

Special Issue

Fuzzy Logic and Explainable AI in Mathematical Decision- Making

Message from the Guest Editors

This Special Issue encourages both theoretical and applied research in multidisciplinary contexts where decision-making plays a central role, such as business, healthcare, physics, engineering, education, and environmental sciences. We request contributions that support a human-centered, explainable, and mathematically based approach to intelligent systems. By combining accuracy with interpretability, we will foster predictive and explainable models that enhance strategic decision-making, placing critical thinking and human judgment at the core of responsible and transparent AI-driven decisions. We welcome theoretical, methodological, and applied research contributions on topics such as the following:

- Fuzzy systems and uncertainty modeling;
- AHP and multi-criteria optimization;
- XAI techniques (e.g., SHAP, LIME, PDP, ICE, ELI5);
- Hybrid and interpretable mathematical models;
- Applications in physics, engineering, healthcare, environmental science, and education;
- Integration of simulation and data modeling with interpretability;
- Case studies based on the FAS-XAI framework.

Guest Editors

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Prof. Dr. Gabriel Marín Díaz
Dr. Diego Rubén Rodríguez

Deadline for manuscript submissions

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About the Journal

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.

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Author Benefits

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Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).