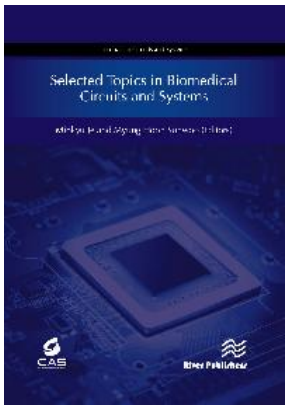

River Publishers Series in Circuits and Systems

Selected Topics in Biomedical Circuits and Systems

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Description:

Integrated circuits and microsystems play a vital role in a variety of biomedical applications including life-saving/changing miniature medical devices, surgical procedures with less invasiveness and morbidity, low-cost preventive healthcare solutions for daily life, solutions for effective chronic disease management, point-of-care diagnosis for early disease detection, high-throughput bio sequencing and drug screening and groundbreaking brain-machine interfaces based on a deep understanding of human intelligence. In response to such strong demands for biomedical circuits and systems, a considerable amount of effort has been devoted to the research and development in this area, both by industry and academia, over recent years.

This book, which belongs to the “Tutorials in Circuits and Systems” series, provides readers with an overview of new developments in the field of biomedical circuits and systems. It covers basic information about system-level and circuit-level requirements, operation principles, key factors of considerations, and design/implementation techniques, as well as recent advances in integrated circuits and microsystems for emerging biomedical applications.

Technical topics covered in this book include:

- Biomedical Microsystem Integration;
- Biomedical Sensor Interface Circuits;
- Neural Stimulation Circuits;
- Wireless Power Transfer Circuits for Biomedical Microsystems;
- Artificial Intelligence Processors for Biomedical Circuits and Systems;
- Neuro-Inspired Computing and Neuromorphic Processors for Biomedical Circuits and Systems.

This book is ideal for personnel in medical devices and biomedical engineering industries as well as academic staff and postgraduate/research students in biomedical circuits and systems.

Keywords: Biomedical circuits and systems, integrated circuits, microsystems, sensor interface, neural stimulation, wireless power transfer, artificial intelligence, neuro-inspired computing, neuromorphic processors