WCSP 2014

Toward the Future of Communications

October 23-25, 2014, Hefei, China

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Publication: All accepted and presented papers will be included in the WCSP14 Conference Proceedings. Papers published in WCSP 09-13 have been included by IEEE Xplore Digital Library and indexed by EI Compendex.

Important Dates:

Submission deadline: July 15, 2014

Acceptance notification: Aug. 15, 2014

Camera-ready paper: Sept. 5, 2014

The Annual International Conference on Wireless Communications and Signal Processing (IC-WCSP) aims to gather international researchers from academia and industry to meet and exchange ideas and recent research works across the broad field of ICT technologies. The event of WCSP 2014 will be held in Hefei, Anhui, China, on October 23-25, 2014. The theme of WCSP 2014 is to embrace the convergence of key emerging ICT technologies, including but not limited to next-generation networking architecture, wireless communications &systems, multimedia over networks, computing, and integrated circuit.

Technical Symposia: Prospective authors are welcome to submit original technical papers for publication in the conference proceedings and for presentation at the following six symposia through EDAS (http://edas.info):

1. **Future Networking Symposium**
   Satyajayant Misra (New Mexico State University, USA)
   Xu Zhu,   (University of Liverpool, UK)
   Kai Chen,   (Hong Kong University of Science and Technology, Hong Kong)
   Chi Zhang, (University of Science and Technology of China, China)
2. **Emerging Areas in Wireless Communications Symposium**
   Chee Wei Tan (City Univerisity of Hong Kong, Hong Kong)
   Cong Shen   (Qualcomm Corp. R&D, San Diego, USA)
   Longbo Huang (Tsinghua University, China)
   Wenyi Zhang   (Univ. of Science and Technology of China, China)
3. **Media and Signal Processing for Communications Symposium**
   Shipeng Li   (Microsoft Research, USA)
   Moncef Gabbouj   (Tampere University of Technology, Finland)
   Nicholas Mastronarde (State University of New York at Buffalo, USA)
   Dong Liu   (University of Science and Technology of China, China)
4. **Algorithm，Computing and SoC Symposium**
   Fujiang Lin   (University of Science and Technology of China, China)
   Francois Chin   (A*STAR, Singapore)
   Xiaoming Peng (Institute for Infocomm Research (I2R), Singapore)
5. **Wireless Systems and Networks Symposium**
   Zuqing Zhu   (University of Science and Technology of China, China)
   Shengli Zhou   (University of Connecticut, USA)
   Pinyi Ren   (Xi'an JiaoTong University, China)
   Fen Zhou   (University of Avignon, France)
6. **Optical Wireless Communications Symposium**
   Zhengyuan Xu   (University of Science and Technology of China, China)
   Julian Cheng   (University of British Columbia, Canada)
   Zabih Ghassemlooy   (Northumbria University, UK)
   Thomas DC Little   (Boston University, USA)

IEEE COMMUNICATIONS SOCIETY Nanjing Chapter

IEEE Signal Processing Society Nanjing Chapter

ZHEJIANG UNIVERSITY

WCSP 2014
October 23-25, 2014, Hefei, China

Call for Papers
Future Networking Symposium

Symposium Co-Chairs

Dr. Satyajayant Misra, New Mexico State University, USA
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Dr. Kai Chen, Hong Kong University of Science and Technology, Hong Kong
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Dr. Chi Zhang, University of Science and Technology of China, China
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Scope and Topics of Interest

The Future Networking Symposium is devoted to the latest developments and advancements in wireless or wireline networks, applications, and services related to future networking. The objective of this symposium is to provide an international forum to exchange new ideas and research results from both academia and industry. Prospective authors are invited to submit original contributions on all aspects of future networking, including, but not limited to the following topics of interest:

- Future Internet and next-generation networking architectures
- Heterogeneous multi-layer and multi-domain networks
- Wireless-wireline internetworking
- Overlay networks, content-centric networks, and peer-to-peer networking
- Data center networking
- Software-defined networking
- Mobile cellular networks
- Mobile ad hoc networks
- Wireless mesh networks
- Wireless sensor networks
- Wireless local area networks
- Wireless personal area networks
- Cognitive radio networks
- Self-organizing networks
- Vehicular ad hoc networks
- Smart grid networks

