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Next-Generation Methods and Simulation Tools for Systems Biology

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Message from the Guest Editor

Dear Colleagues,

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.



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