

# Preface

Currently, there is no single source that permits comparison of the factors, elements, enzymes and/or mechanisms employed by different classes of viruses for genome replication. As a result, we (and our students) often restrict our focus to our particular system, missing out on the opportunity to define unifying themes in viral genome replication or benefit from the advances in other systems. For example, extraordinary biological and experimental paradigms that have been established over the past 5 years for the DNA replication systems of bacteriophage T4 will likely be of great value to anyone interested in studying a replisome from any virus. These studies could easily go unnoticed by animal RNA and DNA virologists. It is our hope that this monograph will cross-fertilize and invigorate the field, as well as encourage students into this area of research.

The monograph has been divided into eight parts. Chapters appearing in Parts I–VI are intended to compare and contrast the replication and/or transcription processes and corresponding “players” of the indicated family of viruses. We are interested in the sequence of events that lead to production of mRNA and progeny genomes as well as the *cis*-acting elements and *trans*-acting factors and enzymes (viral and cellular) that are required for these processes. Chapters appearing in Part VII are intended to provide a more biochemical and biophysical perspective of the replication and/or transcription process. Chapters appearing in Part VIII are intended to provide a practical perspective on viral replication and its inhibition.

Viral Genome Replication

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