

## Fully Funded Postdoctoral Position in Biostatistics/Computational Biology for Women's Health

A 1-year (renewable) postdoctoral position in biostatistics / computational biology is open in the non-clinical biostatistics unit of [ISBA](#) (Institute of Statistics, Biostatistics, and Actuarial Sciences) at [UCLouvain](#) in Belgium.

The project focuses on the **analysis and integration of several omic datasets** that have been generated from samples collected from participants of the [FRESH Lactin-V trial](#). The FRESH clinic is located in [Durban, South Africa](#), and the FRESH Lactin-V trial enrolled local participants who are at high risk of HIV infection. The trial aims at evaluating the benefits of a live probiotic ([Lactin-V](#)) for lowering vaginal inflammation and restoring a healthy vaginal microbiota and, as a consequence, preventing HIV acquisition.

### The position

Your main responsibilities will be to analyze and integrate several omic datasets to identify variables associated with lowered inflammation and summarize changes induced by the probiotic. This will include:

- preprocessing the diverse omic datasets and performing quality control on these datasets,
- applying supervised multi-omic (multi-view) methods (and proposing adaptations when needed) to identify factors associated with product success,
- applying unsupervised multi-omic methods to describe trajectories of the vaginal ecosystem in both study arms, and
- regular meetings with the study team, and consulting on additional univariate analyses carried out by colleagues.

This position does not include teaching responsibilities, but if the candidates desire some teaching experience, UCLouvain offers teaching opportunities.

### Your working environment

Upon joining, you will be affiliated with the *Institute of Statistics, Biostatistics, and Actuarial Sciences (ISBA)*, one of the research centers of the *Louvain Institute of Data Analysis and Modeling in economics and statistics (LIDAM)*, at the [Université catholique de Louvain](#), in Belgium. Building on almost 600 years of experience, the *Université catholique de Louvain* is at the forefront of innovation and excellence in education and research, ranked first among Belgian francophone universities.

Currently, the institute (ISBA) hosts a dozen faculty members and 15-30 young researchers (Ph.D. students and post-doc researchers). ISBA offers a stimulating environment for early-stage researchers (see [Key Facts and Figures](#)). It regularly organizes seminars, short courses, and workshops, facilitating the ongoing education and training of postdoctoral scholars and preparing them for their next venture.

UCLouvain provides access to high-performance computing clusters and storage managed by a dedicated IT team.

For this project, you will be working closely with [Assistant Prof. Laura Symul](#) and with the FRESH Lactin-V trial team, including [Prof. D. Kwon \(Ragon Institute / MIT / Mass Gen / Harvard, USA\)](#), [Prof. S. Holmes \(Stanford University, USA\)](#), [Prof. L. Liebenberg \(Stellenbosch University, South Africa\)](#).

The FRESH Lactin-V trial is one of the many projects of [the Vaginal Microbiome Research Consortium \(VMRC\)](#) and is funded by the Bill & Melinda Gates Foundation. This project will provide you with an opportunity to be part of an international consortium of highly skilled and diverse collaborators throughout the US and Africa.

### Candidate requirements

- A Ph.D. in **applied statistics, biostatistics, or computational biology** (or equivalent research experience) and good knowledge of the methods covered in this [textbook](#) (Modern Statistics for Modern Biology).
- **Prior experience analyzing biological data** and a good ability to translate biological questions into statistical ones.

- Extensive experience with **R**, good knowledge of **Bioconductor** data structure (e.g., SummarizedExperiment, MultiAssayExperiment, etc.), and enthusiasm for the *tidyverse* philosophy.
- Experience with tools facilitating **open and reproducible research** (e.g., Rmarkdowns, Quarto documents, or Jupiter notebooks)
- Demonstrated proactivity and ability to work in teams.
- Good written and oral **communication** skills.
- Commitment to contribute to an **inclusive research environment**.

### Funding and working conditions.

The position is fully funded for at least a year. Net salary ranges from 2700 to 3200 € based on previous experience and international mobility. There are numerous opportunities to apply for funding to extend the postdoctoral fellowship (through career grants or participation in follow-up projects).

We strive to offer a friendly and supportive work environment through **flexible working hours** (for example, for your young parents) and the possibility of **working from home part-time**. To facilitate and encourage interactions among team members, meetings are preferably scheduled in-person. Team members are encouraged to join courses and conferences in Belgium and abroad to present their work.

### Working in Louvain-la-Neuve and living in Belgium.

If you are an international scholar interested in this position and have questions about our campus and what it is like to live in Belgium, I invite you to consult [this website](#). UCLouvain has a dedicated office to help you navigate the various administrative processes you will go through. Our campus is a pedestrian town with all the amenities you would need. It is easily reachable by bus or train from Brussels, with numerous opportunities to quickly develop a good social network of national and international students and young professionals.

### Application

To apply for the position, please email the following documents to Laura Symul (laura.symul[at]uclouvain.be):

- A **cover letter** describing your interest in the position and how you match the requirements.
- A **detailed CV** that includes a list of publications, pre-prints, posters, and/or software contributions; a link to publicly available code/data analysis you have contributed to; education and professional experience; awards; teaching experience; any additional information you deem relevant.
- If no code is publicly available, please include a document or script that best illustrates your programming experience and interests.
- Among your past work/projects, select one and provide a short narrative describing your motivations, your specific contributions, and the skills you have gained through it.
- A list of at least 2 academic references (past mentors or colleagues).

Please contact me (Laura Symul) with any questions about the position. Once you apply, I will reply with an email confirming I've received your application within a week. If you have not received that confirmation email, please email again.

The position is currently open, and applications are accepted. The starting date is to be defined with the candidate and is expected to be during the spring of 2024.

Candidates from Sub-Saharan Africa (where the samples have been collected) and women are strongly encouraged to apply.