

## EINLADUNG

zum Vortrag  
von

**Dr. Erika Eiser**  
**Cavendish Laboratory, Cambridge, UK**

### **Interactions between Colloids Induced by a Soft Cross-Linked Polymer Substrate**

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**Dienstag, 31. Jänner 2012, um 17:30 Uhr**

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,  
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

*Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals*

**Abstract:**

Confinement can influence the aggregation behaviour in colloidal suspensions. In this seminar I will report on the aggregation of sedimented silica particles on a crosslinked polymer network. Using videomicroscopy imaging, we demonstrate the existence of a short-ranged equilibrium attraction between the silica colloids diffusing on such a soft surfaces. The intercolloid potential can be tuned by changing the gel stiffness or by coating the colloids with a polymer layer. On sufficiently soft substrates, the interaction induced by the polymer matrix leads to large-scale colloidal aggregation even at surface coverage of only a few percent. We correlate the in-plane interaction with a colloid-surface attraction. I will also present recent theory and simulations elucidating the origin of the interactions.

Ref.: L Di Michele, T Yanagishima, AR Brewer, J Kotar, E Eiser, S Fraden, PRL 107, 136101 (2011).

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**CHEMISCH-PHYSIKALISCHE GESELLSCHAFT**

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