

## Underwater Technologies - Technical Program (Tentative)

**Day 1: August 20, 2024**

1000 to 1300		
1300 to 1400	Lunch	
1400 to 1530	Registration	
1530 to 1600	TEA	
1600 to 1800	Local Invited: Dr Shafiq Ur Rehman SI (M), NRD Topic: Marine Steam Turbines	
	560: Effect Of Variation In Diameter On The Rotation Of Half Submerged Wave Driven Savonius Turbines – An Experimental Investigation	Majid Khan NUST, Islamabad
	61: Design and Fabrication Of Linear Generator Systems For Wave Energy	Ameer Ahmed UET, Lahore, Pakistan
	344: Shock and Vibration analysis (FEA) of Electronic Cabinets onboard naval platforms	Muhammad Hamza CESAT Islamabad
	512: Identifying the effect of thruster operation on the resistance characteristics of AUVs	Talha Usman CESAT Islamabad
	46: Design of winch system with Automated cable winding and mechanism	Hafiz Adnan CESAT, Islamabad

## Day 2: August 21, 2024

1000 to 1100	497: Development of Oceanographic acoustic modelling tools for streamlined transmission loss analysis	Rashid M. Talha NUST, Islamabad
	Invited Talk: Dr. Ibrahim Zia Topic: Marine surveys & Ocean studies	
1100 to 1130	TEA	
1130 to 1300	Invited Talk: Dr Faizal Topic: Collaborative Autunoumos Marine Vehicles	
	Invited Talk: Dr. Attaullah Memon (NRDI) Topic: Unmanned Marine Systems – Civil Applications.	
	Invited Talk: Dr Asim Ismail / M. Amjad Malik Topic: Unmanned Marine System Defense Applications	
	115: A Comparison of EKF and PF to Localize an Autonomous Underwater Vehicle (AUV) using Inertial Navigation System	Bushra Raza PNEC, Karachi
1300 to 1400	LUNCH	
1400 to 1530	Invited Talk: Dr. Muhammad Irfan Topic: AI based Automated Sonar Classifications	
	71: Underwater Object Detection from Sonar Images Using Transfer Learning	Saba Mehmood, CESAT, Pakistan
	285: Underwater Acoustic Data Classification Using Continual Learning	Khurram Shehzad Bahria University, Islamabad
	97: A Comparative Study of IMM Kalman Filters and Neural Computing for Underwater Bearing Only Target Motion Analysis	Wasiq Ali Harbin Engineering University China
1530 to 1600	TEA	
1600 to 1800	Invited Talk: Dr. Yaan Li Topic: Feature Extraction Marine Signatures	
	Invited Talk: Dr Wasiq Topic: Underwater high rate Communication	
	548: VSMIPE: A novel Entropy feature extraction method for underwater acoustic signals	Yanghong Zao Guilin University, China
	509: Underwater acoustic signals feature extraction method based on Successive Variational Mode Decomposition and Multi-Scale Improved Permutation Entropy	Zhe Chan Guilin University, China
	490: A Novel Nonlinear Feature Extraction Method of Ship Radiated Noise based on Phase Space Reconstruction and Multiscale Improved Permutation Entropy	Dr. Li Yaan NPU, Xi'an, China
	56: On Subarray based Beamforming Techniques for Target Detection using Underwater Sensor Arrays	Arif Hussain PNEC Karachi

### Day 3: August 22, 2024

1000 to 1100	Invited Talk: Dr Suleman Mazhar Topic: FBM OQAM UW Communication /	
	Invited Talk: Dr. Niaz Topic: Magnetic Underwater Communications	
1100 to 1130	Invited Talk: Dr. Abid Topic: Pipe Joints in Surface and Underwater Vehicles	
	TEA	
1130 to 1300	Invited Talk: Dr Matin Sengil Topic: Hull mounted Sonar	
	504: Analysis of Central pivotal load effect on Circular piezoelectric unimorph sensor	Muhammad Mazhar CESAT, Islamabad
	545: Synthesis of water-resistant polyurethane composite for underwater transducers encapsulation	Ammar Hassan CESAT, Islamabad
	550: Design and development of a shallow water echo-sounder for marine platforms	Adnan Qaseem CESAT, Islamabad
1300 to 1400	LUNCH	