



## **Einladung zum Vortrag**

von

**10. Januar 2014**

### **Dr. Günter Auernhammer**

MAX-PLANCK-INSTITUT FÜR POLYMERFORSCHUNG, MAINZ

#### **Structure and dynamics of particulate systems – Analysis of 4D data**

A large portion of the goods transported on earth is transported as granulates and powders. With the advances in production techniques of composite materials, the grain size of these powders tends to shrink and reach sizes in the micron and even sub-micron range. For a good processability of the powders their flow behavior is a dominant parameter. The smaller the particles become, the more dominant is the influence of the inter-particle forces on this flow behavior. The macroscopic behavior of such particulate systems is a complex interplay between the internal properties of the particles, their surface properties and the structure the particles form. In this presentation we will focus on the effect of the particle surface and its modification. We will briefly introduce experimental methods for following the dynamics of particulate systems under various external conditions, especially applied mechanical load. A full understanding of the system involves a detailed modeling of the particle interaction, their internal properties and the structure formed by the particulate systems. Using time resolved 3D imaging, we get the coordinates and trajectories for a high fraction of the particles. From this 4D data set information about the micro- and macroscopic behavior of the system can be extracted. We will use a few examples to discuss the possibilities and limits of such an analysis approach.

**Termin:            Dienstag, 14. Januar 2014, 9:00 Uhr**

**Ort:                Universität Ulm, Helmholtzstr. 22, Raum E18**

Interessenten sind herzlich eingeladen.  
Der Vortrag findet im Rahmen unseres Forschungsseminars statt.

gez. V. Schmidt