

The Fifth IEEE Annual International Workshop on Mission-Oriented Wireless Sensor Networking (MiSeNet 2016)

Co-located with IEEE INFOCOM 2016, San Francisco, CA, April 10-15, 2016

Call for Papers

Workshop Scope and Topics

Over the last two decades, the recent and fast advances in inexpensive sensor technology and wireless communications has made the design and development of large-scale wireless sensor networks (WSNs) cost-effective and appealing to a wide range of mission-critical situations, including civilian, natural, industrial, and military applications, such as health and environmental monitoring, seism monitoring, industrial process automation, and battlefields surveillance. Wireless sensor networking has attracted the attention of practitioners and researchers from both industry and academia. This type of networks consists of a collection of tiny, resource-limited, low-reliable sensing devices that are randomly or deterministically deployed in a field of interest to monitor a physical phenomenon and report their results to a central gathering point, known as a sink. These sensing devices suffer from their scarce capabilities, such as bandwidth, storage, CPU, battery power (or energy), sensing, and communication. In particular, mission-oriented WSNs are viewed as time-varying systems composed of autonomous mobile sensing devices (e.g., using mobile robots) that collaborate and coordinate distributedly to successfully accomplish complex real-time missions under uncertainty. The major challenge in the design of mission-oriented WSNs is due to their dynamic topology and architecture, which is caused mainly by sensing devices mobility. The latter may have significant impact on the performance of mission-oriented WSNs in terms of their sensing coverage and network connectivity. In such continuously dynamic environments, sensing devices should self-organize and move purposefully to accomplish any mission in their deployment field while extending the operational network lifetime. In particular, the design of mission-oriented WSNs should account for trade-offs between several attributes, such energy consumption (due to mobility, sensing, and communication), reliability, fault-tolerance, and delay.

IEEE MiSeNet 2016 will aim to provide a forum for participants from academia and industry to discuss topics in mission-oriented WSNs research and practice. IEEE MiSeNet 2016 will serve as incubator for scientific communities that share a particular research agenda in the area of mission-oriented WSNs. IEEE MiSeNet 2016 will provide its participants with opportunities to understand the major technical and application challenges of mission-oriented WSNs as well as exchange and discuss scientific and engineering ideas related to their architecture, protocol, algorithm, and application design, in particular at a stage before they have matured to warrant conference/journal publications. IEEE MiSeNet 2016 will seek papers that present novel theoretical and practical ideas as well as work in-progress, which will lead to the development of solid foundations for the design, analysis, and implementation of energy-efficient, reliable, and secure mission-oriented WSN applications.

The topics of interest to IEEE MiSeNet 2016 include, but are not limited to, the following:

- Theoretical foundations of mission-oriented WSNs
- Modeling and analysis of mission-oriented WSNs
- System design, implementation, and evaluation of mission-oriented WSNs
- Medium access control and scheduling in mission-oriented WSNs
- Cross-layer design for mission-oriented WSNs
- Software architectures for mission-oriented WSNs
- Self-organization, self-configuration, and energy efficiency in mission-oriented WSNs
- Coverage and connectivity issues in mission-oriented WSNs
- Deployment and localization in mission-oriented WSNs
- Uncertainty and opportunistic communications in mission-oriented WSNs
- Topology control and fault-tolerance in mission-oriented WSNs
- Routing and data dissemination in mission-oriented WSNs
- In-network data storage and processing in mission-oriented WSNs
- Sensor database management in mission-oriented WSNs
- Purposeful mobility in mission-oriented WSNs
- Target detection and tracking in mission-oriented WSNs
- Privacy and security aspects of mission-oriented WSNs
- Cloud computing and its applications to mission-oriented WSNs
- Testbed design and real-world applications of mission-oriented WSNs

General Chair

- Zygmunt J. Haas (Cornell University, USA)

Program Chair

- Habib M. Ammari (Taif University, SA)

Publicity Chair

- Stefano Basagni (Northeastern University, USA)

Steering Committee

- Tarek F. Abdelzaher (University of Illinois Urbana Champaign, USA)
- Habib M. Ammari (Taif University, SA)
- Nirwan Ansari (New Jersey Institute of Technology, USA)
- Xiuzhen Cheng (The George Washington University, USA)
- Sajal K. Das (Missouri University of Science and Technology, USA)
- Zygmunt J. Haas (Cornell University, USA)
- David B. Johnson (Rice University, USA)
- Thomas F. La Porta (Penn State University, USA)
- Stephan Olariu (Old Dominion University, USA)
- Jie Wu (Temple University, USA)
- Guoliang Xue (Arizona State University, USA)
- Mohamed Younis (University of Maryland Baltimore County, USA)

Paper Submission

IEEE MiSeNet 2016 Workshop will consider only original papers that are not currently under review by other workshops, conferences, or journals, and have not been published. All papers submitted to IEEE MiSeNet 2016 will be peer-reviewed and evaluated based on their suitability (*i.e.*, within the workshop scope), novelty, and merit. Submitted papers are limited to 9 pages. All submissions should be formatted in standard IEEE conference style for publication in the conference Proceedings. They must be single-spaced, double-column, with each column 9.25" by 3.33", 0.33" space between columns, use at least a 10pt font, and be correctly formatted to be printed on Letter-sized (8.5" by 11") paper.

It is required that at least one author of each accepted paper register and attend the IEEE MiSeNet 2016 workshop to present their work to ensure its publication in the IEEE INFOCOM 2016 conference Proceedings. We strongly encourage people from both of the industry and academia to submit their fine work to IEEE MiSeNet 2016.

To submit your paper to IEEE MiSeNet 2016, please visit the submission website at:

<https://easychair.org/conferences/?conf=misenet2016>

Thank you for submitting your paper to IEEE MiSeNet 2016!

Important Dates

- Paper submission: November 29, 2015
- Author notification: December 27, 2015
- Camera-ready version: January 15, 2016