Special Issue

Feature Papers of Computational Modelling and Simulation for Fatigue and Fracture of Engineering Materials and Structures

Message from the Guest Editors

Computational modelling and simulation have become essential tools in understanding and predicting the behaviour of materials and structures under fatigue and fracture conditions. This Special Issue aims to collect reference papers on, but not limited to, the following topics of interest:

- Advanced computational methods for fatigue and fracture analysis (e.g., phase-field techniques; peridynamics; meshless; crystal plasticity);
- Multi-scale modelling and simulation of fatigue and fracture;
- Damage mechanics and failure analysis of engineering materials and structures;
- Probabilistic modelling and reliability analysis of fatigue and fracture;
- Experimental validation of computational models and simulations;
- Applications of computational modelling and simulation in the design and optimization of engineering structures;
- Modelling of fatigue crack initiation and propagation and multiaxial fatigue;
- Modelling of advanced materials;
- Modelling of corrosion-assisted fatigue and fracture (e.g., H2 embrittlement);
- Surrogate modelling (e.g., data-driven models, ANNs).

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Deadline for manuscript submissions

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Modelling

About the Journal

Message from the Editorial Board

We encourage you to contribute a research or comprehensive review article for consideration and publication in *Modelling* (ISSN 2673-3951), an international open access journal, which is published quarterly online by MDPI. The editorial board and staff of *Modelling* are dedicated to providing an advanced forum for studies related to the development and applications of modelling and simulation techniques. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications.

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Author Benefits

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.5 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q2 (Mathematics (miscellaneous))