Journal of Healthcare Engineering

Special Issue on

# Human-Centered Systems in Rehabilitation Engineering

## CALL FOR PAPERS

Human-centered systems (HCS) have significantly influenced the development of rehabilitation engineering technologies over the past decade. Since the motor skills of the elderly and the disabled with neuromuscular disorders gradually deteriorate with time, HCS are expected to revolutionize the assistive technologies that enable the restoration of motor control in such individuals. Examples of these technologies include power assist devices, prosthetic limbs, and home and hospital support robots.

The core technology in HCS for rehabilitative engineering purposes requires a convergence between biological signal processing and robotics. Therefore, pattern recognition and machine learning (PRML) are particularly important in the study and design of these HCS. For example, computational methods can anticipate motor commands and intentions from biological sensors before movements actually occur, making them essential in both power assist and support robotic systems. This calls for practical HCS based on new PRML techniques. These include advances in the computational decoding and encoding method of neural signals involving muscle synergy, brain-machine/computer interfaces (BMI/BCI), and wearable systems using new artificial sensors.

This special issue therefore invites original research articles and review articles that showcase advances in HCS in rehabilitation engineering.

Potential topics include but are not limited to the following:

- Assistive technologies for the disabled and the elderly in relation to rehabilitation engineering
- Advanced robotic systems for home and hospital support during rehabilitation
- BMI/BCI using PRML for rehabilitative purposes
- Wearable systems for rehabilitative purposes
- Artificial sensors and bioinspired robots for use in rehabilitation engineering

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/jhe/hchr/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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