Special Issue

Bioengineering Technologies for Spine Research

Message from the Guest Editor

The human spine is a complex biomechanical and neurological structure, and its disorders pose significant global health and socioeconomic burdens. Recent advances in bioengineering—ranging from biomaterials and biomechanics to imaging technologies, computational modeling, and artificial intelligence—have enabled new possibilities for understanding, diagnosing, and treating spinal diseases. These innovations are transforming preclinical research, surgical planning, implant design, rehabilitation protocols, and personalized therapy. This Special Issue aims to bring together cutting-edge research and comprehensive reviews that showcase how bioengineering tools are reshaping the landscape of spine research. We welcome contributions that explore experimental and computational biomechanics, tissue engineering, smart implants and devices, robotics in spine surgery, motion analysis, and multimodal imaging techniques, as well as AI- and machine learning-based diagnostics and predictive modeling. Multidisciplinary and translational studies that bridge the gap between laboratory innovation and clinical application are especially encouraged.
field.

Guest Editor

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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

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