

Special Issue

Advances in Fatigue Crack Growth of Metals and Their Alloys

Message from the Guest Editor

Fatigue crack growth is an important research area, the results of which have been applied in damage tolerance design to ensure the structural integrity of operating engineering platforms. Since Paris observed and proposed a fatigue crack growth rate law based on the linear elastic fracture mechanics concept in 1960, significant advances have been achieved. Notably, non-destructive inspection and high-resolution imaging techniques have been advanced to allow for the early and reliable detection of cracks, enabling researchers to study crack growth and behavior in more detail.

Computational modeling has gone into great detail to perform more complex simulations of fatigue crack growth using finite element analysis and other computational methods. Materials development under the concept of damage tolerance design has led to new materials that are more resistant to fatigue cracking. This Special Issue welcomes researchers to disseminate their research results on the above issues in an open access environment. This will facilitate information exchange and hopefully deepen our understanding of real fatigue crack growth processes for holistic damage-tolerant structural integrity.

Guest Editor

Dr. Xijia Wu

Structures and Materials Performance Laboratory, Aerospace Research Center, National Research Council, Ottawa, ON K1A 0R6, Canada

Deadline for manuscript submissions

closed (20 October 2023)



Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/164002

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

[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)





Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)



About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) /
CiteScore - Q1 (Condensed Matter Physics)