

## Postdoc: bioinformatics analysis of LC-MS metabolomics data

**Function title** postdoc  
**Where** Bioinformatics Laboratory, Academic Medical Center, Amsterdam  
**Apply before** June 1, 2010

### Project

The analysis of high-throughput LC-MS metabolomics data is still a challenge. Only few (statistical) methods are currently available for analysis of LC-MS data, and these still require further tuning and development for specific applications. In this project we aim to set up a processing workflow for the analysis of LC-MS metabolomics data that should eventually include methods for, e.g., smoothing, baseline correction, peak finding, alignment of chromatograms, metabolite identification and quantification, basic statistical analysis and more advanced (multivariate statistical) analysis. We aim to use existing methods as much as possible and, therefore, in essence this is not a research project but a project aimed at providing bioinformatics support. The project is part of the FP7 LeukoTreat project, which targets therapeutic challenges in leukodystrophies. Leukodystrophy refers to progressive degeneration of the white matter of the brain due to imperfect growth or development of the myelin sheath. In the project we will focus on lipidomics, i.e., the metabolomics analysis of lipids. The current position will be part of a collaboration between the Laboratory for Genetic Metabolic Diseases ([www.labgmd.nl](http://www.labgmd.nl), AMC), the Bioinformatics Laboratory ([www.bioinformaticslaboratory.nl](http://www.bioinformaticslaboratory.nl), AMC) and the Biosystems Data Analysis group ([www.bdagroup.nl](http://www.bdagroup.nl), UvA). We expect to closely collaborate with the Netherlands Metabolomics Center (NMC; [www.metabolomicscentre.nl](http://www.metabolomicscentre.nl)).

### Tasks

The candidate will be embedded in the Bioinformatics Laboratory and will implement a workflow for processing LC-MS metabolomics data. He/she will use existing methods (e.g., xcms, mzMine, etc) as much as possible and develop new modules when required. The candidate will analyze datasets obtained in the Laboratory for Genetic Metabolic Diseases and produce clear reports about the results. The candidate is willing to spend a short period at the Netherlands Metabolomics Center (Leiden) to acquire initial skills. Once an initial workflow for pre-processing is established, the candidate will work closely together with the Biosystems Data Analysis group for the multivariate analysis and to incorporate a selection of these methods into the workflow. The candidate is willing to contribute to meetings of the LeukoTreat project.

### Requirements

We are looking for an enthusiastic communicative team player with

- strong background in (multivariate) data analysis and knowledge or a proven interest in biology (lipidomics);
- experience with the analysis of high-throughput LC-MS metabolomics data;
- experience with the statistical package R
- good programming skills (e.g., Perl, Java) and knowledge of Unix
- Team player and good communicative skills

### Additional conditions of employment:

The appointment will be on temporary basis for one year with a possibility to extend for another year. Based on a full-time appointment (36 hours per week), compensation will be according to standard salary levels for postdocs according to skills and experience (max €3279,- gross per month)

Additional information about the vacancy can be obtained from:

Prof. dr. Antoine van Kampen  
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[www.bioinformaticslaboratory.nl](http://www.bioinformaticslaboratory.nl)

**Contact:** Applications should include a detailed curriculum vitae and a letter of motivation, and be sent to:

AMC Medical Research BV.  
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