

APPLICATION OF FRACTIONAL CALCULUS: MATHEMATICAL MODELING AND CONTROL

GUEST EDITORS

Salah Boulaaras (lead Guest Editor), Qassim University, Saudi Arabia

Rashid Jan, University of Swabi, Swabi, KPK Pakistan

DESCRIPTION

Recent advancement of science and technology increased the importance of fractional theory due to its numerous applications in different area of science and technology. Fractional calculus has received a lot of attention in recent decades and produced more reliable, flexible, efficient and excellent outcomes. Fractional calculus' footprints may be found in a variety of fields, including mathematical biology, cell biology, chaos, econometrics, kinetic reactions, control, computational biology, elasticity many other areas of science and technology. As a result, fractional equations have been frequently used to study certain strange, unresolved problems in engineering and science.

It is eminent that fractional calculus allows us to tackle a variety of difficulties, including non-integer dimensional problems, scale-dependent concerns, nonlinear processes, and so on. As a result, new developments in fractional calculus theory and applications are an important research area that should be researched, and new methodologies should be created and examined in this regard. The goal of this special issue is to report on recent advancements and development in fractional calculus from both theoretical and practical perspectives, as a result of the debate above. This special issue of [Demonstratio Mathematica](#) covers all aspects of fractional calculus, both theoretical and experimental, as well as their applications. Submission topics may include, but are not limited to:

- Application of fractional calculus
- Fractional dynamical systems
- Mathematical epidemiology
- Numerical methods for fractional systems
- Fractional control systems
- Stability theory in fractional systems
- Chaos and bifurcation in fractional systems
- Computational analysis in fractional systems

The authors are requested to submit their full research papers complying with the general scope of the journal. The submitted papers will undergo peer-review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

HOW TO SUBMIT

Before submission authors should carefully read the [Instruction for Authors](#).

Manuscripts can be written in TeX, LaTeX (strongly recommended). Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. **For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.** Authors are strongly advised to submit the final version of the paper using the journal's [LATEX template](#).

All submissions to the Special Issue must be made electronically via [online submission system](#) Editorial Manager and will undergo the standard peer-review process (single blind, at least two independent reviewers). When entering your submission choose the section/category "*Special Issue on Application of Fractional Calculus: Mathematical Modeling and Control*".

Submission of a manuscript implies that the work described has not been published before and it is not under consideration for publication elsewhere.

The deadline for submissions is 31st October 2022, but individual papers will be reviewed and published online on an ongoing basis.

Contributors to the Special Issue will benefit from:

- indexation in **Web of Science Core Collection** (currently *Emerging Sources Citation Index*, but beginning with JCR 2022 in *Science Citation Index Expanded* with IF), **SCOPUS**, **zbMATH**, **MathSciNet**
- comprehensive and transparent peer review provided by experts in the field
- no space constraints
- publication soon after the acceptance (**continuous publication model**)
- better visibility due to **Open Access**
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We are looking forward to your submission!

In case of any questions please contact **Dr. Justyna Żuk**, Managing Editor of Demonstratio Mathematica, Justyna.Zuk@degruyter.com.