



The **University of Bonn** is an international research university covering a wide array of subjects. 200 years of history, around 38,000 students, more than 6,000 staff and an excellent reputation within and outside Germany: the University of Bonn is among the most significant German universities.

The Institute of Crop Science and Resource Conservation is looking to fill **as soon as possible**, for a fixed term of 3 years, the position of a

Research Associate / PhD student (65%)

The working group of **Prof. Dr. Eike Luedeling** (www.hortibonn.de) works on horticultural systems, with a focus on holistic systems analysis, risk assessment, and decision analysis and support. Further areas of work are climate change impacts on horticultural systems, fruit tree dormancy and agroforestry.

The position is supported by the **PhenoRob** cluster of excellence (www.phenorob.de) and will be closely associated with the **AID4Crops** project (Automation and Artificial Intelligence for Monitoring and Decision Making of Horticultural Crops), a DFG Research Unit in the area of Artificial Intelligence (AI).

Novel sensing and AI technologies are capable of generating a vast amount of information on horticultural systems, but it is often not directly apparent how such information can improve management, and what investments in such technology are economically justified. The successful applicant will therefore focus on the interface between sensing and AI technologies and management decisions aiming at

“Identifying information needs for improving management decisions in recent and future horticultural production systems”.

Your tasks:

- Develop a systematic synopsis of the decision landscapes of recent and future production systems using participatory approaches
- Investigate the economic and environmental potential of using novel phenotyping and forecasting methods for informing horticultural management decisions based on simulation studies
- Calculate the pareto-optimal decision chains for different uncertainty levels of the respective decision support systems using multi-objective optimization
- Quantify added utility generated by AID4Crops and PhenoRob technologies for current and future production systems
- Support the project coordination

Your profile:

- Completed studies and scientific training (Diplom or Masters level) in Agriculture, Horticulture, Biology, Environmental Science, Decision Science, Systems Analysis, Cybernetics or other relevant disciplines
- Good knowledge of the R programming language and good programming skills or willingness to learn (knowledge of Python, C++ or other common languages are also welcome)
- Very good command of the English language
- Willingness to work in an intercultural work environment
- Knowledge of the following will be advantageous:
 - Horticultural production systems, in particular greenhouse systems
 - Decision Analysis methodologies
 - German language
- Motivated, flexible, team-oriented and eager to learn

- We offer
- A diverse and demanding work environment in a young and dynamic team
 - Possibility for application-oriented research in a highly relevant research area
 - Possibility to earn a PhD (intention to pursue a PhD is an advantage)
 - Retirement benefits (VBL)
 - Salary according to German public service tariff E13 TV-L

The University of Bonn is a champion of diversity and equal opportunity. It is certified as a family-friendly university. The university aims to raise the share of women in all areas where women are currently underrepresented and to specifically support their careers. Consequently, women are emphatically encouraged to apply. Applications will be treated according to the equal opportunity laws of the State of North-Rhine-Westphalia. Applications by suitable candidates with severe disabilities and candidates of equivalent status are particularly welcome.

If you are interested in this position, please send your **complete and meaningful** application documents by email to gartenbauwissenschaft@uni-bonn.de before **19th March 2023**, with the **subject line “Application - PhenoRob-Horticulture”** (late applications may still be considered). For technical reasons, all documents must be submitted **in one single pdf-file**. For further information, please contact Prof. Dr. Luedeling (email: luedeling@uni-bonn.de).