

Science for Defra: excellence in the application of evidence

Agenda

Day 1 – 29 March 2017	
08:00 – 09:00	Registration
09:00 – 09:05	Royal Society Welcome Dr Julie Maxton, Executive Director, The Royal Society <i>Wellcome Trust Lecture Theatre</i>
09:05 – 09:15	Welcome and overview of Defra's areas of research interest Ian Boyd, Defra Chief Scientific Adviser <i>Wellcome Trust Lecture Theatre</i>
09:15 – 09:35	Reflections on using evidence within Defra and scientific engagement with government Gemma Harper, Defra Charles Godfray FRS, University of Oxford <i>Wellcome Trust Lecture Theatre</i>
09:35 – 10:20	Evidence policy challenges and responses from senior scientists <i>Panel discussion</i> Chair: <ul style="list-style-type: none">• Ian Boyd CSA Panel: <ul style="list-style-type: none">• Tim Hill, Natural England• Susan Owens, University of Cambridge• Doug Wilson, Environment Agency• Martin Williams, King's College London• Sarah Church, Defra• John Pickett FRS, Rothamsted Research <i>Wellcome Trust Lecture Theatre</i>

10:20 – 10:30	<p>Defra Science Showcase Session 1: Future of Research and Emerging Technology</p> <p><i>Poster pitches</i></p> <p>This session will explore the future direction of research and policy, and the potential application of emerging technologies.</p> <p>Chair: Sarah Whatmore, University of Oxford</p> <ul style="list-style-type: none"> • Six big questions for 21st century conservation science; Ruth Waters, Natural England • Monitor of engagement with the natural environment – supporting delivery and policy for the new conservation agenda; Alison Darlow and Hazel Thomas, Natural England • Developing DNA based technologies for environmental applications; Andy Nisbet, Natural England • Genome sequence and genetic diversity of European ash trees; Richard Buggs, Kew • A complex pathology of acute oak decline is revealed using a novel systems approach to investigation; Sandra Denman, Forestry Commission, and James McDonald, University of Bangor <p><i>Wellcome Trust Lecture Theatre</i></p>
10:30 – 11:00	<p><i>Coffee, networking and poster viewing</i></p> <p><i>Posters and Coffee: Wolfson Suite</i></p> <p><i>Coffee: City of London Rooms</i></p>
11:00 – 12:20	<p>‘Anticipating the Role of Research in Future Food and Farming Policy’</p> <p><i>Panel discussion</i></p> <p>Chair:</p> <ul style="list-style-type: none"> • Charles Godfray FRS, University of Oxford <p>Panel:</p> <ul style="list-style-type: none"> • Sarah Church, Defra • Sarah Whatmore, University of Oxford • Michael Winter, University of Exeter • David Baulcombe FRS, University of Cambridge <p><i>Wellcome Trust Lecture Theatre</i></p>

12:20 – 12:40	<p>Defra Science Showcase Session 2: Environmental Quality</p> <p><i>Poster pitches</i></p> <p>This session will demonstrate Defra science across a broad range of environmental quality issues, in domains such as atmospheric, marine and terrestrial quality.</p> <p>Chair: Paul Monks, University of Leicester</p> <ul style="list-style-type: none"> • Evidence needs for decommissioning within MPAs; Becky Hitchin, JNCC • Decision-making under uncertainty – advising on fishing opportunities in a complex and uncertain world; Carl O'Brien, Cefas • 3D groundwater vulnerability and onshore oil and gas activities; Ian Davey, Environment Agency • Field scale modelling of agricultural nitrate losses to groundwater using the Nitrate Leaching Tool; Natalie Phillips, Environment Agency • Explaining the science behind environmental protection and fracking; Alwyn Hart, Environment Agency • How would Defra identify a pharmaceutical of environmental concern? John Sumpter, Hazardous Substances Advisory Committee, Defra • Particle pollution from wood burning in mainland UK; Anna Font, Kings College London • Applying recent scientific developments to improve regulation of metals in water; Paul Whitehouse, Environment Agency <p><i>Wellcome Trust Lecture Theatre</i></p>
12:40 – 13:25	<p><i>Buffet lunch and poster viewing</i></p> <p><i>City of London Rooms</i></p>
13:25 – 14:15	<p>Defra Science Showcase Session 3:</p> <p><i>Presentations</i></p> <p>The first section considers the implications of climate change and changing working practices for environmental quality.</p> <p>The second section explores the use of monitoring and management for the Marine environment.</p> <p>Climate Change and Environmental Quality</p> <p>Chair: Louise Heathwaite, Lancaster University</p> <ul style="list-style-type: none"> • How may UK air quality be impacted by a new shale-gas industry? Developing and applying evidence for a preliminary regional assessment; Roger Timmis, Environment Agency • Resilience of the natural environment: science to support climate change adaptation; Mike Morecroft, Natural England • Meeting the evidence challenge of the third UK Climate Change Risk Assessment; Molly Anderson, Defra

