



CALL FOR PAPERS

2015 ASME International Mechanical Engineering Congress and Exposition
Houston, Texas, November 13-19, 2015

Mechanics of Deformation and Failure of Energy Materials **Track 12- 37**

Organized by

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PURPOSE AND SCOPE

Mechanics has emerged as a crucial area in all aspects of energy conversion, storage, and harvesting, especially with the ever increasing global energy needs. With the recent advances in experimental and modeling techniques for characterization of advanced energy materials, tremendous opportunities now exist for further understanding of the mechanics of deformation and fracture in these materials. This symposium aims to bring together experts from the mechanics, materials sciences, chemistry, and engineering communities to discuss about their research work from varied perspectives in the fields of energy materials and the mechanics of materials.

Topics of interest include but are not limited to

- i. Measurement of mechanical properties, e.g., fracture toughness of lithium-ion battery electrode materials
- ii. Experimental and theoretical studies focused on the mechanical and electrochemical coupling
- iii. Simulation of electrochemical and mechanical phenomenon in lithium-ion batteries: Density functional theories, Molecular dynamics simulations, continuum models, etc.
- iv. Constitutive model development for various electrode materials.
- v. Structural design of batteries to mitigate fracture and failure

Interested authors should submit an abstract via the web tool at the Congress 2015 website.
<http://www.asmeconferences.org/Congress2015/>

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Sponsored by

Nanomaterials for Energy Technical Committee of the Materials Division
Fracture and Failure Mechanics Technical Committee of the Applied Mechanics Division