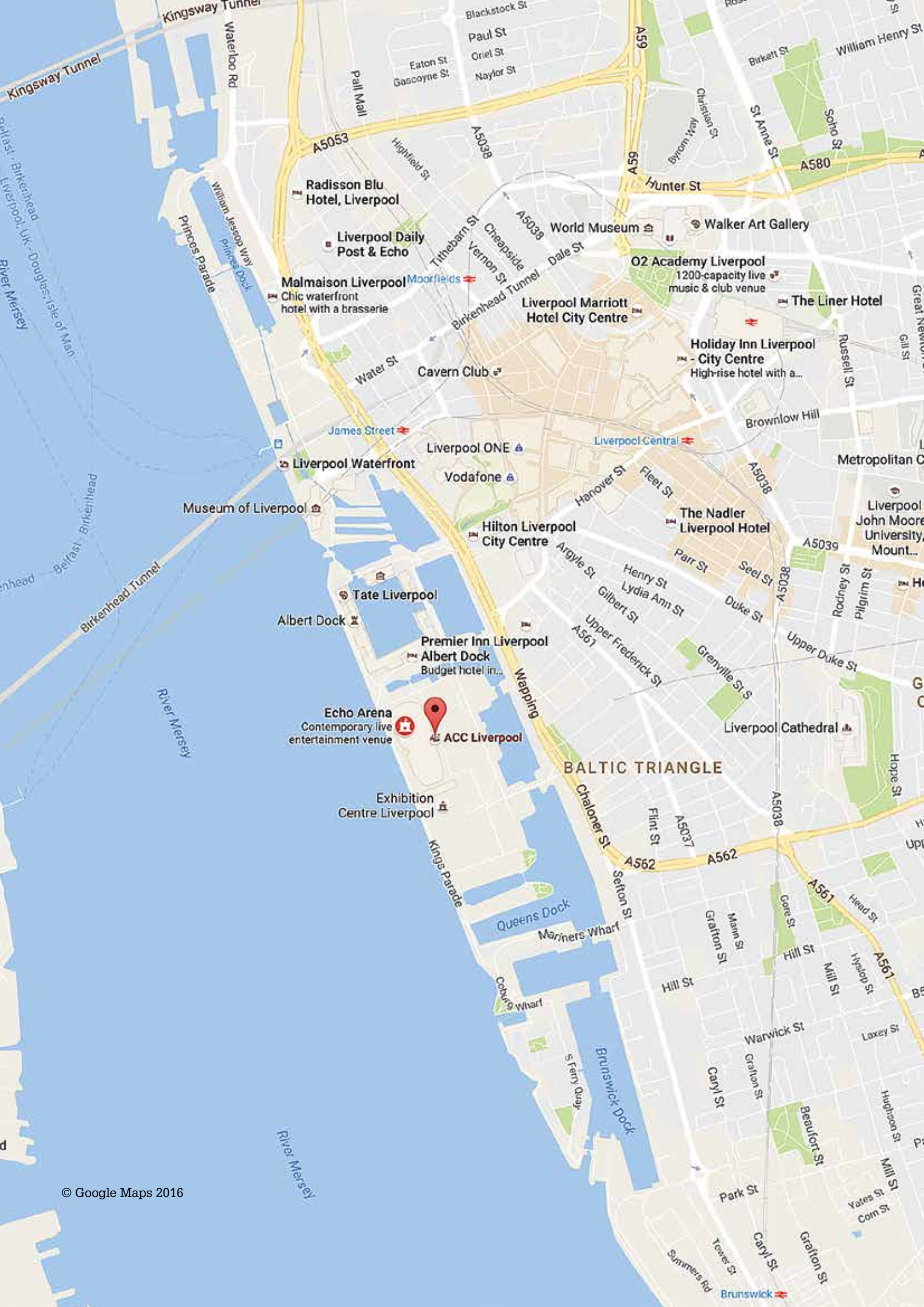




ANNUAL MEETING 2016

**BRITISH
ECOLOGICAL
SOCIETY**

**11–14 DECEMBER
ACC, LIVERPOOL, UK**



Echo Arena
Contemporary live entertainment venue

ACC Liverpool

Premier Inn Liverpool Albert Dock
Budget hotel in...

Exhibition Centre Liverpool

Tate Liverpool

Hilton Liverpool City Centre

The Nadler Liverpool Hotel

Liverpool Waterfront

Liverpool ONE

Holiday Inn Liverpool City Centre
High-rise hotel with a...

Liverpool Marriott Hotel City Centre

Malmaison Liverpool
Chic waterfront hotel with a brasserie

Radisson Blu Hotel, Liverpool

Liverpool Daily Post & Echo

O2 Academy Liverpool
1200-capacity live music & club venue

The Liner Hotel

BALTIC TRIANGLE

ANNUAL MEETING 2016

11–14 DECEMBER
ACC, LIVERPOOL, UK

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WELCOME

It is with great pleasure that I welcome you to the 2016 BES Annual Meeting here in Liverpool. Banish any lingering post-Brexit blues with our fantastic and truly international programme of talks, posters, workshops, events and plenaries!



If the exciting science and great networking opportunities somehow fail to cheer, then there is always our legendary Christmas jumper competition on Wednesday.

Festive fun aside, the heart of our meeting is top quality ecological science and this week you will have an opportunity to hear from researchers at the forefront of the field. Our plenary speakers this year, Daniel Pauly, Anne Chao and Hugh Possingham, bring world-leading research excellence to the conference, and, being from Canada, Taiwan and Australia, set the tone for a truly international event. Alison Hester is giving her personal reflections on a Year in Ecology and Mike Begon will be reminding us that it is 150 years since the term ecology was coined – we will be celebrating that anniversary with a special cake at the welcome mixer! And of course there is our usual packed programme of fantastic thematic and open talk sessions, as well as two poster sessions (accompanied by Liverpool gin apparently!), so a huge diversity of superb science to get your brain buzzing!

The grey matter can get more exercise at our series of workshops. We are running a career planning workshop for early career researchers and a workshop on writing and sharing computer code, both on the Sunday before the main meeting starts, as well as our usual interest-packed programme of workshops on Monday and Tuesday lunchtimes. One of them is on “Making Brexit work for ecology and the environment” which should certainly offer some food for thought! Do let us know if there are workshop topics you would find particularly useful so we can set these up for next year.

An important part of our annual meeting is meeting new colleagues and making new friendships, as well as renewing old ones – and some of us, including myself after over 30 years of attending BES meetings, are certainly starting to feel rather old! The social programme has improved over those intervening years though, and we now lay on lots of events, including the welcome mixer, the awards ceremony and gala dinner (no haggis this year mercifully!), and a “fun run” (oxymoron surely!). There are also the Special Interest Group (SIG) social events – particularly good for meeting other ecologists in similar research fields, and you can team up with them at the welcome mixer too. Don’t forget to share your conference experiences on twitter at #BES2016; you can also use that hashtag to tweet questions at the plenary sessions, something else that has changed since my first BES meeting!

The Annual Meeting is certainly one of the most important events for the Society – last year’s meeting in Edinburgh was one of our biggest ever and this year’s meeting will be just as successful I’m sure. But the BES is far more than just this meeting, so do come along to the BES stand to meet the staff and hear about all the vital work that has been going on between the annual Christmas jumper competitions! The BES Policy team has been working hard during what has been a particularly interesting year in the policy sphere, making the case for the best approaches to protect our natural environment after we leave the EU. Look out for the talks in our policy-focused sessions throughout Monday – it’s a very important time for our ecological science to be linked in with the policy agenda. On a rather different policy angle, we have set up an Equality and Diversity working group to look at ways of making the BES and all its activities as fair and inclusive as possible, so do get involved and let us know what we could do better in that regard. One important recent initiative is our appointment of a Fundraising and Development Manager for the Society, Paul Bower. Although we are enjoying our current success, we need to ensure the BES and the activities it supports can be sustained, so we are looking to the future. Paul is charged with diversifying and securing our income in a rapidly changing world – no pressure Paul!

But we couldn’t do any of the BES activities, either now or in the future, without our members and volunteers, so this is an opportunity to say a big thank you to all the people involved in organising and supporting our journals, our grants and awards, our policy and education work and our SIGs, and of course our meetings. So enjoy Liverpool and don’t forget to put next year’s Annual Meeting in your diary – from 11 -14 December 2017, we will be in the gorgeous city of Ghent, described by Lonely Planet as “Belgium’s best kept secret” (yes it’s in Belgium!). The joint Annual Meeting is being organised by the BES, NecoV and the Gesellschaft Für Ökologie, held in association with the European Ecological Federation, so do come and be part of this cross-border collaboration!

I look forward to chatting to as many of you as possible during the meeting, so do please say hello and offer your comments and thoughts on how the BES can be even better. You can’t miss me – I’ll be the one in the tasteless Christmas jumper clutching a glass of Liverpool gin!!

Follow Sue on Twitter: @profSueHartley

WELCOME (BACK) TO LIVERPOOL

It's 32 years since the BES last held its Annual Meeting in Liverpool. Far too long, and we're glad to have you back – especially as we'd like to think that Liverpool has been a hot-bed of ecology throughout that time.



Back then, it was the wonderful Tony Bradshaw (along with one of us) who organized the meeting (the BES itself did rather little – not like now!). Tony was in the vanguard, and arguably the epitome of the drive to break down the barriers between ecology the pure science and ecology the crisis discipline, addressing many of the most profound problems confronting us. Today, we maintain these two intertwining threads, working on plants, animals and microbes, in marine, freshwater and terrestrial environments, and, as Tony did, at the interface between ecology and evolution.

The scientific programme at this meeting reflects both that desire to fully integrate pure and applied ecology, and also the diversity of topics and systems being covered. In particular it is notable that several of the Thematic Topics running throughout the meeting have been organised by researchers based in Liverpool, many of which reflect our strengths in various aspects of microbial and disease ecology, and also in understanding the evolutionary and ecological impacts of environmental change.

The social programme surrounding the meeting has a similarly Liverpool flavour, with plenty of opportunities to discuss the finer scientific points of the conference over a pint or two of some of the local beers. To help you with this, the various BES Special Interest Groups have kindly organised a vibrant social programme that makes use of the rich diversity of drinking establishments in the local area (Shannon's Index off the scale!). And, for the bravest among you, there will be a special cinema screening of the 1982 science fiction horror film, *The Thing*, arranged by the 'Parasite & Pathogen Ecology' SIG, where you will get the chance to hear all about the science behind the fiction. Of course, no BES Annual Meeting would be complete without the Gala Dinner, and subsequent dance – and this year's meeting will be no exception, with a distinctive Merseybeat vibe (ironic use of retro language, in case you thought we were serious).

We hope, alongside these various organised events, you'll find time to see more of what Liverpool itself has to offer – either more briefly during the meeting itself or by coming early or staying on afterwards. There are our Three Graces on the waterfront, part of the UNESCO-designated Liverpool Maritime City World Heritage Site, which also includes the Albert Dock; the largest collection of Grade 1 listed buildings in the UK; two great football teams; our Georgian Quarter; the old-wood and etched-glass grandeur of our many Victorian pubs; a host of internationally important museums and art galleries (including the Tate's northern outpost); and, as the song *In My Liverpool Home* has it "if you want a cathedral, we've got one to spare" (the song also points out that we speak with an accent "exceedingly rare" – but hopefully you'll catch on). And we shouldn't forget the many symbols of the musical revolution that changed popular culture forever in the 1960s. Strawberry Fields, Penny Lane, John's and Paul's childhood homes, a Cavern Club (sadly not The Cavern Club) and even Eleanor Rigby's grave are all here for you to visit.

We're immensely grateful to the BES staff for making the hosting of this meeting so very easy for us. So, it's a pleasure to say, from the BES itself, from Liverpool's ecologists, and from the famously-friendly people of Liverpool – welcome!

Andy Fenton and Mike Begon

Code of conduct:

Everyone involved in this event has worked exceptionally hard to promote a welcoming environment that is collaborative, supportive and engaging. We celebrate diversity in all its forms and expect that our delegates are respectful and considerate of each other, that they provide supportive critique, and embrace the multitude of opinions that are on offer. Our meetings are opportunities to share, develop and broaden our viewpoints in a safe, inclusive setting and we hope that you will make the most of everything on offer here. If you have any concerns or suggestions for how we can make our meetings more inclusive and productive, please chat to Amelia Simpson or Zoe Davies in the Registration Area.

FIRST TIME AT OUR ANNUAL MEETING

Or is it the first time you are joining us without friends or colleagues? If so, welcome! We know it can be daunting going to a meeting on your own, but ours is friendly and we've factored in plenty of opportunities to meet people.

We pride ourselves on being welcoming and inclusive and actively encourage our delegates to be the same. Our Welcome Mixer on Sunday evening is a perfect time to chat to people over a drink. 'What area do you work in?' is an easy conversation starter, to which everyone will have an answer!

Twitter has broken down walls of communication and helped broadcast the importance of science – which is why we are keen tweeters. Follow our meeting hashtag #BES2016 to see what people are talking about and then start your own conversations with them. Twitter is a great leveller – if you do not feel comfortable starting a face to face conversation with someone more senior, tweet them; you can then take the conversation offline. Because it enables us to take more questions and widen participation to those offsite, we now only take questions for our plenary speakers via Twitter. If you are not yet on Twitter, come to the BES stand to find out how to set up your own account.

If you have heard a talk that has interested you, ask the speaker a question and follow it up with a chat after the session; do not forget to talk to the person sitting next to you – they are in the same session, so you already know you have something in common. We have two poster sessions during the meeting, so there are ample opportunities for you to chat with poster presenters. Actually, ask a question of any presenter, even if they are not in your area of research – great collaborations have come from random conversations.

All of our Special Interest Groups will be at our Sunday night mixer, too, so look out for their specially marked tables and chat with people in the same field. They also have informal social events on Monday or Tuesday evenings, which are open to anyone. They are incredibly friendly events and you already know you share something with other attendees. Our popular LGBT+ mixer makes a return on Tuesday evening (18.30, Room 11C), so feel free to come along and say 'hello' in a friendly, safe environment.

We run workshops during Monday and Tuesday lunchtimes, which are another opportunity to both learn and meet people in a non-confrontational setting. There will be about 1,200 people coming to this meeting – which means there are 1,199 potential new collaborations.

Do you have business cards or some way of giving people your contact details? Make sure that you continue the conversation after the meeting.

When you are not at a workshop or attending a session, why not visit the Exhibition Hall and play one of the many games – what better way to forge new collaborations than over batak or air hockey?! Lunch and tea and coffee will be served there too, which is another chance to mingle – chat with the person next to you in the queue. We understand that talking with someone you do not know can sometimes be intimidating, but people at our meeting are friendly – be brave: invariably, your friendliness will be reciprocated.

Wednesday is our 'Christmas Day' – it is the final day of the meeting when we get into the festive spirit by wearing our Christmas jumpers and decorating the Exhibition Hall with Christmas decorations. By joining in with your tasteful or tasteless(!) jumper, you will automatically have something to talk to fellow attendees about.

Our team will always be at the BES stand in the Exhibition Hall, so drop by and say 'hello' – we are a friendly bunch and always happy to chat!

We pride ourselves in how open, welcoming and supportive our meetings are; we gather together to share new theories, build new collaborations and share the wealth of our experience. It is testament to the rich diversity of those who attend our Annual Meetings and it is one the BES celebrates. We hope you enjoy this meeting – the more you put in, the more you will gain.

BRITISH ECOLOGICAL SOCIETY

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High-impact, original research on all aspects of animal ecology, ranging from the molecular to the ecosystem level.

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We partner with Wiley on this open access journal for quality research in all areas of ecology, evolution and conservation science.

LAYOUT

LOWER GALLERIA HALL 2



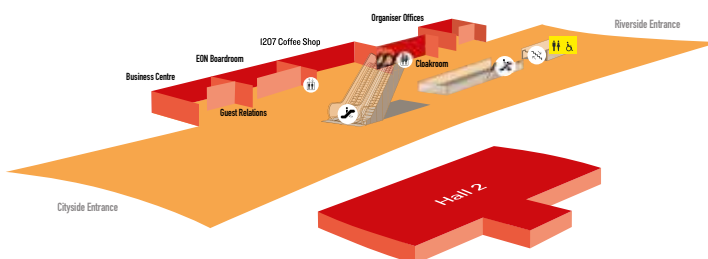
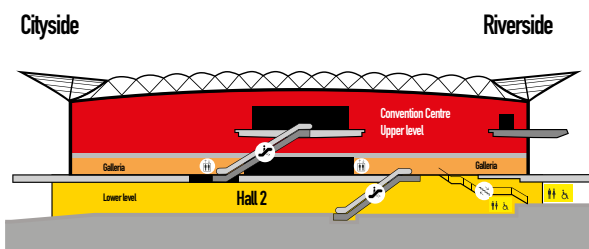
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|------|------------------------------------|-------|-----------------------------|----|---------------------------------|
| 1 | British Ecological Society | 11-12 | OXFORD UNIVERSITY PRESS | 21 | French Ecological Society (SFE) |
| 2 | American Naturalist/UChicago Press | 13-14 | WILEY | 22 | NSO |
| 3 | Pensoft Publishers | 15 | Kudos | 23 | Taylor and Francis |
| 4 | ELSVIER | 16 | Conservation Evidence | 24 | Gesellschaft für Ökologie (GfÖ) |
| 5 | Eco-explore | 17 | Ecological Continuity Trust | 25 | PR statistics |
| 6 | NBC ENVIRONMENT | 18 | Pelagic Publishing | T1 | Conservation K9 Consultancy |
| 7 | Cambridge University Press | 19 | CABI | T2 | New Phytologist |
| 8-10 | NERC's BESS Programme | 20 | AoB PLANTS | T3 | Royal Society |
| | | | | T4 | Edge Hill University |

FLOORPLAN

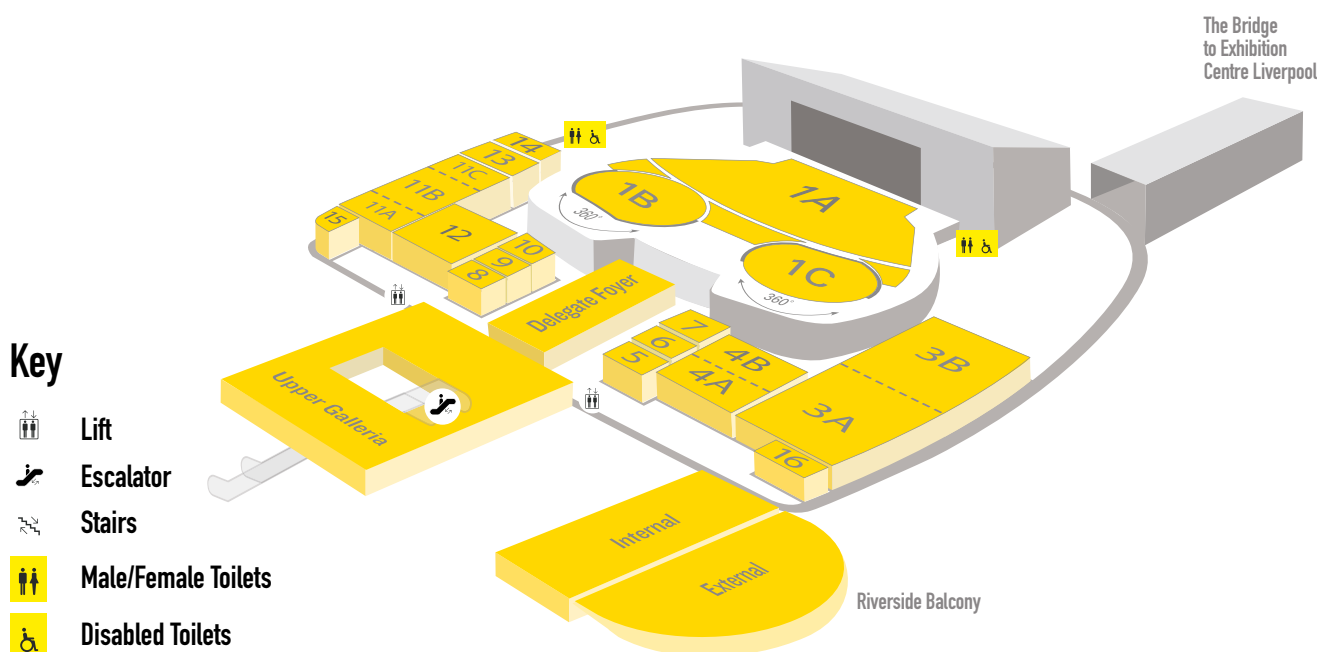
ACC Liverpool Map



Galleria + Lower Level (Exhibition Hall)

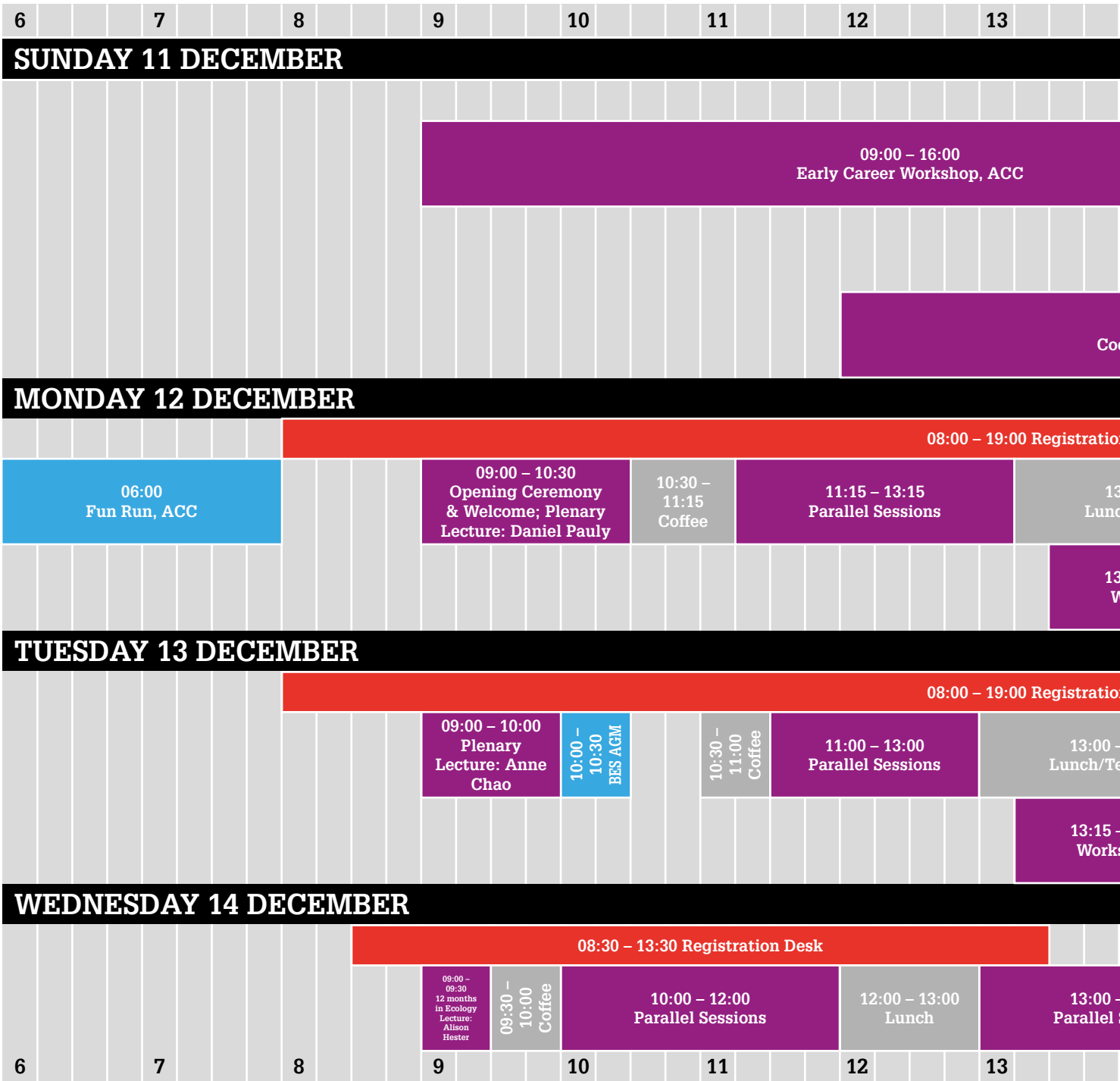


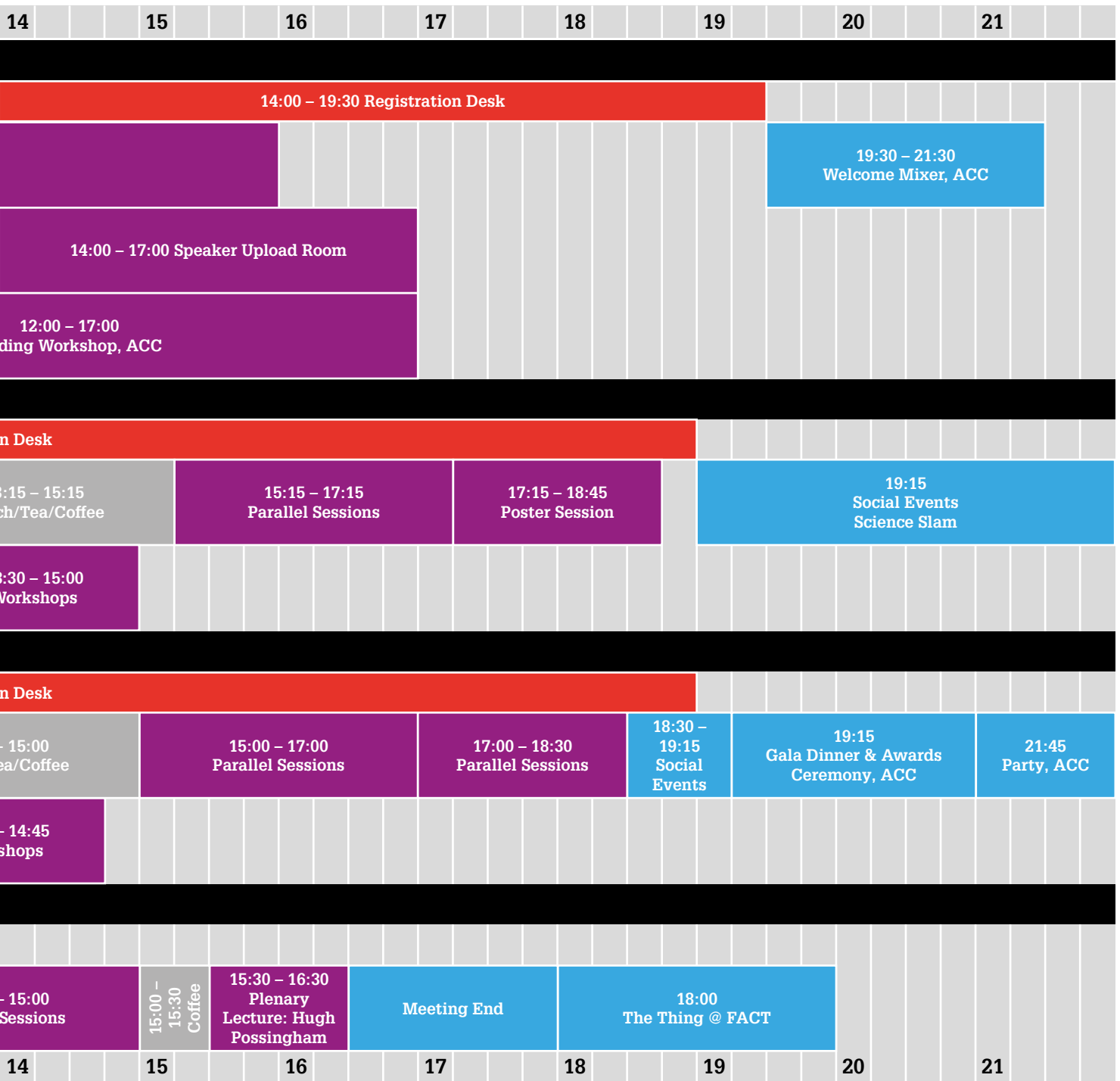
Upper Level (Auditorium)



