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', we look for an enthusiastic and ambitious

Scientist in the area "Monitoring crop – (micro)climate interactions in protected plant cultivation systems" (f,m,d)
Reference Number: 07/2023/4

Employment will be initially for three years with a three year extension upon a satisfactory evaluation at 2,5 years using the IGZ criteria for postdoctoral careers. The salary will be based on qualification and research experience according to the wage agreement TV-L, up to EG 13, 100% of the regular working time. The position is suitable for part-time work with at least 32 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 in greenhouses and indoor-farms. We use our research for real-time monitoring and environmental control fostering resource conservation in greenhouses and controlled environments. One major key for resource use optimised protected crop cultivation in greenhouses and indoor-farming is controlling crop evapotranspiration.

The knowledge of leaf morphology and especially stomata conductance play a central role. Understanding and systematic analyses of the signals controlling stomata behaviour and incorporation their dynamics in models is still lacking central parts.

The successful candidate is expected to strengthen and build an own line of research in resource use optimization in greenhouse and indoor-plant production based on leaf morphological responses to the environment and vice versa with an active scientific portfolio work and project acquisition.

Tasks include
- Building an own research portfolio in line with the research groups scientific strategy
- Theoretical and practical assessment of plant – climate interaction and stomata dynamics in protected cultivation
- Process-based mathematical systems modelling and implementation in a relevant platform, preferably in Matlab
- Creation of modules as part of decision support systems for sensor-model based crop monitoring
- Scientific publications in highly ranked scientific journals
- Supervision of bachelor, master and PhD students
- Presenting science to international audience and active participation in conferences and workshops
- Active participation within the local research environment at the IGZ, in the region, and in the Leibniz-Association
- Active in applications on grants for national and international calls as e.g. Horizon 2020, Horizon Europe

We are looking for candidates with
- A PhD within greenhouse horticulture or indoor-farming, plant physiology and modelling or a related field
- Ability to independently apply for research grants and build international project consortia
- Not more than 5 years since obtaining the PhD
- Excellent organization and English language communication skills
- Open, flexible and positive attitude, able to take the initiative
- Readiness to integrate into an international working environment

The following professional background will be taken into account for competitive assessment
- Experience in climate controlled cropping systems as greenhouses and/or indoor farms
- Experience in greenhouse crop physiology and modelling
- Knowledge or ability to learn of sensing plant responses in controlled environments
- Knowledge of leaf – microclimate - climate interactions, leaf morphology and stomata biology
- Knowledge of mathematical analytics and ability to translate processes to equations and to systems
- Evidence of proficiency in using computer programming to develop plant models and data processing

We offer

- An inspiring and dynamic research environment, including state-of-the art research facilities
- Very good conditions to develop your own scientific career and your network 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.

Please send a cover letter, statement of research interests and reasons for applying to this position, your detailed CV (incl. list of publications), copies of academic certificates, copies of three most relevant publications and contact details of two referees.

We prefer to receive applications citing the reference number send by email to bewerbung@igzev.de in pdf format by 02.04.2023. Our postal address is: Personalbüro, Institute for Vegetable and Ornamental Crops, Theodor-Echtermeyer-Weg 1, D-14979 Großbeeren.