

Significant Aspects (Short Pitches)

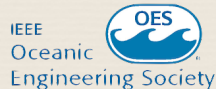
To encourage engagement among students, researchers, and faculty, the MRS will host daily 1-hour sessions for 10-minute pitches, consisting of 6 minutes of presentation and 4 minutes of Q&A.

Possible Funding Opportunities

A limited number of students may have their expenses partially or fully reimbursed by IEEE.

To qualify, candidates must show proof of attending MRSchool and short pitch sessions, along with travel and lodging receipts and boarding passes.

Top 5 short pitch presenters will be selected by an international panel. Keep these documents if interested.



MARINE ROBOTICS SCHOOL

20-25 November 2023



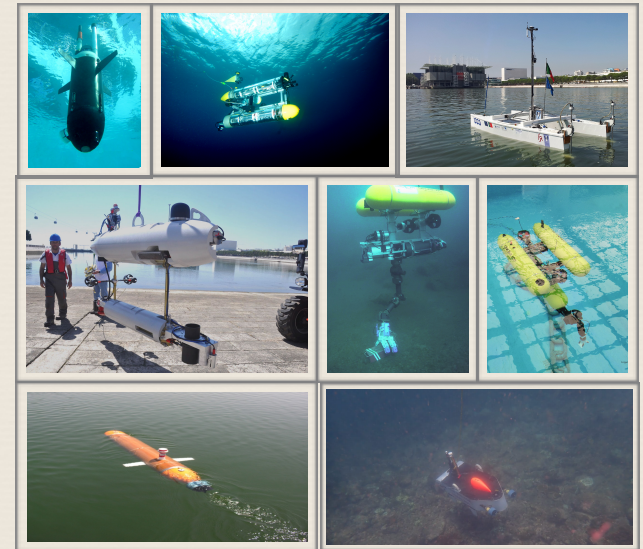
The Marine Robotics School, to be conducted in a hybrid mode (in person and remote) at CSIR-National Institute of Oceanography, will afford students, researchers, and systems developers a fast paced introduction to the core topics that must be mastered to design, build, and operate single and multiple cooperative vehicles for commercial and scientific missions at sea.



CSIR-National Institute of Oceanography
Goa, India

Distinguishing Features of the Marine Robotics School

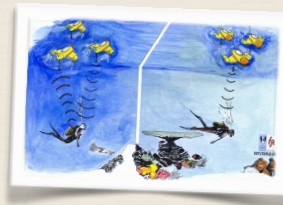
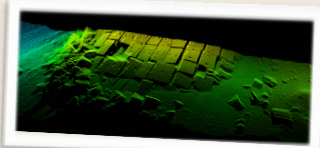
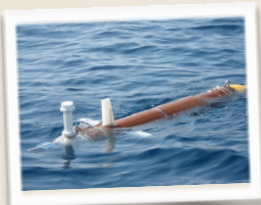
A stimulating combination of theoretical and practical issues, complemented by experiments and field demonstrations with acoustic networks and marine robotic vehicles



Marine Robots from the Participating Institutions

Coral Bot (C-Bot), Autonomous Vertical Profiler (AVP), Modified Blue Robotics ROV, Acoustic Modems with UnetAudio, and network simulator, Dead Reckoning using Nortek and waterlinked DVL.





KEY TOPICS

- Marine robots for scientific, commercial, and societal applications: challenges and new trends
- Robotic vehicles: main types and key building blocks
- Motion and environmental sensors, Actuators and robotic manipulators for intervention vehicles
- Modeling, simulation, and system identification , Guidance, Navigation and Control (GNC) of autonomous marine vehicles , Obstacle Detection and Avoidance
- Boundary mapping and source localization, Robotic and computer vision in harsh environments, Vision and Sonar-based Simultaneous Localisation and Mapping (SLAM)
- Non-conventional navigation systems using geophysical features
- Multimodal communication networks for multiple system operations , acoustics and optical
- Cooperative motion planning, navigation, and control of multiple networked marine robots
- Sustained autonomy at sea
- Machine learning and artificial intelligence in a marine robotics context
- Systems implementation using the Robot Operating System (ROS) and Hardware-in-the-loop Simulations (HIL)
- Bio-inspired Marine Vehicles: locomotion and navigation
- Aerial and marine drone cooperation
- Marine robotics and the Blue Economy



REGISTRATION

Students: ₹2000

Researchers/Faculty/Corporate: ₹10000

VENUE

CSIR-National Institute of Oceanography
Dona Paula, Goa, India

CONTACT

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