2017 9th International Conference on Wireless Communications and Signal Processing

Final Program

October 11-13, 2017, Nanjing, China
Welcome Message from the General Chair

On behalf of the organizing committee, it is my great pleasure to invite you to participate in the 2017 9th International Conference on Wireless Communications and Signal Processing (WCSP 2017), which will be held in Nanjing, Jiangsu Province, China, on Oct. 11-13, 2017.

WCSP is an annual International Conference on Wireless Communications and Signal Processing. The aim of the conference is to provide an international forum that brings together researchers from academia and practitioners from industry to exchange advances in recent research work on all aspects of wireless communications and signal processing. With the support of all participants, the past eight events of the conference have been very successful. We are now organizing WCSP 2017, the ninth event of the conference, which has obtained the technical co-sponsorship of the IEEE and IEEE Communications Society. The organizing committee and technical program committee of the conference are working hard to develop a high-quality technical program and make the conference a greater success. You are cordially welcome to participate in and contribute to the conference in your valuable role.

Located in the eastern part of China, Nanjing is the capital of Jiangsu Province and an important central city on the middle and lower reaches of the Yangtze River. Nanjing is also one of the most well-known historic and cultural cities in China, and has many tourism attractions around the city. I hope that you will take this opportunity to visit the beautiful Nanjing city, and enjoy the amazing scenic spots and historic sites in Nanjing.

Thank you. I look forward to welcoming you in Nanjing in October 2017.

Prof. Xiaohu You
General Chair, WCSP 2017
Southeast University, P. R. of China
Welcome Message from the TPC Chairs

On behalf of the technical program committee, it is our great pleasure to welcome you all to the 2017 9th International Conference on Wireless Communications and Signal Processing (WCSP 2017).

WCSP 2017 consists of six symposia, including the Ad Hoc and Sensor Networking Symposium, Communication Theory symposium, Signal Processing Symposium, Wireless Communications Symposium, Wireless Networking Symposium, and Wireless Network Security Symposium. The technical program committee consists of 675 members from all over the world. We received totally 820 paper submissions from 15 countries and regions, which were put into the review process, and each submission was carefully peer-reviewed by at least three reviewers in the areas. After a rigorous review process, 328 submissions have been selected for inclusion in the technical program and presentation at in the conference, which is equivalent to an acceptance ratio of 40%.

The technical program of WCSP 2017 includes six keynote speeches and 56 technical sessions, which cover a diversity of topics in the areas of wireless communications and signal processing. The keynote speeches will be delivered by Dr. Wen Tong from Huawei Technologies, Prof. Robert Heath from The University of Texas at Austin, Prof. Andreas F. Molisch from the University of Southern California, Prof. David Gesbert from EURECOM, Prof. Tom Hou from Virginia Tech, and Ness B. Shroff from The Ohio State University. All keynote speakers are world-wide renowned leading researchers in the areas of wireless communications and signal processing. We hope that you will find the technical program interesting, informative, and stimulating.

The technical program would not have been possible without the efforts of all symposium co-chairs, TPC members, and external reviewers who volunteered their time and professional expertise. We take this opportunity to thank all of them for their hard work and great help. We also thank all the authors who have submitted their papers and contributed their quality work to this conference. Moreover, we thank PLA Army Engineering University, Nanjing University of Posts and Telecommunications, Zhejiang University, and University of Science and Technology of China, as well as our technical co-sponsors and patrons, IEEE, IEEE Communications Society, IEEE Communications Society Nanjing Chapter, IEEE Signal Processing Society Nanjing Chapter, IEEE Vehicular Technology Society Nanjing Chapter, CIC Communications and Signal Processing Society, and National Instruments for their support and contributions.

Finally, we hope that you will enjoy the technical program of the conference and wish you all a pleasant stay at the conference and in the amazing city, Nanjing.

Jun Zheng, Nirwan Ansari, and Pascal Lorenz
WCSP 2017 Technical Program Committee Co-Chairs
## WCSP 2017 Technical Program on Oct. 11, 2017

### 08:30-09:00
**Opening and Welcome Ceremony**  
(Grand Ballroom)  

### 09:00-09:50
**Keynote Plenary 1: Key Technology Challenges for 5G and Beyond**  
*Dr. Wen Tong*, IEEE Fellow, CTO, Wireless Network  
Huawei Technologies Co., Ltd., China  
(Grand Ballroom)

### 09:50-10:40
**Keynote Plenary 2: Communications in High-Mobility Environments**  
*Prof. Andreas F. Molisch*, IEEE Fellow  
University of Southern California, USA  
(Grand Ballroom)

### 10:40-11:10
Coffee Break

### 11:10-12:00
**Keynote Plenary 3: Pushing the Capacity Envelope of Wireless Networks: Opportunities and Challenges**  
*Prof. Tom Hou*, IEEE Fellow  
Virginia Tech, USA  
(Grand Ballroom)

### 12:00-14:00
Lunch  

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<thead>
<tr>
<th>Room</th>
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<tr>
<td><strong>Unique Room</strong></td>
<td><strong>AHSNS-01: Mobile Ad Hoc Networks</strong></td>
<td><strong>Perseverance Room</strong></td>
<td><strong>CTS-01: Coding and Modulation</strong></td>
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<tr>
<td><strong>Revolution Room</strong></td>
<td><strong>SPS-01: Multimedia Signal Processing (I)</strong></td>
<td><strong>Knowledge A Room</strong></td>
<td><strong>WCS-01: Channel Models</strong></td>
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<td><strong>Knowledge B Room</strong></td>
<td><strong>WCS-02: Interference Alignment</strong></td>
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<td><strong>WNSS-01: Physical Layer Security (I)</strong></td>
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<td><strong>Alliance Room</strong></td>
<td><strong>WNS-01: Resource Allocation (I)</strong></td>
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<td><strong>WNSS-02: Physical Layer Security (II)</strong></td>
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### 14:00-15:30
**AHSNS-02: Wireless Sensor Networks**  
**CTS-02: Coding and Detection**  
**SPS-02: Multimedia Signal Processing (II)**  
**WCS-03: Relaying**  
**WCS-04: Resource Allocation (I)**  
**WNS-02: Resource Allocation (II)**  
**WNSS-02: Physical Layer Security (II)**

### 15:30-16:00
Coffee Break

### 16:00-17:30
**AHSNS-01: Mobile Ad Hoc Networks**  
**CTS-01: Coding and Modulation**  
**SPS-01: Multimedia Signal Processing (I)**  
**WCS-01: Channel Models**  
**WCS-02: Interference Alignment**  
**WNS-01: Resource Allocation (I)**  
**WNSS-01: Physical Layer Security (I)**

### 18:30-21:00
Welcome Reception (Grand Ballroom)
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<tr>
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<tr>
<td>08:30-09:30</td>
<td>Keynote Plenary 4: Millimeter Wave MIMO Signal Processing</td>
<td>Prof. Robert W. Heath, IEEE Fellow, The University of Texas at Austin, USA (Grand Ballroom)</td>
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<tr>
<td>09:30-10:30</td>
<td>Keynote Plenary 5: Learning from the Sky: Flying Access Networks for beyond 5G</td>
<td>Prof. David Gesbert, IEEE Fellow, EURECOM, France, (Grand Ballroom)</td>
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<td>10:30-11:00</td>
<td>Coffee Break</td>
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<td>11:00-12:00</td>
<td>Keynote Plenary 6: Minimizing Latency in Cloud Based Systems: Coding Over Parallel Servers</td>
<td>Prof. Ness B. Shroff, IEEE Fellow, The Ohio State University, USA (Grand Ballroom)</td>
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<td>12:00-14:00</td>
<td>Lunch</td>
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<td>15:30-16:00</td>
<td>Coffee Break</td>
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<td>18:30-21:00</td>
<td>Banquet (Grand Ballroom)</td>
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<td>8:30-10:00</td>
<td>Unique Room</td>
<td>AHSNS-05: Wireless Network Analysis</td>
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<td>SPS-05: Beamforming for MIMO Systems</td>
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<td>Revolution Room</td>
<td>SPS-06: Signal Processing for MIMO and Radar Systems</td>
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<td>Knowledge A Room</td>
<td>WCS-09: NOMA (I)</td>
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<td>WCS-10: Massive MIMO (I)</td>
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<td>Zijin Room</td>
<td>WNS-05: Data Caching (II)</td>
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<td>U Lake Room</td>
<td>WNSS-05: Wireless Network Security</td>
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<td>10:00-10:30</td>
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<td>10:30-12:00</td>
<td>Unique Room</td>
<td>WCS-11: NOMA (II)</td>
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<td>Perseverance Room</td>
<td>SPS-07: Resource Allocation for Communication Systems</td>
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<td>Revolution Room</td>
<td>SPS-08: Interference Suppression and Multiplexing</td>
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<td>WCS-12: Massive MIMO (II)</td>
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<td>WCS-13: Massive MIMO (III)</td>
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<td>Zijin Room</td>
<td>WNS-06: Routing and Grouping</td>
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<td>U Lake Room</td>
<td>WCSS-14: mmWave</td>
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<td>12:00-14:00</td>
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<td>14:00-15:30</td>
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<td>WCS-15: NOMA (III)</td>
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<td>Perseverance Room</td>
<td>SPS-09: Signal Processing Emerging for Communication Systems</td>
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<td>Revolution Room</td>
<td>SPS-10: Estimation and Detection (I)</td>
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<td>Knowledge A Room</td>
<td>WCS-16: Massive MIMO-Channel Estimation</td>
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<td>WCS-17: Massive MIMO-Detection</td>
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<td>Zijin Room</td>
<td>WNS-07: Scheduling and QoS</td>
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<td>U Lake Room</td>
<td>WCSS-18: Visible Light Communication</td>
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<td>15:30-16:00</td>
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<td>16:00-17:30</td>
<td>Unique Room</td>
<td>WCS-19: Cooperative MIMO and DAS</td>
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<td>Revolution Room</td>
<td>SPS-12: Emerging Signal Processing and Its applications</td>
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<td>Knowledge A Room</td>
<td>WCS-20: HetNets</td>
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<td>Knowledge B Room</td>
<td>WCS-21: System and Network Design</td>
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<td>Zijin Room</td>
<td>WNS-08: Software Defined Networks</td>
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<td>U Lake Room</td>
<td>WCSS-22: System Performance Analysis</td>
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Keynote Speakers

**Wen Tong, Chief Technology Officer, Wireless Network, IEEE Fellow**
Huawei Technologies Co., Ltd., China

Key Technology Challenges for 5G and Beyond

**Abstract**

As 5G became a global-scale dominant mobile technology to drive the digital transformation for all business and industries, the implementation and development of 5G network infrastructure to meet all the requirements for 5G defined by ITU remains a technology challenge. In this talk, we present the open issues and state-of-art solutions in the three key use-cases for 5G: (1) emBB (2) URLLC (3) mMTC; unlike the previous generation of wireless networks, 5G will address the diverse technologies spanning from cellular frequency to mmWave frequency, from global coverage macro-cell networks to hot-spot UDN, from consumer based internet access to industrial grade cyber-physical tactile internet, from purpose designed networks to software defined virtualized networks. These challenges will continue to drive the landscape for 5G and beyond, as such, we will present a deep-dive into two enablers, i.e., spectral efficiency and end-to-end network slicing.

**Biography**

Dr. Wen Tong is the Huawei Fellow, CTO, Huawei Wireless. Since 2010, Dr. Tong is the vice president of Huawei wireless research. In 2011, He was appointed the Head of Communications Technologies Labs of Huawei. Currently, he spearheads to lead Huawei’s 5G wireless technologies research and development. Prior to joining Huawei in March 2009, Dr. Tong was the Nortel Fellow and global head of the Network Technology Labs at Nortel. He joined the Wireless Technology Labs at Bell Northern Research in 1995. He had pioneered fundamental technologies from 1G to 4G wireless with 350 granted US patents.

Dr. Tong was elected as a Huawei Fellow and an IEEE Fellow. In 2014, he was the recipient of IEEE Communications Society Industry Innovation Award for “the leadership and contributions in development of 3G and 4G wireless systems”. Dr. Tong serves as Board of Director of WiFi Alliance and he is the fellow of Canadian Academy of Engineering.

**Andy F. Molisch, Professor, IEEE Fellow**
University of Southern California, USA

Communications in High-Mobility Environments

**Abstract**

Communication in high-mobility environments will be one of the main applications for fifth-generation cellular systems. High-speed trains (HST) and V2X (vehicle-to-vehicle as well as vehicle-to-infrastructure) communications will find
applicants both for passenger convenience (video streaming etc.) and safety-critical control signalling for trains and cars. This talk will first review the unique characteristics of high-mobility environments and propagation channels. These will motivate to re-consider modulation and multiple access methods. We will discuss the tradeoffs between spreading (whitening) and localized transmission in the time-frequency plain, and discuss OTFS, a new modulation format especially suited for high-mobility scenarios.

