

PhD Position “Understanding the genetic basis of carbon isotope discrimination and drought tolerance in maize”

The chair of plant breeding at the Technical University of Munich / TUM School of Life Sciences Weihenstephan invites applications for a PhD position TV-L E13 (65%), starting as soon as a suitable candidate is found.

Research in the plant breeding group is focused on the development of molecular and statistical tools for plant breeding as well as on genome analysis in crop plants.

Project description:

During photosynthesis plants discriminate against the stable isotope ^{13}C . In plant breeding, this discrimination ($\Delta^{13}\text{C}$) is used as a desirable physiological trait associated with water use efficiency and drought tolerance. The project builds on previous genetic mapping that identified a QTL for $\Delta^{13}\text{C}$ and the PhD candidate will investigate the underlying molecular mechanisms. The work involves finemapping, phenotyping of segregating populations, functional characterization of candidate genes through molecular approaches such as gene expression analyses, gene cloning, mutant analyses, enzymatic activity assays, and physiological measurements. The aim is to provide a better understanding of the genetic basis and the genes involved in $\Delta^{13}\text{C}$. This will aid to the genome-based improvement of C4 crops such as maize and may also contribute to extended knowledge on C4 photosynthesis.

We are looking for a highly capable and motivated candidate interested in plant molecular biology.

The successful applicant is expected to have:

- Diploma or Master's degree in biology, molecular biotechnology, plant physiology or related disciplines (above average grades)
- Background in (plant) molecular biology and/or genetics, biochemistry, or plant physiology is advantageous
- Willingness to carry out both field and laboratory work
- Very good English (oral and written), German is an advantage
- Ability to work in a team and to collaborate with other research groups

We offer:

- An interdisciplinary working environment in a team of molecular and statistical geneticists
- Active exchange and collaboration with partners from academia and industry in a field of constant technical and methodological development
- Advanced education in molecular genetics, bioinformatics and plant breeding in courses and summer schools
- Employment contract with the German public service salary TV-L E13 (65%), for three years

The Technical University of Munich is committed to increasing the proportion of women in research and education and thus explicitly invites qualified female scientists to apply for this position. Preference will be given to disabled candidates with essentially the same qualifications.

Contact:

Applications with the usual supporting information (letter of motivation, CV, certificates, transcripts, credentials, etc. in a single pdf file) should be submitted by Email to jobs.z7x.wz@tum.de, **subject matter: “PhD SFB 924 17.4”**. Application will be open until the position is filled.

For more information please see: <http://www.plantbreeding.wzw.tum.de>

For questions related to the position and further background information please contact Dr. Viktoriya Avramova, Plant Breeding, TUM, viktoriya.avramova@tum.de