Medical Devices: Surgical and Image-Guided Technologies

Martin Culjat, Rahul Singh, Hua Lee
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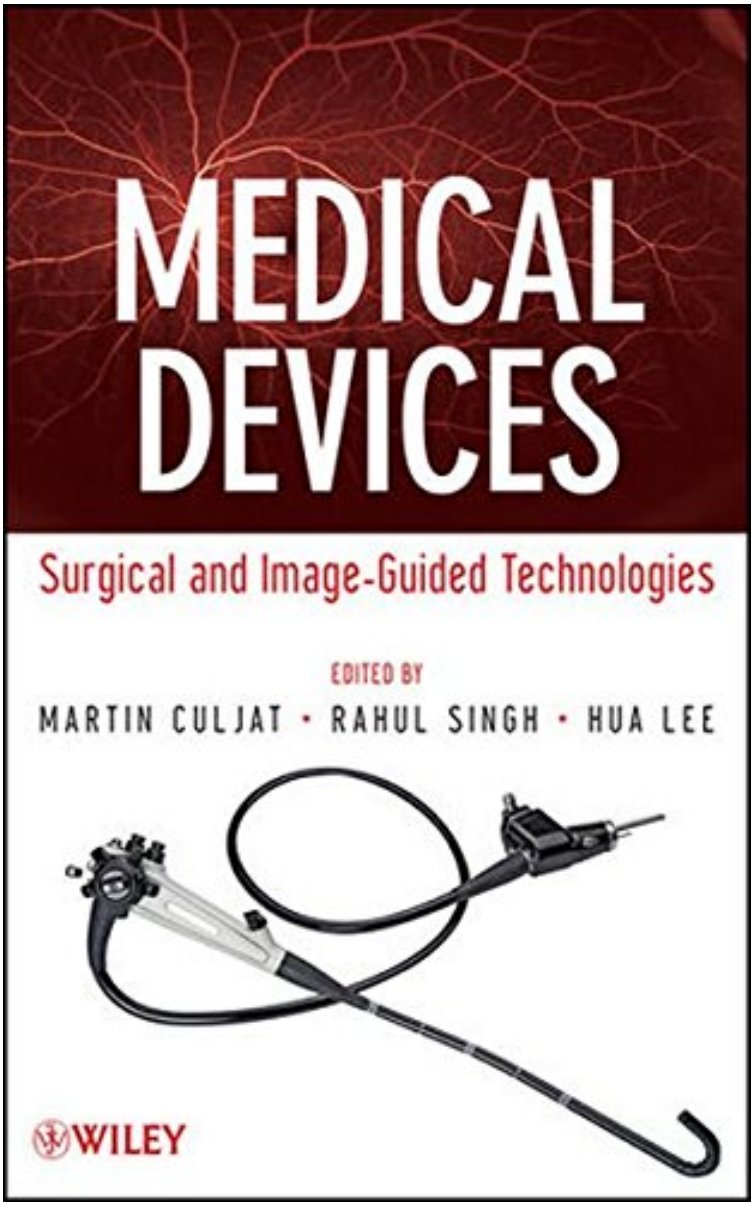

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DEVICES FOR ENRICHING MY BASIC KNOWLEDGE, FOR ME I FOUND IT VERY USEFUL2 of 2 people found the following review helpful. amazing detailBy kathleen m atilesI am reading this book almost cover to cover. A must read for pre-med students and medical device sales managers. This book leads you step by step through product development to FDA approval in the field of image guided devices.It is a great overveiw.

Addressing the exploding interest in bioengineering for healthcare applications, this book provides readers with detailed yet easy-to-understand guidance on biomedical device engineering. Written by prominent physicians and engineers, Medical Devices: Surgical and Image-Guided Technologies is organized into stand-alone chapters covering devices and systems in diagnostic, surgical, and implant procedures. Assuming only basic background in math and science, the authors clearly explain the fundamentals for different systems along with such topics as engineering considerations, therapeutic techniques and applications, future trends, and more. After describing how to manage a design project for medical devices, the book examines the following: Instruments for laparoscopic and ophthalmic surgery, plus surgical robotics Catheters in vascular therapy and energy-based hemostatic surgical devices Tissue ablation systems and the varied uses of lasers in medicine Vascular and cardiovascular devices, plus circulatory support devices Ultrasound transducers, X-ray imaging, and neuronavigation An absolute must for biomedical engineers, Medical Devices: Surgical and Image-Guided Technologies is also an invaluable guide for students in all engineering majors and pre-med programs interested in exploring this fascinating field.

From the Back CoverA comprehensive introduction to biomedical device engineering Addressing the exploding interest in bioengineering for healthcare applications, this book provides readers with detailed yet easy-to-understand guidance on biomedical device engineering. Written by prominent physicians and engineers, Medical Devices: Surgical and Image-Guided Technologies is organized into stand-alone chapters covering devices and systems in diagnostic, surgical, and implant procedures. Assuming only basic background in math and science, the authors clearly explain the fundamentals for different systems along with such topics as engineering considerations, therapeutic techniques and applications, future trends, and more. After describing how to manage a design project for medical devices, the book examines the following: Instruments for laparoscopic and ophthalmic surgery, plus surgical robotics Catheters in vascular therapy and energy-based hemostatic surgical devices Tissue ablation systems and the varied uses of lasers in medicine Vascular and cardiovascular devices, plus circulatory support devices Ultrasound transducers, X-ray imaging, and neuronavigation An absolute must for biomedical engineers, Medical Devices: Surgical and Image-Guided Technologies is also an invaluable guide for students in all engineering majors and pre-med programs interested in exploring this fascinating field.About the AuthorMARTIN CULJAT, PhD, is Adjunct Assistant Professor in the UCLA Departments of Bioengineering and Surgery and the Engineering Research Director of the UCLA Center for Advanced Surgical and Interventional Technology (CASIT), a research center that promotes collaboration between medicine and engineering. RAHUL SINGH, PhD, is Adjunct Assistant Professor in the UCLA Departments of Bioengineering and Surgery. He leads several collaborative research projects at the UCLA Center for Advanced Surgical and Interventional Technology (CASIT). HUA LEE, PhD, is Professor in the Department of Electrical and Computer Engineering at UC Santa Barbara. Well known for his pioneering research laboratory, Dr. Lee is also the author of three other books on imaging technology and engineering.