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Numerical Methods for Solving Fractional Differential Problems

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Message from the Guest Editors

Dear Colleagues,

In recent decades, fractional calculus increased its popularity due to the awareness that many physical problems, such as viscoelasticity, Brownian motions, and so on, need fractional derivatives to be modeled. For some problems, there are analytical solutions. These are expressed through the Mittag Leffer function, which is a series expansion and thus needs to be computed with numerical tools. For this reason and for the other unsolved problems, the literature has identified many ways to numerically solve fractional differential problems. Many methods use finite difference for the integer derivative and the quadrature rule for the fractional one. Others use spectral or Galerkin methods. In this Special Issue, of particular interest are the following subtopics:

- Fractional ordinary differential equations (FODE)
- Fractional partial derivative equations (FPDE)
- Collocation methods
- Galerkin methods
- Spectral methods
- Convergence analysis
- Fractional B-splines

Dr. Laura Pezza
Guest Editor

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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.

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