



UComms 2022 schedule v1.4 30.08.22



Monday, August 29, 2022	
17:00	Registration at Villa Marigola
18:30	Bus to the venue
19:00	Ice Breaker – Villa Marigola
21:00	Bus from the venue



Tuesday, August 30, 2022	
08:30	Bus to the venue
08:30	Registration / Welcome Coffee
09:15	Opening session and welcome by the conference chairs and the CMRE Director, Dr. Catherine Warner
09:35	Keynote Talk By Prof. Andrew Singer: <i>Underwater Communications Over Many Media and Scales (UCOMMS)</i>
	<b>Technical Session “Physical layer: Propagation, Modulation and Signal Processing” (Hosted by François Socheleau &amp; Konstantinos Pelekanakis)</b>
10:20	<i>Implications of Time Variability on a Ricean Noncoherent Model in Acoustic Underwater Communication, V. Lidström</i>
10:45	<i>Ice model for under-ice communication simulation, N. P. Chotiros, E. Storheim, H. Sagen and R. A. Krishfield</i>
11:10	Coffee Break
11:40	<i>Sparse Channel Estimation for Long Range Underwater Acoustic Communication, W. Jiang and R. Diamant (Presented by P. Casari)</i>
12:05	<i>Full-Duplex UWA Communication System with Two Iterations, L. Shen, B. Henson and Y. Zakharov</i>
12:30	<i>On the Feasibility of OFDM for Long-range Mobile Communications in the NorthWest Passage, A. Bhattacharya, J. MacDonald, J. Bousquet and S. Blouin</i>
12:55	Lunch
14:40	<i>Spatial Modulation-based Orthogonal Signal Division Multiplexing for Underwater ACOMMS, Z. Qi and D. Pompili</i>
15:05	<i>Taking LoRa for a Dive: CSS for Low-Power Acoustic Underwater Communication, F. Steinmetz and B. Renner</i>
	<b>Technical Session “New Applications Enabled by Next-Generation Underwater Communications” (Hosted by Georgios Sklivanitis and Roberto Petrocchia)</b>
15:30	<i>Experimental Demonstration of a Single Acoustic Vector Sensor for JANUS Performance Enhancement, F. Bozzi and S. Jesus</i>
15:55	Coffee Break
16:25	<i>Phorcys, an Evolution of JANUS, A. Hamilton, J. Barnett and A. Hobbs</i>
16:50	<i>Environmental Risk Assessment of an Underwater Acoustic Mobile Network, B. Tomasi, M. Plonchart, O. Kebkal, J. Blandin, P. Bouvet, A. Pottier, J. Mulholland, K. Kebkal and M. B. Holstad</i>
17:15	<i>An Underwater First Contact Method Using JANUS, R. Otnes</i>
17:40	END
17:55	Bus from the venue

