Vacancy

The Netherlands Institute for Systems Biology (NISB) and Centrum Wiskunde & Informatica (CWI) invite applications for the position of a

Postdoc position (two years, wih possibility for extension):
Computational modeling of structural genomic variation in hierarchically-regulated gene networks

The opening is a research position within the field of **computational biology**

Research background
Structural variation of the genome, including translocation of DNA chunks across chromosomes, inversions, and deletions can have enormous impact on gene expression and consequently on cell function. Hierarchical regulation mechanisms, including conditional DNA folding and nuclear lamina interactions, can switch gene clusters between a state rendering the genes inaccessible to transcription and a "permissive" state in which gene transcription is possible.

The consequences of hierarchical network organization for the dynamics and evolution of gene networks are poorly understood. In this project you will develop computational and mathematical modeling approaches to explore the effects that structural genomic variation can have on gene expression in hierarchically-structured gene networks on single-organism and evolutionary time scales.

Job description
The postdoc will develop and analyze theoretical, evolutionary models of hierarchical gene network regulation using discrete and/or continuous modeling approaches. Model insights and predictions based on artificial and actual regulatory networks will be interpreted in close collaboration with two functional genomics groups that participate in the NCSB: the Edwin Cuppen group at the Hubrecht laboratory, Utrecht and the Lodewyk Wessels group at the Netherlands Cancer Institute in Amsterdam.

Location
The work will be embedded in the Biomodeling and Biosystems Analysis group of the Netherlands Institute for Systems Biology (NISB; www.sysbio.nl) and within the Life Sciences group of the Center for Mathematics and Computer Science (CWI) in Amsterdam. As the "core modeling group" of the Netherlands Consortium for Systems Biology, the Biomodeling and Biosystems Analysis group develops quantitative and predictive models and multiscale computer simulations in collaboration with systems biology groups at participating institutes.

Profile
Candidates ideally fulfill the following criteria:
- Ph.D. theoretical biology, computer science, mathematics or a related discipline
- able to communicate with scientists in biology and mathematics
- good programming skills in C++ or equivalent

Conditions of employment
The vacancy concerns a temporary research position for two years, with possibility of extension. The salary and terms of employment are in accordance with the "CAO-onderzoekinstellingen" and are based on qualifications. Besides the salary and excellent working conditions, CWI offers attractive and flexible terms of employment, like a collective health insurance, pension-fund, and initial help with housing for foreigners. The position is at postdoc level for 38 hrs/week.

Website
http://www.sysbio.nl

Applications and requests for information
Direct requests for information or applications **before 1 December 2008** to:

Dr. Roeland Merks, Roeland.Merks@sysbio.nl
phone +31 20 592 4117, skype: roelandmerks
Center for Mathematics and Computer Science (CWI) and Netherlands Institute for Systems Biology (NISB)
Kruislaan 413, 1098SJ Amsterdam, The Netherlands