Part of The **acc** Liverpool Group

MEETING OVERVIEW





ORAL SESSION OVERVIEW

MONDAY 12		TUESDAY 13
11:15 – 13:15	15:15 – 17:15	11:00 – 13:00
<p>TT1: What will Sustainable Fisheries look like in 2025? Location: Auditorium 1A Page: 30</p>	<p>TT3: Responses of Marine Vertebrates to Environmental Change Location: Auditorium 1A Page: 33</p>	<p>TT6: Celebrating 30 Years of Functional Ecology: What does the Future Hold? Location: Auditorium 1A Page: 38</p>
<p>TT2: Ecosystem Services for Human Well-being: Achievements and Future Research Directions Location: Auditorium 1B Page: 30</p>	<p>TT4: Observing, Understanding, and Utilizing Resilience Mechanisms of Ecological Systems Location: Auditorium 1B Page: 33</p>	<p>TT7: Shortening the Hyphen in Eco-immunology Location: Auditorium 1B Page: 38</p>
<p>S1: SPECIES INTERACTIONS (Foodwebs & Trophic Interactions) Location: Auditorium 1C Page: 30</p>	<p>TT5: Europe's Earth Observation Sentinels – New Opportunities for Ecology Location: Auditorium 1C Page: 34</p>	<p>S20: POPULATION ECOLOGY (Applications) Location: Auditorium 1C Page: 38</p>
<p>S2: CONSERVATION SCIENCE (Anthropogenic Threats & Solutions) Location: Room 3A Page: 31</p>	<p>S11: CONSERVATION PRACTICE (Policy & Communication) Location: Room 3A Page: 34</p>	<p>S21: GLOBAL CHANGE ECOLOGY (Distributions, Dynamics & Models) Location: Room 3A Page: 38</p>
<p>S3: AGRICULTURAL ECOLOGY (Policy & Management) Location: Room 3B Page: 31</p>	<p>S12: AGRICULTURAL ECOLOGY (Ecosystem Services) Location: Room 3B Page: 34</p>	<p>S22: EVOLUTIONARY ECOLOGY (Adaptation) Location: Room 3B Page: 39</p>
<p>S4: PARASITES, PATHOGENS & WILDLIFE DISEASE (Applications & Theory) Location: Room 4A Page: 31</p>	<p>S13: PARASITES, PATHOGENS & WILDLIFE DISEASE (Demography & Dynamics) Location: Room 4A Page: 35</p>	<p>S23: MICROBIAL ECOLOGY Location: Room 4A Page: 39</p>
<p>S5: INVASIVE SPECIES (Habitats & Environment) Location: Room 4B Page: 31</p>	<p>S14: ENVIRONMENTAL PHYSIOLOGY Location: Room 4B Page: 35</p>	<p>S24: TROPICAL ECOLOGY (Climate & Land-Use Change) Location: Room 4B Page: 39</p>
<p>S6: COMMUNITY ECOLOGY (Community Structure I) Location: Room 11A Page: 32</p>	<p>S15: COMMUNITY ECOLOGY (Community Structure II) Location: Room 11A Page: 35</p>	<p>S25: INVASIVE SPECIES (Populations & Interactions) Location: Room 11A Page: 40</p>
<p>S7: BEHAVIOURAL ECOLOGY (Adaptation, Evolution, Competition) Location: Room 11B Page: 32</p>	<p>S16: EVOLUTIONARY ECOLOGY (Environment & Stress) Location: Room 11B Page: 35</p>	<p>S26: BEHAVIOURAL ECOLOGY (Movement & Distributions) Location: Room 11B Page: 40</p>
<p>S8: POPULATION ECOLOGY (Demography & Life History) Location: Room 11C Page: 32</p>	<p>S17: POPULATION ECOLOGY (Models & Theory) Location: Room 11C Page: 36</p>	<p>S27: COMMUNITY ECOLOGY (Foodwebs & Trophic Interactions) Location: Room 11C Page: 40</p>
<p>S9: GLOBAL CHANGE ECOLOGY (Populations, Communities & Interactions) Location: Room 12 Page: 33</p>	<p>S18: GLOBAL CHANGE ECOLOGY (Adaptation, Resistance & Resilience) Location: Room 12 Page: 36</p>	<p>S28: AQUATIC ECOLOGY (Management, Conservation & Ecosystem Services) Location: Room 12 Page: 40</p>
<p>S10: ECOSYSTEM ECOLOGY & FUNCTION (Novel Approaches) Location: Room 13 Page: 33</p>	<p>S19: SOIL ECOLOGY & FUNCTION (Processes & Applications) Location: Room 13 Page: 36</p>	<p>S29: CITIZEN SCIENCE Location: Room 13 Page: 41</p>

TUESDAY 13	WEDNESDAY 14	
15:00 – 17:00	10:00 – 12:00	13:00 – 15:00
TT8: Ilkka Hanski's Legacy to Ecology and Conservation Location: Auditorium 1A Page: 41	TT10: The Role of Host-associated Microbiomes in Shaping Life Histories Location: Auditorium 1A Page: 45	TT13: Worlds within Worlds: Host-microbe Interactions in Nature, Health, and Agriculture Location: Auditorium 1A Page: 48
TT9: Mechanisms of Adaptation to Environmental Change Location: Auditorium 1B Page: 41	TT11: Multiple Stressors and Ecological Surprises Location: Auditorium 1B Page: 45	TT14: Which Little things will run the World? Invertebrates and Global Climate Change Location: Auditorium 1B Page: 48
S30: PARASITES, PATHOGENS & WILDLIFE DISEASE (Adaptation & Evolution) Location: Auditorium 1C Page: 41	S40: GLOBAL CHANGE ECOLOGY (Climate Change) Location: Auditorium 1C Page: 45	S49: GLOBAL CHANGE ECOLOGY (Ecosystem Processes & Function) Location: Auditorium 1C Page: 49
S31: SPECIES INTERACTIONS (Approaches & Models) Location: Room 3A Page: 42	TT12: Intransitive Competition and Species Coexistence Location: Room 3A Page: 45	S50: SPECIES INTERACTIONS (Mutualisms & Antagonists) Location: Room 3A Page: 49
S32: EVOLUTIONARY ECOLOGY (Sexual selection & Reproduction) Location: Room 3B Page: 42	S41: CONSERVATION SCIENCE (Species & Diversity) Location: Room 3B Page: 46	S51: CONSERVATION SCIENCE (Habitats) Location: Room 3B Page: 49
S33: ECOSYSTEM ECOLOGY & FUNCTION (Biogeochemical Cycles & Plant-Soil Interactions) Location: Room 4A Page: 42	S42: ECOSYSTEM ECOLOGY & FUNCTION (Diversity, Function & Change) Location: Room 4A Page: 46	S52: SOIL ECOLOGY & FUNCTION (Diversity & Function) Location: Room 4A Page: 49
S34: FOREST ECOLOGY (Novel methods & New Perspectives) Location: Room 4B Page: 43	S43: FOREST ECOLOGY (Diversity & History) Location: Room 4B Page: 46	S53: TROPICAL ECOLOGY (Ecosystem Processes & Function) Location: Room 4B Page: 50
S35: ECOSYSTEM SERVICES (Pollinators) Location: Room 11A Page: 43	S44: AGRICULTURAL ECOLOGY (Diversity & Dynamics) Location: Room 11A Page: 46	S54: THEORETICAL, COMPUTATIONAL & INTERDISCIPLINARY ECOLOGY Location: Room 11A Page: 50
S36: MACROECOLOGY & BIOGEOGRAPHY (Range Shifts, Dispersal & Biogeography) Location: Room 11B Page: 43	S45: MACROECOLOGY & BIOGEOGRAPHY (Methods, Models & Mapping) Location: Room 11B Page: 47	S55: AQUATIC ECOLOGY (Disturbance & Stressors) Location: Room 11B Page: 50
S37: COMMUNITY ECOLOGY (Diversity, Species & Traits) Location: Room 11C Page: 44	S46: EVOLUTIONARY ECOLOGY (Communities & Interactions) Location: Room 11C Page: 47	S56: EVOLUTIONARY ECOLOGY (Demography & Life History Strategy) Location: Room 11C Page: 51
S38: AQUATIC ECOLOGY (Methods, Monitoring, Models) Location: Room 12 Page: 44	S47: POPULATION ECOLOGY (Distributions & Environmental Change) Location: Room 12 Page: 47	S57: POPULATION ECOLOGY (Dynamics) Location: Room 12 Page: 51
S39: URBAN ECOLOGY Location: Room 13 Page: 44	S48: ECOLOGY & SOCIETY Location: Room 13 Page: 48	S58: ECOSYSTEM SERVICES Location: Room 13 Page: 51

PLENARY LECTURES

Tansley Lecture

Monday 09:30-10:30

Daniel Pauly



Daniel Pauly is a French and Canadian citizen who completed his high school and university studies in Germany. After many years at the International Center for Living Aquatic Resources Management (ICLARM), in Manila, Philippines, Dr. Daniel Pauly became in 1994 a Professor at the Fisheries Centre of the University of British Columbia (in Vancouver, Canada), of which he was the Director from 2003 to 2008. Since 1999, he is also Principal Investigator of the Sea Around Us, devoted to studying, documenting and mitigating the impact of industrial fishing on the world's marine ecosystems.

The concepts, methods and software Daniel Pauly (co-)developed, documented in over 1000 well-cited publications, are used throughout the world, following multiple courses and workshops given in four languages on all five continents. This applies especially to the ELEFAN software for fish growth analysis, the Ecopath approach for modelling aquatic ecosystems and FishBase, the online encyclopedia of fishes.

This work is recognized in various profiles, notably in Science, Nature and the New York Times, and by numerous awards, notably the International Cosmos Prize (Japan, 2005), the Volvo Environmental Prize, (Sweden, 2006), the Ramon Margalef Prize (Spain, 2008), the Nierenberg Prize for Science in the Public Interest (US, 2012) and the Peter Benchley Award (USA, 2015). This work also led to Dr. Pauly receiving multiple honorary doctorates and being elected a Fellow of the Royal Society of Canada (Academy of Science).

The ecology of fishing down marine food webs

While some contest its findings, the contribution of 1998 in which the phenomenon was described that is now known as “fishing down the marine food web” continues to be heavily cited. This is interpreted as reflecting the fact that it describes a ubiquitous and highly visible pattern, i.e., fisheries-induced reduction in fish size (and thus trophic level) in marine ecosystems. This pattern, enhanced by ocean warming, the destruction of coastal benthic habitats by trawlers, and coastal eutrophication from terrigenous nutrients, leads to the emergence of highly volatile, often invertebrate-dominated, pelagic communities for which classical models of fish population dynamics have little relevance. Marine ecology will have to come to come to terms with these changes, notably by drawing on the broad generalizations on ecosystem stressors that that have been proposed during the past century.

PLENARY LECTURES

BES Lecture

Tuesday 09:00-10:00

Anne Chao



Anne Chao received her BS in mathematics from National Tsing Hua University in 1973, and her PhD in statistics from the University of Wisconsin-Madison in 1977. Since 1978, she has been with the Institute of Statistics, National Tsing Hua University, where she is currently a Tsing Hua Distinguished Chair Professor. She is a Fellow of the Institute of Mathematical Statistics, and held a Taiwan National Chair Professorship from 2005-2008. Chao has long been fascinated with mathematical and statistical issues arising in ecology and related sciences; her major research interests include ecological statistics, statistical inferences of biodiversity measures, and statistical analysis of ecological and environmental survey data. She and her collaborators have published more than 100 papers. These have (i) developed several biodiversity measures/estimators including Chao1, Chao2, ACE, and ICE for species richness, as well as some novel methods to infer entropy, diversity and related similarity/differentiation measures, (ii) established a unified mathematical/statistical framework for taxonomic, phylogenetic and functional diversities, and (iii) generalized the classic sample-size-based rarefaction method to sample-coverage-based rarefaction and extrapolation, to standardize biodiversity samples. To implement their methodologies, Chao and her colleagues/students have also developed statistical software including CARE (CApture-REcapture), SPADE (Species Prediction And Diversity Estimation), iNEXT (iNterpolation/EXTrapolation), and PhD (Phylogenetic Diversity). For the past 20 years, Chao served in the editorial boards of four major statistical journals, and currently serves as an Associate Editor for *Methods in Ecology and Evolution*.

National Tsing Hua University, Taiwan <http://chao.stat.nthu.edu.tw/wordpress/>

<https://scholar.google.com/citations?user=P-rr9foAAAAJ&hl=en>

<https://methodsblog.wordpress.com/2016/03/04/entropy-pearl>

Rarefaction and extrapolation: Standardising samples to make fair comparisons of biodiversity among multiple assemblages

The goal in many biodiversity analyses is to make a fair comparison and assessment of diversity measures (e.g., species richness, species diversity, phylogenetic diversity and functional diversity) among multiple assemblages. For most measures, it is well known that the empirical diversities in a sample are dependent on sample size or sampling efforts. When samples are incomplete, standardisation via rarefaction and extrapolation is needed; rarefaction and extrapolation methods allow for fair and meaningful comparison of diversity estimates for standardised samples on the basis of sample size or sample completeness. In this talk, two types of standardisation methods are reviewed: (1) Sample-size-based rarefaction and extrapolation methods aim to compare diversity estimates for equally-large samples determined by samplers. (2) Coverage-based rarefaction and extrapolation methods aim to compare diversity estimates for equally-complete samples; the sample completeness in this method is measured by sample coverage (the proportion of the total number of individuals that belong to the species detected in the sample), a concept originally developed by Alan Turing and I. J. Good in their cryptographic analysis during World War II. Contrary to intuition, sample coverage for the observed sample, rarified samples, and extrapolated samples can be accurately estimated by the observed data themselves. These two types of standardisation methods allow researchers to efficiently use all available data to make robust and detailed inferences about the sampled assemblages, and also to make objective comparisons among multiple assemblages. Hypothetical and real examples are presented for illustrating the use of the online software iNEXT (iNterpolation/EXTrapolation) to compute and plot seamless rarefaction/extrapolation sampling curves based on several diversity measures.

PLENARY LECTURES

12 Months in Ecology

Wednesday 09:00-09:30

Alison Hester



Alison is Head of Theme: Safeguarding Natural Capital at the James Hutton Institute, UK. She did her BSc at King's College University of London, PhD at Aberdeen University/ CEH and her first postdoc in the wilds of Western Australia at CSIRO. Much of her research relates to applied land use issues, with a strong focus on drivers of biodiversity change, in particular the impacts of mammalian herbivores on woody plant species in different systems across the world.

Her own research and the research she manages is increasingly set in the wider context of Ecosystem Services (ES) as part of large, transdisciplinary, management and policy-related research projects – these include multifunctional land management and ES delivery, e.g. conflicts between habitat expansion targets for biodiversity versus changing agricultural and other demands.

Alison works closely with land managers at all levels, from individuals to government, and has contributed as an author for UK initiatives such as the National Ecosystem Assessment. Alison is currently Chair of the Natural Capital Initiative, and she sits on various committees and steering groups, including the Scottish Forum on Natural Capital, the Science Faculty Board of the University of Highlands and Islands, and the ALTER-Net Council: Europe's Ecosystem Research Network. She is also a Fellow of the Royal Society of Biology.

Alison has been an active member of the BES for most of her career, including a stint on Council, as book review editor for Journal of Applied Ecology and received our Founder's Award. We look forward to her talk!

Closing Lecture

Wednesday 15:30-16:30

Hugh Possingham



Hugh is the Chief Scientist of The Nature Conservancy having recently moved from the University of Queensland. His group of 29 PhD students and 15 postdocs (embedded in three centres) work all over the world using decision science tools from economics and applied mathematics to formulate and solve conservation problems in the real world. For example, Tun Mustapha marine park, the largest in Malaysia declared in May, was a joint project with WWF Malaysia and Sabah Parks. His interests include: conservation metrics, biodiversity offsetting, population modelling, sea-sharing and sea-sparing, prioritising actions, spatial zoning with Marxan and other tools, optimal monitoring and government policy. Here you can find a link to a magazine style description of some of the group's most recent work and his papers.

Hugh was recently elected a foreign associate of the National Academy of Sciences (USA). He has a debilitating obsession with bird watching – treat him kindly.

Stories about decision science informing conservation management and policy

Our group has developed a variety of tools and approaches to assist conservation management and policy. In this talk I will reflect on the successes and failures of our science with respect to informing conservation policy in Australia and New Zealand (and globally). In particular I will discuss the use of spatial planning tools for building systems of protected areas, biodiversity offsetting and basic cost-effectiveness thinking for choosing conservation projects. In all cases progress has been surprising and erratic.

You can submit your questions for Daniel Pauly, Ann Chao and Hugh Possingham via Twitter during their lectures. Using Twitter gives us the opportunity to accept more questions, allows shyer people to participate and enables people offsite to join in. If you are not yet on Twitter, ask a friend to tweet your question or chat to us at our stand about setting up your own account.

ANNUAL MEETINGS

2016 | LIVERPOOL, UK | 11 - 14 DECEMBER

2017 | GHENT, BELGIUM | 11-14 DECEMBER

2018 | BIRMINGHAM, UK | 16-19 DECEMBER

2019 | BELFAST, UK | 10-13 DECEMBER

2020 | EDINBURGH, UK | 14-17 DECEMBER



THEMATIC TOPIC SESSIONS

We are pleased to announce a diverse series of 14 Thematic Topic Sessions. These are focused around stimulating, diverse, and topical issues in ecology and aim to provide a forum for the discussion of timely and important questions, and to encourage integration between disciplines. All sessions were chosen by open competition and include a keynote presentation and other invited speakers.

Below is the complete list of confirmed Thematic Topic sessions. Please refer to the main oral programme for the full list of speakers.

MONDAY 12

11:15 – 13:15

TT1: What will sustainable fisheries look like in 2025?

Organisers: Dominic Andradi Brown (University of Oxford), Guy Woodward (Imperial College London)

Keynote: Michel J Kaiser (Bangor University)

Location: Auditorium 1A, Hall 1

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TT2: Ecosystem Services for Human Well-being: Achievements and Future Research Directions

Organiser: Caroline Howe (Sheffield Institute for International Development, University of Sheffield)

Keynote: Katrina Brown (University of Exeter)

Sponsors: ESPA (Ecosystem Services for Poverty Alleviation Programme) and BES Conservation Ecology Special Interest Group



Location: Auditorium 1B, Hall 1

Page: 30

MONDAY 12

15:15 – 17:15

TT3: Responses of marine vertebrates to environmental change

Organisers: Jana W E Jeglinski (Glasgow University), Nina O'Hanlon (Glasgow University), Jonathan Green (University of Liverpool), Samantha Patrick (University of Liverpool)

Keynote: Paul Thompson, University of Aberdeen

Sponsors: Liverpool Institute for Sustainable Coasts and Oceans (LISCO)



Location: Auditorium 1A, Hall 1

Page: 33

TT4: Observing, understanding, and utilizing resilience mechanisms of ecological systems

Organisers: Hanna Weise (Freie Universität Berlin), Volker Grimm (Helmholtz-Zentrum für Umweltforschung – UFZ)

Keynote: Tom Oliver, University of Reading

Location: Auditorium 1B, Hall 1

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THEMATIC TOPIC SESSIONS

TT5: Europe's Earth observation Sentinels – new opportunities for ecology

Organisers: Paul Aplin (Edge Hill University), Peter Atkinson (Lancaster University), Mark Danson (University of Salford), Angela Harris (University of Manchester), Dan Morton (Centre for Ecology and Hydrology)

Keynote: Gebhard Banko, Environment Agency Austria

Sponsors: Northwest Earth Observation Network (NEON), Environment Systems, Specto Natura, Sterling Geo, Remote Sensing and Photogrammetry Society



Location: Auditorium 1C, Hall 1

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TUESDAY 13

11:00 – 13:00

TT6: Celebrating 30 years of *Functional Ecology*: What does the future hold?

Organisers: BES *Functional Ecology* Team

Functional Ecology

Keynote: Charles Fox, University of Kentucky

Location: Auditorium 1A, Hall 1

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TT7: Shortening the hyphen in eco-immunology

Organisers: Andy Fenton, Mike Begon, Steve Paterson (Institute of Integrative Biology, University of Liverpool)

Keynote: Paul Schmid-Hempel (ETH, Zurich)

Sponsors: The 'Dynamics and management of host-microbe interactions' Research Theme, Institute of Integrative Biology, University of Liverpool



Location: Auditorium 1B, Hall 1

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TUESDAY 13

15:00 – 17:00

TT8: Ilkka Hanski's legacy to ecology and conservation

Organisers: Ilik Saccheri (Institute of Integrative Biology, University of Liverpool), Bob O'Hara (Senckenberg BiK-F), Charles Godfray (Department of Zoology, University of Oxford)

Keynotes: Chris Thomas (University of York) & Charles Godfray (University of Oxford)

Sponsors: Institute of Integrative Biology, University of Liverpool and Metapopulation Research Centre, University of Helsinki

Location: Auditorium 1A, Hall 1

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TT9: Mechanisms of adaptation to environmental change

Organisers: Stewart Plaistow, Raj Whitlock (Institute of Integrative Biology, University of Liverpool)

Sponsors: The 'Adaptation to environmental change' Research Theme, Institute of Integrative Biology, University of Liverpool



Location: Auditorium 1B, Hall 1

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WEDNESDAY 14

10:00 – 12:00

TT10: The role of host-associated microbiomes in shaping life histories

Organisers: Rachael Antwis (University of Salford), Xavier Harrison (Institute of Zoology, Zoological Society of London)

Keynote: Thorunn Helgason (University of York)

Sponsors: Society for Applied Microbiology (SfAM)



Location: Auditorium 1A, Hall 1

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THEMATIC TOPIC SESSIONS

TT11: Multiple Stressors and Ecological Surprises

Organisers: Clare Gray (Queen Mary University of London), Guy Woodward (Imperial College London), Michelle Jackson (Imperial College London)

Keynote: Steve Ormerod (Cardiff University)

Location: Auditorium 1B, Hall 1

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TT12: Intransitive competition and species coexistence

Organisers: Santiago Soliveres, Eric Allan (Institute of Plant Sciences, University of Bern)

Keynotes: Stefano Allesina (University of Chicago)

Location: Room 3A

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WEDNESDAY 14

13:00 – 15:00

TT13: Worlds within worlds: Host-microbe interactions in nature, health, and agriculture

Organisers: Ellie Harrison (Department of Biology, University of York), Kayla King (Department of Zoology, University of Oxford), Zenobia Lewis (Institute of Integrative Biology, University of Liverpool)

Keynote: Nicole Gerado (Emory University)

Sponsor: Institute of Integrative biology, University of Liverpool



Location: Auditorium 1A, Hall 1

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TT14: Which little things will run the world? Invertebrates and global climate change

Organiser: Scott Johnson (Hawkesbury Institute for the Environment, Western Sydney University), Hefin Jones (Organisms and Environment Division, School of Biosciences, Cardiff University), William Hentley (Department of Animal and Plant Sciences, University of Sheffield)

Keynote: Jonathan Newman (University of Guelph)

Sponsors: Hawkesbury Institute for the Environment, Western Sydney University

**WESTERN SYDNEY
UNIVERSITY**



Hawkesbury Institute
for the Environment

Location: Auditorium 1B, Hall 1

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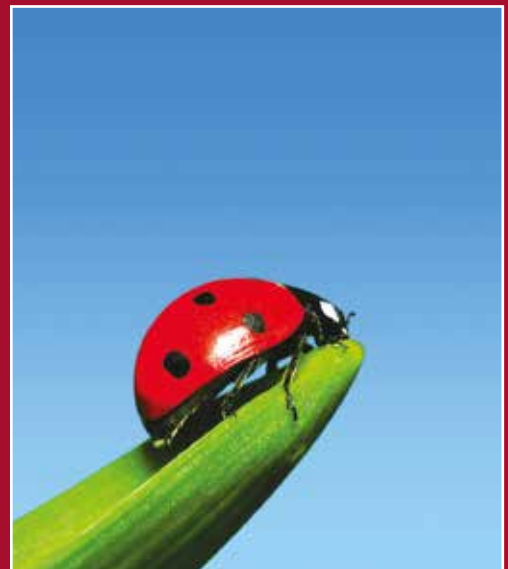
Hawkesbury Institute
for the Environment

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www.westernsydney.edu.au/hie/opportunities



WORKSHOPS OVERVIEW

Monday 12 December 13:30 – 15:00

Making Brexit work for ecology and the environment	Room 4A
How can citizen science data better support decision makers?	Room 4B
Macro-ecology through the lens of comparative demography	Room 11A
Improving the reproducibility of data analysis with R Markdown	Room 11B
Engaging with the Press and measuring impact	Room 11C
A spotlight on the publishing process: how to review papers and get your own published	Room 12
Managing Stress: how to identify the signs and learn techniques to manage them	Room 13

Making Brexit work for ecology and the environment

BES External Affairs Team and Policy Committee

The UK's decision to leave the European Union carries the possibility of the most substantial changes to our environmental policy framework for a generation, whilst also placing UK science in a state of profound uncertainty. There are major risks, but also opportunities.

The BES will be working proactively to engage with the Brexit negotiation process: it is vital that the ecological community makes its voice heard. We will aim to ensure that existing levels of environmental protection are retained or improved; legislative changes are informed by ecological evidence; and research funding levels and international collaborations are maintained. We will be establishing a Brexit working group, and working towards a series of position papers to communicate our key messages.

To do this effectively, we rely on the involvement and expertise of our members: of all career stages, from the UK and beyond. Join our interactive workshop to have your say in setting our priority themes for the year ahead, help us start to shape our position papers, and find out how you can get involved.

How can citizen science data better support decision makers?

Ian Thornhill, Earthwatch Institute

Collaborations between scientists and local communities greatly increase the collection and analysis of ecological data. However, many citizen scientists participate with an expectation that their data will promote change in their local area, whilst the acceptance of such data by decision-makers is varied. Without demonstrable use of the data generated by project participants, long-term

engagement of participants may be at risk. How then can data generated by citizen scientists better support decision makers? And how can we design projects to maintain participant enthusiasm for longer?

During the workshop groups will engage in a roleplay activity whereby members of each group will represent the citizen scientist, regulatory agency, local authority and academic. The groups will focus on a single citizen science project based in a range of environments e.g. urban ecology, freshwater etc. to a) and consider the needs and expectations.

Macro-ecology through the lens of comparative demography

Robert Salguero-Gómez, University of Sheffield

Our workshop will introduce attendees to the access, manipulation, analyses and interpretation of demographic information from population matrix models archived in the open access COMPADRE Plant Matrix Database and COMADRE Animal Matrix Database. The workshop will consist of a 1:3 ratio of mini-lectures and R exercises, where the participants will have the opportunity to run comparative analyses using life history traits (e.g. mean life expectancy, age at maturity, etc) and demographic properties (e.g. resilience, population growth rate, elasticities, etc) derived from hundreds of species in COMPADRE and COMADRE.

Improving the reproducibility of data analysis with R Markdown

Aline Quadros, Leibniz Center for Tropical Marine Ecology, Bremen, Germany

Alerts on the reproducibility crisis urge for more transparency in science. Modern ecological studies are mainly quantitative and require the management of large datasets and the combined use of many statistical tools and tests. Between obtaining the data and producing

WORKSHOPS OVERVIEW

Monday 12 December 13:30 – 15:00

a final graph for a paper, many steps are needed and many decisions are taken. If these decisions are not well documented, the analyses are not likely to be reproducible. The R Markdown is a markup language available with RStudio® and it is a useful tool to document the data analysis workflow. In the first part of the workshop we will discuss the issue of reproducibility and transparency in data analyses. Then, the basic features of R Markdown will be demonstrated. We will use a dataset with typical ecological data to go through a simple analysis workflow: importing and inspecting data, identifying errors and outliers, adding metadata, plotting, inspecting distributions, summarizing, applying tests, and stating conclusions. The participants will use the markdown language to document their decisions and interpretations. To conclude the exercise, they will generate a HTML file containing the whole workflow. This will be a hands-on, step-by-step practical 2-hour workshop. Each participant should bring a laptop with the latest version of R, RStudio® (open source edition, free) and the package rmarkdown previously installed (to save time). Basic knowledge of R is helpful but not mandatory. Interest in good practices of data management and analyses is a must.

Engaging with the Press and measuring impact

BES External Affairs team

How do you get your work noticed by the press and through them noticed by the wider scientific community and the general public? We've brought together press officers, the Science Media Centre and members with expertise to share their experiences and advice with anyone seeking to engage with the media or develop their media engagement.

This workshop seeks to introduce you to three central issues in working with different media channels:

- How to get media attention
- How to deal with media attention
- How to follow up and measure impact

By the end of the workshop, you will have a better understanding of when it is worth seeking media attention and how to work with your press office, general and practical considerations for dealing with coverage in the broadcast and social media and taking your first steps to measuring wider impact.

We encourage you to bring with you titles for your next papers, abstracts and outlines of other press worthy activities as this hands-on session will get you thinking about how you apply the content of this workshop to your research.

A spotlight on the publishing process: how to review papers and get your own published

Ellen Fry, Manchester University

The goal of this workshop is to ensure that people leave with a greater insight into how publishing works and how to use their time and expertise effectively in both reviewing papers and publishing their own work. We anticipate that the participants will leave the workshop with an enhanced ability to objectively evaluate a manuscript submission, and how to optimize the chances of having papers accepted and cited. We will begin with an ice breaker exercise, where people will be asked to give their name and mention their most or least favourite aspect of publishing. The lead facilitator will then give a brief overview of the publishing process, before describing some of the challenges associated with being an editor of an international journal. The participants will be asked to split into groups and asked to discuss and evaluate some mocked up paper reviews supplied, highlighting good and bad aspects. The groups will then present their findings for discussion and the facilitators will offer perspectives from an editorial aspect. Following this, the second facilitator will talk about what an editor is looking for in the submission process, focusing on cover letters, keywords and titles. The participants will reform into groups and come up with a cover letter, title and keywords for a hypothetical manuscript. The wider group will then consider these from the point of view of an editor.

Managing Stress: how to identify the signs and learn techniques to manage them

Bernadette Lynch, Mind

This session will increase awareness of unproductive stress and will offer techniques for managing it in an academic context. It will assist participants to spot early signs in students, themselves and each other, and will offer options for reducing the negative impacts of stress. It will also suggest ways to maintain mental wellbeing in individuals and to promote a mentally healthy culture in an academic community.

Bernadette Lynch has been training in the fields of mental health and law for the last decade, doing much of her work for Mind, the mental health charity. She is on the Board of a company providing mental health support in Birmingham. In her early career, she taught law at the Universities of Oxford, Birmingham and Warwick. She is also a poet.

WORKSHOPS OVERVIEW

Tuesday 13 December 13:15 – 14:45

What is the future of peer review in ecology?	Room 4B
Careers in Conservation Student Workshop	Room 11A
Wikithon: Quantitative Ecology Documentation (QED)	Room 11B
Leadership skills for early career researchers	Room 11C
The construction, calibration and evaluation of Individual Based Models (IBMs)	Room 12
Enhancing ecological fieldwork with Virtual Reality	Room 13

What is the future of peer review in ecology?

