

# IUSSI, North-west European Section (International Union for the Study of Social Insects) Spring Newsletter 2012

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*Contact him with:* information and suggestions for the web site.

<http://www.iussii.org/NWEurope>

Meetings site: <http://www.iussii.org/meetings.html>

Who's who site: <http://www.iussii.org/NWEurope/whoswho.html>

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## Section news

### NW European IUSSI Winter Meeting 2012

The winter 2012 meeting for the North-Western European section of the IUSSI will take place on Monday 10<sup>th</sup> December at the Zoological Society of London (ZSL). ZSL is located in Regent's Park, North London and is easily accessible by the public transport services in London. The meeting will take place in the Mappin Pavillion in the heart of the zoo.

Registration will start at 9.30, with a 5.30 finish. Lunch will be provided, and the day will feature a poster session dividing the morning and afternoon sessions. More details to follow.

### 2014 International IUSSI Congress

The organising committee are looking for list of plenaries from sections. The current program outline envisages nine plenary sessions. They ask that each section proposes no more than 10 potential speakers. The lists of speakers provided by Sections will be considered by the organizing committee in June 2012. To help them make their evaluation they ask that you provide a statement of up to 100 words as to why each proposed speaker should be selected. Please be mindful that nominated speakers should have outstanding oral communication skills, as well as having a distinguished and current record of scientific excellence. The deadline for submissions is 1 June 2012. If you wish to nominate someone could you send me ([ebm3@le.ac.uk](mailto:ebm3@le.ac.uk)) the required information by the 28<sup>th</sup> of May and I'll collate it and send it forward.

## Upcoming Meetings

David Nash keeps a comprehensive and regularly updated webpage of upcoming meetings at <http://www.iussii.org/meetings.html>.

26-30 August 2012



### **EUROIUSSI2012 - Combined European IUSSI Sections Meeting**

*Hotel Tuscany Inn, Montecatini Terme, Tuscany, Italy*

The Managing Board of the Italian Section of the IUSSI, the Organizing and Scientific Committees and the Accademia Nazionale Italiana di Entomologia invite you to the 5th Congress of the European Sections of the IUSSI that will be held in Montecatini Terme (Tuscany, Italy) from 26 to 30 August 2012.

Early discount registration is available until **28 February 2012**, and the deadline for submission of abstracts is **31 May 2012**.

More details are available at the web site: <http://www.mdbenterprise.it/iussi/>

4-6 September 2012



### **EurBee 2012**

*Martin-Luther-University, Halle an der Saale, Germany*

The 5th European Conference of Apidology will take place in Halle in September 2012. The congress is the major European platform for bringing together international scientists with an interest in all aspects of bee biology. The biennial conference serves as a communication platform for top EU research in Apidology and hosts the pan European research networks BEEDOC, STEP and COLOSS. For more information, please [download the flyer](#), or visit the EurBee2012 web site:

[www.eurbee2012.uni-halle.de](http://www.eurbee2012.uni-halle.de)

13-18 July 2014



### **XVII IUSSI International Congress**

*Cairns, Australia*

Come for the science, stay for the reef and rainforest.

The Australian Section will be hosting the next international congress of IUSSI. The President is Ben Oldroyd, and the organizing committee currently comprises Madeleine Beekman, Simon Robson and Judith Reinhard. The committee will be expanded closer to the event.

The Congress will be held in the magnificent Cairns Convention Centre, and there will be a brilliant selection of post conference tours, etc.

There will be discounts for student delegates, and students are strongly encouraged to participate and to present. Please mark the dates in your calendar.

More details can be found at the congress web site: [www.iussi2014.com](http://www.iussi2014.com)

For your information only, the call for symposia will be circulated in July 2013.

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## Lab News

### The Paxton Group (Queen's University Belfast)

There are no departures to report, but two arrivals. James McElroy, a former Queen's University Belfast undergraduate, has joined us as a new PhD student, funded by Northern Ireland's Department of Agriculture, to work on honey bee pests and pathogens, particularly focusing on the use of RNAi technology to control parasitic Varroa mites that transmit numerous viruses. He'll be working closely with Robert's QUB colleagues Dr Nikki Marks and Prof Aaron Maul, specialists in molecular parasitology. Continuing on the honey bee pathogens theme, Myrsini Natsopoulou, a former Masters student of the University of Reykjavik, has joined us (in Halle, Germany) on a PhD investigating the impact of diseases on honey bee behaviour and 'drifting' between colonies, and funded by the German Department of Agriculture.

