IEEE Journal of Oceanic Engineering

Call for Papers

Special Issue on "Maritime Informatics and Robotics: Advances from the IEEE Symposium on Maritime Informatics & Robotics"

The Journal will publish a Special Issue of papers presented at the IEEE Symposium on Maritime Informatics & Robotics (MARIS) in Syros, Greece 26th & 27th June 2025 (https://maritimesymposium.eu/). The symposium is sponsored by the IEEE Oceanic Engineering Society and the IEEE Computer Society.

This SI aims to capture the forefront of maritime technology and innovation presented at the MARIS Symposium, which brings together experts to explore and expand the impact of informatics and robotics in the maritime domain. With a focus on autonomous systems, IoT, artificial intelligence, machine learning, and big data analytics, MARIS addresses pressing challenges and envisions new horizons for maritime informatics and robotics.

This SI will feature **selected** research originating from the Symposium, including contributions developed as part of the co-located Aegean Ro-Boat Race Challenge, which focuses on advancing robotic systems and applications for autonomous maritime navigation, data gathering, and marine operations.

Topics of special interest include:
- **Maritime Sensor Architectures**: Developments in sensor systems designed for maritime applications, including integration and deployment challenges.
- **Maritime & Maritime Robotics, Sensors, and Applications**: Scientific innovations in robotic systems for the marine environment enable unique applications, such as real-time situational awareness and sustained ocean monitoring.
- **Swarm Marine Robotics Applications**: Coordinated systems and swarm robotics for underwater and marine environments.
- **Underwater Network and System Architectures**: Comprehensive approaches to underwater networks, including all layers of communication and system integration.
- **Communications and Signal Processing**: Advances in communication protocols, signal processing techniques, and network reliability in marine contexts.
- **Cooperative Marine Systems and Learning**: Machine learning and AI techniques to enhance cooperation in multi-agent marine systems.
- **Human-Robot Interaction in Marine Environments**: Enhancing human-in-the-loop capabilities and interaction frameworks for operational marine systems.
- **Modeling, Simulation, and Experimental Testbeds**: Simulation and testing tools for underwater systems surface marine platforms.

- **Remote Sensing and Blue Technologies**: Applications of remote sensing in maritime contexts and the latest in sustainable blue technology solutions.
- **Data Analytics and Machine Learning for Marine Environments**: Leveraging data-driven techniques and machine learning for operational improvements in marine settings.
- **Internet of Things (IoT) in Maritime Environments**: Applications of IoT for sensing and autonomous system networks for smarter more effective maritime operations.

Guest Editors

- Dimitris Zissis, University of the Aegean, Greece [dzissis@aegean.gr]
- Yannis Theodoridis, University of Piraeus, Greece [ytheod@unipi.gr]
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Submission Details

Only papers presented at the 2025 MARIS Symposium, including those developed for the Aegean Ro-Boat Race Challenge, are eligible for submission.

Manuscripts should contain original research that contributes significantly to the field. All submissions will undergo a rigorous peer review process.

All manuscripts must be submitted through the Journal's website: https://controls.papercept.net/journals/joe

Authors should include a cover letter when submitting their manuscript explicitly indicating that the contribution is intended for the "MARIS 2025" Special Issue.

Types of Contributions:

The IEEE-JOE publishes peer-reviewed articles and technical communications, as well as letters-to-the-editor.

1. Peer-reviewed Journal Articles are well-rounded treatments of a problem area describing an original contribution to ocean science and technology. These articles may also represent comprehensive contributions of a theoretical or analytical nature.
2. The peer-reviewed Technical Communication is a concise and focused study or analysis. System performance and tradeoff studies, innovative applications of existing technology, are all valid technical communication contributions. For more detailed information on what comprises a Technical Communication, please refer to JOE Editorials [1, 2].

Important Dates

- MARIS Symposium: 26-27 June 2024
- **Manuscript Due**: 15 October 2025
- Target date for publication in JOE: 15 October 2026