

## Special Issue

# New Discoveries in Virus–Cytoskeleton Regulation

### Message from the Guest Editor

Viruses employ diverse strategies to bypass cytoskeletal barriers—such as actin filaments (AFs), intermediate filaments (IFs), and microtubules (MTs)—to complete their lifecycle. By manipulating cytoskeletal organization and dynamics through adaptor proteins, molecular motors, and viral accessory factors, they facilitate viral entry, intracellular transport, and virion release. Initial infection often involves viral proteins binding to host receptors, inducing cytoskeletal modelling to form fusion pores or membrane invaginations for entry. Following internalization, viral capsids hijack cytoskeletal transport systems, guided by host adaptors, motors, and viral components, to reach specific organelles or the nucleus. In later stages, viruses alter cytoskeletal dynamics to establish viral replication factories and direct progeny transport to the cell periphery for assembly, budding, and maturation. This Special Issue seeks to compile research elucidating how viruses exploit cytoskeletal networks during infection, with a focus on mechanisms driving pathogenesis, highlighting potential therapeutic strategies to disrupt viral infection cycles.

### Guest Editor

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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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