



Deutsche  
Gesellschaft für  
Pflanzenernährung



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## Bilateral Conference of the German Society of Plant Nutrition (DGP) 2021

Germany meets Denmark  
Challenges and Perspectives for Plant Nutrition in 2030



Wednesday, 22<sup>th</sup> September 2021

9:00            **Annual Meeting of the German Society of Plant Nutrition (Members only)**  
Edgar Peiter

13:00            **Welcome address**

- Simone Fulda, President, Kiel University
- Karl H. Mühling, Dean, Faculty of Agricultural and Nutritional Sciences, Kiel University
- Edgar Peiter, Chair DGP

Session 1: NUTRIENT AVAILABILITY & CYCLING IN SOILS  
Chair: Karl H. Mühling

13:30            **Plenary Lecture: New Paradigm for Plant Nutrition**  
Achim Dobermann (Paris, France)

14:15            **Remote sensing methods for monitoring crop nitrogen and water status.**  
Mathias Neumann Andersen (Aarhus, Denmark)

14:45            **Root growth and resource acquisition of crops**  
Kristian Thorup-Kristensen (Taastrup, Denmark)

15:15 Poster Session 1: Plant Nutrition, Yield Stability &  
Food Quality / Fertilizers and Fertilization  
(Chair: Sven Schubert)

## Thursday, 23<sup>th</sup> September 2021

### Session 2: NUTRIENT ACQUISITION & HOMEOSTASIS Chair: Edgar Peiter

08:30 **Synthesis and iron acquisition properties of coumarin-type siderophores**  
Ricardo Giehl und Nicolaus von Wirén (Gatersleben)

09:00 **The role of ITPK1-dependent inositol pyrophosphates in phosphate signaling.**  
Ester Riemer, Danye Qiu, Debabrata Laha, Henning J. Jessen, Ricardo F.H. Giehl (Gatersleben) & Gabriel Schaaf (Bonn)

09:30 **The role of DNA methylation in nutrient recovery during senescence.**  
Emil Vatow, Ulrike Zentgraf & Uwe Ludewig (Hohenheim)

10:00 Poster Session II: Nutrient acquisition & Homeostasis /  
Nutrient function in plants  
(Chair: Uwe Ludewig)

### Session 3: NUTRIENT FUNCTION IN PLANTS Chair: Sven Schubert

11:00 **Boron efficiency in *Brassica napus*: New QTLs for old questions**  
Thomas Alcock (München), Christian Flügge (Göttingen), Eva Heinrich (Göttingen), Benjamin Pommerrenig (Kaiserslautern), Astrid Junker (IPK), Thomas Altmann (IPK), Antje Schierholt (Göttingen) & Gerd Patrick Bienert (München)

11:30 **Iodine uptake and growth response of maize in limed and humic acid amended acidic soil fertilized with zinc iodide and zinc iodate**  
Asif Naeem & Karl H. Mühling (Kiel)

12:00 **Calcium – the nutrient that rules the plant.**  
Edgar Peiter (Halle)

12:30 Lunch break

Session 4: PLANT NUTRITION, YIELD STABILITY &  
FOOD QUALITY

Chair: Christian Zörb

- 13:30 **Water-saving rice production: A heretic's point of view.**  
Mathias Becker (Bonn)
- 14:00 **Leaf water homeostasis and apoplastic pH: Derivation of control parameters for a putative negative feedback-loop**  
Hartmut Kaiser & Karl H. Mühling (Kiel)
- 14:30 **Nitrogen management for the quality of bread and wine**  
Christian Zörb, M. Dier, A. Rekowski, C. Lang, N. Merkt & M. Wimmer (Hohenheim)
- 15:00 Poster Session III: Nutrient availability & Cycling in soils  
(Chair: Klaus Dittert)

Session 5: FERTILIZERS & FERTILIZATION

Chair: Klaus Dittert

- 16:00 **Closing phosphorus cycles in maize-based cropping systems**  
Mehdi Nkebiwe, Tobias Hartmann, Yawen You, Daniel Wanke, Yuan Wang, Huaiyu Yang, Xinping Chen, Fusuo Zhang & Torsten Müller (Hohenheim, Beijing, Chongqing)
- 16:30 **GülleBest – Innovative liquid manure application techniques for use in growing crops to mitigate ammonia and greenhouse gas emissions and to improve nitrogen productivity**  
Ten Huf, M., C. Buchen, C. Essich, H. Flessa, R. Fuß, T. Jorissen, G. Recke, T. Reinsch, R. Ruser, F. Taube, R. Well, M. Zutz & H.-W. Olf (Osnabrück, Braunschweig, Kiel, Hohenheim)
- 17:00 **Approaches to better adapt nitrogen fertilization to the demand of spinach in open-field production.**  
Christian Frerichs & Diemo Daum (Osnabrück)

**Friday, 24<sup>th</sup> September 2021**

Session 6: TOXICITY & REMEDIATION

Chair: Christoph M. Geilfus

- 08:30 **Phytostabilization of heavy metal polluted soils: a case study for sewage farm soil in Berlin.**  
Liu Rui, Holger Bessler, Christof Engels (Berlin)

- 09:00 **Plants under salt stress: Is energy a limiting factor?**  
Sven Schubert & Franzika Faust (Gießen)
- 09:30 **Abscisic acid priming induces long-term salinity resistance in *Vicia faba*:  
Changes in key transcripts, metabolites, and ionic relations**  
Amit Sagervanshi & Karl H. Mühling (Kiel)
- 10:00 Poster Session IV: Toxicity & Remediation /  
Plant Nutrition & Environmental Pollution  
(Chair: Mathias Becker)

Session 7: PLANT NUTRITION &  
ENVIRONMENTAL POLLUTION  
Chair: Torsten Müller

- 11:00 **Adaptation of agricultural production systems to climate change**  
Jorgen Eivind Olesen (Aarhus, Denmark)
- 11:30 **Nitrate uptake and C exudation – do plant roots stimulate or inhibit  
denitrification?**  
Pauline Sophie Rummel, Reinhard Well, Birgit Pfeiffer, Klaus Dittert,  
Sebastian Floßmann & Johanna Pausch (Göttingen)
- 12:00 **Closing lecture**  
**Reduction of nitrogen losses by an optimized N management system –  
GreenWindows 4.0**  
Urs Schmidhalter, Paul Heinemann & Maximilian Lösch (München)
- 13:00 **Closing remarks**  
Karl H. Mühling and Edgar Peiter