- Home area networks
- Algorithms and protocols
- Medium access control
- Routing
- Security and privacy
- Flow control and congestion control
- Network resource allocation
- Traffic modeling and management
- Mobility, handoff, and location management
- Quality-of-service provisioning
- Cross-layer design and optimization
- Multimedia over wireless/wired networks
- Capacity and performance analysis
- Network testbeds and deployment

WCSP 2014
October 22-24, 2014, Hefei, China

Call for Papers
Emerging Areas in Wireless Communications Symposium

Symposium Co-Chairs

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Cong Shen, Qualcomm R&D, USA
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Wenyi Zhang, University of Science and Technology of China, China
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Scope and Topics of Interest

The Symposium on Emerging Areas in Wireless Communications aims at bringing together academia and industry interested in the latest advancements in systems, protocols, applications, and information services related to future wireless communications. Prospective authors are invited to submit original contributions on all aspects of future wireless communications, which include but not limited to the following topics of interest:

- Coding, modulation, equalization, and synchronization
- Space-time coding, MIMO, large scale antenna systems
- Multiaccess technologies (e.g., OFDMA, CDMA)
- Channel measurement, modeling and characterization
- Information-theoretic aspects in wireless communications
- Power control, resource management
- Interference management
- Cooperative communications
- Visible light communications
- Satellite and deep-space communications
- Short range wireless communications (e.g., 60G, UWB)
- Underwater acoustic communications
- Molecular and nano-scale communications
- Mobile cellular networks
- Device-to-device, machine-to-machine networks

- Cognitive radio networks
- Home area networks
- Wireless sensor networks
- Integration of heterogeneous networks (e.g., cellular and WLAN, offloading)
- Complex and self-organizing networks (e.g., Internet of Things, Smart Grids)
- Wireless traffic modeling and management
- Wireless security and privacy
- Mobility, handoff, and location management
- Cross-layer design and optimization
- Modeling and performance analysis
- Smartphone applications
- Economic models and mechanisms in wireless communications
- Wireless testbeds and implementations
- Hardware design in wireless platforms
- Emerging wireless standards

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Call for Papers

Media and Signal Processing for Communications Symposium

Symposium Co-Chairs

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Dr. Dong Liu, University of Science and Technology of China
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Scope and Topics of Interest

Accompanied with the popularity of mobile devices, multimedia has been the majority of content in wired and wireless networks. More and more media and signal processing algorithms and modules are designed and developed to provide novel solutions to communication and networking. Thus the Media and Signal Processing for Communications Symposium is devoted to the various topics of signal processing, with especial emphases on multimedia processing technologies for wired and wireless communications. Topics of interest include, but are not limited to:

- Speech and Audio Signal Processing
- Image, Video, and Multimedia Signal Processing
- Virtual Reality Signal Processing
- Client-Cloud Multimedia Systems and Applications
- Social Media Networks
- Multimedia Communications
- Compressive Sensing and Compressive Sampling
- Adaptive Signal Processing
- Estimation and Detection
- Signal Processing for Communications
- Signal Processing Applications and Systems

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Call for Papers
Algorithms, Computing, and System-on-Chips Symposium

Symposium Co-Chairs

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Dr. Xiaoming Peng, Institute for Infocomm Research (I2R), A*STARSingapore
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Scope and Topics of Interest

Integrated circuits (ICs) play the core role in communication and network system. Driven by the new communication application and the semiconductors technology/process progress, system-on-chips are facing a lot of challenges: algorithms/architectures of communications such as LTE/LTE-A, 5G etc., ultra-low power consumption implementation, highly dense integration, multi-core/Network-on-Chip (NoC), scalable/reconfigurable/parallel architecture, packaging technology, new design methodologies, etc., numerous research groups in academia, industry, and government are currently investigating the issues involved in improving the performance, power consumption, reliability, and other characteristics of communication System-on-Chips (SoC) and seeking new ways to advance the state of the art in wireless/wireline communication as well as the emerging quantum communication fields.

