## **Special Issue**

# Cardiovascular Models and Biomechanics

## Message from the Guest Editor

Cardiovascular diseases remain the leading cause of mortality worldwide, placing immense burdens on healthcare systems and patients alike. Engineering approaches offer unique insights into disease mechanisms and potential therapeutic interventions by quantifying the complex biomechanical environments within the cardiovascular system. This Special Issue seeks original research articles and review papers that address fundamental and applied aspects of cardiovascular biomechanics. Topics of interest include, but are not limited to, the following: Multiscale and multiphysics modeling of cardiac and vascular mechanics;

Fluid-structure interaction in cardiovascular flows; Patient-specific modeling for surgical planning and intervention design;

Biomechanics of cardiovascular devices and implants; Mechanobiology of vascular cells and tissues; Machine learning approaches for cardiovascular modeling and analysis;

Translational research bridging cardiovascular biomechanics and clinical practice. We look forward to receiving your valuable contributions to this exciting field at the intersection of engineering, biomechanics, and cardiovascular medicine.

#### **Guest Editor**

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## Deadline for manuscript submissions

31 March 2026



## Bioengineering

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Impact Factor 3.7 CiteScore 5.3 Indexed in PubMed



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#### Editor-in-Chief

Prof. Dr. Anthony Guiseppi-Elie Department of Biomedical Engineering, Texas A&M University, College Station, TX 77843, USA

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