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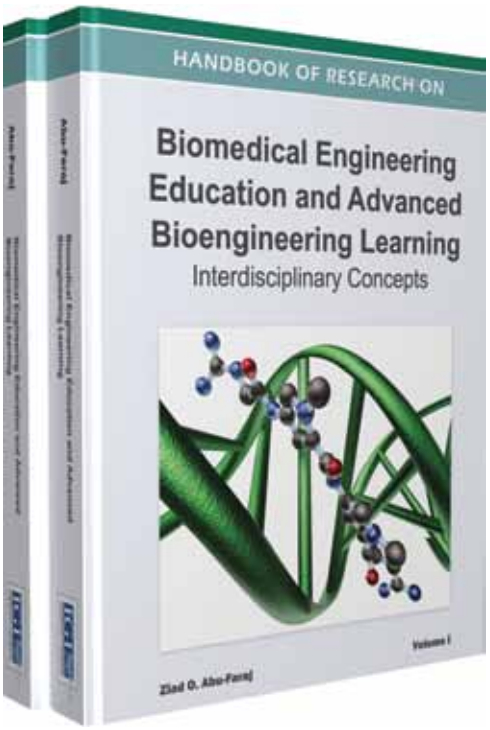
Handbook of Research on Biomedical Engineering Education and Advanced Bioengineering Learning: Interdisciplinary Concepts



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Bioengineering and Biomedical Engineering is one of the most advanced fields in science and technology worldwide. It has spurred advancements in medicine and biology.

The Handbook of Research on Biomedical Engineering Education and Advanced Bioengineering Learning: Interdisciplinary Concepts explores how healthcare practices have been steered toward emerging frontiers, including, among others, functional medical imaging, regenerative medicine, nanobiomedicine, enzyme engineering, and artificial sensory substitution. From comprehensive descriptions of state-of-the-art educational programs to a methodical treatment of the latest advancements, this two-volume handbook provides a solid point of reference necessary for establishing further research in this life-saving field.

Topics Covered:

- Artificial Organs
- Assistive Technology
- Biomedical Engineering Education
- Biomedical Ethics
- Biomaterials
- Biomechanics
- Biomedical Instrumentation
- Biomedical Sensors
- Bionanotechnology
- Biomedical Robotics
- Bioelectromagnetism
- Clinical Engineering
- Medical Informatics
- Bioinformatics
- Medical and Biological Analysis
- Medical Imaging
- Neural Engineering
- Physiological Systems Modeling, Simulation, and Control
- Prosthetic and Orthotic Devices
- Rehabilitation Engineering

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Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Ziad O. Abu-Faraj, Ph.D. received the B.E. degree in Electrical Engineering from the American University of Beirut-Lebanon in 1988. He obtained the M.S. and Ph.D. degrees in Biomedical Engineering from Marquette University-USA in 1991 and 1995. During 1995-1997, he served a Post-Doctorate Research Fellowship in Pediatric Motion Analysis at Shriners Hospital for Children-Chicago. He was employed by the US Department of Veterans Affairs at the Milwaukee Zablocki VA Medical Center: during 1990-1992 as Research Assistant in the Sensory Motor Laboratory, and 1993-1995 as Research Associate in the Department of Rehabilitation Medicine Service. In 1998, he was appointed as Lecturer in the Electrical and Computer Engineering Department at the American University of Beirut, and in 1999 as Adjunct Assistant Professor in the Computer Science Department at Notre Dame University-Lebanon. In 2002, he was contracted as Academic Expert in the Tempus III Education Program of the European Commission. In the same year, he joined the American University of Science & Technology-Lebanon as Assistant Professor and Founding Chair of a comprehensive premier regional program in Biomedical Engineering, and was promoted to Associate Professor in 2006. In 2010, Dr. Abu-Faraj received another appointment at AUST to Chair the Department of Computer & Communications Engineering. Dr. Abu-Faraj is a Charter Member of the Gait and Clinical Movement Analysis Society-USA, a Senior Member of the IEEE Engineering in Medicine and Biology Society-USA, and a Member of the Order of Engineers and Architects-Lebanon. Dr. Abu-Faraj has written over 50 peer-reviewed research articles in vast areas of Biomedical Engineering. His research interests are in Bioengineering/Biomedical Engineering Education; Orthopedic Biomechanics: Human Movement Analysis, Postural Stability, Measurement of Human Performance; Rehabilitation Engineering; Biomedical Instrumentation and Control: Portable Microprocessor-Based Data Acquisition Systems, Biosensors, and Biocontrol Systems; and Biomedical Computing: Biosignals and Systems, Biostatistical Analysis, and Modeling of Physiological Systems. Patient Populations: Cerebral Palsy, Spinal Cord Injury, Muscular Dystrophy, Poliomyelitis, Idiopathic Scoliosis, and Diabetes Mellitus. He is also interested in the impact of mobile technologies and social media networks on the social, economic, and political aspects of modern societies.

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