1 Doctoral Student (65%) (TV-L 13)

From April 1, 2020 onwards, the **Agroecology and Organic Farming Group** at the University of Bonn seeks to employ, for **up to 3 years and 9 months, max. until December 31, 2023**

The successful candidate will be involved in the Cluster of Excellence "PhenoRob: Robotics and Phenotyping for Sustainable Crop Production" (http://www.phenorob.de/) funded by the Deutsche Forschungsgemeinschaft. Specifically, the research will contribute to the project "Selective weeding for improved biodiversity" within the core project 4 "Autonomous In-Field Intervention".

Precise robotic weeding aims to intervene in a minimally invasive manner reducing the amount of inputs (such as herbicides), but also to selectively choose which weeds have to be managed at a particular time and how they are managed. This research project will explore the potential to selectively destroy weeds, or not, within the field to enable better long-term management cycles. Knowing what weed taxa are present in the field along with the degree of competition with the crop is critical to enabling a richer ecologically-based understanding of the agro-ecosystem. This will promote a deeper insight into alternative ecological approaches to weed management, e.g. by potentially retaining beneficial weed flora. The project aims to assess the ecological impact of selective weeding on biodiversity and longer-term integrated weed management. Several weed maps per season will be created to observe species and growth rate and analyze the trade-off between crop productivity and biodiversity. Methods include vegetation analyses on at least one organically and one conventionally managed experimental site. The approach of PhenoRob is characterized by the integration of robotics, digitalization, and machine learning on one hand, and modern phenotyping, modeling, and crop production on the other.

Your tasks:
- Planning, organizing and conducting field trials with a focus on weed diversity and weed impact on crop growth
- Gathering and analyzing data from these field experiments
- Publishing results in peer reviewed journals and presenting them at conferences
- Collaborating on joint research with colleagues involved in PhenoRob

Your profile:
- An excellent Master degree in agriculture, ecology or related disciplines, with a focus on vegetation analysis, crop science and/or plant-plant interactions
- Ability to identify weed species in the field
- Experience in field experimentation
- Experience in handling and analyzing large and complex datasets
- An interest in interdisciplinary and collaborative research

We offer:
- Participation in the international research hub *The Cluster of Excellence* "PhenoRob
- An open, stimulating and interdisciplinary work environment where good ideas are encouraged and supported
- The opportunity of conducting research towards a PhD and of receiving the support necessary to do this successfully
- Enrolment in the Theodor Brinkmann Graduate School of the Agricultural Faculty
- 65% TV-L E13 on the salary scale

Applicants please submit (1) A letter of motivation including your specific research interest (max. 2 pages), (2) a curriculum vitae including a list of publications, (3) a copy of your Master degree, (4) the names and contact details of two referees (position, professional address and e-mail).

The University of Bonn is committed to diversity and equal opportunity. It is certified as a family-friendly university and aims to increase the number of women employed in areas where women are under-represented and to promote their careers. To that end, it urges women with relevant qualifications to apply. Applications will be handled in accordance with the *Landesgleichstellungsgesetz* (State Equality Act). Applications from suitable candidates with a certified disability or equivalent status are particularly welcome.

If you are interested in this position, please submit your **complete application documents as a single pdf by February 29th, 2019** to Prof. Dr. Thomas Döring at aol@uni-bonn.de, reference "**Phenorob CP4-A3**" **(code number: 09/20/3.202).**