Special Issue

Advanced Numerical Methods in Computational Solid Mechanics

Message from the Guest Editors

Efficient numerical solving of nonlinear solid mechanics problems is still a challenging issue which concerns various fields: nonlinear behavior, micromechanics, contact mechanics, damage, cracks propagation, rupture, etc. Numerical methods dedicated to such topics have been developed for many decades, but many fundamental and important challenges remain. In particular, multiscale methods which bridge different scales in time and space, efficient reduced-order models for variational inequalities or fully scalable nonlinear solvers, to name but a few. For this Special Issue, we seek contributions which introduce or adapt advanced numerical methods for computational mechanics. Topics of interest include, but are not limited to, the following: adaptive mesh refinement, domain decomposition method, multiscale approaches for heterogeneous materials, reduced order modeling, efficient nonlinear solvers, parallel computing, contact mechanics, and crack initiation and/or propagation.

Guest Editors

Dr. Isabelle Ramiere

CEA, DES, IRESNE, DEC, SESC, F-13108 Saint-Paul-lez-Durance, France

Prof. Dr. Frédéric C. Lebon

CNRS, Laboratoire de Mécanique et d'Acoustique, Université Aix-Marseille, 13007 Marseille, France

Deadline for manuscript submissions

closed (31 October 2022)

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/si/76032

Mathematics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mathematics@mdpi.com

mdpi.com/journal/mathematics

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/journal/mathematics

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

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

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).

MDPI