



Mechanics, Design, and Manufacture of Soft Lattices

Guest Editor:

Dr. Narasimha Boddeti
School of Mechanical and
Materials Engineering,
Washington State University,
Pullman, WA 99164, USA

Deadline for manuscript
submissions:

closed (28 November 2021)

Message from the Guest Editor

Soft lattices are fast emerging as an attractive choice for the design of flexible structures at both mesoscale (e.g., shoes, helmets) and microscale (e.g., auxetic metamaterials) due to their high porosity, light weight, and tailorable material properties such as stiffness and density. These properties make the use of soft lattices desirable in biomedical applications, soft robots, and energy-absorbing devices. Novel design and manufacturing approaches are needed for easy and efficient fabrication of multimaterial and multifunctional soft lattice structures. Simultaneously, developing effective modeling and simulation strategies for the analysis of soft lattice mechanics is also challenging due to the: 1) multiple length scales involved and 2) complex nonlinear behavior arising from finite deformations, hyper-elastic material response, and instabilities, such as buckling. We invite high-quality original articles that focus on tackling these challenges for this Special Issue on the design, analysis, and manufacture of soft lattice structures.

