

**ADVANCES IN DISCRETIZATION TECHNIQUES, ELEMENT
TECHNOLOGY, MESH ADAPTIVITY, AND SOLUTION STRATEGIES
FOR INELASTICITY, CONTACT, LOCALIZATION, AND FAILURE**

TRACK NUMBER 100, ADVANCED DISCRETIZATION TECHNIQUES

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ABSTRACT

In this minisymposium we seek to highlight challenging problems in computational solid mechanics that require rapid modeling building and mesh adaptivity for solution. We focus on finite element and other emerging discretization methods for large deformations and the accompanying inelasticity, contact, localization, and failure. Discussion will center on Lagrangian descriptions and the necessary computational components to resolve, preserve, and evolve the fields that govern these processes. Prototypical material systems may include, but are not limited to, polymers, structural metals, and biomaterials.

Topics of interest:

- Novel methods for discretization
- Tetrahedral, hexahedral, and other 3D element technology
- Local remeshing including topological changes and smoothing
- Field recovery and mapping of internal variables