PhD Position: Condensation of RS splicing regulators in light-dependent plant 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 rapid localization of RS splicing regulators into nuclear speckles. As part of the recently established CRC 1551 on “Polymer Concepts in Cellular Function” (https://crc1551.com/), a combination of in vitro and in vivo experiments will be used to investigate the molecular determinants and functions of RS condensates. This will include biochemical studies of recombinant RS proteins and in vivo analyses of the localization and activity of RS proteins. Moreover, the consequences of speckle formation on the interaction with other proteins and RNAs will be explored by in vivo labelling techniques such as proximity labelling and TRIBE, respectively. As part of a collaboration, the group of Prof. Friederike Schmid from the Physics department will complement the studies by providing theoretical and computer modelling approaches.

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 provided by the CRC 1551 network make this an excellent location to work on this interdisciplinary 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 part of a small team, you will examine the molecular features that are responsible for condensation of RS splicing regulators. The focus of your project will be on the in vitro aspects such as recombinant protein expression and phase separation assays. Moreover, in vivo localization and splicing regulatory function of the most interesting protein variants will be tested. You will also be involved in the supervision of students.

YOUR PROFILE | You have successfully completed your MSc studies in biology or a related field. A background in plant biology or protein biochemistry 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 September 2023 or at the earliest possible date for initially 3 years (65% 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, and references as a single PDF via email to jobs-aw@uni-mainz.de. Submission deadline is July 23rd, 2023. In case you have any question, please contact Andreas Wachter.