Structural Proteomics and Its Impact on the Life Sciences

The first book to provide such a comprehensive coverage of a rapidly evolving field

The role played by structural proteomics in the first decade of the 21st century is equivalent to that played by the Human Genome Project in the last decade of the 20th century. The development of high-throughput technologies that permit the solution of hundreds of 3D structures of individual proteins, protein–protein complexes and protein–drug complexes, just by one laboratory in a single year, will provide a knowledge base which will change the face of structural biology. This will have an immediate influence on medicinal chemistry and molecular pharmacology, as well as an increasing impact on such disciplines as neurobiology, developmental biology, immunology and molecular medicine.

This book presents a state-of-the-art overview of the structural proteomics field, ranging from policy issues related to funding and goals, through the high-throughput procedures for protein production, to the solution of the structures of proteins and higher-order entities, via a multidisciplinary approach involving molecular biology, X-ray crystallography, NMR and electron microscopy, as well as bioinformatics analysis.