

19th IBCAST 2022: Underwater Technologies
16-20 August 2022
Technical Program (Tentative)

| | 0900 to 1030 | | 1100 to 1230 | | 1400 to 1530 | | 1600 to 1730 | | | | | | | |
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| Day-1 August 16, 2022 Tuesday | REGISTRATION / OPENING REMARKS | | | H O N O U R A B L E G U E S | | | 1400 to 1530 | | | | | | | |
| Day-2 August 17, 2022 Wednesday | | | | | | | Underwater Acoustics | | Oceanography | | Underwater Detection | | Ocean Energy | |
| | | | | | | | Dr. Ma Lu HEU China 22UW 223 22UW 476 | | Dr Ibrahim Zia, NIO Karachi Dr Jahangir BU Karachi 22UW 438 | | Rear Admiral (R) Nasir Mahmood, Pro-Rector BU 22UW 835 22UW 712 | | Dr Sajjad Haider PNEC NUST Dr Imran Ahme d UoK 22UW 881 22UW 844 | |
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| Day-3 August 18, 2022 Thursday | Platform Design | | Multi-Topic | | Sonar Processing Chain | | Underwater Communication | | | | | | | |
| | Cdr Dr.Adil Malik PN 22UW 93 22UW 95 22UW 399 | | Dr. Halit Oguztuzun Turkey 22UW 565 22UW 60 22UW 677 | | 22UW 820 22UW 145 22UW 626 22UW 579 22UW 560 | | 22UW 543 22UW 746 22UW 634 22UW 872 22UW 696 22UW 508 | | | | | | | |
| Closing Remarks | | | | | | | | | Closing Remarks | | Dr.Liu Songzuo HEU China Dr.Wan Lei, Xiamen University China | | | |
| Day-4 August 19 2022 Friday | Closing Remarks | | Closing Remarks | | Closing Remarks | | Closing Remarks | | | | | | | |
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Day 1: August 16, 2022

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| 0900 to 1230 | Registration / Opening Remarks | |
| 1230 to 1400 | LUNCH | |
| 1400 to 1530 Underwater Detection | Modern Maritime Technologies | Rear Admiral (R) Nasir Mahmood Pro-Rector BU |
| | 835 : Marine Object Detection using Transformers | Khizer Ali, Bahria University |
| | 712 : Comparative Study of Bearing Only Tracking (BOT) System using Efficient Observer Trajectories | Asra Nusrat, CESAT |
| 1530 to 1600 | TEA | |
| 1600 to 1730 Ocean Energy | Ocean Energy in Pakistan: A technical Perspective | Captain Dr Sajjad Haider PN, PNEC NUST Karachi |
| | Assessment of Tidal Energy Potential Using Hydrodynamic Modeling Using DELFT 3D along the Karachi Coast And Vicinity Creeks | Dr.Imran Ahmed Siddique, University of Karachi |
| | 881 : Analysis of Pakistan's Offshore Renewable Energy Potentials and Strategy to Harvest these through Indigenous Development of Related Niche Maritime Technologies | Rear Admiral (R) Nasir Mahmood BU, Islamabad. |
| | 844 : Investigation of Hydrocarbon Prospects via Inverted Acoustic Techniques, Offshore Indus Basin, Pakistan | Dr M.Fahad, Bahria University |

