



The German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) has funded the **Sino-German International Research Training Group AMAIZE-P** (DFG GRK 2366) since October 2018, with the topic of

**„Adaptation of maize-based food-feed-energy systems
to limited phosphate resources“**

at the **University of Hohenheim (Stuttgart)** in cooperation with the **China Agricultural University (Beijing)**.

Starting from October 01, 2024, the Sino-German International Research Training Group AMAIZE-P offers

**13 positions for doctoral researchers (PhD students) and
1 postdoc position (all genders welcome)**

at the **University of Hohenheim** for candidates with above-average graded master's degrees or corresponding qualifications. The positions are limited to a maximum of 3 years. The salary follows the German public service pay scale TV-L E13 65% for doctoral researchers (PhD students) and TV-L E13 100% for postdoctoral researchers. The following research subjects (RS) are available:

1. Genetic potential of maize:

- RS 1.1 Dissecting the genetic architecture of phosphorus-use efficiency in maize (Prof. Dr. Tobias Würschum)
- RS 1.2 Loss of key repressors of the N and P-acquisition improves maize yield under low nutrient supply (Prof. Dr. Uwe Ludewig)
- RS 1.3 Integrative "Omics" analysis of carbohydrate metabolism and transport in response to low phosphate supply (Prof. Dr. Waltraud Schulze)

2. Management at field and farm level:

- RS 2.1 Genotype to phenotype modelling for locally adapted P-efficient maize ideosystems (Prof. Dr. Simone Graeff-Hönninger)
- RS 2.2 Closing phosphate cycles at the regional level with innovative fertilization strategies including recycling fertilizers – pot and field trials, long-term scenarios (Prof. Dr. Torsten Müller)
- RS 2.3 Detecting P status of maize through machine learning based on 3D imaging at the field scale (Prof. Dr. Joachim Müller)
- RS 2.4 Uptake and allocation of heavy metals from P-fertilizers along the soil-plant-atmosphere continuum (Jun.-Prof. Dr. Andreas Schweiger)

3. Nutrition and recovery:

- RS 3.1 Atherogenic properties of fresh and stored foods from maize grown under different P-availability conditions (Prof. Dr. Jan Frank)
- RS 3.2 Relevance of phytate-P and phytase content in pig microbiome functionality and host interaction (Prof. Dr. Amélia Camarinha Silva)
- RS 3.3 Energetic and chemical optimization of a laboratory system for P recovery in mid to small-sized farms (Dr. Hans Oechsner & Prof. Dr. Joachim Müller)
- RS 3.4 Phosphate recovery by hydrothermal carbonization: process simulation and scale-up (Prof. Dr. Andrea Kruse)

4. Economic evaluation and synthesis:

- RS 4.1 Assessment of ecosystem services of novel and innovative P-efficient maize-based food-feed-energy systems with a modelling approach (Prof. Dr. Enno Bahrs)
- RS 4.2 (Postdoc) Upscaling: P-flows in German agricultural production chains – Scenario modelling using the NUFER model. The postdoc position includes the coordination of central field experiments and spectral soil analysis (Prof. Dr. Torsten Müller)
- RS 4.3 Assessing the implications of future P-availability for global agri-food markets using a Computable General Equilibrium modelling approach (Dr. Kirsten Boysen-Urban)

Detailed information about the Sino-German International Research Training Group AMAIZE-P and the single research subjects (RS) may be found on the project website: <https://amaize-p.uni-hohenheim.de>

The project requires extended research stays in China of up to three months per year. With equal qualifications, preference will be given to candidates with disabilities. The University of Hohenheim seeks to increase the proportion of women in research and teaching, therefore strongly encouraging female researchers to apply.

Applications in English language indicating a preference for one or a maximum of two of the topics mentioned above, letter of motivation, CV, copies of certificates, and proof of very good English language skills (corresponding to TOEFL ibt 90 or IELTS grade 6.5) are expected to be sent via e-mail as **one entire pdf document by May 01, 2024, 24:00 h CEST (22:00 h UTC)** to the **coordinator (German side) of the Sino-German International Research Training Group**:

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