

KIDS TALK

“Biophysics and Ultrafast Spectroscopy: Investigating essential biomolecules on a femtosecond timescale”

Speaker: Maximilian Theis, AG Diller

Abstract:

Biophysics is an interdisciplinary branch of science at the interface between physics, biology and chemistry. It tries to span the distance between the complexity of life and the simplicity of physical laws. This leads to relatively new fields of research like optogenetics and photopharmacology.

Our contribution to these exciting topics and to a deeper understanding of important biological processes is the investigation of relevant biomolecules and their light induced behavior on a femtosecond timescale.

Therefore we use ultrashort laser pulses to perform pump-probe spectroscopy in the visible and IR spectral region.

In the first part of the talk a short overview of biophysics, optogenetics and photopharmacology will be given.

In the second part ultrafast spectroscopy and the underlying nonlinear-optical processes will be described.

Furthermore some first results of my spectroscopic studies at the bilin phycocyanobilin (PCB) will be presented. PCB is an open chained tetrapyrrole, which can function as a light induced molecular switch and plays a crucial role in the physiological behavior of plants. Therefore it is essential to understand the ultrafast dynamics of this biomolecule after photoexcitation.

When: Friday, February 03rd 2017, 10:00 am

Where: Room 46-387/388

All undergraduate and graduate students as well as postdocs are welcome and encouraged to join our discussion!

***** COFFEE, TEA AND COOKIES WILL BE SERVED *****

For questions, comments or suggestions: schmidtf@physik.uni-kl.de

