

## Special Issue

# Fatigue and Fracture Behavior of Engineering Materials

### Message from the Guest Editor

Given that fatigue and fracture phenomena account for 80% to 90% of failures in mechanical components, it is crucial to study these phenomena to ensure long-term durability and reliability. The introduction of new materials and manufacturing processes presents new challenges in terms of design, requiring more targeted research. This Special Issue aims to serve as a forum for analyzing new trends in fracture mechanics and fatigue design across all materials, with a particular focus on new materials, production processes, failure models, and design criteria. Papers addressing the effects of processing techniques, microstructural features, loading history, environmental conditions, and the modeling of mechanical behavior, as well as those covering advanced applications, are encouraged. Both experimental and numerical approaches will be considered. The Special Issue is open to both original research and review articles.

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### Guest Editor

Prof. Dr. Joel de Jesus

Department of Mechanical Engineering, University of Coimbra, 3030-788 Coimbra, Portugal

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### Deadline for manuscript submissions

closed (20 April 2026)



## Applied Sciences

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## About the Journal

### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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