

GfÖ, Arbeitskreis Experimentelle Ökologie - Workshop 2013

18-20 March 2013 at Plant Sciences (IBG-2), Forschungszentrum Jülich

“Moving from the lab to the field: Putting ecology and ecophysiology in a new framework”

Monday 18th March

13.00-14.00 Registration

14.00-14.15 Welcome and Introduction
(Vicky Temperton, Arnd Kuhn, Manfred Küppers)

Session 1

Plants in pots, rhizotrons, microcosms and the field - Part I

14.15-14.45 Vicky Temperton *et al.* “The challenge of linking controlled experiments with field experiments” (25 min +5)

14.45-15.05 Maik Bartelheimer *et al.* “When neighbour roots cause biotic stress: A gene expression study between two species” (15 min +5)

15.05-15.25 Sara Palacio *et al.* “Plant nutrient and water cycling in semi-arid gypsum ecosystems”

15.25-15.45 Gert Dudel “The multiple beneficial role of silica in plants (grasses)”

15.45-16.15 Coffee break

Session 2

Plants in pots, rhizotrons, microcosms and the field - Part II

16.15-16.45 Günter Hoch *et al.* “*In situ* and greenhouse tests of the low temperature limit for growth in deciduous, broad-leaved tree species” (25+5min)

16.45-17.05 Armando Lenz *et al.* “Freezing resistance and phenology in spring co-control deciduous tree species low temperature range limits” (15+5min)

- 17.05-17.25** Carsten Brackhage "Influence of water logged soil conditions and nutrient availability on transfer and speciation of As in grasses (crop species)"
- 17.25-17.45** Dagmar von Dusschoten *et al.* "MRI of plant roots grown in containers: thinking outside the pot"
- 17.45-18.15** **DISCUSSION SO FAR**
- 18.30** ***BUS transfer to Aachen, IBIS-Hotel "Marschiertor"*** (Friedland Strasse 6-8)
- 20.00** **Dinner in Aachen with discussion on the next steps of AKOE**
Location: Restaurant „La Table“, it belongs to the **IBIS-HOTEL**

Tuesday 19th March

08.30 (sharp, be on time) *Bus transfer from IBIS-Hotel "Marschiertor" to Jülich Research Center*

Session 3

Plants in pots, rhizotrons, microcosms and the field - Part III

- 09.30-10.00** Hendrik Poorter "In which cases and to what extent do measurements in plant growth chambers tell us something about the reality outside in the field?" (25 +5min)
- 10.00-10.20** Karin Pirhofer-Walzl *et al.* "Plant-microorganism interactions in agricultural landscape laboratories" (15+5min)
- 10.20-10.40** Dario Mantovani *et al.* "How is the water use and growth of black locust? - from lysimeter experiments to the field"

Coffee break and

POSTER SESSION UNTIL LUNCH

12.00 -13.00 ***LUNCH*** (in FZJ-Seekasino with lunch tickets, free choice)

Session 4

The grand challenge – the rhizosphere and roots under controlled and field conditions

- 13.00-13.30** Robert Koller *et al.* "Soil protozoa and plant growth: scientific challenges in lab and field experiments" (25 +5min)
- 13.30-13.50** Stefan Geissen & Michael Bonkowski "Identification and functional roles of amoeboid protozoa in soil" (15+5min)
- 13.50-14.10** Tobias Wojciechowski "Roots in gel chambers, mesocosms, and in the field – a different story"
- 14.10-14.30** Stephan Blossfeld *et al.* "Quantitative imaging of rhizosphere pH and CO₂ dynamics with planar optodes"
- 14.30-15.00** **Coffee break**

Session 5

Physiological Aspects of comparing the lab to the field

- 15.00-15.20** Jan-Erik Dickopp "How microclimate governs rhizome aeration in the emergent hydrophyte *Typha latifolia*"
- 15.20-15.40** Julia Henzler *et al.* "Leaf Gas Exchange and Seasonal Carbon Balance of Woody Plants in Central Alaska and in Comparison to Central Europe"
- 15.40-16.00** Frauke Peschek *et al.* "Effects of solar UVB on DNA (CPDs) and photosynthesis (F_v/F_m) in the green macroalga *Ulva* species"

Short break (5min)

16.05-17.00 **General Discussion**

17.00-18.15 ***Tour of plant phenotyping facilities at IBG-2***

18.30 ***Bus transfer to Aachen to Restaurant***

Dinner in Restaurant called "Kazan", Annastrasse 26, Aachen as of 19.30 in big group (a la carte adapted for the group, self-paying)

Wednesday 20th March

08.30 *Bus transfer from IBIS-HOTEL "Marschiertor" to Campus "Klein-Altendorf" near Bonn*

Session 6

Building up a crop phenotyping chain in Klein-Altendorf – from single plant to field stock

- 10.00-10.20** Ralf Pude (Uni Bonn) „Concept and further development of the site Klein-Altendorf“
- 10.20-10.40** Tim Malolepszy “PhenoCrops – Building of a phenotyping chain in Klein-Altendorf – from single plant to field stock“
- 10.40-11.00** Mark Müller-Linow & Uwe Rascher „The leaf angle distribution of 3-d canopies of *Arabidopsis* and *Beta vulgaris*“
- 11.00-11.30** **Overall discussion and outcome of the meeting**
- 11.30-13.00** *Tour of site*
- 13.00 – 13.30** **LUNCH** (we will provide home-made sandwiches)
- 13.30** **End of Meeting**

13.30 *Bus transfer to Bonn (main station, arrival ca. 14.00), then to Düren (main station, arrival ca. 15.00), then to Jülich (FZJ, arrival ca. 15.20)*