



## Seminar “IRTG Soft Matter Science”

### Biophysics of Development and Microtechnologies with Applications

*Pr. C. Fütterer*

Biophysics of tissues, microsystems, patterns and non-equilibrium  
Experimentelle physik, Universität leipzig  
[c.fuetterer@physik.uni-leipzig.de](mailto:c.fuetterer@physik.uni-leipzig.de)

Organization of tissues depends on different cues as signaling, gene expression, mechanical cues and structure. We concentrate on the last two aspects and study *Hydra vulgaris* tissues as they are simple, flat and transparent. I describe for the first time the dramatic morphological change of the torus towards a spheroid and the mechanically induced epithelial-mesenchymal transition. After the toroid- spheroid transition the sphere is the starting point for regeneration and displays a sequence of different types of morphogenetic oscillations. They are related to a symmetry breaking scenario. A second activity is development of microsystems especially microfluidics and systems based on magnetic nano and micro particles. I present the principal properties and some biophysical applications.

**Wednesday, June 29, 14h15**  
**“Hörsaal Makromolekulare Chemie”,**  
**Stefan-Meier-Str. 31, Freiburg**

You are welcome to meet Pr. *Fütterer*, do not hesitate to contact Christelle Vergnat ([softmattergraduate@physik.uni-freiburg.de](mailto:softmattergraduate@physik.uni-freiburg.de))