

Call for Papers for Ad-hoc and Sensor Networking Symposium

Symposium Co-Chairs

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Submissions must be done through EDAS at <http://edas.info/N20947>

Scope and Motivation

An ad-hoc network is a system of wireless nodes dynamically self-organizing in arbitrary and temporary network topologies. Nodes in an ad-hoc network can communicate without a pre-existing communication infrastructure. In recent years, ad-hoc networks have been attracting increased attention from the research and engineering communities, motivated by applications like digital battlefield, asset tracking, air-borne safety, situational awareness, and border protection. Such networks are designed to operate in widely varying environments. Therefore, dynamic topologies, bandwidth constraints, energy-constrained operations, wireless vulnerabilities, and limited physical security are among the characteristics that differentiate mobile ad-hoc networks from fixed multi-hop networks.

A Wireless Sensor Network (WSN) is a wireless network consisting of large populations of spatially distributed sensor nodes to cooperatively monitor physical or environmental conditions. Wireless sensor networks have many useful applications such as hostile environment surveillance, industrial process monitoring, environment and habitat monitoring, healthcare applications, home automation, and traffic control. Recently, we have experienced an immense growth of interest on exciting concepts such as the Internet of Things (IoT), the Smart Cities and the Machine-to-Machine Communications (M2M) mainly focused on the 5th Generation (5G) Mobile Systems.

Both ad-hoc and sensor networks are characterized by their dynamic nature, which requires them to be adaptive to changes in the application environment, task objectives, and topological changes, among others. There is a growing number of real applications using wireless ad-hoc and sensor networks, and these applications are being taken seriously by the industries. As a result, the last few years have witnessed the development of many innovative solutions for ad-hoc and sensor networks that are maturing to the level of commercialization and standardization. However, numerous challenges remain for the implementation of practical solutions that operate robustly, securely, and efficiently.

The Ad-hoc and Sensor Networking Symposium of ICC 2016 aims at providing a forum for sharing ideas among researchers and practitioners working on state-of-the-art solutions related to ad-hoc and sensor networks.

Main Topics of Interest

The Ad-hoc and Sensor Networking Symposium of ICC 2016 is soliciting papers that describe original and unpublished contributions. Topics of interest include, but are not limited to:

- Wireless sensor and actuator networks
- New and unconventional applications of ad-hoc and sensor networks
- Novel paradigms, architectures and operation models of ad-hoc and sensor networks
- Protocols, architectures and applications for the Internet of Things
- Machine-to-Machine (M2M) communications in ad hoc networks

- Wireless multimedia and 3-D sensor networks
- Underwater and underground sensor networks
- Body Area sensor networks
- Cognitive radio networks in multi-hop environments
- Multihop Wireless mesh and community networks
- Wireless PANs
- Pervasive and wearable computing
- RFID systems
- Delay-tolerant ad-hoc networks
- Self-organization and autonomic networking
- Vehicular ad hoc networks
- Co-existence issues of hybrid networks
- Wireless, ad-hoc, and sensor devices
- Ultra wide band technology for ad-hoc and sensor networks
- MAC protocols for ad-hoc and sensor networks
- Frequency and channel allocation algorithms for ad-hoc and sensor networks
- Quality of Service provision and management in ad-hoc and sensor networks
- Standardization activities for ad-hoc and sensor networks
- Energy saving and power control protocols for ad-hoc and sensor networks
- Energy scavenging technologies
- Service discovery in ad-hoc and sensor networks
- Location and context aware services in ad-hoc and sensor networks
- Scheduling and resource management algorithms in ad-hoc and sensor networks
- Deployment and coverage analysis of sensor networks
- Localization in ad-hoc networks
- Routing and multicasting protocols in ad-hoc and sensor networks
- Topology control and management
- Sensor fusion and synergy
- In-network processing and data storage
- Fault-tolerance and traffic reliability issues in ad-hoc and sensor networks
- Cross-layer design and optimization in ad-hoc and sensor networks
- Mobility management and modeling in ad-hoc and sensor networks
- Synchronization and coordination techniques in ad-hoc and sensor networks
- Security for ad-hoc and sensor networks
- Participatory and public sensing systems
- Performance evaluation and modeling in ad-hoc and sensor networks
- Simulation methodologies and tools for wireless ad-hoc and sensor networks
- Integrated simulation and measurement based evaluation for ad-hoc and sensor networks
- Experimental prototypes and testbeds for ad-hoc and sensor networks
- Decentralized combinatorial optimization in ad-hoc and sensor networks

