PhD positions in Computational Biophysics

Physics Department T38, Technical University Munich

SFB 1035 (Control of protein function by conformational switching)

Within the SFB1035 a DFG-funded PhD position (salary: 2/3 E13) is available in the Molecular Simulation group (Prof. Zacharias) at TU Munich. Protein-protein and protein-peptide interactions play a major role in basically all biological processes. Many of these interactions involve partner proteins that adopt disordered conformations in solution and fold into defined structures only upon binding to partner molecules. The focus of the planned research is to study coupled folding and binding of peptides upon association with a receptor protein using molecular simulation approaches. The research project will be performed in close collaboration with experimental groups in the framework of the collaborative research center SFB1035. Successful candidates should have a diploma or master degree in either physics, biophysics or physical chemistry combined with a strong interest in (bio)molecular simulations. Experience with the Linux operating system and a programming language is a plus.

CIPSM (Center of Integrated Protein Science Munich)

A PhD position (funded by Excellence cluster CIPSM-DFG) is available in the Molecular Dynamics group at the Technical University of Munich, Germany. Protein-Protein and Protein-peptide interactions are involved in almost all biological processes. The Zacharias group has developed powerful computational methods to predict the structure of protein-protein and protein-peptide complexes based on the isolated partner structures (program package ATTRACT (www.attract.ph.tum.de). The focus of the PhD project is on developing new methods for protein-protein interaction modeling and structural refinement. The methods will be applied to interesting biological targets to better understand the network of protein interactions in a cell. Future extension will include efforts to rationally design new or altered protein-protein interactions. The successful candidates should have a diploma or master degree preferably in physics or physical chemistry and a strong interest in biomolecular simulations and molecular biophysics. Experience with the Linux operating system and a programming language is also required.

The Zacharias research group uses computer simulation methods to study the structure, function and dynamics of biomolecules since many years. The group closely collaborates with experimental groups to better understand structure formation of biomolecules. State-of-the-art computer equipment is available. Please, send (by e-mail) your CV and cover letter describing your research interests including the addresses of two referees to:

Prof. Dr. Martin Zacharias
Theoretical Biophysics-Molecular Dynamics
Physik Department T38
Technical University of Munich
James-Franck-Str. 1
D-85748 Garching, Germany
https://www.t38.ph.tum.de
e-mail: Martin.Zacharias@ph.tum.de