

Special Issue

Advances in Epidemiological and Biological Systems Modeling

Message from the Guest Editor

This special issue explores the application of differential equations in modeling and controlling infectious diseases. Topics include advancements in epidemiological models (e.g., SIR, SEIR), spatial dispersal, heterogeneous mixing, agent-based models, and stochastic effects. We welcome studies addressing real-world challenges like healthcare resource limitations and vaccination strategies, as well as models incorporating environmental and socioeconomic factors. Special focus is given to disease resurgence, stability analysis, bifurcation, delay differential equations, and optimal control. Expected submissions include original research articles, review articles, case studies, simulation studies, as well as perspectives and commentaries.

Guest Editor

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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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).