

Phytopathology Bachelor/Master Thesis Projects or Praktika LAB PROJECTS



We offer projects to work on the impact of different *Phytophthora infestans* strains (European and South American) on wild tomato species.

Project Background: Wild crops are valuable resources in evaluating disease resistance against various pathogens. Wild tomatoes are one such important resource for breeders. *Phytophthora infestans* is an oomycete that causes late blight on potato and tomato. Wild tomatoes species are reported to pose a range of resistance against *Phytophthora sp.* but are poorly understood. This project aims to focus on screening of different wild tomato populations upon infection with *Phytophthora infestans*.

What to expect: You are free to decide the main focus of the project. Practical activities can include: maintenance and multiplication of wild tomatoes and *Phytophthora infestans* strains, plant infection assays, staining and microscopy techniques.

Candidate profile: B.Sc. or M.Sc. students in agriculture, Biology, Biotechnology or related subjects. Experience with lab work is useful, but not at all required.

Department: Chair of Phytopathology

Supervisor: Remco Stam

Direct Supervisor: Parvinderdeep Singh Kahlon

Contact us via email at remco.stam@tum.de

Recommended reading:

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

Phytopathology Bachelor/Master Thesis Projects or Praktika BIOINFORMATICS PROJECTS



We offer projects to work on the genomics of pathogen resistance in wild tomato species.

Project Background: Wild crops are valuable resources in evaluating disease resistance against various pathogens. Wild tomatoes are one such important resource for breeders. Wild tomatoes species are reported to pose a range of resistance properties, but on genetic level, they are poorly understood. This project focuses on analyses of whole genome sequence data as well as targeted gene re-sequencing data of different wild tomato populations. Aim is to understand the difference on genomic level.

What to expect: You are free to decide the main focus of the project. Practical activities can include: alignments, SNP calling, and analyses of nucleotide diversity on the genome.

Candidate profile: B.Sc. or M.Sc. students in agriculture, Biology, Biotechnology or related subjects. Experience with R and BASH is helpful, but not required.

Department: Chair of Phytopathology

Supervisor: Remco Stam

Contact us via email at remco.stam@tum.de

Recommended reading:

R. Stam, D. Scheikl, A. Tellier (2017) Pooled Enrichment Sequencing Identifies Diversity and Evolutionary Pressures at NLR Resistance Genes within a Wild Tomato Population. *Genome Biology and Evolution*, Volume 8, Issue 5, 1 May 2016, Pages 1501–1515