

Special Issue

Advances in Nonlinear Elliptic and Parabolic Equations

Message from the Guest Editor

The classical Keller–Segel model describes chemotaxis, where cells move towards higher concentrations of a chemical signal. Recent studies have focused on models with nonlinear diffusion and cross-diffusion rates dependent on population density. To address challenges from nonlinear terms, a proper Lyapunov function and a designed Moser iteration, which delays the time variable, are used. This approach can also apply to attraction-repulsion and haptotaxis systems. Additionally, the exploration of the connection between boundary geometry and regularity across various parabolic equations, including linear, p-Laplace, and fractional Laplace equations, highlights the interplay between mathematical theory and real-world applications, demonstrating diverse boundary behaviors.

Guest Editor

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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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