Special Issue

Recent Advances in Theoretical and Numerical Analysis for Fractional and Integral Differential Equations

Message from the Guest Editors

Fractional differential equations and integral differential equations have attracted a great amount of attention in recent years. They widely appear in applied mathematics, physics, biology, chemistry and other disciplines. The typical models include sub-diffusion equations, diffusion-wave equations, space-fractional differential equations, and so on. It is usually difficult to obtain analytical solutions, due to the integral terms in the models. Fortunately, the evolution of differential equations can be well described by using some well-designed and high-order numerical schemes. Therefore, it has become a hot topic to numerically solve and analyze the equations. The potential topics include, but are not limited to, the following:

- New theoretical results for fractional differential equations and integral differential equations;
- New numerical methods for solving fractional differential equations;
- New numerical methods for solving integral differential equations;
- New numerical methods for solving non-local problems;
- Numerical analysis of the numerical methods;
- Application of fractional differential equations.

Guest Editors

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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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