

The Leibniz-Institute of Vegetable and Ornamental Crops (IGZ) aims for excellence in horticultural research and related plant, environmental and social sciences. IGZ is based in Großbeeren close to Potsdam and Berlin and is a member of the Leibniz Association (WGL). IGZ conducts strategic and international research for the sustainable production and use of vegetables, contributing to food security, human well-being and the conservation of natural resources. At IGZ, researchers from different disciplines work together on core-funded and grant-funded projects, in collaboration with national and international research partners.

To contribute to the target of resource optimization in protected environment crop production through smart systems, the research group 'Next-generation Horticultural Systems - Controlled Environments', starting at the earliest from April 2023, we look for an enthusiastic and ambitious

Scientist in the area "Horticultural systems modelling and environmental assessment" (f,m,d)
Reference Number: 01/2023/4

The employment will be for a period of 30 months. The salary will be based on qualification and research experience according to the wage agreement TV-L, salary domain east, up to EG 13, 100% of the regular working time. The position is suitable for part-time work with at least 30 hours/week.

The scientist will be part of the research group HORTSYS-Controlled environment horticultural systems. We create model-sensor based decision support tools for resource optimised crop production in protected cultivation. As such, the main research in this group is model-based monitoring using systems modelling and sensor technology, aiming at resource-use optimised production. We use our research for environmental control and resource conservation in greenhouses and controlled environments. In the EU Horizon Europe project ECONUTRI focusing optimizing fertilizing strategies in agricultural production systems, HORTSYS participates as WP-coordinator for systems modelling and environmental assessment within an international consortium of 30+ partners throughout Europe and China. In that project, we will use our expertise in production systems modelling and environmental life cycle assessment. A model-based planning tool (simulator) will be used and further developed to analyse new innovations in the context of today's and future resource consumption and environmental assessments. Explanatory models will be developed and implemented to the simulator as sub-components.

Tasks include

- Mathematical modelling of cropping systems as e.g. hydroponics in greenhouses with Matlab
- Crop cultivation systems modelling
- Simulation studies and environmental systems analysis
- Life cycle assessment on process (LCA) and product scale
- Producing scientific publications in high quality journals
- Supervision of bachelor and master students
- Active participation in the coordination and involvement of the ECONUTRI project
- Presentation of results to international scientific audience within the project and beyond

We are looking for highly motivated candidates with

- A PhD within greenhouse horticulture, indoor-farming, plant physiology, environmental assessment, or crop modelling
- A strong background in mathematical modelling of crop production systems in horticultural technology in e.g. protected systems including knowledge of climate control systems with lighting, heating systems, etc.
- Knowledge of mathematical analytics and ability to translate processes to equations and to systems
- Experience in systems modelling and programming in Matlab
- Experience with LCA and applications in SimaPro and EcoInvent
- Excellent organization and English language communication skills
- Open, flexible and positive person, able to take the initiative

We offer

- An inspiring and dynamic research environment, including state-of-the art research facilities
- Possibility for career development in the field of high-technology crop production
- Participation in a successful, dedicated and team-oriented research group
- Flexible and family-friendly working time models
- A place of employment located close to Berlin and Potsdam

More information on about the IGZ you can find under www.igzev.de. For questions please contact: Dr. Oliver Körner (++49(0)33701 78 355; koerner@igzev.de)

We encourage a healthy work-life balance. The IGZ attaches great importance to equal opportunities. Applicants with disabilities will be given preference in case of equal qualifications. The IGZ embraces diversity in its workforce, and welcomes applications from all qualified candidates, irrespective of age, gender, sexual orientation, religion, belief or ethnic origin.

We prefer to receive applications citing the reference number, including a motivation letter, your CV, copies of relevant certificates, and the names and addresses of two references by email to personal@igzev.de in pdf format by 15.01.2023. Our postal address is: Personalbüro, Institute for Vegetable and Ornamental Crops, Theodor-Echtermeyer-Weg 1, D-14979 Großbeeren.