ICAR 2009 Programme

Tuesday 30 June 2009

14:00 – 19:00  ICAR 2009 Registration  
Location Strathblane Hall

16:00 – 17:30  Workshops

1. Plant Proteomics - breakthroughs in studying intra-cellular dynamics and environmental response in the Arabidopsis proteome  
Location Tinto

2. Assaying for hallmark features of Programmed Cell Death  
Location Moorfoot

15:45 – 17:30  3. Quantitative Modelling of Signalling Systems  
Location Kilsyth

17:30 – 19:00  Opening Ceremony and Keynote Lectures  
Location Pentland Auditorium

Prof Andrew Millar – University of Edinburgh
Welcome

Prof. David Baulcombe FRS - University of Cambridge
Title to be confirmed

Prof. Wayne Powell - IBERS, University of Aberystwyth
Title to be confirmed

19:00 – 21:00  Welcome Drinks Reception  
Location Strathblane and Cromdale Halls
ICAR 2009 Programme

Wednesday 1st July 2009
08:30 – 18:00 ICAR 2009 Registration
Location Strathblane Hall

09:00 - 10:30 Session 1: The RNA World – Epigenetics and Genomics
Co-Chairs: – David Baulcombe and Marjori Matzke
Location Pentland Auditorium

09:00 – 09:30   Prof. Jian Kang Zhu
- University of California, Riverside, USA
Mechanism and function of active DNA demethylation

09:30- 10:00  Prof. Jurek Paszowski
- University of Geneva, Switzerland
DNA methylation and transgenerational epigenetic inheritance

10:00 – 10:30  Prof. Herve Vaucheret
- INRA Centre de Versailles, France
Specificity, redundancy and antagonism among plant small RNA pathways

This session is kindly sponsored by Roche

10:30 – 11:00   Refreshment Break, Posters and Exhibition
Location Strathblane and Cromdale Halls

11:00- 12: 30 Session 2: Development
Co-Chairs Keith Lindsey and Vivian Irish
Location Pentland Auditorium

11:00 – 11:30  Dr. Xuemei Chen
- University of California – Riverside, USA
Regulation of floral stem cells

11:30 – 12:00   Prof. Ben Scheres
- Utrecht University, The Netherlands
Architecture from stem cell centred feedback networks

12:00 – 12:30  Prof. John Bowman
- Monash University, Australia
Evolution of patterning genes in land plants

This session is kindly sponsored NAASC

12:30 – 14:00   Lunch, Posters and Exhibition
Location Strathblane and Cromdale Halls
Lunch is kindly sponsored by Bayer

14:00 – 15:30 Concurrent Session A: Hot Topics
Co-Chairs:– Ottoline Leyser and Philip Benfey
Location Pentland Auditorium

14:00 - 14:15 Dr. Stig Uggerhøj Andersen
- MPI, Tuebingen, Germany
Next-generation genetics: mapping and mutant identification in one step by deep sequencing

14:15 - 14:30 Dr. Rebecca A. Mosher
- University of Cambridge, UK
Uniparental expression of PolIV-dependent siRNAs in developing endosperm of Arabidopsis

14:30 - 14:45  Prof. Ian Small - University of Western Australia, Australia
Roles for RNA editing factors in leaf development

14:45 – 15:00  Alexander Graf – John Innes Centre, Norwich, UK
The circadian clock controls carbohydrate metabolism and hence growth rate in Arabidopsis plants at night

15:00 – 15:15  Renhou Wang - Max Planck Institute, Cologne, Germany
Control of perennial flowering and perenniality in Arabis alpina

15:15 - 15:30  Dr. Kirsten Bomblies - MPI, Tuebingen, Germany
Local-scale population structure and outcrossing in Arabidopsis thaliana

This session is kindly sponsored the Plant Journal

14:00 – 15:35 Concurrent Session B: Environmental Responses
Co-Chairs ::- Steven Penfield and Paloma Más
Location Sidlaw Auditorium

14:00 – 14:25  Dr. Paul Devlin - Royal Holloway – University of London, UK
FHY3 and FAR1 mediate red light input to the Arabidopsis circadian clock

14:25 – 14:50  Prof. Julian Schroeder -University of California, Davis, USA
Identification of CO2-binding proteins that function as upstream mediators of CO2-induced stomatal movements

14:50 – 15:05  Dr. Harriet McWatters - University of Oxford, UK
Membranes, temperature and the plant clock

15:05 – 15:20  Dr. Jose Dinneny - National University of Singapore
Towards a spatiotemporal understanding of the salt stress response

15:20 – 15:35  Dr. Motoaki Seki - RIKEN PSC, Japan/Yokohama City University, Japan
Novel RNA- and chromatin remodeling-mediated regulatory mechanisms in plant abiotic stress responses

