

## MULTISCALE ANALYSIS AND DESIGN UNDER UNCERTAINTY

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**Key words:** Multiscale, Uncertainty, Computational Mechanics.

### ABSTRACT

Uncertainty inherently exists in measuring, testing and modelling of physical systems across multiple length and/or time scales. Over the last few years, integration of stochastic methods into a multiscale framework or development of multiscale models in a stochastic setting for uncertainty quantification, analysis and design of physical systems is becoming an emerging research frontier. Continuous efforts in this direction are deemed essential to bridge the gap between current "ad hoc" phenomenological models and the multiscale nature of various complex problems of mechanics, e.g. fatigue, dynamical fracture/fragmentation or earthquake prediction. The objective of this Mini-Symposium is to reflect the recent research efforts and progress towards mingling of multiscale analysis and design with uncertainty quantification, and to bring together researchers seeking interactions among multiscale methods and computational mechanics in order to obtain reliable predictions of the behavior of physical systems.