



## Total Joint Arthroplasty: Technical Developments and Applications

Guest Editor:

**Dr. Armin Arshi**

Department of Orthopedic  
Surgery, NYU Langone Health,  
New York, NY 10003, USA

Deadline for manuscript  
submissions:

**31 December 2024**

### Message from the Guest Editor

Advances in molecular biology, implant design, biomaterials, and intraoperative technology have transformed partial and total joint arthroplasty of the hip, knee, and shoulder in the last several decades. As progress accelerates in the realm of orthopedic bioengineering, our specialty should remain at the forefront of these emerging trends and to readily integrate them into clinical practice.

This Special Issue of *Bioengineering*, entitled “Total Joint Arthroplasty: Technical Developments and Applications”, focuses on emerging data and strategies from engineers, scientists, and surgeons alike. We encourage the submission of original basic, translational, and clinical research and review articles on the following topics related to total joint arthroplasty of the hip, knee, and shoulder:

- Robotic and technology-assisted joint replacement;
- Periprosthetic joint infection—prevention, diagnosis, and therapeutics;
- Virtual and augmented reality platforms;
- Preoperative planning and templating;
- Biomaterials and implant design;
- Tribology and implant survivorship modeling;
- Tissue engineering.





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Anthony Guiseppi-Elie**

Department of Biomedical  
Engineering, Texas A&M  
University, College Station, TX  
77843, USA

## Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Bioengineering* (ISSN 2306-5354). *Bioengineering* is published in open access format – research articles, reviews and other contents are released on the Internet immediately after acceptance. The scientific community and the general public have unlimited and free access to the content as soon as it is published. *Bioengineering* provides an advanced forum for the science and technology of bioengineering. We would be pleased to welcome you as one of our authors.

## 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), PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

**Journal Rank:** JCR - Q2 (*Engineering, Biomedical*)

**Rapid Publication:** manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.6 days after submission; acceptance to publication is undertaken in 3.1 days (median values for papers published in this journal in the first half of 2024).

## Contact Us

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

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

[mdpi.com/journal/bioengineering](http://mdpi.com/journal/bioengineering)  
[bioengineering@mdpi.com](mailto:bioengineering@mdpi.com)  
X@Bioeng\_MDPI