



Interdisziplinäres Zentrum für
Neurowissenschaften der
Ruprecht-Karls-Universität Heidelberg

PhD/Postdoctoral-Position in Bioinformatics

A BMBF-funded PhD position (BAT-IIA/2) or Postdoctoral position (BAT-IIA) is available within the framework of the newly founded Bernstein Group “Detailed Modelling of Signal Processing in Neurons DMSPIN” in the Department of Neurobiology (research group Prof. Schuster) at the IZN of the University of Heidelberg.

This project is a close collaboration between the Department of Neurobiology at the IZN and the Department Simulation in Technology (SiT, Prof. G. Wittum, IWR) at the Höchstleistungsrechner-Kompetenzzentrum Baden-Württemberg and aims at the modelling of development, function and plasticity of a simple synaptic network (see Steinert et al., NEURON 50 [2006], 723-733). Software tools for this task have been developed (NeuSim, NeuGen, *cuG*), but will need to be extended by new features to allow the implementation of realistic data from ultrastructural and electrophysiological experiments. Based on the to be established model the project will assess the relationship between structure and function of a simple developing synaptic network and will thereby provide insight into the basic organization rules of glutamatergic synapses. In particular the question will be addressed why this simple system is equipped with the highly complex plasticity mechanisms found otherwise only in central brain preparations of mammals. The successful candidate should have sufficient experience in bioinformatics and neurosciences.

The IZN and the IWR provide excellent training opportunities (PhD-programs) and a highly interactive Neuroscience and Bioinformatics environment with ample possibilities for interdisciplinary collaborations (Bernstein Group, BioQuant, SFB 488, SFB 636, Medical Faculty, Max-Planck-Institute for Medical Research, ZMBH, DKFZ, EMBL).

Enquiries and applications should be addressed to:

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