



International Conference on Underwater Acoustics 2020 Programme

| 08:30 - 08:50 | | Virtual Waiting Room | |
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| | | Room 1 | Room 2 |
| 08:50 - 09:00 | Welcome from Andrew Holden Chair of ICUA2020 Organising Committee <i>Underwater Group, Dstl Portsdown West, UK</i> | | |
| 09:00 - 09:15 | Invited Speaker Optical studies of acoustic fields <i>Victor Humphrey, ISVR, University of Southampton, UK</i> | | |
| 09:15 - 10:45 | Parallel Session 1A - Ambient Noise Chaired by Steve Robinson & Lian Wang | Parallel Session 1B - Underwater Propagation & Seabed Sediments Chaired by Alex Brooker & Philippe Blondel | |
| | 09:15 - 09:30 Low-frequency ocean acoustics – measurements from the Lofoten-Vesterålen Ocean Observatory, Norway <i>Shaula Garibbo, University of Bath, UK</i> | | Performance of a 3D parabolic, normal mode and ray model in a complex shallow water environment <i>Tiago Oliveira, University of Aveiro, Portugal</i> |
| | 09:30 - 09:45 Acoustic signatures of shipping, weather and marine life: comparison of NE pacific and arctic soundscapes <i>Philippe Blondel, University of Bath, UK</i> | | Local accuracy of 3D parabolic-equation models in cylindrical and cartesian coordinates <i>Sven Ivansson, Sweden</i> |
| | 09:45 - 10:00 Ambient noise in the Archipelago <i>Jörgen Pihl, FOI, Sweden</i> | | Finite elements 3D-modeling of t-waves from a south mid-atlantic ridge earthquake <i>Jean Lecoulat, Irenav, France</i> |
| | 10:00 - 10:15 An underwater acoustic modelling framework for Santos Basin, Brazil <i>Fabiano Marcos De Lima, Universidade Federal do Rio de Janeiro, Brazil</i> | | New relationships between geophysical and acoustic parameters <i>Nicholas Chotiros, The University of Texas at Austin, US</i> |
| | 10:15 - 10:30 Shipping noise in the Azores: A threat to the Faial-Pico Cetacean community? <i>Ricardo Duarte, Universidade Do Algarve, Portugal</i> | | The angle of intromission: observations and geoacoustic inference <i>Charles W. Holland, Portland State University, US</i> |
| | 10:30 - 10:45 Long-term very-low-frequency ambient noise properties extracted from CTBTO sites <i>Anthony Eller, Applied Ocean Sciences, US</i> | | Underwater channel characterization for shallow water multi-domain communications <i>Jay Patel, Dalhousie University, Canada</i> |
| 10:45 - 11:00 | Coffee Break | | |
| 11:00 - 12:00 | Parallel Session 2A - Acoustic Particle Motion & Bubble Acoustics/Sediment Transport Chaired by Jianghui Li & Serish Haussian | Parallel Session 2B - Synthetic Aperture Sonar & Automatic Target Recognition Chaired by Narada Warakagoda & Chris Capus | |
| | 11:00 - 11:15 Vector acoustic properties of underwater sound fields <i>Peter Dahl, Applied Physics Laboratory, University of Washington, US</i> | | Low frequency SAS: spatial coherence study <i>Fabien Novella, Ensta Bretagne, France</i> |
| | 11:15 - 11:30 Characterization of seismic noise near offshore wind farm sites in the United States east coast <i>Gopu Potty, University of Rhode Island, US</i> | | Seabed characterization with multi-band interferometric sonar <i>Robbert Van Vossen, TNO, Netherlands</i> |
| | 11:30 - 11:45 Passive acoustic monitoring of seabed gas seeps - application of beamforming techniques <i>Jianghui Li, University of Southampton, UK</i> | | Finding similar targets in synthetic aperture sonar images with deep learning <i>Narada Warakagoda, Norwegian Defence Research, Norway</i> |
| | 11:45 - 12:00 Utilisation of underwater acoustic backscatter systems to characterise nuclear waste suspensions remotely <i>Serish Tanya Hussain, University of Leeds, UK</i> | | |
| 12:00 - 12:45 | Parallel Session 3A - Impacts of Sound/Marine Renewables Chaired by Federica Pace & Michael Bellmann | Parallel Session 3B - Signal Processing Chaired by Roald Otne & Adam Woolley | |
| | 12:00 - 12:15 Field report of impact pile-driving noise in shallow water from 10 years of experience within Germany <i>Michael Bellmann, Itap GmbH, Germany</i> | | Beamforming and source localization in the ocean using frequencies below the recorded signal's bandwidth <i>David Dowling, University of Michigan, US</i> |

