

Special Issue

Next-Generation Methods and Simulation Tools for Systems Biology

Message from the Guest Editor

Ever since Isaac Newton compiled the laws of motion, mathematical modeling and model-based simulations have always facilitated our understanding of natural phenomena. This concept has also been applied to biology, creating a field called Systems Biology.

Advances in data collection techniques such as next-generation sequencers and high-throughput imaging with microscopy have enabled advanced modeling in biology, i.e., spatial modeling and whole-cell modeling. Currently, new simulation and analysis methods for such models need to be proposed in order to reach deeper insights into natural phenomena. This Special Issue focuses on various methods (i.e., large-scale modeling, spatial modeling, image processing, and deep learning) to provide both fundamental and applied analytical methods and simulation tools to extract critical information from large amounts of data in the field of Systems Biology.

Guest Editor

Dr. Akira Funahashi

Department of Biosciences and Informatics, Faculty of Science and Technology, Keio University, 3-14-1 Hiyoshi Kouhoku-ku, Yokohama 223-8522, Japan

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
processes@mdpi.com

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Editor-in-Chief

Prof. Dr. Giancarlo Cravotto

Department of Drug Science and Technology, University of Turin, Via P. Giuria 9, 10125 Turin, Italy

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