

STRUCTURAL INTEGRITY – FRACTURE MECHANICS,

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ABSTRACT

The purpose of this mini-symposium is to record progresses achieved in recent years in developing computational models/tools for predicting failure of materials and structures and to provide a platform for exchanging ideas to advance the state of knowledge. The symposium is open to contributions on static and dynamic, brittle and ductile fracture modeling as well as fatigue modeling. Due to the interdisciplinary nature of this research field, contributions from applied mechanics, materials science and engineering, bioengineering, interface engineering and nanotechnology are welcome.

Topics of interest include, but are not limited to:

- Novel concepts and techniques for computational modeling of crack initiation and propagation
- Constitutive characterization of brittle and ductile fracture
- Size effects in fatigue and fracture
- Multi-scale simulations of mechanical systems and physical based fracture modeling from nano to macro length scales
- Failure of materials in coupled fields
- Mesh-free methods with application to fracture simulation
- Failure analyses on real structures
- Structural Integrity Analyses
- Etc.