

# IEEE Transactions on Systems, Man, and Cybernetics: Systems

## CALL FOR PAPERS

### for Special Issue on

### AI-powered planning and control of autonomous marine vehicles

**Theme:** The ocean accounts for 97% of the world's water, yet over 80% remains unexplored. It contains a vast treasure trove of natural resources that offer the greatest potential for mankind's survival. The exploration, exploitation, and protection of the ocean are critical to expanding our knowledge of sustainable development and reducing the impact of global climate change. Autonomous marine vehicles (AMVs) are versatile watercrafts capable of performing a variety of marine operations with minimum human supervision. AMVs will play a vital role as essential means for us to explore, exploit, monitor, and protect marine resources and environments. However, AMV's immense application potential will be fully realized only if we can transcend their existing limitations by equipping them with cutting-edge artificial intelligence (AI) technologies.

This Special Issue aims to address the huge challenges that restrict our ability to harness remarkable opportunities and thereby reap the profound socio-economic benefits whilst protecting the planet's precious aquatic environment.

#### This special issue will focus on (but not limited to) the following topics:

Navigation guidance; Governor optimization; State and disturbance estimation; Path and trajectory planning; Model predictive control; Robust control; Fault-tolerant control; Resilient control; Distributed control; Parallel control; Intelligent control; Formation control; Target encirclement; Automatic berthing; Human-in-the-loop control; Prescribed-time cooperative control; Network-based coordination; Event-triggered coordination; Safety-critical coordination; Cooperative and noncooperative games; Cyber-physical system implementations; Experimental verifications.

#### Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transactions on Systems, Man, and Cybernetics: Systems <https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6221021>. Please submit your manuscript in electronic form through Manuscript Central web site: <https://mc.manuscriptcentral.com/systems>. On the submitting page # 1 in popup menu of manuscript type, select: SI on AI-powered planning and control of autonomous marine vehicles. Submissions to this special issue must represent original materials that have been neither submitted to, nor published in, any other journal. The review process for the special issue submissions and the paper length requirement are the same as the regular issue papers.

**Note:** The recommended papers for the special issue are subject to the final approval by the Editor-in-Chief. Some papers may be published in a regular issue, at the EIC discretion. Depending on the number of accepted manuscripts, this special issue could be published as a special section in a regular issue.

#### Timetable:

<b>Submission deadline:</b>	<b>August 1, 2023</b>
<b>First review outcomes:</b>	<b>October 1, 2023</b>
<b>Acceptance/rejection decisions:</b>	<b>December 1, 2023</b>
<b>Anticipated date of publication:</b>	<b>February 1, 2024</b>

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