



## **ICIRA 2024 Special Session Proposal**

**Title of the Proposal:** Emerging Techniques for Intelligent Robots in Unstructured Environment

### **Technical Outline of the Session and Topics:**

Outline of the Session: Navigating unstructured environments remains a grand challenge for robotics, requiring advanced techniques in planning, control, and adaptation. This session seeks to explore cutting-edge methodologies and innovations aimed at enhancing the intelligence of robots operating in unstructured environments. From disaster response to exploration missions, robots encounter a myriad of obstacles and uncertainties, necessitating sophisticated algorithms and robust control strategies. Join us in this stimulating session to explore the forefront of robotics research and contribute to the development of next-generation intelligent robots for unstructured environments. We look forward to your valuable contributions and active participation.

The session will encompass a broad range of topics related to intelligent robots in unstructured environments, including but not limited to:

Topics of the Session:

- *Advanced perception and sensing techniques for environment understanding*
- *Adaptive planning algorithms for dynamic and uncertain environments*
- *Machine learning and artificial intelligence for autonomous decision-making*
- *Resilient control architectures for reliable performance in adverse conditions*
- *Human-robot interaction and collaboration strategies*
- *Multi-sensor fusion for robust localization and mapping*

### **Contact details of the Session Organizers**

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