As a member of the Helmholtz Association, Forschungszentrum Jülich makes an effective contribution to solving major challenges facing society in the fields of information, energy, and bioeconomy. It focuses on varied tasks in the area of research management and utilizes large, often unique, scientific infrastructure. Come and work with around 6,400 colleagues across a range of topics and disciplines at one of Europe’s largest research centres.

The Plant Sciences Subinstitute of the Institute of Bio- and Geosciences (IBG) investigates the dynamics of plant processes and the interaction of plants with the environment. Plant science at Forschungszentrum Jülich plays a leading role at national and international level in the field of plant phenotyping, i.e. in the quantitative and non-invasive recording of structural and functional properties of plants important for agricultural and horticultural plant breeding. In this context, we are developing new sensors and measurement concepts and integrate them into semi- and fully automated systems. One focus of the subinstitute is the use of optical sensors to promote the automated measurement of plant traits under field conditions. Ground-based measurements are complemented by UAV, aircraft and satellite-based remote sensing approaches. Particular focus is on the development of novel non-invasive measurement approaches that include, multi- and hyperspectral imaging as well as different fluorescence retrieval techniques.

We are looking to recruit a

**Scientist in optical remote sensing of vegetation**

**Your Job:**
- Focus of the research will be on exploiting hyper- and multispectral UAV data from cassava and other crops to derive structural and functional plant properties
- Contribution to flight and campaign planning using rotary and fixed-wing unmanned platforms (UAVs) in Nigeria, Taiwan and Germany
- Integration of multi- and hyperspectral sensors into existing UAV platforms
- Measuring canopy traits in cassava plants in a project collaboration funded by the Bill and Melinda Gates Foundation
- Development and refinement of algorithms for the preprocessing, atmospheric correction and georectification of spectrally resolved UAV data
- Registration of optical reflectance data with experimental plot set-ups using GIS layers
- Retrieval of canopy height models using custom based codes for data processing

We look forward to receiving your application until 19.07.2020 via our Online-Recruitment-System!

Questions about the vacancy?
Get in touch with us by using our contact form.
Please note that for technical reasons we cannot accept applications via email.
www.fz-juelich.de
• Calculation of classical vegetation traits by exploiting the information content of the optical sensors
• Radiative transfer inversion of leaf and canopy models to derive structural and functional vegetation traits from the combination of UAV based imaging data and other information sources, such as meteorological and ground based data
• Interpretation of the results, correlation of remote sensing data with ground based plant traits and the integration within different synergistic projects
• Presentation of the results at scientific conferences and within project reports
• Writing of scientific papers in this field by taking advantage of the large body of research data that are available in the group
• Contribution to project proposals in this research field
• Contribution to supervision of Bachelor, Master and PhD students

Your Profile:
• A university degree in Remote Sensing, Geophysics, Plant Biology, Agriculture or a natural scientific discipline with relevant and proven experience in the field of activity
• Sound background in the use of UAVs and other unmanned aerial vehicles in research and agricultural practice
• Experience in the processing of UAV image data using Agisoft Metashape or Pix4D
• Sound background and proven expertise in processing and analyzing multispectral data
• Profound knowledge in the field of atmospheric and geometric correction methods applied to ground-based, airborne and satellite data
• Wide experience in interpretation and retrieval of vegetation traits from multispectral imagery
• Special interest in retrieving and interpreting spectrally resolved UAV data from agricultural settings
• Experience with programming languages and software that are used for multi-/hyperspectral image processing, e.g. ENVI/IDL, Python, R, Matlab etc.
• Willingness and interest to work in Developing Countries
• Ability to work in the field, partly also in remote locations outside of Germany, in specific in Nigeria and Taiwan
• Driver license obligatory, already existing licenses to operate UAV platforms are a benefit

Our Offer:
• Exciting working environment on an attractive research campus with excellent infrastructure, located between the cities of Cologne, Düsseldorf, and Aachen
• Possibility to develop own scientific profile in the emerging topic of 'remote sensing of vegetation traits using unmanned aerial vehicles'
• Integration in a world-leading research group in this field with a stimulating scientific environment
• Attendance of national and international conferences and workshops
• Possibility for further scientific and technical training through international experts
• Flexible working hours and various opportunities to reconcile work and private life
• Position initially limited to three years, with the possibility of a longer-term perspective
• The position can also be filled as a part-time position; flexible working time models between 50-100% are possible
• Salary and social benefits in conformity with the provisions of the Collective Agreement for the Civil Service (TVöD)

Forschungszentrum Jülich promotes equal opportunities and diversity in its employment
relations.
We also welcome applications from disabled persons.