BES Publications Team

What is the role of peer review in scientific research? What are the advantages and disadvantages of the different models of peer review? What recognition should be available for reviewers? How is the peer review landscape changing? If you find yourself asking these questions, this workshop is for you!

Peer review is critical to the research process, but is also the subject of much criticism and debate. Review bias, reviewer recognition and the discovery of peer review rings are recent examples of topics widely discussed by the scientific community. Many peer review models and experiments have emerged across scientific disciplines with the aim of improving the review process, often leading to more questions than answers. To discuss the issues surrounding peer review with our panel of experts, come along and add your voice to the debate.

Panel members: Jane Hill (Chair) (Professor of Ecology at the University of York, Chair of BES Publications Committee); Allen Moore (Distinguished Research Professor at the University of Georgia, Editor-in-Chief Ecology and Evolution); Patricia Morse (Managing Editor American Naturalist); Elizabeth Moylan (Senior Editor at BioMed Central); Nate Sanders (Professor of Macroecology at the University of Copenhagen, Senior Editor Journal of Animal Ecology); Verity Warne (Associate Marketing Director, Author Marketing at Wiley).

Questions are welcomed on the day and in advance through Twitter using the hashtag #BESpeerreview or by email to alice@britishecologicalsociety.org.

Careers in Conservation Student Workshop

Stuart Patterson, Conservation SIG

Looking for a career in conservation, and looking for some advice on how to get started? Not sure how to get yourself recognised? This workshop, aimed primarily at advanced PhD students and early post-docs, aims to cover the key skills and knowledge relevant to a career in conservation science.

The session will highlight the diversity of options for a career in conservation. Structured around tasks and facilitated by experts in this field it has been designed to promote active learning experiences and maximise individual networking opportunities for all. Experienced, active conservation practitioners and researchers, embodying a range of careers paths, will be on hand to facilitate the session. Topics to be discussed include scientific publication tips, funding opportunities for conservation biologists, advice on how to build an online profile, directions for developing a scientific career outside academia, interview preparation tips as well as networking dos and don'ts.

This workshop was originally run in March this year at ZSL, and was a great success. Building upon that experience, this session will be led by Conservation SIG committee members, Nathalie Pettoirelli, and Colin Beale. All are welcome, so come along and get started!

Wikithon: Quantitative Ecology Documentation (QED)

Dominic Bennett, Institute of Zoology, London

Software, methods and techniques are growing at a fast pace. This growth is making it hard to keep up-to-date with the latest software, R packages and methods for running analyses in ecology. Although this is exciting, it does increase the risk that some could be left behind. Quantitative Ecology Documentation or QED is an online wikipedia (<http://qedoc.wikidot.com/>) for hosting documentation. QED aims to provide ecologists the online forum for exchanging information on the latest in ecological quantitative analyses, software, tricks and tools. Content is generated by ecologists for ecologists, and aims to be accessible for all: whether you're struggling to read a table into R or planning to write your own species distribution model.

This workshop will kickstart the writing of documentation for QED before its release. Attendees will be provided with logins for the QED wikisite and will be given a tutorial on the wikipedia mark-up script. Attendees can then choose to write a quick tutorial on a topic of their

WORKSHOPS OVERVIEW

Tuesday 13 December 13:15 – 14:45

choice or a topic from a proposed list of topics. “Tutorials” can be step-by-step guides for an analysis, a list of useful links for a given topic or emotional pep-talks on how to cope when code isn’t running. The point is the tutorials should reflect the range of experiences and expertise of the ecological community. Attendees must bring their own laptops. No installations will be required, everything will be via web-browser. Ecologists of all computational ability are welcome!

Leadership skills for early career researchers

Owen Petchey, University of Zurich

Do you wonder what it takes to be a great leader? Or question whether you’re capable of being one? Does attending leadership and management courses make your blood run cold? If you answer yes to any of these, this workshop is for you (though it won’t make you into a great leader!). The overarching aim of the workshop is to pique your interest in leadership. We’ll begin with an activity about observation and listening – core leadership skills. Then, in small groups, we’ll explore what leadership currently means to us, and find examples of good leaders, followed with a synthesis of our ideas to clarify what types of leaders are required today, and why. We’ll use this to synthesis to clarify why observation and listening are core leadership skills. (These are often termed soft skills, but there is little soft about them... they can be very hard to master.) A short interactive presentation about motivation will be followed with an activity in pairs, exploring situations in which you’ve experienced high and low levels of motivation, and the conditions surrounding those experiences. Finally, in small groups, you will discuss what next steps you will take to develop your leadership skills, and what other possibilities there are to develop further. You need to bring only yourself and a reasonably open mind, and the only preparation required is to answer yes to one of those three questions.

The construction, calibration and evaluation of Individual-Based Models (IBMs)

Richard Sibly, Reading University

Individual-based models (IBMs) are increasingly used to simulate the lives of individual animals in their landscapes, so that the population consequences of management plans can be evaluated. In this interactive workshop we will discuss the principles used to build and validate IBMs. Agreement on the principles according to which IBMs are built and evaluated would provide a foundation on which new IBMs can be readily constructed. At present there is little agreement on underlying principles.

All ecological researchers building or contemplating the construction of IBMs who have data available

with which to calibrate and evaluate their models are encouraged to participate. IBMs are currently being used to design strategies of conservation and of the exploitation of fisheries, and for assessing the effects on populations of major construction projects and of novel agricultural chemicals. Participants will be asked to introduce themselves and their projects. The organisers will give a brief survey of existing methods of construction and evaluation, including an account of relevant recent developments in Approximate Bayesian Calibration, and participants are encouraged to contribute accounts of their own developments, plans and experiences. Participants will then be assigned to breakout groups where key questions will be discussed, including how energy budgets should be modelled, the pros and cons of the available software, and how models should be evaluated. From the ensuing discussion it is hoped to move towards agreement on the principles that should be used to construct and evaluate IBMs.

Enhancing ecological fieldwork with Virtual Reality

Steve Tilling, Field Studies Council and Phil Wheeler, Open University

Virtual Reality (VR) has recently hit the mainstream with investment and promotion by several major developers, advances in development platforms, and the introduction of affordable tools such as Google Cardboard. Mainstream VR presents a great opportunity for ecologist educators to enhance fieldwork for their students: immersive technology can add context and substance to pre-field preparation, in-field activities and post-field reflection. This workshop will introduce a range of tools which non-specialists can use to support and enhance ecological fieldwork from 3D image viewers to systems for designing field trips in VR landscapes. Participants will have the opportunity to get hands-on experience with computer, phone and tablet-based VR tools. The workshop will also include an open discussion on the opportunities and challenges in the use of VR in ecological field education. Participants should leave with an appreciation of current use of VR and related tools in ecological field teaching, practical experience of new tools and an understanding of how VR can support and enhance physical fieldwork for ecologists.

CAREERS DEVELOPMENT PROGRAMME

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We have a great programme this year, with something for everyone and open to everyone regardless of their career stage. Space for these events is generally limited to 25 so please do sign up on the registration sheets (to be found outside Room 9).

Monday 12 December

08:00: Women in science

Location: Room 9

Open to all those involved in or interested in our women in ecology mentoring schemes and to those who simply wish to network. Two of this year's mentors and mentees will be on hand to share their experiences (Refreshments and pastries provided)

10:40: Meet the Plenary speaker

Location: Room 9

Open to PhD and 1st Post Docs; join us with today's plenary speaker to ask your questions in a smaller environment. You can tweet your questions ahead of time to @BES_Careers. Don't forget to bring your coffee!

13:30-14:30: Managing an Interdisciplinary Career

Location: Room 9

Open to everyone working in interdisciplinary fields, this panel discussion offers insights and an opportunity to share experiences along with a chance to talk to us about how the BES can support members working in these fields.

13:30-14:30: Moving into leadership roles

Location: Room 3A

Open to everyone on the cusp of or seeking promotion and building on the BES Webinar "Moving into leadership roles" the panel will take questions and offer their advice on a breadth of career steps they've taken to reach leadership roles.

Tuesday 13 December

08:00: Building Support networks

Location: Room 9

Aimed at those undertaking their first post doctoral position, join us for breakfast and a chance to network with others in the same position and identify and discuss sources of support and mentoring. Please do bring along your own ideas for how the BES might help support as we're keen to hear what you have to say. (Refreshments and pastries provided)

10:30: Meet the Plenary speaker

Location: Room 9

Open to PhD and 1st Post Docs; join us with today's plenary speaker to ask your questions in a smaller environment. You can tweet your questions ahead of time to @BES_Careers. Don't forget to bring your coffee!

13:30-13:30: Early Career Grant Writing workshop: A review

Location: Room 9

On 7 November the BES ran a workshop for Early Career Researchers on grant writing. The workshop had limited capacity and many people were not able to attend. This review is open to all Early Career researchers and briefly covers the highlights of the workshop.

13:30-14:30: Career options outside of academia

Location: Room 3A

Open to ecologists of all ages and stages this panel discussion will discuss the breadth of career options outside of academia and offers participants an opportunity to question our panel representing NGO's, Business, Science communication and Consultancy.

Wednesday 14 December

08:00: Becoming an Associate Editor

Location: Room 9

Join us for breakfast and a chance to chat to our Associate Editors from the BES journals. This is a great opportunity to find out what it's like to be an Associate Editor and to ask advice on how to become one. Refreshments and pastries provided.

POLICY AT THE BES

COMMUNICATING SCIENCE AND SUPPORTING MEMBERS

With Brexit promising substantial changes to the environment and science policy throughout the UK, there has never been a more important time for the voice of the ecological community to be heard.

Our policy work couldn't happen without the skills and expertise of our members, and there are many opportunities available. As the voice of the ecological community in the UK, we:

- **Inform policy:** we communicate the value of ecological knowledge to policymakers and promote evidence-informed solutions. We hold regular events bringing ecologists and policymakers together, raising the profile of ecology.
- **Synthesise science:** we bring together our members' expertise to make the best scientific evidence accessible to decision-makers. Join our expertise database and contribute to consultation responses, parliamentary inquiries and developing policy briefs.
- **Support members:** we help members to build their skills, develop their careers and enhance the policy impact of their work. Find out more about our placements and shadowing schemes, and our new Policy Fellowship programme.

Contact the Policy Team – Ben, Camilla and Rick – at policy@britishecologicalsociety.org, follow us on Twitter @BESPolicy or talk to us at the BES stand during the Annual Meeting to find out how you can get involved.

Policy at the Annual Meeting

In Liverpool, Monday 12 December is 'Policy Day', with policy-relevant content throughout the programme, and two special events:

Workshop: Making Brexit work for ecology and the environment

13:30, Room 4A

Leaving the European Union presents major risks, but also opportunities, for ecology and the environment in the UK. As we engage with the challenges of Brexit, join us for an interactive workshop to have your say on our priorities for the year ahead, help us gather evidence, and find out how you can engage.

Policy Networking Event

19:00, meet in the foyer followed by the Novotel Bar

Want to get more involved our work? Join the Policy Team and policy networks including the Policy Alumni, Scottish Policy Group and Wales Policy Group to discuss our upcoming projects and to see where you can play a part.



PRESENTER INFORMATION

ORAL PRESENTERS

Each speaker is allotted 15 minutes, unless you are a Thematic Topic Session keynote speaker (contact your organiser). Presentations for standard oral sessions must not exceed 13 minutes, allowing 2 minutes for discussion. Please refrain from preparing a 15 minute talk. The session chair will keep you to time, signalling when you have 5 minutes and 1 minute speaking time remaining until you must stop to take questions. They will stop you if you reach 15 minutes.

The meeting supports Microsoft PowerPoint, Keynote and PDF presentations. All lecture theatres will be equipped with a projector, lectern and laser pointer. A volunteer will be available in each room to assist in your session. There will also be an AV technician on each floor. Delegates are NOT permitted to run presentations from their own laptop.

All presentations should be uploaded in advance onto the central server in the Speaker's Room (Room 10). Please report to the Speakers' Room no later than 2 hours before your scheduled presentation time. Please attempt to upload your presentation the day before your talk. If your presentation is scheduled for the morning of Monday 12 December, please try to report to the Speaker's Room on Sunday 11 December from 14:00 – 17:00.

The Speakers' Room is located in Room 10 and will be open during the following hours:

Sunday 11 December	14:00 – 17:00
Monday 12 December	08:00 – 17:00
Tuesday 13 December	08:00 – 17:00
Wednesday 14 December	08:30 – 13:00

In the Speakers' Room, facilities will be available to view your presentation before submitting. You will be able to control the advance of your slides from the lectern in your session room.

Please arrive at your session 15 minutes prior to the published start time. Before the start of your session, please make yourself known to your Chair and indicate how you would like to be introduced. For multi-author papers it is essential you have all authors' permission to give the presentation.

POSTER PRESENTERS

Your poster will be displayed in the poster viewing area of Hall 2A, the main Exhibition Hall of the conference centre.

All posters should be portrait/vertical orientation measuring 841mm wide and 1189mm tall. This is the International A0 format. Posters will be attached with material provided on the day.

You can put up your poster from 08:00 on Monday 12 December. All posters MUST be in place by 10:30 on Monday 12 December.

Your poster will be displayed according to your poster number found in this programme. There will be a volunteer on the Poster Desk to help you on the day.

Posters will be on display for the duration of the meeting. Your poster will be allocated to one of the two formal poster sessions listed below, during which you are required to stand at your poster and discuss your work with delegates. This is a valuable opportunity to publicise your research.

All poster numbers with a letter followed by the number 1 (A1 – J1) will be part of Poster Session 1, which will take place on Monday 12 December, 17:15 – 18:45.

All poster numbers with a letter followed by the number 2 (A2 – H2) will be part of Poster Session 2, which will take place on Tuesday 13 December, 17:00 – 18:30

Posters must be removed between 13:00 and 15:30 on Wednesday 14 December. Posters remaining after this time may be disposed of.

PRESENTER INFORMATION

BES STUDENT PRIZE

Student prize judging is based on categories including: style, scientific content, originality of research, and effectiveness of communication. The winners will be announced after the meeting.

If you submitted your poster for the Student Poster Prize, there will be a coloured sticker on your poster board. Judging will take place throughout the poster sessions.

If you entered your talk for the Anne Keymer Student Talk Prize, judging will take place during your session.

UP GOER FIVE

This year we have added an optional Science Communication element to the poster presentations. Using the incredibly successful Up Goer Five initiative, we invited poster presenters to summarise the research conveyed on your poster using just 250 of the thousand most common English words. If you are taking part, please add your completed template to your poster board. This a people's choice award, so delegates at the meeting will by ballot at the Poster Desk. The winner will be announced at the meeting.

You can tweet photos of your Up Goer Five poster using #upgoBES

SOCIAL MEDIA POLICY

We love social media – it's a great way to connect with people across the world, to share ideas and create collaborations. We heartily encourage people to tweet, post and share their experiences – our Annual Meeting is all about building relationships.

However, we understand that some people will not want their research broadcast. We respect that, so have created a 'do not share' image for people add to their poster or talk presentation. We hope that fellow attendees will respect that request and refrain from sharing that particular talk or poster. If people do not include this image on their presentation, we will assume they are happy for their research to be shared.



ABSTRACT PUBLICATION AND ACCESS

All abstracts can be accessed via our Annual Meeting mobile app. To download the app, visit: eventmobi.com/bes2016 on your laptop, mobile device, or tablet. Alternatively you can scan the QR code.



ORAL PRESENTATIONS

Monday 12 December

Please note that lunch, coffee breaks and other events are not included in the following printed scientific programme, so please ensure you check the start time and refer back to the main meeting overview (page 10) when planning your schedule for the day. BES prize winners are coloured magenta. Presenter names only are listed in the printed programme. A full list of authors will be accessible along with abstracts on the mobile app eventmobi.com/bes2016



TT1: What will Sustainable Fisheries look like in 2025?

Location: Auditorium 1A

Chair: Dominic Andradi-Brown

- 11:15 **Michel Kaiser:** Integrating conservation and fisheries objectives in Special Areas of Conservation
- 11:45 **Andrea Belgrano:** Fish out of Water: A Macroecological Perspective
- 12:00 **John Pinnegar:** North Sea fisheries and climate change – are recent ‘arrivals’ and ‘departures’ prescient of fish populations in 2025?
- 12:15 **Julia Blanchard:** Fishing and the recycling of energy in a changing ocean
- 12:30 **Axel Rossberg:** How to achieve maximum sustainable yield from interacting fish stocks
- 12:45 **Ken Andersen:** Is fisheries management able to deal with stock recovery?
- 13:00 **Catherine Longo:** More complexity, more problems: incentives to meeting future fisheries sustainability challenges

TT2: Ecosystem Services for Human Well-being: Achievements and Future Research Directions

Location: Auditorium 1B

Chair: Georgina Mace

- 11:15 **Katrina Brown:** Responding to change: the future for ecosystem services under the Sustainable Development Goals
- 11:45 **Esteve Corbera:** Incorporating equity and recognition in biodiversity conservation

- 12:00 **Caroline Howe:** Building bridges – conflicts between different epistemic communities and linking ecosystem services with poverty alleviation
- 12:15 **Simon Willcock:** Minimum adequate models for mapping ecosystem services in sub-Saharan Africa
- 12:30 **Julia Jones:** Can payments for global ecosystem services support or undermine efforts at poverty alleviations? Lessons from Madagascar
- 12:45 **Bhaskar Vira:** The political ecology of ecosystem services for poverty alleviation
- 13:00 **E.J. Milner-Gulland:** Applying a locally driven, 3-dimensional concept of human wellbeing in conservation

S1: Species Interactions Foodwebs & Trophic Interactions

Location: Auditorium 1C

Chair: Julia Koricheva

- 11:15 **Michelle Jackson:** The Ring of Fire: Impacts of Global Warming on Freshwater Ecosystems in the Arctic
- 11:30 **Milton Barbosa:** Multitrophic indirect interactions structuring communities
- 11:45 **Elise Rocha:** Urbanisation influences the outcome of multi-trophic interactions
- 12:00 **Malte Jochum:** Decreasing stoichiometric resource quality drives compensatory feeding and consumer species loss across trophic levels
- 12:15 **Elizabeth Le Roux:** Fear-triggered trophic cascades in a megaherbivore dominated system
- 12:30 **Anne Ebeling:** Plant diversity induces shifts in functional composition across trophic levels

ORAL PRESENTATIONS

Monday 12 December

12:45 Rosemary Moorhouse-Gann: DNA barcoding island plant communities and building food webs to assess the impact of an analogue species (Aldabra giant tortoise)

13:00 Darren Giling: Plant diversity alters the dominance of stable and unstable food-web motifs in complex trophic networks

S2: Conservation Science Anthropogenic Threats & Solutions

Location: Room 3A
Chair: PJ Stephenson

11:15 Paul Lintott: Ecological impact assessments fail to reduce risk of bat casualties at wind farms

11:30 Dario Fernandez-Bellon: Displacement effects of wind energy development on upland bird communities

11:45 Lucie Bezombes: What assessment of ecological equivalence in biodiversity compensation?

12:00 Christopher Wheatley: Climate change vulnerability assessment of European birds

12:15 Alke Voskamp: Producing a global gap analysis for the world's terrestrial birds under climate change: how effective will the global protected area network be in future?

12:30 Bowy Den Braber: Impact of Protected Areas on Poverty and Inequality in Nepal

12:45 Marie Longnecker: Using protected area design guidelines to examine conservation features of Nature Improvement Areas in England – Biodiversity Impacts

13:00 William Kunin: Multi-criterion conservation: reserve network design for multiple goals and taxa

S3: Agricultural Ecology Policy & Management

Location: Room 3B
Chair: Rosalind Shaw

11:15 Lynn Dicks: How to enhance natural pest regulation services in agriculture: an evidence-based assessment of what works

11:30 Claudia Havranek: Not all bad? Opportunities for agri-environmental policy from BREXIT

11:45 Clare Pinches: Science and the agri-environment: A response to Sutherland's 2015 critique of land management interventions

12:00 Steve Peel: Implementing evidence based land management in the agri-environment: restoration and creation of species-rich grassland as an example of putting science into practice.

12:15 Siobhán Porter: Exploring drivers of agricultural policy knowledge: Attitudes towards hedgerow cutting legislation

12:30 Lauriane Mouysset: Biodiversity into agricultural public policy: green or sustainable?

12:45 Gergana Daskalova: Population Responses of Five Bird Species to 12 Years of Agri-environment Schemes in Northeastern Scotland

13:00 Helen Hicks: Evolution in ecological timescales: a threat to food production and security

S4: Parasites, Pathogens & Wildlife Disease Applications & Theory

Location: Room 4A
Chair: Kris Murray

11:15 Ace North: The dynamics of disease in a metapopulation: the role of dispersal range

11:30 Freya Shearer: Predicting geographical variation in human infection risk for vector-borne, zoonotic pathogens

11:45 Josephine Walker: Host allometry influences the evolution of parasite host-generalism: theory and meta-analysis

12:00 Robert Paton: The role of competition in *Aedes aegypti* mitigation: stochasticity and stability

12:15 William Harvey: Using diversity analyses to examine the ecology of antibiotic resistance in closely linked human and livestock communities

12:30 Lauren Perrin: Ecology of tick-borne diseases of livestock in Cumbria, UK

12:45 Amanda Minter: Optimal control of a rodent reservoir: leptospirosis and Norway rats

13:00 Philip Donkersley: Detection likelihood and a novel pathology in an asymptomatic plant pathogen in Brazil

S5: Invasive Species Habitats & Environment

Location: Room 4B
Chair: Sarah Wyse

11:15 Jorge Gutierrez: How niche width impacts the invasion success of mammals, reptiles and amphibians worldwide

ORAL PRESENTATIONS

Monday 12 December

- 11:30 David Fletcher:** Predicting global invasion risks: a management tool to prevent future introductions.
- 11:45 Sally Street:** The role of international trade and life histories in mammal, reptile and amphibian invasions
- 12:00 Christa Mulder:** Do non-native plants in the boreal forest benefit more than native species from earlier springs, warmer summers or extended autumns?
- 12:15 Jesus Vilellas:** Source environment affects growth and reproduction in native and non-native populations of *Plantago lanceolata*
- 12:30 Abdulghani Abdulghani:** Shape variation in sympatric *Siganus luridus* and *S. rivulatus* in relation to their novel and native habitats
- 12:45 Alessandra Kortz:** Habitat structure mediates the impact of an invasive species in a biodiversity hotspot
- 13:00 Jorge Salgado:** Contemporary and palaeoecological assessments of macrophyte invasions and eutrophication in driving shallow lake communities: the case of Lake Fúquene, Colombia

S6: Community Ecology Community Structure I

Location: Room 11A
Chair: Anthony Caravaggi

- 11:15 J. Robin Svensson:** Deconstructing biodiversity: the relative roles of evenness and richness on community assembly and invasion
- 11:30 Ron Bassar:** Predicting coexistence in species with continuous ontogenetic niche shifts and competitive asymmetry
- 11:45 Mikael Pontarp:** Community trait overdispersion due to trophic interactions – concerns for assembly process inference
- 12:00 Ingrid Olivares:** A unified definition of community saturation
- 12:15 Roman Alther:** River network structure shapes communities of native and non-native amphipods
- 12:30 Lelis Carlos- Junior:** Drivers of beta diversity in marine rocky shore communities in Southeast Brazil
- 12:45 Aurélie Husté:** Determinants of odonate communities spatial assemblages along a blueway in Normandy (France)

- 13:00 Dustin Ranglack:** Competition on the range: science vs. perception in a bison–cattle conflict in the western USA

S7: Behavioural Ecology Adaptation, Evolution, Competition

Location: Room 11B
Chair: Dawn Scott

- 11:15 Petter Tibblin:** Be on time or be dead – Lessons from mark-recapture studies of pike (*Esox Lucius*) spawning migration
- 11:30 Miguel Gomez:** Ecology relaxes sexual conflict: heterospecific males reduce male mating harassment and increase female survival
- 11:45 Hannah West:** The evolution of male care in mammals.
- 12:00 Jim Vafidis:** Food-mediated climate impacts on a small brown wetland bird
- 12:15 Elizabeth Morgan:** Individual consistency within and between years in the foraging behaviour of European shags: Some birds do change their spots
- 12:30 Gregor Kalinkat:** Individual variation in behaviour and feeding rates and its implications for the establishment of non-native species in a thermally altered world
- 12:45 Alice Trevail:** The influence of environmental predictability on individual foraging behaviour
- 13:00 Samantha Patrick:** Boldness predicts an individual's place along an exploration-exploitation foraging tradeoff

S8: Population Ecology Demography & Life History

Location: Room 11C
Chair: Grant Hopcraft

- 11:15 Jenni McDonald:** Exploring predictors of demographic strategies across life histories
- 11:30 Tina Cornioley:** Male body mass affects life-history traits of the wandering albatross
- 11:45 Dimas Gianuca:** Same place, different time: interspecific effects of environmental variability on giant petrel demography
- 12:00 Edwige Bellier:** Relationships among survival, recruitment and species traits in an avian community
- 12:15 Agnes Olin:** Environmental and intrinsic determinants of survival and reproduction in Siberian jays

ORAL PRESENTATIONS

Monday 12 December

- 12:30 Silke Van Daalen:** Sensitivity analysis of mean and variance of lifetime reproductive output
- 12:45 Roberto Salguero-Gomez:** Ramets of clonal organisms senesce faster than non-clonal species
- 13:00 Gregory Roth:** Occupancy time: a neglected population variable

S9: Global Change Ecology Populations, Communities & Interaction

Location: Room 12
Chair: David Coomes

- 11:15 Nessa O'Connor:** Experimental tests of environmental change on species interactions
- 11:30 Emily Simmonds:** The role of changing reproductive synchrony in a population dynamics of wild great tits
- 11:45 Richard Howells:** From days to decades: long and short term environmental conditions affect the diet composition of a seabird top-predator
- 12:00 Lee Brown:** Invertebrate community trait and functional diversity responses to glacial retreat
- 12:15 Chantal Hutchison:** Effect of diversity on the stability of a tropical planted forest under climate extremes
- 12:30 Laura Graham:** Future geographic patterns of novel and disappearing assemblages across three dimensions of diversity: A case study with Ecuadorian hummingbirds
- 12:45 Benjamin Phillips:** Effects of drought on floral resource availability and pollinators.
- 13:00 Franciska De Vries:** Shifts in plant community composition cause legacy effects of drought on soil communities

S10: Ecosystem Ecology & Function Novel Approaches

Location: Room 13
Chair: Thomas Davies

- 11:15 Andrew Barnes:** Energy flux: The foundational link between multitrophic biodiversity and ecosystem function
- 11:30 Fabio Carvalho Gomes da Silva:** Determining trait composition of mid- to late-Holocene lowland plant fen communities through the use of fossil pollen assemblages: revealing past ecosystem processes.
- 11:45 Leda Cai:** Saltmarsh restoration: the shift from a terrestrial to a marine ecosystem

- 12:00 Saras Windecker:** Meta-Analysis of functional restoration in wetlands
- 12:15 Lewis Bartlett:** Synergistic impacts of habitat loss and fragmentation on model ecosystem structure
- 12:30 Isabelle Gounand:** Meta-ecosystem 2.0: feeding data into the theory
- 12:45 Andrew Lucas:** DNA metabarcoding reveals the role of Hoverflies (*Syrphidae*) in pollen transport in grasslands.
- 13:00 Angela Straathof:** A modified root-exudate collection method preserves grassland species root integrity and detects among-species C variation

TT3: Responses of Marine Vertebrates to Environmental Change

Location: Auditorium 1A
Chairs: Jonathan Green, Jana Jeglinski, Nina O'Hanlon, Samantha Patrick

- 15:15 Paul Thompson:** Responses of marine vertebrates to environmental change; research successes and conservation challenges
- 15:45 Alice Carravieri:** Marine pollution and seabirds: What do we know and what can they tell us?
- 16:00 David Sims:** Behavioural responses of sharks to environmental heterogeneity and the consequences for populations
- 16:15 Sarah Burthe:** Overwinter migration strategy influences individual level survival of seabirds during severe winter weather
- 16:30 Sophie Smout:** Consequences of interactions between marine mammals and fisheries
- 16:45 Ben Wilson:** Good noise, bad noise: A tricky case of balancing risk of physical injury against acoustic disturbance for marine vertebrates and tidal energy devices.
- 17:00 Alex Sansom:** Predicting the impact of marine renewable energy installations on seabirds

TT4: Observing Understanding and Utilizing Resilience Mechanisms of Ecological Systems

Location: Auditorium 1B
Chairs: Hanna Weise & Volker Grimm

- 15:15 Tom Oliver:** Quantifying the mechanisms underpinning resilience of ecosystem functions
- 15:45 Bryan Spears:** Ecological stability in lakes: resilience, regime shifts and real-life

ORAL PRESENTATIONS

Monday 12 December

- 16:00 **Adrian Newton:** Measurement of resilience in a temperate forest ecosystem
- 16:15 **Viktoriia Radchuk:** Are species responses to climate change adaptive? A trait-based meta-analysis applied across animal taxa
- 16:30 **Rachel Standish:** What do experiments tell us about resilience?
- 16:45 **Aletta Bonn:** Operationalising risk and resilience management in biodiversity and ecosystem services conservation
- 17:00 **Georgina Mace:** Accounting for resilience at large scales

