

## NUMERICAL MODELING OF GRANULAR AND MULTIPHASE SYSTEMS

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### ABSTRACT

This minisymposium discusses recent advances in numerical modeling of granular and multiphase systems. It covers a wide range of numerical analysis methods related to granular and multiphase phenomena, including the Discrete Element Method (DEM), particle methods (such as SPH and MPS), the extended Finite Element Method (X-FEM), the Lattice Boltzmann Method (LBM), Volume-of-Fluid (VOF) methods, and Phase-Field Methods (PFM).

In addition, the minisymposium welcomes contributions on data-science-related research for numerical modeling of granular and multiphase systems, including surrogate modeling based on Proper Orthogonal Decomposition (POD) and neural networks, data assimilation based on inverse analysis theory, as well as studies on high-performance computing (HPC).