Chair of Phytopathology
School of Life Sciences Weihenstephan
Technical University of Munich

The Chair of Phytopathology at the Technical University of Munich, TUM School of Life Sciences, hires a

PhD. Student in the field of
Molecular evolution of pathogen defence in wild tomato species.

We are interested in understanding the diversity of pathogen resistance within wild plant species. Therefore we study different populations from a diverse and geographically differentiated tomato species, *Solanum chilense.* We have shown that populations show different levels of defence against a range of pathogens and have identified patterns of differential selection for defence-associated genes. However, the implications of these findings on a molecular level remain unknown.

We are looking for an enthusiastic PhD student to investigate the underlying molecular mechanisms and the effects on plant defence mechanisms in an evolutionary context, using a combination of genomics, transcriptomics and metabolomics.

The applicant must have a very good MSc in biology, biochemistry or bioinformatics, with a strong theoretic background. Knowledge and practical experience in molecular plant sciences and/or bioinformatics are required. English skills, both written and spoken, are essential.

The project will be carried out in the group of Dr. Remco Stam at the Chair of Phytopathology (Prof. Dr. Ralph Hückelhoven). The chair hosts several research groups studying molecular biology of plant pathogens and is well equipment to study defence responses on different levels. The project is integrated into the SFB924 "Molecular mechanisms regulating yield and yield stability in plants" and benefits from many collaborations and direct access to state of the art technology, at the the bavarian centre for mass spectrometry and the sequencing facilities on the The TUM Life Science campus in Freising-Weihenstephan.

TUM has been pursuing the strategic goal of substantially increasing the diversity of its staff. As an equal opportunity and affirmative action employer, TUM explicitly encourages nominations of and applications from women as well as from all others who would bring additional diversity dimensions to the university's research and teaching strategies. Preference will be given to disabled candidates with equal qualifications. International candidates are highly encouraged to apply.

The salary is according to German income level TV-L E13.

Please send your comprehensive application including a letter of motivation (1 page), your CV, certificates, list of publications, and names of 2 potential referees as a single pdf file by email to: **remco.stam@tum.de** Informal inquiries are highly encouraged and can be made on the same address.

The position can be filled in from 19 April 2021 onward. Working from home could initially be possible. Reviewing applications will start immediately, until a suitable candidate has been found.

Website of the lab: www.remcostam.com, website of sbf924 www.sfb924.wzw.tum.de

Related publications

Population studies of the wild tomato species Solanum chilense reveal geographically structured major gene-mediated pathogen resistance. P.S Kahlon, S.M. Seta, G. Zander, D. Scheikl, M.H.A.J. Joosten, R. Hückelhoven and **R. Stam*** (2020) BioRxiv https://doi.org/10.1101/2020.05.29.122960

The de novo reference genome and transcriptome assemblies of the wild tomato species Solanum chilense. **R. Stam*[%],** T. Nosenko[%], A.C. Hörger, W. Stephan, M. Seidel, J.M.M. Kuhn, G. Haberer and A. Tellier (2019) G3 1 (9) 3933-3941

Subsets of NLR genes show differential signatures of adaptation during colonization of new habitats. **R. Stam***, G.A. Silva-Arias and A. Tellier (2019) New Phytologist 224: 367-379

The wild tomato species Solanum chilense shows variation in pathogen resistance between geographically distinct populations. **R Stam***, D Scheikl, A Tellier (2017) PeerJ 5, e2910