TT5: Europe's Earth Observation Sentinels – New Opportunities for Ecology

Location: Auditorium 1C
Chair: Paul Aplin

- 15:15 **Gebhard Banko:** LISA 2.0: enhancing the land information system of Austria with temporal information from SENTINEL-2 data to derive information on ecosystem condition and their changes
- 15:45 **Geoff Smith:** Intermediate Sentinel products for the exploitation of EO within habitat mapping and ecosystem assessment
- 16:00 **Katie Medcalf:** Use of Sentinel data for Natural Capital assessment
- 16:15 **Wang Qunming:** Creating daily Sentinel-2 time-series to investigate fine spatial resolution vegetation phenology
- 16:30 **Christopher Marston:** Can't see the shrubs for the trees: woody habitat discrimination in heterogeneous African landscapes using Sentinel-1 time-series data
- 16:45 **Mark Danson:** Sentinel-2 maps fuel moisture dynamics in upland vegetation
- 17:00 **Dan Morton:** Habitat Sentinels: Sentinel data for UK Land Cover Mapping

S11: Conservation Practice Policy & Communication

Location: Room 3A
Chair: David Rose

- 15:15 **David Rose:** Barriers and solutions to the use of conservation science in policy
- 15:30 **Mxolisi Sibanda:** Navigating the ecological research and policy space – challenges producing a balanced candidate

- 15:45 **Michaela Roberts:** Environmental conservation across ecosystem boundaries: Connecting management and funding
- 16:00 **Wolfgang Weisser:** All animals are equal, but some are more equal than others: the bird and habitat directives and species conservation
- 16:15 **Sarah Papworth:** How are decisions made in conservation?
- 16:30 **Scott Wilson:** Norwegian upland land-use and ecological restoration – are these relevant models to co-optimize economic outputs and ecosystem service delivery from the Scottish uplands?
- 16:45 **Keith Kirby:** Has the search for 'conservation evidence' become too rigorous for its own good?
- 17:00 **PJ Stephenson:** Unblocking the flow of biodiversity data for decision-making in Africa

S12: Agricultural Ecology Ecosystem Services

Location: Room 3B
Chair: Manuel Schneider

- 15:15 **Peter Beckett:** Establishing agricultural land on mine tailings
- 15:30 **Wendy O'Neill:** The efficacy of vegetative buffer strips to intercept nutrients (nitrogen and phosphorus) in the Shropshire meres and mosses
- 15:45 **Stijn Gils:** Nutrient provision and aboveground pest suppression from soil organic matter affecting crop yield
- 16:00 **Samuel Leigh:** Can diversifying crop rotations enhance food resources for farmland biodiversity?
- 16:15 **Erika Degani:** Can crop diversity confer resilience to multiple ecosystem services under climate change?
- 16:30 **Nicholas Berkley:** Pollinator response to bioenergy plantations varies with crop type.
- 16:45 **Emily Bailes:** Improving the pollination of the field bean (*Vicia faba* L.) by breeding for enhanced floral traits
- 17:00 **Thomas Wood:** Providing foraging resources for solitary bees on farmland: current schemes for pollinators benefit a limited suite of species

ORAL PRESENTATIONS

Monday 12 December

S13: Parasites, Pathogens & Wildlife Disease Demography & Dynamics

Location: Room 4A
Chair: Thierry Boulinier

- 15:15 **Rosie Woodroffe:** Indirect contact through a shared environment: a possible route for *Mycobacterium bovis* transmission between badgers and cattle
- 15:30 **Eleanor Dickinson:** The role of deer and small mammals in the spatial distribution of tick vectors in a naturally fragmented landscape: implications for the transmission of Lyme disease
- 15:45 **Achaz Von Hardenberg:** Higher risk of gastrointestinal parasite infection at lower altitudes suggests possible constraints in the distributional niche of Alpine marmots
- 16:00 **Joanne Lello:** Back Seat Drivers: Macroparasites alter hantavirus dynamics by changing host demography.
- 16:15 **Felicity Wynne:** Detection of *Ranavirus* and *Batrachochytrium dendrobatidis* in north-west Costa Rica
- 16:30 **Bethany Levick:** Towards a clearer picture of the epidemiology of Onchocerciasis associated epilepsy in the Democratic Republic of the Congo.
- 16:45 **Klara Wanelik:** Consistent individual differences in immune gene expression in the wild: searching for immunological personalities and challenging the Th1/Th2 trade-off
- 17:00 **Romain Garnier:** Short- and long-term dynamic of antibodies against henipaviruses in a captive African fruit bat population

S14: Environmental Physiology

Location: Room 4B
Chair: Nova Mieszkowska

- 15:15 **Christian Körner:** Tree water relations revisited
- 15:30 **Erika Hiltbrunner:** The paradox of tall herbs in alpine grassland: efforts for an ecophysiological explanation
- 15:45 **Tarek Mukassabi:** Capability of some tree species seeds to germinate and establish in the semiarid area the coastline of Libya
- 16:00 **Charlotte Seal:** Seeds, salt and survival

- 16:15 **Kiyosada Kawai:** Relationship of bundle sheath extensions with leaf mechanical and physiological properties
- 16:30 **Joni Cook:** Nitrogen deposition and prey availability control the diet and nutrition of the carnivorous plant *Drosera rotundifolia*.
- 16:45 **Emma McLarnon:** Prickly Poaceae: A closer look at the surface of a forage grass
- 17:00 **Julia Cooke:** Alleviation of abiotic stress by silicon: what can a meta-analysis of agricultural studies tell us about ecology?

S15: Community Ecology Community Structure II

Location: Room 11A
Chair: Christa Mulder

- 15:15 **Lindsay Turnbull:** Observational methods underestimate the strength of competition among plant species
- 15:30 **Brian Steidinger:** Variability in potential to exploit different organic phosphorus compounds among tropical montane tree seedlings
- 15:45 **Javier Puy:** Transgenerational effects in plant competition
- 16:00 **Cameron Wagg:** Biodiversity promotes ecosystem stability under drought by shifting seasonal productivity
- 16:15 **Alexis Synodinos:** Forecasting and preventing irreversible woody encroachment in savannas.
- 16:30 **Adam Kimberley:** The extent of ongoing plant community homogenisation following historical grassland reductions depends on habitat type.
- 16:45 **Andros Gianuca:** Synergistic effects of dispersal and environmental heterogeneity on the replacement and nestedness components of β -diversity
- 17:00 **Christian Damgaard:** Modelling pin-point cover data of complementary vegetation classes

S16: Evolutionary Ecology Environment & Stress

Location: Room 11B
Chair: Mahasweta Saha

- 15:15 **Ben Sheldon:** Spatial scale governs selection on breeding date in a wild bird population
- 15:30 **Ella Cole:** Dynamic changes in habitat quality modulate heterogeneous responses to climate change in a wild bird population

ORAL PRESENTATIONS

Monday 12 December

- 15:45 **Kristjan Niitepõld:** Effects of environmental stress on butterfly flight and fecundity
- 16:00 **Eleanor Gibson-Forty:** Herbivory along steep rainfall gradients – intraspecific patterns contradict the resource allocation hypothesis
- 16:15 **Mick Hanley:** Fruits from the fire? Conflicting pressures for the evolution of woody-fruited hakeas in Western Australia
- 16:30 **Rudiger Riesch:** Thermal regime drives a latitudinal gradient in life history and morphology in a live bearing fish
- 16:45 **Harry Marshall:** Lifetime fitness consequences of early-life ecological hardship in a wild mammal population
- 17:00 **Christopher Hassall:** The ecology and evolution of mimicry in a changing world

S17: Population Ecology Models & Theory

Location: Room 11C
Chair: Ace North

- 15:15 **Stephen Cornell:** Optimal connectivity measures for dynamic landscape metapopulations
- 15:30 **Hedvig Nenzen:** More than Moran: Coupling statistical and simulation models to understand how dispersal and climate variation drive outbreak dynamics
- 15:45 **Charlotte Vries:** Demography when history matters: Construction and analysis of second-order matrix population models
- 16:00 **Markus Eichhorn:** How to avoid the Allee effect, assuming that you're a tree. Or a barnacle.
- 16:15 **Anthony Wilson:** Choosing appropriate functions for modelling density-dependent effects in larval mosquito populations
- 16:30 **Julie Miller:** Assessing the impact of additional anthropogenic mortality to seabird populations under regulation by extrinsic and intrinsic drivers
- 16:45 **Louise Lassalle:** The impact of phenotypic plasticity in diet choice on the dynamics of complex life cycles
- 17:00 **Katharine Preedy:** Can switching penalties help to maintain aphid biodiversity in Aphid-Parasitoid systems?

S18: Global Change Ecology Adaptation, Resistance & Resilience

Location: Room 12
Chair: Pippa Gillingham

- 15:15 **Steve Albon:** Small is beautiful: Are Reindeer 'shrinking' because of climate warming?
- 15:30 **Robert Knell:** Sexual selection and adaptation to changing environments
- 15:45 **Anna Muir:** The potential for acclimation and adaptation in response to a changing climate in a reef building ecosystem engineer
- 16:00 **Peter Long:** Sensitivity of global terrestrial ecosystems to climate variability
- 16:15 **Aurélie Garnier:** Increasing the number of environmental changes slows down ecosystem recovery from disturbance.
- 16:30 **Thomas Parker:** Phenological Adaptation of an Arctic Sedge to Local Conditions and Risk to Climate Change.
- 16:45 **Raj Whitlock:** Genomic responses to 17 years of simulated climate change in a species-rich grassland ecosystem
- 17:00 **Mike Morecroft:** Building resilience to climate change – learning from inter-annual variability in British plant communities

S19: Soil Ecology & Function Processes & Applications

Location: Room 13
Chair: Alan Jones

- 15:15 **Ciska Veen:** Home Sweet Home: specialist decomposers drive the breakdown of low-quality litter
- 15:30 **Eduardo Medina Barcenas:** The effects of "out of sync" tree litter inputs on forest soil C dynamics.
- 15:45 **John Crawford:** Soil carbon dynamics in microcosm experiments compared to large-scale field experiments – limitations of extrapolating soil process across scales
- 16:00 **Sam Jones:** An approach to non-destructively measure soil carbonic anhydrase activity and the oxygen isotope composition of soil water
- 16:15 **Marina Semchenko:** Opening the black box of plant-soil feedback: search for appropriate measurements and main drivers
- 16:30 **Olaf Schmidt:** Successful stable isotope ratio analysis at natural abundance levels ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) of soil nematodes from four feeding groups

ORAL PRESENTATIONS

Monday 12 December

- 16:45 Emanga Alobwede:** The impact on soil physicochemical properties following addition of micro and macroalgal species
- 17:00 Sarah Dalrymple:** Three decades on, a high latitude serpentine system finally shows potential for autonomous recovery from nutrient addition
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ORAL PRESENTATIONS

Tuesday 13 December

TT6: Celebrating 30 Years of *Functional Ecology*: What does the Future Hold?

Location: Auditorium 1A

Chair: Charles Fox

- 11:00 **Charles Fox**: Towards a mechanistic understanding of global change ecology: Looking forward from *Functional Ecology's* three decade trajectory
- 11:15 **Craig White**: Thermal tolerance and adaptation to climate change
- 11:30 **Sergio Rasmann**: Climate driven changes in plant-herbivore interactions
- 11:45 **James Bell**: Trophic structure in a changing world: highlighting the movers and shakers in *Functional Ecology* and the work that is yet to be done.
- 12:00 **C. E. Timothy Paine**: Towards a general mechanistic understanding of community assembly
- 12:15 **Julia Koricheva**: Mechanisms underlying biodiversity effects on ecosystem function
- 12:30 **Emma Sayer**: Dealing with tropical forest diversity to measure ecosystem-level responses to change – lessons learned from fertilization experiments
- 12:45 **Carly Stevens**: Atmospheric nitrogen deposition and its impact on plant communities

TT7: Shortening the Hyphen in Eco-immunology

Location: Auditorium 1B

Chair: Andy Fenton

- 11:00 **Paul Schmid-Hempel**: Ecological immunology – what are we looking for?
- 11:30 **Lars Raberg**: Genetic and environmental causes of variation in infection tolerance
- 11:45 **Joe Jackson**: Ecoimmunology meets reverse engineering
- 12:00 **Mark Viney**: The Determinants of Immune Function in Wild Mice
- 12:15 **Richard Grencis**: Infection, Immunity and Survival: the *Trichuris* (whipworm)/host ecosystem
- 12:30 **Simon Babayan**: Immunology of wild (non-model) organisms: from *de novo* transcriptomics to functional immunomics

- 12:45 **Andrea Graham**: Investigating defence heterogeneity in mesocosms for This Wormy World

S20: Population Ecology Applications

Location: Auditorium 1C

Chair: Tom Cameron

- 11:00 **Christopher Clements**: Body size shifts and early warning signals precede the historic collapse of whale stocks
- 11:15 **Emiel Loon**: Learn and act – a detailed analysis of the forecasts from an operational population model519
- 11:30 **Marlène Gamelon**: A predictive study of climate effects on population dynamics: going beyond population size
- 11:45 **Sam Cruickshank**: Designing monitoring programs that can infer species absence: how much effort is enough?
- 12:00 **Simone Mordue**: Understanding the population genetic structure of Natterer's bats across Northern England
- 12:15 **Sonia Mitchell**: Demonstrating the Generality of a Framework for Partitioning Diversity
- 12:30 **Amanda Trask**: Assessing genetic threats to small populations: estimating effective population size of an age-structured red-billed chough population
- 12:45 **Georgina Palmer**: Climate change, climatic variation, and extreme biological responses

S21: Global Change Ecology Distributions, Dynamics & Models

Location: Room 3A

Chair: Steve Albon

- 11:00 **Yvonne Buckley**: Predicting plant population response to global change
- 11:15 **Damaris Zurell**: Predicting species range dynamics: a benchmark test of current data-driven approaches
- 11:30 **Charlie Outhwaite**: The other taxa behind the State of Nature 2016 report: Exploring the results from biological records.
- 11:45 **Richard Pearson**: Including biotic interactions in models of species distributions and assessments of extinction risk

ORAL PRESENTATIONS

Tuesday 13 December

- 12:00 **Alma Strandmark:** Drivers behind local and regional arthropod diversity – a first step towards climate change projection on biodiversity loss in Baltic shore ecosystems
- 12:15 **Nova Mieszkowska:** Gaps or traps: data densities, biogeographical challenges and mechanistic insights into climate impacts modelling in an uneven world.
- 12:30 **Thomas Davies:** ECOLIGHT: The impacts of artificial night-time lighting on temperate grassland ecosystems
- 12:45 **Sean McMahon:** Tree vital rates as vital traits in understanding forest dynamics under climate change

S22: Evolutionary Ecology Adaptation

Location: Room 3B
Chair: Kristjan Niitepõld

- 11:00 **Andrew Beckerman:** Can phenotypic plasticity aid adaptation?
- 11:15 **Philippine Vergeer:** Adaptation to climate change: Evidence for epigenetically based transgenerational phenotypic effects
- 11:30 **Matthew Christmas:** Exploring genomes for evidence of climate induced selection in Australian plant species
- 11:45 **Xavier Pico:** Ecological drivers and genetic mechanisms underlying adaptive evolution of life-cycle phenology in annuals: lessons from natural *Arabidopsis thaliana* populations
- 12:00 **C. Elisa Schaum:** Wee Beasties, Warming World – Mechanisms of thermal adaptation in stable and fluctuating environments
- 12:15 **Dimitrios – Georgios Kontopoulos:** Deep-time macroevolution of thermal sensitivity of growth rate among phytoplankton.
- 12:30 **James Whiting:** Evolutionary correlates of wild immune variation in stickleback.
- 12:45 **Bader Alhajeri:** Are More Open Habitats Associated with Greater Leap Distance? A Phylogenetic Test in Gerbils (*Gerbillinae*, *Rodentia*)

S23: Microbial Ecology

Location: Room 4A
Chair: Philip Donkersley

- 11:00 **Kate Randall:** Incorporating the microbial black box within climate warming research of Arctic freshwater systems

- 11:15 **Dave Clark:** Ecological drivers of the functional and taxonomic diversity of salt marsh fungi
- 11:30 **Angela Creevy:** Changes in testate amoeba communities associated with forest-to-bog restoration
- 11:45 **Antonino Malacrino:** Interaction between soil microbial community and aphid bacterial endosymbionts
- 12:00 **G. Arjen De Groot:** Weather-dependent community shifts in the aerobiome: measuring airborne dispersal of plants, mesofauna and microbes simultaneously via DNA metabarcoding
- 12:15 **Paz Aranega Bou:** Characterising the microbial communities associated with the water distribution system of a broiler farm and their role in *Campylobacter jejuni* infection
- 12:30 **Sara König:** Where is the edge of collapse? Insights from modelling microbial ecosystem functions under recurrent disturbances
- 12:45 **Susannah Bird:** Using targeted and multi-omics approaches to shed new light on lignocellulolytic mixed microbial consortia

S24: Tropical Ecology Climate & Land-Use Change

Location: Room 4B
Chair: Geertje van der Heijden

- 11:00 **Steven Sylvester:** Shifting perspectives on natural ecosystems in the high Andes
- 11:15 **James Probert:** Spatiotemporal patterns of fire in the Serengeti-Mara ecosystem
- 11:30 **Aisling Devine:** The effects of six decades of fire on tree form and architecture in African savanna trees.
- 11:45 **Atul Joshi:** Global climate change poses an extinction threat to tropical grasslands: An experimental study from the unique forest-grassland mosaics of India's Western Ghats biodiversity hotspot
- 12:00 **Alexandra Zieritz:** Freshwater mussels (*Bivalvia*, *Unionida*) of Malaysian Borneo: towards protecting a unique fauna in a changing environment
- 12:15 **Danaë Rozendaal:** Climatic variation influences tree seedling survival in a tropical wet forest
- 12:30 **Sarah Scriven:** Barriers to dispersal of rainforest butterflies in tropical agricultural landscapes

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12:45 **Olivia Norfolk:** Can coffee forests and timber plantations help conserve tropical butterflies in a rapidly changing Ethiopian landscape?

S25: Invasive Species Populations & Interactions

Location: Room 11A
Chair: Julia Cooke

11:00 **Jane Catford:** Disentangling the four demographic dimensions of species invasiveness

11:15 **Rosetta Blackman:** A new non-native species discovered in the UK using environment DNA

11:30 **Zara-Louise Cowan:** Predation on crown-of-thorns starfish larvae by damselfishes

11:45 **Vincent Keenan:** Anomalous Invasion Speeds in Highly Polymorphic Populations

12:00 **Anthony Caravaggi:** Invasion ecology: quantifying the impact of non-native European hares on the endemic Irish hare

12:15 **Korinna Allhoff:** Effects of invasions on the structure, stability and evolution of complex food webs

12:30 **William Fincham:** Alien vs. predator: Predatory impacts of native and invasive non-native coccinellids subject to pathogen pressure.

12:45 **Simon Elliot:** Invasive mutualisms between a plant pathogen and insect vectors in the Middle East and Brazil

S26: Behavioural Ecology Movement & Distributions

Location: Room 11B
Chair: Luca Borger

11:00 **Thomas Morrison:** Fidelity constrains movements in migratory ungulates

11:15 **Elaine Ferguson:** Modelling collective movement across scales

11:30 **Richard Lewis:** Mountainous movements, mountainous costs? Short and long term movement dynamics of ungulates within Alpine environments

11:45 **Marianna Chimienti:** Taking movement data to new depths: inferring prey availability and patch profitability from predator foraging behaviour

12:00 **Myriam Hirt:** Universal scaling of maximum speed with body mass – Why the largest animals are not the fastest

12:15 **Tomáš Peterka:** Inspection of red deer male's activity – does the season play significant role?

12:30 **Juliane Lukas:** The role of personality in seasonal dispersal of guppies from a feral population inhabiting a thermally-altered creek in Germany

12:45 **Matt Carter:** From pup to predator: sex and regional differences in the ontogeny of movement and diving behaviour in grey seal pups

S27: Community Ecology Foodwebs & Trophic Interactions

Location: Room 11C
Chair: Sharon Zytynska

11:00 **Deirdre McClean:** Evolution of resistance to multiple enemies is shaped by biotic context

11:15 **Samuel North:** Integrating Next Generation Sequencing technologies into food web ecology

11:30 **Ulrich Brose:** The scaling relationships of consumer and resource body masses across ecosystems and interaction types

11:45 **Benno Simmons:** Mutualistic motifs: the building blocks of mutualistic networks

12:00 **Gianalberto Losapio:** The spatial dimension of plant association networks

12:15 **Thomas Ings:** Zooming into plant-flower visitor networks: an individual trait-based approach

12:30 **Callum Macgregor:** Construction, validation and application of nocturnal pollen transport networks using molecular methods

12:45 **Dirk Sanders:** Artificial night-time light changes aphid-parasitoid population dynamics

S28: Aquatic Ecology Management, Conservation & Ecosystem Services

Location: Room 12
Chair: Emma McKinley

11:00 **Stefano Mariani:** Global distribution patterns of sex-changing strategies in fish and their implications for fisheries

11:15 **Vincent Hin:** Cannibalism increases vulnerability of fish populations to harvesting

11:30 **Nicholas Higgs:** Chemosynthetic food sources sustain Caribbean spiny lobster fisheries

11:45 **Hannah Robson:** Using palaeolimnology to address issues of current conservation concern: the case of the Common Scoter in Northern Scotland

ORAL PRESENTATIONS

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- 12:00 Hendrika De Lange:** Ecological resilience mechanisms in large Dutch aquatic ecosystems: Lessons from the past to improve management in the future
- 12:15 Samson Ojo:** Assessment of Aquatourism Potentials of Agbokim Waterfalls in Cross River State of Nigeria
- 12:30 Lorea Flores:** Effect of flood intensity on freshwater ecosystem services
- 12:45 Andy Green:** Widespread invasion of American brine shrimp in Mediterranean salt ponds – Enemy release versus Enemy protection

S29: Citizen Science

Location: Room 13
Chair: Jonathan Silvertown

- 11:00 Jennifer Border:** Predicting the likely impact of urbanisation on bat populations using citizen science data, a case study for Norfolk, UK
- 11:15 Ian Thornhill:** Prioritising local action for water quality improvement using citizen science; a study across four major Chinese cities.
- 11:30 Victoria Burton:** Earthworm Watch: Citizen Science for modelling and mapping earthworm diversity and soil ecosystem services
- 11:45 Yoseph Araya:** Citizen Science reporting in conventional media: findings from a global survey
- 12:00 Joseph Huddart:** Citizen Science: from detecting pollution to evaluating ecological restoration
- 12:15 Suzanna Mason:** Population variability can be deduced from citizen-collected distribution records: a case study using British butterflies
- 12:30 Alejandro Ruete:** Exploiting daily opportunistic observations to ask a wider spectrum of questions: an example with wetland birds
- 12:45 Michael Pocock:** How patterns of participation vary across citizen science activities

TT8: Ilkka Hanski's legacy to ecology and conservation

Location: Auditorium 1A
Chair: Ilik Saccheri

- 15:00 Chris Thomas:** Ilkka Hanski and the metapopulation paradigm – putting space into ecology
- 15:15 Marjo Saastomoinen:** Life-history evolution in the Glanville fritillary butterfly

- 15:30 Patrik Nosil:** Tipping points in eco-evolutionary dynamics
- 15:45 Jenny Hodgson:** How Ilkka Hanski's ideas have influenced conservation practice
- 16:00 Heikki Henttonen:** Ilkka Hanski and small mammals: from shrews to vole and lemming dynamics
- 16:15 Heidi Viljanen:** Large scale ecological research on tropical dung beetles
- 16:30 Lasse Ruokolainen:** A journey along the environment-microbiota-health axis: Ilkka Hanski's legacy to allergy research
- 16:45 Charles Godfray: Ilkka Hanski's contributions to science**

TT9: Mechanisms of adaptation to environmental change

Location: Auditorium 1B
Chairs: Raj Whitlock & Stew Plaistow

- 15:00 Yvon-Durocher Gabriel:** Metabolic traits underpin thermal adaptation in phytoplankton
- 15:15 Luis-Miguel Chevin:** The contribution of phenotypic plasticity to adaptation and population persistence in novel environments
- 15:30 Tom Van Dooren:** Assessing adaptation to climate change in evolving bet-hedging traits with phenotypic plasticity and maternal effects
- 15:45 Andreas Wagner:** Environmental stress, cryptic variation and innovation in the simplest molecular systems
- 16:15 Adam Eyre-Walker:** Adaptive evolution in animal mitochondrial DNA
- 16:45 Jon Bridle:** Evolutionary shifts in host plant use in response to climate change in the UK Brown Argus butterfly

S30: Parasites, Pathogens & Wildlife Disease Adaptation & Evolution

Location: Auditorium 1C
Chair: Achaz von Hardenberg

- 15:00 Roman Biek:** The effect of host relatedness on the frequency and outcome of cross-species transmission in a zoonotic virus
- 15:15 Rebecca Brown:** Spatial heterogeneity of *Plasmodium knowlesi* vectors in Sabah, Malaysian Borneo

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- 15:30 **Franziska Brunner:** Parasite pressure acting through an eco-evolutionary feedback
- 15:45 **Steven Parratt:** Local adaptation at higher trophic levels: Exploring hyperparasite infection dynamics in a pathogen metapopulation
- 16:00 **Silke Bauer:** How do parasite infections alter animal migrations?
- 16:15 **Thierry Boulinier:** Ecology and evolution of the maternal transfer of antibodies: from comparative immunology to albatros conservation
- 16:30 **Alexandra Sparks:** Genetic variation associated with immunity to parasites in a wild mammal population
- 16:45 **Barbara Tschirren:** Resistance evolution in the wild: Combining candidate gene and NGS approaches to elucidate the genetic basis of *Borrelia* resistance in natural rodent populations

S31: Species Interactions Approaches & Models

Location: Room 3A
Chair: Joanne Lello

- 15:00 **Jason Griffiths:** Linking trait change with species' population dynamics improves ecological predictability and understanding.
- 15:15 **Ruben Diaz-Sierra:** Symmetry and standardization in a new family of indices for measuring the intensity and importance of plant neighbour effects
- 15:30 **Monique Smith:** Galadriel's Gift: Soil Legacies in Grassland Restoration
- 15:45 **Eliška Kufáková:** Questioning a negative result: Dominant species does not shape plant-soil feedback of a grassland community in a long-term removal experiment
- 16:00 **Samuel Robinson:** The spatial distribution of central-place foraging pollinators in mass-flowering crops
- 16:15 **Ellen Van Velzen:** Explaining antiphase predator-prey cycles
- 16:30 **Sérgio Timóteo:** Seed-dispersal networks spanning across the landscape of Gorongosa National Park: a spatial multilayer network approach
- 16:45 **Ian Rotherham:** Developing an eco-fusion framework for novel ecosystems and hybrid ecologies

S32: Evolutionary Ecology Sexual Selection & Reproduction

Location: Room 3B
Chair: Olivia Roth

- 15:00 **Chiara Benvenuto:** Protogyny vs. protandry: drivers and consequences of sequential hermaphroditism under different mating contexts
- 15:15 **Nina Gerber:** Co-evolution of sexual reproduction and ecological functions in facultative sexual organisms
- 15:30 **Nikola Petkovic:** Sex against extinction: Evolutionary rescue of sexual and asexual populations of *Chlamydomonas reinhardtii* in an environment deteriorating in a simple and complex manner
- 15:45 **Raquel Ortells:** Trade-offs in rotifer diapausing egg traits: survival, hatching and lipid content
- 16:00 **Andri Manser:** Sperm Competition Suppresses Gene Drive in a Natural Mouse Population
- 16:15 **Seth Barribeau:** Sexual healing: mating induces a protective immune response in bumblebees
- 16:30 **Yuuya Tachiki:** A spatially explicit model for mass flowering in bamboos: long rhizomes drive the evolution of delayed flowering
- 16:45 **Robert Laird:** Parental age-related changes in offspring size, shape, and fitness in a small, aquatic plant

S33: Ecosystem Ecology & Function Biogeochemical Cycles & Plant-Soil Interactions

Location: Room 4A
Chair: Santiago Soliveres

- 15:00 **Philip Wookey:** Could 'shrubification' and forest expansion threaten soil carbon stocks in the Arctic?
- 15:15 **Andrew Martin:** Evaluating approaches to infer the mechanisms driving plant growth responses over the long-term using wood rings: an example of the role of soil nutrient availability on Arctic shrub growth.
- 15:30 **Admore Mureva:** Woody plant encroachment enhances carbon sequestration in semi-arid regions and decreases sequestration in humid regions of South Africa
- 15:45 **Noémie Pichon:** Direct and indirect effects of nitrogen enrichment on grassland ecosystems functioning

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- 16:00 **Aneta Trajanov:** Predicting mineralizable nitrogen in grassland soils
- 16:15 **Christian Alsterberg:** Habitat diversity strengthens primary productivity and nitrogen cycling in shallow coastal ecosystems
- 16:30 **Ali Birkett:** Litter manipulation alters the stoichiometry of soil enzyme activities in a lowland tropical forest
- 16:45 **Sabine Reinsch:** Responses of ecosystem carbon dynamics to climate change – recent advances

S34: Forest Ecology Novel methods & New Perspectives

Location: Room 4B
Chair: Markus Eichhorn

- 15:00 **David Coomes:** Mapping tropical forest carbon from the air, one tree at a time
- 15:15 **Tommaso Jucker:** Topography drives fine-scale variation in aboveground carbon density and tree species diversity across tropical forest landscapes
- 15:30 **Kim Calders:** Nondestructive estimates of above-ground biomass using terrestrial laser scanning
- 15:45 **Siti Mariam Muhammad Nor:** Belowground production of mangrove forest in the Kelantan delta, on the east coast of Malaysian Peninsular
- 16:00 **Louise Ashton:** Global canopy infrastructure and new technology – frontiers of canopy science
- 16:15 **Lindsay Banin:** Are Dipterocarps Different? Rates, traits and herbivory in a Bornean tropical forest
- 16:30 **Mateus Dantas de Paula:** Dispersal collapse of large seeded tree species – a modelling experiment on its consequences to forest biomass retention.
- 16:45 **Ruben Valbuena:** Intrinsic Diversity Ordering and Lorenz Ordering for Characterizing Size Inequality in Tree Assemblages

S35: Ecosystem Services Pollinators

Location: Room 11A
Chair: Jennifer Rowntree

- 15:00 **Nick Isaac:** Impacts of neonicotinoid use on long-term population changes in wild bees in England
- 15:15 **Penelope Whitehorn:** Buzz pollination in bumblebees and the impact of pesticides.

