Scientific programmer / junior research / postdoc:

BioExpert. Using knowledge bases in systems biology

Function title: Scientific programmer / junior research / Postdoctoral Researcher
FTE: 1,0 fte (38 hours per week) / 3 years
Available per: A.s.a.p.

About the position:

Project
Systems biology is rapidly developing as the scientific approach to understand complex biological systems consisting of a large number of components and their interactions. Experimental information about the components of the system and their interplay is used to develop and test mathematical models. The experimental work, biological knowledge and experimental data and computational models are cornerstones in an iterative cycle of data-driven modelling and model-driven experimentation in the Netherlands Consortium for Systems Biology (NCSB; www.sysbio.nl). We now have a position available within the BioExpert project (see also http://www.peroxisomekb.nl/). This position is funded by the NCSB programme.

In the BioExpert project we develop a novel Information Management framework that is based on semantic web technologies such as RDF and SKOS. Based on this framework we implement high-quality domain-specific knowledge bases. In collaboration with NCSB groups we aim to further develop the information management framework and implement specific knowledge bases that support and further advance systems biology. The content of the knowledge base will depend on our collaborations.

Tasks
Your main tasks are (a) acquisition of domain knowledge (biological pathways, computational models and parameters, etc) for selected biological systems, (b) representation (RDF, SKOS) of biomedical knowledge within the current framework, (c) integration of knowledge (both within the knowledge base as well as with external databases) (d) further development of the BioExpert user interface to allow querying/browsing (SPARQL) and the (graphical) presentation (e.g., concept maps, tables) of knowledge. Each of these aspects are considerable challenges. The representation and use of biomedical knowledge is novel and no standard approaches or methods exist. Furthermore, the use of semantic web technologies (RDF, SKOS, SPARQL) in life sciences is new and we aim to develop adequate approaches for knowledge representation. For the development of the user-interface we aim to use state-of-the-art web technologies to enable the development of an intuitive and attractive application that allows end-users to gain overview and insight in a specific biomedical domain.

Requirements
We are looking for an enthusiastic candidate with a background in (bio)informatics and sufficient knowledge of biology. Depending of the experience, expertise and skills of the candidate we will define the precise tasks within the scope of the project. Scientific programmers, junior researchers and postdocs are invited to apply.

The candidate should at least meet the following requirements:

- Experience and expertise in a relevant scientific discipline (e.g., (bio)informatics);
- Sufficient knowledge and interest in (systems) biology.

- Excellent software (and user-interface) developer.
- Extensive experience with Java
- Knowledge of semantic web technologies is a pre
- Sufficient social skills to perform optimally in a dynamic scientific team and willingness to collaborate with colleagues from other NCSB groups.

About the employer:
The University of Amsterdam (UvA) is a university with an internationally acclaimed profile, located at the heart of the Dutch capital. As well as a world centre for business and research, Amsterdam is a hub of cultural and media activities. The University of Amsterdam is a member of the League of European Research Universities.

The Faculty of Science of the University of Amsterdam (UvA) is one of Europe 's foremost institutions for higher education and research in its chosen fields of specialization. It plays an active role in international science networks and collaborates with universities and industry. The Faculty has approximately 2,000 students and 1,500 staff members spread over four departments and ten research institutes. Each institute has its own research programme, a substantial part of which is externally financed by the Netherlands Organization for Scientific Research (NWO), the Dutch government, the EU and various private enterprises.

In 2010, the Faculty will relocate to Science Park Amsterdam. Ambitious building projects are paving the way for this relocation. The move will make the Park one of the largest centres of academic research in the Netherlands .

The Swammerdam Institute for Life Sciences (SILS) is one of the Faculty's largest institutes. Within it, approximately 250 scientists and staff members perform excellent research centred on four themes: 1) The Living Cell, 2) Plants and Health, 3) Inside and Beyond the Brain, and 4) Life Science Technologies. Institute members give advanced lectures and courses, while the SILS itself stimulates scientific cooperation between participating groups and colleagues all over the world.

Additional information:
Employment basis: Temporary for specified period
Duration of the contract: 3 years
Maximum hours per week: 38
Additional conditions of employment:

The appointment will be on temporary basis for a maximum period of three years. Based on a full-time appointment (38 hours per week), the gross monthly salary depends on the experience and expertise. The collective employment agreement of Dutch universities is applicable.

Additional information about the vacancy can be obtained from:

Prof. A.H.C. van Kampen
BioSystems Data Analysis
Telephone number: +31 (0) 20 566 7096
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www.bioinformaticslaboratory.nl
www.bdagroup.nl

Contact:

Applications should include a detailed curriculum vitae and a letter of motivation (all in pdf), and send by email to a.h.vankampen@amc.uva.nl