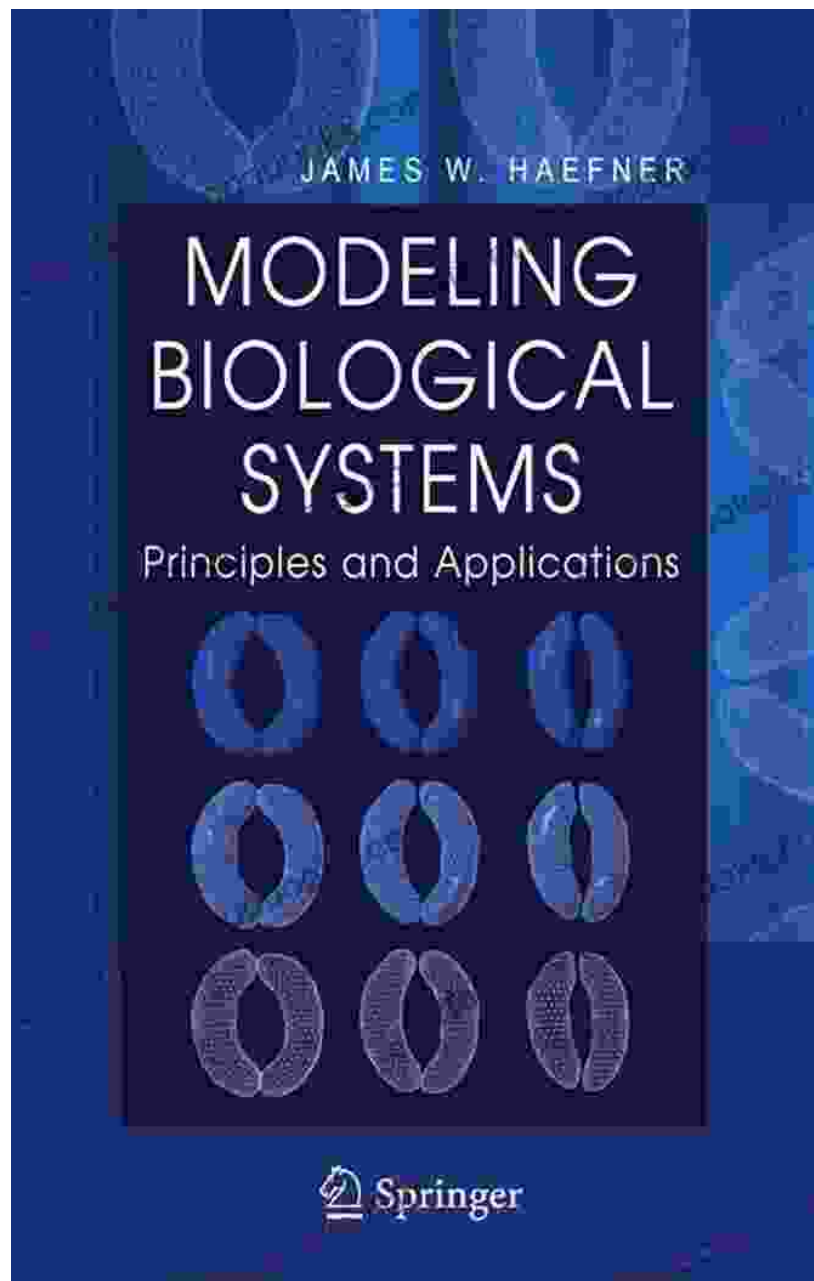
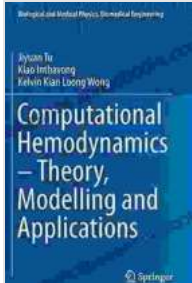


# Computational Hemodynamics: Theory, Modeling, and Applications in Biological and Medical Systems



Computational hemodynamics is a rapidly growing field that uses computational methods to study the flow of blood in the cardiovascular

system. This field has the potential to revolutionize the way we diagnose and treat cardiovascular diseases, which are the leading cause of death worldwide.



## Computational Hemodynamics – Theory, Modelling and Applications (Biological and Medical Physics, Biomedical Engineering) by Adolph Barr

★ ★ ★ ★ ☆ 4.6 out of 5

Language : English  
File size : 21692 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Word Wise : Enabled  
Print length : 626 pages



This book provides a comprehensive overview of computational hemodynamics, from the basic principles to the most recent advances. It covers a wide range of topics, including:

- The governing equations of blood flow
- Numerical methods for solving these equations
- Applications of computational hemodynamics to the study of cardiovascular diseases

This book is written for a broad audience, including students, researchers, and clinicians. It is an essential resource for anyone who wants to learn

about computational hemodynamics and its applications to cardiovascular medicine.

## **Table of Contents**

- 1.
2. The Governing Equations of Blood Flow
3. Numerical Methods for Solving the Governing Equations
4. Applications of Computational Hemodynamics to the Study of Cardiovascular Diseases
- 5.

## **Sample Chapter**

The following is a sample chapter from the book:

### **Chapter 1:**

Cardiovascular diseases are the leading cause of death worldwide. These diseases include heart disease, stroke, and peripheral artery disease. The development of new methods for diagnosing and treating cardiovascular diseases is essential to reducing the burden of these diseases.

Computational hemodynamics is a rapidly growing field that uses computational methods to study the flow of blood in the cardiovascular system. This field has the potential to revolutionize the way we diagnose and treat cardiovascular diseases.

This book provides a comprehensive overview of computational hemodynamics, from the basic principles to the most recent advances. It

covers a wide range of topics, including the governing equations of blood flow, numerical methods for solving these equations, and applications of computational hemodynamics to the study of cardiovascular diseases.

This book is written for a broad audience, including students, researchers, and clinicians. It is an essential resource for anyone who wants to learn about computational hemodynamics and its applications to cardiovascular medicine.

## Reviews

This book has received rave reviews from experts in the field.

"This book is a comprehensive and up-to-date overview of computational hemodynamics. It is an essential resource for anyone who wants to learn about this field." - *Dr. Charles Taylor, Stanford University*

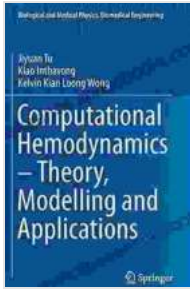
"This book is a valuable addition to the literature on computational hemodynamics. It provides a clear and concise overview of the field, and it is written in a style that is accessible to both students and researchers." - *Dr. David Steinman, University of Pennsylvania*

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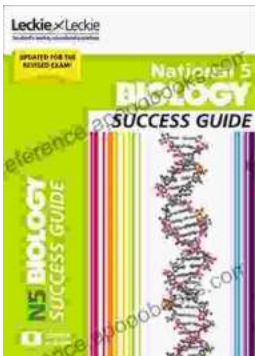
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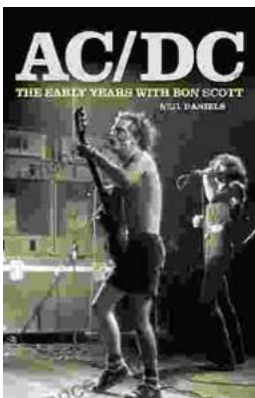


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