Biography

Andreas F. Molisch received the Dipl. Ing., Ph.D., and habilitation degrees from the Technical University of Vienna, Vienna, Austria, in 1990, 1994, and 1999, respectively. He subsequently was with AT&T (Bell) Laboratories Research (USA); Lund University, Lund, Sweden, and Mitsubishi Electric Research Labs (USA). He is now a Professor and Solomon-Golomb – Andrew-and-Erna-Viterbi Chair at the University of Southern California, Los Angeles. His current research interests are the measurement and modeling of mobile radio channels, multi-antenna systems, ultra-wideband communications and localization, novel modulation and multiple access systems, and wireless video distribution. He has authored, coauthored, or edited four books (among them the textbook Wireless Communications, Wiley-IEEE Press), 19 book chapters, more than 200 journal papers, some 300 conference papers, as well as more than 80 patents and 70 standards contributions.

Dr. Molisch has been an Editor of a number of journals and special issues, General Chair, Technical Program Committee Chair, or Symposium Chair of multiple international conferences, as well as Chairman of various international standardization groups. He is a Fellow of the National Academy of Inventors, Fellow of the AAAS, Fellow of the IEEE, Fellow of the IET, an IEEE Distinguished Lecturer, and a member of the Austrian Academy of Sciences. He has received numerous awards, among them the Donald Fink Prize of the IEEE, and the Eric Sumner Award of the IEEE.

Oct. 11, 2017, 11:10am-12:00pm, Room: Grand Ballroom

Tom Hou, Professor, IEEE Fellow
Virginia Tech, USA

Pushing the Capacity Envelope of Wireless Networks: Opportunities and Challenges

Abstract

Over the past fifteen years, we have witnessed a phenomenal growth in wireless data communications. On the demand side, the use of wireless handheld devices for data applications has become pervasive. On the technology side, various advanced communication technologies have been developed and employed to improve network capacity. Some of the new technologies include cognitive radio, massive MIMO, full duplex, mmWave, among others. Although it is well known that these technologies can improve point-to-point throughput performance, it remains unclear what performance one can expect in a complex network environment. A fundamental exploration of this question is important not only for gaining new theoretical understanding, but also is critical for the design of algorithms and network protocols in the field. In this talk, we explore the challenges in the modeling and optimization of these new physical layer technologies in a network environment with the goal of pushing the capacity envelop at the network level.
Biography

Tom Hou is the Bradley Distinguished Professor of Electrical and Computer Engineering at Virginia Tech, USA. His research interests are to develop innovative solutions to complex cross-layer optimization problems in wireless networks. He is particularly interested in exploring new limits of network performance by exploiting advances at the physical layer and other new enabling technologies.

Prof. Hou was named an IEEE Fellow for contributions to modeling and optimization of wireless networks. He has published two textbooks: Cognitive Radio Communications and Networks: Principles and Practices (Academic Press/Elsevier, 2009) and Applied Optimization Methods for Wireless Networks (Cambridge University Press, 2014). The first book has been selected as one of the Best Readings on Cognitive Radio by the IEEE Communications Society. Prof. Hou's research was recognized by five best paper awards from the IEEE and two paper awards from the ACM. He holds five U.S. patents.

Prof. Hou is a prominent leader in the research community. He was an Area Editor of IEEE Transaction on Wireless Communications (Wireless Networking area), and an Editor of IEEE Transactions on Mobile Computing, IEEE Journal on Selected Areas in Communications – Cognitive Radio Series, and IEEE Wireless Communications. Currently, he is an Editor of IEEE/ACM Transactions on Networking and ACM Transactions on Sensor Networks. He is the Steering Committee Chair of IEEE INFOCOM conference – the largest and top ranked conference in networking. He is a member of the Board of Governors as well as a Distinguished Lecturer of the IEEE Communications Society.

Oct. 12, 2017, 8:30am-9:30am, Room: Grand Ballroom

Robert W. Heath, Professor, IEEE Fellow
The University of Texas at Austin, USA

Millimeter Wave MIMO Signal Processing

Abstract

Millimeter wave has become an incubator for the rebirth of MIMO communication. It has many applications, as a core 5G technology, and also as a conduit for emerging applications of wireless to fixed access, vehicular, aerial, and wearable networks. In this talk, I explain why communication at millimeter wave - and even higher frequencies - is interesting from a signal processing perspective. I first describe the three differentiating features of communication at millimeter wave: larger arrays, new channel models, and power constraints. Then I explain how these features impact the formulation and solution of traditional MIMO signal processing problems like beamforming, precoding, and channel estimation. I describe the signal processing challenges associated with fast antenna array configuration. In particular, I highlight how out-of-band information, sensing, and machine learning algorithms can reduce the overhead in tasks such as adaptive channel estimation and beamforming. I conclude with directions for future research.

Biography

Robert W. Heath Jr. received the Ph.D. in EE from Stanford University. He is a Cullen Trust for Higher Education Endowed Professor in the Department of Electrical and Computer Engineering at The University of Texas at Austin and a Member of the Wireless Networking and Communications Group. He is also the President and CEO of MIMO Wireless Inc and Chief Innovation Officer at Kuma Signals LLC. Prof. Heath is a recipient of the 2012 Signal Processing Magazine Best Paper

**Oct. 12, 2017, 9:30am-10:30am, Room: Grand Ballroom**

David Gesbert, Professor, IEEE Fellow  
EURECOM, France

**Learning from the sky: Flying access networks for beyond 5G**

**Abstract**

The use of flying robots (drones) carrying radio transceiver equipment is the new promising frontier in our quest towards ever more flexible, adaptable and spectrally efficient wireless networks. Beyond obvious challenges within regulatory, control, navigation, and operational domains, the deployment of autonomous flying radio access network (Fly-RANs) also come with a number of exciting new research problems such as the issue of optimal automatic placement of the drones in non-trivial propagation scenarios (i.e. scenarios where the optimal placement is not just dictated by a trivial geometry argument due to shadowing effects, e.g. in cities). We present several different approaches, lying at the cross-roads between machine learning, signal processing and optimization. One approach involves the reconstruction of a city map from sampled radio measurements which can have application beyond the realm of communications.

**Biography**

David Gesbert (IEEE Fellow) is Professor and Head of the Communication Systems Department, EURECOM. He obtained the Ph.D degree from Ecole Nationale Superieure des Telecommunications, France, in 1997. From 1997 to 1999 he has been with the Information Systems Laboratory, Stanford University. He was then a founding engineer of Iospan Wireless Inc, a Stanford spin off pioneering MIMO-OFDM (now Intel). D. Gesbert has published about 270 papers and 25 patents, some winning the 20015 IEEE Best Tutorial Paper Award (Communications Society), 2012 SPS Signal Processing Magazine Best Paper Award, 2004 IEEE Best Tutorial Paper Award (Communications Society), 2005 Young Author Best Paper Award for Signal Proc. Society journals, and several conference best paper awards. He was recently a Technical Co-chair for ICC2017 in Paris. He was named in the 2014 Thomson-Reuters List of Highly Cited Researchers in Computer Science. Since 2015, he holds the ERC Advanced grant "PERFUME" on the topic of smart device Communications in future wireless networks. He held visiting professor positions in KTH (2014) and TU Munich (2016). Since 2017 he is also a visiting Academic Master within the Program 111 at the Beijing University of Posts and Telecommunications. He is a Professor in the Joint BUPT-EURECOM Open5G Lab.
Minimizing Latency in Cloud Based Systems: Coding Over Parallel Servers

Abstract

We are in the midst of a major data revolution. The total data generated by humans from the dawn of civilization until the turn of the new millennium is now being generated every two days. Driven by a wide range of data-intensive devices and applications, this growth is expected to continue its astonishing march, and fuel the development of new and larger data centers. In order to exploit the low-cost services offered by these resource-rich data centers, application developers are pushing computing and storage away from the end-devices and instead deeper into the data-centers. Hence, the end-users’ experience is now dependent on the performance of the algorithms used for data retrieval within the data-centers. In particular, providing low-latency services is critically important to the end-user experience for a wide variety of applications. Our goal has been to develop the analytical foundations and methodologies to enable cloud computing and storage solutions that result in low-latency services. A variety of cloud based systems can be modeled using multi-server, multi queue queueing systems with data locality constraints. In these systems, replication (or most sophisticated coding schemes) can be used to not only improve reliability but to also reduce latency. However, delay optimality for multi-server queueing systems has been a long-standing open problem, with limited results usually in asymptotic regimes. The key question is can we design resource allocation schemes that are near optimal in distribution for minimizing several different classes of delay metrics that are important in wireless web and cloud based services? In this talk, I will overview some of our recent research efforts at solving this problem, provide some key design principles, and outline a set of what I believe are important open problems.

Biography

Ness B. Shroff received his Ph.D. degree in Electrical Engineering from Columbia University in 1994. He joined Purdue university immediately thereafter as an Assistant Professor in the school of ECE. At Purdue, he became Full Professor of ECE in 2003 and director of CWSA in 2004, a university-wide center on wireless systems and applications. In July 2007, he joined The Ohio State University, where he holds the Ohio Eminent Scholar endowed chair in Networking and Communications, in the departments of ECE and CSE. He holds or has held visiting (chaired) professor positions at Tsinghua University, Beijing, China, Shanghai Jiao Tong University, Shanghai, China, and the Indian Institute of Technology, Bombay, India. Dr. Shroff is currently an editor at large of IEEE/ACM Trans. on Networking, a senior editor of the IEEE Transactions on Control of Networked Systems and an editor of the IEEE Networks Magazine. He has received numerous best paper awards for his research, most notably he received the IEEE INFOCOM best paper awards in 2006, 2008, and 2016, and runner up awards in 2005 and 2013. He also received the best paper of the year in the journal of Communication and Networking (2005) and in Computer Networks (2003). In addition, his papers have received the best student paper award (from all papers whose first author is a student) at ACM Sigmetrics 2017, IEEE WiOPT 2013, IEEE WiOPT 2012, and IEEE IWQoS 2006. Dr. Shroff is on the list of highly cited researchers from Thomson Reuters ISI (previously ISI web of Science) in 2014 and 2015, and in Thomson Reuters Book on The World's Most Influential Scientific Minds in 2014. He also received the IEEE INFOCOM achievement award for seminal contributions to scheduling and resource allocation in wireless networks.
WCSP 2017 Technical Program
October 11, 2017 Wednesday

AHSNS-01: Mobile Ad Hoc Networks

Date: Oct. 11, 2017
Time: 14:00pm – 15:30pm
Room: Unique
Chair: Changle Li, Xidian University, P.R. China

1. In-Car Shopping: A Data Dissemination Scheme for Vehicular Networks in Urban Areas
   Chen Chen, Cong Wang, Guoxian Zhang and Zhiyuan Ren (Xidian University, P.R. China); Jingjing Ma (Central South University, P.R. China)

2. An Efficient Adaptive Frame Aggregation Scheme in Vehicular Ad Hoc Networks
   Kui Liu and Changle Li (Xidian University, P.R. China)

3. HTTP Message Response Time on Destination Node-Driven Routing for Social MANET
   Koichi Hirai and Kazumasa Takami (Soka University, Japan)

4. A Task Assignment Algorithm Based on Particle Swarm Optimization and Simulated Annealing in Ad-hoc Mobile Cloud
   Bonan Huang, Weiwei Xia, Yueyue Zhang, Jing Zhang, Qian Zou, Feng Yan, Lianfeng Shen (Southeast University, P.R. China)

5. A Spectrum Penetration Assisted MAC Protocol for Vehicular Communication Networks
   Yu Zhang, Cailian Chen, Jianping He and Xinping Guan (Shanghai Jiao Tong University, P.R. China)

   Mengfei Wu, Bojiao Ma, Zhenyu Liu, Lingyan Xiu, and Lin Zhang (Beijing University of Posts and Telecommunications, P.R. China)

CTS-01: Coding and Modulation

Date: Oct. 11, 2017
Time: 14:00pm – 15:30pm
Room: Perseverance
Chair: Nan Liu, Southeast University, P.R. China

1. Distance Spectrum and Optimized Design of Concatenated Polar Codes
   Minzi Xu, Peiyao Chen, Baoming Bai and Sheng Tong (Xidian University, P.R. China)

2. Photograph QC-LDPC Codes Design for Multi-Level Cell Flash Memories
   Lingjun Kong (Nanjing University of Posts and Telecommunications, P.R. China); Jun Li (Nanjing University of Science and Technology, P.R. China); Pingping Chen (Fuzhou University, P.R. China); Shunwai Zhang (Nanjing University of Posts and Telecommunications, P.R. China)

3. An Algebraic Approach to Design Low Rate Low Density Parity Check Code
   Zhe Zhang, Liang Zhou, Junyi Du and Shenglong Peng (University of Electronic Science and Technology of China, P.R. China)

4. Construction of Multiple-Rate LDPC Codes Using Modified PEG
   Tengfei Chu, Xueqin Jiang (Donghua University, P.R. China); Jia Hau (Souochow University, P.R. China); Huiming Wang (Xi’an Jiaotong University, P.R. China); Lingjun Kong (Nanjing University of Posts and Telecommunications, P.R. China)

