



ICIRA 2024 Special Session Proposal

Title of the Proposal: Advances in Marine Robotics

Technical Outline of the Session and Topics:

Outline of the Session: April, 2, 2024

Topics of the Session:

- *Unmanned surface vehicles (USVs)*
- *Unmanned underwater vehicles (UUVs)*
- *New conceptual underwater vehicles*
- *Underwater vehicle manipulators (UVMs)*
- *Tracking control, Path planning, and localization*
- *Modelling, hydrodynamic analysis, and CFD applications of Marine robots*
- *Underwater target detection and underwater image processing*

Dear Colleagues,

The "Advances in Marine Robotics" Special Issue creates a platform that brings together diverse perspectives and innovational research in the field of marine robotics from leading researchers all over the world. Marine robotics have emerged as a fascinating research area and a promising industry tool, assuming a pivotal role in various marine missions including ocean resource exploration, ocean observation, environmental monitoring, and sea area reconnaissance. This compilation of articles delves into novel techniques and advancements that shape the future of marine robotics, which come in various types, such as unmanned surface vehicles (USVs), unmanned underwater vehicles (UUVs), new conceptual underwater vehicles, and underwater vehicle manipulators (UVMs). Engineering and scientific articles that contribute to the understanding and implementation of innovative marine robotics are encouraged. Explored topics encompass innovative and frontier research in structure design, motion control, navigation methods, cooperative control and modelling for marine robots, with an emphasis on underwater target detection technologies and underwater image processing algorithms.

The Special Issue will focus on, but is not limited to, the following topics:

- *Unmanned surface vehicles (USVs)*
- *Unmanned underwater vehicles (UUVs)*
- *New conceptual underwater vehicles*
- *Underwater vehicle manipulators (UVMs)*

- *Tracking control, Path planning, and localization*
- *Modelling, hydrodynamic analysis, and CFD applications of Marine robots*
- *Underwater target detection and underwater image processing*

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