



ASME Journal of Computation and Nonlinear Dynamics

Special Issue on Nonlinear and Computational Dynamics in Biomedical Applications

Description

Dynamic modeling and analysis have broad relevance to many biological processes and biomedical applications, such as heart dynamics, DNA/RNA, cell mobility, surgical robotics, and so on. Various analytical and numerical techniques have been developed to qualitatively and quantitatively study dynamics associated with design, diagnosis, and control in these problems.

The main focus of this special issue is to promote the exchange of new ideas, methods (primarily analytical and numerical) and their use in studies of nonlinear phenomena, computational modeling, dynamic analysis, and control for clinical diagnosis, patient health monitoring, drug administration, and bio-signal assisted rehabilitation. Recent years have seen a significant increase in research activities in these areas within diverse specialties including mechanical, electrical, biomedical, and computational engineering. However, there is a lack of integrated approaches to biomedical research from a dynamical systems point of view. This special issue calls for latest innovative and integrated approaches to develop a deeper understanding of the dynamics of biological and biomedical systems using techniques from nonlinear dynamics and computational fields.

Topics of interest include but are not limited to the following:

- Cardiovascular Dynamics
- Nonlinear Dynamics in the Brain
- Nonlinear Biomedical Signal Processing
- Dynamics of Diseased Conditions
- Health Care Monitoring and Dynamics
- Dynamical Phenomena in Biomedical Systems
- Treatment through Dynamic Analysis and Control of Drug Administration

Important Dates

- Paper submission deadline: August 1, 2018
- Special Issue Publication Date (tentative): 4th Quarter, 2019

Submission Instructions

Papers should be submitted electronically to the Journal of Computational and Nonlinear Dynamics online at: <https://journaltool.asme.org/home/JournalDescriptions.cfm?JournalID=21&Journal=CND> If you already have an account, log in as author and select Submit Paper at the bottom of the page. If you do not have an account, select Submissions and follow the steps. In either case, at the Paper Submittal page, select the *Journal of Computational and Nonlinear Dynamics* and then select the special issue **Nonlinear and Computational Dynamics in Biomedical Applications**.

Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

All submitted papers will be peer-reviewed according to the usual standards of the journal, and the papers will be evaluated based on originality, quality, and relevance to this special issue and the journal. The submitted papers should be formatted according to the journal style as described on the journal homepage. Submitted papers must not have been published previously, nor be under consideration for publication elsewhere.

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