PhD position: ”The role of heat shock proteins for thermomemory”
at University of Potsdam / May Planck Institute of Molecular Plant Physiology

Experimental evidence indicates the existence of a molecular ‘memory’ that enables plants to withstand severe/lethal stress better if previously confronted with moderate stress (Hilker et al., 2015, *Biol. Rev. Camb. Philos. Soc*). However, the mechanistic basis for this memory is not well defined. Recently we demonstrated that the plastid metalloprotease FtsH6 and small heat shock protein HSP21 jointly regulate thermomemory in the model plant *Arabidopsis thaliana* (Sedaghatmehr et al., 2016, *Nat. Commun., in press*). HSP21, a plastidial small heat shock protein, plays a crucial role for extended thermomemory in Arabidopsis. The ability to maintain high levels of HSP21 protein after priming determines the duration of memory in genetically modified plants as well as in natural accessions of Arabidopsis with contrasting thermomemory capacity. The abundance of HSP21 during the memory phase is negatively regulated by heat-induced plastid-localized metalloprotease FtsH6.

A PhD position is now available to study the role of mitochondrial sHSPs whose expression parallels that of HSP21 during the thermomemory phase, for thermonpriming and thermomemory in Arabidopsis.

The successful applicant will generate transgenic lines with enhanced or suppressed expression of mitochondrial sHSPs and characterise their thermomemory behaviour. Additionally, we aim to assess their chaperone activity and identify their targets *in vivo* upon a priming treatment. We also aim to identify their upstream transcriptional regulators, assuming those to be early regulators of priming and memory. The research involves cutting-edge molecular biological and genomics methods.

The position is available for three years (TV-L 13, 65%) on the German pay scale. We are looking to fill the position at the earliest possible date.

The candidate must hold a MSc degree (or equivalent) in Biology, Biochemistry, Molecular Biology, or similar. We are looking for a highly motivated new team member with excellent academic record, strong motivation for research in plant biology, very good English skills in speaking and writing, and a strong commitment to cooperate. The research will be performed within the frame of the Cooperative Research Center (CRC) 973 – Priming and Memory of Organismic Responses to Stress (http://www.sfb973.de/). Working place is the Max Planck Institute of Molecular Plant Physiology (http://www.mpimp-golm.mpg.de/22381/Salma_Balazadeh).

Applicants should submit a letter of motivation, a resume with publication list, and names and email addresses of three references as a single PDF-document by e-mail to

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The position is available immediately and application time is open until filled.