Contents

Functional Adaptation of Bone: The Mechanostat and Beyond ........ 1
Peter Pivonka, Aaron Park and Mark R. Forwood

Application of Disease System Analysis to Osteoporosis:
From Temporal to Spatio-Temporal Assessment of Disease
Progression and Intervention ........................................... 61
Silvia Trichilo and Peter Pivonka

Musculoskeletal Modelling and the Physiome Project ............... 123
Justin Fernandez, Ju Zhang, Vickie Shim, Jacob T. Munro,
Massimo Sartori, Thor Besier, David G. Lloyd,
David P. Nickerson and Peter Hunter

Review of “Universal” Rules Governing Bone Composition,
Organization, and Elasticity Across Organizational Hierarchies .... 175
Viktoria Vass, Claire Morin, Stefan Scheiner and Christian Hellmich

Computational Biomechanics of Bone Adaptation by Remodeling .... 231
Taiji Adachi and Yoshitaka Kameo

Biology of Bone and the Interaction of Bone with Other Organ
Systems .......................................................... 259
David M. Findlay
Multiscale Mechanobiology of Bone Remodeling and Adaptation
Pivonka, P. (Ed.)
2018, XII, 287 p. 98 illus., Hardcover
ISBN: 978-3-319-58843-8