

# SSIC 2018 会议日程

( SSIC 2018 – Conference Program )

## **Third International Conference on Cyber Security of Smart Cities, Industrial Control System and Communications (SSIC 2018)**

Shanghai, China - October 18 - 19, 2018

### **大会主席 General Chair**

Professor Jianhua Li, Shanghai Jiao Tong University, China

Professor Gérard Memmi, Telecom Paristech, France

### **技术委员会主席 TPC Chairs**

Cunqing Hua, Shanghai Jiao Tong University, Shanghai, China

Kanwalinderjit Gagneja , Florida Polytechnic University, USA

### **组织委员会主席 Organization Chair**

Xiuzhen CHEN, Shanghai Jiao Tong University, China

---

Time	Conference Program
<b>October 18, 2018</b>	
8:00-9:25	Registration
9:25-9:30	Opening Ceremony
9:30-10:20	<p>Keynote Talk 1 : Big Data and Machine Learning Methods for DDoS Detection</p> <p><b>Professor Jie Li</b>, Shanghai Jiao Tong University, China</p> <p>Chair : Cunqing Hua</p>
<b>10:20-10:50 Group Photo</b>	
<b>10:50-11:10 Coffee Break</b>	
11:10-12:00	<p>Keynote Talk 2 : Fog Computing for 5G and Beyond</p> <p><b>Professor Xiliang Luo</b>, ShanghaiTech University, China</p> <p>Chair : Cunqing Hua</p>
<b>12:10-14:00 Lunch Break</b>	
14:00-15:20	<p>Session 1: <b>Wireless Networks Security</b></p> <p>Chair: : Rida Khatoun</p> <p><b>Caching Strategy for Scalable Video Coding in Information-Centric Networking.</b> Junhua Tang, Shuli Zhao, Yue Wu and Jianhua Li. Shanghai Jiao Tong University ( China)</p> <p><b>A UCB1-Based Online Job Dispatcher for Heterogeneous Mobile Edge Computing System.</b> Xiaoliang Wang, Junhua Tang, Mengdi Yu, Gubei Yin and Jianhua Li. Shanghai Jiao Tong University (China)</p>

	<p><b>Energy-Aware Distribution of Data Fragments in Unattended Wireless Sensor Networks.</b> Hong-Beom Choi, Young-Bae Ko and Keun-Woo Lim. Ajou University (South Korea) and Telecom ParisTech (France)</p> <p><b>Machine Learning-based RF Jamming Detection in Wireless Networks.</b> Feng Zhutian and Hua Cunqing. Shanghai Jiao Tong University (China)</p>
<b>15:20-15:40: Coffee Break</b>	
15:40-16:20	<p><b>Session 2: Image Analysis and Processing</b> Chair : Badis Hammi</p> <p><b>Detection for Pulmonary Nodules using RGB Channel Superposition Method in Deep Learning Framework.</b> Yishuang Meng, Ping Yi, Xuejun Guo, Wen Gu, Yao Yao, Zicheng Chi and Ting Zhu. Shanghai Jiao Tong University (China), Xinhua Hospital (China), University of Maryland (USA).</p> <p><b>Image Mapping through Metadata.</b> Kanwalinder Gagneja and Caleb Riggs. Florida Polytechnic University (USA)</p>
16:20-17:00	<p>Short Paper Session: (5min/paper) Chair : Cunqing Hua</p> <p><b>A Group based Dynamic Mix Zone Scheme for Location Privacy Preservation in VANETs.</b> Qingyuan Li, Hao Wu, Lei Liu, Bin Pan and Lan Dong.</p> <p><b>Intelligent Information System for real time monitoring of distributed infrastructures and equipments in rural areas.</b> Bala Moussa Biaye, Amadou Coulibaly and Khalifa Gaye</p> <p><b>Data Hiding for Color Image by Rubik's Cube.</b> Chih-Wei Shiu</p> <p><b>Research and Applications of the Key Technology of Intelligent Operation and Maintenance System Architecture for Transmission Power Cables.</b> Chenbin Wu, Yunjie Zhou, Xiaojuan Jiang, Yinbai Xu, Xiaodi Wang and He He</p> <p><b>Performance Modeling towards Interrupt System of Virtualized Cryptography Device.</b> Lei Sun, Shuai Li and Songhui Guo.</p> <p><b>A Novel Android Malware Detection Approach Using Operand Sequences</b> Peng Zhang, Shaoyin Cheng, Songhao Lou and Fan Jiang.</p> <p><b>Discovering Opinion Leaders in Social Circles with Community Detection</b> Xiaoyu Ji and Wei Wang.</p>
18:00-20:00	<b>Dinner</b>
<b>October 19, 2018</b>	

