Special Issue

Mathematical Approaches to Advancements in Mechanics and Virtual Engineering

Message from the Guest Editor

We are inviting submissions to this Special Issue. In recent decades, mathematical approximation procedures such as Finite Element Analysis or the Boundary Element Method continue to evolve with more complex and accurate simulations. Research into structural mechanics involves optimizing the design of materials and structures for various applications, including aerospace, civil engineering, and manufacturing. Topics include mathematical methods used in advanced materials, composite structures, or non-destructive testing methods. Integrating mathematics with mechanical engineering, electronics, and computer science has led to exciting developments in mechatronics and robotics. These developments involves improving realism as well as interactions and integration with engineering software. Specific topics of interest for publication include but are not limited to:

- Finite Element Analysis and Simulation
- Structural Mechanics
- Mechatronics and Robotics
- Additive Manufacturing (3D Printing)
- Virtual Reality and Augmented Reality
- Digital Twin Technology
- Machine Learning and Artificial Intelligence
- Human–Machine Interaction
- Bioengineering and Biomechanics

Guest Editor

Prof. Dr. Maria Luminița Scutaru

Department of Mechanical Engineering, Transilvania University of Brașov, B-dul Eroilor 20, 500036 Brașov, Romania

Deadline for manuscript submissions

closed (31 July 2024)

MDPI

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.

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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).