The Data Science Institute (DSI) and the Interuniversity Institute for Biostatistics and statistical Bioinformatics (I-BioStat) of Hasselt University announces two positions for a (m/f):

PhD researcher in Statistics/Biostatistics/Bioinformatics (2X2 years):

Association, Causality and Biomarker Discovery in Translational Microbiome Research

Project description

At the Data Science Institute of Hasselt University, we are looking for **two PhD candidates to work on statistical and bioinformatics methods for microbiome data analysis**.

This project is funded for four years by the Special Research Fund (BOF) of Hasselt University and will start in 2021. Our project is a genuine interdisciplinary project in which three university research institutes are involved: the Data Science Institute (DSI), the Centre for Environmental Science (CMK) and the Biomedical Research Institute (BIOMED). Apart from the two PhD candidates that are subject of this announcement, the project will also involve two PhD students working on microbiome data visualization and wet lab experiments. The project is supervised by 6 professors from these three research institutes.

Brief description of the overarching project:

The introduction of next generation sequencing technologies has pushed microbiome research to previously unseen levels, opening a route towards improved sustainable crop production and disease prevention and treatment. Existing data analysis methods, however, still fail to give reliable and reproducible conclusions, because they insufficiently cope with the very specific data characteristics (high zero frequency, overdispersion, compositional, ...). The research project consists of four PhD projects: (1) develop robust and flexible statistical methods for analysing clustered and longitudinal microbiome data; (2) develop statistical joint models for integrating microbiome with other clinical outcome data for biomarker discovery; and (3) develop informative visualisation tools for integrating microbiome data with other (high-dimensional) data sources. The fourth PhD student will be involved in a wet-lab pilot study for studying the effect of the plant microbiome on the fecal and gut microbiome of mice and their effect on the immune response. **At this time, we are looking for two PhD candidates to work on projects (1) and (2):** clustered and longitudinal microbiome data, supervised by Prof. Olivier Thas**, and** integrating microbiome for biomarker discovery, supervised by Prof. Ziv Shkedy.

Profile and diploma

We are looking for motivated candidates with a master degree in statistics, biostatistics, bioinformatics or similar. As a PhD researcher you will join the dynamic research team in DSI and will collaborate with scientists from both academia and industry. A successful candidate should have

- A master degree in biostatistics/bioinformatics/statistics or equivalent.
- You are acquainted with statistical methodologies and have programming skills in R.
- You can work independently and within a team.
- You have excellent communication skills.
- You are interested to develop new methodology and apply it to complex datasets.
- You enjoy working in a multidisciplinary and multicultural environment.
- You fluently speak and write English.

Offer

The appointment should start in 2021, for a period of 4 years.

Further information

Prof. Olivier Thas (Olivier.Thas@UHasselt.be) and Prof. Ziv Shkedy (Ziv.Shkedy@UHasselt.be).

Application

Send your application to Olivier.Thas@UHasselt.be and Ziv.Shkedy@UHasselt.be. The application should include your detailed study results and a letter of motivation.

The selection procedure consists of a preselection based on the application file and an interview. A presentation or assignment is a possibility.

The procedure will stop when the two positions are filled.

Candidates who are not yet in the possession of a master degree but who anticipate to graduate before the end of 2021, are also invited to apply.