5. A Universal Interleaver Design for Bit-Interleaved QC-LDPC Coded Modulation
   Xiaolian Liu and Yuejun Wei (Huawei Technologies, P.R. China); Ming Jiang (Southeast University, P.R. China)

6. Multilevel Polar-Coded Modulation Based on Cooperative Relaying
   Xuan Ma, Lixin Li, Meng Zhu (Northwestern Polytechnical University, P.R. China); Wei Chen (Tsinghua University, P.R. China); Zhu Han (University of Houston, USA)

SPS-01: Multimedia Signal Processing (I)

Date: Oct. 11, 2017
Time: 14:00pm – 15:30pm
Room: Revolution
Chair: Xin Wei, Nanjing University of Posts and Telecommunications, P.R. China

1. Supervised and Semi-supervised Speech Enhancement Using Weighted Nonnegative Matrix Factorization
   Xia Zou (PLA Army Engineering University, P.R. China); Yonggang Hu (Australian National University, Australia); Xiongwei Zhang (PLA Army Engineering University, P.R. China)

2. Expression Recognition in the Wild with Transfer Learning
   Tian Xia, Yifeng Zhang, Yuan Liu and Yibo Sun (Southeast University, P.R. China)

3. Deformable Deep Convolutional Generative Adversarial Network in a Microwave Based Hand Gesture Recognition System
   Jiajun Zhang and Zhiguo Shi (Zhejiang University, P.R. China)

4. Limited-view CT Reconstruction Based on Autoencoder-like Generative Adversarial Networks with Joint Loss
   Qingjiang Wu and Xiubin Dai (Nanjing University of Posts and Telecommunications, P.R. China)

5. Decision Tree Based Fast CU Partition for HEVC Lossless Compression of Medical Image Sequences
   Dongdong Zhang, Xiaojing Duan and Di Zang (Tongji University, P.R. China)
6. ISAR 2-D Imaging Under Low SNR Based on Improved Compressive Sensing
   Jie Xia, Xinfei Lu and Weidong Chen (University of Science and Technology of China, P.R. China)

WCS-01: Channel Models

Date: Oct. 11, 2017
Time: 14:00pm – 15:30pm
Room: Knowledge A
Chair: Yu Liu, Shandong University, P.R. China

1. Cluster-based Geometrical Dynamic Stochastic Model for MIMO Scattering Channels
   Xiukun Xie, Zaichen Zhang, Hao Jiang, Jian Dang, Liang Wu (Southeast University, P.R. China)

2. Algorithm for Modeling Dual-Polarized MIMO Channel in Land Mobile Satellite Communications
   Xin Wang and Chenhao Qi (Southeast University, P.R. China)

3. Non-Stationary Mobile-to-Mobile Channel Modeling Using the Gauss-Markov Mobility Model
   Ruisi He and Bo Ai (Beijing Jiaotong University, P.R. China); Gordon Stüber (Georgia Institute of Technology, USA); Zhandui Zhong (Beijing Jiaotong University, P.R. China)

4. A 3-D HAP-MIMO Channel Model Based on Dynamic Properties of Scatterers
   Jingge Hu, Lingege Jiang, Chen He, Zhuxian Lian and Jing Liu (Shanghai Jiao Tong University, P.R. China)

5. New Deterministic and Statistical Simulation Models for Non-Isotropic UAV-MIMO Channels
   Yiran Li and Xiang Cheng (Peking University, P.R. China)

WCS-02: Interference Alignment

Date: Oct. 11, 2017
Time: 14:00pm – 15:30pm
Room: Knowledge B
Chair: Nan Zhao, Dalian University of Technology, P.R. China

1. Protocol-Sequence-Based Media-Access Control with Successive Interference Cancellation (Invited Paper)
   Kenneth W. Shum (The Chinese University of Hong Kong, Hong Kong); Yi Chen (The Chinese University of Hong Kong Shenzhen, P.R. China); Yuan-Hsun Lo (Xiamen University, P.R. China); Wing Shing Wong (The Chinese University of Hong Kong, P.R. China); Yijin Zhang (Nanjing University of Science and Technology, P.R. China)

2. Beneficial Jamming Design for Interference Alignment Networks
   Jing Guo and Yang Cao (Dalian University of Technology, P.R. China); Zhutian Yang (Harbin Institute of Technology, P.R. China); Nan Zhao (Dalian University of Technology, P.R. China); F. Richard Yu (Carleton University, Canada); Yunfei Chen (University of Warwick, UK); Victor C.M. Leung (University of British Columbia, Canada)

3. Hedonic Coalition Formation Game for Clustered Interference Alignment
   Fan Zhao, Pengcheng Zhu, Jiamin Li and Xiaohu You (Southeast University, P.R. China)

   Haotong Cao and Longxiang Yang (Nanjing University of Posts and Telecommunications, P.R. China)

5. Congestion-aware User-centric Cooperative Base Station Selection in Ultra-dense Networks
   Mengying Zhang and Xiumei Yang (Shanghai Research Center for Wireless Communications, SIMIT, P.R. China); Tianheng Xu (Shanghai Advanced Research Institute, Chinese Academy of Sciences, P.R. China); Ming-Tuo Zhou (Shanghai Research Center for Wireless Communications, SIMIT, P.R. China)

6. Embedding Virtual Networks Using a Novel Node-Ranking Approach via Exploiting Topology Attributes and Global Network Resources
   Haotong Cao, Longxiang Yang and Hongbo Zhu (Nanjing University of Posts and Telecommunications, P.R. China)

WNS-01: Resource Allocation (I)

Date: Oct. 11, 2017
Time: 14:00pm – 15:30pm
Room: Zijin
Chair: Sihai Zhang, University of Science and Technology of China, P.R. China

1. Underlay Spectrum Sharing with Spatially Random Users and Cooperative Wireless Power Transfer
   Chao Zhai (Shandong University, P.R. China); He Chen (University of Sydney, Australia); Xinhua Wang (Qingdao University, P.R. China); Ju Liu (Shandong University, P.R. China)

2. User Pairing and Channel Allocation for Full-Duplex Self-Organizing Small Cell Networks
   Qi Zhang, Qingwei Du and Kun Zhu (Nanjing University of Aeronautics and Astronautics, P.R. China)

3. Multi-Objective Resource Allocation in NOMA Cognitive Radios Based on a Practical Non-linear Energy Harvesting Model
   Yuhao Wang, Yuhang Wu, and Fuhui Zhou (Nanchang University, P.R. China); Yongpeng Wu (Shanghai Jiao Tong University, P.R. China); Zheng Chu (Middlesex University, UK); Yingjiao Wang (Nanchang University, P.R. China)

4. QoE-aware Resource Allocation Scheme in the OFDMA-based Cognitive Radio Network with Imperfect CSI Consideration
   Xixi Jin, Lei Xie and Huifang Chen (Zhejiang University, P.R. China)

5. Effective Resource Consumption in Cellular Networks Based on Batch Latency Update
   Juma Saidi Ally, Wen Wang, Sihai Zhang and Wuyang Zhou (University of Science and Technology of China, P.R. China)
6. **Spectrum Sensing Interval Optimization and Power Control for Energy Efficient Cognitive Radio Networks**  
   Boyang Liu and Guangyue Lu (Xi’an University of Posts and Telecommunications, P.R. China); Zan Li (Xidian University, P.R. China); Fuhui Zhou (Nanchang University, P.R. China)

**WNSS-01: Physical Layer Security (I)**

Date: Oct. 11, 2017  
Time: 14:00pm – 15:30pm  
Room: Alliance  
Chair: Yi Qian, University of Nebraska Lincoln, USA

1. **Physical Layer Security in Heterogeneous Cellular Networks: A Spatio-Temporal Perspective**  
   Bing Wang (National Digital Switching System Engineering and Technological Research Center, P.R. China); Chungen Li (Southeast University, P.R. China); Kaizhi Huang (Information Engineering University, P.R. China); Xiaoming Xu (PLA Army Engineering University, P.R. China); Yi Wang (Zhengzhou University of Aeronautics, P.R. China)

2. **Physical Layer Security in IoT: A Spatial-Temporal Perspective**  
   Shuai Zhang, Jianhua Peng, and Kaizhi Huang (National Digital Switching System Engineering and Technological Research Center, P.R. China); Xiaoming Xu (Army Engineering University, P.R. China); Zhou Zhong (National Digital Switching System Engineering and Technological Research Center, P.R. China)

3. **Physical Layer Security in D2D Communication System Underlying Cellular Networks**  
   Lei Wang, Yi Shi, Mingkai Chen, Jingwu Cui and Baoyu Zheng (Nanjing University of Posts and Telecommunications, P.R. China)

4. **Physical Layer Secure Binary Signature Design for Wiretap CDMA Systems**  
   Guangyu Ti, Ming Li, Xiaowen Tian, Zhihuan Wang, Hongyu Li and Qian Liu (Dalian University of Technology, P.R. China)

5. **Physical Layer Security of Non-orthogonal Multiple Access in Cognitive Radio Networks**  
   Zhongwu Xiang, Yueming Cai, Weimei Yang, and Xiaoli Sun (PLA Army Engineering University, P.R. China); Yingbo Hu (Troops 75841, PLA, P.R. China)

6. **Hybrid Cache Placement for Improving Physical Layer Security in Cooperative Networks**  
   Fang Shi, Dongqing Xie, and Weiqiang Tan (Guangzhou University, P.R. China); Xianfu Lei (Southwest Jiaotong University, P.R. China); Lisheng Fan (Guangzhou University, P.R. China)

**AHSNS-02: Wireless Sensor Networks**

Date: Oct. 11, 2017  
Time: 16:00pm – 17:30pm  
Room: Unique  
Chair: Lin Zhang, Beijing University of Posts and Telecommunications, P.R. China

1. **SADO: State-Associated and Delay-Oriented Data Collection for Intertidal WSNs**  
   Xinyan Zhou, Yushi Cheng and Xiaoyu Ji (Zhejiang University, P.R. China); Wenyuan Xu (University of South Carolina, USA)

2. **Communication Protocol with Network Coding in Long-chain Wireless Sensor Networks**  
   Gang Qi and Lin Zheng (Guilin University of Electronic Technology, P.R. China); Jing Zhang (Science and Technology on Communication Networks Laboratory, P.R. China)

3. **En-MAC: Environment-Aware MAC Protocol for WSNs in Intertidal Environment**  
   Xiaohan Lai (Zhejiang University, P.R. China); Miao Xu (University of South Carolina, USA); Xiaoyu Ji, Wenyuan Xu and Longdao Chen (Zhejiang University, P.R. China)

4. **Matrix Completion Based Sensor Selection Strategies in Wireless Sensor Networks**  
   Xiaohan Zhang and Changchuan Yin (Beijing University of Posts and Telecommunications, P.R. China)

5. **A Robot-Assisted Topology Control Algorithm in Software-Defined Sensor Networks**  
   Hao Hao Yin, Cui Ding, Feng Yan, Weiwei Xia and Lianfeng Shen (Southeast University, P.R. China); Shuguang Deng (Hunan City University, P.R. China)

6. **Quality of Information Maximization for Wire-less Sensor Networks With Heterogeneous Traffic**  
   Chunhui Feng (Xidian University, P.R. China); Peisheng Zhu (Chinese Academy of Sciences, P.R. China); Qinghai Yang (Xidian University, P.R. China)

**CTS-02: Coding and Detection**

Date: Oct. 11, 2017  
Time: 16:00pm – 17:30pm  
Room: Perseverance  
Chair: Wen Chen, Shanghai Jiaotong University, P.R. China

1. **Design of Precoding Matrix Scheme Based on Maximizing Frobenius Norm to Interference Alignment**  
   Junhui Zhao and Yunyi Liu (Beijing Jiaotong University, P.R. China); Yi Gong (South University of Science and Technology, Shenzhen, P.R. China)

2. **BMST Coded PPM over Free-space Optical Links with Iterative Receiver**  
   Jinhun Zhu (Sun Yat-sen University, P.R. China); Shancheng Zhao (Jinan University, P.R. China); Xiao Ma (Sun Yat-sen University, P.R. China)

3. **Graph-Merged Detection and Decoding of Polar-Coded MIMO Systems**  
   Shusen Jing, Junmei Yang, Anlan Yu, Xiaohu You, and Chuan Zhang (Southeast University, P.R. China)

4. **Signal Detection with Channel Estimation Error for Full Duplex Wireless System Utilizing Ambient Backscatter**  
   Chen Chen and Gongpu Wang (Beijing Jiaotong University, P.R. China); Feifei Gao (Tsinghua University, P.R. China); Yulong Zou (Nanjing University of Posts and Telecommunications, P.R. China)

5. **Secret Key Generation from Correlated Sources and Secure Link**  
   Daming Cao and Wei Kang (Southeast University, P.R. China)
6. Compressing Big Graph Data: A Relative Node Importance Approach  
Jiamei Yan and Zhaoyang Zhang (Zhejiang University, P.R. China)

SPS-02: Multimedia Signal Processing (II)  

Date: Oct. 11, 2017  
Time: 16:00pm – 17:30pm  
Room: Revolution  
Chair: Xin Wang, Fudan University, P.R. China  

