Special Issue

Innovation in Prosthetic Solutions: Bridging Neuroscience and Engineering for Next-Generation Prosthetic Systems

Message from the Guest Editors

Prosthetic technology is evolving rapidly, with interdisciplinary research driving both state-of-the-art innovations and explorations of new ideas and perspectives for next-generation prosthetics. This Special Issue will focus on the latest advancements in prosthetic solutions, while also highlighting forward-looking concepts and novel approaches. Our aim is to gather contributions that not only bridge the gap between biological and mechanical systems, but that also propose groundbreaking strategies that can significantly enhance the quality of life for people with amputations. Topics of interest include:

- Neural-Controlled Prostheses: Advances in brain–machine interfaces, myoelectric systems, and AI-driven control strategies;
- Sensory Feedback: Innovative tactile and proprioceptive feedback systems for enhancing embodiment;
- AI in Prosthetic Control: Machine learning and deep learning models for improving user adaptation and prosthetic control;
- User-Centered Design: Clinical and user-focused approaches for improving prosthetic design and user experience.

Guest Editors

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closed (26 December 2025)

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Message from the Editor-in-Chief

Editor-in-Chief

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