

PhD thesis:

### Superresolution optical microscopy

For a long time it has been believed that resolution in optical microscopy is limited to about 200nm due to the diffraction of light. For applications of light microscopy in molecular and cellular biology it is, however, extremely important to develop novel methodologies to break this diffraction limit and extend the resolution of optical microscopy down to the level where single proteins can be resolved. The advantage of light microscopy over other existing approaches for applications in biology is that light microscopy allows for the direct investigation of dynamical processes and therefore, besides optical resolution also time resolution is important. Promising techniques in this area are the techniques of stimulated emission depletion (STED) microscopy, single-molecule localization microscopy (SMLM) and structured illumination microscopy (SIM). The aim of the PhD project will be to design and develop a SIM microscope for live-cell imaging. The project is thus at the intersection of physics, chemistry and biology and candidates with a background in biophysics or optical physics are invited to apply for this position.

Interested? Send your applications to: [Jens.Michaelis@uni-ulm.de](mailto:Jens.Michaelis@uni-ulm.de)