LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ARNOLD SOMMERFELD CENTER FOR THEORETICAL PHYSICS

Sommerfeld Theory Colloquium

Dr. Tobias Reichenbach

The Rockefeller University, New York

ASC-PhD-Colloquium:
Dynamic patterns of biological systems

The formation of complex spatial patterns in biology enables differentiation, for example into separate functional parts, and therefore constitutes a necessity of life. Constantly working against entropy increase by active processes, living organisms operate, from a physical point of view, far from thermal equilibrium. The emerging patterns thereby exhibit a variety of special physical and mathematical characteristics, distinctly different from equilibrium patterns. In this talk, we present two examples of biological structure formation: molecular transport in eukaryotic cells and segregation of bacterial strains, enabling species diversity. We study these by employing generic models that provide insight into the respective mechanism of pattern formation, at the interplay of deterministic dynamics and unavoidable fluctuations.

Wednesday, 15th July 09, 10:30 h, Room 348 / 349, Theresienstr. 37 / III

Prof. E. Frey