

Meshless and Related Methods, a Minisymposium Dedicated to Celebrate the 80th Birthday of Professor Janusz Orkisz

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ABSTRACT

The broad topics of interest of the "meshless and related methods" minisymposium include fundamental developments, algorithms, assessment of current and new techniques, related methods and a variety of applications/developments to include static/steady and transient/dynamic time dependent formulations. This Minisymposium will be dedicated to celebrate the 80th Birthday of Professor Janusz Orkisz, a precursor and active researcher for many years in Meshless Methods.

In particular the main subject to be developed during this Minisymposium are:

- Development of new theory and concepts, improvement of existing ones, as well as development of relevant mathematical analyses are encouraged.
- New algorithms for weak/weakened-weak/strong/mixed formulations, optimization problems, Lagrangian and Eulerian formulations are welcome, and so are assessment techniques, error analysis, effective distributed and parallel computation, as well as examination of solution efficiency.
- Combinations of meshless methods with other computational schemes, and comparisons between existing meshless methods and other methods, such as the FEM, are also encouraged.
- Various related techniques such as special mesh generators, effective solvers of simultaneous linear and nonlinear equations, optimization of search procedures, adaptive computational schemes and other topics essential to the vitality of meshless methods and their continued development.
- A variety of applications to new and interesting areas of science and engineering deserve special attention. They include solids, fluids and their coupled interactions as well as multiscale and multiphysics problems.

Papers involving all aspects of meshless methods (MM) of various types (including particle methods) would be welcome. Expected are papers presenting wide range of applications of the MM, demonstrating their maturity as well as current and potential power in analysis of complex problems emerging in engineering practice. Successful discussions providing answers to the problems mentioned here, would be one of the most important objectives of this special session