HIGH-TECH FOR PLANT SCIENCES AND BIOECONOMY

Forschungszentrum Jülich, Institute of Bio- and Geosciences · IBG-2: Plant Sciences

IBG-2: Plant Sciences at Forschungszentrum Jülich GmbH develops integrated bioeconomy concepts for the intensification and sustainability of plant production. The objective is (i) to **improve yield**, (ii) **adapt the quality** to various uses (food, feed, raw materials, bioenergy, (iii) **reduce the production footprint**, and (iv) **adjust processes** to the future climate and production conditions.

IBG-2 has a globally leading position in **plant phenotyping** based on its excellent knowledge in **dynamic plant-environment interaction** above- and belowground combined with **technology development, engineering, digitization and bioinformatics**. The scientific focus of the highly interdisciplinary endeavour is to identify shoot and root traits that improve yield, biomass quality and resource efficiency. The technology focus is to develop and implement methods and infrastructures for deep, high-throughput and field phenotyping and combine them with state-of-the-art **bioinformatics**.

Integration of plant sciences in **bioeconomy value networks** is an additional element of IBG-2 with its research in **alternative biomass**, **cell wall** and **secondary metabolite biochemistry**, targeted to feedstock optimization for conversion and sustainable carbon and nutrient use in **integrated biorefinery processes**.

Learn more about our research concepts (selection):
See page 2 for further information >>>

HIGH-TECH FOR PLANT SCIENCES AND BIOECONOMY

Forschungszentrum Jülich has an outstanding portfolio of innovative bioeconomy research concepts, technologies and infrastructure for the sustainable production of plants.

Selected examples

1) SEED-TO-PLANT-TRACKING
Automated handling and phenotyping of seeds and plants

2) FROM-BIOMASS-TO-PRODUCTS
Alternative biomass valorization in integrated biorefineries

3) FROM-WASTE-TO-VALUE
Valorization of horticultural plant residuals

4) FROM-DATA-TO-HARVEST
Digital analyses tools for processing, quantification and visualization

5) FROM-LEAF-TO-SPACE
Sensor development and remote sensing of crop performance at different scales

6) FROM-ALGAE-TO-APPLICATION
Multiscale technologies for algae cultivation and analytics

Contact persons

Dr. Christian Klar
Tel: +49 2461 61-4230
c.klar@fz-juelich.de

Dr. Andreas Müller
Tel: +49 2461 61-3528
a.mueller@fz-juelich.de

www.fz-juelich.de\ibg-2