

Editorial

Special Issue on “Modeling and Analysis of Signal Transduction Networks” in the Journal *Processes*

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Biological pathways, such as signaling networks, are a key component of the biological systems of each living cell. In fact, malfunctions of signaling pathways are linked to a number of diseases, and components of signaling pathways are used as potential drug targets. Elucidating the dynamic behavior of the components of pathways and their interactions is one of the key research areas of systems biology.

Biological signaling networks are characterized by a large number of components and an even larger number of parameters describing the network. Furthermore, investigations of signaling networks are characterized by large uncertainties of the network as well as limited availability of data due to expensive and time-consuming experiments. As such, techniques derived from systems analysis, e.g., sensitivity analysis, experimental design and parameter estimation, are important tools for elucidating the mechanisms involved in signaling networks. This special issue contains papers that investigate a variety of different signaling networks via established as well as newly-developed modeling and analysis techniques.

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