Robert is spending more and more time in his new post at the 'Martin-Luther-University Halle-Wittenberg in Germany, along with Drs Tomás Murray and Antonella Soro, and where he is being joined for two months by his Queen's PhDs Lorraine McKendrick (topic: pollination and landscape genetics of pollinators) and David Trew (topic: sweat bee social evolution) and Queen's postdoc Dr Dino McMahon (invertebrate host-parasite interaction). We're all gearing up for a busy field season ahead.

### The Bourke Group (University of East Anglia)

This Spring we are welcoming to the group two visiting undergraduate students from Nancy, France, Pierre-Louis Hein and Mathilde Lasfargue. Congratulations to Lucy Friend, who successfully passed her PhD exam last November; Lucy is currently preparing manuscripts from her thesis work on aspects of kin selection theory in the ant, *Leptothorax acervorum*. Of other PhD students, Jacob Holland is midway through the third year of his project on the control of life-history events in the colony cycle of the bumble bee *Bombus terrestris*, while David Collins and Henry Ferguson-Gow are midway through their second years, their projects being on, respectively, the role of microRNAs in the caste determination of bees, and evolution and diversification of ants from a comparative perspective. Henry is currently in London, spending time with the CASE partner co-supervisors of his project, who are Kate Jones and Seirian Sumner at the Institute of Zoology (IoZ), Zoological Society of London. Meanwhile, back at UEA, Edd Almond and Tim Huggins are continuing their work, which is collaborative with Joel Parker and Gabrielle Lockett at the University of Southampton, investigating the effect of social conflicts on ageing and gene expression in the bumble bee *Bombus terrestris*. The other main project that Andrew is involved with is on movements of bumblebees in relation to fine-scale landscape features. It is funded by the Insect Pollinators

Initiative and collaborative with Claire Carvell and Matt Heard at the Centre for Ecology and Hydrology, Wallingford, and Seirian Sumner, Jinliang Wang and Stephanie Dreier at IoZ.

### **TEAM::ANTZZ (Helsinki)**

After an unforgiving winter this year, our group continues to expand rapidly....

**Heikki Helanterä** is in the second year of his Academy of Finland fellowship, busy with three PhD students and trying to understand genomics! The most recent, **Jenni Paviola**, from the University of Turku, started to work with Heikki looking at genomic consequences of low relatedness in unicolonial ants. **Claire Morandin** spent her first year of PhD travelling a lot, spending a month in Copenhagen working with Jes Pedersen on gene expression in *Myrmica* and *Monomorium*, and soon visiting the Ecology and Evolution unit at the University of Okinawa (Japan) to collaborate with Dr. Alexander Sergeevich, looking at gene expression analysis of *Wasmannia auropunctata*. **Eva Schultner** continues her PhD studies on cannibalism in *Formica* ants, starting the next field season in South of Finland soon. **Kalle Trontti** is hard at work in a quest to assemble *Formica exsecta* transcriptome, in collaboration with several people from our group, and still being busy as a part-time MES lab coordinator.

Our post-doc **Helena Johansson** is also busy making spatial (or otherwise) sense of a large *Formica fusca* dataset, and contemplating do's and don'ts (with regard to kin structured data) in the bewildering jungle of landscape and population genetic analysis techniques. **Martina Ozan** has now returned from her maternity leave, finally working on her first manuscript and looking forward to soon carry on with more experiments on reproductive partitioning in *F. fusca*. **Anton Chernenko** has now finished his work on recognition and social behavior in *Formica* ants and will defend his PhD thesis in May. **David Nash** will be his opponent. We are pleased to have **Pekka Pamilo's** PhD student **Jonna Kulmuni** from Oulu joining us at the beginning of this year. Jonna is currently analyzing new data to make sense of the weird hybridizing wood ants and going into the interesting world of gene families by looking at the evolution of chemosensory protein genes in ants.

