

## Special Issue: “Advances in Artificial Organs and Tissue Engineering Research,”

### Scope

Artificial organs and tissue engineering are inherently interdisciplinary fields that integrate biorheology, biomechanics, biomaterials, medical device engineering, and regenerative medicine to address unmet clinical needs. Recent advances have been driven by a deeper understanding of the rheological, mechanical, and structural properties of biological tissues, as well as by innovations in materials science, fabrication technologies, and evaluation methodologies.

This Special Issue, “*Advances in Artificial Organs and Tissue Engineering Research*,” aims to provide a comprehensive platform for original research and review articles that explore fundamental mechanisms, engineering approaches, and translational applications related to artificial organs, engineered tissues, and medical technologies.

Topics of interest include, but are not limited to:

- Design, development, and performance evaluation of artificial organs and medical devices
- Hemodynamics, blood–material interactions, thrombosis, and hemocompatibility
- Tissue engineering and regenerative medicine approaches
- Mechanical, viscoelastic, and rheological characterization of native and engineered tissues
- Structure–function relationships in biological and biomimetic materials
- In vitro, ex vivo, and in silico models for the functional evaluation of artificial organs and engineered tissues
- Advanced fabrication and processing techniques, including additive manufacturing and biofabrication
- Non-clinical testing, translational research, and preclinical evaluation of medical devices and tissue engineering products
- Multiscale modeling and simulation linking microstructure, rheology, and macroscopic performance

By bringing together contributions from researchers in biorheology, biomechanics, biomedical engineering, and clinical sciences, this Special Issue seeks to promote cross-disciplinary dialogue and highlight emerging concepts that will shape the next generation of artificial organs and tissue-engineered therapies. Both experimental and theoretical studies that advance fundamental understanding and demonstrate translational or clinical relevance are highly encouraged.

Submission Deadline: August 31, 2026

Guest Editor

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