



## Fractional-Order Circuit Theory and Applications

Guest Editors:

**Prof. Dr. Costas Psychalinos**

**Prof. Dr. Ahmed Radwan**

**Prof. Dr. Blas M. Vinagre**

**Dr. Karabi Biswas**

Deadline for manuscript  
submissions:

**closed (31 January 2022)**

### Message from the Guest Editors

The focus of this Special Issue is on the recent advances of these applications. The topics of interest include (but are not limited to):

- Analog and digital realization of fractional-order operators
- Approximations of the fractional-order derivatives and their applications in circuit design
- Circuit implementation, analysis, and fabrication of fractional-order components
- Fractional calculus models in physics, electrochemistry, and fluid mechanics
- Fractional-order control and its applications
- Fractional-order chaotic systems and their implementation
- Fractional-order bioimpedance models and biomedical circuits
- Fractional-order mem-elements, modeling and applications
- Fractional-order models for energy storage devices and systems
- Fractional-order circuits for machine learning
- Fractional-order nonlinear circuits and systems





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Carlo Cattani**  
Engineering School (DEIM),  
University of Tuscia, Largo  
dell'Università, 01100 Viterbo,  
Italy

## 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.

## Author Benefits

**Open Access:** free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

**High Visibility:** indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [Inspec](#), and [other databases](#).

**Journal Rank:** JCR - Q1 (Mathematics, Interdisciplinary Applications) / CiteScore - Q1 (Analysis)

## Contact Us

---

*Fractal and Fractional* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/fractalfract](http://mdpi.com/journal/fractalfract)  
[fractalfract@mdpi.com](mailto:fractalfract@mdpi.com)  
[X@Fractal\\_Fract](https://twitter.com/Fractal_Fract)