

## PhD Position in Plant Genomics

The "Crop yield in Maize" research group (Hartwig lab) of the Institute for Molecular Physiology (University of Düsseldorf), is searching for a highly motivated PhD student to join our team located at the Max Planck Institute for Plant Breeding research in Cologne, Germany.

Our group focusses on the genome-wide analysis of factors determining TF binding (e.g. sequence context, epigenetics) with the goal to identify targets for genome editing to facilitate crop improvement, especially enhancing stress resilience. To this end, we are employing and developing next-generation sequencing related techniques to quantitatively analyse cistrome occupancy and epigenetic features to uncover functional cis elements. Our main crops of interest are maize and barley and we are collaborating on projects concerning Tomato and Arabidopsis.

### **Project description**

The offered position is part of the FIND-cis project aimed at identifying functional cis elements related to drought stress response in maize. In a large scale experimental set-up, this project will analyse TF footprints in ca. 40 different genotypes under different stress conditions. The successful candidate would be involved in all steps of data generation, including planning and organising drought stress experiments, performing of TF foot printing assays (MOA-seq), NGS library preparation and partial data analysis (supported by our bioinformatics experts). Evaluation of candidate cis elements would be performed in maize protoplasts along with initial test for suitable genome editing target sites.

### **Requirements**

We are looking for a PhD student who shares our group's fascination for gene regulation and crop improvement and is eager to learn novel techniques to enhance our knowledge in this field. The candidate should hold a Master (or equivalent) degree in Biology, Biochemistry or a related field. Good English language skills (written and spoken) are essential, German is not necessary. Excellent molecular biology skills are required for this project and prior experience in one or more of the following fields is highly desirable: maize cultivation, protoplast handling, transcriptional regulation, epigenetics, NGS (library preparation and data analysis). The interdisciplinary nature of the project requires a high level of team work as well as the ability to work independently and very good organisation skills.

### **What we are offering**

A PhD position in a vibrant scientific environment with the opportunity to gain expertise in a variety of cutting edge technologies at the interface between basic and applied plant research. The position is available for a duration of 36 months, starting as soon as possible. The salary will be based on the German Public Service (65% of E13 TV-L) scheme, which includes the usual benefits (health care, unemployment insurance etc.).

### **How to apply?**

Interested candidates should send a letter of motivation, CV including contact details for two scientific references and a short description of your latest project to thartwig[at]mpipz.mpg.de. Review of applications will commence immediately and continue until the position is filled.

Heinrich Heine University Düsseldorf aims at increasing the percentage of employed women. Applications from women will therefore be given preference in cases of equal aptitude, ability and professional achievements unless there are exceptional reasons for choosing another applicant. Applications from suitably qualified severely disabled persons or disabled persons regarded as being of equal status according to Book IX of the German Social Code (SGB – Soziales Gesetzbuch) are encouraged.