PhD Fellowship in Biomolecular Chemistry at Ruhr-University Bochum, Germany.

Starting date: as soon as possible

The EU-funded early stage research training “INTCHEM – Non-Covalent Interactions in Chemistry and Biochemistry” at Ruhr-Universität Bochum is designed to investigate the complex phenomena caused by weak interactions between molecules via non-covalent bonding. A targeted scientific research project is currently available covering various aspects of weak interactions in biochemical systems. Doctoral research is accompanied by a theoretical and practical training programme including state-of-the-art analytical and preparative methods.

This research project will investigate intracellular signalling processes leading to changes in synaptic connectivity and memory function in the brain resulting from environmental stimuli. With this project we would like to establish an integrated approach including molecular (protein structure and dynamics) and systemic aspects of Neuroscience (quantitative proteomics in neuronal protection and brain plasticity) by a joint effort between the group of Neurobiochemistry (Rolf Heumann), Biomolecular Nuclear Magnetic Resonance (Raphael Stoll) and Biomolecular Mass Spectrometry (Dirk Wolters). Weak protein-protein interaction partners involved in the formation of signalling complexes will be investigated using biochemical and biological systems, such as tandem affinity purification methods, the yeast two-hybrid-system, and biomolecular NMR spectroscopy. Candidate protein interaction partners will also be identified using a novel quantitative Multidimensional Protein Identification Technology (MudPIT) based on state of the art mass spectrometry. In addition, we will elucidate the structure, dynamics, binding characteristics and structure-activity relationships of the involved protein-protein interaction modules in complex with their natural targets.

Applicants are expected to hold a very good M.Sc. degree in chemistry, biochemistry or related field. Starting date is as soon as possible but no later than 1 April 2007. Fellowship salaries amount to ca. 1’300 € per month after tax and social contributions. EU mobility regulations apply, i.e. only candidates from EU member states and associated countries can be considered. Specific questions may be addressed to the scientific coordinator of GSCB, Dr. Thomas Koch, GSCB, RUB NC 02/169, Ruhr-Universität Bochum, 44780 Bochum, gscb@rub.de, Tel. 0049 (0)234-32-24374. Send applications per e-mail to Dirk.Wolters@rub.de, phone: 0049 (0)234-32-25463

Further information is available on the INTCHEM homepage: http://www.rub.de/intchem.
Papers:

A) R. Stoll

B) D. Wolters

C) R. Heumann