Within its graduate program “Quantitative Plant Sciences” the Institute of Bio- and Geosciences - Plant Sciences (IBG-2) seeks several

PhD students (natural, agronomical or bioinformatics sciences)
D048/2018
for a 3 year position

Background

Plants provide biomass for the growing demands in a world with increasing population, less fossil resources and higher risks for the environment. Plants are the basis of a future bio-economy, where renewable raw materials from plants are used for delivering healthy food to a growing population as well as for non-food applications for materials, chemicals and energy. Plant production is affected by climate change and plants are key elements in mitigation of climate change.
On the basis of molecular, physiological and ecological expertise, the Institute focuses on integrated concepts for an intensified and sustainable crop production. New technologies, such as phenotyping with non-invasive methods combined with bioinformatics, open up new opportunities to generate and apply knowledge on plants for a sustainable bio-economy.

Ph.D. positions are offered in the following themes:

Topic 1: Phloem function at elevated CO2 concentration.

Topic 2: Structure and functional understanding of plant vascular system as a model for heat and cold transport in biological and technical supply systems.

Topic 3: Root water uptake in drying soils and plant adaptations to water shortages.

Topic 4: Effects of renewable fertilizer on wheat root morphology

Topic 5: Dynamics of photosynthetic carbon supply to root symbiotic co-existence: Visualisation and quantification of carbon tracers to test importance of soil and biotic factors

Topic 6: Insights into carbon partitioning and storage root initiation and development of wild cassava accessions (Manihot esculenta Crantz) – STRIDE

Topic 7: Enabling high-performance imaging spectroscopy for the field.

Topic 8: Development and application of deep learning methodologies to various high-throughput, imaging-based plant phenotyping pipelines.

On the internet link http://www.fz-juelich.de/ibg/ibg-2/SPRING-OFFER-PhD-2018 you can find more detailed information about the different projects.

Requirements for all projects (please add the requested documents to your application as only complete applications can be considered):

- University degree in any discipline that can actively contribute to one of the above mentioned topics in experiment or theory with a good final grade (in the German system 2.0 or better). Please also pay attention to the requirements expressed in the project descriptions.
- Minimum one letter of recommendation.
- A short text statement on your research interest and experience including a description of your specific interest in one (or more) of the above mentioned topics.
- Strong interest in working in interdisciplinary teams.
- Strong English writing and communication skills.

We Offer:

IBG-2 - Plant Sciences offers a unique interdisciplinary working environment developing and using excellent infrastructure and modern approaches in plant physiology addressing major challenges of plant production for a sustainable bioeconomy.

- We offer world-class infrastructure and expertise in plant phenotyping
- The opportunity to work in a unique interdisciplinary team (scientists, engineers, technicians) and with national and international partners.
- Professional development and career plans with specific training programs (incl. a doctoral program of FZJ and IBG-2) and national and international conferences.

For further information about the application process please contact Prof. Dr. Ingar Janzik, e-mail: i.janzik@fz-juelich.de

Equal opportunity is a cornerstone of our staff policy. Applications from disabled persons are welcomed. Payment of the PhD fellow will be based on salary grade EG 13 (50%) Collective Agreement for the Civil Service (TVöD). Depending on the candidate's profile and the subject of his/her PhD thesis an additional allowance may be granted.

The deadline for application is 21th of April 2018.
Only complete online applications will be considered:
http://www.fz-juelich.de/SharedDocs/Stellenangebote/_common/dipldok/d048-2018-ibg-2-d.html?nn=718260

Job interviews will take place end of April and May 2018. Depending on the candidates availability the positions can be filled promptly.