

Special Issue

Emergent Structures and Asymptotic Analysis from Local Dynamics of Discrete Models

Message from the Guest Editors

Discrete dynamical systems provide a powerful framework for understanding how complex global behavior can emerge from simple local interactions. Models such as cellular automata, discrete nonlinear equations, and evolving networks exhibit rich asymptotic structures, including patterns, critical transitions, and fractal geometries. Analyzing these phenomena requires advanced mathematical analytical methods that exploit the inherently discrete nature of these models. This Special Issue particularly focuses on the fractal structures, scaling behavior, and self-similarity commonly found in these discrete models. Topics include (but are not limited to) the following:

- Fractal and self-similar structures;
- Emergent structures and asymptotic analysis in discrete models;
- Cellular automata and complex pattern formation;
- Analytical methods for discrete nonlinear equations;
- Percolation theory and critical behavior in discrete systems;
- Network dynamics and complexity;
- Discrete integrable systems and exact mathematical frameworks;
- Nonlinear discrete systems and applications in physics;
- Computational modelling of complex discrete phenomena.

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About the Journal

Message from the Editor-in-Chief

Fractal and Fractional (*Fractal Fract.*) is a scholarly online journal which provides a forum for discussion on new original models and methods in fractals and fractional calculus both from theory and applications. It is a peer-reviewed, open access journal that publishes high quality original research articles, review papers and short communications.

Editor-in-Chief

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