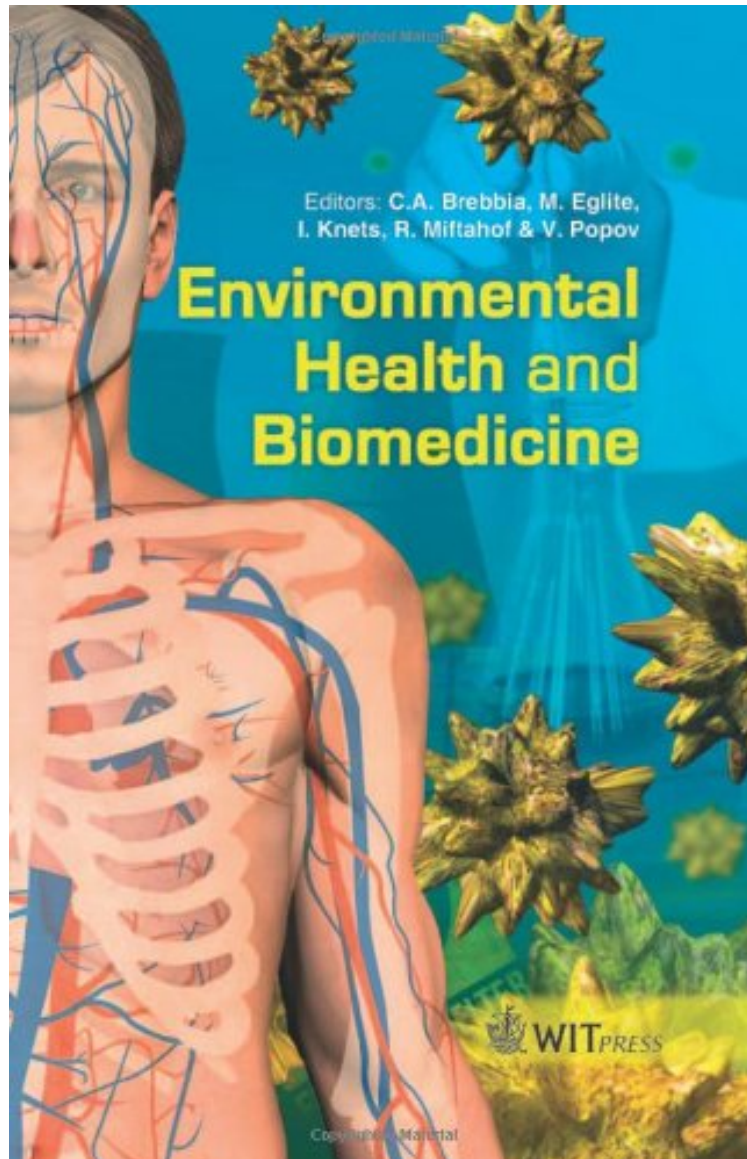


Environmental Health and Biomedicine (Wit Transactions on Biomedicine and Health)

C. A Brebbia

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C. A Brebbia : Environmental Health and Biomedicine (Wit Transactions on Biomedicine and Health) before purchasing it in order to gage whether or not it would be worth my time, and all praised Environmental Health and Biomedicine (Wit Transactions on Biomedicine and Health):

Environmental Health and Biomedicine contains most of the papers presented at a meeting held in Riga, Latvia on two important topics--the study and modeling of Environmental Health Risk and Biomedical problems. While some of the sessions specifically focused on one of these two streams of the meeting, there were several joint sessions of common interest. The interdisciplinary nature of the material from the conference will contribute to a better understanding of the health problems facing our society and how they can be solved using modern technology. There is a common view that the progress of human civilization can be measured by progress in science, urbanization, and the ability of agriculture, industry, and transportation to provide the means for a more comfortable life. This is understandable and there is a worldwide trend toward urbanization because of the advantages that life in cities offers. However, often the closer one is to a city, the greater is the risk to health, because of air pollution, radiation fields, noise, traffic, and other environmental contaminants, and many other factors. There is now a growing awareness of the negative effects of technological development on the environment and on human health. One of the highest current priorities of society is to develop more sustainable approaches to growth, with less detrimental impacts. The field of environmental health is defined by the problems faced and by the specific approaches used. These problems include, among many others, the treatment and disposal of liquid and airborne wastes, the elimination or reduction of stresses in the workplace, purification of water supplies, the impacts of overpopulation and inadequate or unsafe food supplies, and the development and use of measures to protect the population from being infected with a variety of diseases. Related topics included in the first part of the book deal with sessions on environmental problems such as air and water contamination; health effects associated with buildings, toxicology, and disease studies. Of special interest are the papers on food safety and occupational hazards. The contributions also include presentations of research on risk prevention and monitoring. The second part of the book deals with the development of computational tools for the solution of medical and biological problems. The use of mathematical ideas, models and techniques throughout the biosciences is rapidly growing and is gaining prominence. The field of computational biology developed from the need to integrate multicomponent biological systems and establish missing functional links among them. Applied mathematicians and bioengineers working alongside bioscientists can provide a quantitative description of intricate processes at the subcellular, cellular and tissue levels and integrate them in 'viable' models. Such models uphold gnostic properties, offer an invaluable insight into hidden and experimentally inaccessible mechanisms of organ function, and allow the researcher to capture the essence of dynamic interactions within it. Studies are presented on the solution of physiological processes and the very important case of the simulation of cardiovascular systems. One of the most successful areas of bioengineering has been biomechanics and orthopedics, which are topics studied in several of the papers contained in the volume. The book ends with a section on data acquisition and analysis.