Wednesday, August 31, 2022	
08:30	Bus to the venue
08:30	Registration / Welcome Coffee
	<b>Technical Session “Physical layer: Propagation, Modulation and Signal Processing” (Hosted by François Socheleau &amp; Konstantinos Pelekanakis)</b>
09:15	<i>Multi-user Communications for Acoustic OFDM: A Broadband Beamforming Approach</i> , D. A. Cuji, Z. Li and M. Stojanovic (Presented by <b>A. Singer</b> )
09:40	<i>Online Segmented Recursive Least-Squares for Multipath Doppler Tracking</i> , <b>J. W. Choi</b> , G. Chowdhary, A. C. Singer, H. Vishnu, A. Weiss, G. W. Wornell and G. Deane
10:05	<i>Phorcys Waveform Architecture</i> , <b>J. Davies</b> , P. Randall, J. Neasham, B. Sherlock and A. Hamilton
10:30	Coffee Break
11:00	<i>Sea Trial Results and Receiver Performance Analysis for Phorcys V0 Waveform</i> , <b>J. Neasham</b> , T. Corner, J. Davies and A. Hamilton
	<b>Technical Session “Underwater Communications Security” (Hosted by Paolo Casari and Roald Otnes)</b>
11:25	<i>PCIS - A Novel Approach to Security in the UW Domain</i> , A. Hobbs, <b>J. Barnett</b> and A. Hamilton
11:50	<i>Low Probability of Detection Underwater Communications Using a Vector Sensor</i> , <b>F. B. Louza</b> and S. M. Jesus
12:15	Lunch
14:00	Keynote Talk By Prof. Davide Bacco: <i>How Can Quantum Technologies Change Our Business In Underwater Comms?</i>
	<b>Technical Session “Optical and Quantum Communications” (Hosted by Norm Farr and Pietro Paglierani)</b>
14:45	<i>Compact Quantum VLF/ELF Sources for Submarine to Air Communication</i> , <b>D. Latypov</b>
15:10	<i>Real-Time Implementation of an Underwater Quantum Key Distribution System</i> , <b>B. Kebapci</b> , G. Mutlu, I. Baglica, A. Tosun, S. Ergin, V. E. Levent, M. Uysal, P. Paglierani, K. Pelekanakis, R. Petroccia and J. Alves
15:35	Coffee Break
16:05	<i>An Experimental Demonstration of FSK-SIM-PDM Underwater Optical Wireless Communications</i> , <b>J. Chen</b> , C. T. Geldard, E. Guler, A. Hamilton and W. O. Popoola
	<b>Technical Session “Underwater Communications Security” (Hosted by Paolo Casari and Roald Otnes)</b>
16:30	<i>Machine Learning-Based Distributed Authentication of UWAN Nodes With Limited Shared Information</i> , <b>F. Ardizzon</b> , S. Tomasin, R. Diamant and P. Casari
16:55	<i>Hiding Cyclostationarity With Dispersive Filters for Covert Underwater Acoustic Communications</i> , <b>F. Socheleau</b> and S. Houcke
17:20	End
17:35	Bus from the venue

Thursday, September 1, 2022	
08:30	Bus to the venue
08:30	Registration
09:15	Keynote Talk By Prof. Mandar Chitre: <i>Can Machines Learn to Communicate Underwater?</i>
	<b>Technical Session “Adaptive Modem Architectures and Smart Networking Strategies” (Hosted by Henry Dol and Koen Blom)</b>
10:00	<i>A Framework For Testing Data Driven Underwater Link Adaptation</i> , <b>V. Lidström</b> , F. Lindqvist, M. L. Nordenvaad and E. S. Erstorp
10:25	<i>Development of a Physical Layer for Adaptive Underwater Acoustic Communications</i> , <b>K. C.H. Blom</b> , H. S. Dol, F. Berning and P. A. van Walree
10:50	Coffee Break
11:20	<i>Adaptive Modulation and Feedback Strategy for an Underwater Acoustic Link</i> , <b>W. Shuangshuang</b> , P. Anjani and M. Chitre
11:45	<i>Dynamic Modem Adaptation in Underwater Networks using Network Knowledge</i> , <b>D. Sotnik</b>
12:10	<i>Physics-informed Data-driven Communication Performance Prediction for Underwater Vehicles</i> , <b>M. Chitre</b> and K. Li
12:35	Lunch
14:20	<i>A First-of-its-kind Low Size, Weight and Power Run-Time Reconfigurable Underwater Modem</i> , J. Hermans, <b>G. Sklivanitis</b> , and D. A. Pados
14:45	<i>Field Tests of the Software Defined Modem Prototype for the MODA Project</i> , E. Coccolo, R. Francescon, <b>F. Campagnaro</b> and M. Zorzi
	<b>Technical Session “New Applications Enabled by Next-Generation Underwater Communications” (Hosted by Georgios Sklivanitis and Roberto Petroccia)</b>
15:10	<i>Acoustic Channel-aware Autoencoder-based Compression for Underwater Image Transmission</i> , K. Anjum, Z. Li and <b>D. Pompili</b>
15:35	Coffee Break
16:05	<i>Plasmonic - Surface Electromagnetic Wave Communication for subsea asset inspection</i> , <b>J.J. Mulholland</b> and I.I. Smolyanivov
16:30	Closing Session
16:45	End
17:00	Bus from the venue
18:30	Bus to the social dinner
19:00	Social Dinner at the Hotel Golfo dei Poeti Relais & SPA, Montemarcello
23:30	First bus from the dinner
TBD	Second bus from the dinner