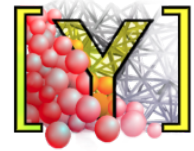




2nd Yet Another Discrete Element Workshop
*Discrete-based modelling of
multi-scale coupled problems*



This international workshop will discuss the latest advances in numerical modelling of natural or man-made multi-scale processes involving a granular material in mechanical interaction with one or several fluids, using Discrete Element Methods (DEM) that are the most appropriate to account for the discrete nature of the granular solid phase. In order to address the inherent scientific complexity of those possibly large-scale, coupled problems, contributions are welcome across the application fields and the scales.

On one hand, DEM approaches are expected at the material scale to discuss the mechanical behavior of granular materials, their failure, and their solid-fluid transition. A special emphasis will be given to the role of the pore or surrounding fluid(s) in the above-mentioned processes, thanks to coupled numerical methods bridging the DEM with Lattice Boltzmann Method (LBM), Pore Fluid Volume (PFV) or other Computational Fluid Dynamics (CFD) models.

On the other hand, numerical techniques that enable one to tackle the large scale by either reducing, or accommodating, the required large number of Discrete Elements are also completely relevant to the Workshop, whose ultimate goal is to include the former coupling developments into large-scale models. As such, the Workshop will also discuss multi-scale numerical methods taking DEM to the structure scale by coupling the latter with continuous methods, e.g. FEM*DEM, as well as DEM technical aspects regarding parallelization, for instance.

Following a first edition in Grenoble University in 2014, this Workshop will equally welcome international users and developers of YADE (<https://www.yade-dem.org/>) or other DEM codes, as well as technical discussions regarding code efficiency.

Topics:

- DEM or continuous numerical methods coupled with DEM
- DEM mechanical analysis of granular materials
- Fluid-solid coupling in DEM
- High-performance computing in DEM

Practical aspects:

Organised by J. Duriez, S. Bonelli and P. Philippe (IRSTEA) under the auspices of the international research network GdRI GeoMech (<http://gdr-mege.univ-lr.fr/>), this Workshop will take place in Aix-en-Provence (south of France) the 26th - 27th **April 2018**.