TWO PHD POSITIONS
»OPTICAL AND ELECTRICAL READOUT OF SINGLE-MOLECULE MEMBRANE PROCESSES ON NANOPORES«

Biological nanopores are an exciting new class of biosensors with main applications in single-molecule DNA sequencing and single-molecule analysis. Within the Research Network »Functional Nanostructures« Baden Württemberg the Institute of Physiology of the University of Freiburg and the Institute of Biophysics of the University of Stuttgart offer two PhD positions (E13, 65%) for a three-year period to engage in the two following subjects:

**DESIGN OF A MICROFABRICATED NANOPORE CHIP** for tracing cellular membrane processes at single-molecule resolution using optical and electrophysiological methods

**DEVELOPMENT OF MICROSTRUCTURED HYDROGEL-LIPID BILAYER ARRAYS** for integration of membrane channel proteins

For these challenging projects, we are looking for two talented and motivated students with strong interest in cell biology, membrane biophysics or chemical biology, using bottom-up integrative nanotechnology design principles. The candidates should hold a Masters Degree in Physics, Chemistry, Chemical Biology, Biochemistry or Biotechnology, Microsystems Technology or equivalent. Expertise in molecular biology (recombinant DNA techniques, protein expression and purification), chemical modification of proteins or peptides, single-molecule imaging, electrophysiology and programming in MATLAB/LabView will be an advantage, but is not a limiting factor.

**Applications should include:**
- Curriculum vitae with your name, address, degree(s) with transcript(s) of grades, research experience, educational and employment history. Please include any awards, distinctions and publications.
- Motivation letter
- Name and e-mail address of two academic references

**The preferred starting date will be in October 2018.**

**Contact:**
- Prof. Stephan Nussberger, Institute of Biophysics (http://www.uni-stuttgart.de/bio/bioinst/biophysik/, nussberger@bio.uni-stuttgart.de)
- Prof. Jan C. Behrends, Institute of Physiology (http://www.physiologie.uni-freiburg.de/research-groups/membrane-physiology-and-technology, jan.behrends@physiologie.uni-freiburg.de)

**References:**