



The James
Hutton
Institute

Moredun
Research Institute



Royal
Botanic Garden
Edinburgh



Rowett Institute
of Nutrition and Health



**Scottish Government's Main Research Providers
Inter-Institutional Post Graduate Research Competition
And**

Dr Sandra Knapp's Science For Life Lecture

"Bringing the ends of the plant science circle together for Earth's future"



Held at the Royal Botanic Garden Edinburgh

Hosted by

Simon Milne, Regius Keeper

Prof. Pete Hollingsworth, Director of Science

Presentation Sessions Chaired by RBGE Scientists

Dr Katy Hayden, Cryptogams

Hannah Atkins, Tropical Diversity

Dr Rebecca Yahr, Cryptogams

Dr Laura Forrest, Science & Technology Services

Day 1: Tuesday 28th June 2016
Hosted by Simon Milne, Regius Keeper

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| 12.00 – 13:15 | Registration Buffet lunch and PGR Poster Competition viewing: Poster 1 [Talk 8]: Jennifer Harbottle, RINH Poster 2 [Talk 5]: Teodora Georgescu, RINH Poster 3: Flávia Pezzini, RBGE Poster 4 [Talk 2]: Rebecca Mclean, Moredun Poster 5: Laura Stoddart, RBGE Poster 6 [Talk 10]: Jennifer Slater, JHI |
| 13:15 – 13:30 | Welcome from Simon Milne, Regius Keeper |
| Session 1 | <i>Chaired by: Katy Hayden, Cryptogams</i> |
| 13:30 - 14:00 | Talk 1: Joseph Palmer, JHI <i>Pathogenic Clostridia in the Environment</i> |
| 14:00 - 14:30 | Talk 2 [Poster 4]: Rebecca McLean, Moredun <i>Interactions between ovine lentiviral vaccine vectors and primary cells in vitro</i> |
| 14:30 - 15:00 | Talk 3: Rafael Silva, SRUC <i>Modelling sustainable intensification in the Brazilian livestock sector</i> |
| 15:00 - 15:30 | Tea & coffee |
| Session 2 | <i>Chaired by: Hannah Atkins, Tropical Diversity</i> |
| 15:30 - 16:00 | Talk 4: Ashley Gorman, JHI <i>The role of seedbank composition and biotic function in vulnerable erosive agroecosystems</i> |
| 16:00 - 16:30 | Talk 5 [Poster 2]: Teodora Georgescu, RINH <i>Characterisation of brainstem pro-opiomelanocortin neurones</i> |
| 16:30 - 17:00 | Talk 6: Katie Emelianova, BioSS <i>Mining Begonia genomic resources to find candidate genes for ecological diversification</i> |
| 17:00 – 17:15 | Intermission |
| 17:15 – 19:00 | Drinks reception PGR Poster Competition Winner announced at 6pm |
| 19:00 – 21:00 | BBQ in the Garden |
| 21:00 | Close |

Day 2: Wednesday 29th June 2016
Hosted by Prof. Pete Hollingsworth, Director of Science

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| 09:00 – 09:20 | Tea & coffee |
| 09:20 – 09:30 | Welcome from Prof. Pete Hollingsworth |
| Session 3 | <i>Chaired by: Rebecca Yahr, Cryptogams</i> |
| 09:30 – 10:00 | Talk 7: Shona Strachan, JHI <i>The Search for Nematode Resistance: Mapping the H2 Gene</i> |
| 10:00 – 10:30 | Talk 8 [Poster 1]: Jennifer Harbottle, RINH <i>The environmental stress response as a target for therapeutic intervention</i> |
| 10:30 – 11:00 | Talk 9: Jolinda Pollock, SRUC <i>Gut microbiota dynamics in weaner pigs in response to experimental enterotoxigenic E. coli challenge</i> |
| 11:00 – 11:30 | Tea & coffee |
| Session 4 | <i>Chaired by: Laura Forrest, Science & Technology Services</i> |
| 11:30 – 12:00 | Talk 10: Jennifer Slater, JHI <i>Do plants have internet? Interplant communication via common mycorrhizal networks</i> |
| 12:00 – 12:30 | Talk 11: Lynsey Melville, Moredun <i>Benzimidazole resistance in Nematodirus battus</i> |
| 12:30 – 13:00 | Talk 12: Sally Eaton, RBGE <i>Landscape Scale Conservation of Epiphytes in Scottish Temperate Rainforests</i> |
| 13:00 – 14:00 | Buffet lunch PGR Competition winner announced at 1:30pm |
| 14:00 – 15:00 | Science for Life Lecture: Dr Sandra Knapp, Natural History Museum London <i>Bringing the ends of the plant science circle together for Earth's future</i> |
| 15:00 | Close |

Dr Sandra Knapp's Science For Life Lecture
"Bringing the ends of the plant science circle together for Earth's future"

Abstract

On the face of it, the only thing biodiversity and biotechnology have in common is the prefix "bio". The goals and aspirations of the two areas are often seen as in terminal conflict, and ultimately as alternative visions for Earth's future. Biodiversity is defined as the variety of life on the planet at three levels of organisation – genes, species and ecosystems. Its conservation and sustainable use are the focus of the Convention on Biological Diversity (www.cbd.int), an international instrument ratified by more than 160 countries worldwide. With the introduction of new targets and new international initiatives, a complex landscape for use of biodiversity has arisen, increasing the potential for conflict and misunderstanding. I have spent a career working on the wild relatives of many socially important plants in the nightshade family Solanaceae, and I will draw on these experiences to explore both the potential for biodiversity – at all its levels – to improve plant biotechnology, and some of the potential pitfalls of ignoring biodiversity and its community for plant biotechnology. The diversity of life on Earth is amazing - over the course of evolution it has encountered a plethora of environmental challenges and opportunities, and solutions to these are many and varied. The rest of the diversity of life on Earth has much to teach us as we go forward in trying to solve societal challenges that will enable a future for our own species on this wonderful blue and green marble.

With special thanks the Speakers, to our Presentation and Poster Competition Judges:

Dr Ian Simpson, Principal Researcher in Statistical Genomics and Bioinformatics, BioSS

Prof. John Jones, Musculoskeletal Biology, JHI

Dr George Russell, Principal Investigator in Molecular Biology, Moredun

Dr Baukje De Roos, Deputy Director, RINH

Dr Catherine Kidner, Plant Development & Evolution, RBGE

Dr Mark Hocart, Manager of Postgraduate Studies / Dean of Centre SRUC Edinburgh, SRUC

And to everyone who has helped or participated in the Competition.

RBGE is a member of Athena SWAN

