

Special Issue

Biofabrication of Biologically Realistic Constructs: Needs, Challenges, and Opportunities

Message from the Guest Editor

This Special Issue of *Bioengineering*, titled "Biofabrication of Biologically Realistic Constructs: Needs, Challenges, and Opportunities", aims to showcase an emerging paradigm shift in tissue engineering from technology-driven developments to biology-driven implementations that prioritize structural and functional fidelity. This Special Issue addresses a current challenge in the field: the disconnect between engineering capabilities and the structure–function paradigm that governs biological systems. We will highlight innovative methods, biomaterials, and technologies—including single-cell manipulation, bioprinting, and advanced imaging—that strive to enable faithful reproduction of biological complexity. The scope of this call for submissions also encompasses applications in regenerative medicine, disease modeling, hybrid bio-inorganic constructs, as well as the development of physiologically relevant culture systems for drug and toxicology testing, particularly in response to the need to reduce animal experimentation.

Guest Editor

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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

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