External Job Advertisement Reg. Nr. 5-6344/25-D

Modern, interconnected, conscious of tradition: Martin Luther University Halle-Wittenberg (MLU) is the oldest and largest university in the State of Saxony-Anhalt with a history dating back more than 500 years. Today more than 20,000 students are enrolled at the university. MLU's core research areas are in the nanosciences and biosciences, the Enlightenment, as well as in social and cultural research. The university is also home to a range of small disciplines, some of which can be found nowhere else in Germany. The university has excellent national and international ties, and works closely together with leading research institutes, industry, and more than 250 universities around the world.

The Faculty of Natural Sciences III, Institute of Computer Science, at Martin Luther University Halle-Wittenberg is seeking a part-time (65 %)

Research Associate (m-f-d)

for a fixed term of 3 years starting as early as possible.

Remuneration will be determined based on job duties and responsibilities and will be aligned with the fulfillment of listed personal requirements, up to pay grade 13 under the *TV-L* (*Tarifvertrag für den Öffentlichen Dienst der Länder* – 'German Public Service Pay Agreement for the Federal States').

Project: Decoding evolution, expression, and virulence function of *Xanthomonas* TALEs across plant hosts

Xanthomonas bacteria are plant pathogens infecting many crop plants with profound impact on human food production. This project aims at studying the interactions between plant-pathogenic *Xanthomonas* bacteria and the infected host plant by an interdisciplinary approach between biology and bioinformatics. The project will focus on transcription activator-like effectors (TALEs), bacterial proteins that act as transcriptional activators of host plant genes and are key virulence factors of many *Xanthomonas* pathogens.

Job Responsibilities:

- Improvement of the software suite AnnoTALE (https://doi.org/10.1038/srep21077) with regard to its functions and efficiency
- Assembly of the genomes of *Xanthomonas* bacteria based on Oxford Nanopore Reads with a focus in TALE genes (https://doi.org/10.1186/s12864-023-09228-1)
- Analysis of (dual-)RNA-seq data (Oxford Nanopore) of *Xanthomonas* and rice during the infection
- Analysis of ChIP-seq data of transcription factors in rice
- Prediction of TALE target genes and comparison of predictions with expression data (RNA-seq) in the infection of cotton with *Xanthomonas* bacteria
- Development of methods for the analysis of evolutionary mechanisms in *Xanthomonas* and the impact of natural variation in host genomes
- Supervision of theses (B.Sc. and M.Sc.) related to the project
- Opportunity for own scientific qualification (PhD)

Requirements:

- Excellent M.Sc. degree (or equivalent) in bioinformatics or a closely related discipline
- Profound knowledge in bioinformatics, especially sequence analysis

- Basic knowledge in some of the areas: genome analysis, gene regulation, DNA-binding proteins, plant-pathogen interactions
- Solid programming skills in Java and R, Unix shells
- Excellent English language skills (active and passive, written and spoken)
- Highly motivated to work in an interdisciplinary environment and ability to work in a team
- Existing knowledge/experience in one of the following fields is considered a plus: genome assembly based on long-read data; analysis of ChIP-seq/RNA-seq data; evolutionary mechanisms, especially in bacteria; natural variation
- Team spirit, very good communication skills and a careful way of working

We offer:

- an interdisciplinary environment with direct collaboration between bio-sciences and bioinformatics
- working on state-of-the-art data with diverse opportunities for developing own bioinformatics methods
- public service employment with remuneration according to the Tarifvertrag der Länder (TV-L) ('Collective Agreement for the Public Service') including an annual special payment and a company pension
- 30 days of annual vacation plus additional days off on December 24 and 31
- a family-friendly, diversity-oriented, and intercultural work environment at a certified family-oriented university, including holiday childcare
- comprehensive staff development throughout all career stages with diverse training and qualification opportunities
- a health management framework to promote and maintain good health, as well as a broad university sports program

Applications from disabled persons, including those of equal status (as certified by the *Bundesagentur für Arbeit* / Federal Employment Agency), will be given preferential consideration if they are equally suitable and qualified. Women are strongly encouraged to apply. Applications from individuals of all nationalities are explicitly welcome. Applicants with a degree that was not obtained at a German university must submit a Statement of Comparability for Foreign Higher Education Qualifications from the Central Office for Foreign Education (ZAB) (https://www.kmk.org/zab/central-office-for-foreign-education) as proof of equivalence upon conclusion of the employment contract. You can find ways to apply for a financial grant for this under: https://www.anerkennung-in-deutschland.de/html/de/pro/anerkennungszuschuss.php#.

If you have any questions, please contact PD Dr. Jan Grau, Tel.: +49 345 55-24768, Email: grau@informatik.uni-halle.de.

Please send your application until 01/07/2025, including Reg. No.: 5-6344/25-D, with the required documents to Martin Luther University Halle-Wittenberg, Faculty of Natural Sciences III, Institute of Computer Science, PD Dr. Jan Grau, E-Mail: grau@informatik.uni-halle.de

This job posting is subject to potential budgetary restrictions.

Application costs will not be reimbursed by Martin Luther University. Application documents will only be returned if a sufficiently stamped envelope is enclosed. Electronic applications are welcome.