The 16th International Conference on Intelligent Robotics and Applications (ICIRA 2023)

July 5-7, 2023 in Hangzhou, China

ICIRA 2023 Special Session Proposal

Title of the Proposal: Advanced sensing and control technology for human-robot interaction

Technical Outline of the Session and Topics:

Outline of the Session: Advanced learning and control technologies applied to human-robot physical interaction defines an interdisciplinary research field aiming to improve the interaction ability between humans and robots. This topic covers a wide range of areas, including robotics, sensor technology, mechanics, human-robot interaction, artificial intelligence, computer vision, and advanced control technology. The new developments under this topic play significant roles in robotic applications in both industry and other sectors, making robots work more efficiently, safely, and reliably. The session aims to explore the state-of-the-art theories, methods, and technologies that drive the development of this field.

Topics of the Session:

- *Innovative robot and human-robot interaction interface design*
- *Kinematics and dynamics modelling for robot systems*
- *Robot control methods for human-robot interaction*
- *Human motion analysis and modelling*
- *Sensing & localization in complex environments during human-robot interaction*
- *New sensors developed for human-robot interaction*
- *Advanced robot skill learning and generalization methods*
- *Imitation learning and reinforcement learning of robots*
- *Multimodal learning in human-robot interaction*
- *Ethics topics about human-robot physical interactions*
- *Other related issues*

Contact details of the Session Organizers

- *Organizer 1: Qinchuan Li, Zhejiang Sci-Tech University, lqchuan@zstu.edu.cn*
- *Organizer 2: Chenguang Yang, South China University of Technology, cyang@ieee.org*
- *Organizer 3: Wei Ye, Zhejiang Sci-Tech University, wye@zstu.edu.cn*
- *Organizer 4: Gang Chen, Zhejiang Sci-Tech University, gchen@zstu.edu.cn*