



## Advances and Challenges in Wearable Robotics

Guest Editors:

### **Dr. Tommaso Proietti**

The BioRobotics Institute, Scuola  
Superiore Sant'Anna, 33-56127  
Pisa, Italy

### **Dr. Richard Nuckols**

Mechanical and Industrial  
Engineering, The University of  
Massachusetts Lowell, Lowell, MA  
01854, USA

Deadline for manuscript  
submissions:

**closed (31 January 2025)**

### **Message from the Guest Editors**

Research on wearable robots is taking place in many application areas, including the assistance of movement, rehabilitation after injury or disease, injury prevention in demanding occupational tasks, and monitoring of movement for the early diagnosis of diseases. There are many promising results in each of these spaces, yet there are still challenges to making these devices ready for effective real-world use.

In this Special Issue, we aim to investigate the challenges and state-of-the-art solutions of wearable robotics that can operate successfully in everyday activities. The field of wearable robotics is broad, and we are looking for an opportunity to share the best solutions from across areas of the field, e.g.,

- Type of device—exoskeleton, exosuit, prosthetic;
- Location of assistance—upper limb, lower limb, lower back;
- Actuation design—active, passive, SEA;
- Mechanism of actuation—pneumatic, direct torque, shape-memory alloy;
- Control—phase-based, time-based, passive;
- Sensing—environment, human intent.

Research on simulations, experiments, and engineering applications is welcome.





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Antonio J. Marques  
Cardoso**

CISE—Electromechatronic  
Systems Research Centre,  
University of Beira Interior,  
Calçada Fonte do Lameiro, P-  
6201-001 Covilhã, Portugal

## Message from the Editor-in-Chief

*Machines* is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

**Journal Rank:** JCR - Q2 (Engineering, Mechanical) / CiteScore - Q1 (Control and Optimization)

## Contact Us

---

*Machines* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/machines](http://mdpi.com/journal/machines)  
[machines@mdpi.com](mailto:machines@mdpi.com)  
[X@Machines\\_MDPI](https://twitter.com/Machines_MDPI)