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“Two examples of Cell Physics phenomena : cell adhesion and cell division”

Cell phenomena are traditionally explained by molecular activation pathways. Signaling networks are indeed playing key roles in cell fate, for example in motility, division and death. However these switching events at the *nanometer* scale fail to provide satisfactory explanations for their read-outs which are at the *micrometer* scale. Our approach consists of trying to bridge this gap of three orders of magnitude in scales. We take the cell biology tools for performing experiments on individual cells and we develop and analyze the cell phenomena with condensed matter physics methods and frameworks. I will present two examples illustrating this *cell physics* approach :

- i) the nucleation and growth of cell contacts, and
- ii) the closure of the cytokinetic ring.

Dienstag, 26. Januar 2010, 14.00 c.t.

Gebäude E2 6, Seminarraum E.04

Alle Interessenten sind herzlich eingeladen.

Die Sprecher des Graduiertenkollegs
Manfred Lücke und Ludger Santen

**Strukturbildung und Transport
in komplexen Systemen**