“Elucidating Roles of Regulatory RNAs in Plant Phenotypic Plasticity”

Ph.D. Position in Marquardt lab at University of Potsdam, Golm, Germany.

Phenotypic plasticity is a fundamental property of organisms, enabling a single genotype to produce different phenotypes in response to environmental variation. Plants are a fantastic experimental system to characterize the molecular basis of phenotypic plasticity (1). This PhD project tests the hypothesis that variation in plasticity arises from variation in regulatory RNAs (2,3) that influence the expression of structural genes differently across environments. A particular focus will be on how regulatory RNAs integrate signals from temperature and soil nutrients to control plant growth.

The project involves molecular characterization of candidate regulatory RNAs and their target genes in Arabidopsis (4), combining genome engineering with next-generation sequencing approaches (5,6). This is an ideal project for a candidate who is passionate about the molecular mechanisms that allow organisms to thrive in variable environments.

The Ph.D. student joins a vibrant local community through the CRC1644, IMPRS-MolPlant and The Potsdam Graduate School. Research in the Marquardt lab aims to uncover the cellular roles of RNAs and non-coding DNA. The lab is starting in Potsdam; the Ph.D. student can benefit from strong support and help to build culture focused on scientific discovery. The broader Potsdam/Berlin area offers excellent opportunities for interaction and collaboration with world-class colleagues. Outstanding seminar series give you the opportunity to stay up to date with the latest research in Plant Biology.

Requirements:

- M.Sc. degree in a related area
- Passion and enthusiasm for molecular Plant Biology research
- Experience with NGS data analysis, R programming and HPC server usage
- Research experience with RNAs, transcription or chromatin (ideally in plants)

Inquiries:

Send a max. 1-page CV including names of 2-3 references and max. 1-page cover letter to Prof. Sebastian Marquardt:
sebastian.marquardt@uni-potsdam.de