

Workshop on
Social Robotics for Human-Centered Assistive and Rehabilitation AI

(a Fit4MedRob event) co-located with the
International Conference on Social Robotics + AI (ICSR + AI 2025)
10-12 September 2025 – Naples, Italy

Motivation and scientific relevance to the conference audience

This workshop is part of the Fit for Medical Robotics (<https://www.fit4medrob.it/>) project, an initiative funded by the Italian MUR to encourage research in technological assistance and rehabilitation. In Fit4MedRob, integrating AI and Robotics is essential. One of the project's main aims is to develop "Next Generation Components," which includes creating new intelligent interfaces and AI algorithms to better interpret users' intentions and enable safer, more engaging interactions between humans and robots. As a result, co-locating this workshop with ICSR + AI 2025 seems a natural choice for sharing and spreading early research findings.

Workshop Abstract

This workshop aims to examine the design and deployment of intelligent robotic systems for rehabilitation and assistance, with particular attention to the scientific and technological challenges they entail. Developing such systems requires the integration of advanced computational, sensing, reasoning, and adaptive capabilities, as well as the ability to interact dynamically with users and their surrounding environment. A central requirement is the capacity of robots to anticipate and interpret patients' needs, mental states, and health conditions, thereby enabling effective and reliable support in rehabilitation and personal care contexts. Future platforms, ranging from user-controlled devices such as prostheses to fully autonomous agents, must incorporate advanced functions for signal acquisition and analysis, in combination with learning, prediction, and reasoning mechanisms. This workshop focuses on the convergence of social robotics and artificial intelligence as a foundation for human-centered assistive and rehabilitation technologies. In response to the growing demand for personalized, adaptive, and continuous care, it seeks to bring together researchers and practitioners to discuss recent advances in AI-driven robotic platforms, user modelling, and adaptive interaction. The objective is to bridge clinical, technological, and ethical perspectives, thereby fostering innovation across both clinical and home-care environments.

This volume contains the papers presented at the Workshop on Social Robotics for Human-Centered Assistive and Rehabilitation AI (a Fit4MedRob event), held within the International Conference on Social Robotics + AI (ICSR + AI 2025), 10-12 September 2025, Naples, Italy. There were 10 short papers accepted for this volume. An invited talk was presented by Prof. Ho Seok Ahn (University of Auckland, New Zealand) entitled "Robots come to us".

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