

Workshops in advanced methods in crop breeding

Hosted by Newcastle University in association with the NUE-Crops project
at
Newcastle University
Research Beehive Room 2.22
Newcastle upon Tyne
NE1 7RU

On

17th, 18th, and 19th January 2012

Recent developments in the fields of **proteomics** and **transcriptomics** combined with **traditional approaches to plant breeding** can increase the rate of development of new varieties of crops. These approaches are being used in the NUE-CROPS project to identify genetic markers for nutrient use efficiency in wheat, maize, potatoes and oilseed rape.

These two workshops will provide young scientists (PhD and post-doctoral level) with the skills and knowledge needed to apply these advanced methods in crop breeding.

Workshop 1: Methods/strategies for QTL identification, association genetics and marker-assisted breeding

Featuring:

- Traditional approaches to QTL identification, Peter Werner, KWS-UK
- Association genetics in barley, Luke Ramsay, James Hutton Institute, Scotland
- Genetics in *Brassica rapa*, Jian Wu, Chinese Academy of Agricultural Sciences
- Model-assisted breeding, Paul Struik, Wageningen University

Workshop 2: Application of transcriptomic and proteomic methods/approaches in crop breeding

Featuring:

- Proteomics for gene identification, Angharad Gatehouse, Newcastle University
- Computer-based practical on protein identification, Achim Treumann, NUPATH, Newcastle
- Gene expression using Affymetrix microarray, Martin Edwards, Newcastle University

Bursaries are available for young scientists please email Lois Bell
(l.e.bell@newcastle.ac.uk) for an
application form



Tuesday 17 January 2012

13.00 – Welcome – Introduction

Workshop 1: Methods/strategies for QTL identification, association genetics and marker-assisted breeding

- 13.30 Peter Werner - Traditional, population-based identification of QTL in barley and Wheat
- 14.30 Luke Ramsay – Association genetics in barley
- 15.30 Tea/Coffee
- 16.00 Jian Wu – Genetics of *Brassica rapa*

Wednesday 18 January 2012

- 09.00 Paul Struik – Model-Assisted breeding for nutrient use efficiency
- 10.00 Frank Breuer – Advances in marker assisted breeding of maize/oilseed rape – A breeders perspective
- 11.00 Panel: Issues relating to the exploitation of molecular-assisted breeding

- 12.00 Lunch

Workshop 2: Application of transcriptomic and proteomic methods/approaches in crop breeding

- 13.30 Angharad Gatehouse – What is Proteomics and how it can be used for gene identification
- 14.30 Catherine Tetard-Jones – Proteomic analysis of wheat and potato leaves – identification of gene products that form plant response to agronomic practices
- 15.30 Martin Edwards – Gene Expression Analysis using Affymetrix Microarray

Dinner

Thursday 19 January 2012

- 09.30 to be arranged – Statistical analysis of omics data
- 10.30 Achim Treumann – Computer based practical session Protein Identification

- 12.00 End of Workshops

All delegates wishing to attend must submit a registration form (which is attached) - please send back to Lois Bell (l.e.bell@newcastle.ac.uk) by Thursday 12 January 2012.



Workshop – 17 – 19 January 2012

Theme: Workshops in Advanced Methods in Crop Breeding

Venue: Newcastle University, Research Beehive, Newcastle upon Tyne. UK

Organiser: Dr Julia Cooper

REGISTRATION FORM

Your details (please write in capitals)

Name:	
Institution:	
Telephone/Fax:	
E-mail address:	

	I will be attending the workshop in January 2012	
1	Date of arrival and approximate time (local time):	
2	Date of departure and approximate time (local time):	
3	I will be travelling by car, train, plane	
4	I will be staying at this accommodation address (if already known):	
5	I am vegetarian	

Please send your completed registration form by fax to: 01661-831006 or email to Lois Bell (l.e.bell@newcastle.ac.uk)