



WUWNet'19

October 23-25, Atlanta, GA, USA

The 14th International Conference on  
Underwater Networks & Systems

## Call for Papers: WUWNet'19 Atlanta, GA, USA

WUWNet'19: The 14th International Conference on Underwater Networks and Systems  
October 23-25, 2019

Website: <http://wuwnet.acm.org/2019/>

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WUWNET is a premier venue for sharing the state-of-the-art research and development of underwater networks and systems, as it brings together leading scientists and entrepreneurs from all over the world. The conference will span three days, including keynote speeches, plenary talks, panel discussions, technical presentations, and poster/demo sessions. We invite academia and industry participants from a broad range of backgrounds relevant to underwater sensing, communications, networking, robotics, systems, and applications to participate in the conference. Specific topics include, but are not limited to:

### Regular Submissions

- Underwater network and system architectures
- Underwater communications (including acoustic, optical, MI, RF, and wired), with techniques from the physical layer to the application layer
- Underwater channel modeling and signal processing
- Cooperative underwater communications, including, PHY, MAC, routing, and data transfer
- Networked underwater robotics and systems, such as localization, navigation, security, communication and coordination, or human operator interaction
- Coordinated energy-harvesting systems and power systems for underwater networks and systems
- Energy-efficient algorithms and protocol design for underwater networks as well as signal/image processing and communication systems
- Operating system and middleware support for underwater networks and systems
- Applications that broadly address underwater networks and systems, including coordinated underwater vehicles
- Modeling, simulation, testbeds, and standardization for underwater systems and platforms
- Experimental results from underwater networking, signal/image processing and communications field trials, especially in extreme environments
- Application requirements for underwater networks, signal/image processing and communication systems presented by end users
- Interaction and integration of underwater networked systems with terrestrial and aerial networking

### Technical Special Sessions

The 2019 WUWNet Conference invites submissions for two technical **special sessions**, including:



### **Special Session I: Underwater Mobile Communications and Networking**

Description: With the emerging of affordable underwater autonomous vehicles, it becomes clear that underwater mobile platforms are a key enabling technology for exploration and monitoring of the dynamic and harsh ocean environments. Underwater wireless communications are essential for coordination, remote command and control, trajectory planning, and positioning for the mobile platforms. While the last decades have witnessed substantial progress in marine robotics, the related communication research is overdue for much-anticipated breakthroughs.

This special session invites novel solutions to address challenges in underwater mobile communications and networking, including but are not limited to:

- Physical-layer solutions
- Networking protocols
- Navigation
- Coordination within mobile networks
- Hardware and software infrastructure for mobile platforms
- Typical applications

### **Special Session II: Underwater Internet of Things (UW-IoT)**

Description: Today's IoT connects about 9 billion devices, excluding smart phones, tablets, and computers. This number is estimated to reach 50 billion by 2020 on the ground, while we are missing out on connecting underwater. The envisioned Underwater Internet of Things (UW-IoT) connects underwater instruments, for example, underwater modems, marine sensors, AUVs, ROVs, bottom-mounted moorings, for aquatic exploration and monitoring. The UW-IoT system can be used for a wide variety of underwater missions such as surveying shipwrecks, detecting early signs of tsunamis, monitoring health of marine habitats. It will create interactive real-time aquatic education and help train the next generation of workforce.

This special session invites novel solutions to address challenges in underwater mobile communications and networking, including but are not limited to:

- Low-power, low-cost transducer and modem designs for UW-IoT
- New UW-IoT devices for harsh ocean environments
- Heterogeneous UW-IoT networking architecture and protocols
- UW-IoT enabled applications, for example, oil & gas production control and optimization, natural disaster early detection, ecological monitoring, archaeological expeditions
- UW-IoT networks for aquaculture, fisheries, and surveillance
- UW-IoT enabled ocean big data analytics



Submissions of technical papers must describe original research, not published or currently under review at other workshops, conferences, journals, or magazines.

All papers will be reviewed by the program committee members for novelty and originality of the contribution. The conference accepts full and short papers. Paper submission will be handled electronically. Authors should prepare a PDF version of their papers. The page limit for full papers is 8 pages, and that for short papers is 5 pages in standard ACM conference format. In addition, position papers with 2-page extended abstracts (in standard ACM conference format) can be submitted for fast dissemination of interesting intermediate results of undergoing research and promising progresses.

The direct link for paper submission is <https://edas.info/newPaper.php?c=26569>.

### **IMPORTANT DATES**

#### **Regular Submissions**

Paper registration:	August 5, 2019
Paper submission:	August 5, 2019
Acceptance notification:	September 2, 2019
Camera-ready date:	September 16, 2019
Extended abstract submission:	August 26, 2019
Acceptance notification:	September 2, 2019
Camera-ready date:	September 16, 2019
Tutorial proposal submission:	July 22, 2019
Acceptance notification:	August 12, 2019

#### **Technical Special Sessions**

Paper registration:	August 12, 2019
Paper submission:	August 12, 2019
Acceptance notification:	September 2, 2019
Camera-ready date:	September 16, 2019



### ORGANIZING COMMITTEE

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- General Co-Chairs:** Fumin Zhang, Georgia Institute of Technology  
Xiaoli Ma, Georgia Institute of Technology  
Aijun Song, University of Alabama
- TPC Co-Chairs:** Miao Pan, University of Houston  
Zhaohui Wang, Michigan Technological University  
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- Exhibition Co-Chairs:** Michael Zuba (Raytheon BBN Technologies, [micael.e.zuba@raytheon.com](mailto:micael.e.zuba@raytheon.com))  
Dale Green (Teledyne Benthos (Retired), [daleg141@gmail.com](mailto:daleg141@gmail.com))