

ICCES'09 Symposium
8-13 April 2009: Phuket, Thailand
<http://icces.org/cgi-bin/ices09/pages/index>
Fracture and Failure of Heterogeneous Materials

The purpose of the symposium on Fracture and Failure of Heterogeneous Materials is to bring together world-class researchers working on modeling of fracture and failure of composite materials and other heterogeneous material systems to present their current work and to discuss future directions. Advances in various fields of engineering require engineered materials which come under the general classification of heterogeneous materials system. While the constitutive relations for these materials in linear range could be obtained by conventional homogenization techniques, their failure process, fracture mechanics and damage tolerance are multiscale phenomenon and require multiscale modeling techniques. The Symposium invites papers on modeling issues and techniques, material models, challenges in numerical methods and algorithms for multi-scale modeling.

Topics include but are not limited to:

Fracture and failure of

- Fiber composites including textile composites
- Nano composites
- Cellular materials and foams
- Polymeric materials
- Materials for extreme environments
- Biological materials
- Bio polymers and bio composites
- Hierarchical materials
- Smart materials

Numerical modeling of above material systems

- Issues in multiscale modeling
- Atomistic simulation
- Atomic finite element method
- MD simulations
- Meshless methods
- Extended FEM
- Cohesive zone modeling
- Peridynamics

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