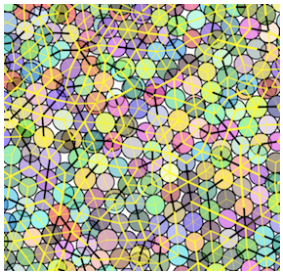

Contribution ID: **15** Type: **not specified**

The role of disorder for yielding and flow in the deformation process of amorphous materials

Thursday, June 16, 2022 2:00 PM (1h 30m)

In this course I shall introduce modelling approaches for the yielding and flow of dense disordered materials like foams, granular materials or glasses.
These materials fall in the catagory of yield stress materials and in the case of soft glassy materials they typically represent complex fluids with interesting non-trivial flow regimes.
Disorder plays a major role in the description of these materials and instead of dislocations like in crystallin materials the deformation process is governed by the formation of shear transformations that lead to long range elastic changes in their surroundings. The complex interplay between plastically deforming shear transformation zones, elastic interactions and disorder can lead to a variety of interesting phenomena that I shall address in this course. I will talk about the static and dynamic yielding transition, out-of-equilibrium flow transitions with the occurence of critical dynamics as well as the possible appearance of flow instabilities in the stationary state.

Presenter: Prof. MARTENS, Kirsten (Université Grenoble Alpes)