

ADVANCE AND APPLICATION OF MESHFREE METHODS

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MINISYMPOSIUM

The meshfree (meshless) methods offer flexibility in constructing spatial approximations without the need for element connectivity. With this advantage, meshfree methods have been developed and investigated in various research areas in recent years, for example, isogeometric analysis, nonlinear and large deformation analysis, inverse problems, peridynamics, geomechanics, biomaterial modeling, fluid dynamics, extreme events modeling, solid-fluid interaction, and the recent popular machine learning techniques. To date, many meshfree methods have been proposed, such as the smoothed particle hydrodynamics, element free Galerkin method, reproducing kernel particle method, material point method, generalized finite difference method, strong form collocation methods, peridynamics, and even the physics informed neural network type approach in machine learning, to name a few. The objective of this minisymposium is to hold a forum to report the recent developments and applications of meshfree methods by researchers from engineering, mathematics and industries. Topics related to computational mechanics and mathematics in meshfree methods as well as industrial applications using meshfree methods are cordially invited to contribute to this minisymposium.