Special Issue on
Computational Analysis of Cardiovascular Hemodynamics

Call for Papers

Computational method has appeared as an important tool for the prediction, diagnosis, and therapeutic methods of cardiovascular diseases with advances in mathematical methods, modeling technology, and computing power. Computational analysis of cardiovascular hemodynamics is for the interdisciplinary field of cardiac physiology, system engineering, fluid dynamics, and computer science, where physiologists, physicists, and computer scientists can publish their work.

In this special issue, all the areas of computational analysis of cardiovascular hemodynamics will be covered and this issue also aimed at enhancing the communication between experimental hemodynamics research and computational work. We particularly take an interest in manuscripts about development of new computing methods and their application to cardiovascular hemodynamics such as lumped model and computational fluid dynamics (CFD) for cardiovascular system. A review paper that summarizes the results of computational studies of specific cardiovascular diseases is also welcome. Potential topics include, but are not limited to:

- Lumped model of cardiovascular system
- CFD analysis of hemodynamics
- Multiscale model for cardiovascular system
- Cardiac excitation-contraction coupling mechanism related with hemodynamics
- Experimental studies and their interpretation with computational models

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