

## Special Issue

# Stability and Bifurcation in Discrete Dynamical Systems: Application to Population Dynamics

### Message from the Guest Editor

This Special Issue focuses on the study of stability and bifurcation in discrete dynamical systems, with a particular emphasis on their applications to population dynamics since stability and bifurcation are key concepts for understanding how biological populations respond to environmental changes, species interactions, and other dynamic factors. Additionally, this Special Issue aims to explore the symmetric and asymmetric properties of autonomous or nonautonomous population models, with or without evolutionary dynamics. Research areas may include the following:

- Mathematical modeling of populations (development of discrete models to describe population dynamics and local and global stability analysis of equilibrium points or periodic orbits);
- Bifurcation (analysis of bifurcations in population models and their impact on dynamic behavior and classification of bifurcation types and their implications for population stability);
- Symmetric and asymmetric properties (study of symmetric and asymmetric dynamics in population models, exploration of how symmetry and asymmetry influence stability and bifurcation, and how these factors affect population dynamics).

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### Guest Editor

Prof. Dr. Rafael Luís

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## Symmetry

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### Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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### Editor-in-Chief

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