Nonlinear Dynamics, Chaos and Complex Systems

Guest Editor:

Prof. Dr. José Roberto Castilho Piqueira
Polytechnic School, University of São Paulo, São Paulo 05508-010, SP, Brazil

Deadline for manuscript submissions:
30 November 2024

Message from the Guest Editor

Dear Colleagues,

Talking about dynamics is often challenging because it has gained importance in understanding natural phenomena through differential equations proposed by Newton and Leibniz at the start of the 17th century.

Considering the broader development of engineering and physics during the 18th and 19th centuries, continuous fluid mechanics and electromagnetism were characterized by partial derivative equations with rigorous mathematical formulations, proposed by Navier, Stokes, and Maxwell.

At the start of the 20th century, Poincaré formulated the three-bodies problem, wherein initial proximity of the bodies could lead to divergence due to nonlinearities.

Connecting this idea with the turbulence phenomenon, Ruelle and Takens proposed that nonlinearities and high state space dimensions would be responsible for this intriguing nature manifestation.

Nowadays, chaos, initial condition sensitivity, noise due to nonlinearities, unpredictability, and complexity appear in all science studies; nonlinear dynamics is ubiquitous.

This Special Issue welcomes the inclusion of various approaches and study areas.

Special Issue

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and
Informatics, De Montfort
University, The Gateway,
Leicester LE1 9BH, UK

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.

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), RePEc, and other databases.
Journal Rank: JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Contact Us