



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: Physical and Neurological Human-Robot Interaction

Technical Outline of the Session and Topics:

Outline of the Session: Physical human-robot interaction is based on the degree of biomechanics and neurodevelopment, using active or passive rehabilitation training, through the way of improvement, compensation and substitution, to promote neuromuscular function, promote muscle and joint activity and improve muscle tone, so that patients can maximize the recovery of impaired function. Neurological human-robot interaction mainly uses the process of stimulating proprioceptive nerves or other sensory organs, and after the integration of the sensory centre, the neuromuscular excitability is increased or reduced, so as to improve muscle tone and promote active motor difficulties or uncoordinated muscle groups to easily complete a certain activity. Physical human-robot interaction and neurological human-robot interaction complement each other and can be used together to promote rehabilitation training more effectively.

Topics of the Session:

- *Robot-assisted rehabilitation and assessment*
- *Design of rehabilitation robot*
- *Physical human-robot interaction*
- *Neurological human-robot interaction*
- *Human in the loop rehabilitation*
- *Brain-computer interface*
- *Intelligent recognition algorithm based on EMG/EEG signals*

Contact details of the Session Organizers

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