Sponsoring Technical Committees

- Ad-hoc and Sensor Networks
- Wireless Communications

Co-Chairs Biographies

Abdelhakim Hafid is Full Professor at the University of Montreal, where he founded the Network Research Lab (NRL) in 2005. He is also research fellow at CIRRELT (Interuniversity Research Center on Enterprise Networks, Logistics and Transportation). He supervised to graduation more than two dozen graduate students. He published over 180 journal and conference papers; he also holds 3 US patents. Prior to joining U. of Montreal, he spent several years, as senior research scientist, at Telcordia Technologies (formerly Bell Communications Research), NJ, US working on major research projects on the management of next generation networks including wireless and optical networks. He was also visiting professor at University of Evry, France, Assistant Professor at University of Western Ontario (UWO), Canada, Research director of Advance Communication Engineering Center (venture established by UWO, Bell Canada and Bay Networks), Canada, researcher at CRIM, Canada, visiting scientist at GMD-Fokus, Berlin, Germany. Dr. A. Hafid has extensive academic and industrial research experience in the area of next generation networks including wireless and optical networks, QoS management, distributed multimedia systems, and communication protocols.

Pascal Lorenz (lorenz@ieee.org) received his M.Sc. (1990) and Ph.D. (1994) from the University of Nancy, France. Between 1990 and 1995 he was a research engineer at WorldFIP Europe and at Alcatel-Alsthom. He is a professor at the University of Haute-Alsace, France, since 1995. His research interests include QoS, wireless networks and high-speed networks. He is the author/co-author of 3 books, 3 patents and 200 international publications in refereed journals and conferences.

He was Technical Editor of the IEEE Communications Magazine Editorial Board (2000-2006), Chair of Vertical Issues in Communication Systems Technical Committee Cluster (2008-2009), Chair of the Communications Systems Integration and Modeling Technical Committee (2003-2009) and Chair of the Communications Software Technical Committee (2008-2010). He has served as Co-Program Chair of IEEE WCNC'2012, ICC'2004 and ICC'2017, tutorial chair of VTC'2013 Spring and WCNC'2010, track chair of PIMRC'2012, symposium Co-Chair at Globecom 2011-2007, ICC 2010-2008 and ICC'2014. He has served as Co-Guest Editor for special issues of IEEE Communications Magazine, Networks Magazine, Wireless Communications Magazine, Telecommunications Systems and LNCS.

Cheng Li received the B. Eng. and M. Eng. degrees from Harbin Institute of Technology, Harbin, P. R. China, in 1992 and 1995, respectively, and the Ph.D. degree in Electrical and Computer Engineering from Memorial University, St. John's, Canada, in 2004. He is currently a Full Professor at the Department of Electrical and Computer Engineering, Faculty of Engineering and Applied Science of Memorial University, St. John's, Canada. His research interests include mobile ad hoc and wireless sensor networks, wireless communications, switching and routing, and broadband communication networks. He is an editorial board member of Wiley Wireless Communications and Mobile Computing, Journal of Networks, and KSII Transactions on Internet and Information Systems, and an associate editor of Wiley Security and Communication Networks. He has served as a technical program committee (TPC) co-chair for the ACM MSWiM'14, MSWiM'13, IEEE WiMob'11 and QBSC'10. He has served as a co-chair for various technical symposia of many international conferences, including the IEEE GLOBECOM, ICC, and WCNC. He has served on the organization committee of many other international conferences and as the TPC member for many international conferences, including the IEEE ICC, GLOBECOM, WCNC, and PIMRC. Dr. Li is a registered Professional Engineer (P.Eng.) in Canada and a senior member of the IEEE and its Communications Society, Computer Society, Ocean Engineering Society and Vehicular Technology Society.