1. Robust Watermarking Based on Spread Transform  
Yingying Li and Yifeng Zhang (Southeast University, P.R. China)

2. The Face Detection Algorithm Based on Local Elastic Potential Energy Feature  
Cheng Jiang and Yifeng Zhang (Southeast University, P.R. China)

3. Imaging Experiment of Azimuth-variant Bistatic UWB SAR at UHF Band  
Hongtu Xie (National University of Defense Technology, P.R. China); Shaoying Shi (Air Force Early Warning Academy, P.R. China); Daoxiang An (National University of Defense Technology, P.R. China); Fuhai Li (Hunan University, P.R. China); Guoqian Wang (Affiliated Hospital of Hunan Institute of Traditional Chinese Medicine, P.R. China)

4. Distributed Compressive Video Sensing with Adaptive Measurements Based on Temporal Correlativity  
Yang Yang, Zhang Dengyin and Fei Ding (Nanjing University of Posts and Telecommunications, P.R. China)

5. QoE-Driven Centralized Scheduling for HTTP Adaptive Video Streaming Transmission over Wireless Networks  
Tiantian Li and Haixia Zhang (Shandong University, P.R. China); Mingjian Fu (Nanjing University of Posts and Telecommunications, P.R. China)

WCS-04: Resource Allocation (I)  

Date: Oct. 11, 2017  
Time: 16:00pm – 17:30pm  
Room: Knowledge B  
Chair: Wendong Yang, PLA Army Engineering University, P.R. China  

1. Resource Allocation Based on Clustering Algorithm for Hybrid Device-to-Device Networks  
Hao Ren, Fan Jiang, and Honglin Wang (Xi’an University of Posts and Telecommunications, P.R. China)

2. Position-based Mode Selection and Resource Allocation for D2D Communications Underlaying Cellular Networks  
Xiaoyan Liu, Xiukui Li, and Changsheng Liu (Dalian University of Technology, P.R. China)

Feng Chen and Mingjian Fu (Fuzhou University, P.R. China); Wen-Kang Jia (Chiao Tung University, Taiwan)

4. Ant Colony Optimization Inspired Resource Allocation for Multiuser Multicarrier Systems  
Chia-Hui Liao and Jen-Ming Wu (Tsing Hua University, Taiwan); Jianbo Du and Liqiang Zhao (Xidian University, P.R. China)

5. Energy-Efficient User Access Control and Resource Allocation in HCNs with Non-Ideal Circuitry  
Yuhao Zhang, Qimei Cui and Ning Wang (Beijing University of Posts and Telecommunications, P.R. China)

6. Distributed Matching Mechanism for Resource Sharing in Mobile Ad Hoc Cloud  
Li Jin and Ling Tang (Nanjing University of Science and Technology, P.R. China)
WNS-02: Resource Allocation (II)

Date: Oct. 11, 2017
Time: 16:00pm – 17:30pm
Room: Zijin
Chair: Yunlong Cai, Zhejiang University, P.R. China

1. Energy-Efficient Resource Allocation in Delay-Aware Wireless Virtualized Networks
   Tian Dang, Yitao Mo, Yaohua Sun, and Mugen Peng (Beijing University of posts & Telecommunications, P.R. China)

2. Achieving Optimum Throughput for LTE and WiFi Coexistence
   Xinghua Sun and Jun Zhang (Nanjing University of Posts and Telecommunications, P.R. China); Victor C.M. Leung (University of British Columbia, Canada); Hongbo Zhu (Nanjing University of Posts and Telecommunications, P.R. China)

3. An Evolutionary Game for Joint Wireless and Cloud Resource Allocation in Mobile Edge Computing
   Jing Zhang, Weieval Xiu, Zhixu Cheng, Qian Zou and Bonan Huang (Southeast University; Fei Shen (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, P.R. China); Feng Yan and Lianfeng Sheng (Southeast University, P.R. China)

4. Enabling Content Aware QoE Network Bandwidth Allocation
   Lu Wang, Yongxiang Zhao, Chunxi Li, and Yuchun Guo (Beijing Jiaotong University, P.R. China)

   Xinsong Dong, Jianchao Zheng, Yueming Cai (PLA Army Engineering University, P.R. China); Jihaoy Yang (Leshan Normal University, P.R. China); Yida Wang (PLA Army Engineering University, P.R. China)

6. Lifetime Maximization Based Resource Allocation for M2M Communication Networks
   Zhangfeng Ma, Rong Chai and Qianbin Chen (Chongqing University of Posts and Telecommunications, P.R. China)

WNSS-02: Physical Layer Security (II)

Date: Oct. 11, 2017
Time: 16:00pm – 17:30pm
Room: Alliance
Chair: Jun Li, Nanjing University of Science and Technology, P.R. China

1. Secrecy Sum Rate Maximization in NOMA Systems with Wireless Information and Power Transfer
   Ganning He, Lixin Li and Xu Li (Northwestern Polytechnical University, P.R. China); Wei Chen (Tsinghua University, P.R. China); Lie-Liang Yang (University of Southampton, UK); Zhu Han (University of Houston, USA)

2. Secrecy Rate Maximization for MISO System with Energy Harvesting and Eavesdroppers
   Sami Ahmed Haider, Yunlong Cai, and Minjian Zhao (Zhejiang University, P.R. China)

3. Secure OFDM Transmission in Wireless Networks with Untrusted Relays
   Qiuli Dong and Guobing Li (Xi'an Jiaotong University, P.R. China)

4. Secure Precise Transmission with Multi-Relay- Aided Directional Modulation
   Wei Zhu and Feng Shu (Nanjing University of Science and Technology, P.R. China); Tingting Liu (Nanjing Institute of Technology, P.R. China); Xiaobo Zhou, Jingshu Hu, Guanggu Liu, Linqing Gui, Jun Li, and Jinhui Lu (Nanjing University of Science & Technology, P.R. China)

5. Robust Secure Beamforming for MISO SWIPT Broadcast Channels with Confidential Messages
   Yuanjian Huo and Tingting Zhang (Northwest Normal University, P.R. China); Chuanguo Li (Southeast University, P.R. China)

6. Secrecy Analysis of UL Transmission for SWIPT in WSNs with Densely Clustered Eavesdroppers
   Xin Hu, Kaizhi Huang, and Yajun Chen (National Digital Switching System Engineering and Technological Research Center, P.R. China); Xiaoming Xu and Xiaohu Liang (PLA Army Engineering University, P.R. China)

October 12, 2017 Thursday

AHSNS-03: Localization

Date: Oct. 12, 2017
Time: 14:00pm – 15:30pm
Room: Unique
Chair: Cheng Li, Memorial University, Canada

   Benjian Hao, Di An, Linlin Wang, Zan Li and Yue Zhao (Xidian University, P.R. China)

2. Holographic Radio Interferometry for Target Tracking in Dense Multipath Indoor Environments
   Bing Xu, Wangdong Qi, Yuexin Zhao and Li Wei (PLA Army Engineering University, P.R. China); Cheng Zhang (PLA Airborne Training Base, P.R. China)

3. Geographic Information System based Estimation and Correction Algorithm for Outdoor Location
   Yi Zhang, Lin Ma, Shuai Han and Weixiao Meng (Harbin Institute of Technology, P.R. China)

4. Gaussian Process Based Radio Map Construction for LTE Localization
   Wenzan Zhang, Haochen Huang and Xiaohua Tian (Shanghai Jiao Tong University, P.R. China)
5. Enhancing Direction-Finding Accuracy for Shortwave Fixed Stations
   Ying Ju (Xi’an Jiaotong University & State Radio Monitoring Center, P.R. China); Yuan Chen (Shaanxi Monitoring Station, State Radio Monitoring Center, P.R. China); Xiaoyi Qiu and Qinye Yin (Xi’an Jiaotong University, P.R. China)

6. Robust Indoor Localization in Ultra Dense Networks: A Fingerprint Similarity Approach
   Danni Hou, Junyu Liu, Min Sheng, Yan Zhang, Linlin Peng, Yang Zheng and Jiandong Li (Xidian University, P.R. China)

CTS-03: Transmission and Multiple Access

Date: Oct. 12, 2017
Time: 14:00pm – 15:30pm
Room: Perseverance
Chair: Li Chen, Sun Yat-sen University, P.R. China

1. An Opportunistic-Bit Scheme with IP Styled Communication
   Bingli Jiao (Peking University, P.R. China)

2. Multi-tap Analog MIMO Self-Interference Cancellation for Full-Duplex Communications
   Yaxin Liu, Donglin Liu, Xudong Li and Chuan Huang (University of Electronic Science and Technology of China, P.R. China)

3. FFRD: Fragment Forwarding and Reassembly Decoupling Based Chunk Transmission in NDN
   Chengbao Cao and Kaiping Xue (University of Science and Technology of China, P.R. China); Hao Yue (San Francisco State University, USA); Junjie Xu (University of Science and Technology of China, P.R. China)

4. Buffer-Aided Secure Two-Hop Communications with Adaptive Link Selection and on/off Power Control
   Jing Wan, Deli Qiao, and Haifeng Qian (East China Normal University, P.R. China)

5. A Rate-Splitting Non-Orthogonal Multiple Access Scheme for Uplink Transmission
   Ye Zhu, Xianbin Wang, Zhaoyang Zhang and Xiaoming Chen (Zhejiang University, P.R. China); Yan Chen (Huawei Technologies, P.R. China)

6. Feedback-aided Irregular Repetition Slotted ALOHA (F-IRSA)
   Dai Jia, Hanxiao Yu, Ce Sun, Zesong Fei, and Jingming Kuang (Beijing Institute of Technology, P.R. China)

SPS-03: Signal Processing for Localization

Date: Oct. 12, 2017
Time: 14:00pm – 15:30pm
Room: Revolution
Chair: Qinghe Du, Xi’an Jiaotong University, P.R. China

1. SAICo: A Novel Acoustic Single Array System for Indoor Localization
   Guinan Li, Lei Zhangle, Feng Lin, Minlin Chen, and Zhi Wang (Zhejiang University, P.R. China)

2. Automatic Parking Slot Detection Based on Around View Monitor (AVM) Systems
   Lei Li and Changle Li (Xidian University, P.R. China); Qieshi Zhang (Waseda University, Japan); Tao Guo and Zhifang Miao (Xidian University, P.R. China)

3. Localization for Visible Light Communication with Practical Non-Gaussian Noise Model
   Yueyue Zhang, Yaping Zhu, Weiwei Xia, Feng Yan, and Lianfeng Shen (Southeast University, P.R. China); Yi Wu (Fujian normal university, P.R. China)

4. TOA Estimation in Dense Multipath Environment for Mobile Device Using Audible LFM Signal
   Yifan Gu (Zhejiang University, P.R. China); Shumin Chen (Zhejiang Sci-Tech University, P.R. China); Yanbo Xiang, Yiqian Xia, and Yuanxin Xu (Zhejiang University, P.R. China)

5. Direct Position Determination Based on Unitary Space-time Subspace Data Fusion
   Jie-xin Yin, Rui-ru Liu, Ding Wang, and Ying Wu (Zhengzhou Institute of Information Science and Technology Institute, P.R. China)

   Hongwei Yu and Yi Jiang (Fudan University, P.R. China)

WCS-05: Resource Allocation (II)

Date: Oct. 12, 2017
Time: 14:00pm – 15:30pm
Room: Knowledge A
Chair: Wei Wang, Zhejiang University, P.R. China

   Xiaoyang Li, Zidong Han and Yi Gong (Southern University of Science and Technology, P.R. China)

2. Underlay Spectrum Sharing with Wireless Power Transfer Towards Primary User
   Chao Zhai (Shandong University, P.R. China); Long Shi (Singapore University of Technology & Design, Singapore); He Chen (University of Sydney, Australia)

   Zhipeng Yan and Mugen Peng (Beijing University of Posts and Telecommunications, P.R. China)

   Zhenwei Xie, Qi Zhu and Su Zhao (Nanjing University of Posts and Telecommunications, P.R. China)

5. Joint Resource Allocation for Outdoor and Indoor UEs in Heterogeneous Data and Energy Integrated Communication Networks
   Yizhe Zhao (University of Electronic Science and Technology of China, P.R. China); Ning Wei (ZTE Corporation, P.R. China); Jie Hu (University of Electronic Science and Technology of China, P.R. China); Kun Yang (University of Essex, UK); Qin Yu and Chuan Huang (University of Electronic Science and Technology of China, P.R. China)

6. Robust uplink power allocation for two-tier heterogeneous networks
   Yongjun Xu, Yuchao Liu, and Rong Lai (Chongqing University of Posts and Telecommunications, P.R. China)
1. **QoS-Driven Power Control for Energy Harvesting Fading Multiple-Access Channels**  
   Jingwen Han and Deli Qiao (East China Normal University, P.R. China)

2. **Throughput Maximization for a UAV-Enabled Wireless Power Transfer in Relaying System**  
   Meng Hua, Chenguang Li, Yongming Huang and Luxi Yang (Southeast University, P.R. China)

