

IEEE TELEPRESENCE 2024
Pasadena, California,
November 16-17, 2024



The First IEEE Conference on Telepresence, TELEPRESENCE 2024, will be held November 16-17, 2024, at Caltech, in Pasadena, California. The conference will provide a stimulating forum for researchers, educators, and practitioners to learn, share knowledge, report the most recent innovations and developments, and exchange ideas and advances in all aspects of telepresence systems and applications, telerobotics, human-machine interfaces, learning from humans, and autonomy. Integrative approaches are particularly welcome. TELEPRESENCE 2024 will feature keynotes and invited talks, industry panels, and exhibits to enrich fruitful discussions. Contributions to theory and practice, including but not limited to, the following technical areas, are invited:

Technological Infrastructure and Systems

- Remote Collaboration
- Virtual Reality (VR) Integration
- Augmented Reality (AR) Applications
- Haptic Feedback Technology
- 3D Tele-immersion
- Cross-Platform Compatibility
- Teleoperation Systems
- Real-Time Communication
- Low Latency Networking
- Spatial Audio Technology
- Wireless Control Systems
- Sensor Fusion for Robotics
- Robotic Actuation Techniques
- Internet of Things (IoT) Integration
- Cloud Computing for Telepresence
- 5G and Advanced Networking
- Cybersecurity in Telepresence
- Edge Computing in Telepresence
- Digital Twins and Simulation
- Biometric Authentication
- Wearable Technology
- Machine Vision and Perception
- Advanced Image and Video Processing
- Environmental Sensing Technologies
- Virtual Meeting Spaces
- Quantum Computing Applications
- Collaborative Virtual Environments
- Scalability Solutions for Telepresence Systems
- Sustainable Design in Telepresence Technology

Multi-Perception Integration of Data Sources

Approaches combining more than one perception source

Human-Computer Interaction and User Experience

- Gesture Recognition
- Brain-Computer Interfaces (BCI)
- Voice User Interfaces (VUI)
- Multi-Modal Interaction
- Ergonomic Design
- Assistive Technologies
- Augmented Reality Interfaces
- Virtual Environments Interaction
- User Experience (UX) in HCI
- User Interface (UI) Design
- Behavioral Modeling
- Ethnographic Data Analysis
- Cognitive Modeling
- Psychology of Human-Computer Interaction
- Social Presence in Virtual Environments
- Data Privacy and Ethics
- Accessibility in Telepresence
- Adaptive User Interfaces
- AI-driven Personalization
- Human-Centered Machine Learning
- Interactive Machine Learning

Integrative Approaches

Contributions applying autonomy and intelligent systems approaches in Human-Computer Interaction and User Experience topics

Contributions adding interactive and responsive elements to Autonomy and Intelligent Systems

Autonomy and Intelligent Systems

- Autonomous Navigation
- Human-in-the-Loop Control
- Telepresence Robots
- Long-Distance Robotic Control
- Autonomous Decision Making
- Self-Learning Systems
- Robotics and Automation
- AI Ethics in Autonomy
- Intelligent Control Systems
- Swarm Intelligence
- Autonomous Agents and Multi-Agent Systems
- Self-Regulating Systems
- Predictive Analytics for Autonomy
- Empirical Studies in Human Learning
- Natural Language Processing (NLP) for Human Learning
- Human Feedback in AI
- Human-in-the-Loop Learning
- Haptic Interfaces for Telerobotics

Timeline

- Full Paper Submission: May 23, 2024
- Full Paper Acceptance: June 27, 2024
- Late-Breaking Submission Deadline: July 15, 2024
- Late-Breaking Submission Decisions: July 22, 2024
- Final Paper/Submission Deadline: August 7, 2024
- Early-Bird Registration: August 7, 2024
- Late Registration: November 13, 2024

Advisory Committee

- Allison Okamura
- David Locke
- Edward Tunstel
- Leila Takayama
- Terry Fong
- Robert Mueller
- Saeid Nahavandi

Organizing Committee

- General Chair: Paolo Fiorini
- Co-Chairs: Adrian Stoica, Ferat Sahin
- Local Chair: Joel Burdick
- Program Co-Chairs: Tiago H. Falk, Tom Gedeon
- Publications Chair: Kyungtae (KT) Han
- Publicity Chair: Yumi Iwashita
- Media Chair: Satyam Mohla
- Treasurer: Yutao He

Initial Technical Co-Sponsors: IEEE Initiative on Telepresence, IEEE RAS TC on Telerobotics, IEEE SMC TC on Robotics and Intelligent Sensing and TC on Brain-Machine Systems, Jt SMC28/RA 24 Society Chapter, Metropolitan Los Angeles Section

TELEPRESENCE 2024 will have a remote presence (virtual) component. We encourage in-person participation in Pasadena, but at the same time, authors with travel restrictions will be approved for on-line participation in the virtual tracks. We will transmit live the keynotes, tutorials, and some of the sessions, in real time and with recordings. Authors can submit full technical papers (6 pages), that if accepted and presented at the conference, will appear on IEEE Xplore. For authors who do not yet have publishable results but want to present the latest results, work in progress, applications, and new projects that have recently received funding, and to facilitate early feedback and foster collaborations, as well as for industry and invited speakers to summarize their talks, we will accept short late-breaking papers, which will be published in the on-line conference proceedings available to registrants, but not on IEEE Xplore.