

# IUSSI, North-west European Section (International Union for the Study of Social Insects) Winter Newsletter 2011

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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>

## Section news

NW European IUSSI Winter Meeting 2011

The Winter 2011 meeting of the North-West European section of IUSSI will take place at the University of Sussex on Thursday and Friday, 15-16 December. Please see the program at the end of the newsletter.

## 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 IUSI 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 IUSI. 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)

## Lab News

### Copenhagen – Centre for Social Evolution

The normal work flow at the Centre for Social Evolution (CSE), led by **Koos Boomsma**, has been disturbed somewhat over the past year by a major refurbishment of the building, but that is now finally nearing its end. Meanwhile, **Janni Larsen** just started her PhD on evolution of social parasitism, under the supervision of **David Nash**. **Birgitte Hollegaard Hartsteen** also recently started her PhD work on the evolution of conception and pregnancy in humans, thereby significantly expanding the Evolutionary Medicine group, led by Koos and **Sean Byars**. At the other end of the PhD, **Volker Nehring** defended his thesis entitled “Recognition within and between colonies of leafcutter ants” in September, and is planning to continue working on social insects and/or recognition back in Germany. Both **Sandra Breum Andersen** and **Nick Bos** are entering the last phase of their PhD projects on microbial symbionts of ants and learning in ants, respectively, and both will finish around Christmas or early next year with Koos Boomsma and **Patrizia d’Ettorre** as supervisors. **Aniek Ivens**, who is doing her PhD partly in Groningen (Netherlands) and Copenhagen on the mutualism between *Lasius flavus* and root-sucking aphids, is also entering the final stages of her work, so we might also hear more about her thesis in the next newsletter. Earlier this year, **Rasmus Stenbak Larsen** finished his MSc thesis on aggression and invasion history of the invasive garden ant, *Lasius neglectus*, under the supervision of **Jes S e Pedersen**.

**Panagiotis (Panos) Sapountzis** has joined the group as a postdoc from INRA (Lyon, France) to dive into the metagenomics of the guts of fungus-growing ants. Similarly, **Juanito Liberti** is a new MSc student who was tempted to take on the guts of *Megalomyrmex* ants after attending CSE’s Tropical Behavioural Ecology course in Panama earlier this year. As part her PhD program, **Dani Moore**, of J rgen Liebig’s group at Arizona State University (U.S.), has joined for a six-month stay to contrast disease defences in small and large colonies of ants. **Jelle van Zweden** just returned to CSE for the last six months of his postdoc, after spending two years away at the University of Sussex (U.K.) and Konstanz University (Germany). Both Jelle and **Rachelle Adams** are keen to get our chemical ecology lab up and running again after all the building work, but meanwhile Rachelle and Janni have developed a collaboration with Falko Drijfhout at Keele University (U.K.). Of course, the established collaboration between CSE and LEEC (Patrizia d’Ettorre, University of Paris 13, France) continues as well: Nick, Volker and Jelle attended a 1-day workshop on chemical recognition at LEEC. We are looking forward to see what will come out of these joint efforts.

As for losses to the lab, **Marlene St rup** has flown off to Perth (Australia) to spend five months dealing with honey bee sperm together with **Susanne den Boer** and Boris Baer, next to all the welcome surfing and hiking. **Luke Holman** has also left CSE to accept a four-year postdoc position at Australia’s National University, Canberra to work on modelling and some experimental work with Hanna Kokko. We are also sorry to have lost **Anna Mosegaard Schmidt**, who left earlier this year to start a postdoc on *Ophiocordyceps*-fungus host manipulation with David Hughes at Penn State University (U.S.). **Andr s Tartally** went back to Hungary to take up a position as Junior Lecturer at Debrecen University. Lastly, we temporarily lost and then regained **Morten Schi tt**, who has just returned from his paternity leave.

