

4-YEAR PhD POSITION IN STATISTICAL GENOMICS / COMPUTATIONAL GENOMICS

START DATE: 01/09/2026 | DEADLINE: 06/04/2026

Located in the French-speaking part of Belgium, the University of Liège welcomes nearly 27,000 students of 123 different nationalities in a dynamic, multicultural city less than an hour away from Brussels and Cologne, two hours from Paris and three hours from London and Amsterdam. ULiège is spread across 4 campuses and boasts over 5,700 staff members, including 3,600 teachers and researchers active in all areas of the humanities and social sciences, science and technology, and health sciences.

As a key player in social change and environmental awareness, ULiège promotes ethical, transdisciplinary and open science. It contributes to the socio-economic development of its region through numerous partnerships with several institutions, including the university hospital (CHU). Given its international orientation, the University participates [in the European University of Post-Industrial Cities \(UNIC\)](#) initiative and has one of the most extensive collaborative networks in the world.

ULiège offers attractive career prospects [in a high-quality working environment](#) where well-being, diversity and equality of opportunity are promoted. Since 2011, ULiège has been proud to display the European [Human resources strategy for researchers \(HRS4R\)](#) label, which reflects its commitment to open, transparent and merit-based procedures. In addition, it upholds quality and diversity in line with the recommendations of the [Coalition for Advancing Research Assessment \(CoARA\)](#). ULiège encourages its academic staff to travel internationally and welcomes international researchers through its EURAXESS center.

ABOUT THE RESEARCH PROJECT

The project «PangenomiX - Assessing impacts of sex chromosomal structural variants on reproduction- and meiosis-related traits in cattle through pangenomes and advanced imputation and association method» is a joint project co-developed by Dr. Tom Druet and Prof. Hubert Pausch. PangenomiX was recently funded as a Weave-project by the Fonds de la recherche scientifique (F.R.S.-FNRS) and the Swiss National Science Foundation.

PangenomiX aims to study how structural variants (SV) on the sex chromosomes contribute to genetic variation in complex traits, particularly those related to reproduction and meiosis. To this end, a new cattle pangenome that includes near complete assemblies of the sex chromosomes will be generated and statistical methods will be developed to transfer information from the pangenome variation panel to large mapping populations through imputation so that association testing between complex traits and SVs will eventually be possible.

This 4-years project builds upon previous research conducted by the [Animal Genomics group](#) and the [Quantitative Genetics & Genomics group](#). We have collected large amounts of long read

sequencing data (PacBio HiFi) to build genome assemblies and integrate them into pangenomes. This allowed us to investigate the distribution of structural variants in cattle and related species, construct different pangenome graphs, and identify trait-associated structural variants. Moreover, we have developed imputation methods that provide accurate genotypes in pedigreed populations, and haplotype-based association testing approaches, including some that had specifically been designed for the sex chromosomes.

[PangenomiX](#) will exploit large-scale long and short read sequencing data from two cattle populations to characterize structural variant diversity on the sex chromosomes and investigate how these types of variants influence male fertility and recombination rates.

JOB DESCRIPTION

Two doctoral candidates will be recruited on the project. Full information on the two positions is available at https://jobs.ethz.ch/job/view/JOPG_ethz_yFljDVyQe8rGR1wwVL.

The first doctoral candidate will work at ETH Zurich. The present offer concerns the second candidate that will focus on imputation and association testing. This sub-project will be closely supervised by Dr. Tom Druet at the University of Liège. Close collaboration of both doctoral students is expected. Research exchanges between both groups are anticipated (short stays).

