

FEEDBACK CONTROL IN SYSTEMS BIOLOGY

"... sets out the powerful engineering perspective on biological systems in all of its glory. **Comprehensive, thoughtful and accessible**, this is one of the best books in the field."

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"This is an excellent book which will be enjoyed by biologists and theoreticians alike. The authors skillfully combine **key concepts from control theory with real cases studies** in order to show how the theory can be used both to study and to gain insight into biological networks."

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"Cosentino and Bates address one of the great educational challenges for systems biology—namely, the inaccessibility of control theory to life scientists. As so many researchers have demonstrated, control theory has profound relevance for the study of biophysical systems, but Cosentino and Bates are **the first to address this topic in a self-contained manner** for the uninitiated. This book is an essential resource for life scientists interested in the principles of feedback control and nonlinear dynamics."

—**Prof. Frank Doyle**, Department of Chemical Engineering, University of California at Santa Barbara

"Systems biology is an inherently interdisciplinary endeavor, and Cosentino and Bates seamlessly interweave these perspectives into an engaging and comprehensive text that is equally accessible to biologists, computational scientists, and engineers. Through their detailed examination of case studies, the authors develop **a general conceptual framework for using quantitative analysis to better understand biological systems**. This book is an excellent introduction for researchers new to the field, and it provides compelling and contemporary content for engineering courses on dynamics and control."

—**Prof. Joshua Leonard**, Department of Chemical and Biological Engineering, Northwestern University



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