<p>9:00-10:20</p>	<p><b>Session 3: Attacks and Intrusion Detection</b>                  Chair : Xiuzhen CHEN</p> <p><b>Classification of botnet families based on features self-learning under Network Traffic Censorship.</b> Zhi Hong Zhou, Li Hong Yao, Bin Hu, Jian Hua Li, Chen Wang and Zheng Long Wang. Shanghai Jiao Tong University (China).</p> <p><b>Multi-SDN Based Cooperation Scheme for DDoS Attack Defense.</b> Boren He, Futai Zou and Yue Wu. Shanghai Jiao Tong University (China).</p> <p><b>Detection of DGA Domains Based on Support Vector Machine.</b> Yu Chen, Sheng Yan, Tianyu Pang and Rui Chen. State Grid Shanghai Municipal Electric Power Company (China)</p> <p><b>PU Learning in Payload-based Web Anomaly Detection.</b> Yuxuan Luo, Shaoyin Cheng, Chong Liu and Fan Jiang. University of Science and Technology of China.</p>
<p><b>10:20-10:30 Coffee Break</b></p>	
<p>10:30-11:30</p>	<p><b>Session 4: Social Networks</b>                  Chair : Badis Hammi</p> <p><b>Least Cost Precision Marketing Based on User Profiles in Social Networks.</b> Mengyi Chen and Li Pan. Shanghai Jiao Tong University (China)</p> <p><b>Least Cost Rumor Community Blocking Optimization in Social Networks.</b> Jianguo Zheng and Li Pan. Shanghai Jiao Tong University (China).</p> <p><b>An Improved Group-based Influence Maximization Method in Social Networks.</b> Danhua Huang and Li Pan. Shanghai Jiao Tong University (China)</p>
<p>11:30-12:10</p>	<p><b>Session 5 : Industrial Control Systems (ICS)</b>                  Chair: Xiuzhen CHEN</p> <p><b>VTET: A Virtual Industrial Control System Testbed for Cyber Security Research.</b> Yaobin Xie, Wei Wang, Faren Wang and Rui Chang. State Key Laboratory of Mathematical ENgineering and Advanced Computing, Zhejiang University (China)</p> <p><b>Assessing Industrial Control System Attack Datasets for Intrusion Detection.</b> Xuelei Wang and Ernest Foo. Queensland University of Technology (Australia).</p>
<p><b>12:10-13:30 Lunch Break</b></p>	
<p>13:30-14:30</p>	<p><b>Session 6: Vehicular Networks</b>                  Chair: Badis Hammi</p> <p><b>"My autonomous car is an elephant": a machine learning based detector for implausible dimension.</b> Jean-Philippe Monteuis, Jonathan Petit, Jun Zhang, Houda Labiod, Stefano Mafrica and Alain Servel. Groupe PSA (France), Telecom ParisTech (France), Onboard Security (USA).</p> <p><b>Energy Transport Station Deployment in Electric Vehicles Energy Networks.</b></p>

	<p>Yu Sui, Ping Yi, Wei Wang and Ting Zhu. Shanghai Jiao Tong University (China), University of Maryland (USA).</p> <p><b>IOT based Real-time Drowsy Driving Detection System for the Prevention of Road Accidents.</b> Md. Yousuf Hossain and Fabian Parsia George. BRAC University (Bangladesh).</p>
14:30-15:10	<p><b>Session 7:Cloud Computing Security</b></p> <p>Chair: Gongliang CHEN</p> <p><b>VEPP : A Verifiable, Highly Efficient and Privacy-Preserving Protocol for Outsourcing Large Matrix Multiplication.</b> Hui Liang, Xiaolei Dong, Jiachen Shen, Zhenfu Cao, Hongyuan Chen and Yunong Liang. East China Normal University (China).</p> <p><b>SDKSE:A Secure Dynamic Keyword Searchable Encryption Scheme for Email Systems.</b> Hongyuan Chen, Zhenfu Cao, Xiaolei Dong and Jiachen Shen. East China Normal University (China).</p>
15:10-16:10	<p>Session 8: Cryptography services</p> <p>Chair : Gongliang CHEN</p> <p><b>A Case Study for Practical Issues of DCT based Bitmap Selective Encryption Methods.</b> Han Qiu, Nathalie Enfrin and Gerard Memmi. Telecom-Paristech (France).</p> <p><b>Research on Civil Airborne Task Scheduling Test Platform Supporting Provable Data Possession.</b> Gaobo Sun, Shuyu Li and Zhanchun Kang. Shaanxi Normal University (China)</p> <p><b>Fully Secure Traceable and Revocable-Storage Attribute-Based Encryption with Short Update Keys via Subset Difference Method.</b> Huijie Lian, Qingxian Wang and Guangbo Wang. Information Engineering University (China).</p>
<b>16:10-16:20 Coffee break</b>	
16:20-17:00	<p>Session 9 : Blockchain</p> <p>Chair : Gongliang CHEN</p> <p><b>An adaptive authentication and authorization scheme for IoT's gateways: a blockchain based approach.</b> Achraf Fayad, Badis Hammi and Rida Khatoun. Telecom ParisTech (France).</p> <p><b>Total eclipse: How To Completely Isolate a Bitcoin Peer.</b> Yves Christian Adja Elloh, Badis Hammi, Ahmed Serhrouchni and Houda Labiod. Telecom ParisTech (France).</p>
17:00-17:05	<b>Closing Session</b>

