

Nano and Cell Mechanics

Fundamentals and Frontiers

Edited by

HORACIO D. ESPINOSA | *Northwestern University, USA*

GANG BAO | *Georgia Institute of Technology, USA*

Research in nano and cell mechanics has received much attention from the scientific community as a result of society needs and government initiatives to accelerate developments in materials, manufacturing, electronics, medicine and healthcare, energy, and the environment. Engineers and scientists are currently engaging in increasingly complex scientific problems that require interdisciplinary approaches. In this regard, studies in this field draw from fundamentals in atomistic scale phenomena, biology, statistical and continuum mechanics, and multiscale modeling and experimentation. As a result, contributions in these areas are spread over a large number of specialized journals, which prompted the Editors to assemble this book.

Nano and Cell Mechanics: Fundamentals and Frontiers brings together many of the new developments in the field for the first time, and covers fundamentals and frontiers in mechanics to accelerate developments in nano- and bio-technologies.

Key features:

- ▶ Provides an overview of recent advances in nano and cell mechanics
- ▶ Covers experimental, analytical, and computational tools used to investigate biological and nanoscale phenomena
- ▶ Covers fundamentals and frontiers in mechanics to accelerate developments in nano- and bio-technologies
- ▶ Presents multiscale-multiphysics modeling and experimentation techniques
- ▶ Examines applications in materials, manufacturing, electronics, medicine and healthcare

Nano and Cell Mechanics: Fundamentals and Frontiers is written by internationally recognized experts in theoretical and applied mechanics, applied physics, chemistry, and biology. It is an invaluable reference for graduate students of nano- and bio-technologies, researchers in academia and industry who are working in nano and cell mechanics, and practitioners who are interested in learning about the latest analysis tools. The book can also serve as a text for graduate courses in theoretical and applied mechanics, mechanical engineering, materials science, and applied physics.



Also available
as an e-book

Cover design: Cylinder

 **WILEY**
wiley.com

ISBN 978-1-118-46039-9



9 781118 460399