

## **PhD project: DNA repair by PARP-1**

Poly(ADP-ribose)-Polymerase 1 (PARP-1) is a highly abundant protein in nucleolus of cells and plays a key role in single- and double-strand break DNA repair processes. Being a cancer therapy target, investigation of interactions between PARP-1 and damaged DNA raises a great interest in the scientific community.

To tackle this topic, we employ a combination of methods from different disciplines, which involve adequately balanced bio lab work (like cloning or protein purification and labelling), biophysics lab work (single-molecule FRET experiments) and computational work (data analysis and modelling).

One of the widely used methods in biophysics is single molecule FRET. Using a fluorescently labeled DNA, structural changes of the damaged DNA upon PARP-1 binding can be observed on a single-molecule level by employing Time Correlated Single Photon Counting (TCSPS). This and many other methods allow to extract structural information about inter- and intramolecular interactions.

We offer you a confocal single-molecule FRET setup and state-of-the-art bio lab equipment for protein expression, purification and labelling, good scientific exchange and working environment and a nice team.

We are looking for highly motivated students, who want to think outside the box, are eager to experience new and exciting things and are not afraid to develop their own way of scientific thinking.

Sounds like something you'd like to do? Join our friendly team with an awesome cake and coffee culture!

Send your applications to: [jens.michaelis@uni-ulm.de](mailto:jens.michaelis@uni-ulm.de)