# Special Issue

# Linear and Non-linear Mechanical Behavior of Brittle Materials

### 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 features: stress–strain relationships, high temperature dilation, etc. The description and understanding of the mechanical behavior of brittle materials under operational loads, such as mechanical and temperature cycling, electric fields, and corrosion environments represents one focus of the Special Issue. The discussion of analogies and differences between different materials, such as polymers and concrete, or metals and ceramics, represents another focus of the issue. Modeling and rationalization of peculiar behaviors of brittle materials will be a further focus of the issue.

Keywords

- ceramics
- concrete
- composites
- glass
- anelasticity
- viscoelasticity
- microcracking
- electric/thermal properties
- uniaxial/biaxial/triaxial testing
- high-temperature
- micromechanical modeling
- FEM
- in situ testing

### Guest Editor

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### Deadline for manuscript submissions

closed (20 September 2023)

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## 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.

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