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Special Session on Robot, Human, and Environment Interaction

organized by

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Call for Papers

Abstract: Conventional robotic systems, such as industrial robot manipulators, are not capable of dealing with several problems we encounter today. For example, meeting the requirements of fast changing and diversified demands of customers in the 4th industrial revolution, providing assistance to help elderly adults maintain autonomy and independence in super mature societies, and improving the efficiency and quality of lives of humans by autonomously conducting daily tasks such as household chores. Compared to the traditional robots that can precisely perform predefined repetitive tasks, the next generation robots should be resilient and perform interactive tasks in unknown and dynamic environments, accomplishing by humans every day. To achieve this goal, several studies have been conducted and novel design & control approaches have been proposed in the last decades. This special session aims to bring researchers together to discuss recent advances in the field of robot, human, and environment interaction. In particular, the special session will focus on, but is not limited to, the following topics of interest.

Advanced motion control techniques for physical robot-environment interaction.

Compliant and soft robotics.

Assistive robotics.

Medical and rehabilitation robotics.

Human-robot collaboration.

Physical robot-environment interaction.

Intelligent and adaptive robotics.

Agile robotics such as wheeled and legged locomotion.