

## Prof. Dr. Ulrich Schurr

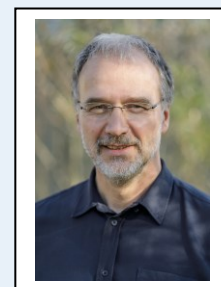
(\*08.04.1963, Married, Two children: 2002, 2004)

Jülich Research Center

Institute for Plant Sciences

Johannenstrasse, D-52425 Jülich

Phone: +49 2461 - 614819, u.schurr@fz-juelich.de



ORCID: 0000-0003-0369-8777

URL for web site: <https://www.fz-juelich.de/de/ibg/ibg-2>

[<https://scholar.google.com/citations?user=EJHzbmwAAAAJ&hl=de>]

### Vision of the working group and contribution and reference to catalaix

As a systemic transformation concept, the sustainable bioeconomy is closely linked to the development of open-loop systems: for the primary production of biobased raw materials, the requirement of open-loop capability is not only a question of available quantities, but very essentially of qualities to be provided that enable good processability/catalysis capability (integrated biorefineries). At the same time, bioeconomic technologies and processes are important for multiple cycles (multiple value creation) or the linking of cycles (cascade use). The technological and, in the medium term, also economic linking of the processes to be developed in catalaix with renewable raw materials and residual materials of existing value creation networks of the bioeconomy from food and non-food applications represents a challenge that must be addressed systemically. The approaches of the working group with regard to primary production (food and non-food plants as raw materials), access to diverse residual materials from different sectors (e.g. agriculture, food/feed, paper and packaging industry) as well as the linkage with the energy sector (renewable energies) result in a variety of innovative starting points for catalaix in technical and strategic direction.

### Current & previous positions

- Since 2001 **Director of "IBG-2: Plant Sciences"**, Institute of Bio- and Geosciences Research Centre Jülich and Professor, University of Düsseldorf
- 2006 - 2008 **Research Director Research Field Earth and Environment** on the Board of Directors of Forschungszentrum Jülich
- 1991 - 2001 **Head of Dept. Plant Physiology**, Botanical Institute, University of Heidelberg, Germany

### Academic career

- 1988 - 1991 **PhD** with Prof. Dr. Schulze, Institute of Plant Ecology, University of Bayreuth/ Germany and Prof. Dr. Stitt, Institute of Plant Biochemistry, University of Bayreuth/ Germany
- 1982 - 1988 **Diploma in Biology**, University of Bayreuth/ Germany

### Integration in the scientific system

- Since 2021 **Full member of the International Advisory Council Global Bioeconomy (IACGB)**
- 2018 - 2021 **Vice President of the European Plant Science Organisation (EPSO)**
- Since 2019 **President of the German Plant Phenotyping Network eV (DPPN eV)**
- Since 2018 Member of the **Commission for Biological Safety** of the Federal Ministry of Agriculture and Consumer Protection.
- Since 2015 **President of the International Network for Plant Phenotyping (IPPN eV)**
- 2015 - 2019 **President of the European Technology Platform Plants for the Future (ETP P4F)**
- 2008 - 2011 **Vice President of the European Plant Science Organisation (EPSO)**

## Selected projects

Since 2010	Executive Director of the Bioeconomy Science Center (BioSC)
Since 2019	Coordinator Model Region BioeconomyREVIER in the Rhenish Mining Area
Since 2018	Board member of the Cluster of Excellence PhenoRob (University of Bonn, FZJ).
Since 2016	Chairman of the ESFRI project EMPHASIS (European Research Infrastructure for Plant Phenotyping).
2012 - 2022	Coordinator of the German Plant Phenotyping Network (DPPN/ BMBF)
2012 – 2022	Member of the Cluster of Excellence in Plant Sciences CEPLAS and member of the Executive Board (University of Düsseldorf, University of Cologne, MPI Z Cologne, FZJ).

## Most significant scientific contributions

1. Gerullis M. et al, 2023, From genes to policy: mission-oriented governance of plant-breeding research and technologies. *Frontiers in Plant Sciences* 14: Interplay of governance in plant breeding systems with new scientific methods.
2. Lanzerath D., Schurr U. et al 2022 *Bioeconomy and Sustainability: Perspectives from Natural and Social Sciences*; Springer Nature Verlag, 380 pp: Ethical and natural science perspectives on the sustainable bioeconomy.
3. Langridge P et al. 2022 Meeting the challenges facing wheat production: the strategic research agenda of the Global Wheat Initiative; *Agronomy* 12: Global wheat research strategy by the Global Wheat Initiative (G20).
4. Windt CW, Nabel M., Kochs J., Jahnke S., Schurr U., 2021 A Mobile NMR Sensor and Relaxometric Method to Non-destructively Monitor Water and Dry Matter Content. *Frontiers in Plant Science* 12, 18: NMR sensor development and application for non-invasive analysis of plant constituents.
5. Watt M., Fiorani F., Usadel B., Rascher U., Muller O., Schurr U., 2020, Phenotyping: new windows into the plant for breeders. *Annual Review of Plant Biology* 71, 689-712: Review article on the opportunities of modern plant phenotyping for breeding and novel trait targets.
6. Costa C et al. 2019 Plant phenotyping research trends, a science mapping approach. *Frontiers in Plant Sciences* 9: Analysis of trends in modern plant phenotyping.
7. Weidener D. et al, 2018, One-Step Lignocellulose Fractionation by using 2, 5-Furandicarboxylic Acid as a Biogenic and Recyclable Catalyst. *ChemSusChem* 11 (13), 2051-2056: Development and application of methods for lignocellulose digestion.
8. Damm T. et al, 2017, OrganoCat pretreatment of perennial plants: synergies between a biogenic fractionation and valuable feedstocks. *Bioresource technology* 244, 889-896: Development and application of OrganoCat as a new digestion process for biorefineries.
9. Roy J., Tardieu F., Tixier-Boichard M., Schurr U., 2017, European infrastructures for sustainable agriculture. *Nature plants* 3 (10), 756-758: Concept for the development of European research infrastructures for agriculture.
10. Berg S. et al 2017 The bioeconomy as a circular and interconnected system. *Bioeconomy for beginners*, Springer Verlag 141 - 159: Derivation of circular economy and bioeconomy.