



## F1/F2 projects and Bachelor / Master-theses available

The Chair of Plant Ecophysiology (Botany II) at the Julius von Sachs Institute, Julius-Maximilians-Universität (JMU) Würzburg invites interested students to join our team. You will be embedded in an internationally active and visible research group. We have a vivid communication and discussion culture, and invite applications from highly motivated individuals that wish to contribute to a positive team spirit. Both national and international candidates (m/f/d) are welcome.

In our group, we investigate different aspects of plant-microbe interactions. Our interest ranges from understanding the genetic mechanisms of symbiosis control to symbiosis ecology, namely how symbiosis impacts the ability of plants to adapt to changing environmental conditions. We also analyse pathogenic interactions of plants with mildew fungi, focusing on the physiological requirements of infection events.

### **Example project context: Molecular control of legume root symbiosis**

Many plants enhance access to limiting nutrients by establishing root symbioses with mutualistic microorganisms. Project work will be in the context of legume root symbiosis with rhizobial bacteria and arbuscular mycorrhizal fungi. Using cutting edge molecular genetic approaches, we investigate how a host plant balances its own resource status and development with root symbiosis. In particular, we are interested in the roles of micro RNAs as mobile regulators in this context.

Our main model system is the legume herb *Lotus japonicus*. The methods we use include molecular methods such as RNA/DNA isolation, molecular cloning techniques, qRT-PCR, visible marker assays, plant tissue culture and transformation, infection assays, diverse phenotyping assays involving advanced microscopy.

Interested? Please contact Katharina Markmann, [katharina.markmann@uni-wuerzburg.de](mailto:katharina.markmann@uni-wuerzburg.de). More information on our group and projects is available at <https://www.biozentrum.uni-wuerzburg.de/en/bot2/>.



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