**Category:** Application and clinical integration

**Workshop Title:** Robotic Therapy in Neurorehabilitation: Integrating Technology into Multidisciplinary Care

**Organizer(s):** Sofia Straudi

**Speaker(s):** Straudi, Sofia, Ferrara University (Italy)
Morone, Giovanni, L'Aquila University (Italy)
Capecci, Mariana, Marche University (Italy)
Bressi, Federica, Campus Biomedico University (Italy)
Gandolfi, Marialuisa, Verona University (Italy)

**Workshop Time:** 08:15 - 09:45

**Attendee Engagement:** The presenters will lead an interactive discussion using real clinical case scenarios, encouraging attendees to predict outcomes and tailor interventions. Through dynamic learning methods - such as quizzes and video analysis, attendees will gain hands-on experience in selecting the ideal candidates for robotic therapy and optimizing treatment protocols for successful outcomes. The sessions will employ a pros-and-cons approach to foster a lively debate, highlighting different perspectives and enhancing critical decision-making skills.

**Abstract:** Over the last two decades, Robot-assisted therapy has revolutionized neurorehabilitation offering high-intensity, task-specific training of motor function in people with neurological conditions, such as stroke, traumatic brain injury, spinal cord injury, cerebral palsy, multiple sclerosis and Parkinson's disease. These therapies are delivered within a motivating and engaging environment that simultaneously addresses both sensorimotor and cognitive aspects, maximizing the potential for neuroplasticity by adhering to key principles of motor learning. Various robotic devices- including end-effectors or exoskeletons - integrated with advanced feedback systems (i.e. virtual, gaming, auditory, haptic) have been developed to improve key functional domains like mobility, arm function, balance and overall quality of life. While many international clinic guidelines now recognize robotic therapy as a promising option, its use in clinical practice has recently been questioned by the UK NICE guidelines. Even pointing to uncertainties in identifying ideal candidates, optimal timing, and protocols. This workshop will offer cutting-edge insights into the latest evidence on robotic therapy in neurorehabilitation, with a focus on how to effectively integrate it within multidisciplinary care. We will explore the key factors that drive success—such as patient selection, timing, and treatment protocols—while also engaging attendees in a dynamic, interactive discussion about the practical challenges and opportunities of incorporating this technology into clinical pathways.