

The 18th Annual International Conference on Mobile Computing and Networking (ACM MobiCom 2012)

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THE FIRST ACM ANNUAL INTERNATIONAL WORKSHOP ON MISSION-ORIENTED WIRELESS SENSOR NETWORKING (ACM MiSeNet 2012)

In conjunction with **ACM MobiCom 2012**
Istanbul, Turkey, August 26, 2012

About ACM MiSeNet

The Workshop Scope

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 sensor networks cost-effective and appealing in a wide range of mission-critical situations, including civilian, natural, industrial, and military, with applications ranging from health and environmental monitoring, seismic monitoring, and industrial process automation to disaster response, battlefield surveillance, and irregular warfare. 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, low-powered, less reliable sensing devices that are randomly or deterministically deployed to monitor a physical phenomenon and report their results to a central gathering point, known as sink.

Mission-oriented sensor networks are next-generation time-varying systems composed of both humans and mobile sensors (e.g., vehicle-mounted, human-operated, or integrated with mobile robots or UAVs) that collaborate and coordinate to successfully accomplish complex real-time missions under uncertainty. A major challenge in the design of mission-oriented sensor networks arises in supporting dynamic topology and disruption-tolerant architecture, caused by mobility, which has significant impact on performance in terms of sensing coverage, network connectivity, and information quality. In such dynamic environments, sensors should self-organize and reason in a distributed manner about resource allocation, scheduling, forwarding, caching, and in-network storage to accomplish specific missions, while extending the operational network lifetime. Another major challenge lies in accommodating human input. Humans are the ultimate sensors. They are well-equipped to monitor and report situations that would be very difficult for machine sensors to understand. They also come with their own challenges including imperfect reliability, bias, and relative lack of predictability (compared to well-calibrated sensors). The design of mission-oriented sensor networks, where humans and sensors collaborate, should account for trade-offs between several attributes such energy consumption (due to mobility, sensing, and communication), reliability, fault-tolerance, data collection latency, and quality of information (such as video resolution, picture quality, type of content, degree of redundancy, and level of summarization), and their impact on mission objectives. It should accommodate human-centric sensing modalities such as free-form text, pictures, sound, and video, and should include mechanisms to handle unpredictability, uncertainty, human error, and noise.

ACM MiSeNet 2012 aims to provide a forum for participants from academia and industry to discuss topics in mission-oriented sensor network research and practice. ACM MiSeNet 2012 serves as incubator for scientific communities that share a particular research agenda in this area. ACM MiSeNet 2012 will provide them with opportunities to understand the major technical and application challenges as well as exchange and discuss scientific and engineering ideas related to architecture, protocols, algorithms, and application design, at a stage before they have matured to warrant conference/journal publications. ACM MiSeNet 2012 seeks 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 networked sensing applications.

For More Information

Please send email to mobicom_info@acm.org with any questions or comments about the ACM MobiCom'12 conference or for more information. For questions about the ACM MiSeNet 2012 Workshop regarding the paper submission and review process, please contact the General Chair at zaher@cs.uiuc.edu and the Program Chair at hammari@umd.umich.edu.

Committees

Organizing Committee

- General Chair:** [Tarek Abdelzaher](#) (University of Illinois at Urbana Champaign, USA)
- Program Chair:** [Habib M. Ammari](#) (University of Michigan-Dearborn, USA)
- Publicity Co-Chairs:** [Habib M. Ammari](#) (University of Michigan-Dearborn, USA)
- [Flavia Delicato](#) (Federal University of Rio de Janeiro, Brazil)
- [Elena M. Renda](#) (Institute of Informatics and Telematics, Italy)
- [Shengquan Wang](#) (University of Michigan-Dearborn, USA)
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- Web Chair:** [Habib M. Ammari](#) (University of Michigan-Dearborn, USA)



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[Stephan Olariu](#) (Old Dominion University, USA)

[Jie Wu](#) (Temple University, USA)

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1 [Kemal Akkaya](#) (Southern Illinois University, USA)

1 [Jie Gao](#) (Stony Brook University, USA)

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1 [Tommaso Melodia](#) (State University of New York at Buffalo, USA)

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¹ Christian Poellabauer (University of Notre Dame, USA)