3. **Throughput Maximization in Backscatter Assisted Wireless Powered Communication Networks with Battery Constraint**  
   Bin Lyu, Zhen Yang and Guan Gui (Nanjing University of Posts and Telecommunications, P.R. China)

4. **System Power Minimization for Virtualized Cloud Radio Access Networks with Delay Constraint**  
   Shirui Wang, Ying Wang, Ruijin Sun and Yuanfei Liu (Beijing University of Posts and Telecommunications, P.R. China)

5. **Position-based Wireless Communications: Power Control and Mode Handover**  
   Xiukui Li (Dalian University of Technology, P.R. China)

6. **Joint Power Control and User Pairing for Ergodic Capacity Maximization in V2V Communications**  
   Yinlu Wang, Zhaohui Yang, Yijin Pan and Ming Chen (Southeast University, P.R. China)

**AHSNS-04: Sensing and Estimation**

Date: Oct. 12, 2017  
Time: 16:00pm – 17:30pm  
Room: Unique  
Chair: Hai Wang, PLA Army Engineering University, P.R. China

1. **An Energy-Saving Spectrum Sensing Scheme with Combined Clustering and Censoring in Cognitive Wireless Sensor Networks**  
   Yi Tao Liu and Changping Zhu (Hohai University, P.R. China); Peishun Yan (Nanjing University of Posts and Telecommunications, P.R. China)
2. A Compressive and Adaptive Sampling Approach in Crowdsensing Networks  
Jingjing Chen, Zonghui Chen, Hailfeng Zheng and Xinxin Feng (Fuzhou University, P.R. China)

3. Collaborative Data Collection with Hybrid Vehicular Crowd Sensing in Smart Cities  
Maoqiang Wu, Dongdong Ye, Jiawen Kang and Rong Yu (Guangdong University of Technology, P.R. China)

Bo Chen, Xi Li and Xuehai Zhou (University of Science and Technology of China, P.R. China)

5. An Unscented Kalman Filter Based Available Bandwidth Estimation Algorithm for Space Bundle Links  
Xiaoli Liao (Harbin Institute of Technology, Shen Zhen, P.R. China); Zhihua Yang (Harbin Institute of Technology, P.R. China); Peng Yuan (Harbin Institute of Technology, Shenzhen, P.R. China)

6. Traffic Estimation in Road Networks via Compressive Sensing  
Jiayin Li, Hailfeng Zheng, Xinxin Feng and Zhonghui Chen (Fuzhou University, P.R. China)

CTS-04: Performance Analysis  
Date: Oct. 12, 2017  
Time: 16:00pm – 17:30pm  
Room: Perseverance  
Chair: Shuai Han, Harbin Institute of Technology, P.R. China

1. Can Channel Output Feedback Enhance the Secrecy Capacity of the Finite State Markov Wiretap Channel with Delayed State Feedback?  
Bin Dai and Zheng Ma (Southwest Jiaotong University, P.R. China)

2. On the Capacity of an Orbital Angular Momentum Based MIMO Communication System  
Yuqing Yuan, Zhaoyang Zhang, Ji Cang, Huayang Wu and Caijun Zhong (Zhejiang University, P.R. China)

3. Impact of Adaptive Carrier-Sensing Range on the Performance of Dense Wireless Networks  
Zhaoming Ding (Southeast University, P.R. China); Song Xing (California State University, Los Angeles, USA); Feng Yan, Zhengquan Li, and Lianfeng Shen (Southeast University, P.R. China)

4. Performance Analysis for Decoding LT Codes over BIWGN Channels with SNR Mismatch  
Lei Yuan and Jie Pan (Lanzhou University, P.R. China); Lin Yuan (Tianjin Optical Electrical Group Co. Ltd., P.R. China)

5. Achievable Degrees of Freedom (DoF) Analysis in Multi-user Half-duplex Relay Interference Networks  
Xiaoying Zhang, Chao Wang, Ping Wang and Fuqiang Liu (Tongji University, P.R. China)

6. Tradeoff Between Efficiency and Delay of Distributed Source Coding for Uplink Transmissions in Machine Type Communications  
Wen Wang, Jinkang Zhu, Sihai Zhang, and Wuyang Zhou (University of Science and Technology of China, P.R. China)

WCS-07: OFDM and Multi-Carrier  
Date: Oct. 12, 2017  
Time: 16:00pm – 17:30pm  
Room: Knowledge A  
Chair: Gang Wu, University of Electronic Science and Technology of China, P.R. China

1. Information Rates of Unipolar OFDM Schemes in Gaussian Optical Intensity Channel  
Jing Zhou and Wenyi Zhang (University of Science and Technology of China, P.R. China)

2. MMSE Precoding With Configurable Sizes for GFDM Systems  
Hong Wang and Rongfang Song (Nanjing University of Posts and Telecommunications, P.R. China)

3. A Time-domain Calibration Scheme of Channel Reciprocity for TDD MIMO-OFDM System with IQ Imbalance  
Yan Liang, Rongfang Song, Fei Li and Xueyun He (Nanjing University of Posts & Telecommunications, P.R. China); Hongbin Li (Stevens Institute of Technology, USA)

SPS-04: Array Signal Processing  
Date: Oct. 12, 2017  
Time: 16:00pm – 17:30pm  
Room: Revolution  
Chair: Xiaofei Zhang, Nanjing University of Aeronautics and Astronautics, P.R. China

1. Sum and Difference Coarrays Based 2-D DOA Estimation with Co-Prime Parallel Arrays  
Junpeng Shi and Guoping Hu (Air Force Engineering University, P.R. China); Xiaofei Zhang and Pan Gong (Nanjing University of Aeronautics and Astronautics, P.R. China)

2. Calibration for Spaceborne Phased Array Antennas Without Interrupting Satellite Communications  
Yujie Lin (Beijing Institute of Technology, P.R. China); Qiang Ma (China Academy of Space Technology, P.R. China); Shuai Wang, Xiangyuan Bu and Jianping An (Beijing Institute of Technology, P.R. China)

3. Two Dimensional Angle Estimation Using Separate Nested Acoustic Vector Sensor Array  
Jianfeng Li and Feng Wang (Hohai University, P.R. China); Xiaofei Zhang (Nanjing University of Aeronautics and Astronautics, P.R. China)

4. Direction-of-Arrival Estimation for Coherently Distributed Sources via Symmetric Uniform Linear Array  
Yan-Mei Ma, Ke Deng, and Zhi-Hao Ding (Xi’an Jiaotong University, P.R. China)

5. Three-Parallel Co-prime Array Configuration for Two-dimensional DOA Estimation  
Pan Gong and Xiaofei Zhang (Nanjing University of Aeronautics and Astronautics, P.R. China); Junpeng Shi (Air Force Engineering University, P.R. China); Wang Zheng (Nanjing University of Aeronautics and Astronautics, P.R. China)

6. A Novel 2D DOA Estimation via Tensor Modeling for Cylindrical Conformal Array  
Xiaoyu Lan and Yufeng Li (Shenyang Aerospace University, P.R. China)
4. On the Practical Benefit of Hexagonal Multicarrier Faster-than-Nyquist Signaling
Siming Peng, AiJun Liu, Xinhai Tong, Xiaohu Liang and Ke Wang (PLA Army Engineering University, P.R. China)

5. Combination-Selection Algorithm for FBMC-IM System
Jian Zhang, Minjian Zhao, Jie Zhong and Tianhang Yu (Zhejiang University, P.R. China)

WCS-08: Detection and Estimation
Date: Oct. 12, 2017
Time: 16:00pm – 17:30pm
Room: Knowledge B
Chair: Caijun Zhong, Zhejiang University, P.R. China

1. Robust Beam Management Scheme Based on Simple 2-D DOA Estimation
Xiao Chen, Zaichen Zhang, Liang Wu, Jian Dang (Southeast University, P.R. China); Pen-Shun Lu (Sony China Research Lab, Taiwan); Chen Sun (SONY, P.R. China)

Zhaohui Yang, Ming Chen, Yijin Pan, Hao Xu, and Jianfeng Shi (Southeast University, P.R. China)

3. Relaxed-Bound K-Best Sphere Detection for Differential Unitary Space-Time Modulation
Yipeng Du (Beijing University of Science and Technology, P.R. China); Shuangshuang Han (Institute of Automation, Chinese Academy of Sciences, P.R. China); Jian Liu (University of Electronic Science and Technology of China, P.R. China); Yinghua Zhang (Beijing University of Science and Technology, P.R. China)

Yazhou Hu, Jing Hu, Tiecheng Song, Yueyue Zhang, and Zhixu Cheng (Southeast University, P.R. China)

5. A Novel Robust Spatial Spectrum Sensing Algorithm
Ming Wu, Tiecheng Song, Lianfeng Shen, Zhengquan Li, Ziyuan Jia, and Rui Zhang (Southeast University, P.R. China)

Jian Zhang, Minjian Zhao, Jie Zhong, and Tianhang Yu (Zhejiang University, P.R. China)

WNS-04: Data Caching (I)
Date: Oct. 12, 2017
Time: 16:00pm – 17:30pm
Room: Zijin
Chair: Zhou Su, Shanghai University, P.R. China

1. Data Leakage Between C/S Communication: A Case Study on Android Music App
Huanhuan Li, Qian Luo, Shubin Zhang, Haibin Zhang, and Jiajia Liu (Xidian University, P.R. China)

2. Scalable Protection Scheme for the H.264/SVC Video Streaming
Ting Ma (Southwest Petroleum University, P.R. China)

Abdulrahman Alamer and Yong Deng (University of Ontario Institute of Technology, Canada); Xiaodong Lin (Wilfrid Laurier University, Canada)

4. Location Privacy-Aware Task Recommendation for Spatial Crowdsourcing
Abdulrahman Alamer (University of Ontario Institute of Technology, Canada); Jianbing Ni (University of Waterloo, Canada); Xiaodong Lin (Wilfrid Laurier University, Canada); Sherman Shen (University of Waterloo, Canada)

5. WebLogger: Stealing Your Personal PINs Via Mobile Web Application
Rui Song, Yubo Song, Qihong Dong and Aiqun Hu (Southeast University, P.R. China); Shang Gao (The Hong Kong Polytechnic University, Hong Kong)

6. Multi-authority Attribute-based Access Control Scheme in mHealth Cloud with Unbounded Attribute Universe and Decryption Outsourcing
Qi Li and Hongbo Zhu (Nanjing University of Posts and Telecommunications, P.R. China)
AHSNS-05: Wireless Network Analysis

Date: Oct. 13, 2017
Time: 8:30am – 10:00am
Room: Unique
Chair: Shuai Han, Harbin Institute of Technology, P.R. China

1. **Characteristics Analysis of DOPs for Dual-GNSS Constellations with Uncertain Clock Offset**
   Man Yao, Gangming Lv, Quili Dong, and Tantan Zhao (Xi’an Jiaotong University, P.R. China)

2. **The Fundamental Analysis of the Road Efficiency for Internet of Vehicles**
   Kai Xiong, Supeng Leng (University of Electronic Science and Technology of China, P.R. China); Caixing Shao (Southwest University for Nationalities, P.R. China); Quanxin Zhao and Guanhua Qiao (University of Electronic Science and Technology Of China, P.R. China)

3. **Mobility Patterns Analysis of Beijing Residents based on Call Detail Records**
   Lixing Shi and Wen Wang, Wei Cai (University of Science and Technology of China, P.R. China); Zhen Wang (China Telecom Corporation Limited, P.R. China); Sihai Zhang, and Wuyang Zhou (University of Science and Technology of China, P.R. China)

4. **Multi-hop Links Quality Analysis of 5G Enabled Vehicular Networks**
   Shikuan Li, Zipeng Li, Xiaohu Ge and Jing Zhang (Huazhong University of Science and Technology, P.R. China); Minho Jo (Korea University, Korea)

5. **Impact of Mobility on Energy Consumption in Mobile Ad hoc Networks**
   Yongshan Ma and Qinghai Yang (Xidian University, P.R. China); Kyung Sup Kwak (Inha University, Korea)

6. **Throughput Maximization for Energy Harvesting Cognitive Radio Networks with Finite Horizon**
   Fan Zhang, Tao Jing, Yan Huo, and Kaiwei Jiang (Beijing Jiaotong University, P.R. China)

SPS-05: Beamforming for MIMO Systems

Date: Oct. 13, 2017
Time: 8:30am – 10:00am
Room: Perseverance
Chair: Nan Zhao, Dalian University of Technology, P.R. China

1. **Coordinated Beamforming Scheme for Heterogeneous Networks with Band-limited Backhaul Constraint**
   Fasheng Zhou, Gaoyong Luo and Lisheng Fan (Guangzhou University, P.R. China); Jie Tang (South China University of Technology, P.R. China)

2. **Robust Beamforming Designs for Downlink Cloud Radio Access Networks**
   Dongliang Yan, Rui Wang, and Erwu Liu (Tongji University, P.R. China)

3. **Hybrid Precoding for Millimeter Wave Massive MIMO with Analogy Combing**
   Shaoqing Zhou, Wei Xu, Hua Zhang, and Xiaohu You (Southeast University, P.R. China)