SPECIFIC DUTIES AND ACTIVITIES

- ▶ Development of approaches to impute structural variants into large mapping cohorts that have array- or short read sequencing-derived genotypes
- ▶ Testing the resulting genotypes for association with complex traits using methods that allow to account for the multi-allelic nature of the SVs
- ▶ Participate to the construction of a pangenomes from long read sequencing data collected from two cattle breeds (including the Belgian Blue beef cattle breed)
- ▶ Analyse traits related to reproduction and meiosis (recombination) in Belgian Blue beef cattle

PROFILE

○ REQUIRED SKILLS :

- ▶ MSc degree in genetics, genomics, computational biology, bioinformatics, animal sciences or disciplines related to the PhD position
- ▶ Highly motivated with a strong research interest in statistical genomics, computational biology, computational genomics, or animal genomics
- ▶ Experience with a programming language (e.g., python, R) and basic working knowledge with high-performance computing clusters
- ▶ Strong interest/affinity for computational genomics, bioinformatics, and/or statistical genomics
- ▶ Ability to write scientific manuscripts and present research at international conferences

- **DESIRABLE SKILLS :**
 - ▶ Prior experience with genomic data analysis on a high-performance computing cluster
- **HUMAN SKILLS :**
 - ▶ Enthusiastic, highly motivated and proactive
 - ▶ Strong communication skills
 - ▶ Team spirit
 - ▶ Reliable, trustworthy, and able to work independently
- **LANGUAGES :**
 - ▶ Good command of English (written and spoken)

WE OFFER

- ▶ A 4-year full-time contract with a basic gross monthly salary for full-time work of around 2.800€ (tax-exempt).
- ▶ We offer the opportunity to join the [Unit of Animal Genomics](#), a dynamic group based at the GIGA-R centre. The team is an international group of researchers with complementary expertise in various fields of animal genomics. You will have your own responsibilities within the project and the flexibility to design and pursue your own research ideas within the scope of the overall project. You will also have the chance to collaborate with national and international partners.
- ▶ Employment benefits such as access to a [variety of training](#) opportunities are also included.

TERMS OF EMPLOYMENT

- ▶ **TYPE OF CONTRACT:** Fixed-term contract
- ▶ **WORK SCHEDULE:** Monday-Friday, approximately 9 a.m. to 5 p.m.
- ▶ **CONTRACT DURATION:** 4 years (to be renewed each year)
- ▶ **EXPECTED START DATE:** 01/09/2026

HOW TO APPLY?

Applications should include cover/motivation letter that demonstrates your suitability for the offered position and addresses the research questions you would like to develop within the doctoral project, curriculum vitae with complete academic record, copies of bachelor's and master's degrees, and name and contact information of two references.

Applications must be submitted by 6 April 2026 at the following link:

https://jobs.ethz.ch/job/view/JOPG_ethz_yFljDVyQe8rGR1wwVL

Please note that we exclusively accept applications submitted through our online application portal. Applications via email or postal services will not be considered.

SELECTION PROCEDURE

- ▶ The first selection will be based on the quality of the application (CV, PhD, publications, etc.). This screening phase will take place shortly after the 6 April deadline.
- ▶ The second selection step will consist of interviews. Interviews will be conducted online and/or on-site, depending on feasibility and candidates' availability.
- ▶ Candidates will be selected by Prof. T. Druet and Prof. H. Pausch.

Our corporate policy is based on diversity and equal opportunity. We select candidates on the basis of their skills and do not discriminate on grounds of age, sexual orientation, origin, beliefs, disability or nationality.

CONTACT DETAILS

Informal inquiries about the project are welcome (no applications). Please feel free to contact Tom Druet (tom.druet@uliege.be) or Prof. Hubert Pausch (hubert.pausch@usys.ethz.ch).

Release date: 05/03/2026

Privacy policy

Personal data collected following your application will be processed by Tom Druet of the University of Liege for the sole purpose of recruitment.

The data will be processed within the framework of pre-contractual measures (art. 6-1, b. of the General Data Protection Regulation) and kept for up to 9 months after the publication of the vacancy. Your personal data will not be passed on to any third parties.

In accordance with the provisions of the GDPR (EU 2016/679), you may exercise your data protection rights (right of access, rectification, erasure, restriction, and portability) by contacting ULiège Data Protection Officer (dpo@uliege.be - Mr. Data Protection Officer, Bât. B9 Cellule "GDPR", Quartier Village 3, Boulevard de Colonster 2, 4000 Liège, Belgium). You may also lodge a complaint with the Data Protection Authority (<https://www.autoriteprotectiondonnees.be> , contact@apd-gba.be).