

Session Proposal:
Numerical Methods and Parametric Design for Lightweight Structures

Computational design has been pushing the boundary of feasible structural designs by incorporating various methods in computer graphics, computer-aided geometric design, and structural mechanics. In the computational design process, construction of algorithms and selection of parameters play key roles to rationalize the design. This session aims at bringing together researchers working on various aspects of numerical approaches for the design of tensile and membrane structures. Topics of interest for this session include, but are not limited to the following methods for analysis and design of lightweight structures:

- Parametric approaches to conceptual, computational, performative design
- Machine learning for design and identification
- Data visualisation including VR, AR, and Digital Twins
- Optimization of structural performance
- Improving and developing numerical methodologies and tools

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