Special Issue

Soft Exoskeleton and Supernumerary Limbs for Human Augmentation

Message from the Guest Editors

Human augmentation is an academic research field that aims to enhance, promote, and expand a person's abilities, not only to supplement or compensate for missing abilities or to maintain abilities. The services expected from human-enhancing machines and tools are not limited to the extension of motor, sensory, and cognitive abilities of a person, or the extension of skills and work performance in using machines and tools, but also include the development of communication, education, training, medical care, and nursing care based on a long-term understanding of the relationships between people and people, and between people and tools. Papers are welcome on topics that are related, but not limited, to:

- co-robots for human augmentation
- digital technologies for physical, cognitive, mental, and perceptional augmentation
- exoskeletons and assistive devices for the amplification of human physical strength and physiological sensing
- implanted technologies and interfaces
- sensors and actuators for smart artifacts and smart textiles
- supernumerary robotic limbs
- technologies to improve human experience and to reduce stress
- etc.

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Deadline for manuscript submissions

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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