



Soft Condensed Matter and Biological Physics

Lecture Series

Biological systems are examples of soft matter which display structures on various length scales and are formed by many components, notably by long chain molecules which are known as polymers.

Research in this field combines experiments, theoretical work and computer simulations. This is reflected by the variety of courses offered. Studying soft matter and biological physics provides you with versatile skills which can be applied in many areas of research and industry.

THERMODYNAMICS

STATISTICAL PHYSICS

THEORY

QUANTUM MECHANICS $S = k_{_{\rm R}} \ln \Omega$

MATHEMATICAL METHODS

SCATTERING METHODS

NMR

EXPERIMENTS

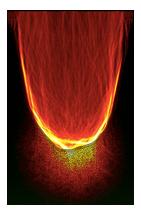
BIOCHEMICAL METHODS

DYNAMIC-MECHANICAL METHODS

AB INITIO

SIMULATIONS

MONTE CARLO



© M. Kreysing, Prof. J. Guck

Interested? Join us on the basic lecture Introduction to the Physics of Soft Condensed Matter!

SoSe 2013

Lecturers

Prof. Dr. Jens-Uwe Sommer (IPF Dresden)

Prof. Dr. Manfred Stamm (IPF Dresden)

Prof. Dr. Frank Jülicher (Max-Planck-Institute)

Prof. Dr. Stefan Diez (Max-Planck-Institute)

Prof. Dr. Jochen Guck (TU Dresden, BIOTEC)

PD Dr. Karim Fahmy (Helmholtz-Zentrum Rossendorf)

Language

English and German (announced with individual lectures)

Exam

- oral exam on basic concepts from 2 lectures (out of 4 attended ones) and the basic lecture
- can be taken in German

Lectures offered:

Introduction to the Physics of Soft Condensed Matter

Introduction to Biophysics

Theoretical Polymer Physics

Biophysical Methods

Experimental Methods of Polymer Physics

Numerics and Computer Simulations in Soft Condensed Matter (including Computer Exercises)

Theoretical Biophysics

Scaling Concepts of Polymer Physics

Lab Exercises: Biophysics and Polymers

Contact Prof. Dr. Jens-Uwe Sommer sommer@ipfdd.de http://www.ipfdd.de/wkmbp

Leibniz Association