Special Issue

Delay Differential Equations: Theory, Control and Applications

Message from the Guest Editors

This Special Issue seeks to advance DDE research by bridging theoretical rigor and practical applications. Theoretical explorations may address stability criteria, bifurcation analysis, and numerical methods for approaching DDEs with state-dependent delays. Control-oriented studies could propose novel predictor-based feedback laws, adaptive control frameworks, or machine learning-driven delay compensation techniques. Applied research should demonstrate DDEs' ability to model real-world systems, such as physiological regulatory networks, power grids with delayed feedback, or economic models with investment lags. We particularly encourage interdisciplinary submissions integrating DDEs with soft computing paradigms, e.g., using fuzzy logic for uncertain delays, granular computing for complex dynamics, or evolutionary algorithms for parameter estimation. Topics of interest include the stability of DDEs, optimal control under communication delays, deep learning architectures for delay identification, and the application of DDE-based models in epidemiology or finance.

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About the Journal

Message from the Editor-in-Chief

Axioms is dedicated to the foundations (structure and axiomatic basis, in particular) of mathematical theories, not only from a crisp or strictly classical sense, but also from a fuzzy and generalized sense. This includes the more innovative current scientific trends, devoted to discover and solve new challenging problems. The prime goal of *Axioms* is to publish first-class, original research articles under an open access policy with minimal fees for the authors. We would be pleased to welcome you as one of our authors.

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