- 15:30 **Virginie Boreux:** Effectiveness of Agro-Environmental Schemes on pollinator diversity and pollination services

- 15:45 **Jeroen Scheper:** Promoting wild bees in European agricultural landscapes – The role of floral resources in driving and mitigating wild bee decline

- 16:00 **Juliane Horn:** A modelling framework to assess the effectiveness of Ecological Focus Areas in agricultural systems on honeybee colony performance

- 16:15 **Johanna Haeussler:** Using spatially explicit process-based modelling to quantify wild bee dynamics and their pollination services

- 16:30 **Panagiotis Theodorou:** Pollinator diversity and pollination in urban-rural landscapes

- 16:45 **Ulrika Samnegård:** Pollen limitation and low bee abundances despite a heterogeneous tree-rich agricultural landscape

S36: Macroecology and Biogeography Range Shifts, Dispersal & Biogeography

Location: Room 11B
Chair: Natalie Cooper

- 15:00 **Gary Powney:** Patterns of change in the pollinators of Britain
- 15:15 **Christine Howard:** The drivers of extinction risk: the importance of environmental correlates and biological traits
- 15:30 **Helen Slater:** Predicting species' responses to environmental change – The biogeography of diurnal African primates
- 15:45 **Emanuel Fronhofer:** The eco-evolutionary dynamics of range expansions – theoretical and experimental insights
- 16:00 **Anieke Brombacher:** Biogeographic range shifts in three species of planktonic foraminifera during the intensification of Northern Hemisphere glaciation
- 16:15 **David Wilkinson:** Revisiting a Darwinian obsession; waterbirds and plant dispersal.
- 16:30 **Neil Maginnis:** Dispersal vs environmental controls on scleractinian coral species assemblages
- 16:45 **Sally Keith:** Global cues for coral mass spawning

ORAL PRESENTATIONS

Tuesday 13 December

S37: Community Ecology Diversity, Species & Traits

Location: Room 11C

Chair: Nessa O'Connor

- 15:00 **Sara Cousins:** Grasslands coming up
- 15:15 **Jan Plue:** Biodiversity maintenance by spatial and temporal dispersal on fragmented semi-natural grasslands of the Stockholm Archipelago
- 15:30 **Ineke Roeling:** Niche differentiation of plant species along a N:P gradient in Eurasian grasslands
- 15:45 **Sofia Van Moorsel:** Natural co-selection of plant and soil communities shape the biodiversity-ecosystem function relationship
- 16:00 **Chelsea Chisholm:** Functional traits show variable predictability of tree growth across climate space in Norwegian forests
- 16:15 **Lin Huang:** Looking for determinants of growth rate in 300+ perennial plants
- 16:30 **Sofie Spatharis:** Partitioning phytoplankton community variation using 18S rRNA sequences and morphospecies data
- 16:45 **Simon Thorn:** Trait filtering by vegetation density underlies contrasting patterns of bat phylogenetic and functional diversity in temperate forests

S38: Aquatic Ecology Methods, Monitoring, Models

Location: Room 12

Chair: Catherine Longo

- 15:00 **Elske Van der Vaart:** Predicting Cockle Sizes and Distributions: Insights from Calibrating an Individual-Based Model
- 15:15 **Marcelo Gomes:** Influence of detached macrophytes on fish size and condition in nearshore habitats
- 15:30 **Sabine Wollrab:** Patterns of top-down regulation along an enrichment gradient for a series of marine lakes and lagoons
- 15:45 **William Hunter:** Scratching the surface: Biogeochemical consequences of faunal species loss in coastal sediments.
- 16:00 **Elorri Arevalo:** Drift probability of 3 trout food invertebrate taxa tested in 3 flow conditions and 2 habitats

16:15 **Ahmed Al-Zankana:** Using biotopes for monitoring success of stream restoration; short-term effects of woody debris dam in a small rural stream on macroinvertebrate community structure and function. A case-study from England

16:30 **Leticia Miguel-Chinchilla:** Local and landscape influences upon turbidity; a global approach using citizen scientists.

16:45 **Mathew Seymour:** Persistence of environmental DNA in experimental rivers: implications for molecular biodiversity assessment

S39: Urban Ecology

Location: Room 13

Chair: Martin Dallimer

- 15:00 **Mark Goddard:** Brownfield ecosystem multifunctionality: Engineering urban soils for carbon capture, biodiversity and other ecosystem services
- 15:15 **Frances Mullany:** Effects of anthropogenic sensory pollutants, light and noise, and environmental factors on an urban population of European robins (*Erithacus rubecula*)
- 15:30 **Briony Norton:** Biodiversity and ecosystem services in urban areas: the pedestrian experience
- 15:45 **Richard Scott:** A new cultural ecology. From Flagships to Landmarks. Telling the Tale of Two Cities.
- 16:00 **Dong Rencai:** The spatial relationship between urban green space and citizen activities in Beijing urban area
- 16:15 **Dawn Scott:** Estimating the density of red foxes (*Vulpes vulpes*) in suburban England
- 16:30 **Helen Hoyle:** "Not in their front yard" Introducing perennial urban meadows: A local authority manager perspective.
- 16:45 **Jill Edmondson:** Urban greenspaces: optimising food and biofuel production for regional sustainability and resilience

ORAL PRESENTATIONS

Wednesday 14 December

TT10: The role of Host-associated Microbiomes in Shaping Life Histories

Location: Auditorium 1A

Chair: Rachael Antwis

- 10:00 **Thorunn Helgason:** Hosts and their microbiomes: a question of scale and diversity
- 10:30 **Davide Bulgarelli:** Tracing the domestication route of the barley microbiota
- 10:45 **Chloe Heys:** The role of the gut microbiota on the behaviour of the invasive crop pest, *Drosophila suzukii*
- 11:00 **Vincent Doublet:** General and specific host responses to multiple pathogens in honey bees
- 11:15 **Kieran Bates:** The skin microbiome of a high altitude amphibian species differs based on life-history stage, population and infection.
- 11:30 **Kayla King:** Drivers and consequences of microbe-mediated protection from infection

TT11: Multiple Stressors and Ecological Surprises

Location: Auditorium 1B

Chair: Michelle Jackson

- 10:00 **Shorok Mombrikotb:** The impact of anthropogenic activity on microbial community structure, functioning, and biogeography
- 10:15 **Nikolai Friberg:** Multiple stressors mask physical habitat degradation in rivers
- 10:30 **Francis Burdon:** Multiple-stressors and environmental context modulate multi-level impacts of micropollutants in stream ecosystems
- 10:45 **Tasman Crowe:** Combined effects of multiple stressors: variation in interactive effects across a range of concentrations and levels of organisation
- 11:00 **Mark Trimmer:** Methane emissions increase exponentially with drought intensity
- 11:15 **Khuong Dinh:** Immediate and delayed interactions of global warming and contaminants on aquatic invertebrates
- 11:30 **Steve Ormerod:** Living with stress: an ecologist's view

TT12: Intransitive Competition and Species Coexistence

Location: Room 3A

Chairs: Eric Allan & Santiago Soliveres

- 10:00 **Stefano Allesina:** Higher-order interactions stabilize dynamics in a generalized rock-paper-scissor game
- 10:30 **Laure Gallien:** Measuring the Importance of Intransitive Competition for Coexistence
- 10:45 **Oscar Godoy:** Annual plant species coexistence in competitive networks
- 11:00 **Brandon Schamp:** Exploring the effects of rank span and loop position, two aspects of competitive intransitivity, on species coexistence
- 11:15 **Santiago Soliveres Codina:** On the drivers and consequences of intransitive competition across 5 taxa: a manipulative approach
- 11:30 **Jef Huisman:** Rock-paper-scissors dynamics drive a rocky intertidal community to the edge of chaos
- 11:45 **John Vandermeer:** Coupling intransitive loops in a spatial framework: Self-organized spatial structure promotes coexistence of unstable elements

S40: Global Change Ecology Climate Change

Location: Auditorium 1C

Chair: Mike Morecroft

- 10:00 **Scott Johnson:** Will it suck being an aphid in a CO₂ enriched world?
- 10:15 **Albert Pessarrodona:** Indirect effects of climate change on ecosystem properties as mediated by shifts in species dominance
- 10:30 **Daniella Rabaiotti:** Evidence of increased mortality at high temperatures in a tropical mammal, the African wild dog
- 10:45 **Lisbeth Morrison:** Traits alter climate change threat assessments for European mammals
- 11:00 **Heather Plumpton:** Impact of mid-Holocene drought upon Bolivian seasonally-dry tropical forests
- 11:15 **Andrey Malyshev:** Short-term stress memory of *Plantago lanceolata* after drought and frost exposure.
- 11:30 **Martin Kay:** Ecosystem responses of coastal peatlands to seawater flooding
- 11:45 **Bjorn Robroek:** Do Peatlands Hibernate?

ORAL PRESENTATIONS

Wednesday 14 December

S41: Conservation Science Species & Diversity

Location: Room 3B

Chair: Jenny Dunn

- 10:00 **David Douglas:** Native woodland creation is associated with population increase in black grouse *Tetrao tetrix*
- 10:15 **Jeremy Smith:** Pied Flycatchers, productivity and population decline over 30 years
- 10:30 **Matthew Geary:** Hen harrier *Circus cyaneus* nest sites on the Isle of Mull are associated with habitat mosaics and constrained by topography
- 10:45 **Cecily Goodwin:** Using citizen science data to investigate hazel dormouse population decline
- 11:00 **Ana Silva:** Mind the Gap: Filling Demographic Knowledge Gaps using Zoo Data
- 11:15 **Helen O'Neill:** What Wild Dogs Want: Habitat Selection by African Wild Dogs in a Human-Dominated Landscape
- 11:30 **Jonathan Hanson:** Snow leopards and sustainability: livelihoods, governance and coexistence in the Nepal Himalaya
- 11:45 **Fredrik Dalerum:** Market prices and the biological characteristics of large African mammals

S42: Ecosystem Ecology & Function Diversity, Function & Change

Location: Room 4A

Chair: Jane Catford

- 10:00 **Sarah Batterman:** Taxonomy explains phosphatase and nitrogen fixation activity of tropical rainforest trees
- 10:15 **Ellen Fry:** Plant functional traits inform ecosystem functioning and resistance to drought on a calcareous grassland
- 10:30 **Lars Gamfeldt:** Biodiversity cannot directly affect levels of ecosystem multifunctionality
- 10:45 **Fabian Roger:** Habitat diversity and multifunctionality
- 11:00 **Elvira Schnyder:** Diversity enhances performance of methane oxidising bacteria
- 11:15 **Zuoqiang Yuan:** A disturbance-induced increase in tree species diversity does not enhance carbon storage in temperate forest

11:30 **Björn Rall:** The impact of disturbance on biodiversity and ecosystem functioning in multi-trophic communities

11:45 **Marjolein Sterk:** Nothing will stay, except for change: how to manage for resilient ecosystems

S43: Forest Ecology Diversity & History

Location: Room 4B

Chair: Kim Calder

- 10:00 **Lynne Boddy:** Fungal community assembly in wood
- 10:15 **Mitsy Sylvester:** Standing deadwood trees as important hosts for lichen diversity in high Andean Polylepis forests
- 10:30 **Grace Jopaul Loubota Panzou:** How tree architecture varies across coexisting tropical tree species and relate to ecological strategies?
- 10:45 **Christine Tansey:** Do ground flora species track spatial variation in the leaf out phenology of woodland trees?
- 11:00 **Etienne Lalechere:** Non-equilibrium plant metapopulation dynamics challenges the concept of ancient/recent forest species.
- 11:15 **Paul Evans:** Forest dynamics in a changing world: effects of climate change and pathogen spread in a temperate forest
- 11:30 **Martin Macek:** Historical distribution of tree species: a bridge between native and actual range?
- 11:45 **Radim Hédli:** Impact of historical coppicing on the current vegetation diversity of temperate forests

S44: Agricultural Ecology Diversity & Dynamics

Location: Room 11A

Chair: Katharine Preedy

- 10:00 **Marko Debeljak:** Qualitative assessment of nutrient cycling in agro-ecosystems
- 10:15 **Lyndsey Graham:** Hedgerow Habitat Structure for Biodiversity; Developing and Testing LiDAR-based Structural Condition Models
- 10:30 **Rosalind Shaw:** Impacts of landscape level biodiversity on the functional trait composition and effectiveness of natural enemy communities

ORAL PRESENTATIONS

Wednesday 14 December

- 10:45 Janna Barel:** Soil legacy effects of winter cover crop mixtures on crop yield are driven by cover crop biomass and nitrogen concentration
- 11:00 Pietro Iannetta:** Intercropping: pea supported production of barley for brewing and distilling.
- 11:15 Ashley Lyons:** Spider community responses to contrasting grazing management in upland calcareous grasslands
- 11:30 Manuel Schneider:** GPS tracking to quantify grazing impact and nutrient redistribution in pasture ecosystems
- 11:45 Jennifer Rowntree:** Biodiversity and extended phenotypes in agricultural landscapes

S45: Macroecology & Biogeography Methods, Models & Mapping

Location: Room 11B
Chair: Alistair Headley

- 10:00 Wayne Dawson:** Global hotspots of alien species across taxonomic groups
- 10:15 Mara Baudena:** A novel network tool reveals patterns of community species richness along environmental gradients by combing information from species pool and community assembly dynamics
- 10:30 Elsa Aggemyr:** The devil is in the detail – Choice of diversity metric influences observed effects of landscape structure
- 10:45 Sarah Wyse:** Seed desiccation sensitivity: estimating the global incidence of this regeneration trait and predictive modelling of species trait values
- 11:00 Thomas Etherington:** Methodological opportunities for making least-cost modelling more ecologically meaningful
- 11:15 Tom August:** Supporting reproducible and sharable Species Distribution Modelling with ZOOM
- 11:30 Alun Jones:** Global trends in marine biodiversity: Making the most of unstructured data
- 11:45 Kevin Healy:** Mapping animal life-history strategies using the COMADRE database

S46: Evolutionary Ecology Communities & Interactions

Location: Room 11C
Chair: Ron Bassar

- 10:00 Claudine Carvalho:** Experimental evolution towards low virulence in an invasive plant pathogen: an in-depth molecular analysis for *Cowpea mild mottle virus* (CPMMV)
- 10:15 Shaun Coutts:** Eco-evolutionary dynamics on the invasion front allows both target site and non-target site resistance to establish in the same population.
- 10:30 Megan Sørensen:** Symbiont variation and host choice in a microbial photosymbiosis
- 10:45 Ewan Minter:** Intra-specific variation in a photosynthetic endosymbiosis
- 11:00 Belinda Kahnt:** Pollinator evolution and adaptation in South Africa: phylogenetics and co-phylogenetics of the bizarre *Rediviva* buzzer bee and its associated host plants
- 11:15 Ryan Germain:** The consequences of polyandry for sibship structures, distributions of relationships and relatedness, and potential for inbreeding in a wild population
- 11:30 Andrew Dean:** Modelling photosynthetic symbioses
- 11:45 William Pearse:** Simultaneous modelling of the evolutionary and ecological processes that determine community structure

S47: Population Ecology Distributions & Environmental Change

Location: Room 12
Chair: Emil van Loon

- 10:00 Callum Lawson:** Living with the past: how do adaptations to variable environments shape population responses to environmental change?
- 10:15 Bethan Hindle:** Identifying underlying drivers in density dependent populations and variable environments
- 10:30 Pedro Quintana-Ascencio:** Predicting landscape-level distributions: integrating demography, fire, and dryness with patch and annual variation
- 10:45 Saskya Van Nouhuys:** Decline in geographic genetic structure with increasing trophic level for interacting species in a fragmented landscape.

ORAL PRESENTATIONS

Wednesday 14 December

- 11:00 Susu Rytteri:** Weather-dependent movement in a butterfly metapopulation: diffusion model shows substantial annual variation in the functional connectivity of a landscape
- 11:15 Jacob Davies:** The role of demographic parameters in range change in an Afro-Palaearctic migrant
- 11:30 William Kay:** Grey seal dispersal patterns: Individual differences and implications for marine energy installations in the UK
- 11:45 J. Grant Hopcraft:** The nutritional diary of Serengeti wildebeest: Building patterns of starvation and reproduction from the tail hair of migratory animals

S48: Ecology & Society

Location: Room 13
Chair: Antica Culina

- 10:00 Judy Shamoun-Baranes:** Utilizing existing earth observation networks to monitor and forecast aerial movements of animals for science and society
- 10:15 Francesca Mancini:** Making inferences about patterns in wildlife tourism activities in Scotland using social media
- 10:30 Gesine Pufal:** Mountain bikes as seed dispersers and their potential socio-ecological consequences.
- 10:45 Fiona Mathews:** Resolving ecological conflicts in green energy production: the National Bats and Wind Turbines Project
- 11:00 Ciara Stafford:** A pan-neotropical analysis of hunting preferences
- 11:15 Tatsiana Barychka:** Can we have our duikers and eat them? A Bayesian approach to wild meat harvesting
- 11:30 Sarah Knight:** The impact of the natural environment on human well-being
- 11:45 Kris Murray:** Reality bites: resolving the drivers, future impact and management of snake bite envenoming as an ecosystem disservice under global change

TT13: Worlds within Worlds: Host-microbe Interactions in Nature, Health and Agriculture

Location: Auditorium 1A
Chair: Kayla King

- 13:00 Nicole Gerardo:** Environmental Acquisition of Ecologically-Important Microbes in a Tractable Insect-Symbiont Model
- 13:30 Steve Paterson:** Microbial ecology and evolution of chronic lung infections
- 13:45 Levi Morran:** The Role of Coevolution in the Establishment and Maintenance of Host-Microbe Associations
- 14:00 Anne Lize:** Microbiota and recognition systems in *Drosophila*
- 14:15 Isabel Gordo:** Rapid bacterial evolution within the mammalian gut
- 14:30 Katie Field:** Symbiotic options for the conquest of land
- 14:45 Olivia Roth:** Male pregnancy, immune defence & microbes

TT14: Which Little Things will run the World? Invertebrates and Global Climate Change

Location: Auditorium 1B
Chair: Scott Johnson

- 13:00 Jonathan Newman:** Invertebrates and global climate change: progress and perspective
- 13:30 Jane Hill:** Climate change and range shifts.
- 13:45 Sabine Nooten:** Transplant Experiments – a powerful method to study climate change impacts
- 14:00 Helen Roy:** Encounters with aliens: insect invasions in a changing world
- 14:15 James Ryalls:** Silicon effects on insect food web dynamics under elevated CO₂
- 14:30 Paul Parham:** The optimal temperature for mosquito-borne disease transmission
- 14:45 Rob Thomas:** Grub's up! Impacts of climate change on invertebrates as food for vertebrates

ORAL PRESENTATIONS

Wednesday 14 December

S49: Global Change Ecology Ecosystem Processes & Function

Location: Auditorium 1C
Chair: Callum Macgregor

- 13:00 Sarah Faye Harpenslager:** It's getting hot in here; effects of increasing temperatures on key processes of the carbon and nitrogen cycle.
- 13:15 Faith Jones:** Is the capacity of ecosystems to support life changing?
- 13:30 Sophie Flack:** Carbon Economics of LAI drive Photosynthesis Patterns across an Amazonian Precipitation Gradient
- 13:45 Jill Welter:** Interactive Effect of Temperature and Nitrogen Availability on Biofilm Assemblages and Ecosystem Function in Geothermal Stream Ecosystems
- 14:00 Elvire Bestion:** How does temperature-dependence of nutrient physiology shape competition in phytoplankton?
- 14:15 Ruth Mitchell:** Decline in atmospheric sulphur deposition and changes in climate are the major drivers of long-term change in Scottish grasslands.
- 14:30 Andrea Britton:** Pollution and climate change drive long-term change in Scottish upland spring communities
- 14:45 Stefano Ponti:** Relationships between geomorphic disturbance dynamics and vegetation change in central Alps.

S50: Species Interactions Mutualisms & Antagonists

Location: Room 3A
Chair: Mick Hanley

- 13:00 Alison Bennett:** Drying up belowground: The influence of drought on plants and their associations with soil organisms
- 13:15 Erin Haskell:** Belowground bodyguards: Unearthing the role of arbuscular mycorrhizal fungi on plant silicon and phosphorus uptake
- 13:30 Andrew Davis:** Intra-specific chemical differences in fungi produce different cross-kingdom outcomes
- 13:45 Dominik Merges:** Effects of abiotic factors and fungal interactions on plant recruitment across elevational gradients

14:00 Sarah Johnston: Migratory Burkholderia exploit a broad range of fungal hosts and affect competitive fitness

14:15 Ana González-Robles: Effects of landscape and intra-habitat degradation in plant-pollinator associations in *Ziziphus lotus*, a keystone scrub from threatened European semiarid habitats

14:30 Rutger Wilschut: Root chemistry determines the outcome of novel plant-nematode interactions of range-expanding plant species

14:45 Sharon Zytynska: Genetic interactions drive metacommunity species associations in a plant-aphid system

S51: Conservation Science Habitats

Location: Room 3B
Chair: David Douglas

13:00 Nathalie Pettorelli: Ultrasonic monitoring, forest conversion and bat assemblages in the Solomon Islands

13:15 Jennifer Mark: Impacts of deforestation on extinction risk of the world's timber tree species

13:30 Zoltán László: Repeated clear-cuts in encroached shrublands affects herbivore colonisation and reveals niche segregation

13:45 John Abernethy: Influence of forest structure on nest ecology in Sumatran orangutans (*Pongo abelii*) in recovering lowland forests

14:00 Emma Goldberg: The composition and structure of Monks Wood National Nature Reserve at the outset of an outbreak of Ash Dieback

14:15 Jenny Dunn: Are you going to eat that? How does diet relate to bespoke habitat provision in a rapidly declining bird species?

14:30 Peter Lawrence: Does topography develop in managed realignment schemes akin to natural saltmarshes?

14:45 Rob Marrs: Effects of prescribed burning on peat within a long-term moorland experiment

S52: Soil Ecology & Function Diversity & Function

Location: Room 4A
Chair: Philip Wookey

13:00 Luca Bragazza: Structural and functional characterization of soil microbial communities along a cryptogam cover gradient in Antarctica (Victoria Land)

ORAL PRESENTATIONS

Wednesday 14 December

- 13:15 Sigrid Dassen:** Do arbuscular mycorrhizal networks promote or suppress plant performance independently of plant community species richness and succession stage?
- 13:30 Maarja Õpik:** Species pools and dark diversity of arbuscular mycorrhizal fungi
- 13:45 César Marín:** Soil fungal assemblages in Chilean temperate rainforests: geological history, altitude and mycorrhizal dominance effects
- 14:00 Jasper Wubs:** Soil inoculation determines course of terrestrial ecosystem development
- 14:15 Michelle Man Suet Law:** Impacts of Climate Change on Earthworm-induced Soil GHG Fluxes in Subtropical Grassland Soils
- 14:30 Jean-Pascal Miranda:** Sieving Soil, Destroying Diversity?: The Impact of Soil Processing on Fungal Communities in Crop Protection Product Degradation Studies
- 14:45 Ashley Gorman:** A sticky future? The role of myxosporeous weeds in erosive agroecosystems

S53: Tropical Ecology Ecosystem Processes & Function

Location: Room 4B
Chair: Andrew Barnes

- 13:00 David Burslem:** Distribution and functional significance of Al accumulation in tropical forest plants
- 13:15 Wenying Liao:** A suite of interacting traits determines the success of symbiotic nitrogen-fixing trees in tropical forests
- 13:30 Aline Quadros:** Predicting local spatial and temporal variation of tropical mangrove leaf litterfall — a meta-analysis
- 13:45 Geertje Van der Heijden:** Seasonal effects of lianas on carbon accumulation and storage in tropical forests: results from a liana removal experiment in Panama
- 14:00 Elizabeth Psomas:** Ant diversity as a direct and indirect driver of Pselaphinae beetle functional diversity in tropical rainforests, Sabah, Borneo.
- 14:15 Laura Allen:** Dung beetle communities and ecosystem functions across a human disturbance gradient in the Neotropics
- 14:30 Kimberley Simpson:** The Influence of Fire on Grass Functional Traits
- 14:45 Richard Baxter:** Movement and activity drivers of an ecosystem engineer: The giant Aldabra tortoise (*Aldabrachelys gigantea*) on Aldabra Atoll

S54: Theoretical, Interdisciplinary & Computational Ecology

Location: Room 11A
Chair: Sabine Wollrab

- 13:00 Volker Grimm:** Analysis and synthesis: the double role of stability concepts in ecology
- 13:15 Susan Jarvis:** The 'Normal Operating Range' in ecology
- 13:30 Richard Reeve:** A unified framework for partitioning diversity
- 13:45 Antica Culina:** From pedigrees, through divorce, to microbes and CO₂: how can fast growing data-landscape help ecological and evolutionary synthesis
- 14:00 Elizabeth Donkin:** Meta-data analysis of plant trait databases: how are such databases used and how can they be improved?
- 14:15 Alison Johnston:** Advantages and challenges of estimating flight height distributions using three different data sources
- 14:30 M. Jane Bunting:** To pollen count or not to pollen count: using a simulation approach to decide whether pollen analysis is, or is not, a useful component of a particular research strategy.
- 14:45 DAVID ATKINSON:** Is the Metabolic Theory of Ecology dead? (Or does it just need a heart?)

S55: Aquatic Ecology Disturbance & Stressors

Location: Room 11B
Chair: Gregor Kalinkat

- 13:00 Wilco Verberk:** Climate change and hypoxia – ecophysiological traits underpinning the vulnerability of aquatic insects to warming
- 13:15 Mahasweta Saha:** Warmer does not mean weaker: Impact of heatwaves on antibacterial defense of the temperate brown seaweed *Fucus vesiculosus* and the seagrass *Zostera marina*
- 13:30 Fredric Windsor:** Endocrine disruption in aquatic ecosystems: Upscaling research for addressing ecological consequences
- 13:45 Alistair Headley:** Fluctuations in Acidity of A 'Flow Country' River and Its Impact on Freshwater Biota
- 14:00 Kate Mathers:** The interactive influence of fine sediment loading and invasive crayfish presence on macroinvertebrate communities

ORAL PRESENTATIONS

Wednesday 14 December

- 14:15 George Bunting:** The effect of a fine sediment pulse on invertebrate surface, longitudinal and vertical distributions in stream mesocosms
- 14:30 Jon Olafsson:** The effect of chironomid larval tube building on physical properties of lake sediment
- 14:45 Aurora Sampson:** The great gravel domination: varying secondary production between streams for armoured grazing caddis

S56: Evolutionary Ecology Demography & Life History Strategy

Location: Room 11C
Chair: Jesus Vilellas

- 13:00 Jonathan Silvertown:** Evolutionary ecology of senescence: the demise of 'extrinsic mortality'
- 13:15 Morgane Tidière:** Senescence in captive and wild mammalian populations
- 13:30 Iain Stott:** Consequences of aging for population dynamics across the tree of life
- 13:45 Ralf Schaible:** Living at the range edge – Effects on Life History for the Long-lived Ocean Quahog *Arctica islandica*
- 14:00 Danielle Sherman:** Ecology and anatomy drive plant demography worldwide
- 14:15 Victor Ronget:** Does body mass predict early life survival? A meta-analysis in birds and mammals
- 14:30 Svenja Kroeger:** Cumulative reproductive costs on current reproduction in a wild mammal
- 14:45 Hannah Froy:** Does age-related variation in space use contribute to demographic senescence in two unmanaged ungulate populations?

S57: Population Ecology Dynamics

Location: Room 12
Chair: Marjolein Sterk

- 13:00 Claire Dooley:** Migration drives transient disturbances from long-term population projections
- 13:15 Daniel Bearup:** Brownian motion can be a good descriptor of population dispersal even when some individuals perform Lévy walks
- 13:30 Nienke Hartemink:** Heterogeneity and stochasticity in human and animal populations
- 13:45 Alden Griffith:** Fluctuating resources and herbivory interact to influence the demography of a novel plant population

- 14:00 Koen Van Benthem:** Using random forests to identify composite early warning signals of population crashes
- 14:15 Ross Booton:** Forecasting Tipping Points in Honey Bee Colony Collapse
- 14:30 Catalina Chaparro Pedraza:** How do migratory populations persist under pressure?
- 14:45 Tom Cameron:** Harvested populations are more variable only in more variable environments

S58: Ecosystem Services

Location: Room 13
Chair: Briony Norton

- 13:00 Richard Gunton:** Beyond ecosystem services and natural capital: how do we value the invaluable?
- 13:15 Katherine Horgan:** Perceptions of Ecosystem Service provision differ between researchers and local experts: a global overview
- 13:30 Rebecca Spake:** Unpacking ecosystem service bundles: towards predictive mapping of synergies and trade-offs between ecosystem services
- 13:45 Adam Hejnowicz:** Landscaping Ecosystem Services: Meaning, Narrative and Integration
- 14:00 Sam Gandy:** The influence of termites on the supply of ecosystem services from dryland ecosystems.
- 14:15 Emma McKinley:** Valuing our Saltmarshes: Ecosystem Services in Policy and Resilience
- 14:30 Conor Owens:** Biodiversity in willow evapotranspiration systems for wastewater treatment
- 14:45 Felicity Shelley:** Helping rivers clean themselves: do large woody debris installations help alleviate nitrate pollution?

