

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 evolution of 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 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.

Therefore, 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. The applicant must have a very good MSc in biology, biochemistry or agricultural sciences with a strong theoretic background. Knowledge and practical experience in molecular plant sciences (e.g. cell biology, genetics, phytopathology, epidemiology) and an interest in bioinformatics and population genetics 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 equipped to study defence responses on different levels. In addition, whole genome sequence data are available for *S. chilense* through collaboration with Prof. Dr. Aurelien Tellier (Population Genetics, TUM). 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 for cell biological and biochemical analysis, next generation sequencing etc. The TUM Life Science campus possesses all equipment required for state-of-the-art plant research.

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 (50%).

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](mailto:stam@wzw.tum.de)

**References**

Website of the [Group](#)  
Website of the [Chair](#)  
Website of the [SFB924](#)

**Related publications**

*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>

*Pooled Enrichment Sequencing Identifies Diversity and Evolutionary Pressures at NLR Resistance Genes within a Wild Tomato Population.* R Stam, D Scheikl, A Tellier (2016) [Genome biology and evolution 8 \(5\), 1501-1515](#) <https://doi.org/10.1093/gbe/evw094>