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Civil, Structural and Environmental Engineering Computing
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Special Session: CC-S10

**Computational Modeling in
Biomechanics and Bioengineering**

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Aims and scope of the special session:

Computational simulations in engineering, classically used in civil, mechanical and aeronautical engineering, are increasingly being used to understand the behavior of the human body, to design and compute the behavior of biocompatible artificial organs, and to understand the behavior of cells and other mechanobiological and biophysical processes. Computational simulations help in the understanding of the progress of aneurysms, in the design of artificial hearts and in the proposal of cancer therapies by taking into account the biophysical process in tissues and cells. The works in this mini-symposium address computational simulations in these topics, including, but not limited to, modeling of soft tissues, growth and remodeling, interactions of tissues and biological fluids, continuum and agent-based cell mechanics simulations, simulation of drug delivery, medical image segmentation and visualization. Machine learning procedures for these topics, including the extraction of model parameters from experimental data, are also of major interest.