Physikalisches Institut
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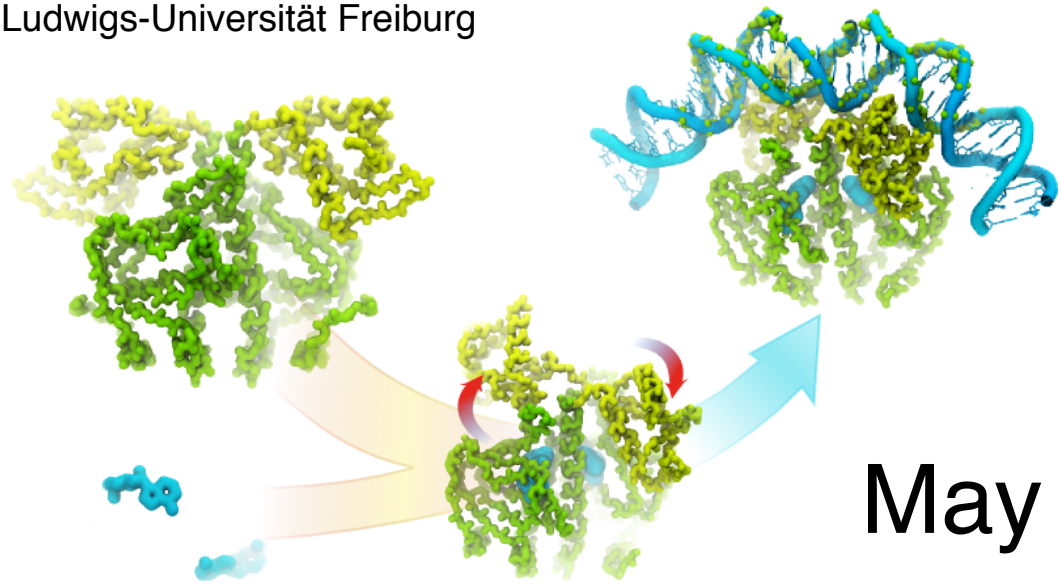

May 23

Site-specific protein folding dynamics studied by IR spectroscopy

Karin Hauser
Universität Konstanz

The time-scales of protein folding events range over many orders of magnitude. Infrared(IR)-spectroscopy is an appropriate technique to study folding, misfolding and aggregation pathways of proteins. It provides molecular sensitivity for changes of the protein secondary structure, of the environment of hydrogen bonding networks and of the solvent accessibility. We develop time-resolved IR techniques to analyze relaxation dynamics of peptides. After initiation of a nanosecond temperature jump, the spectral response is monitored at single wavelengths in the amide I region reflecting the dynamics of the peptide backbone. Although the amide I band provides a sensitive marker for structural changes, vibrational transitions of individual amide groups are not resolved. The combination with isotopic editing facilitates molecular dynamics with residue-specific resolution and without perturbing spectroscopic probes.

Molecular Dynamics Seminars 2012

Seminar Room of Gustav Mie Haus, Ground Floor, 16:15

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SCHOOL OF SOFT MATTER RESEARCH

For further information:

Prof. G. Stock stock@physik.uni-freiburg.de
Dr. F. Rao francesco.rao@frias.uni-freiburg.de

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