FIAS Colloquium

Thursday, January 19, 2012, 14:30
FIAS, Ruth-Moufang-Str. 1, 60438 Frankfurt am Main
Lecture hall 0.100

Speaker: Prof. Dr. Matthias Kaschube, Frankfurt Institute for Advanced Studies

Title: Collective behavior in living systems

One central problem in the study of living systems is to understand how their organization and function arises from the collective dynamics of their constituent parts. In this talk I will address this issue in two distinct systems. I will focus on tissue morphogenesis, the process where cells collectively sculpt tissues into organs with precise forms and functions, as well as on cortical development, during which neurons grow and develop into networks capable of forming representations of the sensory world. In both systems I will show examples of how a combination of theory and quantitative analysis of live imaging data can elucidate key mechanisms underlying their organization and functional behavior.