

**The ASME Applied Mechanics and Materials Conference, McMAT-2011
Mini-symposium Proposal Submission**

Title: Advances in modeling and applications of cellular solids

Description

Cellular structures form the backbone of most naturally occurring materials, such as wood, bone, biological tissues etc. These materials are highly porous and often anisotropic at the micro-scale making them light-weight and multi-functional. These, and other favourable properties of cellular solids, have created a significant interest in man-made cellular materials for a wide range of applications such as blast / impact mitigation, thermal insulation / conduction, light-weight construction, acoustic / structural damping, chemical catalysis, water filtration, waste containment etc. This minisymposium invites contributions on emerging applications of foams, on analytical / numerical modeling of cellular solids and on experimental studies of foams. Contributions in related areas including, but not limited to, the following topics are also welcome.

Targeted Themes

- Emerging applications of metallic foams, polymeric foams, shape memory foams and other bio-inspired materials
- Manufacturing processes of foams and modeling of these processes
- Analytical and numerical modeling of the thermal, mechanical, chemical, acoustic and other physical properties of foams
- Experimental investigations of the behavior of foams
- Large-scale cellular and reticulated structures

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