Special Issue

Robotic Contact with the Human Body in Physical Human–Robot Interaction—Second Edition

Message from the Guest Editors

Despite the progress made in the field of robotics in recent decades, the physical interaction between humans and robots is still a barely developed field, mainly because of safety requirements and the complexity of the task. A human is not a typical target for robot manipulation, but robots are already in contact with humans in existing applications such as rehabilitation, prosthetics, or feeding assistance. In these applications, contact is typically initiated or prepared by a human, and the remaining task is performed autonomously. As robots become more intelligent, they are assigned tasks that involve more significant responsibility. There are many circumstances where a robot has to physically interact with a human in a fully autonomous way, including approach and contact operations, such as in rescue, nursing, elderly/child assistance, and many others. This Special Issue focuses on the main challenges for a successful autonomous physical interaction with humans: pre-contact human detection and perception, development of sensorized human-friendly grippers and manipulators, and methods to estimate and identify the parameters of the human model during the performance.

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Deadline for manuscript submissions

31 July 2025

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/190779

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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