The goal of this symposium is to bring together researchers working on improvements at all aspects of communication system-on-chip, thereby enabling the sharing and adaptation of ideas and the latest progress. Prospective authors are invited to submit original contributions on all aspects of communication chips, including, but not limited to the following topics of interest:

- Communication algorithms and hardware module implementations
- RF, Analog, and mixed-signal integrated circuits for communication
- Reconfigurable/Scalable Computing
- SoC architectures, Software/hardware tasks separation
- Heterogeneous/homogeneous multicores
- NoC/on-chip interconnect for communications systems
- High-speed interconnect transceiver techniques

- Low power communications chip design
- Smart grid chip design
- Quantum communication IC
- SoC design/verification methodology
- 3D integration
- Design for test/manufacturability

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Call for Papers
Wireless Systems and Networks Symposium

Symposium Co-Chairs

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Scope and Topics of Interest

The Symposium on Wireless Systems and Networks will focus on new research results as well as practical implementations in the areas of mobile and wireless networking and the enabling systems. Mobile and wireless technologies will continue to evolve and to enable the telecommunication networks to adapt to the traffic demands that is increasing exponentially. There are various techniques and solutions that can extend the network capacity effectively in one hand, while improving the network flexibility, operability, energy efficiency, quality of service (QoS) and quality of experience (QoE) on the other hand.

The objective of this symposium is to serve as an international forum for experts from both the academia and industry to exchange ideas and results on research and development, and to promote and accelerate the standardization, applications, and services of current and future wireless communication systems and networks. To ensure complete coverage of the field, the Symposium on Wireless Systems and Networks solicits original contributions in, but not limited to, the following areas:

- Mobile and wireless networking
- Wireless access and routing techniques and protocols
- Broadband wireless communication systems
- Resource allocation
- Energy-efficient wireless networking

- Mobile IP networks
- Inter-working of 2G, 3G and 4G wireless networks•
- Opportunistic networks
- Wireless mesh networks
- Cross-layer design, security, and optimization
- Delay tolerant networks
- Integration of ad hoc networks with wireless access networks
- Congestion and admission control
- QoS/QoE support for mobile networks
- RFID networks and protocols
- Modeling and analysis of wireless LAN/WAN
- B3G/4G systems, WiMAX, WLAN, WPAN
- B4G/5G systems
- Wireless multicasting and broadcasting
- Optimization models and algorithms
- Ubiquitous computing, services and applications
- Emerging wireless/mobile applications
- Portable devices and wearable computers
- System prototypes, real deployments and experimentation
- Context and location aware applications
- Data replication and dissemination in mobile networks
- Mobile social networks
- Vehicular communication networks
- Operating system and middleware support for mobile computing
- Intelligent transport systems and applications
- Multimedia over wireless networks
- Wireless telemedicine and e-health services
- Content distribution in wireless home environment
- Security, privacy and infrastructure for ubiquitous computing
- Service oriented architectures, service portability, P2P
- Cognitive radio networks
- Internet of Things (IoT)
- Machine-to-Machine (M2M) communications
- Wireless networking in smart grid

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Call for Papers
Optical Wireless Communications Symposium

Symposium Co-Chairs

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Scope and Topics of Interest

Recently, interest in fundamental and applied research on optical wireless communication technologies has been tremendously boosted by the increasing capacity demands inspired by mobile devices that are unmet by existing RF technologies. New and relatively untapped optical spectrum is considered a frontier for increasing data access in general and niche applications. This arena is broad, encompassing activities in development of optical sources and detectors, imaging architectures, signal processing and communication techniques, systems and networks, in all optical bands such as ultraviolet, visible light and infrared. This symposium invites submissions of original contributions on all aspects of optical wireless communication systems and networks, including, but not limited to, the following topics of interest:

- Indoor and outdoor optical wireless channel modeling
- Experimental channel characterization
- Atmospheric and water scattering and turbulence
- Pointing and acquisition in mobility
- Optical wireless channel capacity
- Modulation/demodulation and coding/decoding techniques
- Large-scale optical MIMO techniques
- Receiver and detector techniques
- Scattering and turbulence mitigation
- Intersymbol interference mitigation

- Wavelength diversity
- Optical relay and partial coherent transmission and reception
- X-dimensional multiplexing
- Applications in indoor, atmosphere and underwater