

BEATRICE TOMASI

Woods Hole Oceanographic Institution
266 Woods Hole Rd., MS#11
Woods Hole, MA, 02543
btomasi@whoi.edu

Biographical Information

Citizenship: Italian; Languages: Italian (mother tongue), English, and French

Education

2011	University of Padua, Italy, PhD in Information Engineering.
2008	University of Padua, Italy, M.Sc. Honors in Telecommunication Engineering.
2006	University of Padua, Italy, B.Sc. in Information Engineering.

Research Experience

2013, February	Post-Doctoral Fellow, Woods Hole Oceanographic Institution Supervisor: Dr. James C. Preisig, Mentor: Dr. Andone Lavery.
2012	Post-Doctoral Fellow, Electrical Engineering, University of Padua Supervisor: Prof. Michele Zorzi.
2011	Guest student, Woods Hole Oceanographic Institution Supervisor: Dr. James C. Preisig.
2009	Visiting Research Fellow, NATO Undersea Research Center (NURC) Supervisor: Dr. Kim McCoy.

Field Experience

2012	CommsNet12, scientist aboard the Alliance, tested and evaluated routing protocols in an underwater acoustic sensor network.
2011	KAM11, science party aboard the Kilo Moana, tested adaptive modulation techniques in a bidirectional underwater acoustic link.
2009	SubNet09, science party in the shore lab in Pianosa, experiment design and data collection of underwater acoustic channel statistics.

Teaching Experience

2012	Teaching Assistant for Telecommunications, Department of Information Engineering, Prof. Leonardo Badia.
2010	Teaching Assistant for Laboratory of networks and protocols for telecommunications, Prof. Michele Zorzi
2008	Teaching Assistant for Calculus I, Prof. Andrea D'Agnolo.
2007	Teaching Assistant for Fundamentals of Informatics, Prof. Federico Avanzini

Awards

2013	2-year ONR post-doctoral fellowship
2012	Outstanding reviewer for IEEE Journal of Oceanic Engineering
2012	1-year post-doctoral fellowship
2011	6-months research fellowship from the 'Aldo Gini' Foundation
2009	3-month research fellowship from NURC.
2009	3-year PhD fellowship from the Italian Ministry of University and Research (MIUR).
2008	Toni Mian Prize for best M.Sc. Thesis.
2003	Carlo Bocchi Prize for merits during high school.

Journal Publications

Beatrice Tomasi, Giovanni Toso, Paolo Casari, Michele Zorzi, *On the Impact of Time-varying Underwater Acoustic Channels on the Performance of Routing Protocols*. IEEE Journal on Oceanic Engineering, 2012.

Beatrice Tomasi, Daniele Munaretto, James Preisig, Michele Zorzi, *Realtime redundancy allocation for wireless channels in the finite blocklength regime*. Submitted to: Elsevier Journal on Ad-hoc Networks, 2013.

Beatrice Tomasi, James C. Preisig, *Energy efficient transmission scheduling in wireless communications*. In preparation for: IEEE Transaction on wireless communications.

Papers in Proceedings of Conferences

Beatrice Tomasi, James C. Preisig, *Energy efficient transmission policies in non-stationary underwater acoustic channels*. In proceedings of ASA meeting, San Francisco, 2013.

Beatrice Tomasi, James C. Preisig, *Energy efficient transmission scheduling for non-stationary underwater acoustic channels* (POSTER presentation) In proceedings of ACM WUWNet, Kaohsiung, Taiwan, Nov. 2013.

Beatrice Tomasi, Daniele Munaretto, James C. Preisig, Michele Zorzi, *Real-time Redundancy Allocation for Time-Varying Underwater Acoustic Channels*. In proceedings of ACM WUWNet. Los Angeles, US, 4-5 Nov. 2012.

Beatrice Tomasi, James C. Preisig, and Michele Zorzi, *On the spatial correlation in shallow water and its impact on networking protocols*. In

proceedings of MTS/IEEE OCEANS 2012. Yeosu, Korea, 21-24 May 2012.

Davide Zennaro, **Beatrice Tomasi**, Lorenzo Vangelista, and Michele Zorzi, *Light-Sync: a low overhead synchronization algorithm for underwater acoustic networks*. In proceedings of MTS/IEEE OCEANS. Yeosu, Korea, 21-24 May 2012.

Beatrice Tomasi, James C. Preisig, Michele Zorzi, *On the Predictability of Underwater Acoustic Communications Performance: the KAM11 Data Set as a Case Study*. In proceedings of ACM WUWNet. Seattle, USA, Dec. 2011.

Beatrice Tomasi, Laura Toni, Paolo Casari, James C. Preisig, Michele Zorzi, *A Study on the SPIHT Image Coding Technique for Underwater Acoustic Communications*. In proceedings of ACM WUWNet. Seattle, USA, Dec. 2011.

Nicolo Michelusi, **Beatrice Tomasi**, Urbashi Mitra, James C. Preisig, and Michele Zorzi, *An Evaluation of the Hybrid Sparse-Diffuse Algorithm for Underwater Acoustic Channel Estimation*. In proceedings of MTS/IEEE OCEANS. Kona, USA, Sep. 2011.

Paolo Casari, **Beatrice Tomasi**, Konstantinos Pelekanikis, Mandar Chitre, and Michele Zorzi, *Performance Evaluation of SNR Prediction Schemes in Acoustic Communication Systems using Variable-Rate Modulation*. In proceedings of Underwater Acoustic Measurement (UAM), Kos, Greece, Jun. 2011.

Beatrice Tomasi, James C. Preisig, and Michele Zorzi, *A Study on the Wide-Sense Stationarity of the Underwater Acoustic Channel for Coherent Communication Systems*. In proceedings of Underwater Acoustic Measurement (UAM), Kos, Greece, Jun. 2011

Beatrice Tomasi, James C. Preisig, Grant B. Deane, and Michele Zorzi, *A Study on the Wide-Sense Stationarity of the Underwater Acoustic Channel for Non-coherent Communication Systems*. In proceedings of IEEE European Wireless Communication 2011, Vienna, Austria, Apr. 2011.

Beatrice Tomasi, Giovanni Zappa, Kim McCoy, Paolo Casari, and Michele Zorzi, *Experimental Study of the Acoustic Channel Time-Correlation for Under- water Communications*. In proceedings of MTS/IEEE OCEANS 2010. Sydney, Australia, May 2010.

Kim McCoy, **Beatrice Tomasi**, Giovanni Zappa, *JANUS: the genesis, propagation and use of an underwater standard*. In the proceedings of ECUA 2010, Istanbul 5-9 July, Turkey, 2010.

Beatrice Tomasi, Paolo Casari, Lorenzo Finesso, Giovanni Zappa, Kim McCoy, and Michele Zorzi, *Underwater Acoustic Channel Modeling using Markov and Hidden Markov Models*. In the proceedings of IEEE MILCOM, San Jose, CA, (USA), Oct. 2010.

Beatrice Tomasi, Laura Toni, Paolo Casari, Lorenzo Rossi, and Michele Zorzi, *Performance Study of Variable-Rate Modulation for Underwater Communications based on Experimental Data*. In the proceedings of MTS/IEEE OCEANS 2010, Seattle, Washington, Sept. 2010.

Beatrice Tomasi, Paolo Casari, Leonardo Badia, and Michele Zorzi, *A Study of Incremental Redundancy Hybrid ARQ over Markov Channel Models Derived from Experimental Data*. In the proceedings of ACM WUWNet, Woods Hole, Massachusetts, Oct. 2010.