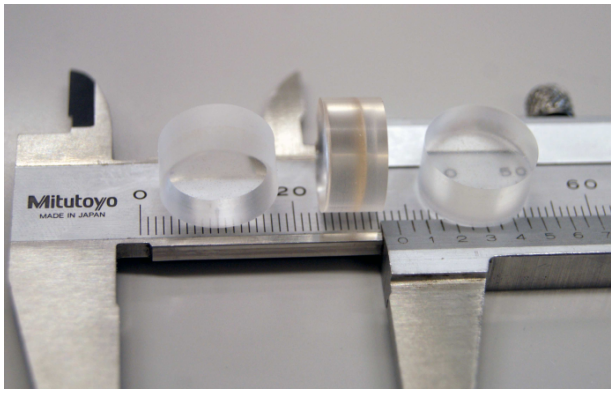
Bachelor project:

Forces in Polymer particles

Scientific question:

Granular media are ubiquitous in both chemical industry and our daily lives. Their transport and handling requires a significant amount of energy and is still prone to unwanted jamming and segregation. Ultimately the mechanical behavior of granular media has to be explained from the mechanical properties of the individual grains; however the necessary theory is still under active development.

The experiment:



You will learn to prepare soft PDMS particles with embedded small bronze tracer particles. These particles can then be characterized in two ways: 1) mechanically using an uniaxial compression setup. 2) geometrically by measuring their inner deformation using X-ray tomography. The results can then be compared with the best established theoretical model, the Hertzian compression.

What you will learn:

Handling PDMS and measuring force strain curves. X-ray tomography and some image processing with Matlab.

Whom are we looking for:

You are diligent and self-motivated. You like the idea of working in an international environment. Ideally, you have some previous experience in computer programming (it does not matter in which language).

Contact:

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