

## PhD student position

### Regulation of gene expression in response to stress conditions

#### University of Regensburg, Germany

We invite applications for a PhD student position in our research group (<https://go.ur.de/grasser-lab>) at the Department of Cell Biology and Plant Biochemistry to study, how altered gene expression is involved in the response to abiotic stress conditions in *Arabidopsis*. Of particular interest are two aspects, the regulation of transcript elongation by RNA polymerase II and the export of mRNAs from the cell nucleus. **Transcriptional elongation by RNA polymerase II** in the chromatin context is under control of transcript elongation factors (i.e. regulators of polymerase activity, histone chaperones) that modulate the efficiency of mRNA synthesis. Specific RNA-binding proteins are co-transcriptionally recruited, mediating the **export of mRNAs** from the nucleus to the cytosol for translation. Recent work has linked both processes with **transcriptional reprogramming** in response to stress conditions (e.g. heat, salt, drought). Thus, we are interested to investigate the mechanisms by which the regulation of transcript elongation and mRNA export contribute to **plant tolerance towards environmental stress**.

**Literature:** Obermeyer et al., *Plant J.*, doi: 10.1111/tpj.16115 (2023); Ehrnsberger et al., *J. Exp. Bot.* 70, 3757 (2019); Antosz et al., *Plant Cell* 32, 1449 (2020); Michl-Holzinger et al., *Nucleic Acids Res.* 50, 5014 (2022); Obermeyer et al., *J. Mol. Biol.* 435, 167917 (2023); Pfaff et al., *Plant Physiol.* 177, 226 (2018)

**Methods** of a broad spectrum (biochemistry, genetics, cellular and molecular biology, bioinformatics, physiology) will be employed in this project, and accordingly we offer training in the required disciplines.

**Other matters:** Our Department and the Biochemistry Centre Regensburg (<https://rcb.app.uni-regensburg.de/index.php>) offer a stimulating atmosphere for research as well as advanced facilities for protein analyses, imaging and systems biology. The city of Regensburg is located in the south-east of Germany approximately 100 km away from Munich in an attractive environment.

We are seeking a highly motivated PhD candidate with experience in practical/scientific lab work (holding a relevant MSc degree), ideally with background in the above-mentioned areas, who would like to work with dedication on the project as member of our research team. We offer individual mentoring and PhD students become members of the Regensburg International Graduate School of Life Sciences (<https://www.rigel-regensburg.de/index.php?browse=34>) offering a well-structured PhD program and additional benefits.

Applications (letter of motivation, summary of MSc thesis, relevant university certificates, contact information of potential referees and curriculum vitae) are invited as a single combined pdf as of now to Prof. Dr. Klaus Grasser ([klaus.grasser@ur.de](mailto:klaus.grasser@ur.de))

