

Computational Biomechanics for Medicine

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Editors

Computational Biomechanics for Medicine

From Algorithms to Models and Applications

 Springer

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Preface

Extending the success of computational mechanics to fields outside traditional engineering, in particular to biology, the biomedical sciences, and medicine, has been recognised as one of the greatest challenges facing the computational engineering and computational mechanics communities. While advancements are being made towards clinically relevant computational biomechanics models and simulations, there is still much work ahead before personalised medicine underpinned by personalised computer simulations becomes a part of healthcare.

The first volume in the Computational Biomechanics for Medicine book series has been published in 2010. Since then, the book has become an annual forum for specialists in computational sciences to describe their latest results and discuss the possibility of applying their techniques to computer-integrated medicine. This eighth volume in the Computational Biomechanics for Medicine book series comprises 14 of the latest developments in solid biomechanics, vascular biomechanics, multi-level modelling and brain biomechanics, from researchers in Australia, New Zealand, China, Belgium, France, Germany, Greece, Poland, Sweden, United Kingdom and the USA. Some of the topics discussed are as follows:

- Tailored computational models
- Traumatic brain injury
- Soft tissue damage
- Soft tissue mechanics
- Medical image analysis
- Disease mechanisms and progression
- Clinically relevant simulations

The Computational Biomechanics for Medicine book series does not only provide the community with a snapshot of the latest state of the art, but more

importantly, when computational biomechanics and patient-specific modelling are a mainstay of personalised healthcare, it will serve as a key reminder of how the field has overcome one of its greatest challenges.

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Auckland, New Zealand
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