This session is kindly sponsored the Plant Cell and Environment

15:30 – 14:00  Refreshment Break, Posters and Exhibition
Location Strathblane and Cromdale Halls

16:00 – 18:00 Concurrent Session C: Novel Tools and Resources
Co-Chairs :- Sean May and Blake Meyers
Location Pentland Auditorium
16:00 – 16:30  **Prof. Joe Ecker** - Salk Institute, USA  
Sequencing Across the Genome-Phenome Divide

16:30 – 17:00  **Dr. Sean Cutler** – University of California, Riverside, USA  
Sidestepping Genetic Redundancy with Small Molecules

17:00 – 17:15  **Dr. Anna Amtmann** – University of Glasgow, UK  
EZ-Rhizo: New Software for Fast and Accurate Measurement of Root System Architecture

17:15 – 17:30  **Dr. Jun Cao** - Max Planck Institute, Tuebingen, Germany  
One genome is not enough: Genome-species genome variation in *Arabidopsis thaliana*

17:30 – 17:45  **Dr. Neil Graham** - University of Nottingham, UK  
Evidence of neutral transcriptome evolution in plants

17:45 – 18:00  **Dr. Susana Garcia-Sanchez** -NEIKER Institute-Tecnalia, Spain,  
Wide screening of phage-displayed protein libraries to draw plant-pathogen interaction maps  

*This session is kindly sponsored the Plant Journal*

16:00 – 18:00  **Concurrent Session D: Development**  
Co-Chairs :- Gwyneth Ingram and Miltos Tsiantis  
*Location Sidlaw Auditorium*

16:00 – 16:30  **Prof. Rüdiger Simon** - Heinrich-Heine University, Germany  
Signalling modules controlling the stem cell niche in *Arabidopsis*

16:30 – 17:00  **Dr. Gwyneth Ingram** - University of Edinburgh, UK  
PHYTOCALPAIN as a key regulator of growth in plants

17:00 – 17:15  **Dr. Dominique Bergmann** - Stanford University, USA  
Asymmetry, pattern and renewal in *Arabidopsis* stomatal development

17:15 – 17:30  **Dr. Ji-Young Lee** – Cornell University, NY, USA  
Tissue patterning and growth coordinated by a mobile microRNA and SHORT ROOT in the root

17:30 – 17:45  **Kensuke Kawade** - University, Tokyo, Japan  
Leaf size is regulated by a cell-autonomous system linking cell proliferation and post-mitotic cell enlargement

17:45 – 18:00  **Carla Galinha** – University of Oxford, UK  
Repression of apical HD-ZIP III homeobox genes is required for *Arabidopsis* embryonic root development

18:00 – 20:00  **Poster Session 1**
Odd numbered poster abstracts to be presented
A bar will be available during this session
Location Pentland Auditorium
This poster session is kindly sponsored NAASC
Thursday 2nd July 2009
09:00 – 10:30 Session 3: Environmental Responses
Co-Chairs: Alistair Hetherington and Sally Assmann
Location Pentland Auditorium

09:00 – 09:30  Prof. Alistair Hetherington - University of Bristol, UK
The responses of stomata to environmental signals

09:30- 10:00  Prof. Sally Assmann - Pennsylvania State University, USA
ABA and G-protein signalling in Arabidopsis guard cells

10:00 – 10:30 Dr. Julia Bailey-Serres - University of California, Riverside, USA
Low oxygen stress: What is more important cell identity or survival?

This session is sponsored by the New Phytologist Trust

10:30 – 11:00   Refreshment Break, Posters and Exhibition
Location Strathblane and Cromdale Halls
This refreshment Break is sponsored by ISPMB

11:00-12:30 Session 4: Plant Defence
Co-Chairs: Jonathan Jones and Jim Beynon
Location Pentland Auditorium

11:00 – 11:30   Prof. Corne Pieterse - Utrecht University, The Netherlands
Networking by small-molecule hormones in plant immunity

11:30 – 12:00  Dr. Cyril Zipfel - Sainsbury Laboratory, UK
Deciphering PAMP-triggered immunity in Arabidopsis

12:00 – 12:30  Prof. Murray Grant - University of Exeter, UK
Effectors affect distal effects; plant systemic reprogramming associated with defence and disease

This session is kindly sponsored the Plant Biotechnology

12:30 – 14:00  Lunch, Posters and Exhibition
Location Strathblane and Cromdale Halls

14:00 – 16:00 Concurrent Session E: Plant Defence
Chair: Jane Glazebrook
Location Pentland Auditorium

