve 1500 plus citations according to Google Scholar. He has served on the technical program committees for several IEEE/ACM conferences on wireless networking and privacy.

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Yifei Wei is currently an Associate Professor in School of Electronic Engineering at Beijing University of Posts and Telecommunications. He received the B.Sc. and Ph.D. degrees in electronic engineering from Beijing University of Posts and Telecommunications (BUPT, China), in 2004 and 2009, respectively. He was a visiting Ph.D. student in Carleton University (Canada) from 2008 to 2009. He was a postdoctoral research fellow in the Dublin City University (Ireland) in 2013. He was the vice dean of school of science in BUPT from 2014 to 2016. He was a visiting scholar in the University of Houston (USA) from 2016 to 2017. His current research interests are in energy-efficient networking, software defined heterogeneous networks, and machine learning. He was involved in several projects funded by National High Technology Research and Development Program of China, and National Natural Science Foundation of China. He has served on the Technical Program Committee members of numerous conferences.

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Zhiguo Qu, received the Ph.D. degree in information security from Beijing University of Posts and Telecommunications, China, in 2011. From 2012 to 2014, he worked as a Post-doc Researcher Fellow at Dublin City University in Ireland. In July 2011, he joined Nanjing University of Information and Technology in China, where he is currently an associate professor in the College of Computer and Software. His research interests include quantum secure communication, quantum information



hiding, data mining and digital watermarking. By now, he has published more than 30 top-level papers.

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Pengbo Si received his B.S. degree and PhD degree from Beijing University of Posts and Telecommunications in 2004 and 2009, respectively. He joined Beijing University of Technology in 2009, where he is currently a Professor and PhD Supervisor. During 2007 and 2008, he visited Carleton University, Ottawa, Canada. During 2014 and 2015, he was a visiting scholar at the University of Florida, Gainesville FL. He serves as the Associate Editor of International Journal on AdHoc Networking Systems, the Editorial Board Member of Ad Hoc & Sensor Wireless Networks, and the Symposium Chair of IEEE GLOBECOM 2019. He also served as the Guest Editor of Advances in Mobile Cloud Computing, IEEE Transactions on Emerging Topics in Computing Special Issue, TPC Co-Chair of IEEE ICC '13-GMCN, Program Vice Chair of IEEE GreenCom '13, and TPC member of numerous conferences. His research interests include Blockchain, SDN, resource management, cognitive radio networks, etc. Dr. Si is a senior member of the IEEE.

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Prof. Zhu received the PhD degree in traffic information engineering and control from Beijing Jiaotong University in 2012. From 2009 to 2010, he was a visiting student in University of British Columbia (UBC) and Carlton University in Canada, where he worked on the research and development in the areas of advanced wireless communication technologies in railway control system. He joined state key laboratory of rail traffic control and safety at Beijing Jiaotong University, Beijing, in 2012, where he is currently an Associate Professor. His research interests include train ground communication system, communication based train control system, cross-layer/cross-systems design in wireless networks, and security in train control system. He has published 40+ papers in reputable journals/conferences. Most of the papers are published in well-known journals, such as IEEE Transactions on Vehicular Technology, IEEE Transactions on Intelligent Transportation System, and IEEE Journal on Selected Areas in Communications (JSAC). His doctoral dissertation "cross layer design in CBTC train ground communication system" was awarded the Beijing exceptional doctoral dissertation.

As the head and coordinators of projects, Prof. Zhu works on a series of (more than 10) projects from the Ministry of Education and Natural Science Foundation etc. He has served on the Technical Program Committee (TPC) of numerous conferences and as the TPC Co-Chair of IEEE ITSC'14, IEEE ITS'15, IEEE ITS'16, TPC member of Globecom'14, ICC'14. He is also the reviewer of several well-known journals, including IEEE Transactions on Vehicular Technology, IEEE Transactions on Intelligent Transportation System, EURASIP Journal on Wireless Communications



Networking, Wiley Journal on Security and Communication Networks, and International Journal of Wireless Communications and Networking.

In industry area, as a main participant, Prof. Zhu design the data communication system of the CBTC system of Beijing Metro Yizhuang Line, which is the first train control system with self-owned intellectual property right. He published 4 granted patent during the system design process.

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