Biofluid Mechanics in Cardiovascular Systems (McGraw-Hill's Biomedical Engineering)

Lee Waite
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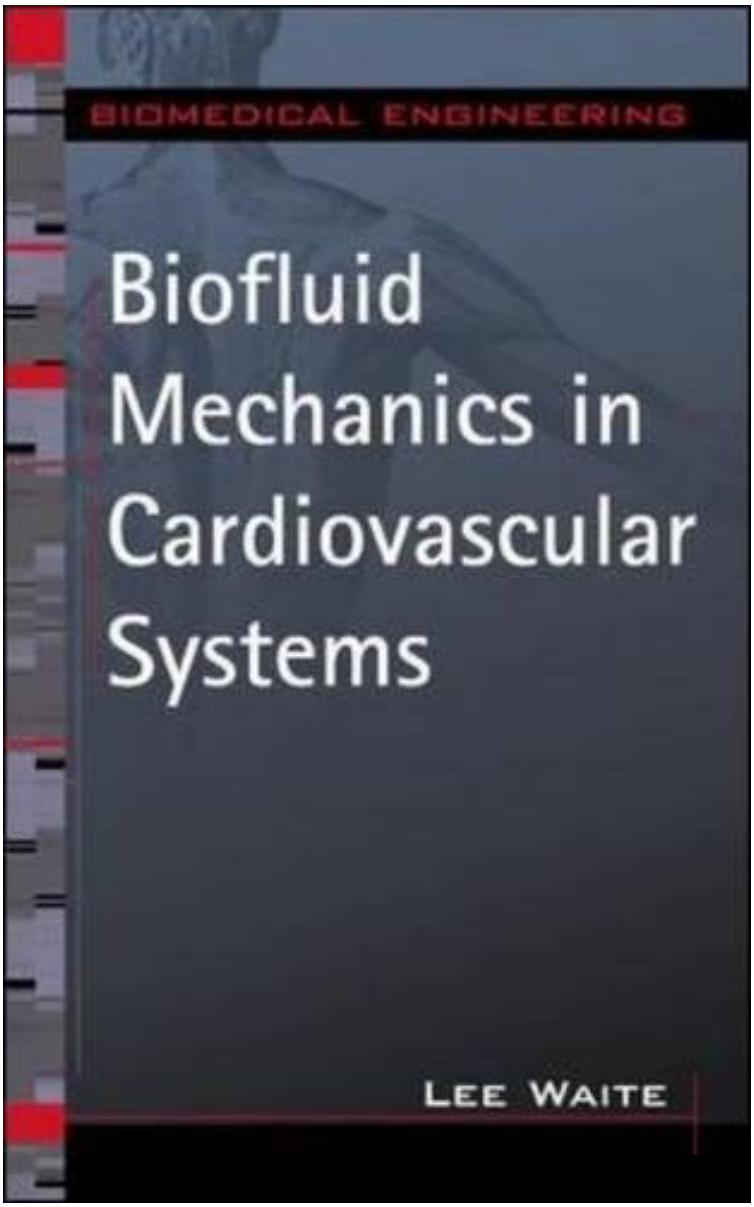

#3697205 in Books Lee Waite 2005-12-06Original language:EnglishPDF # 1 9.10 x .91 x 6.00l, .99 #File Name: 0071447881201 pagesBiofluid Mechanics in Cardiovascular Systems | File size: 54.Mb

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Biofliudics has gained in importance in recent years, forcing engineers to redefine mechanical engineering theories and apply them to biological functions. To date, no book has successfully done this. Biofliud Mechanics in Cardiovascular Systems is one of the first books to take an interdisciplinary approach to the subject. Written by a professor and researcher, this book will combine engineering principles with human biology to deliver a text specifically designed for biomedical engineering professionals and students.

From the Back CoverCutting-Edge Guide to the Understanding and Applications of Blood Flow Written by a distinguished professor and researcher, Biofluid Mechanics in Cardiovascular Systems is one of the first books to take an interdisciplinary approach to the subject. This unique resource combines engineering principles with cardiopulmonary anatomy and physiology to give biomedical engineers essential background for designing and implementing arterial grafts, anastomosis devices, and heart valves. Detailed coverage of mechanical engineering theories and their practical application to biological functions Presents an engineering analysis of the cardiovascular system relevant to the pathophysiology, diagnosis, prevention, and treatment of cardiovascular diseases Specifically designed for biomedical engineering professionals and students, it looks at the important area of biofluidics from an engineering perspective rather than a clinical one Explains the functional anatomy and physiology of the human heart Examines the pressure-flow relationship in arteries and the elastic properties of arterial walls Treats the application of imaging techniques on left ventricular dynamics Presents theoretical and experimental studies of pulsatile flow in large vessels INSIDE Biofluid Mechanics in Cardiovascular Systems * Introduction and review of basic fluids concepts * Cardiopulmonary anatomy and physiology * Hematology * Structure and physiology of blood vessels * Heart mechanics * Heart valve mechanics * Pulsatile flow in large arteries * Flow and pressure measurement * Dimensional analysis and modelingAbout the AuthorLee Waite is Chair of the Department of Applied Biology and Biomedical Engineering, and Director of the Guidant/Eli Lilly and Co. Applied Life Sciences Research Center, at the Rose-Hulman Institute of Technology in Terre Haute, Indiana. He is also the president of the Rocky Mountain Bioengineering Symposium (RMBS). Held annually since 1964, the RMBS is the longest continually operating biomedical engineering conference in North America.