4. **Sub-array Based Hybrid Precoding Design for Downlink Millimeter-Wave Multi-User Massive MIMO Systems**
   Yuehong Guo, Lixin Li, and Xiaocong Wen (Northwestern Polytechnical University, P.R. China); Wei Chen (Tsinghua University, P.R. China); Zhu Han (University of Houston, USA)

5. **Nonsmooth Optimization for Joint Multicast Beamforming and User Scheduling in Massive MIMO Systems**
   Longfei Zhou, Wei Jiang, and Wu Luo (Peking University, P.R. China)

   Wan Huan, Huiping Huang, Bin Liao, and Zhi Quan (Shenzhen University, P.R. China)

SPS-06: Signal Processing for MIMO and Radar Systems

Date: Oct. 13, 2017
Time: 8:30am – 10:00am
Room: Revolution
Chair: Xianfu Lei, Southwest Jiaotong University, P.R. China

1. **An Improved Algorithm for Doppler Ambiguity Resolution Using Multiple Pulse Repetition Frequencies**
   Yang Li, ChunMei Xu, Xin Yan, and Qi Liu (Southeast University, P.R. China)

2. **Range and Velocity Estimation for OFDM-Based Radar-Radio Systems**
   Xuanxuan Tian, Tingting Zhang, and Qinyu Zhang and Hongguang Xu (Harbin Institute of Technology, Shenzhen, P.R. China); Zhaohui Song (East China Normal University, P.R. China)

3. **Adaptive Filtering Based 3D Massive MIMO Sparse Channel Estimation**
   Chan Wang, Guan Gui, and Fei Li (Nanjing University of Posts and Telecommunications, P.R. China)

4. **A Symmetric Accumulated Cross-Correlation Method of Parameter Estimation Based on Fractional Fourier Transform for ISAR Motion Compensation**
   Jiayin Xue, Xiao Han, and Qinyu Zhang (Harbin Institute of Technology, Shenzhen, P.R. China)

5. **Spectral and Energy Efficiency of Cell-Free Massive MIMO Systems with Hardware Impairments**
   Jiayi Zhang and Yinghua Wei (Beijing Jiaotong University, P.R. China); Emil Björnson (Linköping University, Sweden); Yu Han (Southeast University, P.R. China); Xu Li (Beijing Jiaotong University, P.R. China)

   Miao Zhang, Kanapathippillai Cumanan, and Alister G. Burr (University of York, UK)
1. Dynamic Power Splitting between Information and Power Transfer in Non-orthogonal Multiple Access (Invited Paper)
   Rose Qingyang Hu and Zekun Zhang (Utah State University, USA)

2. Uplink Simultaneous Wireless Information and Power Transfer with Non-Orthogonal Multiple Access
   Xiangmei Cheng and Yuan Liu (South China University of Technology, P.R. China)

3. Power Control, User Scheduling and Resource Allocation for Downlink NOMA Systems with Imperfect Channel State Information
   Zihan Zhang, Qinghong Xia, Guanding Yu, and Rui Liu (Zhejiang University, P.R. China)

4. Energy-Efficient Power Allocation for Non-orthogonal Multiple Access with Imperfect Successive Interference Cancellation
   Hong Wang, Zhaoyang Zhang, and Xiaoming Chen (Zhejiang University, P.R. China)

5. Power Allocation Optimization for Uplink Non-Orthogonal Multiple Access Systems
   Huiing Zuo and Xiaofeng Tao (Beijing University of Posts and Telecommunications, P.R. China)

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WNS-05: Wireless Network Security

Date: Oct. 13, 2017
Time: 8:30am – 10:00am
Room: U Lake
Chair: Huifang Chen, Zhejiang University, P.R. China

1. Steady-State Performance Analysis of Consensus-based Distributed Detection under Sensing Data Falsification Attack
   Xiaoyan Zheng, Lei Xie and Huifang Chen (Zhejiang University, P.R. China)

2. A Novel Method against the Firewall Bypass Threat in OpenFlow Networks
   Yicong Zhang and Jie Li (University of Tsukuba, Japan); Lin Chen (The University of Paris-Sud, France); Yusheng Li (National Institute of Informatics, Japan); Feilong Tang (Shanghai Jiao Tong University, P.R. China)

3. An Intelligent Honeynet Architecture Based on Software Defined Security
   Xiangjun Meng, Zhifeng Zhao, Rongpeng Li, and Honggang Zhang (Zhejiang University, P.R. China)

4. Three Lower Bounds on Secrecy Capacity for Indoor Visible Light Communications
   Cheng Liu (Southeast University, P.R. China); Jin-Yuan Wang (Nanjing University of Posts and Telecommunications, P.R. China); Jun-Bo Wang, Jian-Xia Zhu and Ming Chen (Southeast University, P.R. China)
5. **Self-Organizing Map-Based Scheme Against Probabilistic SSDF Attack in Cognitive Radio Networks**
Zhixu Cheng, Tiecheng Song, Jing Zhang, Jing Hu, Yazhou Hu, Lianfeng Shen, Xi Li and Jun Wu (Southeast University, P.R. China)

6. **Secure Content Sharing Protocol for D2D Users Based on Profile Matching in Social Networks**
Lei Wang, Zhonglei Li and Mingkai Chen (Nanjing University of Posts and Telecommunications, P.R. China); Aiqing Zhang (Anhui Normal University, P.R. China); Jingwu Cui and Baoyu Zheng (Nanjing University of Posts and Telecommunications, P.R. China)

**WCS-11: NOMA (II)**

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: Unique
Chair: Lin Bai, Beihang University, P.R. China

1. **Researches on Non-Orthogonal Multiple Access in Multiple-Antenna 5G Relaying Networks**
Xiaopeng Yan, Jianhua Ge, and Yangyang Zhang (Xidian University, P.R. China)

2. **Parallel-Implemented Message Passing Algorithm for SCMA Decoder based on GPGPU**
Yunfeng Qi, Gang Wu and Su Hu (University of Electronic Science and Technology of China, P.R. China); Gao Yuan (Tsinghua University, P.R. China)

3. **ACK Feedback based UE-to-CTU Mapping Rule for SCMA Uplink Grant-Free Transmission**
Jiali Shen, Wen Chen, Fan Wei, and Yongpeng Wu (Shanghai Jiao Tong University, P.R. China)

Ruimin Wan, Lina Zhu, Tian Li, and Lin Bai (Beihang University, P.R. China)

5. **Joint Detection and Decoding of Polar-Coded SCMA Systems**
Shusen Jing, Chao Yang, Junmei Yang, Xiaohu You, and Chuan Zhang (Southeast University, P.R. China)

**SPS-07: Resource Allocation for Communication Systems**

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: Perseverance
Chair: Lei Wang, Nanjing University of Posts and Telecommunications, P.R. China

1. **Efficient and Fair Pilot Allocation for Multi-cell Massive MIMO Systems**
Jianhua Liu (Shandong University, P.R. China); Yueheng Li (University of Bremen, Germany); Haixia Zhang and Shuaishuai Guo (Shandong University, P.R. China)

2. **Sidelobe Interference Reduced Scheduling Algorithm in Millimeter Wave Networks**
Lei Wang, Siran Liu, Mingkai Chen, Jinguo Cui and Baoyu Zheng (Nanjing University of Posts and Telecommunications, P.R. China)

3. **Power Allocation for Multicell Mixed-ADC Massive MIMO Systems in Rician Fading Channels**
Mengjiao Zhang (Southeast University, P.R. China); Weiqiang Tan (Guangzhou University, P.R. China); Junhui Gao, Xi Yang and Shi Jin (Southeast University, P.R. China)

Zonghao Ma, Ning Wang, Yanhui Lu and Dalong Zhang (Zhengzhou University, P.R. China)

5. **Modulation Order Selection and Power Allocation for Energy Efficient VLC-OFDM Systems**
Pengfei Ge, Xiao Liang, Jiaheng Wang and Chunming Zhao (Southeast University, P.R. China)

6. **Maximum Uplink SNR User Association in MISO HetNets with Decoupled Access**
Ran Li, Kai Luo and Tao Jiang (Huazhong University of Science and Technology, P.R. China)

**SPS-08: Interference Suppression and Multiplexing**

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: Revolution
Chair: Weixiao Meng, Harbin Institute of Technology, P.R. China

1. **A Novel Windowing Scheme to Suppress Spectral Sidelobes for OFDMA Systems**
Lei Wang (PLA University of Science and Technology, P.R. China)

2. **A Residual Interference Mitigation Technique for Frequency-Domain Interference Suppression in DSSS Communication Systems**
Zonghan Wei and Ran Tao (Beijing Institute of Technology, P.R. China)

3. **Self-Correction Phase Noise Compensation Based on Decision Feedback in SC-FDE Satellite Systems**
Xu Chen, Cheng Wang, Gaofeng Cui, Weidong Wang, and Xiuhua Li (Beijing University of Posts and Telecommunications, P.R. China)

4. **Compressed Sensing for Clipping Noise Cancellation in DCO-OFDM Systems Based on Observation Interference Mitigation**
Pu Miao (Qingdao University, P.R. China); Chao Qian and Lenan Wu (Southeast University, P.R. China); Bingcheng Zhu (Nanjing University of Posts and Telecommunications, P.R. China); Kangjian Chen (Southeast University, P.R. China)

5. **Angle Domain Sparse Code Multiplexing for the Massive MIMO Networks**
Weidong Shao, Shun Zhang, Hongyan Li and Jianpeng Ma (Xidian University, P.R. China)

6. **Performance Analysis of Drone Small Cells under Inter-cell Interference**
Jiejie Xie, Hai Wang, Aijing Li (PLA Army Engineering University, P.R. China)

**WCS-12: Massive MIMO (II)**

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: Knowledge A
Chair: Zhongfeng Wang, Nanjing University, P.R. China
1. Beam Domain PAPR Reduction for Massive MIMO Downlink
Luyao Ni and Shi Jin (Southeast University, P.R. China); Feifei Gao (Tsinghua University, P.R. China); Hai Lin (Osaka Prefecture University, Japan)

2. Downlink Performance of Hybrid Precoding in Massive MIMO Systems Subject to Phase Noise
Yu Zhang, Dongming Wang Xinjiang, and Xiaohu You (Southeast University, P.R. China)

3. Energy-Efficient Hybrid Precoding for Broadband Millimeter Wave Communication Systems
Fusheng Zhu, Shiwen He, Rui Li, Yongming Huang, and Xiaohu You (Southeast University, P.R. China)

4. Antenna Selection in Massive MIMO Systems Utilizing the Submodular Function
Jie Zhang, Jiangtao Wang, and Yongchao Wang (Xidian University, P.R. China)

5. Joint User Scheduling and Hybrid Precoding Design for MIMO C-RAN
Qi Hou, Shiwen He, Yongming Huang and Luxi Yang (Southeast University, P.R. China)

6. Low-complexity Hybrid Precoding for Energy-efficient mmWave Transmission
Xiumei Yang, Mengying Zhang, Huaxia Chen, Ming-Tuo Zhou and Yang Yang (Shanghai Research Center for Wireless Communications, P.R. China)

WCS-13: Massive MIMO (III)

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: Knowledge B
Chair: Gang Wu, University of Electronic Science and Technology of China, P.R. China

1. Power Allocation for Massive MIMO Systems with Jointly Correlated Rician Fading
Wenjie Zhu, Wenjin Wang, Xiao Li and Xiqi Gao (Southeast University, P.R. China)

2. Antenna Grouping Assisted Spatial Modulation for Massive MIMO Systems
Xingxuan Zuo, Jiankang Zhang and Xiaomin Mu (Zhejiang University, P.R. China)

7. Semidefinite Programming based Omni-directional Beamforming for Massive MIMO
Dongliang Su, Yi Jiang and Xin Wang (Fudan University, P.R. China)

3. Joint Power and Admission Control for Multi-pair Massive MIMO AF Relaying System
Yiping Liu, Huifeng Zheng, Xinxin Feng and Zhonghui Chen (Fuzhou University, P.R. China)

4. Uplink Pilot Power Control with Genetic Algorithm for Massive MIMO Networks
Xiaofeng Zhang and Ji Liu (Shandong University, P.R. China); Shangbin Wu (Samsung R&D Institute UK); Chao Zhai and Shanshan Yu (Shandong University, P.R. China)

5. Pilot Design for FDD Massive MIMO Systems with Channel Sparsity in Delay-Angle Domain
Xiangyu Yan, Huaerui Yin, and Guo Wei (University of Science and Technology of China, P.R. China)

WNS-06: Routing and Grouping

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: Zijin
Chair: Aijing Li, PLA Army Engineering University, P.R. China

1. A Robust Backup Routing Protocol for Neighbor Area Network in the Smart Grid
Zhuoran Ma, Xinyan Zhou, Ouyang Xuan, Xiaoyu Ji and Wenyuan Xu (Zhejiang University, P.R. China)

