YIC 2025

Young Investigators Conference 2025

17-19 September 2025, Pescara, Italy

SHELL AND SPATIAL STRUCTURES, YOUNG CONTRIBUTIONS

Shell and space structures constitute some of the most efficient structural systems in which the optimized use of materials is combined with effective structural forms. The ongoing progress of analysis methods, design approaches, and building techniques for shell and space structures has led to rising interest among engineers, architects, and builders.

The main objective of this Mini-Symposium (MS) is to collect current contributions from young researchers in the field of mechanics of shells and spatial structures, from arched masonry structures to thin concrete shells, focusing on the development or improvement of numerical and analytical approaches and their application to the study of such structures. Contributions based on membrane analysis, thrust network analysis, limit analysis and form finding, using analytical formulations and computational strategies, are welcome to discuss their potential and limitations for studying shells and spatial structures.

The topics covered in the MS may include, but are not limited to:

Shell; Spatial structures; Vaults and domes; Thin plates; Thin-walled structures; Membrane analysis; Thrust Network Analysis; Optimization; Form Finding; Upper and lower bound Limit Analysis; Computational strategies based on either Discrete Element Method (DEM) or Finite Element Method (FEM); Homogenization approaches; Multiscale models for fracture/damage simulation, damage/plasticity models including unilateral contact and friction; No Tension models; Concrete; Fracture, damage and defects detection.

Participants in the MS are welcome to submit an extended and original version of their contribution to be published in a dedicated Special Issue.

MS Coordinators:

Antonino Iannuzzo (Università degli Studi del Sannio, Benevento, Italy)
Matteo Lai (Università degli Studi di Cagliari, Italy)
Carlo Olivieri (Università Telematica Pegaso, Italy)
Emanuele Reccia (Università degli Studi di Cagliari, Italy)

Contact: matteolai@unica.it