

Physical Chemistry for the Biosciences

RAYMOND CHANG

WILLIAMS COLLEGE

"Raymond Chang has flawlessly condensed the fundamental concepts of physical chemistry clearly and concisely into a one-semester text, giving insightful illustrations that make intuitive sense to the reader. This text applies concepts in a way that will positively impact how physical chemistry is taught to students in the biological sciences."

—*Raymond Esquerra*, San Francisco State University

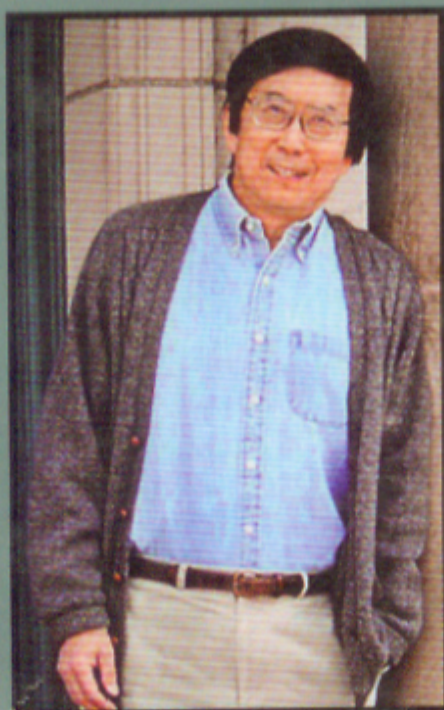
"Having read the text closely, I am most impressed by the enormous effort Raymond Chang has made in producing a very user-friendly text and the pains to which he has gone to explain all concepts as clearly as possible."

—*Keith Orrell*, University of Exeter

"In his new text, Chang clearly explains the fundamental principles of physical chemistry with an emphasis on biological systems. The mathematical derivations and examples are straightforward and easy to follow for undergraduate students."

—*Gary A. Lorigan*, Miami University

Famous for his clear writing and careful pedagogy, Chang's newest text is intended for use in a one-semester introductory course in physical chemistry for students of the biosciences. The author emphasizes the understanding of physical concepts rather than focussing on precise mathematical development or on actual experimental details. Only basic skills of differential and integral calculus are required to understand the equations. The extensive array of end-of chapter problems have both physiochemical and biological applications, and a detailed *Solutions Manual* is available.



NICHOLAS WHITMAN

About the Author:

Raymond Chang was born in Hong Kong and grew up in Shanghai and Hong Kong, China. He received his B.Sc. degree in chemistry from London University, England and his Ph.D. in physical chemistry from Yale University. After doing postdoctoral research at Washington University and teaching for a year at Hunter College of the City University of New York, he joined the chemistry department at Williams College. Chang is an editor of *The Chemical Educator* and is the author of books on general chemistry and spectroscopy, as well as an internationally best-selling text for a one year physical chemistry course.



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About the cover:

The image on the cover shows water molecules as they move through the bovine aquaporin single file. A histidine residue protruding into the pore ensures that molecules larger than water cannot enter. Peter Agre shared the Nobel prize in Chemistry in 2003 for this work. (Image courtesy of Bing Jap.)

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