

# Special Issue

## Mathematical Modelling of Infectious Diseases: Integrating Multi-Scale Dynamics

### Message from the Guest Editor

This Special Issue focuses on cutting-edge mathematical and computational techniques for modeling infectious diseases, with an emphasis on integrating multi-scale dynamics and time-delay effects. The interplay between processes occurring at different biological and ecological scales, from the cellular level to entire populations, presents complex challenges in understanding disease transmission and progression. Multi-scale dynamics will allow researchers to incorporate various levels of interaction within disease models, ranging from individual behavioral patterns to large-scale population trends. By addressing these different scales, researchers can more accurately simulate how local events influence broader epidemiological patterns. This Special Issue invites original research articles, reviews, and case studies that bridge the gap between theory and practice, fostering collaboration among mathematicians, biologists, epidemiologists, and public health experts.

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### Guest Editor

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### Deadline for manuscript submissions

closed (31 March 2026)



## Mathematics

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## About the Journal

### Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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### Editor-in-Chief

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