POSTER SESSION 1

Monday 14 December

Posters will be displayed throughout the meeting in Hall 2A, the main Exhibition Hall of the conference centre.

Posters will be on display for the duration of the meeting. Presenters will be required to stand at their poster in one of the two formal poster sessions, according to the poster number below.

All poster numbers with a letter followed by the number 1 (A1 – J1) will be part of **Poster Session 1**, which will take place on Monday 12 December, 17:15 – 18:45.

All poster numbers with a letter followed by the number 2 (A2 – H2) will be part of **Poster Session 2**, which will take place on Tuesday 13 December, 17:00 – 18:30.

Conservation (Policy and Practice) & Invasive Species

- A1.0** **Jean McKendree:** Estimating burn regimes using spheroidal carbonaceous particles (SCPs) and macro-charcoal on an upland peatbog managed for grouse shooting
- A1.1** **Michaela Roberts:** **MOVED TO ORAL SESSION IN S11: CONSERVATION PRACTICE**
- A1.2** **Kelly Clinton:** Field distribution and substrate preferences of the 'Killer' and 'Demon' shrimps (*Dikerogammarus villosus* and *Dikerogammarus haemobaphes*) in a lowland reservoir
- A1.3** **Ramiro Crego:** Seasonal dynamic habitat use suggests niche expansion of an invasive predator at the southernmost forests of the world
- A1.4** **Catherine McNicol:** The Effects of Pine Marten Reintroduction on Grey Squirrel Populations in Wales
- A1.5** **Marco Benucci:** Using DNA metabarcoding to model trophic interactions of *Dikerogammarus villosus* and *Harmonia axyridis* populations in the UK.
- A1.6** **Zoltán László:** **MOVED TO AN ORAL PRESENTATION IN S51: CONSERVATION SCIENCE**
- A1.7** **Martin Nunez:** Herbivory by a leaf-cutter ant, *Acromyrmex lobicornis*, as a possible control of nonnative pinaceae invasion in Patagonia, Argentina
- A1.8** **Jamie Alison:** Using agri-environment schemes to complement protected areas: Optimising habitat creation for moths
- A1.9** **Rebecca Robertson:** Examining the Evidence: Should we keep the Birds and Habitats Directives Post-Brexit?

- A1.10** **Jiri Skuhrovec:** Morphological adaptations of coccinellid species determined by host-plant architecture
- A1.11** **Ming Ni:** Detect the factors associated with invasiveness of Chinese invasive plants

Agricultural Ecology and Ecosystem Services

- B1.0** **Norhayati Ngah:** Influence of hidden plant pathogens on ecological interaction at higher trophic levels
- B1.1** **Martin Ononyume:** Effect of silicon application on four indigenous Zea mays L. varieties for agro-ecological carbon sequestration potential in Nigeria.
- B1.2** **Sékou Fanta Mady Coulibaly:** Functional responses of Collembola to different agricultural practices over a five-year period
- B1.3** **Lolita Ammann:** Assessing resources of key crop pollinators and predators of agricultural pests
- B1.4** **Robert Goodsell:** Using Density-Structured Models to Investigate Black-grass Population Dynamics
- B1.5** **Emma Joslin:** Non-crop vegetation in apple orchards, a way to enhance pollination and natural pest control services?
- B1.6** **Kate Davidson:** A global meta-analysis reveals livestock grazing drives trade-offs between ecosystem services in salt marshes
- B1.7** **José Malaquias:** Sedentary behaviour of fall armyworm resistant to Cry1F evidenced by computerised video tracking and movement analysis
- B1.8** **Jéssica Pachú:** Estimating the maximum larval performance for *Cycloneda sanguinea* (Coleoptera: Coccinellidae) in response to temperature

POSTER SESSION 1

Monday 14 December

- B1.9 Pippa Jones:** Quantifying wind-break reduction of wind-chill effects on livestock in complex thermal environments
- B1.10 Johanna Haeussler:** **MOVED TO AN ORAL SESSION IN S35: ECOSYSTEM SERVICES**
- B1.11 Peter Bentley-McGhee:** The effect of *L. terrestris* burrowing on straw incorporation in agricultural soils; a research study in Jokioinen, Finland.
- B1.12 Wanmo Kang:** Ecosystem services assessment of protected areas in South Korea
- B1.13 Gieun Kim:** Valuation of carbon sequestration and storage services by ecosystem types in Korea
- B1.14 Domhnall Finch:** The environmental consequences of using anthelmintics on livestock
- B1.15 Thomas Wilkinson:** Do aphids benefit from the far reach of arbuscular mycorrhizal fungi?
- B1.16 Hanna Weise:** Resiliencing – the use of resilience mechanisms to safeguard ecosystem service provision across different time scales
- B1.17 Oluwabukunola Olapoju:** Total Organic Carbon and Sediment Grain Size Distribution of Sediment in the Lagos Lagoon

Ecology & Society incl. Urban Ecology & Citizen Science

- C1.0 Julie Day:** Light pollution and bats: is it time to switch off the lights?
- C1.1 Chia Hsieh:** Impact of above-belowground interactions on ecosystem functioning in urban ecosystem: by the spectroscopy of soil dissolved organic matter
- C1.2 Kirsten Parris:** Impacts of urbanisation on amphibian communities: Theory and applications
- C1.3 Charlie Rapple:** What can you do to increase the reach and impact of your publication?
- C1.4 Moon Bo Choi:** Removing nests of social wasps and characteristics of damages caused by Hymenoptera stings in South Korea, 2010-2014
- C1.5 Irene Christianus:** Conservation of butterflies in urban areas
- C1.6 Emma Sayer:** Sex & Bugs & Rock n' Roll
- C1.7 Judith Lock:** Zebraversity Challenge – connecting the people of Southampton with nature

- C1.8 Rachel Bell:** Urban street light changes from High Pressure Sodium (HPS) to Light Emitting Diodes (LEDs) reduces bat activity levels and foraging efficiency
- C1.9 Luis Patino Velasquez:** Spatial Analysis of N-NO₃ and P-PO₄ Concentration Hotspot in the Thames Valley Catchment Area
- C1.10 Philip Wheeler:** A citizen science approach to ecosystem services valuation of trees
- C1.11 Rudi Verspoor:** Examining community use of edible insects: From traditions to future applications
- C1.12 Lucia Galvez-Bravo:** Are community sightings a reliable proxy for the survey of cetacean species?
- C1.13 Yuan Pan:** Using Chinese social media to evaluate the use of cultural ecosystem services: The rise of Weibo
- C1.14 Pen-Yuan Hsing:** Economic photo consensus classifications for localised citizen science camera trapping
- C1.15 Eleanor Tew:** Quantifying cultural ecosystem services in a managed landscape
- C1.16 Georgina Brennan:** Linking grass pollen biodiversity and human health: an environmental genomic approach

Parasites Pathogens and Wildlife Disease

- D1.0 Tuomas Aivelo:** Parasite-microbiota interactions potentially affect intestinal communities in wild mammals
- D1.1 Isabella Cattadori:** Immuno-Epidemiology of Tolerance and Resistance in Host-Helminth Interactions
- D1.2 Takaaki Funo:** Correlation between malaria cases and rainfall
- D1.3 Manrico Sebastiano:** Corticosterone, oxidative status, and inflammation markers as tools to predict the progress of a herpesvirus disease in frigatebird nestlings
- D1.4 Flavia Occhibove:** Does biodiversity affect pathogen transmission? Testing the dilution effect in Welsh wild rodent species communities
- D1.5 Ben Lambert:** Species-level estimates of mosquito lifespan: a meta-analysis of mark-release-recapture experiments
- D1.6 Laura Brettell:** The oldest Varroa tolerant population of European honey bees – how do they do it?

POSTER SESSION 1

Monday 12 December

- D1.7 Isobel Routledge:** Old fly, new tricks? Modelling focal vector control of *Simulium damnosum* s.l. in the drive towards onchocerciasis elimination
- D1.8 Thomas Smallwood:** Modelling multi-host pathogens for biodiversity conservation: What do we need to know?
- D1.9 Shaun Keegan:** A framework for quantifying spatiotemporal disease spread with relation to transmission dynamics
- D1.10 Pierre-Alain Van Griethuysen:** An irresistible fragrance? The effect of Tobacco Rattle Virus on root volatile emissions and attractiveness to nematode vectors
- D1.11 Andrew Robertson:** Predicting badger visits to farm buildings: implications for disease management.
- D1.12 Amy Sweeny:** The effect of nutrition and anthelmintic treatment on reproduction and response to infection in wild wood mice
- D1.13 Richard Hassall:** Understanding the influence of host dynamics on *Bartonella* diversity in fragmented populations.
- D1.14 Pria Ghosh:** The ecology of *Batrachochytrium dendrobatidis* lineage infections in disease stricken amphibians
- D1.15 Rosie Lennon:** Effects of neonicotinoids on farmland birds

Molecular Ecology & Ecological Genetics

- E1.0 Lynsey Harper:** UK freshwater pond monitoring: an evaluation of environmental DNA (eDNA) metabarcoding for detection of vertebrate communities using great crested newt (*Triturus cristatus*) eDNA samples
- E1.1 Latha Vellaniparambil:** Estimating floral diversity in urban honey using metabarcoding
- E1.2 Elizabeth Sullivan:** Genetic diversity and connectivity in species-rich hay meadows
- E1.3 Graham Sellers:** A new molecular diagnostic tool for surveying and monitoring *Triops cancriformis* populations
- E1.4 Mark Whitehead:** Aphid-Encoded Resistance to a Parasitoid Wasp in *Macrosiphum euphorbiae*
- E1.5 Arnald Marcer:** Geographical restructuring of *Arabidopsis thaliana*'s genetic makeup in the Iberian Peninsula due to climate change.
- E1.6 Martti Vasar:** Comparison of 454 and Illumina sequencing methods to study arbuscular mycorrhizal fungal community diversity

- E1.7 Robyn Manley:** Multi-host pathogens of honeybees and wild bumblebees: Does *Varroa*, an emerging viral vector in honeybees, change multi-host pathogen disease dynamics?
- E1.8 Deborah Dawson:** Support for UK researchers in molecular studies of our natural environment
- E1.9 Tim Regan:** Sequence Analysis of the Holobiome of British Honey Bees
- E1.10 Virpi Ahola:** Genetic basis of flight performance in the Glanville fritillary butterfly
- E1.11 Michelle Davis:** Post-Reintroduction Genetics: A Comparison of the genetic diversity of historic and reintroduced populations of a rare British butterfly.
- E1.12 Hannah Prentice:** The Impact of Global Warming on Phylogenetic and Functional Microbial Diversity
- E1.13 Cristian Torres-Diaz:** Genetic diversity of the Antarctic pearlwort *Colobanthus quitensis* (Caryophyllaceae)
- E1.14 Carl Barker:** Balance of reproductive modes across the UK range of a canopy tree species, *Tilia cordata* Mill.
- E1.15 Pablo Salmon:** Genome-wide analysis of urban and rural great tit (*Parus major*) populations across Europe
- E1.16 Jianlong Li:** The effect of environment DNA capture method on fish ponds quantification via metabarcoding analysis

Community Ecology

- F1.0 Olalekan Faniran:** Effects of experimental warming and habitat fragmentation on *Drosophila*-parasitoid interactions
- F1.1 Sofia Van Moorsel:** MOVED TO AN ORAL PRESENTATION IN S37: COMMUNITY ECOLOGY
- F1.2 Wataru Toyokawa:** Social foraging resolves the paradox of enrichment
- F1.3 Luis Carrasco Tornero:** Breeding site selection in multi-species bird colonies: changes in selection strategies over time
- F1.4 Matthew Esh:** Carrion Beetle Assemblages in Woodland, Conifer and Open Habitats
- F1.5 Rob Brooker:** Plant genetic vs. trait diversity: impacts on weed community assembly
- F1.6 Salamatu Fada:** GyaraYankari – a novel conservation model for Yankari Game Reserve, Nigeria

POSTER SESSION 1

Monday 12 December

- F1.7 Jay Mackinnon:** Influence of aspect on diversity, distribution and leaf size of plant species in an alpine environment
- F1.8 Andros Gianuca:** **MOVED TO AN ORAL PRESENTATION IN S15: COMMUNITY ECOLOGY**
- F1.9 Daniel Huber:** Environmental filtering and dispersal-influenced trait shift in a spatially explicit resource competition model
- F1.10 Nicholas Worsfold:** Temperature affects the importance of propagule pressure in aquatic microcosm communities
- F1.11 Marcel Torode:** Altered precipitation impacts on above and belowground grassland invertebrates: summer drought leads to outbreaks in spring
- F1.12 Gareth Thomas:** Multivariate Influences of Niche and Neutral Theory on Variable Habitats.

Ecosystem Ecology (Above- and Belowground)

- G1.0 Fabrizia Ratto:** Global importance of vertebrate pollinators on plant reproductive success: A meta-analysis
- G1.1 James Edgerley:** Long-term functional shifts in soil biota due to climate change in a species-rich grassland.
- G1.2 Johanna Van Paassen:** Upland management to stimulate carbon sequestration: the role of phosphorus
- G1.3 Fay Voller:** Impact of wildfire on ectomycorrhizal community
- G1.4 Pil Rasmussen:** Spatial variation of arbuscular mycorrhizal fungi associated with *Plantago lanceolata*: the impact of the environment and dispersal limitation
- G1.5 Karolina Golicz:** Fine-tuning restoration targets by understanding soil conditions – a case study of Ketton Quarry
- G1.6 Aurore Kaisermann:** Plant species influence soil carbonyl sulphide fluxes
- G1.7 Cristina Heredia-Acuña:** Root turnover of four grassland species and its effect on carbon cycling
- G1.8 Tereza Knoblochová:** The effect of arbuscular and ectomycorrhizal plants co-occurrence on community composition of their mycorrhizal fungi.
- G1.9 Kate Davies:** A modelling approach to identify peat depth and its use within habitat management plans

- G1.10 Jitka Klimesova:** Shoot lifespan and response to disturbance in herbs
- G1.11 Jakub Houška:** Assessing environmental factors controlling soil epipedon pH in temperate deciduous forests using boosted regression trees.
- G1.12 Delorianne Sander:** Freshwater Primary Producers – Will Warming in the Arctic Generate Net N Sources or Sinks?
- G1.13 Jill Kowal:** A new method for inoculating heathlands with mycorrhizal fungi

Forest Ecology

- H1.0 Adib Ouayjan:** Impact of climate on tree growth in a relict beech (*Fagus sylvatica*) population in southwestern France
- H1.1 Kang Min Ngo:** Tree growth in primary and secondary forest in Singapore
- H1.2 Grace Jopaul Loubota Panzou:** **MOVED TO AN ORAL PRESENTATION IN S43: FOREST ECOLOGY**
- H1.3 Gabriel Yesuf:** Assessing habitat availability and connectivity in a fragmented landscape: A case study of protected areas in Madagascar.
- H1.4 Libertad Sánchez-Presa:** Patterns of tree diversity in Mexican coniferous forests
- H1.5 Kirsty Godsman:** Influence of stand age on spider taxonomic and functional diversity in UK plantation forests
- H1.6 Zetian Liu:** Effects of environmental heterogeneity on fecundity and seed dispersal of trees: a study from a British forest
- H1.7 Chauvelin Douh:** Soil seed banks: assessment of seed stock in deep soil layers of Central African rain forests
- H1.8 Yukihiro Tamura:** Estimating development of aboveground biomass and its response to climate of Scots pine forests in Estonia
- H1.9 Michelle Nordkvist:** Plant mediated indirect interactions between ungulate browsers and insect herbivores
- H1.10 Abhishek Verma:** Regeneration of Oak in Central Himalaya: A hope for thriving future
- H1.11 Davide Bellone:** Estimating the strength of bottom-up (host plant quality) regulation of *Neodiprion sertifer*

POSTER SESSION 1

Monday 12 December

Macroecology Biogeography & Landscape Ecology

- J1.0 Alistair Auffret:** Twentieth century changes in floral diversity and distributions: classifying historical land use
- J1.1 Hannah White:** Spatiotemporal scaling of species and traits in a Scottish grassland system
- J1.2 Fiona Thomson:** Can global data on dispersal investment explain why tall plant species disperse further than short species?
- J1.3 Martin Jung:** Short term land history has lasting influences on biodiversity
- J1.4 Ashley Bennison:** How well do remotely sensed parameters indicate seabird abundance at sea?
- J1.5 Simon Tarr:** Are climate-richness relationships repeatable and predictable? A natural experiment using replicated evolutionary radiations on islands
- J1.6 Lisa Norton:** Countryside Survey, a unique national integrated data resource for ecological science.
- J1.7 Heather Wood:** Using natural history collections in ecological research: detecting the effects of landscape and climate change on bat morphology.
- J1.8 Emma Jardine:** Functional Traits Explain Savanna Grass Sorting Along Global Rainfall Gradients
- J1.9 Chandan Pandey:** Nutrient addition and lack of grazing reduces establishment of leguminous savanna tree seedlings.

POSTER SESSION 2

Tuesday 13 December

Conservation Science

- A2.0 Nicola Randall:** Systematic Mapping: a novel methodology with a diversity of uses
- A2.1 Masashi Hanioka:** Modeling species- and abundance-area relationships using community abundance model subject to incomplete sampling and varied habitat and landscape structure: birds in abandoned farmland patches
- A2.2 Anna Keightley:** Carbon dioxide and methane fluxes on a degraded lowland raised bog undergoing restoration with micro-propagated *Sphagnum* material
- A2.3 Kiran Dhanjal-Adams:** Setting conservation priorities for migratory networks under uncertainty
- A2.4 Evelyn Pina Covarrubias:** Interactions of jaguars (*Panthera onca*) and pumas (*Puma concolor*) with their prey and humans in the Yucatan Peninsula, Mexico
- A2.5 Yong-Gu Han:** Studying the possibility of applying unmanned aerial vehicle (UAV) and mapping software for the monitoring of the ecosystem-Focusing on water birds-
- A2.6 Adam Britton:** Do freshwater protected areas conserve the alpha, beta and zeta diversity of Lake Tanganyika cichlid fish communities from human disturbance?
- A2.7 Jonathan Clegg:** Extinction risk of range restricted montane taxa: the case of March's Emerald Palm Viper, a Honduran cloud forest endemic
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ATTENDEE INFORMATION

VENUE:

Arena and Convention Centre Liverpool

Monarchs Quay, Liverpool, Merseyside L3 4FP
United Kingdom

0151 475 8888

LIVERPOOL

Culture and the waterfront are at the heart of everything in Liverpool. So, it makes sense that the two often combine; as is the case with the famous Mersey Ferry which has been dazzled by Sir Peter Blake, Tate Liverpool's recent exhibitions from Pollock, Picasso, Warhol and Bacon, and the spectacular events which welcome cruise ships back to their spiritual home. Away from the waterfront there are a glut of galleries and museums, some of the most acclaimed theatres in the UK and the stunning architecture of two cathedrals perched at either end of the same street. All of which is before we even mention The Beatles or football...

GETTING AROUND IN LIVERPOOL

Public Transport

The local transport in Liverpool City Region prides itself on its accessibility making travel around the area easy for all.

Buses

Bus travel in and around Liverpool is a green, convenient and cost-effective way to explore the destination. The bus network is managed by Merseytravel, with two main city centre bus terminal – Liverpool ONE and Queen Square – complete with helpful staff who can provide personal travel advice. Most buses are fully accessible, with various ticket options ensuring the very best value travel.

The C5 bus operates a city centre circular route, and calls at Queen's Square bus station and Liverpool One bus station, covering most of the hotels area of the city, and the ACC Liverpool. For the return journey it is the C4 bus.

For general information and a journey planner on bus travel around Liverpool please visit: www.merseytravel.gov.uk

Bikes

Liverpool is a compact city centre so is easy to get around by bike, there's cycle parking nearby most venues and there is also CityBike bicycle hire scheme is available in the city centre: www.citybikeliverpool.co.uk

By Rail

Merseyrail trains run frequently throughout the day across 66 stations in and around the Liverpool area. With 4 city centre underground stations – Lime Street lower level, Liverpool Central, Moorfields and James Street – you can easily get around the city.

For more information and live travel updates, visit www.merseyrail.org

Taxis

There's no shortage of taxis in Liverpool, making it quick and easy to grab a lift. Liverpool Lime Street Station has a taxi rank just outside. If you wish to jump into a black cab, these can be hailed across the city – just look for the orange light and you'll know if they're taking passengers.

You can also book taxis: www.mersecabs.com cabs or call on 0151 298 2222

Ferry

Take the world-famous 'Ferry Cross the Mersey' with Mersey Ferries. Cross over to Wirral Peninsula while enjoying the on-board commentary before visiting the quaint Port Sunlight Village and Lady Lever Art Gallery. You can visit a range of attractions along the Liverpool and Wirral riverside and enjoy a trip along the Manchester Ship Canal.

For more information see: www.merseyferries.co.uk

BADGES

For security purposes, please wear your badge at all times within the Annual Meeting venue. If your badge is lost, a new badge may be issued for a cost of £10.

CATERING

Tea and coffee will be available in the exhibition area (Hall 2A) during the designated refreshment breaks.

Lunches will be served in the exhibition hall and on the mezzanine (for workshop 'grab and go' lunches) between the designated times.

The Gala Dinner will be in Hall 2B, next to the exhibition area. Please note the awards ceremony will start at 19:30. Doors open at 19:15, please ensure you are seated by 19:30.

CLOAKROOM

The cloakroom can be located near registration. This will be complimentary and open for the duration of the meeting, but will close 30 minutes after the last event of the day finishes.

ATTENDEE INFORMATION

FAMILIES

For those with children, we have a Family Room (Room 6) for you to use if you wish. There are also baby changing facilities in the disabled toilets for parents to use.

There are a number of family friendly activities within Liverpool. We have more information on our website: www.britishecologicalsociety.org/events/annual-event-2016/families-annual-meeting

PRAYER ROOM

Room 5 is available for those that wish to pray at any time during the meeting.

QUIET ROOM

We have set aside Room 16 for those that may need a moment to pause or reflect. We ask you please do not use this room for working, and all electrical items are turned off or to silent mode when using this space.

CURRENCY

Liverpool uses the British Pound.

DISCLAIMER

All the best endeavours will be made to present the programme as advertised. However, the BES and its agents reserve the right to alter or cancel, without prior notice, arrangements, timetables, plans or other items relating directly or indirectly to the Annual Meeting 2016, for any cause beyond its reasonable control. The BES and its agents are not liable for any loss or inconvenience caused as a result of such cancellation. Delegates are advised to take out their own travel insurance and extend their policy to cover personal possessions as the BES does not cover individuals against cancellation of bookings or theft or damage to belongings. Tours run by third parties may be subject to cancellation should minimum numbers not be achieved.

ELECTRICITY VOLTAGE

220 – 240V, three pin plug.

FIRST AID

Should you require first aid assistance during the Annual Meeting, please contact a BES team member who will be able to guide you to the appointed first aider.

INSURANCE AND LIABILITY

It is recommended that participants arrange their own personal health, accident and travel insurance. The Annual Meeting organisers will not accept liability for personal injury or loss/damage to property/belongings of participants or accompanying persons, before, during or following the Annual Meeting, on tours or during your stay in Liverpool.

INTERNET

Complementary Wi-Fi is provided throughout the ACC.

LOST PROPERTY

Please hand in lost property to the registration area where it will be made available for collection.

MOBILE APP

All abstracts can be accessed via our Annual Meeting mobile app, which will be available in mid-December. You can download the app on your laptop, mobile device, or tablet. To download the app, visit www.britishecologicalsociety.org/AM2016/PRESENTER-GUIDELINES

MOBILE PHONES

As a courtesy to speakers and other delegates, we ask that all mobile phones and electronic devices be changed to silent mode before entering any session.

POSTERS

Poster sessions will take place in the exhibition area, located in the Hall 2A:

Monday 12 December: 17:15 – 18:45

Tuesday 13 December: 17:00 – 18:30

PLENARY LECTURES

All plenary lectures will be delivered in the Auditorium (Hall 1). Please check the programme for specific times.

SMOKING POLICY

Smoking is not permitted inside the ACC.

ATTENDEE INFORMATION

SOCIAL MEDIA

You are encouraged to share your experiences, thoughts and questions through social media, using #BES2016.

We understand that some people will not want their research broadcast. We respect that, so have created a 'do not share' image for people to download on our website and add to their poster or talk presentation. We hope that fellow attendees will also respect that request and refrain from sharing that particular talk or poster. If people do not include this image on their presentation, we will assume they are happy for their research to be shared. You may find the image here: www.britishecologicalsociety.org/AM2016/PRESENTER-GUIDELINES

CHRISTMAS DAY

On the last day of the meeting (Wednesday 14 December) we are looking to celebrate the holidays! We encourage you to come to the meeting in Christmas attire (jumpers, ties, tinsel, reindeer antlers – whatever takes your fancy) and tweet a photo of yourself to #BES2016. There's a prize for the best/worst/most creative attire!

SPEAKER ROOM

The Speaker Room is located in Room 10 and will be open:

Sunday 11 December:	14:00 – 17:00
Monday 12 December:	08:00 – 17:00
Tuesday 13 December:	08:00 – 17:00
Wednesday 14 December:	08:30 – 13:00

The Speaker Room is fully equipped in order for speakers to hand in and review their presentations. To ensure that the presentations are well prepared speakers should bring their presentations to the room at least 2 hours before their presentations. Technical staff will be on hand to help with any issues.

TIME ZONE

Liverpool is GMT.

VENUE SECURITY AND DRILLS

In the event of an emergency, ACC staff will guide you to safety. There will not be any fire alarm tests during our Annual Meeting 2016, therefore, any alarm should be considered the real thing.

If at any point in the meeting you have any questions or require assistance, please contact a BES staff either in the 'Information' stand in the Registration Area, at the BES exhibition stand in the exhibition area, or any of our helpers – who can be identified by their 'crew' t-shirts.

MEET OUR TEAM

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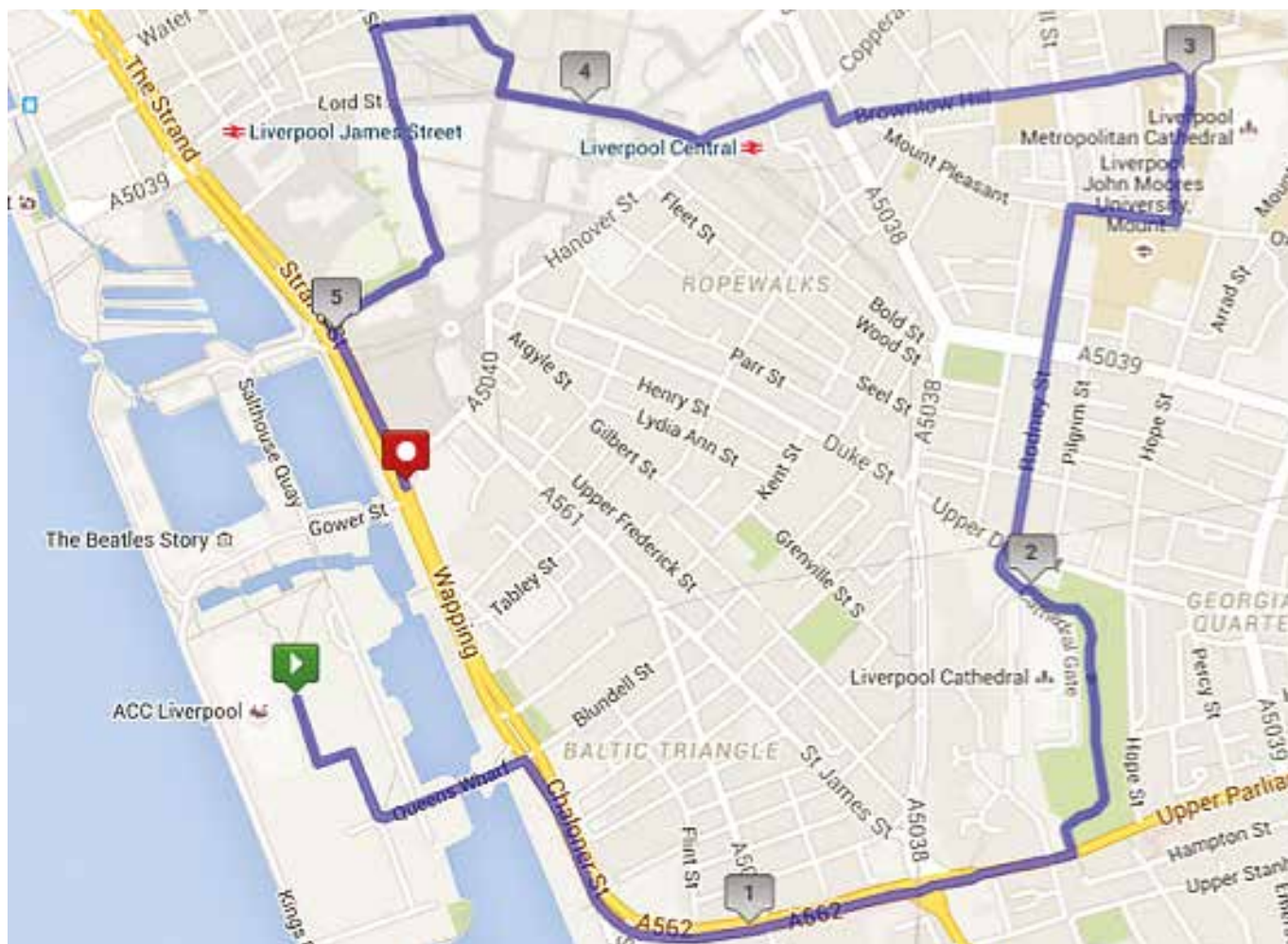
BES FUN RUN 2016

Monday 12 December

THE ANNUAL BES FUN RUN!

