



Musculoskeletal Research: Biomechanics and Biomaterials for the Treatment of Orthopedic Diseases

Guest Editors:

Dr. Frank Seehaus

Department of Orthopaedic Surgery, Friedrich Alexander University of Erlangen-Nürnberg, 91054 Erlangen, Germany

Dr. Bastian Welke

Laboratory for Biomechanics and Biomaterials, Department of Orthopaedic Surgery, Hannover Medical School, D-30625 Hannover, Germany

Deadline for manuscript submissions:

closed (15 May 2022)

Message from the Guest Editors

Dear Colleagues,

Musculoskeletal research deals with the effects of orthopedic treatment of pathologies on the biomechanics of the affected areas and on the musculoskeletal system. Biomechanical measurement methods enable the quantitative determination of these influences and allow an assessment of their extent and size for the patient (*in vivo*).

The range of examination methods is particularly wide in this field of musculoskeletal research. On one hand, *in vitro* examinations under laboratory conditions on simplified models, such as artificial bones or specimens from donors, will be implemented. With the help of these models, for example, new biomaterials or implants for the treatment of fractures are often examined for their primary stability or the influence of a joint replacement on the kinematics. In contrast to experimental *in vitro* studies, numerical methods will be increasingly applied to analyze a large number of implant configurations and loading scenarios.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica,
Politecnico di Milano, Piazza L.
da Vinci 32, 20133 Milano, Italy

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q1 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

Contact Us

Applied Sciences Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/applsci
applsci@mdpi.com
[X@Applsci](#)