

Special Issue

Modeling the Unholy Trinity of Pandemics: Viral Infection, Immunity, and Virus Transmission

Message from the Guest Editors

COVID-19 demonstrated the significant impact that viral infections can have on our society. While infected-cases forecasting was of major interest during the pandemic, epidemic models neglected to incorporate three major components: host–pathogen dynamics, the respective immunity, and the potential to be transmitted to other hosts. This Special Issue aims to advance our holistic understanding of these three lines; while it is mainly focused on innovative mathematical modeling ideas and in vivo experiments of SARS-CoV-2, papers covering any other viruses that enable us to advance our holistic knowledge of these three components are very welcome.

Dr. Julia Boehme

Guest Editors

Dr. Esteban A. Hernandez-Vargas

Department of Mathematics and Statistical Science, University of Idaho, Moscow, ID, USA

Dr. Jason Shoemaker

1. Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA, USA

2. Department of Computational & Systems Biology, University of Pittsburgh, Pittsburgh, PA, USA

Deadline for manuscript submissions

closed (31 May 2024)



Viruses

an Open Access Journal
by MDPI

Impact Factor 3.5
CiteScore 7.7
Indexed in PubMed



mdpi.com/si/148138

Viruses
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
viruses@mdpi.com

mdpi.com/journal/

[viruses](https://mdpi.com/journal/viruses)





Viruses

an Open Access Journal
by MDPI

Impact Factor 3.5
CiteScore 7.7
Indexed in PubMed



[mdpi.com/journal/
viruses](https://mdpi.com/journal/viruses)



About the Journal

Message from the Editor-in-Chief

Viruses (ISSN 1999-4915) is an open access journal which provides an advanced forum for studies of viruses. It publishes reviews, regular research papers, communications, conference reports and short notes. Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. The full experimental details must be provided so that the results can be reproduced. We also encourage the publication of timely reviews and commentaries on topics of interest to the virology community and feature highlights from the virology literature in the 'News and Views' section.

Electronic files or software regarding the full details of the calculation and experimental procedure, if unable to be published in a normal way, can be deposited as supplementary material.

Editor-in-Chief

Dr. Eric O. Freed

HIV Dynamics and Replication Program, Center for Cancer Research,
National Cancer Institute, Frederick, MD 21702-1201, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Embase, PubAg, and other databases.

Journal Rank:

JCR - Q2 (Virology) / CiteScore - Q1 (Virology/Infectious Diseases)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.6 days after submission; acceptance to publication is undertaken in 2.5 days (median values for papers published in this journal in the first half of 2025).