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| | 12:15 - 12:30 | Passive acoustic monitoring of indo-pacific humpback dolphins and indo-pacific finless porpoises in southwest Hong Kong in relation to vessel traffic <i>Ka Yi Woo, WWF, Hong Kong</i> | An accurate correlation-type doppler estimator in dynamic underwater acoustic channels using comb-type shift-orthogonal signals <i>Ali Bassam, Dalhousie University, Canada</i> |
| | 12:30 - 12:45 | A tool for combining both source and hearing acoustic models to evaluate the impact of anthropogenic activities on marine life <i>Ben Clark, Loughborough University, UK</i> | Design of a low-complexity miniature underwater three-dimensional acoustical imaging system <i>Shuo Wang, The Institute of Acoustics of the Chinese Academy of Sciences, China</i> |
| 12:45 - 14:00 | Lunch Break | | |
| 13:30 - 14:00 | We invite you to watch video messages from previous AB Wood medal winners Chaired by Gary Heald & Tony Lyons | | |
| 14:00 - 15:15 | Parallel Session 4A - Radiated Noise Chaired by Kevin Hamson & Nikhil Banda | | Parallel Session 4B - Sonar Calibration & Sonar Performance Measurement Chaired by Mathieu Colin & Robbert Van Vassen |
| | 14:00 - 14:15 | On the characteristics of modal radiation from ducts above and below cutoff <i>Ben Baddour, University of Southampton, UK</i> | Ocean noise monitoring for the North Sea: standards for project JOMOPANS <i>Jake Ward, National Physical Laboratory, UK</i> |
| | 14:15 - 14:30 | Sound levels from an oil and gas asset recorded by marine robotics and comparison with established models <i>Nikhil Banda, Seiche Ltd, UK</i> | Errors in estimating the arrival direction of sonar signals due to turbulence <i>Peter Dobbins, UK</i> |
| | 14:30 - 14:45 | Accounting for sea floor properties in the assessment of underwater noise radiated from ships in shallow water <i>Valentin Meyer, Naval Group Research, France</i> | Investigating high frequency acoustic doppler current profiler (ADCP) capabilities in measuring vertical turbulence in tidal channels <i>Emma Shouldice, Defence Research and Development Canada, Canada</i> |
| | 14:45 - 15:00 | The effect of water surface roughness on the measurement of radiated ship noise <i>Victor Humphrey, ISVR, University of Southampton, UK</i> | Estimating the spatial coherence of narrowband underwater acoustic signals <i>Roald Otnes, Norwegian Defence Research Establishment, Norway</i> |
| | 15:00 - 15:15 | Propagation loss analysis using ship radiated noise in shallow water <i>Yezhen Pang, China Ship Scientific Research Center, China</i> | Opportunities and prospects of using standard telecom cables for long-range distributed real-time underwater acoustic research and applications <i>Mohammad Belal, National Oceanography Centre Southampton, UK</i> |
| 15:15 - 15:30 | Coffee Break | | |
| 15:30 - 16:45 | Parallel Session 5A - Acoustic Metamaterials Chaired by Sebastien Guenneau & Timothy Starkey | | Parallel Session 5B - Unexploded Ordnance & Target Scattering Chaired by Dan Brown & David Williams |
| | 15:30 - 15:45 | Elastic metamaterials <i>Richard Craster, Imperial College London, UK</i> | Target echo calculations using the graphics pipeline <i>Lennart Bossér, FOI, Swedish Defence Research Agency, Sweden</i> |
| | 15:45 - 16:00 | Subwavelength acoustic imaging by deep learning <i>Bakhtiyar Orazbayev, EPFL, Switzerland</i> | Data-model comparison of a shallow water sonar system for buried UXO detection <i>Jason Philtron, Applied Research Laboratory at the Pennsylvania State University, US</i> |
| | 16:00 - 16:15 | Experimental observation of directional acoustic stop bands in fluid-solid systems <i>Benjamin Pearce, University of Exeter, UK</i> | Suppression of specular interface returns for sub-bottom imaging sonar systems <i>Dan Brown, Pennsylvania State University, US</i> |
| | 16:15 - 16:30 | Designing acoustic cloaks using coordinate changes, homogenization and a genetic algorithm <i>Sebastien Guenneau, Centre National Recherche Scientifique (CNRS), UK</i> | New target detection algorithms for volumetric synthetic aperture sonar data <i>David Williams, NATO STO CMRE, US</i> |
| | 16:30 - 16:45 | Application of acoustic metasurfaces to turbulent flow <i>Timothy Starkey, University of Exeter, UK</i> | Modification of the time, frequency, and sonar image domain signatures of cylinders due to a material junction <i>Timothy Daniel, Nswc-pcd, US</i> |
| 16:45 - 17:00 | Conference Close Andrew Holden & Peter Dobbins | | |
| 17:00 - 17:30 | Networking | | |