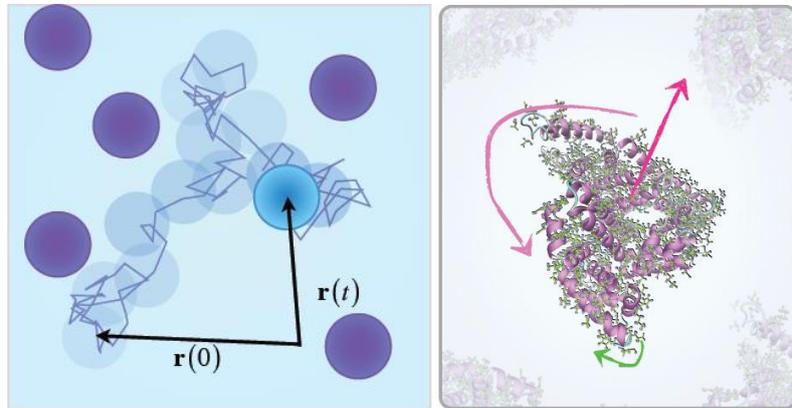


Advanced Topics in Condensed Matter (ATCOMA)

zu VF (Vertiefungsfächer)
- "Bio/Medical Physics" (VF3)
- "Nanostructures" (VF7)
- "Advanced Theory" (VF9)
(Diplom or Bachelor/Master)

Prof. Dr. Frank Schreiber
Prof. Dr. Martin Oettel
Prof. Dr. Roland Roth
Dr. Fajun Zhang
Dr. Alexander Gerlach



Every Friday 15:15 – 17:00 in C9A03 – First lecture 25.04.2014

The language of the course will be English, but where necessary a German translation will be offered.

From the contents:

1. Introduction:

States of Matter: crystals / conventional liquids / gases / and intermediate forms of matter (gels, glasses, liquid crystals, quasi-crystals); How to calculate phase boundaries; Quasicrystals and Liquid Crystals;

2. Advanced and non-standard scattering:

Closure relations (from scattering curves to correlations and interaction potentials); multiple scattering, interface scattering, anomalous scattering;

3. Simulations:

Molecular Dynamics; Brownian Dynamics, Monte Carlo, kinetic Monte Carlo

4. Miscellaneous advanced topics and examples

Further information:

<http://www.soft-matter.uni-tuebingen.de>

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The course can be used to obtain the corresponding ECTS credit points.