



Open position for the LSM call of applications

Institute: Faculty of Biology, Genetics Unit

Subject areas/Research fields: Genetics, Botany and Plant Science

Keywords: *Oryza sativa*; Diterpenoids; Gene regulation; Chromatin; Specialized metabolites

Name of supervisor: Prof. Dr. Claude Becker

Funding: LSM-CSC, DAAD-GSSP

Project title: Regulation of the biosynthesis of defensive diterpenoids in rice

Project description:

Plants are master chemists and are able to synthesize a multitude of often species- or clade-specific specialized metabolites. Rice and other *Oryza* species produce momilactones, diterpenoids with anti-fungal and plant-growth-inhibiting properties. While it has been shown that the biosynthesis of these compounds is highly inducible by environmental factors, the underlying regulatory principles are unclear. In this project, we aim to identify the transcription factors, genetic elements, and chromatin modulators that determine the response of momilactone production to external triggers such as fungal effectors, neighbor perception, and abiotic stress. In the second part, our goal is to identify and characterize the downstream elements of momilactone production and release, such as transporters and modifying enzymes. The project comprises wet-lab as well as computational work. Candidates should have a training in molecular biology, genetics, or genomics; experience in working with plants is a plus. We offer a collaborative environment in an international and multi-disciplinary team.

References:

<https://onlinelibrary.wiley.com/doi/abs/10.1111/nph.20416>

<https://doi.org/10.1186/s12870-022-03780-w>

<https://academic.oup.com/jxb/article/72/11/4022/6154016>

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Research group website:

<https://www.genetik.bio.lmu.de/research/becker/index.html>

Apply: Please send your application through the [online portal](#) of the Graduate School Life Science Munich (LSM)