Focus & Objectives

The focus of the Conference series is on mesoscopic / kinetic methods (e.g. LBE, DVM, GKS, and SPH) for computational mechanics in its broadest sense. Specific areas include, but are not limited to, mesoscopic / kinetic methods applied for:

Computational Fluid Dynamics (CFD), including Direct Numerical Simulations (DNS), Large-Eddy Simulations (LES), and macroscopic as well as kinetic turbulence modelling; rheology for complex fluids, such as suspensions, multi-phase and multi-component fluids, non-Newtonian fluids, electro-rheological (ER) and magneto-rheological (MR) fluids (smart fluids) and bio-fluids; nano-scale phenomena involving non-continuum, surface-dominated, low-Reynolds-number, non-Newtonian, multi-scale and multi-physics effects; computational mechanics of solids and structures; computational multi-physics dynamics, such as flow-structure interactions; algorithms for High Performance Computing (HPC) engineering applications.

OBJECTIVES
The objectives of the Conferences are

    -   to bring together researchers and practitioners from academia, research institutions and industry to exchange experiences, disseminate up-to-date information and explore new opportunities in the field

    -   to expose young or new researchers to the state of the art in the field by lectures and short courses of top international experts

AREAS OF INTEREST
The conference will focus on computational methods for challenging engineering problems based on mesoscopic methods, including (but not limited to) the lattice Boltzmann equation (LBE), lattice-gas cellular automata (LGCA), discrete velocity models (DVM), gas-kinetic schemes (GKS), dissipative particle dynamics (DPD), and smooth-particle hydrodynamics (SPH).