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¹ Damla Turgut (University of Central Florida, USA)

¹ Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

¹ Wendong Xiao (Institute for Infocomm Research, Singapore)

¹ Liqiang Zhang (Indiana University South Bend, USA)

Advance Program

ACM MiSeNet 2012 has received 18 submissions from Africa, Asia, Europe, South America, and the United States. The program committee accepted 9 papers that cover a variety of topics, including mobility models in participatory sensing, architecture design for highly-scalable and low duty-cycle sensor networks, middleware for resource and mission oriented sensor networks, and fault tolerance. In addition, the program includes a keynote speech by Professor Sajal K. Das on the challenges and future directions of cyber-physical and networked sensor systems. We hope that ACM MiSeNet 2012 will serve as a valuable reference for researchers and developers in the area of mission-oriented wireless sensor networking.



The tentative program of ACM MiSeNet 2012 can be found [here](#).

Best Paper Award

ACM MiSeNet 2012 will present **Best Paper Award** to award authors with the best paper submitted to the annual ACM MiSeNet workshop. The award includes a prestigious plaque. The authors of **Best Paper Award** will be recognized in the workshop.



Submission

ACM MiSeNet 2012 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 ACM MiSeNet 2012 will be peer-reviewed and evaluated based on their suitability (i.e., within the workshop scope), novelty, and merit. Submitted papers are limited to 6 pages.



ACM MiSeNet 2012 will also consider technical **demos and posters** that present original and significant research within the workshop scope. Submitted demos/posters are limited to 2 pages. In the case of a demo, the authors should clearly specify, in an email to both of the General Chair and Program Chair, the additional resources that are needed. Power and wireless Internet connectivity will be available at the workshop.

All submissions should be formatted in standard ACM 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/demo/poster register and attend the ACM MiSeNet 2012 workshop to present their work to ensure its publication in the ACM

MobiCom 2012 conference Proceedings.

We strongly encourage people from both of the industry and academia to submit their fine work to ACM MiSeNet 2012.

To submit your paper, demo, and/or poster to ACM MiSeNet 2012, please visit the [submission website](#).

Thank you for submitting your paper, demo, and/or poster to ACM MiSeNet 2012!

Invited Talks

ACM MiSeNet 2012 program includes a keynote speech by Professor Sajal K. Das on the challenges and future directions of cyber-physical and networked sensor systems. Professor Das is the director of the Center for Research in Wireless Mobility and Networking (CReWMaN). Also, he is the University Distinguished Scholar Professor in the Department of Computer Science and Engineering at the University of Texas at Arlington, Texas, USA.

More details about this outstanding keynote speech can be found [here](#).



Registration

To register your paper/demo/poster, please refer to the details posted on the [ACM MobiCom 2012 registration website](#).



Important Dates

- 1 Paper Submission Deadline: June 4, 2012
- 1 Demo/Poster Submission Deadline: June 18, 2012
- 1 Notification Deadline: June 25, 2012
- 1 Camera-ready: July 2, 2012
- 1 Workshop date: August 26, 2012



News

- 1 Jul. 16, 2012: The tentative program of ACM MiSeNet 2012 has been uploaded.
- 1 May 1, 2012: **Dr. William I. Grosky**, Chair of [The Department of Computer and Information Science at the University of Michigan-Dearborn](#), kindly agreed to support ACM MiSeNet 2012 with generous funding for its promotion and success.
- 1 Apr. 23, 2012: **Dr. John J. Cristiano**, Director of [The University of Michigan-Dearborn Henry W. Patton Center for Engineering Education and Practice \(UM-Dearborn HP-CEEP\)](#), kindly agreed to support ACM MiSeNet 2012 with generous funding for its promotion and success.
- 1 Apr. 21, 2012: ACM MiSeNet 2012 Call for Papers was uploaded.
- 1 Apr. 20, 2012: ACM MiSeNet 2012 website was launched.



ACM MiSeNet Supporters

- 1 [The University of Michigan-Dearborn Henry W. Patton Center for Engineering Education and Practice \(UM-Dearborn HP-CEEP\)](#)
- 1 [The University of Michigan-Dearborn Department of Computer and Information Science \(CIS\)](#)



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This webpage is maintained by Prof. Habib M. Ammari.
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