

3<sup>rd</sup> – 5<sup>th</sup> April 2019  
Lady Sainsbury Lecture Theatre, Jodrell Laboratory

## PROGRAMME

Wednesday 3<sup>rd</sup> April 2019

### Monography: where are we and where are we going?

This symposium will showcase monographic research, its applications and opportunities for future research. The programme of talks will demonstrate how monography furnishes the essential baseline information to assess plant diversity, study evolution, evaluate plants as resources, and understand threats to their extinction. A forward-looking paper co-authored by the speakers will address these themes.

- 08.30-09.30    **REGISTRATION**
- 09.30-10.00    **Alexandre Antonelli** - RBG, Kew  
Monographs are the 21<sup>st</sup> century's cornerstone for sustainable development
- 10.00-10.30    **Sandy Knapp** - Natural History Museum & **Tiina Sarkinen** - Royal Botanic Garden Edinburgh  
Monographing monsters: challenges and opportunities
- 10.30-11.00    **Maria Vorontsova** - RBG, Kew  
Grass monography on different planets: in Madagascar and in Britain
- 11.00-11.30    **COFFEE BREAK**
- 11.30-12.00    **Peter Wilkie** - Royal Botanic Garden Edinburgh  
The value of a dot on a map: how monographs are helping deliver conservation targets
- 12.00-12.30    **Eve Lucas** - RBG, Kew  
The world without monography: stable taxonomies for conservation
- 12.30-13.00    **Gwil Lewis** - RBG, Kew  
Re-appraising the catch-all genus *Caesalpinia*: preparation, pit-falls and pay-back
- 13.00-14.00    **COFFEE BREAK**
- 14.00-14.30    **Robert Scotland** - University of Oxford  
The power of global natural history collections
- 14.30-15.00    **Olwen Grace** - RBG, Kew  
Opportunities for the future in monography
- 15.00-15.30    **COFFEE BREAK**
- 15.30-16.30    **DISCUSSION SESSION**

### OPENING OF THE 3<sup>rd</sup> UK PLANT EVOLUTION MEETING

- 16.30-17.00    **Richard Buggs** - RBG, Kew  
How to solve Darwin's abominable mystery
- 17.00-18.00    **REGISTRATION, POSTER SESSION AND WINE RECEPTION**

## Thursday 4<sup>th</sup> April 2019

08.00-09.15 **REGISTRATION**

09.15-09.20 **Briefing** - Jaume Pellicer. RBG, Kew, UK

09.20-09.30 **Welcome** - Paul Kersey. RBG, Kew, UK

09.30-10.30 **The Leverhulme Lecture**

**Jonathan Wendel** - Iowa State University, USA

The wondrous cycles of polyploidy in plants

### SESSION 1: PLANT DEVELOPMENT AND EVOLUTION

10.30-11.00 **Liam Dolan** - University of Oxford, UK

Development and evolution of land plant rooting structures

11.00-11.30 **COFFEE BREAK**

11.30-12.00 **Edwige Moyroud** - University of Cambridge, UK

Nature's palette: understanding the evo-devo mechanisms of petal patterning

12.00-12.15 **Bo Xu** - University of Cambridge, UK

Ejaculation in Moss: morphomechanical innovation for gamete dispersal in early land plants

12.15-12.30 **Louis Ronse de Craene** - Royal Botanic Garden Edinburgh, UK

Space matters: how spatial constraints affect the floral development of Caryophyllaceae

12.30-12.45 **Erin Cullen** - University of Cambridge, UK

The evolution and development of nectar spurs

12.45-13.45 **LUNCH BREAK**

### SESSION 2: PLANT TRAITS INVOLVED IN ADAPTATION AND DOMESTICATION

13.45-14.15 **Robin Allaby** - University of Warwick, UK

Dynamic histories of adaptation and deterioration in plant domestication revealed through archaeogenomics

14.15-14.45 **Anne Borland** - Newcastle University, UK

CAM and capacitance in *Clusia*: dissecting two adaptations to drought in tropical trees

14.45-15.15 **Samuel Brockington** - University of Cambridge, UK

Tyrosine-rich metabolism and the evolution of betalain pigmentation in Caryophyllales

15.15-15.45 **COFFEE BREAK**

15.45-16.00 **Pablo Muñoz-Rodríguez** - University of Oxford, UK

Role of storage roots in sweet potato domestication

16.00-16.15 **Janet Higgins** - Earlham Institute, UK

Selective sweeps during domestication and adaptation of rice subpopulations within a diverse collection of Vietnamese rice

16.15-16.30 **Roman Kellenberger** - University of Cambridge, UK

Molecular trajectories of pollination strategy shifts: the evolution of sexual deception in *Gorteria diffusa* (Asteraceae)

## SESSION 2: PLANT TRAITS INVOLVED IN ADAPTATION AND DOMESTICATION (continued)

- 16.30-16.45 **Sara Van de Kerke** - Wageningen University, The Netherlands  
Evolution of floral shape in *Pelargonium* (Geraniaceae)
- 16.45-17.00 **Laura Kelly** - Royal Botanic Gardens, Kew & Queen Mary, University of London, UK  
Genes for resistance to an insect pest in *Fraxinus* (Oleaceae) identified via comparative genomics
- 17.00-17.15 **SHORT BREAK**

