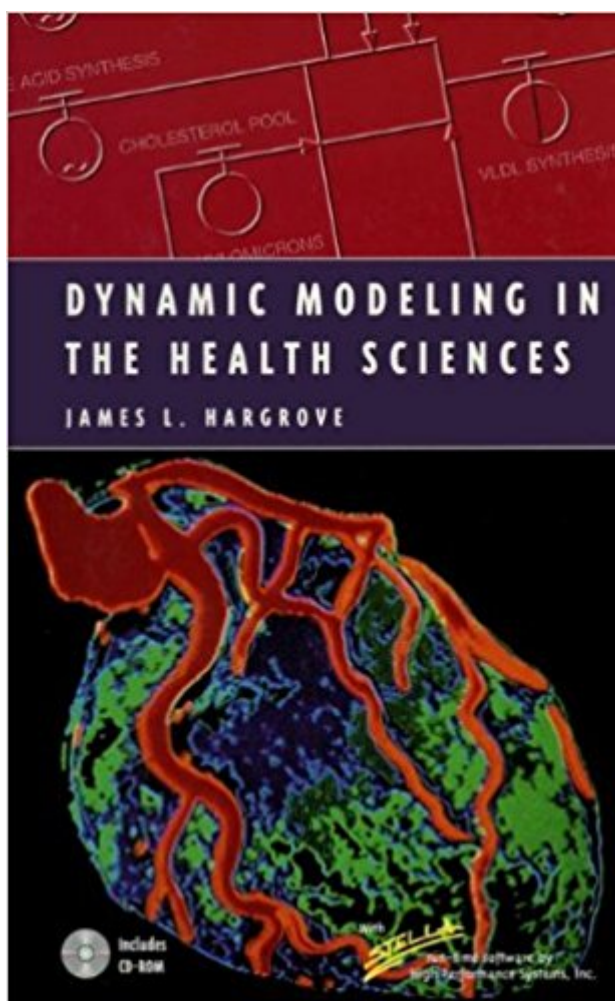


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# Dynamic Modeling In The Health Sciences (Modeling Dynamic Systems)



## Synopsis

This book and CD-ROM package integrates the use of STELLA software into the teaching of health, nutrition and physiology, and may be used on its own in nutrition and physiology courses, or can serve as a supplement to introduce the role that simulation modelling can play. The author presents key subjects ranging from the theory of metabolic control, through weight regulation to bone metabolism, and gives readers the tools to simulate these using the STELLA software. Topics include methods for simulation of gene expression, a multi-stage model of tumour development, theories of ageing, circadian rhythms and physiological time, as well as a model for managing weight loss and preventing obesity.

## Book Information

Series: Modeling Dynamic Systems

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Average Customer Review: 5.0 out of 5 stars 1 customer review

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## Customer Reviews

What a fantastic book! Allows a person in the biological sciences to do what has traditionally been done by engineers. Brings mathematical modeling to the biological sciences masses without the need of the higher math - the software does all that for you. Allows modeling to be done much like metabolic pathways are diagrammed. I first found this book 12 years ago and it set my schooling and career in a totally new direction. It introduced me to two things: quantitative biology through modeling and the STELLA modeling software. Using the STELLA software and this book as an introductory primer for undergraduate students coming into my research lab I have been able to show students that it is not enough to understand the metabolic pathways in order to understand the

physiology and biology of a dynamic system, you must also understand quantitatively the control mechanisms as well. This book with its accompanying software has been the perfect vehicle for students to self-explore and learn this - and then branch out and develop their own physiologically-based models. When students can create a physiologically-based description of a dynamic system in the body they have mastered it on a level not currently taught anywhere in any curriculum in this country.

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