IEEE Transactions on Cybernetics

CALL FOR PAPERS

for Special Issue on

Embodied Intelligence for Immersive Telepresence

Theme: Immersive telepresence is moving beyond conventional audio-video communication and task-level teleoperation toward embodied cybernetic systems that integrate perception, communication, decision-making, control, and human feedback in closed-loop human-machine interaction. Such systems enable human operators, remote robotic agents, and intelligent systems to jointly perceive and interpret remote environments, infer human intent and context, allocate autonomy, and act safely under latency, uncertainty, and changing task demands.

Scope

This special issue seeks original and high-quality submissions that advance embodied cybernetics and intelligence for immersive telepresence across theory, algorithms, systems, and rigorously validated applications. It welcomes open submissions from the broader community as well as substantially extended versions of high-quality papers presented at the 2026 IEEE Conference on Telepresence. Submissions should make a clear contribution to computation, control, learning, decision-making, robotics, communications, or human–machine cybernetics, and demonstrate how the proposed method improves reliability, usability, autonomy, safety, or scalability of telepresence systems.

Topics of Interest

- Embodied cybernetics for immersive telepresence and telerobotics
- Shared, adjustable, and scalable autonomy for remote robots and robot teams
- Latency-aware, packet-loss-resilient, robust, and safe control for closed-loop teleoperation
- Learning-in-the-loop control, reinforcement learning, adaptive control, and safe autonomy under uncertainty
- Multimodal sensing, sensor fusion, and real-time perception for remote scene understanding
- Operator intent inference, cognitive and affective state modeling, trust calibration, and workload awareness
- Haptic, visual, auditory, physiological, and wearable feedback for embodied remote interaction
- Digital twins, world models, XR interfaces, mixed reality, and sim-to-real transfer
- Multi-agent collaboration, coordination, and task allocation in immersive telepresence
- Security, privacy, resilience, fault tolerance, benchmarking, datasets, metrics, and reproducibility
- Validated applications in healthcare, rehabilitation, industry, education, assistive technology, hazardous environments, and space robotics

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" of IEEE Transactions on Cybernetics: https://www.ieeesmc.org/publications/transactions-on-cybernetics/information-for-authors-3/. Please submit manuscripts in electronic form through IEEE Author Portal: https://ieee.atyponrex.com/journal/cyb-ieee. On the submission page #1 in the popup menu of Article Type, select "Special Issue on Embodied Intelligence for Immersive Telepresence".

Submissions must represent original work not submitted or published elsewhere. For papers presented at the 2026 IEEE Conference on Telepresence, the journal manuscript must be substantially extended and significantly enhanced beyond the conference version, with clear new technical contributions, additional methodological developments, and/or substantially expanded experimental validation. Authors submitting an extended conference paper must cite the original conference version, disclose it at submission, and provide a detailed statement describing the substantial new contributions of the journal manuscript. The review process for special issue submissions and the paper length requirement are the same as those for regular issue papers.

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

Timetable:	**Paper submission:**	**March 31, 2027**
	Completion of first round of review:	**July 31, 2027**
	Submission of revised manuscripts:	**September 30, 2027**
	Completion of final review:	**December 31, 2027**
	Submission of final manuscripts:	**January 31, 2028**
	Tentative publication:	**Spring/Summer 2028**

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