UNIVERSITY OF HOHENHEIM

Plant Ecology (320b) **Date: As soon as possible**

Light response curves from monocultures to mixtures

Supervisors: Dr. Bernd Berauer (& Jr. Prof. Dr. Andreas Schweiger)

Topic description:

Reaction norms, such as temperature-, CO_2- or light-response curves, of plants are a well-defined concept in biology & ecology. Within a community consisting of multiple species, available resources are used efficiently as the different species have varying demands and use efficiencies (keyword: *niche partitioning*). On the other hand, the simultaneous use of resources leads to competition among individuals and species (keyword: *competition & competitive exclusion*). Both of these mechanisms are key for species co-existence. Yet, it remains unclear if communities of varying biodiversity differ in their LRCs and how the effect of biodiversity is altering the LRCs. The goal is to quantify the LRCs of plant communities of varying biodiversity to derive the biodiversity-induced uncertainty in LRCs by using up-to-date, high-technology equipment to quantify gas fluxes and novel analytical procedures.

The thesis will contribute to active research conducted at the Department.
The experimental facilities are located in the Department of Plant Ecology (320b).

This thesis will build skills in rigorous scientific work to plan, set up and conduct scientific experiments and use high-end precision gas analytics to quantify gas exchange.

This study topic can be split into multiple theses!

Type of study: Experimental within climate chambers
Duration of work: ~ 3 months | Growing Season from April to August
Required skillset:

- self-dependent, motivated work attitude
- basics in data processing (preferred using R)

We offer:

- professional scientific supervision
- supporting attitude within the department
- up-to-date equipment and methodologies (instrument & analysis)

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