Special Issue

Plant–Virus Interactions: From Molecular Mechanisms to Crop Protection

Message from the Guest Editor

Plant–virus interactions are central to plant pathology, influencing crop health and productivity. Understanding these interactions—from molecular mechanisms to practical applications—is essential for developing effective crop protection strategies. Recent trends in crop protection highlight the importance of advanced technologies. CRISPR/Cas systems are utilized for precise genome editing, enabling the development of virus-resistant crops by targeting viral genomes or plant genes essential for viral replication. RNA-based approaches, such as double-stranded RNA (dsRNA) and small interfering RNA (siRNA) technologies, offer non-transgenic methods to silence viral genes, enhancing plant immunity. Additionally, next-generation sequencing (NGS) technologies, including third-generation platforms like MinION Nanopore, facilitate the rapid and accurate identification of viral pathogens, aiding in early detection and management. This Special Issue invites contributions that explore the molecular mechanisms underlying plant–virus interactions and innovative crop protection strategies.

Guest Editor

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Message from the Editor-in-Chief

The worldwide impact of infectious disease is incalculable. The consequences for human health in terms of morbidity and mortality are obvious and vast but, when infections of animals and plants are also taken into account, it is hard to imagine any other disease that has such a significant impact on our lives—on healthcare systems, on agriculture and on world economics. *Pathogens* is proud to continue to serve the international community by publishing high quality studies that further our understanding of infection and have meaningful consequences for disease intervention.

Editor-in-Chief

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