# IEEE ICHMS 2024
# The 4th IEEE International Conference on Human-Machine Systems

**Toronto, Ontario, Canada, May 15-17, 2024**
https://ichms.blog.torontomu.ca/

# CALL FOR PAPERS

The theme of the 4th ICHMS is "Trustworthy Human-Autonomy Teaming". The conference will cover progress and contributions on brain-inspired autonomous systems at multiple scales, including cognitive science, engineering, and design for safe and trusted human-autonomy teaming; technological aids for verifiable artificial intelligence (AI) decisions; trust modeling, measures, and management, and fundamental issues of trust and barriers to adoption of AI-enabled autonomy in complex socio-technical systems. The organization of ICHMS will include Regular Sessions, Special Sessions, Poster Sessions, and Sessions focused on PhD student research. Accepted papers will be submitted for inclusion into IEEE Xplore. ICHMS will be jointly held with the IEEE International Defence Excellence and Security (IDEaS) Symposium 2024 with the theme of "Best of Two Worlds: Human-AI Teaming for Effective Decision-Making" https://ieeeideas.org/ideas-2024/ .

Regular papers (6 pages) should provide complete and high-quality contributions to the field. Short Papers (4 pages) are expected to cover recent research outcomes that are not yet mature enough for a regular paper but still provide novel insights. Posters (1 page) should ideally show work in progress or applications/demos that can be best presented through an interactive format

at the meeting. Submission to a Regular, Special, or a PhD Session should focus on topics including, but not limited to:

- Assured Autonomy
- Augmented Cognition
- Authority/Control Transfer
- Brain-Inspired Autonomous Systems
- Brain-Machine Interfaces
- Decision-Support and Recommender Systems
- Ethical Aspects of Human-AI Symbiotic Systems
- Human-Computer Interaction
- Human-Autonomy Cooperation and Teaming
- Human Performance Modeling
- Human-Machine/Robot Interaction
- Interaction-Centered Design
- Intelligent Adaptive Systems
- Multi-User Interaction
- Resilience Engineering in Human-AI Symbiotic Systems
- Team Performance and Training Systems
- User-AI Agent Interaction
- User State Monitoring
- Trust Modeling, Measurement, and Management
- Virtual and Mixed Reality Systems
- Wearable Computing
- Web-based Interactive Systems

***Confirmed and Tentative Special Sessions and Keynote Speakers***
Special Sessions play a crucial role in the success of ICHMS and address key and timely topics. The following Special Sessions will take place at ICHMS 2024: (1) Adjustable Human Autonomy Collaboration, (2) Human-Machine Teaming on the Battlefield, (3) Advancement of Crew Autonomy Enabling Moon/Mars Surface Exploration Systems, (4) Trustworthy Autonomous Systems, (5) Human-Machine Teaming for Effective Decision-Making. More details about these approved Special Sessions can be found at https://ichms.blog.torontomu.ca/accepted-special-sessions/

ICHMS and IDEaS will also feature three prominent keynote speakers from academia, government/military, and industry. Confirmed keynote speakers are listed at https://ichms.blog.torontomu.ca/keynote-speakers/

All paper submissions MUST be in PDF format. Complete manuscripts must be electronically submitted via the ICHMS2024 EasyChair site https://easychair.org/my/conference?conf=ieeeichms2024. Submitted manuscripts must appear in IEEE two-column format, including figures, tables, and references. Please use the IEEE templates available at *Manuscript Templates for IEEE Conference* Proceedings to prepare your paper (https://www.ieee.org/conferences/publishing/templates.html).

Authors of accepted papers will need to register online for the conference before the early registration deadline (see below) in order for papers to be published in the conference proceedings. Papers MUST be presented during the conference, otherwise they will be removed from the *IEEE Xplore* Online Proceedings.

## DEADLINES FOR ALL CONTRIBUTIONS

- Deadline for submission of **full** papers for all session types including Posters: **November 15, 2023** (extended from November 1st)
- Paper acceptance notification: **January 1, 2024**
- Final paper submission: **February 1, 2024**
- Deadline for early registration: **February 1, 2024**

**Special Issue opportunity**
Selected papers accepted at ICHMS 2024 will have the privileged opportunity to submit an extended version to a dedicated Special Issue of the esteemed IEEE Transactions on Human-Machine Systems (THMS).