

UKPPN Root Phenotyping Workshop

7-8 April 2016

Sutton Bonington Campus, University of Nottingham

Room LR11, Plant Sciences Building



DAY 1: THURSDAY 7th APRIL

9:30 Registration and coffee in foyer of Plant Sciences Building

9.50 Welcome: Malcolm Bennett

Session 1: Field Phenotyping for Root Traits (Chair: Erik Murchie)

10:00 *Michelle Watt* (Jülich)
Faster genetic gains from root phenotyping: roles for field and laboratory environments

10:30 *Shaunagh Keating* (Nottingham)
Field phenotyping root traits in wheat

10.50 *Tobias Wojciechowski* (Jülich)
Field phenotyping root traits in barley

11:10 *Richard Whalley* (Rothamsted)
Electrical Resistance Tomography, EMI and penetrometer

11.25 Coffee

11:50 Practical Demonstrations of Field phenotyping approaches

Richard Whalley (Rothamsted)/ *Andrew Binley* (Lancaster)
Electrical Resistance Tomography, EMI and penetrometer

Rory Hayden/Larry York (Nottingham)
Tractor-mounted soil corer system

13.00 Buffet Lunch (Plant Sciences Foyer)

Session 2: CE-based Phenotyping for Root Traits 1 (Chair: Darren Wells)

14:00 *Adam Price* (Aberdeen)
Phenotyping rice root systems

14:30 *Jenny Bussell* (Nottingham)
Phenotyping sugar beet root systems

14.45 *Patrick Schäfer* (Warwick)
Deciphering immunity-induced changes in root morphology

15:00 *Gabriela Pastori* (BBSRC) / Malcolm Bennett
Briefing about the new ESFRI - European Research Infrastructure EMPHASIS

15:30 Coffee

Session 2: CE-based Phenotyping for Root Traits 2 (Chair: Darren Wells)

15:50 *Stefan Mairhofer* (Nottingham)
Building a Root Phenotyping Pipeline using CT imaging

16:10 *Stefan Gerth* (Fraunhofer Institute for Integrated Circuits)
High throughput root phenotyping using CT imaging

16.30 *Erik Esveld* (Wageningen)
Root system characterization via XRT image analysis measured on drained Rockwool substrate

16.45 Tour of the Hounsfield Facility (Craig Sturrock)

17:30 Session ends

19:00 Dinner in the Dining Hall of The Barn, Sutton Bonington Campus

DAY 2: FRIDAY 8th APRIL

Session 3: Innovations in Root Imaging and Modelling (Chair: Tony Pridmore)

9:00 *Jonathan Lynch* (Penn State)
Anatomics - a novel high throughput phenotyping platform for plant anatomical phenes

9:40 *Benjamin Peret* (INRA / Montpellier SupAgro)
Title TBC

9.55 *Huw Jones* (NIAB)
Varietal differences in below ground biomass revealed by semi-quantitative estimation of wheat roots in soil using a commercial kit and qPCR

10.10 Coffee

10:50 *Johannes Postma* (Jülich)
Simulating the function of root traits

11:30 *Nathan Mellor* (Nottingham)
Relating wheat root architecture to nitrogen use efficiency using computer simulations of CT data

11.45 *Felicien Meunier* (Université catholique de Louvain)
RSWMS: a modelling platform to decipher the soil-plant relations

12:00 Close of meeting, Lunch, & registration for UKPPN Annual Meeting