

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

	0900 to 1030			1100 to 1230			1400 to 1530			1600 to 1730						
Day-1 August 16, 2022 Tuesday	REGISTRATION / OPENING REMARKS									Underwater Detection						
							Rear Admiral (R) Nasir Mahmood, Pro-Rector BU	22UW 835	22UW 712	Ocean Energy						
Day-2 August 17, 2022 Wednesday	Underwater Acoustics			Underwater Communication			Modern Research			Underwater Vehicles						
	Dr. Ma Lu HEU China	22UW 223	22UW 476	Dr.Liu Songzuo HEU China	Dr.Wan Lei, Xiamen Uni China		Dr. Shoaib Ahmed Chancellor Sir Syed Case.Pk	Cdre Dr. Attaullah PNEC NUST		22UW 543	22UW 746	22UW 634	22UW 872	22UW 696	22UW 508	
Day-3 August 18, 2022 Thursday	Platform Design			Multi-Topic			Oceanography			Sonar Processing Chain						
	Cdr Dr.Adil Malik PN	22UW 93	22UW 95	22UW 399	Dr Imran Ahmed UoK	22UW 565	22UW 60	22UW 677	Dr Ibrahim Zia, NIO Khi	Dr Jahangir BU Khi	22UW 438	22UW 820	22UW 145	22UW 626	22UW 579	22UW 560
Day-4 August 19 2022 Friday	Closing Remarks			Closing Remarks												

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Day 1: August 16, 2022

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
	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

19th IBCAST 2022: Underwater Technologies
Day 2: August 17, 2022

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 Underwater Communication	A Joint Receiver Design for Underwater Acoustic OFDM Communication Systems	Dr Wan Lei , Xiamen University China
	Underwater Voice Communication: System Design and Experimental Results	Dr Liu Songzuo HEU China:
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	Ahsan Tanveer 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

19th IBCAST 2022: Underwater Technologies
Day 3: August 18, 2022

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	
	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
	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 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 Pak.	Dr Jahangir, BU Khi
	438: Asymmetrical Behavior of the Arabian Sea and Bay of Bengal	Sartaj Khan , CESAT
1530 to 1600	TEA	
1600 to 1730 Sonar Processing Chain	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

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Day 4: August 19, 2022

0900 to 1230	Closing Remarks
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