

Special Issue

Intelligence and Autonomy for Underwater Robotic Vehicles

Message from the Guest Editors

Autonomous underwater vehicles have a wide range of possible applications. These include inspection in confined spaces like pipelines, natural and artificial caves, the interior of complex artificial structures, as well as deep-sea or other extreme natural environments. In all such cases, the impossibility of using tethers and the lack of high-bandwidth and reliable wireless communications with human operators make autonomy and intelligence a key feature of the required systems. This includes the capability of understanding their surrounding, self-localization, and motion planning, as well as high-level task/mission planning and self-awareness. Topics of interest include but are not limited to the following:

- Autonomous underwater vehicles
- Guidance, navigation, and control
- Self-awareness
- Mission planning
- Path planning
- Underwater SLAM
- Underwater perception and sensor fusion
- Manipulation and grasping
- Near and wide range underwater communication systems
- Multi-robot systems
- Bio-inspired underwater robots

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