Time: 06:00

Location: Outside the ACC main entrance (near the ferris wheel)



This year our fantastic (just over) 5k will be around the centre of Liverpool. We'll be starting off outside the ACC, heading round the docks to see both iconic Liverpool cathedrals, plus run by the famous Cavern Club. We'll end up back on the main road, by the Albert docks – those of you up for a 10K can do 2 laps!

Any questions, please contact Amelia, Events Manager amelia@BritishEcologicalSociety.org

TRUE SCIENCE FICTION: THE THING WITH SCIENTIFIC INTRODUCTION

Get together with scientists and cult classic **THE THING** (1982), as the **British Ecological Society** invite you to be part of their programme of fringe events taking place at their **Annual Meeting in Liverpool**.



Dr Susan Withenshaw, a researcher in disease ecology at the **University of Liverpool**,

will open the screening with an introduction to the real science influencing one of cinema's most iconic sci-fi horrors.

THE THING follows pilot MacReady (Kurt Russell), Dr Copper (Richard Dysart) and their team stationed at a US Antarctic research station, as they investigate the cause of the destruction and massacre at a nearby Norwegian station. A gripping, high intensity journey follows, as the threat from an alien parasitic life form becomes rapidly realized.

Based on *Who Goes There?*, the 1938 novella by John W. Campbell Jr., **THE THING** takes inspiration from scientific fields including parasitology, epidemiology, behavioural ecology and microbiology.

A drinks reception will follow in the bar, with an opportunity to chat to Susan and other scientists.

This event is organized in collaboration with the BES Parasites and Pathogens Special Interest Group. The group is open to any interested members, for more information please see the www.britishecologicalsociety.org @BritishEcolSoc



**BRITISH
ECOLOGICAL
SOCIETY**

**TIME: 18.00, 14 DECEMBER 2016,
FACT, 88 WOOD STREET
TICKET PRICE: £9**

**british ecological society.org
@BritishEcolSoc**



SOCIAL EVENTS

Sunday 11 & Monday 12 December

Our Gala Dinner will take place in Hall 2B (next to the Exhibition Hall). There are limited places, so please contact Amelia at the information stand if you wish to see if there is any availability left. However, if you just want to join us for the live band and dancing, the doors of Hall 2B will be open to all from 21:45.

Our stand is at the front of the Exhibition Hall – pop by and say hello. On the back of the stand we have a huge map – we want to know where you've traveled from! Just visit Helen at our stand.

We also love a competition... Our games have proved a great talking point at the meetings, and they're back – jenga, table football, air hockey and batak. Test your reflexes against the clock and tweet your score with the hashtag #BES2016batak – highest score wins a prize.

Forget Pokemon Go – we've got Lambanana Go! The Lambanana is native to Liverpool and each day we'll hide five around the venue – find one, tweet yourself with it with #BES2016go and you'll win a prize. Find the golden Lambanana and win the star prize of the day!

The last day of our meeting is our Christmas Day – so don your Christmas jumpers, socks, dresses, ties, tinsel, antlers – anything to get you in the festive spirit. We will give away a prize for the best/worst outfit, so tweet your selfie to #BES2016

Sunday 11 December

WELCOME MIXER

Time: 19:30 – 21:00

Location: Exhibition Area

Join us for our 150 years of the phrase 'Ecology' birthday party! Wine and cake will be flowing, and the opportunity for you to check out our exhibitors, meet our Special Interest Groups and get to know your fellow delegates.

Monday 12 December

POSTER SESSION 1

Time: 17:15 – 18:45

Location: Exhibition Area

Join us in the exhibition area to view fellow delegates ecological research with some networking a local beverages.

AQUATIC ECOLOGY GROUP

Time: 19:00

Location: Registration Area or at The Baltic Fleet, 33A Wapping, Liverpool L1 8DQ

We are very much looking forward to meeting new people and seeing aquatic friends at our Mixer. We will meet for drinks, nibbles, pub quiz and spot prizes! Don't miss it aquatic ecologists!

You can follow us on Twitter: @BES_AquaEco (#Thursdayjobday), on Facebook: BES-Aquatic Ecology Group and you can join our mailing list by emailing Ronni: v.r.edmonds-brown@herts.ac.uk

CLIMATE CHANGE GROUP

Time: 18:50

Location: Registration Area or at the Pumhouse at 19:00, Albert Dock, L3 4AN

The Climate Change Ecology group is meeting at The Pump House pub on the Albert Dock, close to the conference centre. We'll provide a Christmas themed buffet, but people will need to buy their own drinks. There will be a short discussion on new developments in climate change science, opportunity to talk about the group's future activities and plenty of time to chat and socialise. Because of the venue size, numbers are limited to 30 and you will need to get a free ticket, so speak to a committee member at the welcome mixer.

SOCIAL EVENTS

Monday 12 December

CONSERVATION, AGRICULTURAL ECOLOGY & CITIZEN SCIENCE GROUPS

Time: 19:00

Location: Room 3A, ACC

This year, the Conservation Special Interest Group is teaming up with the Agricultural Ecology and Citizen Science groups to bring you some fantastic opportunities to develop new, creative, collaborative activities that facilitate transfer of knowledge and skills between these three groups. Taking place in Room 3A from 19:00, the event will focus on facilitating the emergence of proposals for activities that could be jointly run between two or more of these SIGs over the coming years; tables that will come up with great ideas will be rewarded with unforgettable beer and wine. At the end of the event, members will be asked to vote for the best ideas, which will then be financed by the SIGs.

ECOLOGICAL GENETICS GROUP

Time: 18:45

Location: Registration Area

Most of us like a good drink. But have we ever considered where in nature these wonderful alcoholic beverages come from? Amy Stewart has, in her hilarious book *The Drunken Botanist* (Timber Press, 2013). But why just read about it when you can actively participate? To this end, as part of the ongoing 60th Birthday celebrations of our will be about the various plants that go into making some of our favourite grog – and we're not just talking about gin! Everybody is welcome to come along to learn about the botany behind the booze.

FOREST ECOLOGY GROUP

Time: 18:45

Location: Registration Area or 19.00 at Roja Pinchos 50 Berry Street L1 4JQ

Come get your warm and funky fiesta on with the Forest Ecology Group, who will be convening at Liverpool's new Spanish Tapas bar with a modern Gin-filled edge – Roja Pinchos – a mere 15 minute walk from the BES Conference Centre. Here we will slurp on a range of gin mixers, riojas and indulge in 'pinchos' – a yummy variety of warm tapas on a stick. Food and drink provided. Award for the best interpretive dance – of a tree growing from seed to forest top. See you there!

MICROBIAL, PARASITES AND PATHOGEN AND PLANTS, SOILS AND ECOSYSTEMS GROUPS

Time: 19:00

Location: Registration Area or at the Black Lodge Brewery, 4 Kitchen Street L1 0AN

This year the Parasites & Pathogens, Microbial Ecology and Plants, Soils and Ecosystems Special Interest Groups will be getting together for a joint social event. All three SIGs are excited to share an event for the first time, and to discuss new ideas with friends new and old.

We will be meeting at Black Lodge Brewery, just up the road from the exhibition centre on Kitchen Street at 19:00. Recently featured in the Guardian "Alt city guide to Liverpool", Black Lodge is a unique venue with their own brewery on site. We will start the event with a beer tasting session, including samples of two of their beers, with insight from the brewers into the flavours and the brewing process.

Then join us for a range of excellent food from local producers, and a wide selection of local and international drinks, to fuel discussion between our three SIG's. We look forward to seeing you there!

PEATLANDS GROUP

Time: 19:00

Location: Room 13, ACC

A little-known fact is that Liverpool was founded on peatlands and powered by peat fuel. We will explain more about this and some recent developments in the Peatlands Group before heading out to explore the delights of the modern city and get bogged down in its hospitality. There will be chance to discuss peat research and ideas and to share enthusiasm for the black stuff, but the key emphasis of the evening is to meet and socialise with peat friends old and new. Of course, this is not restricted to peatlands people – so do bring a friend! We meet at 19:00 and, following introductions and chat, depart for drinks and food at 19:30. We are going 'Italian' to a dockside restaurant called 'Gustos' which is located at the gateway to The Albert Dock, overlooking the Tate Gallery, and the waterfront. You are welcome to just turn up on the night, but an idea of numbers would be really helpful – so please email Ian to confirm or to enquire – i.d.rotherham@shu.ac.uk

SOCIAL EVENTS

Monday 12 December

TEACHING AND LEARNING GROUP

Time: 19:00

Location: Room 11C, ACC

We are excited to launch our brand new group; it aims to support anyone involved in ecological teaching and those involved in providing CPD. Lots of people have already helped with identifying issues and suggesting events and activities for the SIG over the next few years but this is your chance to join us and contribute your thoughts. No matter your career stage we welcome you and your thoughts to our inaugural meeting.

TROPICAL ECOLOGY GROUP

Time: 19:00

Location: Registration Area or The Liverpool Pub, 14 James Street L2 7PQ

The Tropical Ecology Group warmly welcomes you to their fun and friendly social. As well as an opportunity to meet friends old and new, we will be hosting a quiz to give you a flavour of the tropics in the middle of British winter, so bring your thinking sombrero!

RSPSoc ANNUAL LECTURE

Time: 19:00

Location: Auditorium 1C, ACC (followed by reception in Room 4A)

This year's Remote Sensing and Photogrammetry Society (RSPSoc) Annual Lecture will be delivered by Dr Nathalie Pettorelli on 'Satellite remote sensing for conservation: opportunities and challenges'. Global environmental change is a growing threat to the Earth's biological diversity, potentially leading to detrimental impacts on ecosystem services and human well-being, particularly for the world's most marginalized and impoverished communities. The potential for satellite remote sensing (SRS) to provide key data has been highlighted by many researchers, with SRS offering repeatable, standardised and verifiable information on long-term trends in biodiversity indicators. SRS permits one to address questions on scales inaccessible to ground-based methods alone, facilitating the development of an integrated approach to natural resource management, where pressures to biodiversity, biodiversity state and consequences of management decisions can all be monitored. Dr Pettorelli will provide an interdisciplinary perspective on the prospects of SRS for conservation applications, reviewing established avenues but also highlighting new research and technological developments that have a high potential to make a

difference in global change ecology and environmental management. The Lecture will be followed by the RSPSoc Conversazione and drinks reception.

POLICY NETWORKING EVENT

Time: 19:00

Location: Registration Area before heading to the Novotel Liverpool Centre Hotel bar 40 Hanover Street, L1 4LN

Want to get more involved in BES's policy work? Join the BES Policy Team and BES policy networks including the Policy Alumni, Scottish Policy Group and Wales Policy Group to discuss some of our upcoming projects and to see where you can get involved.

This is a particularly uncertain time for science and environmental policymaking. We want to ensure evidence and science is communicated to and heard by policymakers. Find out how we can support you to engage with policymakers, how to get involved with projects including developing our Policy Guides or networks such as the Scottish Policy Group, and share your ideas.

Anyone with an interest in policy is welcome to join us – no matter how experienced or inexperienced you might be – come to network, have a drink and discover the avenues for you to engage with our policy work.

SCIENCE SLAM FRINGE EVENT

Time: 20:00

Location: Liverpool Comedy Central

We are thrilled to be hosting another evening of ecology and comedy! Compered by the fantastic Liverpool comedian Sam Avery, we will see six ecologists take to the stage to explain their science in an engaging, uncomplicated and entertaining way. This is going to be a fantastic mix of science and comedy, and is an event not to miss! There are a limited number of tickets available for sale so please get in touch BES staff in the Rregistration Area to secure yours.

Featuring:

Dr Mahasweta Saha (University of Essex) with 'Mary, Mary, quite contrary, How does your (bacterial) garden grow?'; **Zac Baynham-Herd** (University of Edinburgh) with 'Gorilla Warfare: conservation conflicts'; **Professor Rosie Woodroffe**, (Zoological Society of London) with 'Hypothesis,; **Dr Moya Burns** (University of Leicester) with 'It's not who you are, but what you do.... and how you work together that counts'; **Assistant Professor Kirsten Parris** (University of Melbourne) with 'Frog in an urban pond'.

SOCIAL EVENTS

Tuesday 13 December

CHRISTIAN ECOLOGISTS

Time: 08:00 – 09:00

Location: Room 7, ACC

This event is an opportunity for Christian ecologists of all denominations to gather and share their enthusiasm for the natural world, and the role their faith plays in shaping this passion. A short reflection on the life of Solomon the Wise – possibly the world's first ecologist – will be followed by a period of quiet contemplation, as well as a time to chat and network with others. Coffee provided, but please feel free to bring your own breakfast. All are most welcome.

FUNDING THE FUTURE

Time: 08:00

Location: Room 14, ACC

Paul Bower, Fundraising and Development Manager

Over the coming years we will be looking to diversify our income. Here are few of the ideas we are developing.

Donations. The overarching principle will be to raise money in the right way – nobody will be cold calling or bombarding you with emails – to make a bigger impact in areas of real need. You will be able to designate where you would prefer your money should be spent.

The Next Generation. Additional funding to support initiatives designed to increase the diversity of people studying and working in ecology.

Ecology in Africa. Additional funding for our work with local partners in Africa including the Ecologists in Africa grant programme.

Bridging the Gap. Supporting PhD level ecologists in the difficult period when funding has ended and they are looking to secure their first a post- doctoral position.

Remembering Ecology in Your Will. Over the years, we have benefitted from the generosity of members who have remembered us in their will. We are now developing a legacies strategy and I am in discussions with a leading law firm to offer a discounted fixed price will writing service for BES members.

So let's talk about funding the future of ecology and please join me for coffee and a Danish pastry to start the discussion paul@britishecologicalsociety.org

POSTER SESSION 2

17:00 – 18:30

Location: Exhibition Area

Discuss science with our poster presenters over a drink and nibbles in an informal setting.

MACROECOLOGY AND QUANTITATIVE GROUP

Time: 18:20

Location: Registration Area or at the Pump House at 18:30, Albert Dock, Liverpool L3 4AF

This year there will be a joint social between the quantitative and macroecology groups. We will be meeting at 18:20 in the reception and making our way over as a group. If you're coming later, the Pump House is 5 mins walk from the conference centre, it can't be missed! It's the redbrick building with the large Victorian chimney. Activities include: informal networking, alcohol consumption, awkward standing around plus the possibility of laughter (N.B. please provide your own jokes/gags/amusing anecdotes). Oh, by the way, drinks are on us!

LGBT+ MIXER

Time: 18:30

Location: Room 11C, ACC

Following on from last year's success, our LGBT+ mixer is back! Join us for an informal drink or two and an inclusive opportunity to chat and network.

PLANT ENVIRONMENTAL PHYSIOLOGY GROUP

Time: 18:30

Location: Registration Area or at The Baltic Fleet Pub at 18:30 33A Wapping, Liverpool L1 8DQ

We are holding a pub quiz get-together this year and have some exciting prizes to be won – we'll be providing some drinks and snacks to help get your brains working, we may even get a beer tasting session with the brewers going! It's going to be a great opportunity to meet the PEPG committee and get to know other plant environmental physiology-minded people in a very informal setting. So, if you fancy your chances (and like winning prizes), come along and join us for the PEPG Quiz of the Year. Keep your eye on our Twitter feed @PEPG_SIG for details.

SOCIAL EVENTS

Tuesday 13 & Thursday 15 December

MOVEMENT ECOLOGY GROUP

Time: 18.30

Location: Room 4A, ACC

Move with a purpose! Come join our social launch event for the new Movement Ecology Group and move among our free food and drinks, be it those passionate for the cause or those random walkers among you. Everyone is welcome. Mingle with like-minded researchers, hear what we are up to (no formal talks, be assured!), how you can join and contribute (students included – we need you!), and what we will be doing soon, and in the future. Oh – and we will also tell you the pub where we will mosey on to after the event

ANIMAL ECOPHYSIOLOGY GROUP

Time: 18.30

Location: Room 4B, ACC

The fields of ecology and organismal physiology share at least one common goal – to understand the interaction between organisms and their biotic and abiotic environment. Our friends in the world of Plant Sciences understand this and the BES and Society for Experimental Biology (SEB) have a cross-society SIG where interests are shared and interdisciplinary science is incubated. So if you are an ecologist who dabbles in physiology or think that your work might benefit from some mechanistic, physiological, understanding then come along to discuss whether it is time for a new cross-society Animal Ecophysiology SIG.

GALA DINNER

Time: 19:15 – 21:30

Location: Hall 2, ACC

Join us in the hall at the ACC for our spectacular gala dinner and awards ceremony. The ceremony will start at 19:30, doors open at 19:15. Tickets are £50 and can be booked with your menu choice when you register.

PARTY

Time: 21:45 – 00:00

Location: Hall 2, ACC

Our evening dance is open to all – we shall have a cash bar and a great band for you to dance the night away to. No registration needed – just turn up!

Thursday 15 December

WORLDS WITHIN WORLDS – MICROBIAL ECOLOGY WORKSHOP

Time: 09.00 – 14.00

Location: University of Liverpool, Sherrington Building, Seminar Room 1, L69 3GE

To celebrate the breadth of microbial evolution and ecology at the BES2016, the University of Liverpool is bringing together researchers from across the University with speakers and hosts from key symposia for a morning of talks and discussions spanning microbe-host interactions, microbial ecology, genomics and more. Free to attend. To book your space visit tinyurl.com/worlds-w-worlds

Organisers: Zen Lewis, Andy Fenton, Greg Hurst, Mike Begon, Steve Paterson, Rachael Antwis, Xavier Harrison, Ellie Harrison

ANNUAL PHOTOGRAPHIC COMPETITION WINNERS



Part sponsored by
Biosphere Magazine

Our judges had their hands full this year, with over 250 entries to our annual photographic competition. You will be able to see the stunning winning images displayed throughout the conference centre on artist's easels – see if you can find all 13!

If you're inspired to enter, there's a category for everyone, so whether you're out on exotic field work or in the comforts of your back garden you better get those cameras at the ready!

This year we added an exciting new category, Up Close and Personal, inviting images that display the intricacy of nature using close up or macro photography.

- Ecosystems and Communities
- Whole Organisms and Populations
- Ecology and Society
- Ecology in action
- Up Close and Personal

The competition is open to all our members and is a great way to promote your photography and the research you're involved in, with winning images appearing in our Bulletin, displayed at our Annual Meeting, and both BBC News and Discover Wildlife frequently featuring competition winners online.

The overall winner receives £750, the overall runner-up receives £250, and the student award winner receives £100. In addition, other winning submissions will receive £40 worth of either Cambridge University Press or Oxford University Press vouchers.

The next round will open for entries in Spring 2017.



Overall Winner: Cuban Emerald hummingbird, David J. Bird



Overall Runner-up: Chatting, David Costantini



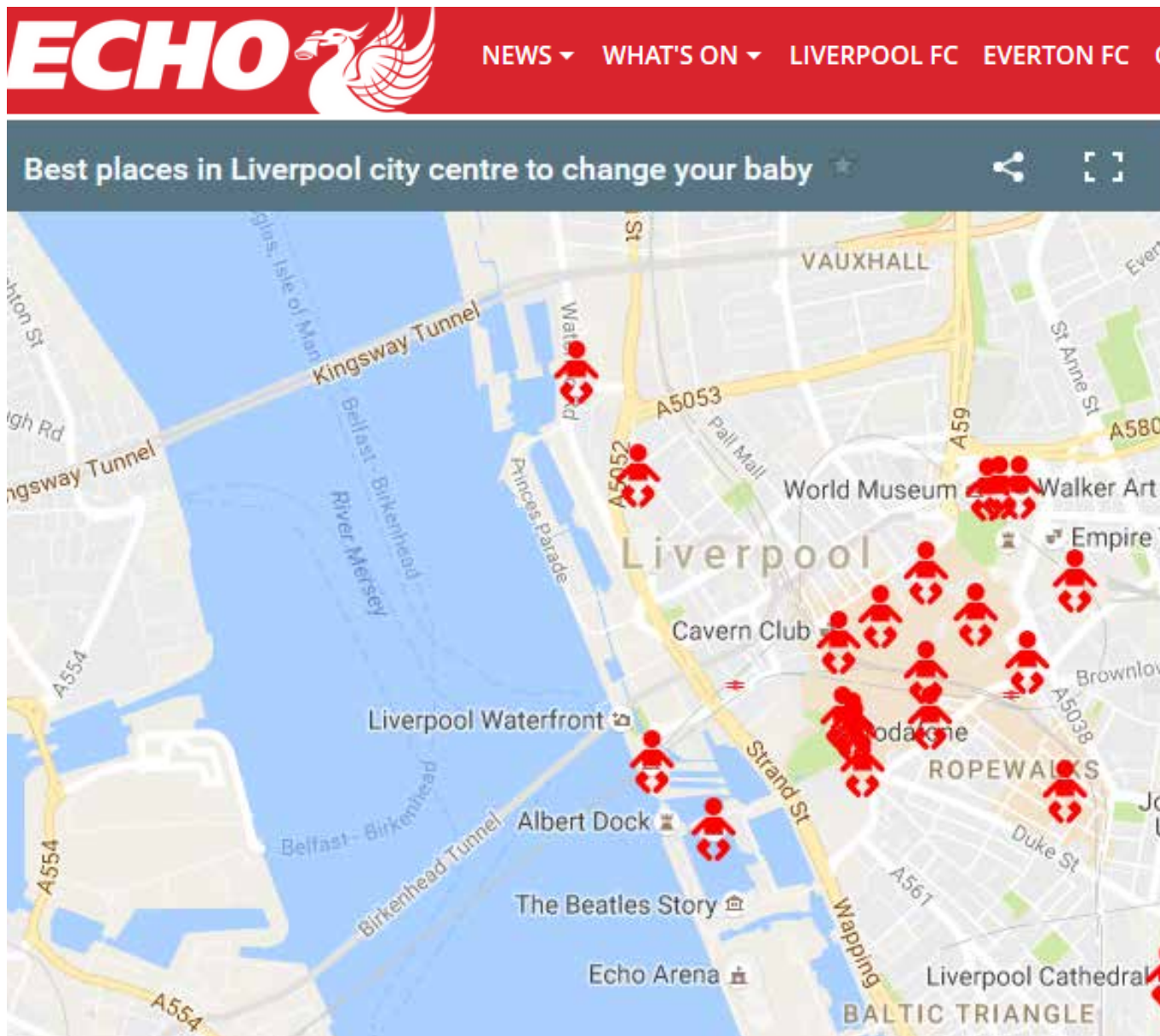
Overall Student Winner: You are old, Father William, Leejiah Dorward

INFORMATION FOR FAMILIES

BABY CHANGING FACILITIES

Here is a link for a map of the baby changing facilities in Liverpool City Centre: www.liverpoolecho.co.uk/whats-on/family-kids-news/find-best-places-liverpool-city-8641744

John Lewis and Marks and Spencers have baby change facilities that are particularly highly rated by staff at the University of Liverpool.



INFORMATION FOR FAMILIES

THINGS TO DO

Underwater Street is a Children's Discovery Centre located at Pier Head: www.underwaterstreet.com



The Walker Art Gallery in the Museum Quarter close to Liverpool Lime Street Station, has an excellent interactive zone for kids called "Big Art", with art and costumes:

www.liverpoolmuseums.org.uk/walker/ It's excellent for children of all ages. The World Museum, also in the Museum Quarter, has lots of fun interactive stuff for kids too: www.liverpoolmuseums.org.uk/wml/ In fact, most of the museums in Liverpool are good for kids – the new Museum of Liverpool on the Albert Dock is also recommended: www.liverpoolmuseums.org.uk/mol

Central Library, again in the Museum Quarter, has a fantastic kids library nested within: <http://liverpool.gov.uk/libraries/find-a-library/central-library>

If the kids need to burn off some excess energy, the Yellow Sub is a kids' soft play centre just south of the docks: www.yellowsub.co.uk

There is a great crazy golf in Liverpool ONE, which also has a bar for the parents if needed: <http://junglerumble.co.uk/venues/liverpool/> North of the city centre is The Climbing Hangar with an excellent kids' play area (ages 4+). No climbing experience or equipment are required, but registration is needed on arrival. Parents do have to supervise their children: <http://theclimbinghangar.com/liverpool>

Chavasse Park in Liverpool ONE, the heart of the shopping district should have its annual Christmas ice skating rink up and running: www.liverpool-one.com/plan-your-visit/districts/chavasse-park

Close to the city centre there is also Sefton Park with its beautiful Palm House, and Calderstones Park. www.palmhouse.org.uk/ www.liverpool.gov.uk/leisure-parks-and-events/parks-and-greenspaces/calderstones-park



By Metro, you can head for the Wirral and New Brighton Beach, if you fancy blowing away the cobwebs. It is home to the Fort Perch Rock coastal defence, which is open all year. www.visitwirral.com/attractions-and-activities/new-brighton-p238901. North of Liverpool, again accessible by public transport is Crosby Beach where you can see the fantastic artwork Another Place by Anthony Gormley: www.visitliverpool.com/things-to-do/another-place-by-anthony-gormley-p160981

EATING OUT

Eating in Liverpool ONE is easy with kids: www.liverpool-one.com/directory/restaurants There are numerous good quality chain restaurants such as Pizza Express, Jamie's Italian, and Byron Burger. Lunya, an independent Catalan restaurant is awesome, and have a brilliant deli: www.liverpool-one.com/shops/lunya

Bold Street is the foodie destination of Liverpool, with many fantastic independent restaurants and cafes, all of which are child friendly: www.visitliverpool.com/things-to-do/shopping/bold-street-p16794

Finally, if you are in desperate need of a pint, The Baltic Fleet is less than ten minutes' walk from the conference venue on the dock road. It's a fantastic and historic old pub, with excellent beer, and children are welcome: www.balticfleetpubliverpool.com



JOINT BES AND BESS SYMPOSIUM 2017

ADVANCES IN BIODIVERSITY AND ECOSYSTEM SERVICES

April 24 – 26 2017, Cardiff, UK



There is an urgent need to understand how natural stocks are linked to flows of ecosystem services and how these linkages are likely to change in the future, given the environmental challenges of an increasing population, demand for housing and infrastructure, the need to feed a rapidly growing planet and climate change. The UK has taken the lead in teasing out these linkages, reflected in a raft of research initiatives that are coming to fruition, including NERC's BESS (Biodiversity and Ecosystem Service Sustainability) programme, the co-sponsor of this meeting. The symposium will showcase those contributions through plenary presentation from leading researchers on a range of themes including: the policy drivers and context in which this research sits; working at the larger scales of landscapes and of trophic complexity; understanding the resilience of natural systems to uncertain futures; developments in novel methodologies in Earth Observation and in GISbased approaches; the challenge of cultural ecosystem services. Each of the plenary sessions is prefaced by a keynote address from a leading international figure in the field and there are hands-on workshops showcasing practical tools needed by those taking an ecosystem services approach to management and decision-making.

The BESS programme is co-ordinated by a directorate based at York. For further details of who is doing the research and where, and the key messages and publications emerging, please see: <http://nerc-bess.net> For all the latest information and registration details see: www.britishecologicalsociety.org/events/symposium-2017-bess Or email Amelia Simpson, Events Manager: amelia@britishecologicalsociety.org

JOINT 2017 BES, GfÖ, NecoV ANNUAL MEETING IN ASSOCIATION WITH EEF

11 – 14 December 2017, Ghent, Belgium

www.ecology2017.info

This is the first time the British Ecological Society, NecoV and the Gesellschaft für Ökologie (GfÖ) have held a conference together and we are delighted to be working together to deliver a meeting of 1,200 leading ecologists from around the world in Belgium. The joint meeting aims to build closer ties between the vibrant academic ecological communities in Europe, and meets the strategic objectives of all three of the ecological Societies. The meeting will bring together ecologists to discuss the latest advances in ecological research across the whole discipline and will focus on the major environmental challenges at the European level. The meeting will be held in association with the European Ecological Federation (EEF).



PROPOSE A THEMATIC TOPIC SESSION: DEADLINE 31 JANUARY 2017

We are now welcoming Thematic Topic Session proposals. These sessions provide a high profile forum for the discussion of timely, innovative and/or important questions, provide local 'flavour' within the programme, and showcase integration among disciplines. We support submissions from across the full spectrum of ecology. However, for this meeting, we are particularly interested in considering proposals centred around:

- Integration of observational and experimental approaches in ecology
- New directions in conservation (including rewilding)
- Eco-evolutionary dynamics
- Polar and montane ecology
- New generation biomonitoring methods (e.g. eDNA, metagenomics)
- Global ecological networks (e.g. GEOBON, LTER, NEON)
- Human-nature interactions – moving beyond ecosystem services and nature-based solutions

Furthermore, we would like to promote proposals that involve representatives from across BES, NecoV and GfÖ. We receive in excess of 40 proposals each year for ~10 slots. All submissions are evaluated by an academic panel, primarily on the basis of scientific quality.

Each Thematic Topic Session should comprise one 30-minute plenary and six additional 15-minute talks. Organisers are responsible for ordering the presentations within the session, guaranteeing speakers submit their abstracts, ensuring speakers book for the meeting, and chairing the session.