**Hannele Luhtasela-EI Showk** has now officially completed her Master's degree. Congratulations! Hannele will take a break from the ants to pursue her other passion – photography. The group has welcomed four new master students, **Sini Vuorensyrjä**, from Oulu University, who works on trade-offs between immune defense and oxidative stress in *F. exsecta*, and **Annu Tertsonen**, **Unni Pulliainen**, and **Jenni Lehtimäki** from Helsinki will also start on their respective projects.

TEAM::ANTZZ is now part of a Centre of Excellence in Biological interactions research, led jointly by Jonna Mappes, and Jaana Bamford from Jyväskylä, Lotta Sundström from Helsinki, and Hanna Kokko from ANU Australia (yes, four ladies). The Centre is funded by the Academy of Finland for the next six years, and has resulted in an immediate group expansion. Two post-docs, **Nick Bos** and **Dalial Freitak**, two PhD students **Dimitri Stucki** and **Jana Wolf**, and a bioinformatician, **Kishor Dhaygude**, are starting in April and May. We are all eagerly awaiting the start of the field season.

### **The Hughes Lab (University of Leeds)**

After a short period covering some teaching at Leeds, Crystal Frost has moved to Liverpool to take up a postdoc position in Greg Hurst's lab. She'll be continuing to study symbioses, but will be shifting model system from fungus-growing ants to some slightly less charismatic dung flies, which means she's going to be spending the coming months travelling around the world collecting flies from dung. Claire Asher is now based with Seirian Sumner at the IoZ in London for the final year of her PhD, where she's busy grinding up her dinosaur ants for DNA and RNA. We're looking forward to getting our first genome and transcriptome sequences in the coming months. Our two first-year PhD students, Chris Tranter and Jasmine Parkinson, are starting to get their first data. Chris has been doing some comparative work on ant disease resistance and has also developed some neat software to monitor ant movements. Jasmine has been breeding her mealybugs and beginning to screen them for symbionts. Kat Roberts, Pete Graystock and Kirsten Foley are now all in the final years of their PhDs on bee diseases. Kat, and also postdocs Sophie Evison and Paula Chappell, have now found nice

evidence of genetic variation in honeybee resistance in various parasites. PhD student Rowena Mitchell's first paper on the leaf-cutting ant 'royal cheats' came out in JEB earlier this year, and she's now using honeybees as well as the leaf-cutting ants to investigate caste-biasing. Adam Smith is generating lots of cool pictures of ant brains and data on amine levels as part of his Marie Curie fellowship investigating the neurobiology of genetic polyethism (and more). For the first time in many years, Bill won't be digging ants in Panama this year, so it will be down to Chris and a set of Masters students to do the fieldwork, with visits to BCI, Danum and South Africa (to study white shark behaviour and parasites!) planned over the coming months.

### **The Brown Lab (Royal Holloway, University of London)**

Well, spring queen collecting has come to an end, after another unusually early and warm spring, so it's time to look back on the 5 months since the last newsletter. Mark spent most of this on sabbatical, which made for an interesting change for everyone. After a quick holiday in Australia - for which Mark had been waiting since the last Australian-hosted IUSSI Congress in 1999/2000 - he settled down to work in the Beekman/Oldroyd lab for 4 weeks. He had a great time, learning how to dissect brains out of honey bees, and how to extract RNA from said brains when he managed not to flip them halfway across the lab! The Beekman/Oldroyd lab is a great place to spend time - they're a fantastic group of intellectually and socially stimulating people, so it comes highly recommended. For the last 2 weeks of his time in Sydney, Mark was hosted by Andrew Barron at Macquarie University. Andy has fantastic facilities for behavioural work, and Macquarie makes an interesting counterpoint to the more traditional University of Sydney. He also has a house in the Blue Mountains, and writing papers whilst watching cockatoos, king parrots and crimson rosellas squabbling over the bird feeder was a serious highlight! Mark returned to the UK for the last two months, and occasionally popped into the lab to check that we were all still there, although under the steady hand of Matthias Fürst, everything seemed to run smoothly... Everyone else has remained busy starting experiments and analysing data - Matthias' new home is the molecular lab - whilst Inti had an even more exciting reason to be busy, as he welcomed the arrival of his first child, Zazil, at the end of March. We're all looking forward to her joining us as a research assistant soon! Other highlights have been the publication of Joe Colgan's first transcriptomic paper in BMC Genomics - we're now a next-generation lab! - and Mario Ruiz-González's work in Evolution. And Chris Pull was accepted for a PhD position at the IST in Austria with Sylvia Cremer, which was fantastic news! Now we're all pushing forward on projects to present at the European IUSSI in Tuscany, where we look forward to seeing our friends and colleagues, as well as sampling the local vino. Finally, Mark would like to report back from Ben and Madeleine in Sydney that the planning for the Australian Congress in 2014 is going well, and it looks like being **an excellent meeting with fantastic science and a lot of fun, so start saving now!**

