16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics

July 21-26, 2024, Vancouver Convention Centre, Vancouver, British Columbia, Canada

TOPOLOGY OPTIMIZATION FOR ADDITIVELY MANUFACTURED METAMATERIALS AND STRUCTURES

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MINISYMPOSIUM

Topology optimization provides a powerful tool for innovative design of materials and structures with exceptional mechanical properties, which can be realized through additive manufacturing technology. This mini-symposium aims to address challenging issues in modelling, numerical methods and applications of topology optimization in the context of additively manufactured metamaterials and structures. Topics of interest include but are not limited to: manufacturing constraint modeling, multi-scale and multi-physics optimization for metamaterials, optimization of functional properties (thermal, acoustic, fluid, etc.), incorporating material microstructures into topology optimization, structural and multidisciplinary applications, multi-material topology optimization, modeling of manufacturing defects, manufacturing uncertainty quantification and robust design.