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# Principles of Protein–Protein Association

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# Preface

This volume originated from lectures I have been giving to graduate students. The students are mostly first and second year graduate students from the Duke University Program in Cell and Molecular Biology. I presume only a basic knowledge of biochemistry. I highly recommend that students review basic principles of protein structure prior to the course. Excellent sources are the texts: *Molecular Biology of the Cell*, by Alberts *et al*, chapter 3, 'Proteins'; or *Cell Biology* by Pollard and Earnshaw, chapter 2 'Molecular Structures.'

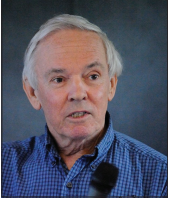
I also highly recommend that students download a protein structure viewer and use it to image on their own computer the structures displayed in the figures. Recommended viewers are Chimera, Pymol and KING.

In recent years the course has comprised six sessions of 80 minutes each, where I present background material and then lead discussion of the assigned papers. The chapters included here have evolved from my notes for these class sessions. These notes may be useful for faculty organizing similar classes, and/or for self-instruction of students and researchers who find a need to understand principles of protein-protein association.

# Author biography

## Harold P Erickson

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Harold P Erickson received his PhD in Biophysics from Johns Hopkins University and did postdoctoral work in Cambridge, England. He joined the faculty at Duke University Medical Center in 1971, and is currently James B. Duke Professor in the Departments of Cell Biology, Biochemistry and Biomedical Engineering. His research has spanned two broad areas of cell biology: cytoskeleton (microtubules and the bacterial tubulin homolog, FtsZ); and extracellular matrix (fibrinogen, tenascin and fibronectin). He has contributed to several areas of electron microscopy (image processing, negative stain and rotary shadowing) and has theoretical work on the thermodynamics of cooperative assembly and diffusion-limited kinetics of protein–protein association.