2. A User-centric Clustering Method for Mobility Management in Ultra-dense Networks
Bo Hu, Yingying Wang, Chuanan Wang and Lei Wang (Beijing University of Posts and Telecommunications, P.R. China)

Jie Zhao, Wenjun Xu, Xue Li and Jiuru Lin (Beijing University of Posts and Telecommunications, P.R. China)

4. Signal Strength Assistant Grouping for Lower Hidden Node Collision Probability in 802.11ah
Laipeng Zhang (Shanghai Jiao Tong University, P.R. China); Hua Li (Chongqing Qianwei Technologies Group Co., Ltd., P.R. China); Zhe Guo (Shanghai Research Institute of Microwave Technology, P.R. China); Lianghui Ding, Feng Yang, Liang Qian (Shanghai Jiao Tong University, P.R. China)

5. Virtual Network Forwarding Graph Embedding Based on Tabu Search
Wenzhe Wang, Peilin Hong, Defang Lee, Jianing Pei and Lei Bo (University of Science and Technology of China, P.R. China)

6. Short-Term Traffic Flow Prediction with Conv-LSTM
Yipeng Liu, Haifeng Zheng, Xinxin Feng and Zhonghui Chen (Fuzhou University, P.R. China)

WCS-14: mmWave

Date: Oct. 13, 2017
Time: 10:30am – 12:00pm
Room: U Lake
Chair: Chenhao Qi, Southeast University, P.R. China

1. Beamforming Design for Interference Management in Millimeter Wave Cellular Networks with Partial CSI
Ying Ju and Xiayi Qiu (Xi’an Jiaotong University, P.R. China); Yuan Chen (Shaanxi Monitoring Station, State Radio Monitoring Center, P.R. China); Ke-Wen Huang, Qinye Yin and Hui-Ming Wang (Xi’an Jiaotong University, P.R. China)

2. Robust Channel Estimation for Switch-Based mmWave MIMO Systems
Rui Hu, Jun Tong, Jiatao Xi, Qinghua Guo and Yanguang Yu (University of Wollongong, Australia)
3. Measurements and Modeling of Millimeter-Wave Channel at 28 GHz in the Indoor Complex Environment for 5G Radio Systems
Shuangde Li (Nanjing University of Posts and Telecommunications, P.R. China)

4. 60 GHz Channel Measurements and Ray Tracing Modeling in an Indoor Environment
Andong Zhou, Jie Huang, Jian Sun (Shandong University, P.R. China); Zhu Qiuming (Nanjing University of Aeronautics and Astronautics, P.R. China); Chengxiang Wang (Heriot-Watt University, UK); Yang Yang (Shanghai Reserach Center for Wireless Communication, P.R. China)

5. A 6-bit Active Phase Shifter for Ku-Band Phased Arrays
Yan Yao, Zhiqun Li, Guoxiao Cheng and Lei Luo (Southeast University, P.R. China)

6. System Performance Evaluation for Millimeter Wave Wireless Communication
Wenzheng Wang and Shiwen He (Southeast University, P.R. China); Yongpeng Wu (Shanghai Jiao Tong University, P.R. China); Haiming Wang, Yongming Huang and Luxi Yang (Southeast University, P.R. China)

WCS-15: NOMA (III)
Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: Unique
Chair: Rose Qingyang Hu, Utah State University, USA

1. Performance Analysis of Non-regenerative Relay Assisted NOMA System
Di Zhang (North China Electric Power University, P.R. China); Yuanwei Liu (King’s College London, UK); Zhiqiu Ding (Lancaster University, UK); Zhenyu Zhou (North China Electric Power University); Arumugam Nallanathan (Queen Mary University of London, UK)

2. Resource Allocation for Downlink Joint Space-Time and Power Domain Non-Orthogonal Multiple Access
Hong Wang, Zhaoyang Zhang and Xiaoming Chen (Zhejiang University, P.R. China)

3. A Low-Complexity Non-Orthogonal Multiple Access System Based on Rate Splitting
Ye Zhu, Zhaoyang Zhang and Xianbin Wang (Zhejiang University, P.R. China); Liang Xuesong (Nanjing University of Posts and Telecommunications, P.R. China)

4. An Minorization-Maximization based Hybrid Precoding in NOMA-mMIMO
Yuyan Zhao (Nanjing University of Posts and Telecommunications, P.R. China); Wei Xu and Shi Jin (Southeast University, P.R. China)

5. Effect of Clipping on the Achievable Rate of Non-Orthogonal Multiple Access with DCO-OFDM
Weiwen Chu, Jian Dang, Zaichen Zhang and Liang Wu (Southeast University, P.R. China)

SPS-09: Signal Processing for Emerging Communication Systems
Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: Perseverance
Chair: Weiwei Yang, PLA Army Engineering University, P.R. China

1. Modeling the energy consumption of programs: thermal aspects and energy/frequency convexity rule (Invited Paper)
Karel De Vogeleer (Hypervirtu, Belgium), Kameswar Rao Vaddere, Florian Brandner (LTCC - TELECOM ParisTech - University of Paris-Saclay, France), Pierre Jouvelot (MINES ParisTech, PSL Research University, France), Gerard Memmi (LTCC - TELECOM ParisTech - University of Paris-Saclay, France)

2. Exploiting NOMA into Socially Enabled Computation Offloading
Yutong Ai and Li Wang (Beijing University of Posts and Telecommunications, P.R. China); Bingli Jiao (Peking University, P.R. China); Kwang-Cheng Chen (University of South Florida, USA)

3. Capacity of Wireless Powered Communication Systems over Rician Fading Channels
Feiran Zhao (Zhejiang University, P.R. China); Hai Lin (Osaka Prefecture University, Japan); Caijun Zhong (Zhejiang University, P.R. China); Zoran Hadzi-Velkov (SS. Cyril and Methodius University in Skopje, Macedonia, the former Yugoslav Republic of); George K. Karagiannidis (Aristotle University of Thessaloniki, Greece); Zhaoyang Zhang (Zhejiang University, P.R. China)

4. Density Evolution Analysis of LDPC-coded SCMA Systems
Yanming Hao, Kexin Xiao, Zhiyong Chen and Bin Xia (Shanghai Jiao Tong University, P.R. China)

5. A Construction of (5,3) MDS Codes with Optimal Repair Capability for Distributed Storage Systems
Sheng Guan, Haibin Kan and Xin Wang (Fudan University, P.R. China)

Kun Dong (University of Science and Technology of China, P.R. China); Zilong Zhang (The 28th Research Institute of China Electronics Technology Group Corporation, P.R. China); Xiaodong Xu (University of Science and Technology of China, P.R. China)

SPS-10: Estimation and Detection (I)
Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: Revolution
Chair: Wei Xu, Southeast University, P. R. China

1. Underwater Acoustic Channel Estimation via Fast Bayesian Matching Pursuit
Huajian Chen and Chenniao Qi (Southeast University, P.R. China)

2. Training Sequence Design for Channel Estimation and IQ Imbalance Compensation in GFDM Systems
Nan Tan, Shiwen He, Haiming Wang, Yongming Huang and Luxi Yang (Southeast University, P.R. China)

3. Regularized Equalization for OFDM Systems with BEM-Based Channel Estimation
Wei Han, Jun Tong, Qinhua Guo, Jiangtao Xi and Yanguang Yu (University of Wollongong, Australia)
4. A Signal Detection Algorithm Based on Chebyshev Accelerated Symmetrical Successive Over-Relaxation Iteration for Massive MIMO Systems
Xiaoxiang Liu and Jing Zhang (Nanjing University of Posts and Telecommunications, P.R. China)

5. Residual Correlation Matrix Detection Based Blind Sub-Nyquist Spectrum Sensing for Cognitive Radio Networks
Peihan Qi, Zan Li, Wenchi Cheng, Jiangbo Si (Xidian, P.R. China); Qihui Wu (Nanjing University of Aeronautics and Astronautics, P.R. China)

WCS-16: Massive MIMO-Channel Estimation

Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: Knowledge A
Chair: Feng Shu, Nanjing University of Science and Technology, P.R. China

1. Pilot Reuse with a Large Number of Antennas: Performance Analysis and Pilot Contamination Reduction
Junhui Zhao and Shanjie Ni (Beijing Jiaotong University, P.R. China); Yi Gong (South University of Science and Technology of China, P.R. China); Feifei Gao (Tsinghua University, P.R. China)

2. Massive MIMO Uplink Transmission with Pilot Extension and System-Level Analysis
Yang Li (Xi'an Jiaotong University, P.R. China); Rui Wang (The South University of Science and Technology of China, P.R. China); Haisheng Tan (University of Science and Technology of China, P.R. China); Yifan Chen (The University of Waikato, New Zealand); Qingfeng Zhang (South University of Science and Technology of China, P.R. China)

3. Low-Complexity Channel Estimation Based on Weighted Kapteyn Series Expansion for Massive MIMO Systems
Zhengquan Li, Bing Wang, Yaoyao Sun and Feng Yan (Southeast University, P.R. China); Song Xing (California State University, Los Angeles, USA); Lianfeng Shen (Southeast University, P.R. China)

4. Millimeter-Wave Channel Estimation with Interference Cancellation and DOA Estimation in Hybrid Massive MIMO Systems
Weihan Liu (Shanghai Jiao Tong University, P.R. China); Yang Li (Wuhan Maritime Communication Research Institute, P.R. China); Feng Yang, Lianghui Ding and Cheng Zhi (Shanghai Jiao Tong University, P.R. China)

5. Low Complexity Signal Detector Based on SSOR Iteration for Large-Scale MIMO Systems
Yaoyao Sun, Zhengquan Li, Chi Zhang, Rui Zhang, Feng Yan and Lianfeng Shen (Southeast University, P.R. China)

6. RaptorQ Code based Concurrent Transmissions in Dual Connectivity LTE Network
Jiaying Li and Cunqing Hua (Shanghai Jiao Tong University, P.R. China)

WCS-17: Massive MIMO-Detection

Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: Knowledge B
Chair: Zhongfeng Wang, Nanjing University, P.R. China

1. Reduced Complexity Message Passing Detection Algorithm in Large-Scale MIMO Systems
Haochuan Zhu, Jun Lin and Zhongfeng Wang (Nanjing University, P.R. China)

2. Iterative SOR Detection and Decoding for LDPC-Coded Massive MIMO Systems
Anlan Yu and Shusen Jing (Southeast University, P.R. China); Yeong-Luh Ueng (Tsing Hua University, Taiwan); Xiaohu You and Chuan Zhang (Southeast University, P.R. China)

3. On Uplink Performance of Massive MIMO Relaying with Hybrid Multiuser Detection
Yucheng Wang, Jindan Xu, Hong Shen and Wei Xu (Southeast University, P.R. China)

4. Belief Propagation Detection Based on Max-Sum Algorithm for Massive MIMO Systems
Yaping Zhang, Lulu Ge, Xiaohu You and Chuan Zhang (Southeast University, P.R. China)

5. Low-complexity Detection Algorithms Based on Matrix Partition for Massive MIMO
Haijian Wu and Jun Lin (Nanjing University, P.R. China); Chuan Zhang (Southeast University, P.R. China); Zhongfeng Wang (Nanjing University, P.R. China)

6. Hybrid Eavesdropping Approach Against Energy-Ratio-Based Detection
Menghan Wang, Hao Wei, and Dongming Wang (Southeast University, P.R. China); Xiaoyun Hou (Nanjing University of Posts and Telecommunications, P.R. China)

WNS-07: Scheduling and QoS

Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: Zijin
Chair: Feng Yan, Southeast University, P.R. China

Kunlun Wang, Yang Yang, and Ming-Tuo Zhou (Shanghai Research Center for Wireless Communications, P.R. China); Wen Chen (Shanghai Jiao Tong University, P.R. China); Guoqiang Mao (The University of Technology Sydney Data 61, Australia)

2. Group-DCI Based Scheduling Scheme for Ultra-Reliable and Low Latency Communications
Ting Liu, Man Dai and Fei Zesong (Beijing Institute of Technology, P.R. China); Shuqiang Xia, Xianghui Han, and Jing Shi (ZTE Corporation, P.R. China)

Yuxi Qiang, Guangyue Lu, Baojun Liu, and Yuxin Li (X’ian University of Posts and Telecommunications, P.R. China)
4. Elastic Local Breakout Strategy and Implementation for Delay-Sensitive Packets with Local Significance
   Yongkang Li, Zhiyuan Jiang, An Xu, Sheng Zhou, and Zhisheng Niu (Tsinghua University, P.R. China)

5. IPTV User QoE Prediction Based on the LSTM Network
   Jiali Mao, Ruchuan Huang, Xin Wei, and Qixia Bao (Nanjing University of Posts and Telecommunications, P.R. China); Zhenjiang Dong (Cloud &amp; IT Institute, ZTE Corporation, P.R. China); Yi Qian (University of Nebraska - Lincoln, USA)

6. A Resource Scheduling Scheme Based on Utility Function in CoMP Environment
   Xing Xu, Zhifeng Zhao, Rongpeng Li, and Honggang Zhang (Zhejiang University, P.R. China)

