



# WUWNET 07



## The Second ACM International Workshop on Underwater Networks

in conjunction with ACM MobiCom 2007  
September 14, 2007, Montreal, Quebec, Canada

Sponsored by [ACM SIGMOBILE](#) and [IEEE OES](#)

Student Travel Grant from [NSF](#)

<http://wuwnet07.engr.uconn.edu>

### TECHNICAL PROGRAM

0800-0845 **Arrival/Registration**

0845-0900 **Welcome/Announcements**

0900-1010 **Session 1: Invited Talks, 2 talks, 35 min/talk** (*Session Chair: Robert Headrick*)

- Effects of the Channel on Acoustic Modem Performance in the Ocean  
*Mike Porter (Heat Light and Sound (HLS) Research)*
- US Navy Seaweb Program  
*Joe Rice (Naval Postgraduate School)*

1010-1040 **Coffee Break (30 min)**

1040-1230 **Session 2: PHY and Theory, 4 talks, 25 min/talk** (*Session Chair: Urbashi Mitra*)

- MIMO Time Reversal Communications  
*Hee-Chun Song, W.S. Hodgkiss, and W.A. Kuperman (Scripps Institution of Oceanography, UCSD, USA)*
- Efficient Communication over Highly Spread Underwater Acoustic Channels  
*Sungjun Hwang and Philip Schniter (The Ohio State University)*
- Frequency Reuse Underwater: Capacity of an Acoustic Cellular Network  
*Milica Stojanovic (Massachusetts Institute of Technology)*
- Network Coding Schemes for Underwater Networks: The Benefits of Implicit Acknowledgement  
*Daniel Lucani, Muriel Medard, and Milica Stojanovic (Massachusetts Institute of Technology)*

1230-1330 **Lunch**

1330-1430 **Poster/Demo Session (including short papers, work-in-progress posters, and demos)**

#### *Short Papers (presented as posters)*

- Folding: A Method for Semantic Encoding of Error-Tolerant Data  
*Volkan Rodoplu and Balakrishnan Srinivasan (University of California Santa Barbara)*

- AquaNodes: Design, Implementation, and Experiments with an Underwater Sensor Network  
*Iuliu Vasilescu, Carrick Detweiler, and Daniela Rus (Massachusetts Institute of Technology)*
- A DSP Implementation of OFDM Acoustic Modem  
*Hai Yan, Shengli Zhou, Zhijie Shi, and Baosheng Li (University of Connecticut)*
- Rate-Range for an FH-FSK Acoustic Modem  
*Nathan Parrish, Sumit Roy, Warren L. J. Fox and Payman Arabshahi (University of Washington)*
- Localization with Dive'N' Rise (DNR) Beacons for Underwater Acoustic Sensor Networks  
*Melike Erol (Istanbul Technical University, TR), Luiz Vieira, and Mario Gerla (University of California at Los Angeles)*

1430-1545 **Session 3: Protocols, Systems and Applications I, 3 talks, 25 min/talk (Session Chair: Milica Stojanovic)**

- A Delay-Reliability Analysis for Multihop Underwater Acoustic Communication  
*Wenyi Zhang and Urbashi Mitra (University of Southern California)*
- Understanding Spatio-Temporal Uncertainty in Medium Access with ALOHA Protocols  
*Affan Syed, Wei Ye, Bhaskar Krishnamachari, and John Heidemann (University of Southern California)*
- Energy-efficient Reliable Broadcast in Underwater Acoustic Networks  
*Paolo Casari (University of Padova) and Albert F. Harris III (University of Illinois at Urbana-Champaign)*

1545-1605 **Coffee Break (20 min)**

1605-1720 **Session 4: Protocols, Systems and Applications II, 3 talks, 25 min/talk (Session Chair: Albert Harris)**

- A Hybrid Medium Access Control Protocol for Underwater Wireless Networks  
*Kurtis Kredo II and Prasant Mohapatra (University of California, Davis)*
- An Underwater Sensor Network Testbed: Design, Implementation and Measurement  
*Zheng Peng, Jun-Hong Cui, Bing Wang (University of Connecticut), Keenan Ball, and Lee Freitag (Woods Hole Oceanographic Institution)*
- Energy-Efficient Localization in Networks of Underwater Drifters  
*Diba Mirza and Curt Schurgers (University of California, San Diego)*

1720 - 1735 **Closing Remarks**

1735 **Adjourn/End of Workshop**