



Advancements in Underwater and Surface Robotic Vehicles: Applications, Designs, and Future Directions

Guest Editors:

Prof. Dr. Sergio Dominguez

Centre for Automation and
Robotics UPM-CSIC, 28500
Madrid, Spain

Prof. Dr. Claudio Rossi

Centre for Automation and
Robotics UPM-CSIC, 28500
Madrid, Spain

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Message from the Guest Editors

Unmanned Underwater Vehicles (UUV) and Unmanned Surface Vehicles (USV) have been at the forefront of robotics research in recent years. Addressing enduring challenges, such as energy efficiency, renewable energy harvesting, and integrating advanced electric power plants, including hydrogen-based propulsion, is paramount. Autonomy, perception, and environmental awareness remain significant obstacles that must be overcome to achieve ubiquitous use across civil and military applications.

Moreover, emerging vehicle configurations have recently gained attention, for instance, the Aerodynamically Alleviated Marine Vehicles (AAMV), including Wing-In-Ground (WIG) vessels and Surface-Effect-Ships (SES). These configurations present complex hydrodynamic and aerodynamic behaviours, requiring further research to enable autonomous operation.

This Special Issue addresses these topics, emphasising real-world applications of these vehicles and showcasing their capabilities through rigorous field testing.





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Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica,
Politecnico di Milano, Piazza L.
da Vinci 32, 20133 Milano, Italy

Message from the Editor-in-Chief

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Applied Sciences Editorial Office
MDPI, Grosspeteranlage 5
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