	<p>Marine</p> <p>Chair: Tim Jickells, University of East Anglia</p> <ul style="list-style-type: none"> • The state of our seas: monitoring then, now and in the future; David Righton, Cefas • Marine protected areas and evidence needs: identification to management; Beth Stoker, JNCC • Delivering evidence in partnership with academia – experience from the Marine Management Organisation; Adam Cook, MMO <p><i>Wellcome Trust Lecture Theatre</i></p>
14:15 – 15:45	<p>Food and Farming</p> <p><i>Workshop</i></p> <p>Led by Kieron Stanley, Defra and the Royal Society Futures Hub.</p> <p><i>Wellcome Trust Lecture Theatre, Conference Room, Wolfson Two</i></p>
15:45 – 16:00	<p><i>Coffee, networking and poster viewing</i></p> <p><i>Posters and Coffee: Wolfson Suite</i></p> <p><i>Coffee: City of London Rooms</i></p>
16:00 – 16:30	<p>Defra Science Showcase Session 4: Animal Health and Food and Farming</p> <p><i>Poster pitches and Presentations</i></p> <p>This session includes presentations and shorter poster pitches of the Defra science underpinning animal health and food and farming evidence. Topics will include food authenticity and sustainability, disease diagnosis and control, and pollinators, pollination and food production.</p> <p>Chair: James Wood, University of Cambridge</p> <p><i>Presentations</i></p> <ul style="list-style-type: none"> • Science into policy on a global scale: case study of the IPBES assessment of pollinators, pollination and food production; Andy Stott, Defra • Meeting the challenges of understanding TB dynamics in badgers and cattle; Dez Delahay, APHA • Food fraud: meat speciation and quantitation – a spotlight on Defra funded science; Gavin Nixon, Defra

	<p><i>Poster Pitches</i></p> <ul style="list-style-type: none"> • A new era in brucellosis diagnosis and control; John McGiven, APHA • Gathering evidence to inform Salmonella control in pigs; Sarah Evans on behalf of Richard Smith, APHA • Molecular diagnosis in resource poor situations. A novel, rapid, disposable device for point of decision testing; Andrew Soldan, APHA • The UK Food Authenticity Programme; Sophie Rollinson, Defra • Improving the sustainability and competitive position of the UK beef industry through selective breeding; Kim Matthews, Defra <p><i>Wellcome Trust Lecture Theatre</i></p>
16:30 – 16:45	<p>Environmental Quality</p> <p><i>Keynote</i></p> <p>David Fowler FRS, CEH, Edinburgh</p> <p><i>Wellcome Trust Lecture Theatre</i></p>
16:45 – 17:30	<p>Environmental Quality</p> <p><i>Panel Discussion</i></p> <p>Chair:</p> <ul style="list-style-type: none"> • David Fowler FRS, CEH, Edinburgh <p>Panel:</p> <ul style="list-style-type: none"> • Harriet Wallace, Defra • Paul Monks, University of Leicester • Stephen Holgate, University of Southampton • Penny Johnes, University of Bristol <p><i>Wellcome Trust Lecture Theatre</i></p>
17:30 – 17:45	<p>Day 1 roundup</p> <p>Ian Boyd CSA, Defra</p> <p><i>Wellcome Trust Lecture Theatre</i></p>

Howard Dalton Lecture	
18:00 – 18:30	<i>Drinks reception</i>
18:30 – 20:30	<p>Howard Dalton Lecture: ‘Foot and mouth, flooding and farmers.’</p> <p>Professor Lord John Krebs, introduced by Minister George Eustice MP</p> <p><i>Wellcome Trust Lecture Theatre</i></p>
20:30 – 21:00	<i>Drinks reception and close.</i>

