

Mini-Symposium 3-3: Mechanics and Physics of Dense Granular Media: Experiments, Theory and Modelling

Organizers: Stéphanie Deboeuf (IJLRDalembert) Nathalie M. Vriend (University of Colorado, Boulder)

The aim of this mini-symposium is to gather the recent contributions related to the mechanical and physical behaviour of granular-based systems as well as novel approaches that push our understanding of granular systems forward. We consider both dry systems consisting of solid grains, such as powders, rocks, sand and fibers, and multiphase systems where a fluid phase is mixed with a discrete solid phase, such as soils, concrete, suspensions and lubricated granular systems.

We welcome all approaches, including theoretical analyses, numerical simulations, laboratory experiments and observations derived from field measurements. We aim to bring together scientists and engineers from a variety of disciplines, including mechanical, chemical and civil engineering, physics, geophysical sciences, applied mathematics and food sciences, and beyond.

The focus of your science may stretch from a detailed understanding of the microscale focussed on elementary solid particles and contacts, via interactions between particles and their surrounding phases at the mesoscale, all the way to the macroscale properties of large and complex granular systems. Our intention is to consider both the deformation of the solid behavior and the flow of the liquid behavior, with the intention to gain a better understanding of the response of granular-based systems.