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# Symmetric Methods and Analysis for Differential and Integral Equations

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Deadline for manuscript submissions:
**30 June 2024**

## Message from the Guest Editors

Dear Colleagues,

Differential and integral equations are widely used to model many natural phenomena in different scientific fields. The evolution of the solutions can be well learned by certain high-performance numerical methods. Well-designed and high-performance numerical methods can considerably reduce the computational costs of long-term simulations of real-world problems. They can also perform better in the prediction of mathematical models. Therefore, it is very important to develop effective numerical schemes as well as their rigorous numerical analysis.

In light of the aforementioned regarding the significance of numerical schemes and analysis, the potential topics for this issue include but are not limited to the following:

- The construction of effective numerical methods for solving differential and integral equations;
- The convergence analysis of symmetric numerical schemes;
- The stability analysis of symmetric numerical schemes;
- The dissipativity of symmetric numerical methods;
- Iterative algorithms and their application.

Symmetric and structure-preserving numerical methods for differential and integral equations.

mdpi.com/si/130393

Special Issue

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## Editor-in-Chief

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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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