Day 2 – 30 March 2017	
08:00 – 09:00	Registration
08:00 – 08:55	<p>Resilience and climate change breakfast (<i>by sign up only</i>)</p> <p><i>Panel discussion</i></p> <p>Chair:</p> <ul style="list-style-type: none"> • Pete Smith, University of Aberdeen <p>Panel:</p> <ul style="list-style-type: none"> • Molly Anderson, Defra • Chris Thomas FRS, University of York • Chris Hope, University of Cambridge • Neil Adger, University of Exeter • Alyssa Gilbert, Imperial College London <p>Co-ordinated by: UK climate change risk assessment group</p> <p><i>Conference Room</i></p>
09:00 – 09:05	<p>Introduction to day 2</p> <p>Ian Boyd CSA, Defra</p> <p><i>Wellcome Trust Lecture Theatre</i></p>
09:05 – 09:20	<p>Natural Environment</p> <p><i>Keynote</i></p> <p>Dame Georgina Mace FRS, University College London</p> <p><i>Wellcome Trust Lecture Theatre</i></p>
09:20 – 10:05	<p>Natural Environment</p> <p><i>Panel discussion</i></p> <p>Chair:</p> <ul style="list-style-type: none"> • Dame Georgina Mace FRS, University College London <p>Panel:</p> <ul style="list-style-type: none"> • Rob Bradburne, Defra • Claire Feniuk, RSPB • Maggie Gill, University of Aberdeen • Chris Thomas FRS, University of York • Ian Bateman, University of Exeter <p><i>Wellcome Trust Lecture Theatre</i></p>

10:05 – 10:20	<p>Re-launch of the Science and Engineering Profession within Government</p> <p><i>Keynote</i></p> <p>Sir Mark Walport FRS, Government Chief Scientific Advisor</p> <p><i>Wellcome Trust Lecture Theatre</i></p>
10:20 – 10:35	<p><i>Coffee and poster viewing</i></p> <p><i>Posters and Coffee: Wolfson Suite</i></p> <p><i>Coffee: City of London Rooms</i></p>
10:35 – 12:05	<p>Natural Environment</p> <p><i>Workshop</i></p> <p>Led by Andrew Stott, Defra and the Royal Society Futures Hub</p> <p><i>Wellcome Trust Lecture Theatre, Conference Room, Wolfson Two</i></p>
12:05 – 12:50	<p><i>Buffet lunch and poster viewing</i></p> <p><i>Lunch: City of London Rooms</i></p> <p><i>Posters and Coffee: Wolfson Suite</i></p>
12:50 – 13:10	<p>Defra Science Showcase Session 5: Cross cutting research</p> <p><i>Presentations</i></p> <p>Defra Science Showcase Session 5, chaired by Wayne Powell, will present the cross-cutting research undertaken by the Defra group.</p> <p>Chair: Wayne Powell, Aberystwyth University</p> <ul style="list-style-type: none"> • Defra’s crop genetic improvement networks – engines of innovation and an essential pre-breeding resource; Kim Hammond-Kosack, Rothamsted Research, on behalf of Martin Cannell, Defra • Integrated solutions for multiple benefits: developing the evidence base for a sustainable Wales; Kathryn Monk, Natural Wales • Rosewood – CITES and illegal timber trade; Noeleen Smyth, Kew <p><i>Wellcome Trust Lecture Theatre</i></p>
13:10 – 13:35	<p>Food and Farming</p> <p><i>Keynote</i></p> <p>Corinna Hawkes, City, University of London</p> <p><i>Wellcome Trust Lecture Theatre</i></p>

13:35 – 14:00	<p>Defra Science Showcase Session 6: Animal health and food and farming</p> <p><i>Presentations</i></p> <p>Defra Science Showcase Session 6, chaired by James Wood, will explore the future for animal health research and food and farming with three presentations from across the Defra group.</p> <p>Chair: James Wood, University of Cambridge</p> <ul style="list-style-type: none"> • New paradigms to solve the aquaculture disease crisis – a key focus for aquatic food security; Grant Stentiford, Cefas • Molecular characterisation of colistin resistance in bacteria isolated from food animals; Muna Anjum, APHA • More surveillance for less – how post genomic technologies can improve our ability to deliver effective biosecurity; Neil Boonham and Rick Mumford, Fera <p><i>Wellcome Trust Lecture Theatre</i></p>
14:00 – 14:50	<p>Data and Emerging Technology</p> <p><i>Panel discussion</i></p> <p>Chair:</p> <ul style="list-style-type: none"> • Sir Martin Sweeting FRS, University of Surrey <p>Panel:</p> <ul style="list-style-type: none"> • Sue Black, University College London • David Askew, Natural England • Mark Maslin, University College London <p><i>Wellcome Trust Lecture Theatre</i></p>
14:50 – 15:00	<p>Wrap-up, Next Steps and Conference Close</p> <p>Clare Moriarty, Defra</p> <p><i>Wellcome Trust Lecture Theatre</i></p>