

The Institute of Phytopathology at the **Christian-Albrechts-Universität** in **Kiel**, Department of Phytopathology and Crop Protection (Head Prof. Dr. Remco Stam) has a vacancy for the position of

PhD Student in pathogen genetic diversity

initially for a limited period of three years. If the requirements of the collective agreement are met, the position will be classified in pay group 13 of the TV-L (65%).

The candidate will participate in a project in collaboration with a large agricultural firm investigating the genetic diversity and spread of a major crop pathogen.

Within the project we aim to collect several hundreds of pathogen isolates. By using whole genome sequencing and epidemiological models we want to assess the genetic diversity of the pathogen, its dispersal and the impact thereof on crop protection strategies.

Job description:

This PhD project will encompass a diverse range of tasks, that include, but are not limited to:

- Data analyses: genetic diversity and epidemiological data analyses.
- (Coordination of) sample collection (field) and preparation (lab work)
- Communication with stakeholders: industry partners, field owners
- Preparation of reports, presentations and publications in the field of evolutionary genomics or population genomics and epidemiology of phytopathogens
- Organisational tasks within the department
- Supervision of MSc and BSc theses and HiWis.

We offer:

- An exciting project in a dynamic department working on a broad range of phytopathological subjects.
- Excellent working opportunities for Genomics analyses through direct access to the CAU HPC.
- A high level of independence to develop the research project.
- The opportunity to develop further through seminars and courses organised by the CAU Graduate Centre.
- The possibility to interact with genomics and epidemiology experts in industry.

Requirements profile:

- Msc in biology, bioinformatics, plant sciences, agricultural sciences or a related science subject.
- Knowledge in evolutionary genomics or population genomics and experimental design
- Experience with NGS data analysis
- Scripting experience (Bash, R and/or Python)
- Interest in epidemiology of plant pathogens
- Flexibility, an independent working style and ability to work in a team
- Field and laboratory experience with fungal plant pathogens, including isolation, propagation and DNA extraction is desired.
- A driving license category B is highly desired, as the selected candidate need to be able to access the field sites.

Relevant literature:

Population-level deep sequencing reveals the interplay of clonal and sexual reproduction in the fungal wheat pathogen *Zymoseptoria tritici*. Singh NK*, Karisto P, Croll D (2021). *Microbial Genomics* <https://doi.org/10.1099/mgen.0.000678>

Whole Genome Sequencing Elucidates the Species-Wide Diversity and Evolution of Fungicide Resistance in the Early Blight Pathogen *Alternaria Solani* Severin Einspanier, Tamara Susanto, Nicole Metz, Pieter J. Wolters, Vivianne G. A. A. Vleeshouwers, Åsa Lankinen, Erland Liljeroth, Ralph Hüchelhoven, Hans Hausladen and Remco Stam* (2022). *Evolutionary Applications* <https://doi.org/10.1111/eva.13350>

Population Genomics of Filamentous Plant Pathogens—A Brief Overview of Research Questions, Approaches, and Pitfalls S. Everhart, N. Gambhir and R. Stam* (2021) *Phytopathology* <https://doi.org/10.1094/PHYTO-11-20-0527-FI>

The current epidemic of the barley pathogen *Ramularia collo-cygni* derives from a recent population expansion and shows global admixture R. Stam*, H. Sghyer, A. Tellier, M. Heß, R. Hüchelhoven, (2019) *Phytopathology* 109 (12) :2161-2168 <https://doi.org/10.1094/PHYTO-04-19-0117-R>

Applications:

Christian-Albrechts-Universität zu Kiel sees itself as a modern and cosmopolitan employer. We welcome your application regardless of your age, gender, cultural and social origin, religion, ideology, disability or sexual identity. We promote gender equality. Women are given priority in the case of equivalent aptitude, ability and professional performance.

The university is committed to the employment of severely disabled people. Therefore, these applicants and their peers will be given preferential consideration if they are suitably qualified.

Applications by people with a migration background are particularly welcomed.

We do not endorse submitting photographs/application photos and therefore ask you to refrain from doing so.

Applications with the following documents: 1. letter of motivation explaining the candidates fit to the requirements profile, 2. curriculum vitae, 3. contact details of at least two references and 4: Proof of university degree, should be sent in one pdf document by e-mail to:

info@phytomed.uni-kiel.de

If you have any questions about the position, please contact Prof. Dr. Remco Stam (remco.stam@phytomed.uni-kiel.de) or co-supervisor Dr. Nikhil Singh (n.singh@phytomed.uni-kiel.de) directly. Informal inquiries are encouraged.

Please note that all documents will be destroyed after completion of the recruitment process.

**Institute for Phytopathology
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