Architected Heterogeneous Lattice Structures

Porosity Density/Vf Unit cell shape Unit cell orientation Transition direction Interface breadth

Adjusting topological and architectural features towards the design of multi-morphological lattice structures can bring in the high potential to the fine-tuned mechanical response.

RESEARCH ACTIVITIES:

Herein, to understand the role of unit cell topology and arrangement, various stacking and gradient strategies will be implemented to modulate the overall mechanical response of hybrid lattice structures. Experimental and numerical approaches will be developed to reveal the deformation mechanism and failure modes and quantify stiffness, quasi-static uniaxial compressive strength, and energy absorption capacity of the hybrid structures.