Important Notes:

1. The venue for the Opening Ceremony and Keynote Talks is at **Conference Hall**, Software Engineering Building, SJTU
2. The venue for all the technical sessions is at **Room 5-218**, Software Engineering Building, SJTU
3. The lunch will be held at DA ZHI JU (大智居) , SJTU
4. The Dinner on Oct 18, 2018 will be held at **Academic Exchange Center** from 18:00pm to 20:00pm.



## Keynote Speaker

### Keynote Talk 1: Big Data and Machine Learning Methods for DDoS Detection

Prof. Jie Li

Shanghai Jiaotong University

**Abstract:** The Distributed Denial of Service (DDoS) is a typical cyber-attack that takes network resources unavailable by overwhelming it with large traffic from multiple sources. In a typical DDoS attack, there may be millions of fake requests which run out the network resources. Nowadays, the scalability and traffic of networks grow explosively, which make the DDoS attack detection more complicated and challenging. Big data and machine learning can be tools for dealing with DDoS detections by catching the network traffic features. In this speech, we present some novel DDoS detection and countermeasure methods for large-scale and complicated computer networks including Software-Defined Networks and large-scale Internet using big data framework Spark Streaming and machine learning. We show that the big data and machine learning are powerful in dealing with DDoS.



**Speaker Biography:** Jie Li is a Chair Professor of Department of Computer Science and Engineering, Shanghai Jiaotong University, Shanghai, China. He was a full professor in Department of Computer Science, University of Tsukuba, Japan. He was a visiting Professor in Yale University, USA, Inria Sophia Antipolis and Inria Grenoble-Rhone-Aples, France. He is the co-chair of IEEE Big Data Technical Community and the founding Chair of IEEE ComSoc Technical Committee on Big Data and the Co-Chair of IEEE Big Data Community. His current research interests are in big data and AI, cloud computing, future networks, network security, OS, modeling and performance evaluation of information systems. He serves as an associated editor for many IEEE journals and transactions. He has also served on the program committees for several international conferences.

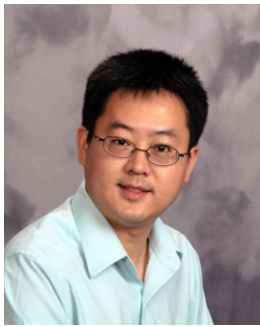
## Keynote Talk 2: Fog Computing for 5G and Beyond

Professor Xiliang Luo

ShanghaiTech University, China

### Abstract:

A key networking trend during the past decade is to push various capabilities, such as computation, control, and storage, to the cloud. Such an over-dependence on the cloud, however, indicates that availability and fault tolerance issues in the cloud would directly impact millions of end-users. Such a cloud-centric architecture is not suitable for those many delay-sensitive applications in 5G and beyond. To deal with these challenges, the cloud is now "descending" to the network edges and diffuses among the client devices in both mobile and wireline networks. Such a transition leads to the new paradigm of fog computing and networking. In this talk, we will first provide an overview of fog computing and networking. Then we will provide our vision about how fog computing will marry and shape 5G and beyond. Further, we will also report our recent works on computation offloading and resource allocations in fog-enabled networks.



**Speaker Biography:** Xiliang Luo received the B.Sc. degree in physics from Peking University, Beijing, China, in 2001, and the M.Sc. and Ph.D. degrees in electrical engineering from the University of Minnesota, Minneapolis, MN, USA, in 2003 and 2006, respectively. After finishing his Ph.D. studies, he joined Qualcomm Research and carried out cutting edge research at different posts as a Senior Engineer (2006), a Staff Engineer (2010), and then a Senior Staff Engineer (2013), where he was involved in the system designs, analyses, and standardization of 4G LTE. He was the designer of various enhancements to Qualcomm's current LTE solutions and led the designs of Qualcomm's next generation LTE modem for heterogeneous networks from initial concept to final completion. Since 2014, he has been with the School of Information Science and Technology, ShanghaiTech University, Shanghai, China, as an Associate Professor. He has authored or coauthored over 70 research papers in top journals and conferences. He is the co-inventor of over 70 US and international patents, the majority of which have been adopted into current LTE and LTE-Advanced standards.

His current research interests include signal processing, communications, and information theory. In particular, he is interested in researches combining information theory and signal processing theory that can shape and guide the designs of next generation data and information processing networks. In 2017, he received the Excellent Paper Award from the IEEE ICUFN. He is currently the Co-Director of Shanghai Institute of Fog Computing Technology (SHIFT). He is also serving as an Editor for the IEEE Transactions on Wireless Communications.