WCS-18: Visible Light Communication

Date: Oct. 13, 2017
Time: 14:00pm – 15:30pm
Room: U Lake
Chair: Liang Wu, Southeast University, P.R. China

1. Optical Spatial Modulation Based Visible Light Communications with an Arbitrary Number of Transmitters
   Jian-Xia Zhu (Southeast University, P.R. China); Jin-Yuan Wang (Nanjing University of Posts and Telecommunications, P.R. China); Nan Li, Jun-Bo Wang and Ming Chen (Southeast University, P.R. China)

2. On the BER Performance of Relay-Aided Free-Space Optical Communications in the Presence of Input-Dependent Noise
   Jin-Yuan Wang (Nanjing University of Posts and Telecommunications, P.R. China); Jun-Bo Wang, Jian-Xia Zhu, Cheng Liu and Ming Chen (Southeast University, P.R. China)

3. Design of Polar Codes for Multicolor Visible Light Communication Systems
   Ming Jiang, Qiuyu Zhu, Chunming Zhao (Southeast University, P.R. China)

4. Optical Spatial Modulation with DHT-Based OFDM in Visible Light Communication Systems
   Yali Cao, Xiaotian Zhou, Jian Sun (Shandong University, P.R. China); Wensheng Zhang (Shandong University, P.R. China); Chengxiang Wang (Heriot-Watt University, UK)

5. Outage Performance Analysis for Outdoor Vehicular Visible Light Communications
   Sheng-Hong Lin (Nanjing Institute of Mechatronic Technology, P.R. China); Jin-Yuan Wang (Nanjing University of Posts and Telecommunications, P.R. China); Xu Bao and Yun Li (Huaiyin Institute of Technology, P.R. China)

6. An advanced polar coding scheme for Visible Light Communication system
   Chunmei Yao, Jian Song, Wensheng Zhang and Xiaotian Zhou (Shandong University, P.R. China)

WCS-19: Cooperative MIMO and DAS

Date: Oct. 13, 2017
Time: 16:00pm – 17:30pm
Room: Unique
Chair: Dongming Wang, Southeast University, P.R. China

1. Sparse Beamforming Based Energy Efficiency Optimization for Distributed Antenna Systems
   Jun Xu, Pengcheng Zhu, Jiamin Li, Xiaohu You (Southeast University, P.R. China)

2. Interference Channel State Based User-Centric Cell Clustering for Uplink Multicell Cooperation
   Zhe Zhang, Ning Wang, Jiankang Zhang, Jin Jin and Xiaomin Mu (Zhengzhou University, P.R. China)

3. Downlink Ergodic Rate Analysis of DAS with Linear Beamforming under Pilot Contamination
   Lingling Zhang, Pengcheng, Jiamin Li, and Juan Cao (Southeast University, P.R. China)

4. Sparse Beamforming for Interlaced Clustering in Distributed Antenna Systems
   Xinjiang Xia, Yu Zhang, Jiamin, Pengcheng Zhu, Dongming Wang, and Xiaohu You (Southeast University, P.R. China)

5. Coastal Communications Based on Cellular Networks with Distributed Antennas
   Xu Yanli, Feng Liu and Shengming Jiang (Shanghai Maritime University, P.R. China); Xujie Li (Hohai University, P.R. China)

   Qiuyuan Tang, Lina Zhu, Tian Li, and Lin Bai (Beihang University, P.R. China)

SPS-11: Estimation and Detection (II)

Date: Oct. 13, 2017
Time: 16:00pm – 17:30pm
Room: Perseverance
Chair: Jun Li, Nanjing University of Science and Technology, P.R. China

   Zhaohui Yang, Ming Chen, Yinpai Wang and Yijin Pan (Southeast University, P.R. China)

2. Detection with Compressive Measurements Corrupted by Sparse Errors
   Wenbo Xu and Zhihua Yan (Beijing University of Posts and Telecommunications, P.R. China); Yun Tian (People’s Public Security University of China, P.R. China); Yupeng Cui and Jiaru Lin (Beijing University of Posts and Telecommunications, P.R. China)

3. A Joint Algorithm of Parameters Estimation for Frequency-Hopping Signal Based on Sparse Recovery
   Xiaolin Zhang, Xiaofang Hu and Xue Dong (Harbin Engineering University, P.R. China)

4. FompNet: Compressive Sensing Reconstruction with Deep Learning over Wireless Fading Channels
   Lei Bo, Hancheng Lu, Yujiao Lu, and Jianwen Meng and Wenzhe Wang (University of Science and Technology of China, P.R. China)

5. Fast Recovery of Non-Negative Sparse Signals Under Heterogeneous Noise
   Lei Hu, Zemin Wu, Lei Zhang and Chang Tian (PLA Army Engineering University, P.R. China)
Zhikun Liao, Dawei Lu, Jiemin Hu and Jun Zhang
(National University of Defense Technology, P.R. China)

SPS-12: Emerging Signal Processing and Its applications
Date: Oct. 13, 2017
Time: 16:00pm – 17:30pm
Room: Revolution
Chair: Yongming Huang, Southeast University, P.R. China

1. A Compilation Method for Zero Overhead Loop in DSPs with VLIW
Rui Chang, Jun Wu, and Haoqi Ren (Tongji University, P.R. China)

2. Reversible Data Hiding Based on Directional Prediction and Multiple Histograms Modification
Song Chang and Yifeng Zhang (Southeast University, P.R. China); Guojun Lu (Monash University, Australia)

3. A Synthesis Flow for Fast Convolution Unit Based on Molecular Reactions
Yuchen Zhuang, Lulu Ge (Southeast University, P.R. China); Wei Wei and Chuan Zhang (Southeast University, P.R. China)

4. Synthesizing Markov Chain with Reversible Unimolecular Reactions
ZiYuan Shen and Lulu Ge (Southeast University, P.R. China); Wei Wei and Chuan Zhang (Southeast University, P.R. China)

5. Efficient Fast Convolution Architecture Based on Stochastic Computing
Runing Xu (Southeast University, P.R. China); Bo Yuan (City University of New York, USA); Xiaohu You and Chuan Zhang (Southeast University, P.R. China)

6. Convergence Analysis of a Correntropy Induced Metric Constrained Mixture Error Criterion Algorithm
Yanyan Wang and Yingsong Li (Harbin Engineering University, P.R. China); Felix Albu (Valahia University of Targoviste, Romania); Rui Yang (Huazhong Agricultural University, P.R. China)

WCS-20: HetNets
Date: Oct. 13, 2017
Time: 16:00pm – 17:30pm
Room: Knowledge A
Chair: Feng Yan, Southeast University, P.R. China

1. On the Local Delay and Energy Efficiency of HetNets under Poisson Cluster Processes
Xiaojie Dong (Harbin Institute of Technology, Shenzhen, P.R. China); Fu-Chun Zheng (University of York, UK); Xu Zhu (University of Liverpool, UK)

2. Utility Function Optimization based Joint User Association and Content Placement in Heterogeneous Networks
Hong Chen, Qianbin Chen, and Rong Chai (Changqing University of Posts and Telecommunications, P.R. China); Dongmei Zhao (McMaster University, Canada)

3. Analysis of Non-Best User Association Scheme in K-tier Heterogeneous Networks
Meng Zhou, Xiangdong Jia, Mangang Xie, and Weijie Tan (Northwestern Polytechnical University, P.R. China); Weiqiang Tan (Guangzhou University, P.R. China)

4. Network-Sensitive Adaptive LAA LBT Strategy for Downlink LAA-WiFi coexistence
Wei Wang, Pingping Xu, and Yuan Zhang (Southeast University, P.R. China); Hongyun Chu (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, P.R. China)

5. Performance Analysis of LBT Cat4 Based Downlink LAA-Wifi Coexistence in Unlicensed Spectrum
Wei Wang, Pingping Xu, and Yuan Zhang (Southeast University, P.R. China); Hongyun Chu (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, P.R. China)

6. The Cell Zooming Algorithm for Energy Efficiency Optimization in Heterogeneous Cellular Networks
Zhen Zhang, Fangfang Liu and Zhimin Zeng (Beijing University of Posts and Telecommunications, P.R. China)

WCS-21: System and Network Design
Date: Oct. 13, 2017
Time: 16:00pm – 17:30pm
Room: Knowledge B
Chair: Jiaheng Wang, Southeast University, P.R. China

1. Fill the Gap: A Bidirectional Message Ferry System for Wireless Devices
Yongan Guo (Nanjing University of Posts and Telecommunications, P.R. China); Jie Deng (Queen Mary University of London, UK)

2. Design and Implementation of a Novel 100G Optical Interface Protocol Converter
Kaixiong Zhou, Xin Huang and Chaoxiang Shi (Chongqing University of Posts and Telecommunications, P.R. China); Jianxin Chang and Meng Gao (CNMP Networks, INC Beijing, P.R. China)

3. Optimal Design of 3D MIMO SWIPT Systems with Tilt Adaptation
Mian Zeng, Kaixiong Zhou, Chen Gong, Shun Lou, Xiangqin Jin, and Zhengyuan Xu (University of Science and Technology of China, P.R. China)

Mian Zeng, Kaixiong Zhou, Chen Gong, Shun Lou, Xiangqin Jin, and Zhengyuan Xu (University of Science and Technology of China, P.R. China)

5. Pseudo-Analog Wireless Stereo Video Transmission in Hardware Acceleration
Yao Jiang, Pengfei Xia, Jun Wu, Shi Chen, and Baoye Zhang (Tongji University, P.R. China)

6. Neural Networks for Demodulating the Output Signals of Nonlinear Systems with Memory
Xiaomin Li, Chunming Zhao, and Ming Jiang (Southeast University, P.R. China)
WNS-08: Software Defined Networks

Date: Oct. 13, 2017  
Time: 16:00pm – 17:30pm  
Room: Zijin  
Chair: Xiaohu Ge, Huazhong University of Science and Technology, P.R. China

1. State Reduction in Wireless Software Defined Network with LSP Multiplexing  
   Liaoruo Huang, Qingguo Shen, Feng Zhou and Xiaoyu Cui (PLA Army Engineering University, P.R. China); Wenjuan Shao (Nanjing University of Science and Technology, P.R. China)

2. Control Plane Delay Minimization based SDN Controller Placement Scheme  
   Lei Zhu, Rong Chai and Qianbin Chen (Chongqing University of Posts and Telecommunications, P.R. China)

3. Dynamic Switch Migration Algorithm with Q-learning Towards Scalable SDN Control Plane  
   Min Zhu, Hua Qu and Jihong Zhao (Xian Jiaotong University, P.R. China)

4. Coflow-Aware Dynamic Routing for SDN-based Data Center Networks  
   Yifan Li and Jie Li (University of Tsukuba, Japan); Yusheng Ji (Quanzhou University of Technology, P.R. China)

   Feiyang Meng, Rong Chai and Chenlu Zhang (Chongqing University of Posts and Telecommunications, P.R. China)

6. VNF Deployment and Routing for NFV-enabled Multicast: A Steiner Tree-based Approach  
   Yulun Cheng and Longxiang Yang (Nanjing University of Posts and Telecommunications, P.R. China)

WCS-22: System Performance Analysis

Date: Oct. 13, 2017  
Time: 16:00pm – 17:30pm  
Room: U Lake  
Chair: Kanglian Zhao, Nanjing University, P.R. China

1. A General Analytical Approach for Outage Analysis of HARQ-IR over Correlated Fading Channels  
   Zheng Shi and Shaodan Ma (University of Macau, P.R. China); Guanghua Yang (Jinan University, P.R. China); Kam Weng Tam (University of Macau, P.R. China); Ming-Hua Xia (Sun Yat-sen University, P.R. China)

2. Dual-Polarized Spatial Modulation Performance Analysis over Nakagami-m Fading Channels  
   Zhihao Lyu, Kanglian Zhao, Wenfeng Li, and Haibo Zhou (Nanjing University, P.R. China)

3. Channel Capacity and Lower Bound for Ambient Backscatter Communication Systems  
   Wenjing Zhao and Gongpu Wang (Beijing Jiaotong University, P.R. China); Feifei Gu (Tsinghua University, P.R. China); Yulong Zou (Nanjing University of Posts and Telecommunications, P.R. China); Saman Atapattu (University of Melbourne, Australia)

4. Downlink Spectral Efficiency of Multi-User Distributed Antenna Systems Under a Stochastic Geometry Model  
   Baolai Cai, Chentao Yue, Jiamin Li, and Pengcheng Zhu (Southeast University, P.R. China)

5. Achievable Rate of DCO-FBMC with Low-Resolution ADCs for Optical Wireless Communication  
   Mengting Wu, Jian Dang, Zhenzhong Zhan, and Liang Wu (Southeast University, P.R. China)

6. Correlation Analysis and Adaptive Carrier Sensing Adjustment in Dense Random Wireless Networks  
   Zhaoming Dong (Southeast University, P.R. China); Song Xing (California State University, Los Angeles, USA); Feng Yan (Southeast University, P.R. China); Shuguang Deng (Hunan City University, P.R. China); Lianfeng Shen (Southeast University, P.R. China)