## EARLY RESEARCHERS SESSION: PRESENTATIONS BY SOME OF THE NEXT GENERATION OF PLANT EVOLUTIONARY BIOLOGISTS

- 17.15-17.25 **Michael Harrap** - University of Bristol, UK  
Floral humidity: its diversity and role within floral displays
- 17.25-17.35 **Nataly Olivia A. Canales** - Natural History Museum of Denmark & University of Copenhagen, Denmark  
Paleogenomic annotation of historical *Chincona* bark samples across time and space
- 17.35-17.45 **Oliver W. White** - Natural History Museum & University of Southampton, UK  
Diversification of the Macaronesian endemic genus *Argyranthemum* (Asteraceae; Anthemideae)
- 17.45-17.55 **Emma Curran** - University of Sheffield, UK  
Divergent selection on multiple regions allows physiological divergence despite gene flow
- 17.55-18.05 **James Walker** - John Innes Centre, UK  
DNA methylation during plant sexual reproduction: contrasting patterns of gene-targeted and global reprogramming
- 18.05-18.15 **Alexander Bowles** - University of Essex, UK  
Phylogenomic analyses reveal the genomic novelties accompanying the major transitions of plant life
- 18.15-19.30 **POSTER SESSION AND WINE RECEPTION**

**FRIDAY 05<sup>th</sup> April**

**SESSION 3: EVOLUTIONARY DRIVERS OF PLANT DIVERSITY**

- 09.00-09.30 **Annaliese Mason** - University of Giessen, Germany  
Hybrid speciation in *Brassica*
- 09.30-10.00 **Alex Twyford** - University of Edinburgh, UK  
The extraordinary evolution of eyebrights (*Euphrasia*)
- 10.00-10.30 **Sidonie Bellot** - RBG, Kew, UK  
Genome size and dynamics of DNA repeats in palms (Arecaceae), with a focus on *Pinanga*
- 10.30-11.00 **COFFEE BREAK**
- 11.00-11.15 **Rosalía Piñeiro** - University of Exeter, UK  
The African rainforest during the Ice Ages
- 11.15-11.30 **Ovidiu Paun** - University of Vienna, Austria  
Macro- and microevolutionary drivers of allopolyploid evolution in European marsh orchids
- 11.30-11.45 **Maria Clara Castellanos** - University of Sussex, UK  
Flower microevolution under stable and changing pollinator environments
- 11.45-12.00 **Jan Hackel** - RBG, Kew, UK  
Grass diversification sheds lights on the origin of Madagascar's biomes
- 12.00-12.15 **Lucía Campos Domínguez** - University of Edinburgh, UK  
Do dynamic genomes drive speciation in the fastest-growing genus *Begonia*?
- 12.15-12.30 **Edgar Wong** - University of Oxford  
Ecological Speciation of *Senecio* Species on Mount Etna, Sicily
- 12.30-13.30 **LUNCH BREAK**

**SESSION 4: RECENT APPROACHES TO UNDERSTANDING MACROEVOLUTION**

- 13.30-14.00 **Charilaos Hyotis** - University of Dublin, Ireland  
Shifting patterns of plant dominance in Earth history determined by interplay between atmospheric change and photosynthetic physiology
- 14.00-14.30 **Scott Armbruster** - University of Portsmouth, UK  
Multilevel modularity and integration of floral traits: adaptive cordilleras versus adaptive ridges of pollination success
- 14.30-15.00 **Mark N. Puttick** - University of Bath, UK  
The topology, divergence times, and evolution of land plants
- 15.00-15.15 **Colin Hughes** - University of Zurich, Switzerland  
Phylogenomics, polytomies and the K-Pg boundary: legume evolution in deep time
- 15.15-15.45 **COFFEE BREAK**

**SESSION 4: RECENT APPROACHES TO UNDERSTANDING MACROEVOLUTION (continued)**

- 15.45-16.15 **William Baker** - RBG, Kew, UK  
Completing the Plant Tree of Life
- 16.15-16.30 **Grace Brewer** - RBG, Kew, UK  
Targeted sequence capture recovery of hundreds of nuclear genes from herbarium specimens across the Plant Tree of Life
- 16.30-16.45 **Alexander S.T. Papadopoulos** - Bangor University, United Kingdom  
Micro-endemism in Madagascar's highland flora: have rare species always been rare?
- 16.45-17.00 **Javier Igea** - University of Cambridge, UK  
Angiosperm speciation heats up near the poles
- 17.00-17.45 **CLOSING TALK**  
**Prof. Mark Chase** - RBG, Kew, UK & Curtin University, Australia  
Invading the desert: allotetraploid *Nicotiana* sect. *Suaveolentes* (Solanaceae) radiates in the Australian arid zone in the last million years
- 17.45-18.00 **POSTER PRIZE AND CLOSING REMARKS**