



### Special Session: Advances in Decision, Control, and Testing for Autonomous Intelligent Systems

We are poised at the edge of a transformative era, fueled by breakthroughs in autonomous driving, intelligent urban developments, deep learning, and cloud robotics. Autonomous intelligent systems are synthesizing innovative design and frontier technology, reshaping our world and serving as the vanguards of unmatched progress and innovation in our environments and everyday lives. It is against this backdrop that a special session is proposed for ICPS 2024, seeking to navigate the plethora of challenges and prospects inherent in the realm of autonomous intelligent systems, with a focus on decision, control, and testing. This session endeavors to explore revolutionary solutions and interdisciplinary strategies crucial for addressing the intricacies linked with the evolution of autonomous intelligent systems and their implications on safety, security, and sustainability. It aspires to assemble experts from diverse domains, promoting interdisciplinary collaboration to elucidate the latest research and breakthroughs in areas like perception, decision-making, planning, and control for unmanned systems, cyber-physical systems, advanced mechatronics, robotics, and beyond.

The objective of this session is to ignite profound discussions and foster the exchange of knowledge amongst varied expertise to devise holistic solutions and spur innovative research in autonomous systems and AI across vehicles, robots, and other interactive entities. The insights gained will not only enlighten attendees on the formulation of smarter and more proficient autonomous intelligent systems but also enrich the collective comprehension and development of intelligent system solutions and AI methodologies. This initiative aims to catalyze groundbreaking collaborations and advancements in the sector, heralding a new chapter in technological evolution.

The session will cover a wide range of topics, including but not limited to:

1. Perception and scene understanding for autonomous intelligent systems
2. Intelligent decision-making, planning, and control for autonomous intelligent systems
3. Cooperative decision making and control for multiple autonomous intelligent systems
4. Safety and security for autonomous intelligent systems and cyber-physical systems
5. Verification and testing of autonomous intelligent systems

#### Organizers:

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#### Important date:

- \* Initial Paper Submissions Due: **Nov. 17, 2023**
- Notification of Acceptance: **Early January, 2024**
- ◇ Final Submissions Due: **Feb. 9, 2024**