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)