



*materials*



an Open Access Journal by MDPI

## The Brittle Failure of Different Materials

Guest Editor:

**Prof. Dr. Filippo Berto**

Department of Chemical  
Engineering, Materials and  
Environment, Sapienza University  
of Rome, 00184 Rome, Italy

Deadline for manuscript  
submissions:

**closed (30 June 2017)**

### Message from the Guest Editor

Brittle materials include a wide range of material classes: From polymers to metals, through classic glass, ceramics, and composites. They all share a supposed linear elastic behavior, but are often found to display non-linear stress–strain relationships, as well as high temperature dilation (or other properties). In this Special Issue, contributions describing and explaining this intriguing behavior, whether due to microcracking, interaction among constituent phases, or micro-structural features, are welcome. Advanced characterization techniques, challenging numerical and analytical models, as well unconventional experiments should be reported and spark the debate about the origin of the behavior of brittle materials under mechanical extremes.

The grand goal is to provide an overview, through different aspects, of unconventional or unexpected reaction of brittle materials to external (mechanical, thermal, chemical, etc.) loads, at all temperatures of interest, including cryogenic.



[mdpi.com/si/7939](https://mdpi.com/si/7939)

**Special** Issue



an Open Access Journal by MDPI

## 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

## 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.

## 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 & Metallurgical Engineering*) / CiteScore - Q2 (*Condensed Matter Physics*)

## Contact Us

Materials Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)