

**The Third ACM Workshop on UnderWater Networks (WUWNet'08)**  
**In conjunction with MobiCom'08 (San Francisco, CA, USA, 15 Sep. 2008)**

<http://wuwnet08.engr.uconn.edu/>

Sponsored by ACM SIGMOBILE and IEEE OES

**Overview & Scope**

Water covers 71% of the earth's surface with oceans, rivers and lakes. Water systems are of vital importance to climate regulation, agriculture, nutrient production, oil retrieval and transportation, etc., yet they represent one of the least explored frontiers. As such, there is significant interest in real-time, in-situ monitoring of aquatic environments for scientific, environmental, commercial, safety and military applications.

Underwater networking has attracted strong attention in the recent a few years. Although there is a long history of underwater acoustic communication, many new applications requires networking of multiple nodes, either static or mobile, and potentially over multiple hops. The physical challenges of acoustic channel and the complexity of diverse aquatic environments require us to completely re-think network design for underwater environments. Some major challenges at the physical layer and higher layers include the severely limited range-dependent bandwidth and attenuation, extensive time-varying multi-path propagation, the low speed of sound in water that is 5 orders of magnitude less than that of radio waves in air. In addition, underwater nodes are neither inexpensive nor easy to deploy. These distinct features yield grand challenges to every layer of the protocol suite in underwater networks.

The goal of the workshop is to bring together researchers and practitioners in areas relevant to underwater networks. Thus, all layers of the protocol stack, from the physical layer to application, will be represented. Its objective is to serve as a forum for presenting state of the art research, exchanging ideas and experiences, and facilitating interaction and collaboration.

The workshop will span one day, including presentations of technical papers, keynote speeches, and a poster/demo session. Submissions for technical papers should describe original research, not published or currently under review for other workshops, conferences, or journals.

**Topics include, but are not limited to:**

- Network architecture design
- Efficient acoustic communications
- Cooperative underwater communications
- Medium access control
- Routing and forwarding
- Reliable data transfer
- Security and robustness
- In-network data storage
- Resource management (energy, bandwidth)
- Localization and time synchronization
- Data fusion, dissemination, tracking
- Network modeling and simulations
- Network planning and deployment
- New applications utilizing underwater networks
- Testbed and systems: real-world experience

## **Submission Guidelines**

The workshop accepts both regular full papers and short papers. Short papers present new ideas or new visions that may influence the direction of future research, yet they may be less mature than full papers. While an exhaustive evaluation of the proposed ideas is not necessary, insight and in-depth understanding of the issues is expected. Short papers will be reviewed the same way as full papers by the technical program committee and will be published in the workshop proceedings.

All paper submissions will be handled electronically. Authors should prepare a PDF or PostScript version of their papers. The page limit for full papers is **8** pages, and that for short papers is **4** pages. Both types of papers should be submitted using the same submission procedure. However, the title of short papers must start with the word "Short Papers:", i.e., "Short Papers: Rest of the Title." All papers should use font size that is not smaller than 10 points, and must fit properly on US letter-sized paper (8.5x11 inches) with 1-inch margins. Detailed instructions on the paper submission procedure and format will be available on the workshop web pages.

Submitted papers will be judged based on their quality and novelty through a rigorous peer-reviewing process. All accepted papers will appear in the workshop proceedings. Some papers that cannot be included in the main workshop program may be accepted as extended abstracts. If the authors agree, these papers will be included in the proceedings as **2**-page extended abstracts and will be presented at the workshop in a poster session. The call for posters and demos will be announced separately.

### **Important dates (Tentative):**

Submission deadline: **May 9, 2008**

Acceptance notification: **June 19, 2008**

Camera-ready version due: **July 7, 2008**

Workshop date: **September 15, 2008**

## **Workshop Organizing Committee**

### **General Chair:**

Milica Stojanovic (MIT/WHOI)

### **Technical Program Co-Chairs:**

Phil Schniter (The Ohio State University)

Wei Ye (University of Southern California)

### **WUWNet Steering Committee:**

Ian F. Akyildiz (Georgia Institute of Technology)

Jun-Hong Cui (University of Connecticut, Chair)

David Hung-Chang Du (University of Minnesota)

Kevin Fall (Intel Research, Berkeley)

Robert H. Headrick (Office of Naval Research)

John Heidemann (University of Southern California)

Urbashi Mitra (University of Southern California)

Milica Stojanovic (MIT/WHOI)

### **Posters/Demos and Awards Chair:**

Shengli Zhou (University of Connecticut)

**Finance Chair:**

Payman Arabshahi (University of Washington)

**Publicity/Publications Chair:**

Dario Pompili (Rutgers, The State University of New Jersey)

**Local Arrangements and Registration Co-Chairs:**

Quiliang Liang (University of Texas at Arlington)

Shu Xiao (Cisco, Inc.)

**Technical Program Committee (incomplete):**

Mandar Chitre (National University of Singapore)

Jun-Hong Cui (University of Connecticut)

Tolga Duman (Arizona State University)

Kevin Fall (Intel Research, Berkeley)

Lee Freitag (Woods Hole Oceanographic Institution)

John Heidemann (University of Southern California)

Dan Kilfoyle (Science Applications International Corporation)

Scott Midkiff (Virginia Tech/NSF)

Urbashi Mitra (University of Southern California)

Dario Pompili (Rutgers, The State University of New Jersey)

Robert Qiu (Tennessee Technological University)

Volkan Rodoplu (University of California, Santa Barbara)

Daniel Rouseff (Applied Physics Lab, University of Washington)

Daniela Rus (Massachusetts Institute of Technology)

Geoffrey Xie (Naval Postgraduate School)

Michele Zorzi (University of Padova, Italy)