

## **Collaborations within the DK**

### S. Schild

We are collaborating with the Schild group on the solution NMR structures of the individual domains of membrane-bound *V. cholerae* ToxR/ToxS as well as TcpP/TcpH proteins. The team of S. Schild provides detailed knowledge of the biological system, expertise in bacterial genetics, as well as expression constructions relevant to the project.

### E. Zechner

E. Zechner's lab has extensive experience on various molecular biological aspects involving proteins from the plasmid R1 relaxosome, the R1 partitioning filaments, and the type IV substrate receptor. Purification protocols, established enzyme assays, and a large collection of mutant alleles are available for this suite of proteins.

### K. Gruber

K. Gruber is involved in computational aspects of our projects, in particular the molecular modeling of proteins and nucleic acids. Together we investigate the ligand binding to the enzyme DPP3.

### S.D. Kohlwein and G. Daum

With these two groups we are further investigating *in vivo* the role of a cation- $\pi$  interaction for the catalytic activity of yeast V-ATPase.

### P. Macheroux

Wild-type and mutant forms of the enzyme NQO1 from the Macheroux lab are investigated comparatively to identify differences in the structure and dynamics that can explain their hugely different *in vitro* and *in vivo* properties.

## **Collaborating research groups where PhD Students could perform their research stay abroad**

### Tobias Madl

TU Munich, Germany; The group of T. Madl at the TU Munich opens possibilities for a large array of biophysical and structural investigations, including NMR at highest fields, X-ray crystallography and a dedicated Bio-SAXS (the only one in Germany).

### Remy Loris

Free University Brussels, Belgium; Remy Loris is arguably the leading structural biologist in the field of toxin-antitoxin systems worldwide. His group is also leading in the study of intrinsically unstructured proteins and their investigation by X-ray crystallography.

Peyman Sakhaii

Sanofi, Frankfurt, Germany; Peyman Sakhaii is a methodologically-oriented NMR spectroscopist in industry. He is our main collaboration partner for research in a market-driven field.

Reinhard Wimmer

Aalborg University, Denmark; The group of R. Wimmer has established a series of techniques for using paramagnetic relaxation enhancements. His lab also has experience with large protein-protein complexes studied by NMR spectroscopy in solution.