**Pepijn Kooij** spent September in Wageningen (Netherlands) to work with Duur Aanen on the ploidy levels of fungi, but is back now and has just got married(!). His roommate and fellow PhD student **Luigi Pontieri** is finishing up a set of experiments with *Monomorium*, while at the same time starting a collaboration with **Claire Morandin** from the University of Helsinki (Finland), who will also spend a couple of weeks in Copenhagen in November. PhD student **S mi Sch r** spent most of his summer doing field work on *Myrmica* ants and their *Maculinea* social parasites on the Danish islands of L es  and Bornholm, the western part of Denmark and southern Sweden all the way up to Stockholm. **D ra Husz r**, who also works on *Myrmica* ants and did a lot of field work over the summer, spent October in Groningen (Netherlands) to learn modelling techniques and to explore collaborations in theoretical issues. MSc student **Anne Andersen** had a very good field season this summer and is well underway with her work on the *Maculinea* butterflies. She will finish her thesis early next year. PhD student **Andreas Kelager** attended an Ecological Niche Modelling course in August and the 12<sup>th</sup>

European Ecological Federation Congress in Spain in September. Currently, he is finishing the data collection for the bioclimatic envelope modelling of *Maculinea alcon* and its host species. **Sze Huei (Zoe) Yek** put heads together with **Michael Poulsen** and Koos Boomsma to write a review paper on the *Escovopsis* fungi that parasitize the gardens of attine ants. **Sanne Nygaard** is, together with Morten Schiøtt, coordinating the sequencing of *Trachymyrmex* genomes with BGI Shenzhen, following publication of the *Acromyrmex echinator* genome in August.

Meanwhile, CSE's Insect Pathology group, 3 km away at the Life Sciences faculty, is still going strong. PhD student **Joanna Malagocka** had a terrific field season and got many new observations for her *Pandora* infections in *Formica* ants. **Anja Amtoft Wynns** is now busy writing up her PhD thesis on *Ascosphaera* infecting bees, while **Annette Bruun Jensen** is also undertaking novel studies on honey bees and *Ascosphaera*. **Bernhardt Steinwender** has, supervised by **Nicolai Vitt Meyling**, successfully implemented methods for differentiation between *Metarhizium* clades. Finally, **Jørgen Eilenberg** submitted a book chapter on methods for studying *Entomophthorales* (with Ann Hajek and Bernhard Papierok).

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

At the beginning of August, we said farewell to **Florian Guidat** from the Université Henri-Poincaré, Nancy, France, who carried out a three-month undergraduate placement as a research assistant on one of our bumble bee projects. **Rachael Turner**, a UEA undergraduate, also acted as a volunteer research assistant with us during the summer. Congratulations to **Lucy Friend**, who has now submitted her PhD thesis on testing aspects of kin selection theory in the ant, *Leptothorax acervorum*, and is awaiting her thesis examination. Of other PhD students, **Jacob Holland** has started 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 have each entered their second year, 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 has also now moved to London to spend 18 months 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 in the bumble bee *Bombus terrestris*. On the Insect Pollinators Initiative project that Andrew is involved with, collecting of bumble bees for 2011 took place as planned. This project is collaborative with **Claire Carvell** and **Matt Heard** at the Centre for Ecology and Hydrology and **Seirian Sumner**, **Jinliang Wang** and **Stephanie Dreier** at IoZ. **Roselle Hyman** (formerly Chapman), who was a PhD student with Andrew from 1999 to 2002, kindly helped out with the bee-collecting for this project. It is a great sadness to record that **Bill Jordan**, another partner in this project and a long-term molecular-geneticist collaborator of Andrew's, died in May. Bill's funeral took place in Belfast and a memorial evening was held at the Zoological Society of London in July, attended by Bill's family, friends and colleagues.

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

Life continues to be busy in Leeds, with the group now fully relocated into our new lab and office space, and most of the glitches in the rooms now fixed. We've had two new arrivals, with **Chris Tranter** and **Jasmine Parkinson** having just started their PhDs with us. Chris will be looking comparatively at the relationships between parasite pressure and host life-history in ants, something which will no doubt involve a lot of time digging up ants in far-flung places. Jasmine, in a slight departure for the group, will be studying mealybugs. Not a typical social insect, but they do at least live in aggregations and, more importantly, have some really cool symbionts which will be the focus of Jasmine's PhD. Meanwhile **Crystal Frost** has just successfully defended her PhD on *Wolbachia* in fungus-growing ants and is currently employed at Leeds on a short-term teaching fellowship. **Claire Asher** has completed her second field season in Brazil studying dinosaur ant dominance hierarchies, and has now moved down to the IoZ for the final year of her PhD to work with Seirian Sumner on dinosaur ant transcriptomics. Several others from the group are now also entering the final years of

