Special Issue

Advances in Fractional-Order Embedded Systems

Message from the Guest Editors

One of the many advantages of fractional-order calculus, over its integer-order counterpart, is the possibility of more accurate mathematical modeling. This feature is essential in real-life applications. The field of fractional-order embedded systems comprises a class of electronics that incorporate concepts from fractional calculus into their modeling and design. These concepts, which focus on non-integer-order differentiation (and/or integration) mathematical operations, are being explored across many fields of science and engineering, such as chaotic oscillators, filters, cryptography, communications, bioengineering, control systems, robotics, energy storage devices (e.g., super-capacitors, batteries), wireless power transfer, and image processing. The present Special Issue aims to collect original research papers and surveys with meaningful contributions on topics relating to the theory, design, implementation, and application of fractionalorder circuit theory in embedded systems.

Guest Editors

Dr. Maria S. Papadopoulou Department of Information and Electronic Engineering, International Hellenic University, Thessaloniki, Greece

Dr. Christos Volos

Laboratory of Nonlinear Systems, Circuits & Coplexity (LaNSCom), Department of Physics, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece

Deadline for manuscript submissions

closed (30 June 2023)



an Open Access Journal by MDPI

Impact Factor 3.3 CiteScore 6.0



mdpi.com/si/133536

Fractal and Fractional Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 fractalfract@mdpi.com

mdpi.com/journal/ fractalfract



Fractal and Fractional

an Open Access Journal by MDPI

Impact Factor 3.3 CiteScore 6.0





About the Journal

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 peerreviewed, open access journal that publishes high quality original research articles, review papers and short communications.

Editor-in-Chief

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

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

Journal Rank:

JCR - Q1 (Mathematics, Interdisciplinary Applications) / CiteScore - Q1 (Analysis)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).