

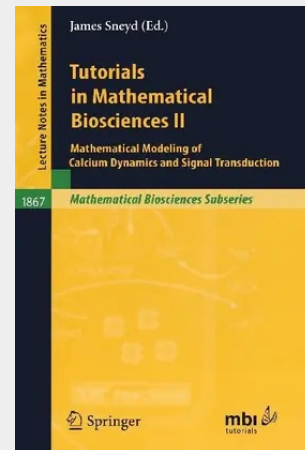
Tutorials in Mathematical Biosciences II

Mathematical Modeling of Calcium Dynamics and Signal Transduction

This book presents a series of models in the general area of cell physiology and signal transduction, with particular attention being paid to intracellular calcium dynamics, and the role played by calcium in a variety of cell types. Calcium plays a crucial role in cell physiology, and the study of its dynamics lends insight into many different cellular processes. In particular, calcium plays a central role in muscular contraction, olfactory transduction and synaptic communication, three of the topics to be addressed in detail in this book. In addition to the models, much of the underlying physiology is presented, so that readers may learn both the mathematics and the physiology, and see how the models are applied to specific biological questions.

It is intended primarily as a graduate text or a research reference. It will serve as a concise and up-to-date introduction to all those who wish to learn about the state of calcium dynamics modeling, and how such models are applied to physiological questions.

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