

Theoretical and numerical developments for high-dimensional parametric PDEs

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Short Description

Many applications in uncertainty quantification involve partial differential equations that depend on a large (possibly infinite) number of parameters. The high dimensionality of the parameter input vector necessitates the development of efficient numerical methods based on fundamental results in approximation theory and computational expertises.

This minisymposium has the goal to bring together and foster interaction between researchers working on such problems and related methods. The focus will be both on theoretical developments and computational advance on various methods such as Quasi-Monte Carlo methods, sparse grids and Deep Neural Networks, and their applications, such as optimization under uncertainty and real-world problems.