

With its work, the Leibniz Institute of Vegetable and Ornamental Crops (IGZ) contributes to a better understanding of plant systems and thus to the development of sustainable and resilient horticulture. The IGZ conducts research at the interface between plants, humans and the environment. In doing so, we address systemic and global challenges such as biodiversity loss, climate change, urbanization and malnutrition. We provide scientifically sound recommendations for healthy agri-food systems and sustainable interactions with the environment. The IGZ brings together a broad spectrum of scientific disciplines. Employees with different backgrounds conduct research in national and international research co-operations. The IGZ is based in Großbeeren near Potsdam and near Berlin and is a member of the Leibniz Association.

To strengthen our team within the DFG funded project "Aquaponics optimization in a local climatic, economic and cultural context: maximizing the benefits of a circular bioeconomy for food production – AquaponicsOpti" we look for an enthusiastic and ambitious

Scientist (f,m,div) in the area "Plant physiological aspects and modelling in aquaponics systems"
Reference Number: 03/2024/4

The employment will be initially from 01.09.2024 until 31.10.2026. The salary will be based on qualification and research experience according to the wage agreement TV-L, up to pay scale 13, full time.

The scientist will be part of the research group HORTSYS-Controlled environment horticultural systems. One of the main areas in this research group is systems modelling related to environmental control and resource conservation in greenhouses and controlled environments. In the international DFG administrated project AquaponicsOpti focusing on aquaponics (info under: <https://aquaponicsopti.be.uw.edu/contact/>), the IGZ participates as the core plant physiological partner within an international consortium of six partners from Sweden, Turkey, Taiwan, USA, South Africa, and Brazil. In AquaponicsOpti, we will use our scientific hydroponics and aquaponics systems investigating bottle-necks and finding solutions to the plant physiological aspects in aquaponics. A model-based planning tool (simulator) will be further developed and used to analyse system performances, improvements will be incorporated, simulation studies will be performed for location aquaponics specific system designs. As basis, plant physiological responses with water and nutrient uptake as core aspects will be analysed in greenhouses and climate chambers, mathematical relations will be formulated, and incorporated in the modelling framework. Activities in the AquaponicsOpti project are done in close cooperation within the international consortium, including common workshops, field visits and exchange of researchers.

Tasks include

- data management and systems modelling of recirculating crop production
- theoretical and practical assessment of plant – climate interaction and stomata dynamics in protected cultivation
- mathematical modelling of crop physiological processes, especially water and nutrient uptake in hydroponics
- simulation studies and environmental systems analysis
- planning, managing and supervising experimental work in greenhouses, climate chambers and aquaponics
- active cooperation in the international AquaponicsOpti consortium, incl. travels and deliverables
- project management incl. organization of meetings and workshops
- supervising PhD and MSc students
- writing scientific publications and Presentation of results to the international project consortium and scientific audience

We are looking for highly motivated candidates with the following qualifications and profile

- a PhD within the field of aquaponics, greenhouse horticulture, plant physiology, and/or modelling
- experience with scientific and/or applied greenhouse horticulture
- experience in hydroponics crop cultivation techniques and recirculating systems
- experience with greenhouse climate models and/or crop modelling
- knowledge of mathematical analytics and ability to translate processes to equations and to systems
- experience in modelling software, preferably in Matlab
- experience in scientific guidance or supervision of bachelor, master or PhD students
- proven track record of publication in peer-reviewed journals
- english language communication on international level
- readiness to integrate into an international working environment

We offer

- an inspiring and dynamic research environment, including state-of-the art research facilities
- participation in an international research project
- participation in a successful, dedicated and team-oriented research group
- flexible and family-friendly working time models and the possibility of mobile working (up to 50% of working time)
- a place of employment located close to Berlin and Potsdam
- subsidy for the company ticket for local public transport or the Germany ticket

More information on the IGZ under www.igzev.de. For questions please contact: Dr. Oliver Körner (koerner@igzev.de) or Dr. Sara Mello Pinho (pinho@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, world view, disability and belief or ethnic origin.

Please send a strong motivation letter stating why this is an interesting topic for you and why you have the right attitude and expertise to contribute to the AquaponicsOpti project and make progress in this field. Also send your CV, names of two references, copies of academic certificates. Please also indicate your earliest possible starting date.

We prefer to receive applications citing the reference number send by email to bewerbung@igzev.de in pdf format by 14.03.2024. Our postal address is: Personalbüro, Institute for Vegetable and Ornamental Crops, Theodor-Echtermeyer-Weg 1, D-14979 Großbeeren.