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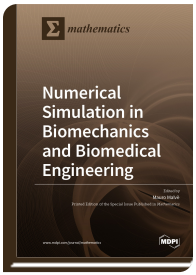
Special Issue Reprint

Numerical Simulation in Biomechanics and Biomedical Engineering



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In the first contribution, Morbiducci and co-workers discuss Lagrangian- and Euler methods for cardiovascular flows. The second study, by the Ansón and van Lenthe groups, proposes an automated virtual bench test for evaluating shoulder implants. Urdeitx and Doweidar, in the third paper, propose a computational model of cardiac cell behavior under mechano-electric stimulation. The fourth work offers a methodology for evaluating the cancer evolution. In the fifth paper, the group of Cueto and Chinesta designs a model for estimating the state of drivers. In the sixth contribution, the Ohayon and Finet group uses wall shear stress-derived indices to study the arterial flow in the presence of malapposed and overlapping stents. In the seventh work, the group of Antón provides a geometry-reduction strategy for truncated artery. In the eighth paper, Grasa and Calvo present a numerical model for simulating extraocular muscle dynamics. In the ninth paper, Kahla et al. presents a mathematical model for bone remodeling. In the tenth paper, the group of Martínez and Peña proposes a methodology to calibrate aortic dissection properties. In the eleventh contribution, Martínez-Bocanegra et al. present a numerical model of the human foot. The twelfth study provides a numerical model of a hydroxyapatite 3D printed bone scaffold. In the thirteenth paper, Talygin and Gorodkov model the swirling jet of the human heart. In the fourteenth work, Schenkel and Halliday propose a new non-Newtonian model for red blood cells. Finally, Zurita et al. develop a parametric numerical tool for designing a customized 3D printable tracheal prosthesis.

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