

Second International Workshop on Image Analysis Methods for the Plant Sciences

University of Nottingham Jubilee Campus, 2-3th September 2013

Registration and refreshments will be held in the atrium of the Computer Science Building.

Talks will take place in BLT1, Exchange Building

Programme

Monday 2nd September

12:00 - 1:00 Registration and buffet lunch

1:00 Welcome (Tony Pridmore)

1:10 - 3:00 Session 1: Theme: High-throughput systems. Chair: Tony Pridmore

1:10 Keynote talk: Jason Swedlow (University of Dundee)

The Open Microscopy Environment (OME): Open Image Informatics for the Biological Sciences

2:00 Ji Zhou (The Sainsbury Laboratory, Norwich)

Large-scale Bioimage Analysis for Stomata and Microtubule Quantification

2:20 Marie Neal (The National Plant Phenomics Centre, Aberystwyth)

Image analysis requirements for high throughput plant phenotyping experiments in an automated greenhouse environment

2:40 Boguslaw Obara (University of Durham)

BioImage Informatics for Plant Sciences

3:00 - 3:30 Tea

3:30 - 5:00 Session 2: Theme: Colour and segmentation. Chair: Hannah Dee

3:30 Christoph Brieze (IBG-2: Plant Sciences, Forschungszentrum Jülich)

Plant Shoot Image Segmentation using Colour Features and Support Vector Machines

3:50 Manuel Forero (Cardiff University)

Improved methods for segmentation and analysis of Arabidopsis

4:10 Graham Horgan (Biomathematics and Statistics Scotland)

Image histograms for leaf area estimation and more

4:30 Mike Pound (CPIB, University of Nottingham)

RootNav: Navigating images of complex root architectures

4:50 Shisheng Wang (Aberystwyth University)

Quantifying Colour Difference in Arabidopsis

5:10 Close

7:30 Dinner at The Larder on Goosegate, City Centre

(A coach will be provided from Jubilee campus, departing at 7:15, and returning after the meal.)

Tuesday 3rd September

9:00 - 10:20 Session 3: Theme: Stereo and 3D. Chair: Andy French

- 9:00 Jasmine Burguet (IJPB, INRA centre de Versailles-Grignon)
Statistical comparison of the spatial organization of intra-cellular punctual structures in vegetal cells using 3D point intensity mapping
- 9:20 Vincent Leemans (Gembloux Agro-Bio Tech – Ulg)
Leaf area and leaf orientation measurement by using stereo-vision
- 9:40 Lu Lou (Aberystwyth University)
3D Reconstruction of Plants from Uncalibrated Multi-View Images
- 10:00 Rick van de Zedde (Wageningen UR)
Complete 3D models of plants and the benefit for phenotyping and robotics

10:20 - 11:00 Coffee

11:00 - 12:00 Session 4: Theme: Motion and growth. Chair: Tony Pridmore

- 11:00 Jonas Bühler (IBG 2: Plant Sciences, Forschungszentrum Jülich)
A class of compartmental models for long-distance tracer transport in plants
- 11:20 Giovanni Sena (Imperial College London)
Tracking Cell Divisions in Arabidopsis Root with Light Sheet Microscopy
- 11:40 Alain Trubuil (INRA)
Geometrical analysis of early stage A. thaliana embryos

12:00 - 2:00 Lunch & poster session

2:00 – 3:30 Session 5: Theme: Imaging approaches.

- 2:00 Gordon Allison (Aberystwyth University)
Chemometric analysis of hyperspectral Raman datasets to explore plant cell wall composition and architecture
- 2:20 Rubén Rellán-Álvarez (Carnegie Institution for Science, Stanford)
Growth and Luminescence Observatory for Roots (GLO-Roots): A Platform for Analysis of Root Structure and Physiology in Soil
- 2:40 David Rousseau (Université Lyon)
Full-field optical coherence tomography (FF-OCT) as a novel and emerging plant imaging technique
- 3:00 Closing remarks