

## SERIES IN BIOPHYSICS

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**The Series in Biophysics contains monographs and graduate textbooks in all areas of biophysics including bioenergetics, computational biophysics and bioinformatics, modelling, cell biophysics, molecular biophysics including nucleic acids, proteins and supramolecular assemblies, electrophysiology, neurophysiology, membranes, tissue properties, soft condensed matter, photobiophysics, spectroscopy and imaging techniques**

This book is about proteins: but their biology and chemistry are completely ignored; instead the emphasis is on understanding their basic shape (or fold). Structural principles of protein folding are reviewed and analysed from a geometric perspective, with the aim of revealing the underlying regularities in their construction and how the current variety of protein structures came about. Computer methods for geometrical structure analysis and the automatic comparison and classification of these structures are considered. The topics covered range from basic introductions to protein structure and some geometrical methods (such as distance geometry), to more detailed descriptions of research topics, including many open problems.

The work is aimed at readers from the physical sciences and each topic is explained from first principles with an emphasis on basic concepts rather than applications. Despite this, little technical or mathematical knowledge is required and the methods should be easily accessible to readers with a more biological background. While the book would be suitable as a source of projects for undergraduate courses, it is primarily aimed at students on post-graduate courses (MSc, MRes, PhD) and researchers involved in investigation of protein structures.

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