# **Special Issue**

## Advances in the Analysis and Control of Nonlinear Dynamical Systems and Complex Phenomena

## Message from the Guest Editors

The study and analysis of nonlinear dynamical systems is of high relevance in a vast area of science and engineering, due to its capacity to model complex phenomena in the real world. This Special Issue is dedicated to advances in the analysis and control of such systems, addressing both their theoretical foundations and practical applications. It includes contributions on nonlinear control techniques, mathematical modeling, complex network theory, machine learning strategies for dynamic systems, and control and prediction in nonlinear dynamical systems, such as weather patterns, biological systems, and power grids. Equally important, contributions exploring the emergence of complex phenomena-such as synchronization, bifurcations, and chaos-with the goal of enhancing control strategies and system design are also welcome. We consider this Special Issue a valuable opportunity to showcase and discuss innovative advancements in the analysis and control of nonlinear systems and complex dynamical phenomena, fostering collaboration and knowledge exchange among researchers in the field.

## **Guest Editors**

### Dr. Gualberto Solís-Perales

Deptartamento de Electrónica, Centro Universitarios de Ciencias Exactas e Ingenierías, Universidad de Guadalajara, Guadalajara 44430, Mexico

### Dr. Adriana Aguilera-González

ESTIA Institute of Technology, University of Bordeaux, F-64210 Bidart, France

## Deadline for manuscript submissions

24 December 2025



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## 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.

## Editor-in-Chief

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

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