



**Karolinska
Institutet**

Division of Physiological Chemistry II
Department of Medical Biochemistry and Biophysics
Karolinska Institutet
Scheeles väg 2
SE-171 77 Stockholm, Sweden

Post-doctoral Researcher in Metabolomics

Position: We have an opening for an individual wishing to join a multidisciplinary project in the systems biology of inflammation. The successful candidate will be expected to develop GCxGC-TOF/MS- and APGC-MS/MS-based methods for quantification of small molecules in a range of biological matrices. Applicants should have a Ph.D. in mass spectrometry and/or bioanalytical chemistry, with extensive experience in GC/MS-based analyses of small molecules as well as biological sample preparation techniques. We are especially interested in candidates with prior experience in programming and statistical analysis, including the use of R and SIMCA-P⁺, as well as database construction.

Research: The overall project aims are to elucidate the mechanisms of chronic inflammatory diseases through integrated metabolomics, lipidomics and proteomics studies. The position involves development of mass spectrometry methods for metabolite profiling of bronchoalveolar lavage fluid (BALF), plasma, atherosclerotic plaques and other matrices. Developed methods will be employed in translational research to analyze patient samples from a range of inflammatory diseases, including asthma, chronic obstructive pulmonary disease (COPD), and atherosclerosis. Studies will be performed in close collaboration with clinicians at the Karolinska Hospital. As part of the envisioned systems biology approach, metabolomics data will be augmented with proteomics and transcriptomics data collected at the Karolinska Biomics Center. Data will be incorporated into relational database structures and analyzed with omics-integrating bioinformatics tools and pathway maps in collaboration with the Kyoto University Bioinformatics Center (<http://genome.jp/kegg/>). Accordingly, the successful candidate will work closely with both clinical as well as bioinformatics collaborators. The specific long-term aims of the project are to investigate the mechanisms of chronic inflammatory diseases from a systems perspective, towards the goal of understanding the etiology of disease pathology as well as its subsequent resolution.

Environment: The Department of Medical Biochemistry and Biophysics (MBB) has a strong research tradition that includes Pehr Edman who developed protein sequencing as well as three investigators who have received the Nobel Prize. The Department has recently initiated a new analytical facility that includes acquisition of a GCxGC-TOF/MS system dedicated to this project. Additional equipment in the facility includes new LC-MS/MS and Orbitrap systems. Presently, MBB consists of 10 research divisions which are involved in teaching and research within the fields of protein chemistry, redox biochemistry, metabolism, lipid research, inflammation research, structural biochemistry, molecular biochemistry, tissue biology, and developmental biology.

The Karolinska Institutet is one of Europe's largest medical universities and contains commensurate resources and infrastructure. A total of 600 research groups span the full spectrum of medical disciplines and includes 2,000 researchers, 1,000 technicians, and 2,300 postgraduate students from all parts of the world who take part in both basic and clinical research.

Start date: Funding is available from March 2010, but the start date is negotiable. This position is initially available for 12 months, with potential renewal for an additional 12 months based upon mutual agreement.



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Salary: Salary is stipend-based and includes health insurance.

Applications: Send applications, including research experience, CV and at least two references to Craig Wheelock (craig.wheelock@ki.se). The position is open until filled, but applications should be received by January 31st for full consideration.

Further Information: For additional details of the department and research interests:

<http://www.metabolomics.se/>

<http://www.mbb.ki.se>