Structure-Based Study of Viral Replication

This book addresses the innovative themes in characterizing the cellular membrane platforms and intracellular networking, as well as the architectural aspects of cell compartments mediated by the entry and replication cycles of viruses.

The instrumentation of modern molecular and cellular biology provides a potent array of wave packets to image, detect and manipulate major dynamics of macromolecular and subviral assemblies as in the host cellular context.

The book includes case studies presented with highly coherent and structured illuminations, including microscopy, spectroscopy and scanning probes. The compilation and integration of the methodology provides time-resolved observations on the reactivity of structures from near-atomic resolution to various molecular or cellular levels of descriptors. The book provides a broad introduction to the various fascinating virus systems and may be used as an advanced textbook by graduate students in biomedicine. It provides adequate background material to explore further the research problems of epidemics in the 21st century.