

Special Issue

New Horizons in Polymeric-Based Advanced Materials: Fracture and Mechanical Behavior

Message from the Guest Editors

Polymers and polymer-based composites play a key role in the development of advanced materials for a wide range of engineering applications due to their versatility, lightweight nature, and exceptional performance properties. However, understanding their fracture behavior remains a critical challenge in ensuring their reliability and durability under demanding conditions. This Special Issue aims to delve into recent advancements in the fracture mechanics of polymeric-based materials, focusing on failure mechanisms, crack initiation and propagation, and strategies to improve the fracture toughness and fatigue resistance of such materials. Topics of interest include, but are not limited to, the evolution of damage under complex loading conditions, the role of microstructure in fracture processes, the development of fracture-resistant materials, and the influence of environmental factors such as temperature, moisture, or chemical exposure on material integrity.

Your contributions will advance the scientific and practical understanding of fracture mechanics, driving the development of next-generation materials and technologies designed for superior performance and reliability.

Guest Editors

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Message from the Editor-in-Chief

Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.7.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

Prof. Dr. Alexander Böker

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