

NON-NEWTONIAN FLUID FLOWS: NUMERICAL METHODS AND APPLICATIONS

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ABSTRACT

This mini-symposium aims to bring together researchers working on flows of non-Newtonian fluids, including polymer solutions and polymer melts, suspensions, biological fluids, surfactant solutions, gels and liquid crystals. We invite contributions in all areas of computational complex fluid mechanics and rheology, where the non-Newtonian character of the fluid is important in determining the characteristics of the flow. Topics of the mini-symposium include (but are not restricted) to:

- Benchmark non-Newtonian fluid flows
- Purely elastic and inertio-elastic instabilities, and turbulence
- Mixing and heat and mass transfer with non-Newtonian liquids
- Multiphase flows involving non-Newtonian fluids
- Flows in rheometric devices
- Microfluidic flows with complex fluids
- Multiscale modelling