14:00 – 14:30  Prof. Jonathan Jones - Sainsbury Laboratory, UK
Using Pathogen Effectors to Understand Host Resistance Mechanisms

14:30 – 15:00  Prof. Jim Beynon – WHRI, University of Warwick, UK
Pathogen effectors and host responses
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<th>Time</th>
<th>Speaker</th>
<th>Institution</th>
<th>Title</th>
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<tbody>
<tr>
<td>15:00 – 15:15</td>
<td><strong>Dr. Nicolas Frei dit Frey</strong> - MPI, Cologne, Germany</td>
<td>Endocytic trafficking: New players in FLS2/flagellin signalling</td>
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<td>15:15 – 15:30</td>
<td><strong>Steven Spoel</strong> - Duke University, USA</td>
<td>Post-translational modifications of the transcription co-activator NPR1 regulate plant immunity</td>
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<td>15:30 – 15:45</td>
<td><strong>Dr. Fumiaki Katagiri</strong> - University of Minnesota, USA</td>
<td>New classes of proteins forming complexes with resistance proteins</td>
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<td>15:45 – 16:00</td>
<td><strong>Dr. Morten Petersen</strong> - Copenhagen University, Denmark</td>
<td>Autophagic Components Contribute to Hypersensitive Cell Death in Arabidopsis</td>
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14:00 – 16:00 Concurrent Session F: Plant Growth Regulators
Co- Chairs: Stefan Kepinski and Joe Kieber

**Location Sidlaw Auditorium**

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<tr>
<td>14:00 – 14:30</td>
<td><strong>Prof. Joe Ecker</strong> - Salk Institute, USA</td>
<td>Untangling Transcriptional Regulatory Networks Modulating Hormone Responses</td>
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<td>14:30 – 15:00</td>
<td><strong>Dr. Zhiyong Wang</strong> - Carnegie Institution, USA</td>
<td>The brassinosteroid signal transduction pathway</td>
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<td>15:00 – 15:15</td>
<td><strong>Prof. Joseph Kieber</strong> - University of North Carolina, USA</td>
<td>Cytokinin signaling: Two-components and more</td>
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<td>15:15 – 15:30</td>
<td><strong>Dr. Karim Sorefan</strong> – John Innes Centre, UK</td>
<td>A regulated auxin minimum is required for tissue patterning in Arabidopsis fruit</td>
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<td>15:30 – 15:45</td>
<td><strong>Emanuele Scacchi</strong> - University of Lausanne, Switzerland</td>
<td>Dynamic, auxin-responsive plasma membrane to nucleus movement of Arabidopsis BRX</td>
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<td>15:45 – 16:00</td>
<td><strong>Dr. Daniela Dietrich</strong> – University of Nottingham, UK</td>
<td>Divide et impera – cell division in the root and its control through ABA</td>
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*This session is sponsored by ISPMB*

16:00 – 16:30 Refreshment Break, Posters and Exhibition

**Location Strathblane and Cromdale Halls**

16:30 – 18:00 Workshops

1. **Stomata- the ins and outs**
   **Location Tinto**

2. **Root System Architecture**
Location Moorfoot

3. Putting TAIR to work for you - hands-on workshop for beginning and advanced users
Location Kilsyth

18:00 – 20:00
Poster Session 2
Even numbered poster abstracts to be presented
A bar will be available during this session
Location Pentland Auditorium
Friday 3\textsuperscript{rd} July 2009
09:00 -10:30 Session 5: Natural Variation
Co-Chairs: - Caroline Dean and Magnus Nordborg
Location Pentland Auditorium

09:00 – 09:30  Profl. Magnus Nordborg - University of Southern California, USA
Genome-wide association study of 100+ phenotypes in common set of \textit{Arabidopsis thaliana} inbred lines

09:30- 10:00  Prof. Caroline Dean - John Innes Centre, UK
Natural variation in Arabidopsis vernalization response

10:00 – 10:30  Prof. Joanna Schmitt - Brown University, USA
Predicting flowering time in changing climates

10:30 – 11:00   Refreshment Break, Posters and Exhibition
\textit{Location Strathblane and Cromdale Halls}

11:00- 12:30 Session 6: Cell Biology
Co-Chairs: - Claire Grierson and Jiri Friml
Location Pentland Auditorium

11:00 – 11:30   Prof. Ian Moore - University of Oxford, UK
Small GTPases in post-Golgi and endocytic membrane traffic in Arabidopsis

11:30 – 12:00  Dr. Silke Robatzek - MPI Tubingen, Germany
Cellular dynamics in plant immunity

12:00 – 12:30  Prof. Jiri Friml - ZMBP, Tübingen, Germany
Auxin transport – connecting cell polarity and patterning

