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ADVANCES IN TOPOLOGY OPTIMIZATION AND APPLICATIONS

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ABSTRACT

The symposium addresses the recent advances of structural topology optimization techniques and applications in frontier areas such as metamaterials, composites, and mechanisms, with a particular focus on topology optimization with additive manufacturing. The symposium provides an excellent platform to bring together researchers in multidisciplinary research domains to exchange scientific ideas and foster future collaborations.

Topics of interest for this symposium include, but are not limited to the following themes:

1. Topology optimization with level set methods.
2. High-performance and high-definition topology optimization methods.
3. Isogeometric Analysis techniques for topology optimization.
4. Design of mechanical, phononic and photonic metamaterials.
5. Design of biomaterials, bio implants and devices.
6. Design of multifunctional and multicomponent smart mechanical systems.
7. Multiscale design of cellular and lattice composite structures.
8. Topology optimization with additive manufacturing.
9. Topology optimization of robustness and reliability under uncertainty.
10. Topology optimization with artificial intelligence and data mining.