

Preface

The main aim of the *International Conference on Computational and Experimental Biomedical Sciences (ICCEBS)* is to solidify knowledge in the fields of bioengineering and biomedical engineering. The use of more robust, affordable and efficient techniques and technologies with application in biomedical sciences is presently a subject of huge interest and demand, and this conference is intended to be a privileged discussion forum to define their key stakeholders. The aim of *ICCEBS* is to bring together researchers from around the world representing several scientific fields related to biomedical sciences, including engineering, medicine, biomechanics, bioengineering, biomaterials, experimental mechanics, computer sciences, computational mathematics, hardware developers and manufactures, electronic and instrumentation and materials science.

This book contains the full papers presented at *ICCEBS 2013–1st International Conference on Computational and Experimental Biomedical Sciences*, which was organized in Azores, in October 2013. *ICCEBS 2013* brought together researchers representing several fields, such as biomaterials, biomechanics, engineering, medicine, mathematics, medical imaging, orthopaedics, rehabilitation and statistic. The included works present and discuss new trends in those fields, using several methods and techniques, including active shape models, constitutive models, isogeometric elements, genetic algorithms, level sets, material models, neural networks, optimization and the finite element method, in order to address more efficiently different and timely applications involving biofluids, computer simulation, computational biomechanics, image-based diagnosis, image processing and analysis, image segmentation, image registration, scaffolds, simulation and surgical planning.

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João Manuel R.S. Tavares
R.M. Natal Jorge

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Tavares, J.M.R.S.; Natal Jorge, R.M. (Eds.)

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