

1-5 Symposia Mechanics of ceramics

Organizers:

S. Meille (MATEIS, INSA Lyon), E. Jimenez-Piqué (UPC Barcelona)

Description of the symposium:

The use of advanced ceramics is growing in highly demanding applications (aerospace, aeronautics, energy production, etc.). Indeed, thanks to their intrinsic properties (high strength, hardness, stiffness, temperature resistance, durability) they can withstand extreme conditions that other classes of materials cannot.

The goal of the symposia is to discuss recent advances in the characterization and modeling of the mechanical behavior of ceramics. Contributions based on experimental and numerical approaches that lead to a better understanding of the relationship between processing, structure and performance of ceramics are encouraged.

Topics

Oxide/non-oxide ceramics, ceramic matrix composites, architected ceramics, laminates, porous ceramics, cermets, functional ceramics

Testing techniques: small scale testing, impact, fracture, fatigue, wear

Mechanical properties in extreme environment (high temperature, liquids, radiation, ...)

Processing/Microstructure/Mechanical properties relationships

Modelling, numerical simulation, artificial intelligence and big data