### **The Robinson Lab (University of York)**

Ant research in York is continuing with **Sam Ellis** getting started on wood-ant fieldwork locally and **Yi-Huei Chen** preparing for his wood ant fieldwork in the Swiss Jura, in collaboration with Daniel Cherix and Michel Chapuisat at the University of Lausanne. **Zoe Cook** continues her work on modelling the costs and benefits of decentralisation in polydomous species and new MSci research student **Phillip Buckham-Bonnet** is studying foraging trail organisation in Pharaoh's ants and *Lasius niger*. **Elva Robinson** has moved from working on crazy ants to making herself crazy by attaching RFID tags onto Pharaoh's ants, to study nesting and foraging strategies.

### **The Sumner lab (Institute of Zoology, ZSL)**

We welcome a new addition to the group, Ian Warren, who will be busy with genotyping bees over the next few months with postdoc Stephanie Dreier on the IPI bumblebee project. Ian has just returned from a postdoc in the USA, where he was working on transcriptomics of scarab beetles. Post-grad volunteer Adam Devenish has also joined us to work on microsatellite analysis of the wasp *Polistes canadensis* with Stephanie. Meanwhile, Solenn Patalano has taken up a postdoc position in Wolf Reik's lab in the Babraham Institute, where she continues her collaboration with Seirian on *Polistes* epigenetics. NERC CASE PhD student Claire Asher (co-supervised by Bill Hughes, Leeds) has been busy preparing RNA

and DNA from her Dinosaur ants for genome and transcriptome sequencing. Thibault Lengronne (co-supervised by Laurent Keller, Lausanne) is approaching the finish line of his PhD thesis on nest-drifting behaviour in *P. canadensis*; he is currently completing his analyses of assured fitness returns and social networks of drifting workers in this species. NERC CASE PhD student Henry Ferguson-Gow (co-supervised by Andrew Bourke (UEA) and Kate Jones (IoZ)) continues work on his ant supertree and social traits database. First year NERC PhD student Emily Bell joined us in December. She is investigating phenotypic plasticity and caste determination in paper wasps. Emily's initiation into all things waspish took flight this month, when Seirian, Leverhulme Fellow Elli Leadbeater and 6 month old Arran Leadbeater (we start them young...) took Emily to Spain to start work on *Polistes dominulus*. MSc student Jade Hall (Imperial College) and overqualified volunteer Jonathan Green (formerly of The Sussex Field lab) are continuing the work on *P. dominulus*, whilst Emily hotfoots it from Spain to Panama. Emily will be joined by Solenn, Seirian, and two (overqualified) volunteers Rafael Mares and Lawrence Bellamy for work on the more hard-core of *Polistes* (*P. canadensis*). Rafael has just finished his PhD with Andy Young (Exeter) and Tim Clutton-Brock (Cambridge) on prospecting behaviour in social vertebrates; Lawrence has just finished his PhD with Andrew Pomiankowski (UCL) on stalk-eyed flies. Back in London, Leverhulme postdoc Inti Pedrosa (jointly based at Royal Holloway with Mark Brown) has been busy with bumblebee-nematode interaction experiments at Royal Holloway and is now the proud new dad of a beautiful baby girl; congratulations to Inti! On a final note, IoZ will host the 2012 winter meeting of the NW European section of IUSSI in December. Henry will be organising some kind of zoo-related extravaganza for you all.....!