**Job description PhD student**

***Research context***

This job opening has been created in the context of an FWO research grant entitled: “Micropeptides as a new class of bio-active peptides in higher eukaryotes.” The student will be working in a multi-disciplinary environment within a collaboration of three different research groups: the BioBix Lab of Bioinformatics and Computational Genomics (Ghent University), the Center For Proteomics-VITO (University of Antwerp) and the Research group of Functional Genomics and Proteomics (KULeuven).

***Job Description***

The objective of this project is to **discover and characterize new micropeptides** (bio-active peptides encoded from small open reading frames, sORFs) in different species such as *Drosophila melanogaster* and *Mus musculus*. The project combines both wet-lab and theoretical (*in silico*) experiments. **Ribosome profiling** experiments (a recently described NGS-based technique to sequence ribosome-captured mRNA fragments) will detect the coding mRNA. Furthermore different **MS-based peptidomics/proteomics** strategies will be performed attempting to confirm the discovery of these micropeptides from the aforementioned NGS experiment. Specific tasks include preprocessing, statistical validation and genome-wide visualization of sequencing and mass spectrometry data, development of an *in silico* prediction pipeline for putatively coding sORFs, and integration of the ribosome profiling information in the matching mass spectrometry research.

A start date of 1 March 2014 is proposed but this is flexible depending on the availability of the successful candidate.

***Profile***

The successful candidate will have obtained or will soon obtain a Master’s degree in a relevant field (sciences, informatics, statistics, (bio-) engineering) and will have a keen interest/knowledge in bioinformatics and data processing. Experience in computational genomics or proteomics is considered an advantage. Experience with programming languages (notably Perl, Python, Java, C++) and/or relational database systems (e.g., MySQL, SQLite) is considered an advantage.

***Contact***

Please submit a cover letter, a full c.v., and a list of at least two contact persons (with name, email, address, phone number) for letters of reference to Gerben.menschaert@ugent.be, or: Gerben Menschaert, BioBix Lab of Bioinformatics and Computational Genomics, Coupure Links 653, Building A, B-9000 Gent, BELGIUM.

***Links***

<http://www.biobix.be>