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Day 2: August 17, 2022

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| 0900 to 1030 Underwater Acoustics | Recent Progress of Underwater Acoustics Communication and Networking for Autonomous Under Water Vehicles | Dr. Ma Lu, HEU China |
| | 223: Quadrature Phase-Encoded Sine Chirp Spread Spectrum Under-Water Acoustic Communication Based on VTRM | Dr. M Bilal, CESAT |
| | 476: Acoustic Propagation in Ocean Sediments Using BIOT Model | Shahabuddin Sheikh, CESAT |
| 1030 to 1100 | TEA | |
| 1100 to 1230 Oceanography | Anthropogenic Influences on the Hydrodynamics of Karachi Coast and Abrupt Shifting in Natural Sedimentation Along the Shore | Dr Ibrahim Zia, NIO Karachi |
| | An Update on the Gas Hydrate Research in the Makran Offshore Area of Pakistan | Dr Jahangir, BU Karachi |
| | 438: Asymmetrical Behavior of the Arabian Sea and Bay of Bengal | Sartaj Khan CESAT |
| 1230 to 1400 | LUNCH | |
| 1400 to 1530 Modern Research | Research Methodologies | Dr Shoaib Khan, Chancellor CASE |
| | Marine Robotics – Global technology Trends, Opportunities and Challenges for Pakistan's Industry and Academia | Cdre Dr Attaullah Memon PNEC NUST |
| 1530 to 1600 | TEA | |
| 1600 to 1730 Underwater Vehicles | 543 : System Identification and Yaw Control of an Inspection Class ROV | Dr. S M Ahmad GIKI, Topi Sawabi |
| | 746 : Design of X-Rudder AUV's Motion Control using Sliding Mode Control with Optimal Rudder Allocation Technique | Yasir Ameer, PNEC NUST Karachi |
| | 634: Design and Simulation of Electrical Propulsion System of Under Water Vehicle Using MATLAB GUI | Hasnain Aslam, PNEC NUST Karachi |
| | 872: Mathematical Modeling, Simulation and Comparative Analysis of PID and Sliding Mode Controllers for Depth and Steering Control of Automatic Underwater Vehicle | Faisal Zahid, CESAT |
| | 696: Nonlinear Robust Optimal Control Design of Ground Launched Autonomous Underwater Vehicle Using Robust State Estimators | Owais Kamal, CESAT |
| | 508: Unmanned Underwater Vehicle (UUV)- A Design Overview | Majid Hamid, CESAT |

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Day 3: August 18, 2022

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| 0900 to 1030 Platform Design | Session: Platform Design | |
| | Optimization of closed Brayton cycle HTGR power conversion unit for sub surface platform | Cdr Dr Adil Malik PN |
| | 93: Development of Intact Stability Calculations Tool for Ships | M.Shakeel, PNEC NUST |
| | 95: Hull form Design, Optimization and Controllability of a Small Water plane Area Twin Hull (SWATH) | Adil Hassan, PNEC NUST |
| | 399: Optimum Structural Design Study of Marine Machinery Foundation | Hammad Khan, CESAT |
| 1030 to 1100 | TEA | |
| 1100 to 1230 Multi-Topic | Session: Multi-Topic-2 | |
| | Simulation Based Mission Effectiveness Assessment for Surface Warship | Dr Halit Oguztuzun, Turkey |
| | 565: Evaluation of Multi-Vehicular Underwater Transportation Systems under Disturbances, Noise and Sensor Reading Limitations | Faheem Ur Rehman UCL, UK |
| | 60: FSI Simulation of Water Entry Impact of Three Dimensional Rigid AUV Under Different Initial Parameters | Ahmed Zameer Choudry CESAT |
| | 677: Image Based Measurement of Instantaneous Angular Velocity of A 2 Turbine Used for Ocean Wave Energy Conversion | Majid Khan, NUST |
| 1230 to 1400 | LUNCH | |
| 1400 to 1530 Sonar Processing | 820: Simulation of Ultra Short Baseline System for Positioning of Underwater Vehicles | Ameer Ahmed , CESAT |
| | 145: Design and Development of Wideband Switching Power Amplifier for Imaging Sonar | Adnan Ameen , CESAT |
| | 626: Design of a Low Noise High Quality Variable Gain Pre-amplifier | Saqib Ali, CESAT |
| | 579: On Gigabit Ethernet Communications in Underwater Acoustic Processing Systems for Real-Time Data Transfers: Experimental Study and Results | Kashif Waqas CESAT |
| | 560: FPGA Based Hardware Implementation of Dual-Tone Frequency Detection and Generation for Underwater Systems | M. Ijaz CESAT |
| 1530 to 1600 | TEA | |
| 1600 to 1730 Underwater Communication | A Joint Receiver Design for Underwater Acoustic OFDM Communication Systems | Dr Wan Lei , Xiamen University China |
| | Under Water Sensors Networks | Dr Liu Songzuo HEU China: |

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Day 4: August 19, 2022

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| 0900 to 1230 | Closing Remarks |
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