

# Special Issue

## Spine Biomechanics

### Message from the Guest Editor

The spine represents the central musculoskeletal element of the human body, simultaneously enabling trunk movement, upright posture, and load transfer from the upper to the lower body. Consequently, the spine must withstand a variety of forces and moments and exhibit unique material properties and kinematics. However, the fundamental importance of the spine for human biomechanics is also accompanied by multiple musculoskeletal spinal pathologies, and spine-related pain is one of the main causes of disability worldwide. A more detailed knowledge of spinal biomechanics is therefore essential with regard to the prevention and treatment of musculoskeletal spinal diseases. This Special Issue of *Bioengineering* aims to collate new findings and developments in biomechanical research of the spine. This comprises, but is not limited to, the following areas:

- In vivo (clinical) trials, in vitro studies, and numerical modeling studies on the spine.
- Biomechanical investigation of novel technologies and devices for the orthopedic and traumatological treatment of the spine.
- Studies on the effects of influencing factors on spinal biomechanics, such as aging, degeneration, and trauma.

---

### Guest Editor

Dr. Christian Liebsch

Institute of Orthopaedic Research and Biomechanics, Centre for Trauma Research Ulm, Ulm University Medical Centre, Ulm, Germany

---

### Deadline for manuscript submissions

closed (30 November 2025)



## Bioengineering

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.7  
CiteScore 5.3  
Indexed in PubMed



[mdpi.com/si/207163](https://mdpi.com/si/207163)

*Bioengineering*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[bioengineering@mdpi.com](mailto:bioengineering@mdpi.com)

[mdpi.com/journal/  
bioengineering](https://mdpi.com/journal/bioengineering)





## Bioengineering

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.7  
CiteScore 5.3  
Indexed in PubMed



[mdpi.com/journal/  
bioengineering](https://mdpi.com/journal/bioengineering)



## About the Journal

### 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.

---

### Editor-in-Chief

Prof. Dr. Anthony Guiseppi-Elie

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

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPIus / 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 17 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).