Deadline for proposals is 31 January 2016. Email Amelia, our Events Manager (Amelia@britishecologicalsociety.org), or visit our website for more information: www.ecology2017.info

From Monday 12 December, you can pre-register for this meeting for only £20 either online or at our stand. We will send you an email in May to complete your registration – with 10% off the full price and your £20 deposit deducted. This offer will only be available until mid-January 2017, so don't miss out!

36TH ANNUAL GENERAL MEETING

AGENDA

The AGM will be held at 10:00 on Tuesday 13th December 2016 in Hall 1, Area and Convention Centre Liverpool, Monarchs Quay, Liverpool, Merseyside L3 4FP.

The agenda for the 36th Annual General Meeting of the British Ecological Society is as follows:

Review of the past year

1. Acceptance of the minutes of the 35th AGM held on Tuesday 15th December 2015 in the Pentland Suite, Edinburgh International Convention Centre, The Exchange, Edinburgh, EH3 8EE (as published in the Bulletin Vol 47:1 pp30 – 31).
2. The Accounts for the year ended 31 December 2016 (as published in the Bulletin Vol 47:3 pp 59-84)
3. The reports of the Treasurer and the Auditors
4. The report of the Council Secretary

Forth coming year

5. To elect Officers of Council of the Society

Present Officers		Retiring Date	Council Nominees
President:	S. Hartley	2017	
Past President	W. Sutherland	2016	
President Elect:			R. Bardgett
Vice President:	R. Hails	2017	
Vice President:	A. Pullin	2017	
Council Secretary:	A. Vanbergen	2018	
Honorary Treasurer:	D. Purves	2016	T. Ezard
Honorary Chairpersons of Committees		Retiring Date	Council Nominees
Meetings:	Z. Davies	2018	
Policy:	J. Vickery	2016	J. Vickery
Publications:	A. Gray	2016	J. Hill
Education, Training and Careers:	W. Gosling	2017	

6. To elect Ordinary Members of Council

Present Members	Retiring Date	Nominees for election
O. Lewis	2016	C. Banks-Leite
M. O'Callaghan	2016	M. Hanley
E. Sayer	2016	B. Huntley
D. Gilbert	2017	H. Roy
I. Stott (Early Career Rep.)	2017	P. Thomas
Vacant	2017	
M. Eichhorn	2018	
D. Scott	2018	
L. Turnbull	2018	
P. Brotherton	2019	
Yvonne Buckley	2019	
Nina Hautekèete	2019	

7. The appointment of the Auditors for 2016

8. Auditor's remuneration.

9. Any other business

To be tabled in writing to the Council Secretary at least three weeks before the AGM.

NOMINATIONS FOR COUNCIL

PRESIDENT-ELECT

Richard Bardgett
University of Manchester, UK



Richard Bardgett is Professor of Ecology at The University of Manchester. He gained a degree in Soil Science from Newcastle University in 1987 and a PhD from Lancaster University in 1991, under the supervision of John Whittaker and the late Juliet Frankland. After a short spell with the Nature Conservancy Council, he worked at the Institute of Grassland and Environmental Research, and the Universities of Manchester and Lancaster, before returning to Manchester in 2013.

The main goal of Richard's research is to understand how plant-soil interactions regulate ecosystem processes and their response to global change. He has published over 250 papers and is recognized as a Highly Cited Researcher. He has also authored several books, including the *Biology of Soil* (2005) and his recent book *Earth Matters: How Soil Underpins Civilization* (2016). Richard is active in promoting soil security issues; to this end, he was a founder member of the Global Soil Biodiversity Initiative, and contributed to the UN's Status of the World's Soil Resources Report (2015), the UK's Climate Change Risk Assessment 2017 Evidence Report, and the House of Commons Soil Health Report (2016).

Richard has been a BES member since 1987 and was elected Vice President 2011-2013. He has acted as a Senior Editor of the *Journal of Ecology* since 2006. He serves on several funding panels and advisory boards, and was elected a Fellow of the Royal Society of New Zealand in 2006, the Royal Society of Biology in 2011, and a member of Academia Europaea in 2015.

HONORARY TREASURER

Tom Ezard
University of Southampton, UK



Thomas Ezard is a NERC Advanced Research Fellow and Wellcome Trust New Investigator at the University of Southampton. I am interested in how the structure of populations and communities interacts with environmental change to shape ecological and evolutionary dynamics. I do this by using, adapting and developing the interface between mathematical and statistical models. My undergraduate training was in Mathematics with German and my PhD (2004-2007) was awarded by Imperial College London, after which I spent five years as a PostDoc in Life Science and Mathematics departments. I have published 33 peer-reviewed manuscripts, including with all six journals in the BES stable as well as first author contributions

in *Science* and *Ecology Letters*. I sat on BES Council between 2009 and 2013 as a Trustee and Early Career Representative and was a member of the Publications, Education Training and Careers, and Membership committees. One of my achievements during this time was to propose and deliver free membership for first year PhD students, which is a scheme that was subsequently expanded. I was a founding member of the BES Peer Review College and the Board of the International Network of Next Generation Ecologists <http://innge.net>, who I represented on the INTECOL 2013 Local Planning Committee. I have been Treasurer of the Friends of Awbridge Primary School (registered charity 307246) since September 2014.

CHAIR OF POLICY COMMITTEE

Juliet Vickery
RSPB, UK



Juliet is head of international research at RSPB's centre for conservation science where she leads a team of scientists working with partner organisations throughout the world to strengthen their capacity to undertake scientific research that will underpin site and species conservation. Key research interests include ecology and conservation of birds within agricultural systems in temperate and tropical habitats, winter ecology of palearctic migrants, conservation of rare and endangered bird species and protection biodiversity in UK overseas territories. She is an honorary research fellow at the Department of Zoology, University of Cambridge, part of the expert panel for the Darwin Initiative and on the advisory group for the Cambridge Student Conference of Conservation Science.

CHAIR OF PUBLICATIONS COMMITTEE

Jane Hill
University of York, UK



I am a Professor of Ecology at the University of York. I graduated from the University of Manchester, and then studied migration of Silver Y moths at Bangor University for my PhD, and have more or less worked on lepidoptera since then. My research is concerned with understanding how species respond and adapt to climate change and habitat loss in temperate and tropical systems. For example, in the UK, my group is examining factors affecting range expansions of species across fragmented landscapes, and whether creation of new habitat to increase connectivity will help species respond to climate change. In the tropics, my group is examining impacts of rainforest disturbance, and

NOMINATIONS FOR COUNCIL

methods for reducing biodiversity losses associated with conversion of rainforest to oil palm plantations. I am currently helping to lead a project testing the effectiveness of the Roundtable for Sustainable Palm Oil (RSPO) sustainability criteria (www.searpp.org/sensor). I am one of the Editors-in-chief of *Ecological Entomology*, an Editor of *Ecology Letters* and on the NERC peer review college. I was awarded the ZSL/Marsh Award for Conservation Biology in 2011. I am involved with the promotion of women in science through my University's Athena SWAN activities, through the BES mentoring programme for women, and through my recent involvement in Soapbox Science (www.soapboxscience.org; kindly sponsored by the BES). I would like to contribute to the BES by bringing a UK and tropical perspective to a desire to help develop more sustainable landscapes, and to translate ecological research into policy.

ORDINARY MEMBER OF COUNCIL

Cristina Banks-Leite
Imperial College, London, UK



I am a Lecturer at Imperial College London, based at Silwood Park, and I work on tropical community ecology and landscape ecology. I am Brazilian and moved permanently to the UK to develop my research as a NERC fellow. I have benefited from BES activities in the past, and have been seeking ways to increase my engagement. For instance, I have been an Associate Editor for *Journal of Applied Ecology* since 2012 and have recently become a mentor for Women in Ecology. These previous experiences shaped my view of BES, I truly believe in the positive impact it has on students, researchers and wider society, and would welcome the opportunity to contribute to ever improving and furthering the work BES is doing. I am passionate about trying to make academia a better place for underrepresented groups, and would look forward to engaging with diversity-related issues in education, training and careers.

ORDINARY MEMBER OF COUNCIL

Mick Hanley
University of Plymouth, UK



My current position as Reader in Plant-Animal interactions at the University of Plymouth follows 25 years as a research scientist where I have worked on more things than I can likely remember and for a variety of UK and Australian HE and Government research institutes. I have been a BES member since 1989, since when I have seen it change from what appeared at the time to be a beard-heavy gentleman's club, into

something more dynamic and relevant to the 21st century. Clearly the BES needs to maintain this transition but also remember that our Society and our science were founded on what I now know to be the innovative lead championed by those hirsute naturalists of decades past. With the head-long dash most government funding agencies are making to brand our work as 'outward-facing' and 'end-user friendly', perhaps now more than ever, an avenue to support apparently esoteric science is essential. I believe the BES should bridge and embrace both the Blue Skies and the Applied, and seek to support good ecology not only because it will help protect vital ecosystem services, but also because it's fun to find out how the world works.

ORDINARY MEMBER OF COUNCIL

Brian Huntley
University of Durham, UK



I owe my general interest in natural history, that led to my pursuing a career in ecology, to my parents. Early memories include learning scientific names of plants in our garden, sitting in hides with my father photographing birds at their nests, and learning to use the keys in Bentham and Hooker, aided by the illustrations in Keble-Martin, to identify plants found during family holidays in the Cairngorms.

Although my degree was in Botany, my interests span the ecology, quaternary palaeoecology and biogeography of several taxonomic groups. Much of my research has focused upon Arctic and mountain ecosystems, although in recent years I have worked also on Fynbos. The unifying theme of my research is how species and ecosystems respond to environmental changes, and I use studies of the Quaternary to inform development of forecasts of responses to anthropogenic climatic change. This has led to invitations to join various advisory groups, for example, the IUCN Climate Change Specialist Group and the Bern Convention Group of Experts on Biodiversity and Climate Change

I joined the BES in 1973 when I commenced my PhD studies, and have participated in many of the Society's meetings since that time. In 1996 I was local organiser for the Society's Winter Meeting in Durham, and I served a term on Council during the 1990s. In addition to my academic interests and expertise, I would bring to Council my experience as an elected member of the Council of Durham University (2000–06) and as Head of the School of Biological and Biomedical Sciences (2000–06).

NOMINATIONS FOR COUNCIL

ORDINARY MEMBER OF COUNCIL

Helen Roy
Centre for Ecology
and Hydrology, UK



I am a principal scientist at the Centre for Ecology & Hydrology and a visiting professor with Reading University. I am a community ecologist with a particular interest in the effects of environmental change on insect communities. I have been co-leading the UK Ladybird Survey www.ladybird-survey.org for more than a decade. I have a passion for science communication and the UK Ladybird Survey, and other citizen science initiatives, have provided me with many opportunities for outreach and science communication through many different media. In 2012 I was awarded the ZSL Silver Medal for contributions to understanding insect ecology.

I have been a member of the BES for the last 20 years. I have found the British Ecological Society a fantastic forum for me to engage with others who share my interests and enthusiasm in ecology. Over the years I have enjoyed contributing to the BES in a number of ways from talks at the Undergraduate Careers Day to more recent involvement on committees and the formation of a new special interest group focused on citizen science; an exciting group bringing people together from many disciplines. I would be delighted to increase my contributions to the BES through the Council.

ORDINARY MEMBER OF COUNCIL

Peter Thomas
University of Keele, UK



My day job is a plant ecologist at Keele University specialising in trees. I've been involved with the BES since my first Winter Meeting in 1979, and since 1994 as Bulletin Editor, Book Reviews Editor and now as an Editor of the *Biological Flora of the British Isles* series. Last year I received the BES Award but I've always felt that the Society has given me much more than I've given back, and I see standing for Council as a way of returning something to the Society.

I would bring to Council over 30 years' experience of research but also of public engagement with ecology, doing everything from talks to the local dahlia club, speaking at national conferences of science teachers through to tree surgeons, to running field sessions at international events. Much of my time is also spent writing for the non-expert through academic books, review articles and bits in newspapers and magazines. It is here that my career meets the strategic plan of the BES to share the excitement and relevance of ecology,

making our science accessible to those outside the Society be they ministers, students or joe public. That's where I see my biggest contribution to Council.

AWARD WINNERS

We offer a number of prizes to celebrate and recognise the talent within our community. To that end, we are excited to congratulate the following people on their effort and achievements.

HONORARY MEMBERSHIP

Charles Godfray

Honorary membership of the BES is the highest honour that the Society gives.



MARSH AWARD FOR ECOLOGY

Lynne Boddy

The Marsh Award for Ecology is supported by the Marsh Christian Trust and administered by the BES. It is awarded for an outstanding recent discovery or development which has had a significant impact on the development of the science of ecology or its application.



MARSH CHRISTIAN TRUST

MARSH AWARD FOR CLIMATE CHANGE RESEARCH 2016

Bridget Emmett

The Marsh Award for Climate Change Research is supported by the Marsh Christian Trust and administered by the BES. It is awarded for an outstanding contribution to climate change research.



MARSH CHRISTIAN TRUST

MARSH AWARD FOR CLIMATE CHANGE RESEARCH 2016

Yadvinder Malhi

The Marsh Award for Climate Change Research is supported by the Marsh Christian Trust and administered by the BES. It is awarded for an outstanding contribution to climate change research.



MARSH CHRISTIAN TRUST

MARSH BOOK OF THE YEAR AWARD

Jordi Bascompti and Pedro Jordano

The Marsh Book of the Year Award acknowledges the important role that books have in ecology and its development. It is supported by the Marsh Christian Trust and administered by the BES. It is awarded to the book published anywhere in the world in the last two years that has had the greatest influence on the science of ecology or its application.



MARSH CHRISTIAN TRUST

ROBERT MAY PRIZE 2015

Kim Calders

Prize for the Best Paper by an Early Career Researcher in *Methods in Ecology and Evolution*.



Methods in Ecology and Evolution

HARPER PRIZE 2015

Yuuya Tachiki

Prize for the Best Paper by an Early Career Researcher in *Journal of Ecology*.



Journal of Ecology

AWARD WINNERS

PUBLIC ENGAGEMENT AWARD

Ali Birkett, Nick Loughlin and Victoria Burton

This award recognises the outstanding role members have played in the delivery of the Society's public engagement programme. Engaging the public with ecology in innovative and effective ways and leading by example.



HONORARY MEMBERSHIP

Diana Wall

Honorary Membership of the BES is the highest honour that the Society gives.



BES AWARD

Keith Kirby

The BES Award is made in recognition of exceptional service to the Society.



FOUNDERS PRIZE

Julia Blanchard

Our Founders' Prize commemorates the enthusiasm and vision of the Society's founders.



EQUALITY AND DIVERSITY CHAMPION PRIZE

Seiran Sumner and Nathalie Pettorelli

This annual award recognises an individual or group who have campaigned to highlight the importance of equality and diversity and worked to make a difference or served as an inspiration to others.



SOUTHWOOD PRIZE 2015

Dustin Ranglack

Prize for the Best Paper by an Early Career Researcher in *Journal of Applied Ecology*.



Journal of Applied Ecology

EQUALITY AND DIVERSITY CHAMPION HIGHLY COMMENDED

Emily Nicholson

This annual award recognises an individual or group who have campaigned to highlight the importance of equality and diversity and worked to make a difference or served as an inspiration to others.



ELTON PRIZE 2015

Jonathan Pruitt

Prize for the Best Paper by an Early Career Researcher in *Journal of Animal Ecology*.



Journal of Animal Ecology

HALDANE PRIZE 2015

Brian Steidinger

Prize for the Best Paper by an Early Career Researcher in *Functional Ecology*.



Functional Ecology

SPECIAL INTEREST GROUPS

@bes_aeg

agriculture@britishecologicalsociety.org

www.facebook.com/groups/BESAeG/



AGRICULTURAL ECOLOGY GROUP

Our group is a forum for exchange of information between ecologists, conservationists, agricultural researchers, land managers

and policy makers. We come together to consider conservation in the farmed landscape, using ecological theory to address agricultural problems, economic and ecological sustainability of current farming systems, and the implications of agricultural policies. The group has a busy programme of meetings, workshops and field visits which we run independently and in collaboration with other societies, both nationally and internationally. The Agricultural Ecology Group welcomes new members to the group, come along to existing meetings or apply for funding to run your own!

Jonathan.Green@liverpool.ac.uk



ANIMAL ECOPHYSIOLOGY GROUP

The fields of ecology and organismal physiology share at least one common goal – to understand the interaction between organisms and their

biotic and abiotic environment. Our friends in the world of Plant Sciences understand this and the BES and Society for Experimental Biology (SEB) have a cross-society SIG where interests are shared and interdisciplinary science is incubated. So if you are an ecologist who dabbles in physiology or think that your work might benefit from some mechanistic, physiological come and join us!

@BES_aquaeco

aquatic@britishecologicalsociety.org



AQUATIC ECOLOGY GROUP

We are a dynamic group of individuals addressing the broad range of challenges faced by the aquatic community. Our annual science meeting brings together

established and emerging leaders in aquatic ecology from around the world. This is an excellent forum for meeting people working in similar fields, for socialising as well as for general networking.

We aim to:

- Bring together people working in all areas of aquatic ecology to promote and facilitate interdisciplinarity
- Hold workshops and meetings to stimulate discussion, and exchange skills and ideas
- Encourage and support early career researchers

Members interested in holding additional conferences, meetings, workshops or field meetings on aquatic topics can apply through the Co-Secretaries for BES financial assistance and support for student attendance.

citizenscience@britishecologicalsociety.org



CITIZEN SCIENCE GROUP

Citizen science in ecology is a way in which people can get involved with real science in their environment.

Our group is the forum for people interested in the practice and

application of citizen science in ecology, and in making best use of the data.

We aim to foster creativity in citizen science and support best practice by encouraging sharing of expertise among students, volunteers, researchers and policy-makers through our networking events.

While our focus is ecological science, we provide opportunities for interdisciplinary networking across science and social science, and we engage with international citizen science societies.

@BESclimate

climatechange@britishecologicalsociety.org



CLIMATE CHANGE GROUP

Our group aims to develop a thriving and dynamic community of ecologists working on all aspects of climate change, including impacts, adaptation and mitigation responses

and interactions with other factors. Our membership is diverse, ranging from postgrads to professors and spanning research, policy and practical organisations. It provides a forum for discussion of both the science itself and applications to policy and practice.

We typically organise 2-3 meetings per year, ranging from small workshops to larger conferences. We welcome new members and ideas for activities.

@BESConservation

Nathalie.Pettorelli@ioz.ac.uk



CONSERVATION ECOLOGY GROUP

Our Conservation Specialist Interest group is there to provide a platform for facilitating exchange between theoretical ecologists, applied

ecologists and practitioners interested in conservation issues. To do so, we organise scientific events, training sessions and focused workshops; we also support whenever possible the work of BES committees, such as the Policy one. To hear about these knowledge transfer and networking opportunities, follow us on Twitter, Facebook or simply drop an email to Nathalie!

The group is open to all BES members and non-BES members with an interest in conservation.

SPECIAL INTEREST GROUPS

@BES_EGG

genetics@britishecologicalsociety.org



ECOLOGICAL GENETICS GROUP

Our group was established in 1956, its primary aim throughout the years has been centred around providing an annual forum for researchers from the

UK and beyond, of all levels of experience, to present their latest research or to review areas of long standing study to an interested and enthusiastic audience. The annual meeting brings together researchers from the fields of population's genetics, molecular ecology and evolutionary biology.

EGG is particularly supportive of young researchers who may be inexperienced presenters, with many attendees having giving their first ever talk at an EGG meeting. The group also seeks to engender time for informal discussion at meetings and this is done through the field trip, poster session and the now infamous EGGheads quiz which are conference regulars.

@BESforests

forests@britishecologicalsociety.org



FOREST ECOLOGY GROUP

Our group supports the work of an international community of forest ecologists, within and beyond the BES. Our blog at: besfeg.

wordpress.com provides rapid and

timely updates on Forest Ecology related news and activities, including conference announcements, funding opportunities, job openings, and studentships, as well as research calls. You can also apply to us for funding to help you run meetings, or workshops on any aspect of forest ecology

@BESMacroecol



MACROECOLOGY GROUP

Our group is for researchers interested in broad-scale patterns of biodiversity and the mechanisms underlying their creation, maintenance

and future survival. Our annual meeting brings together macroecologists, macroevolutionary biologists, biogeographers, palaeontologists and even social scientists to talk about macro-scale biology. The meeting features short talks, plenaries, and discussions in a fun, informal and inclusive environment.

We are highly committed to encouraging early career researchers, with regular training opportunities and our annual student plenary given at the BES Macro annual meeting. We also regularly hold joint meetings with other SIGs.

Why not join us?

@BES_Microbial

microbial@britishecologicalsociety.org



MICROBIAL ECOLOGY GROUP

We are a forum to unite people working in the rapidly growing field of microbial ecology, from environmental processes to host-microbiome interactions across

plants and animals. Since our inaugural meeting in Edinburgh last year, we hosted a "Microbial Ecology: From Individuals to Ecosystems" event, with one day of research talks and a second day identifying "50 Important Questions in Microbial Ecology", which we are preparing for publication. Future events include joint SIG meetings, workshops and public engagement events.

L.Borger@swansea.ac.uk



MOVEMENT ECOLOGY GROUP

Movement is fundamental to many ecological processes and constitutes the mechanistic link explaining their patterns.

'Movement Ecology' has attracted

the attention of ecologists and researchers from fields such as mathematics, statistics, geography, and computer science. We have formed this group to (i) unite interested researchers, (ii) clarify conceptual and methodological misconceptions, and (iii) guide the development of novel research. Through interdisciplinary research combining technical, computational, and theoretical developments, we hope to refine our understanding of the role of movement in driving ecological processes. This will be achieved through regular meetings, workshops, training and online events.

@parasitesig

parasites@britishecologicalsociety.org



PARASITES & PATHOGENS GROUP

We are an active and friendly international group, welcoming anyone with an interest in infection biology.

We support all our members from undergraduate to senior academic and other professional staff, through a range of events; some focus on particular groups, early career initiatives and some aim to bring us all together. We are keen to interact with other SIGs – this year we are having our social with Microbial Ecology and Plants, Soils & Ecosystems groups. Importantly, we also have a strong outward focus, raising awareness of the importance of our field. This year we are proud to host our first Public Understanding of Science event: a screening of the classic film "The Thing", with Dr Susan Withenshaw discussing the relationship between the film and infection research.

We look forward to welcoming you in to our group.

SPECIAL INTEREST GROUPS

Peatlands@BritishEcologicalSociety.org
@BES_Peat



PEATLANDS RESEARCH GROUP

We organise activities and events with bi-yearly Group Newsletters. Much activity is undertaken and led by external partners – International Peat Society, Thorne

& Hatfield Moors Conservation Forum, South Yorkshire Biodiversity Research Group, Moors for the Future, Cumbria BogLife, Meres & Mosses Forum, and business partners like JBA Consulting.

New members are always welcome; contact us via Twitter or email: Ian D. Rotherham: i.d.rotherham@shu.ac.uk or Danielle Satterthwaite: danielle.satterthwaite@postgrad.manchester.ac.uk

See 'Wilder Visions – re-constructing nature for the twentyfirst century', our long-term, cohesive programme of events and activities.

@pepgsig
j.cunniff@cabi.org



PLANT ENVIRONMENTAL PHYSIOLOGY GROUP

Our group spans the British Ecological Society and the Society for Experimental Biology.

We set molecular physiology within an ecological context; studying the short-term acclimation and long-term adaptation of plants to environmental change, integrating cellular and whole plant-level responses to biotic and abiotic stresses in both the lab and field environments.

Our specific remit is to:

- Advance and promote plant environmental physiology
- Integrate the plant environmental physiology community and publicise new opportunities
- Support, train and liaise with early career plant environmental physiologists

@besplantsoileco
Plantsoileco@britishecologicalsociety.org



PLANTS SOILS ECOSYSTEMS

Our group aims to connect researchers across a range of career stages and locations who share a focus on the interactions between plants and soils. Our

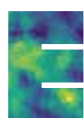
members work on all sorts of systems, from tropical forests to arctic tundra, peatlands and temperate grasslands. We hold annual meetings, workshops and focus groups to stimulate debate and collaboration in this dynamic and fast moving field.

Plant- soil interactions are key drivers for productivity, nutrient cycling and carbon sequestration, and as such

deliver ecosystem services crucial to mankind. We have held a diverse mix of events including soily speed dating, a metagenomics workshop that integrated a number of soil microbial community datasets, a meeting exploring carbon cycling research, and joint meetings with a range of other special interest groups.

We serve as a platform to discuss and share techniques, provide opportunities for networking and collaboration among researchers, and foster links with industrial partners to increase the impact of our research. Join us and see how you can get involved.

@BES_qe_sig
quantitative@britishecologicalsociety.org



QUANTITATIVE ECOLOGY GROUP

Just about every area of ecology relies on quantitative methods, with new quantitative approaches, tools and research findings appearing constantly.

Our group aims to help ecologists keep up to date with this fast moving research area.

We represent everyone from statistical ecologists and software developers to those taking their very first steps in quantitative analysis. We run training courses and scientific events and curate community-contributed guides (at qedoc.wikidot.com) to share new ideas and methods among this community, and to develop quantitative ecology as a discipline in its own right.

l.c.batty@bham.ac.uk



TEACHING AND LEARNING GROUP

Our group is open to anyone involved in the teaching and learning of ecology for all age groups from schools to post graduate and the training of

those who are involved in teaching and learning.

- We support the sharing of best practice in teaching and learning of ecology and related disciplines by hosting annual symposia
- Provide a professional support network for ecologists with strong teaching /learning focus who may not otherwise access discipline specific support
- Work with the BES to contribute to education policy related consultations
- Provide support and mentoring for PhD students developing their teaching skills

SPECIAL INTEREST GROUPS

@BES_Tropical

tropical@britishecologicalsociety.org

www.facebook.com/groups/BESTEG



TROPICAL ECOLOGY GROUP

Our group brings together scientists and practitioners with interests in the tropics and sub-tropics, be it aquatic or terrestrial, faunal or floral, ecosystem-level to the micro-

organism. Our primary aim is to promote and facilitate communication and interaction between tropical ecologists, and particularly to enable:

- Transfer and development of knowledge and skills
- Inter-disciplinary research activities
- Communication with practitioners and policy
- Support for early career researchers and under-represented groups

You can also keep up to date with our activities via our blog <https://tropecol.wordpress.com>

Sam Avery presents the **BES Science Slam**

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TROPICAL ECOLOGY GROUP

9th Early Career Researcher Meeting

29-31 March 2017

Lancaster Environment Centre, Lancaster University

Integrating Tropical Ecology Across Biomes and Continents

Join us at Lancaster Environment Centre, Lancaster University for the British Ecological Society's 9th Annual Tropical Ecology Meeting! With a focus on developing global collaborations, inspiring keynote addresses, dynamic workshops and a live video link with researchers on-the-ground at the Smithsonian Tropical Research Institute in Panama (technology permitting) this year's meeting promises to be particularly lively and exciting! Our conference dinner will be held in the Pavilion at the beautiful Williamson Park, and for that extra tropical flavour we have catering at our evening poster session by local company Go Burrito. Come and share your fieldwork experiences, meet other up-and-coming scientists, start new collaborations, and be a part of shaping the future of tropical research!

Alongside the regular conference oral and poster sessions, there will be three workshops:

- **Money Money Money** *Crowdfunding for researchers*
- **Editor's Question Time** *Your publishing questions answered by a panel of BES Journal Editors*
- **An Integrated Future** *Shaping the next developments in tropical ecology*

Registration and abstract submission will open 11th December 2016

The Lancaster Environment Centre has strong ties with the Federal University of Lavras in Brazil and the Sabah Foundation in Malaysia, as well as partnerships with several universities in Nigeria and Ghana. Tropical Ecology and Conservation has grown rapidly as a research focus at Lancaster in recent years, with current projects in Central- and South America, West Africa, Southeast Asia and Australia.



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- CONSTRAINTS ON ADAPTATION AND PERFORMANCE: FROM INDIVIDUALS TO POPULATIONS

OTHER ANIMAL SESSIONS

- INTEGRATIVE MODELLING APPROACHES TO THE FISH CARDIO-RESPIRATORY SYSTEM UNDER ENVIRONMENTAL CHANGE - IS IT TIME FOR A FISH PHYSIOLOGICAL INITIATIVE?
- BIOLOGICAL ADHESIVES: FROM BIOLOGY TO BIOMIMETICS
- OPEN BIOMECHANICS
- OPEN ANIMAL BIOLOGY

CROSS DISCIPLINARY - PLANT AND CELL BIOLOGY

CELL BIOLOGY

- PLANT CELL BIOLOGY
- CELL CYCLE AND THE CYTOSKELETON

MEMBRANES

- MEMBRANES
- LIFE AT THE INTERFACE: PLANT MEMBRANE-PROTEIN DYNAMICS/ INTERACTIONS DURING ENVIRONMENTAL CHANGE

MODELLING GROWTH

- CROP MODELS IMPROVEMENT WITH BIOLOGICAL KNOWLEDGE: WHICH, WHY, AND HOW?
- MODELLING CELLS
- MOLECULAR CONTROL OF PLANT GROWTH DURING ABIOTIC STRESS
- PHOTOSYNTHETIC RESPONSE TO A CHANGING ENVIRONMENT - TOWARDS SUSTAINABLE ENERGY PRODUCTION

OTHER JOINT PLANT-CELL SESSIONS

- GENERAL PLANT AND CELL BIOLOGY

CELL BIOLOGY

- IMAGING PATHOGENESIS
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