



The newly established **Mathematical Biophysics Group** at the Max-Planck-Institute for Biophysical Chemistry in Göttingen (Germany) focuses on the development and application of methods of mathematical physics and the theory of stochastic processes in the study of phenomena in Biophysics. Our main research focus is currently the non-equilibrium statistical mechanics of single molecules. In particular we aim at a trajectory-based description of macromolecular conformation dynamics as well as of their spatial transport, binding, and reactions. In our work we employ a combination of analytical approaches and computer simulation methods. The group invites applications for:

Ph. D. Student
(Code-Number 07-17)

The Ph.D. student will analyze conformational dynamics in peptides and proteins using atomistic Molecular Dynamics simulations from a trajectory-perspective, with a view to quantify and explain the systematic trajectory-to-trajectory fluctuations observed in single-molecule FRET (smFRET) and PET (smPET) experiments. Emphasis will be put on the statistical mechanics of conformational fluctuations analyzed with novel theoretical concepts developed in the group, as well as on an understanding of the reduction of dimensionality intrinsic to smFRET and smPET. The work will also be complemented by single-molecule FRET experiments performed by external collaborators.

Applicants should have a strong background in Physics or Physical/Computational Chemistry, hold a Masters degree in any of these fields, and should be highly interactive and willing to collaborate efficiently with experts from all natural sciences. Candidates with a solid background in statistical mechanics and/or computational biophysics will be preferred. In addition, candidates should be able to translate physical concepts into program code and be familiar with a scripting and a programming language. Given a good knowledge of English, knowledge of the German language is not required.

The successful candidate will have the chance to participate in one of several available Ph.D. programs, with three years funding and a possibility of extension, in collaboration with the University of Goettingen. The payment and benefits are based on the German TVöD guidelines. The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.

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Please send your application including a cover letter (explaining background and motivation), CV, and publication record (if applicable) preferably **as one single PDF file** to **ausschreibung07-17@mpibpc.mpg.de**.

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