



SFB 1027 - Seminar

Prof. Dr. Martine Ben Amar

Laboratoire de Physique Statistique,
Ecole Normale Supérieure, and
Université Pierre et Marie Curie, Paris

Modeling Morphogenesis: From theory to observation

The beauty and complexity of living matter begins with the first steps of growth and with the formation of cell clusters and tissues. At the biological level, the processes are complex and often unknown, not measured and quantified, except perhaps in botanics. However quite general ideas can be given using a pragmatic approach based on symmetries following a “Landau” approach. Using the elasticity of soft tissues, eventually taking into account the existence of fibres, shapes can be explained by a variational treatment where incompressibility of tissues is treated via the existence of a stream function as in hydrodynamics. Despite the complexity of the formalism, especially in 3D, such an approach allows sometimes to answer to open questions, in the biology of development. As examples I will describe the structure of the skin, villi, algae and bacteria biofilms.

Dienstag, 13.5.2014, 14 Uhr c.t.

Campus Saarbrücken, Geb. E2 6, SR E04

Der Gast wird betreut von Heiko Rieger

Alle Interessenten sind herzlich eingeladen,

Der Sprecher des SFB
Heiko Rieger

**SFB 1027 Physikalische Modellierung von Nicht-Gleichgewichtsprozessen
in biologischen Systemen**