

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

PhD Student in the field of Comparative genomics & Population genomics of pathogens on wild tomato species.

We are interested in understanding the diversity and evolution of pathogens and pathogen resistance in relatively short time scales, therefore we study different populations from a diverse and geographically differentiated tomato species, *Solanum chilense*. We have shown that these populations show different levels of defence against a range of pathogens. For this project we have collected hundreds of strains of naturally occurring pathogens (*Alternaria* spp.) from *S. chilense* plants throughout the species range in Chile and Peru. Infection assays reveal adaptation of the different strains to different populations of the host.

We are now looking for an enthusiastic PhD student assess genetic diversity of the collected strains using whole genome sequencing (ONT) to study adaptation of the pathogen to the different host populations. The applicant must have a very good MSc in biology, bioinformatics or related disciplines. Knowledge of and practical experience in bioinformatics or population genetics and keen interest in molecular plant pathology are preferred, but not required.

The project will be carried out in the group of Dr. Remco Stam at the Chair of Phytopathology (Prof. Dr. Ralph Hüchelhoven) in collaboration with the Genome Centre Munich. The Stam lab focuses predominantly on the *S. chilense* pathosystem, but also has project on evolution of fungicide resistance in *Alternaria solani* and global genetic diversity of *Ramularia collo-cygni*. We have several ongoing collaborations on campus (including the large SFB924 project) and direct access to state of the art technology for next generation sequencing, diverse molecular biology techniques and extensive glass house facilities for phenotypic testing. The chair hosts several other research groups studying biology of plant pathogens on different levels, making it a very stimulating work environment.

The Technical University of Munich wishes to increase the percentage of employed women. Women are therefore explicitly encouraged to apply. Handicapped persons with equivalent qualification will be given preference. 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: stam@wzw.tum.de

The position is to be filled as soon as possible.
Reviewing of applications will start February 2020 and lasts until a suitable candidate is found

Website of the lab: www.remcostam.com

Related publications

on *solanum chilense*

A small subset of NLR genes drives local adaptation to pathogens in wild tomato R. Stam, GA Silva-Arias, T Nosenko, D Scheikl, AC Hörger, W Stephan, G Haberer, A Tellier (2017) *New Phytologist*
<https://nph.onlinelibrary.wiley.com/doi/full/10.1111/nph.16017>

*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 <https://doi.org/10.7717/peerj.2910>

On pathogen diversity

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