

Postdoc Position: Light-dependent localization and functions of splicing regulators in early seedling development

JGU Mainz, Research group Prof. Dr. Andreas Wachter

The Wachter group examines mechanisms and functions of RNA processing in plants (<https://mps-imp.biologie.uni-mainz.de/>), such as the role of alternative splicing in light-dependent seedling development (Hartmann et al, 2016 & 2018). The upstream signalling of this process involves the activity of energy sensor kinases (Saile et al., 2023) and localization of SR splicing regulators in nuclear speckles. We use a combination of *in silico*, *in vitro*, and *in vivo* approaches to understand how condensate formation of these proteins may be utilized to control a switch in the alternative splicing program, as a paradigm for examining the role of dynamic splicing speckles in eukaryotic development. This project will involve establishing reporter lines to monitor speckle dynamics at high resolution in the course of early seedling growth. Moreover, you will functionally characterize this process, addressing in particular the impact of SR phosphorylation on speckle formation and the interactions with proteins and RNAs in the different phases. You will use state of the art techniques such as proximity labelling and TRIBE to identify novel interactors of these splicing regulators. Moreover, the project will benefit from the findings of our *in vitro* studies of RS condensation that are performed in the context of the SFB 1551 on “Polymer Concepts in Cellular Function”.

JGU MAINZ | The Johannes Gutenberg University Mainz is one of the largest universities in Germany at the heart of the attractive and lively Rhine-Main science region. State of the art equipment, a completely new research infrastructure, and extensive expertise as well as various core facilities make this an excellent location to work on this exciting project and to continue your scientific career. The institutes are located on a single campus close to the city centre, creating a vibrant academic culture.

YOUR TASKS | As a postdoctoral researcher, you will contribute to existing activities in research and teaching of our group and develop your own ideas. The research focus will be on the functions and phospho-regulation of splicing regulators in light-dependent splicing and seedling development. Supervision will include students from the BSc to PhD level.

YOUR PROFILE | You have successfully completed a PhD in molecular plant biology and look for a new and versatile field of activity. You are experienced in a spectrum of molecular methods including the generation and analysis of plant mutants. A background in RNA biology or plant physiology is a plus, but not mandatory. You are fascinated about science, have very good communication skills, and enjoy working in a team.

Funding will start in March 2025 or at the earliest possible date for initially 3 years (100% EG 13, TV-L). JGU aims to increase the number of women in research and teaching and therefore encourages female researchers to apply. Candidates with severe disabilities and appropriate qualifications will be given priority.

Please send your application documents, including a motivation letter, CV, certificates, list of publications and references as a single PDF via email to jobs-aw@uni-mainz.de. Submission deadline is December 29th, 2024. For questions, please contact Andreas Wachter.