

Advance Praise for Membrane Structural Biology:

'...a remarkable job of synthesizing an incredible amount of up-to-date information. The book will be extremely useful to research scientists, graduate students, and even undergraduates interested in understanding how biological membranes function.'

—HIROSHI NIKAIDO, University of California, Berkeley

'...a well-balanced, thorough, and up-to-date treatment...This timely and beautifully illustrated book should become a standard reference text.'

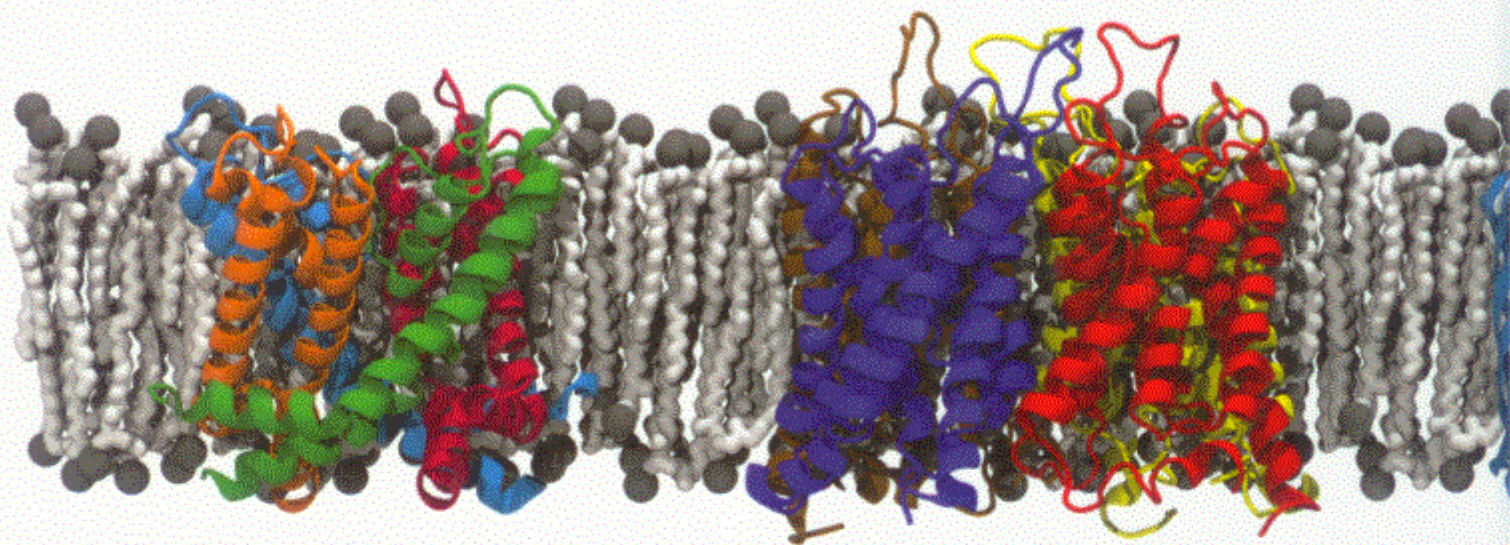
—CHUCK SANDERS, Vanderbilt University and Associate Editor of Biochemistry

'Luckey's book succeeds...in providing both the advanced student and the researcher in the field with an integrated picture, combining the results of earlier studies with current advances at the cutting edge of research.'

—JÜRGEN ROSENBUSCH, Biozentrum, University of Basel

'...should be on the shelf of any scientist whose research might involve biological membranes...For those of us who work with membranes, the book will be a well-thumbed source of information.'

—LINDA RANDALL, University of Missouri



Membrane Structural Biology is a comprehensive text on biological membranes that integrates data from biochemistry, biophysics, and structural biology to examine membrane components and properties. Contents include:

- the varied tools of current membrane research, including detergents and model systems, bioinformatics, protein folding methodology, crystallography and diffraction analysis, and computational simulations;
- historical and up-to-date information on membrane functions;
- the role of lipid diversity for general membrane properties as well as importance of lipids in specific functions;
- high-resolution structures of membrane proteins that provide insights to their mechanisms of action and to their molecular families;
- impacts of membrane research on human health, and themes for future research.

Mary Luckey is a professor in the Department of Chemistry and Biochemistry at San Francisco State University. Her research has focused on structure, function, and biogenesis of the Escherichia coli maltoporin. She has taught biochemistry and membrane biochemistry for more than twenty-five years.

Cover design by David Levy

COVER IMAGE: Shown are five membrane channels and transporters [with their respective substrates] against a lipid bilayer in the background. The channels are, from left to right, the pore domain of the potassium channel Kv1.2, a tetramer of aquaporins, the bacterial B12 outer membrane transporter BtuB, the Ca²⁺ ATPase, and the mechanosensitive channel MscS. © J.C. Gumbart and D. Brandon, University of Illinois

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