

Final Presentations by MRC's UDA Summer Interns from IIT Bombay, IIT Delhi, IIT Madras and IIT Kanpur

Held on July 17, 2026 | 4 PM

Background:

The Maritime Research Centre (MRC), in collaboration with Nirdhwani Technology Private Limited (NDT), hosted a workshop highlighting the final projects of participants in the 2026 Underwater Domain Awareness (UDA) Summer Internship Program. This special event, which was held on July 17, 2026, featured thought-provoking presentations by interns from some of India's leading academic institutions– IIT Bombay, IIT Delhi, IIT Madras and IIT Kanpur. This workshop highlighted the innovative research and technological exploration undertaken by these budding engineers and researchers in the field of UDA. It served as an important milestone in the internship programme, providing a structured platform for reflection, assessment, mentorship, and knowledge exchange while fostering a culture of research excellence and interdisciplinary engagement.

Format and Structure:

As part of this webinar, our UDA Summer Interns from prestigious institutes such as IIT Bombay, IIT Madras, IIT Delhi, and IIT Kanpur delivered short presentations on their projects. The UDA Summer Internship Program is designed to nurture young talent and engage them in real-world applications of cutting-edge maritime research.

The primary objectives of hosting their presentations include:

- To present the research projects that these summer interns are working on, highlighting significant findings and potential impacts.
- To foster an environment of knowledge exchange among interns, mentors, and the broader research community.
- To offer feedback and suggestions from experienced researchers and industry experts to help interns refine their work.
- To build connections between interns, faculty, industry professionals, and researchers, encouraging future collaborations.

Key takeaways from the esteemed speakers of the webinar:

The programme commenced with welcome remarks by Dr. (Cdr.) Arnab Das, Founder and Director, Maritime Research Centre. In his opening remarks, he highlighted the importance of nurturing young talent and creating opportunities for students to engage with real-world challenges associated with India's maritime and underwater domains. This was followed by an overview of MRC's ongoing projects by Mr Shridhar Prabhuraman, Deputy Director at MRC, who provided the interns and participants with a broader understanding of the research ecosystem within which their internship projects were undertaken.

Following the technical presentations by our UDA Summer interns, an expert feedback session provided the interns with perspectives from senior professionals and domain experts. Rear Admiral YN Jayarathna (Retd.), Former Chief Hydrographer of Sri Lanka, brought valuable expertise in the hydrographic and maritime domains. Dr Hussain Rasheed Hassan, Former Minister of Environment and Former Minister of Fisheries, Agriculture, and Marine Resources, Maldives, provided perspectives on the relevance of the research to marine environmental governance, fisheries, and sustainable development in the Indian Ocean region. The programme concluded with remarks by Amb. (Retd.) Sudhir T. Devare, Former Indian Diplomat from the Indian Foreign Service (IFS), 1964 Batch, and Former Secretary, Ministry of External Affairs, Government of India. His concluding remarks emphasised the importance of interdisciplinary research, young talent, and knowledge-driven approaches in addressing emerging challenges in the maritime and underwater domains.

The feedback session provided the interns with an opportunity to understand how their research could further be strengthened and translated into practical applications, policy interventions, and future research.

[Presentations of Interns' Projects:](#)

The technical presentations were organised into four thematic groups, reflecting key research areas under the UDA Framework.

Group 1: Marin Spatial Planning

The first group focused on Marine Spatial Planning (MSP) and associated applications involving climate, environmental modelling, underwater acoustics, and riverine systems. Interns explored approaches for strengthening understanding and modelling of food dynamics in tropical river basins. They further focused on assessing and modelling coral reef bleaching risks across two key marine regions surrounding the Indian subcontinent. In addition, they highlighted technological approaches for underwater acoustic detection and classification.

Group 2: Sediment Management

The second thematic group focused on sediment dynamics and sediment management, an important component of sustainable riverine and coastal governance. The interns' presentations explored sediment movement in one of the region's major river systems and focused on assessing marine sediments and their bearing characteristics. One of the presentations demonstrated the application of satellite-based approaches for monitoring suspended sediment concentrations. Overall, the projects demonstrated how modelling, remote sensing, and data-driven approaches can support better understanding and management of sediment-related challenges.

Group 3: Marine Biofouling

The third group addressed marine biofouling, an important challenge for maritime operations, ship maintenance, fuel efficiency, and environmental sustainability. One of the interns' projects explored the application of AI and deep reinforcement learning to optimise ship maintenance

strategies associated with hull fouling. Overall, the projects demonstrated the potential of combining marine science with emerging computational and technological approaches to address operational and ecological challenges associated with marine biofouling.

Group 4: Fisheries and Aquaculture

The fourth group focused on fisheries and aquaculture, highlighting the importance of technology and data-driven approaches for strengthening India's marine livelihood systems and Blue Economy. The presentations underscored the role of UDA-enabled technologies and scientific research in supporting sustainable fisheries, aquaculture, marine livelihoods, and coastal economic development.

[View all the presentations and keynote addresses below:](#)

Speaker	Image	Video Link
Rear Admiral YN Jayarathna (Retd), Former Chief Hydrographer, Sri Lanka		Link Here
Amb. (Retd.) Sudhir T. Devare, Former Indian Diplomat from the Indian Foreign Service (IFS) 1964 Batch; Former Secretary of the Ministry of External Affairs, Government of India.		Link Here

Speaker	Image	Video Link
Dr Hussain Rasheed Hassan, Former Minister of Environment and Former Minister of Fisheries, Agriculture, and Marine Resources, Maldives		Link Here
Dr. (Cdr) Arnab Das, Founder and Director, MRC		Link Here
Mr Shridhar Prabhuraman, Deputy Director, MRC		Link Here
Dev Raj Karan Singh from IIT Madras Presentation on “Riverine Flood Module for Tropical Major Basins.”		Link Here

Speaker	Image	Video Link
Mahaswi Ganipisetty from IIT Bombay Presentation on “Coral Reef Bleaching Risk Modelling for Arabian Sea and Bay of Bengal.”		Link Here
Ashish Kumar Jha from IIT Kanpur Presentation on “Future Climate Modelling and Coral Reef Bleaching.”		Link Here
Pranav Ashok Mahitkar from IIT Madras Presentation on “Wind- and Rain-Driven Ambient Noise Layer for the IOR.”		Link Here
Sagar Yadav from IIT Delhi Presentation on “Assessment of Marine Sediment Bearing Pressure.”		Link Here

Speaker	Image	Video Link
Aryan Singh from IIT Delhi Presentation on “Satellite-Based Estimation of Suspended Sediment Concentration (SSC) in Ujjani Reservoir.”		Link Here
Varun Malviya from IIT Kanpur Presentation on “CleanHull-RL: Deep Reinforcement Learning for Strategic Ship Maintenance.”		Link Here
Lovina Goyal from IIT Kanpur Presentation on “Biofilm Maturation and Marine Fouling Succession: Exploring Recruitment Dynamics in Tropical Marine Systems.”		Link Here
Shivam Gawande from IIT Bombay Presentation on “Detection and Characterisation of Small Artisanal Fishing Fleets in the Indian EEZ Beyond AIS.”		Link Here

Speaker	Image	Video Link
Shiwang Gupta from IIT Delhi Presentation on “Detection and Mapping of Fish Farms and Seaweed Cultivation Zones in Indian Coastal and Offshore Waters. ”		Link Here
Samyak Kumar from IIT Madras Presentation on “Marine Heatwaves (MHWs): Drivers, Predictability and Fisheries Impact on the Bay of Bengal”		Link Here

You can watch the full webinar through the following link: [here](#)

Image Gallery

