

CONTENTS

Preface	ix
Chapter 1: Physical Mechanisms of Soft Tissues Rheological Properties <i>Yoram Lanir</i>	1
Chapter 2: Biomechanics of an Isolated Single Stress Fiber <i>Masaaki Sato and Shinji Deguchi</i>	13
Chapter 3: The Origin of Pre-Stress in Biological Tissues — A Mechano-Electrochemical Model: A Tribute to Professor Y.C. Fung <i>Leo Q. Wan, X. Edward Guo and Van C. Mow</i>	21
Chapter 4: How Blood Flow Shapes Neointima <i>Shu Q. Liu and Y. C. Fung</i>	31
Chapter 5: Illuminating a Path: Role of Biomechanics in Understanding Adaptive Remodeling in the Microcirculation <i>Thomas C. Skalak</i>	47
Chapter 6: Computational Simulations of the Buckling of Oval and Tapered Arteries <i>Avione Northcutt, Parag Datir and Hai-Chao Han</i>	53
Chapter 7: Role of Structural and Signaling Molecules in Cardiac Mechanotransduction <i>Anna M. Raskin, Andrew D. McCulloch and Jeffrey H. Omens</i>	65
Chapter 8: A Novel Hemodynamic Analysis of Echocardiogram <i>Tin-Kan Hung</i>	81
Chapter 9: <i>In Vitro</i> Biomechanical Studies in Aging Human Lungs <i>Shervin Majd and Michael Yen</i>	91

Chapter 10: Modeling the Oxygen Uptake in Pulmonary Alveolar Capillaries <i>Cheng-Jen Chuong</i>	103
Chapter 11: Two Bioengineering Solutions for a Pulmonary Circulation <i>John B. West</i>	117
Chapter 12: Fluid Flow Induced Calcium Response in Bone Cell Network <i>Bo Huo, Xin L. Lu and X. Edward Guo</i>	127
Chapter 13: Analysis of the Models for Cytoskeletal Rheology <i>Roger D. Kamm, Taeyoon Kim and Wonmuk Hwang</i>	143
Chapter 14: Y. C. Fung and the Biomechanics of Hearing <i>Rong Zhu Gan</i>	153
Chapter 15: A Model for a Class of Diffusion-Based Intercellular Communication <i>Sia Nemat-Nasser and Alireza V. Amirkhizi</i>	167
Chapter 16: Stem Cells, Biomechanics, and Y. C. Fung <i>Taby Ahsan, Adele M. Doyle and Robert M. Nerem</i>	185
Chapter 17: Of Mice and Men And a China Connection <i>Don P. Giddens, Jin Suo, W. Robert Taylor, Habib Samady and John Oshinski</i>	193
Chapter 18: Multi-Patient FSI Studies for Atherosclerotic Carotid Plaque Progression Based on Serial Magnetic Resonance Imaging <i>Dalin Tang, Chun Yang, Gador Canton, Chun Yuan and Thomas S. Hatsukami</i>	203
Chapter 19: Current Status on Countermeasures for Intradialytic Hypotension <i>J. S. Lee</i>	219
Chapter 20: Pressure Ulcer, Pressure and Flow Motion <i>Zhenyong Li, Eric W. C. Tam and Arthur F. T. Mak</i>	231

- Chapter 21:** Correlation of Whole Blood Viscosity with Real-Time Microvascular Abnormalities in Type-1 Diabetes Mellitus (T1DM) Patients 243
Anthony Tze-Wai Cheung
- Chapter 22:** Y. C. Fung and Biomechanics: From Organs-Systems to Molecules-Genes 257
Shu Chien
- Chapter 23:** Tribute to a Friend and a Master 279
Ted Wu
- Chapter 24:** Tribute to Professor and Mrs. Yuan-Cheng Fung on Professor Fung's 90th Birthday 281
Pin Tong
- Chapter 25:** Tribute 293
Arnost Fronek and Kitty Fronek
- Chapter 26:** Forever Grateful 295
Peter Chen
- Chapter 27:** Tribute to Y. C. Fung, with Fondness, Admiration and Appreciation 299
Sheldon Weinbaum
- Chapter 28:** Dr. Y. C. Fung: My Respected Mentor and Cherished Friend 301
Savio L.-Y. Woo
- Chapter 29:** A Tribute to Professor Yuan-Cheng Fung on His 90th Birthday 317
G. W. Schmid-Schönbein
- Chapter 30:** Tribute to a Wonderful Man 323
Peter Hunter
- Chapter 31:** A Renaissance Man: Dr. Y. C. Fung 327
Lilly Li-Rong Cheng

Chapter 32: Tribute to a Most Respected Teacher <i>Ruijuan Xiu</i>	333
Chapter 33: Y. C. “Bert” Fung: A Master <i>Ghassan S. Kassab</i>	335
Chapter 34: Tribute to a Friend and Colleague <i>John Watson</i>	337
Chapter 35: A Tribute to Dr. Yuan-Cheng B. Fung <i>Jason X.-J. Yuan and Ayako Makino</i>	339
Chapter 36: Three Degrees of Separation <i>Darryl D’Lima</i>	343
Chapter 37: An Uninterrupted Diary <i>Conrad Fung and Brenda Fung</i>	347