

- Master thesis –

Diamond quantum sensing of intermolecular distances

Project: The focus of this research lies on the development of novel tools based on quantum sensing schemes to investigate structure and dynamics of biological complexes. Here single nitrogen vacancy centers (NV) in diamond are employed as localized, ultra-sensitive paramagnetic sensors. This approach has many advantages over the established protocols where organic dye molecules are attached to various sites of macromolecules (so called single molecule Förster resonance energy transfer (smFRET)). Main parts of the work contain single spin sensing measurements involving single molecules, EPR and NMR.

Since the project combines interdisciplinary elements there are projects from many different areas available. If you are interested please contact Prof. Jens Michaelis (jens.michaelis@uni-ulm.de) or Christian Ganslmayer (christian.ganslmayer@uni-ulm.de) for details.