\textit{Location Pentland Auditorium}

   Prof. Andrew Millar - University of Edinburgh, UK
   Prof. Joe Ecker - Salk Institute, USA

12:30 – 14:00 Lunch,
\textit{Location Strathblane and Cromdale Halls}

\textbf{AFTERNOON OFF TO ENJOY EDINBURGH}

18:00 – 20:00  Poster Session 2
\textbf{All poster abstracts to be presented}
A bar will be available during this session
\textit{Location Pentland Auditorium}
Saturday 4th July 2009
09:00 – 10:30 Session 7: Signalling in Development
Co-Chairs Dr. Karen Halliday and Dr Stacey Harmer
Location Pentland Auditorium

09:00 – 09:30  Dr. Stacey Harmer - University of California Davis, USA
Timing is everything: exploring links between the circadian clock and hormone signaling

09:30 – 10:00  Prof. Nicholas Harberd - University of Oxford, UK
Growth Regulation by GA-GID1-DELLA and beyond

10:00 – 10:30  Dr. Christian Fankhauser - University of Lausanne, Switzerland
Regulation of shade avoidance by a network of bHLH class transcription factors

10:30 – 11:00  Refreshment Break, Posters and Exhibition
Location Strathblane and Cromdale Halls

11:00 – 12:30 Session 8: Systems Biology
Co-Chairs Andrew Millar and Philip Benfey
Location Pentland Auditorium

11:00 – 11:30  Prof. Enrico Coen - John Innes Centre, UK
Development of shape in plants

11:30 – 12:00  Prof. Mark Stitt - MPI, Germany
Systems analysis of the diurnal regulation of metabolism and growth

12:00 – 12:30  Prof. Andrew Millar - University of Edinburgh, UK
Unwinding the circadian clock with systems biology

This session is sponsored by the Centre for Systems Biology Edinburgh and the Centre for Plant Integrative Biology

12:30 – 14:00  Lunch, Posters and Exhibition
Location Strathblane and Cromdale Halls

14:00 – 16:00 Concurrent Session G: Systems Biology
Co-Chairs :- Reka Albert and Christophe Godin
Location Pentland Auditorium

14:00 – 14:30  Prof. Przemyslaw Prusinkiewicz -University of Calgary, Canada
A level-set model of leaf form development

14:30 – 15:00  Prof. Reka Albert - Penn State University, USA
Dynamic modeling of the signal transduction network corresponding to abscisic acid induced stomatal closure in Arabidopsis thaliana
15:00 – 15:15  **Sarah Robinson** – John Innes Centre, UK  
Modelling Cell division in the Arabidopsis leaf epidermis

15:15 – 15:30  **Dr. Adrienne Roeder** – The California Institute of Technology, USA  
Timing of cell division determines the relative cell size pattern in Arabidopsis

15:30 – 15:45  **Dr. Miguel Moreno-Risueno** – Duke University, USA  
A systems biology approach to understanding the root clock

15:45 – 16:00  **Julia Rausenberger** - University of Freiburg, Germany  
From protein dynamics to physiology: phytochrome B mediated photomorphogenesis

14:00 – 15:45 Concurrent Session H: Bioenergy
Chair:- Paul Dupree  
*Location Sidlaw Auditorium*

14:00 – 14:30  **Prof. Henrik Vibe Scheller** - Lawrence Berkeley National Laboratory, USA  
Arabidopsis as a model for cell wall biosynthesis in bioenergy crops.

14:30 -15:00  **Dr. Ruben Vanholme** - Ghent University, Belgium  
Systems biology of lignification and relevance to biofuels

15:00 – 15:15  **Dr. Kerrie Farrar** – IBERS, University of Aberystwyth, UK  
Exploiting Model Species to Increase Biomass Yield in Energy Crops

15:15- 15:30  **Dr. Raymond Wightman** – University of Manchester, UK  
Assembly of the Cellulose Synthase Complex occurs within a specialised compartment that is derived from the endoplasmic reticulum.

15:30 – 15:45  **Dr. Thorsten Hamann** – Imperial College London, UK  
Using *Arabidopsis thaliana* to improve feedstock quality

16:00 – 16:30  Refreshment Break, Posters and Exhibition  
*Location Strathblane and Cromdale Halls*

16:30 – 18:00  **Workshops**

1. **Pollen Development**  
*Location Tinto*

2. **Ambient Temperature**  
*Location Moorfoot*

19:30 – 23:00  **ICAR 2009 Conference Dinner**
Location Strathblane and Cromdale Halls

The Conference Dinner will take place in the Cromdale Hall. Delegates will be able to enjoy pre-dinner drinks in the Strathblane Hall from 1930 hours. Dinner will be followed by a Ceilidh in the Strathblane Hall.