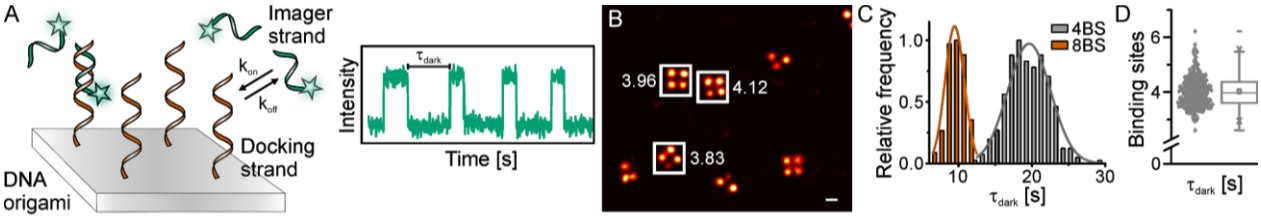
PhD position (E13/65%) – Super-resolution microscopy of DNA nanostructures

We offer a PhD position **in super-resolution fluorescence microscopy of DNA nanostructures**. The project aims to develop new experimental and analytical tools for DNA-assisted super-resolution microscopy, employing DNA nanostructures (DNA origami) as experimental platform together with novel concepts of data analysis.

Our interdisciplinary research group of chemists, biologists, and physicists is located in the Chemistry Department (FB14), Institute for Physical and Theoretical Chemistry, at the Johann Wolfgang Goethe University in Frankfurt am Main. We work at the interface between biology, (bio)chemistry and physical chemistry, using single-molecule and super-resolution techniques to study cellular processes with molecular resolution (further information at www.smb.uni-frankfurt.de and share.smb.uni-frankfurt.de).

We seek for candidates with a background in chemistry, biochemistry, biophysics, or related disciplines, who are interested to dive in the **exciting research field of advanced optical microscopy.**



DNA-assisted single-molecule super-resolution microscopy builds on transient hybridization of short DNA oligonucleotides. (A) DNA origami serve as reference structures and expose a defined number of short oligonucleotides that are bound by a second oligonucleotide with a complementary sequence and carrying an organic fluorophore. Single-molecule imaging of binding events allows (B) resolving nanoscale arrangements far below the resolution limit of light microscopy (scale bar = 40 nm) and (C, D) quantifying the number of emitters from single-molecule binding kinetics. (Image taken from Dietz & Heilemann, Nanoscale 2019.)

Please send your application by email to

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