their PhDs: **Pete Graystock** studying pathogen spillover in bumblebees, **Kirsten Foley** studying the epidemiology of stonebrood parasites in honey bees, and **Kat Roberts** studying transmission, resistance and competition in microsporidian parasites, also in honey bees. **Sophie Evison** and **Paula Chappell** are continuing their work on genetic diversity and disease resistance in honey bees, and busy writing up another field season worth of data. **Adam Smith** will shortly be entering the second year of his Marie Curie fellowship studying neurobiology and genetic polyethism in leaf-cutting ants. **Rowena Mitchell** is now halfway through her PhD studying caste determination and royal cheats in social insects. And last but not least, **Judith Slaa** has completed her Daphne Jackson fellowship investigating genetic diversity in *Myrmica* red ants and has now moved back to Holland, but hasn't completely left us as she's now developing computer models to integrate with the experimental data she collected during her time in Leeds.

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

The lab has had a very busy and productive summer and autumn. We now have an apiary on the roof of our building, to support Matthias Fuerst's work on the emergent disease project. We're sharing it with Nigel Raine's group (particularly Rich Gill), and I think we're all hoping we might get some honey next year, as well as lots of data. The bees have a great view over London, so we hope that they'll be inspired by the ever-growing Shard to help bring our research to greater heights! In the summer, Catherine Jones and myself both gave talks at the British Ecological Society meeting. Catherine's talk, on the role of parasites in the recent invasion of the UK by *Bombus hypnorum*, was a great success, with lots of interested people and questions afterwards, and we're working now on the ms. for submission - it'll be her first, so fingers crossed. Joe Colgan's first manuscript is also in review, so we're hoping for a paper rush in 2012! We had our first lab party at my place in the summer to welcome some new arrivals, which was great fun, although it seems I now need a bigger garden.... The new arrivals were Gemma Baron, a joint PhD student with Nigel Raine, who will be looking at interactions between parasites, pesticides and bee biology; Inti Pedroso Rivera, a joint post-doc with Seirian Sumner, who will be bringing his bioinformatics knowledge to bear on our bee-worm system; Chris Pull, an MSc student who will be continuing his undergrad work on fungi and ants, and Henry Lin, who has joined us from Taiwan for an MSc and will be working on bumblebees. In other news, I got promoted to Reader, and have been walking around with a smile on my face ever since, and Matthias was finally allowed to go on his honeymoon, and is currently enjoying the Australian weather in Perth, where we're sure he'll be visiting the Baer lab to say Hi to old friends. We're planning on descending on the Winter Meeting en masse, so we look forward to seeing old and new friends there!

#### **The Raine lab (Royal Holloway)**

A busy summer of experiments has been followed by an autumn of rapid growth in the lab. **Richard Gill** and **Oscar Ramos-Rodriguez** have been working hard for months performing an experiment to examine possible effects of two pesticides on bumblebee foraging behaviour using radio frequency identification (RFID) tags. Rich is also working with Falko Drijfhout (Keele) to analyse chemical samples. This is a great start to the Insect Pollinator Initiative work and is already producing some very interesting results.

This autumn we welcome four new arrivals to the lab. **Karen Smith** and **Lisa Evans** have started PhDs to investigate how variation in bumblebee cognitive performance might be adapted to particular environmental conditions. Many congratulations to Karen on the recent news she was awarded a distinction for her MRS in Animal Behaviour at Newcastle University. **Gemma Baron**, a joint PhD student with Mark Brown, is looking at interactions between parasites, pesticides and bee biology. **Robert Mitton** will be working on possible behavioural effects of sublethal exposure to pesticides on bumblebee foraging behaviour for his MSc project.

#### **CBEES research group, Turku**

The group leader Jouni Sorvari visited very fruitful ant meetings in Romania and Scotland. He has currently a short lecturer position (ecology) and will return back to full-time research in March 2012. Our post-doc Tapio van Ooik is busy in analysing published data as he is currently writing a review, which incorporates social insects. PhD students Salla-Riikka Vesterlund and Marja Haatanen are active as well. Salla-Riikka is doing research on cryptic

bumblebee species complex including *Bombus terrestris*, *B. lucorum*, *B. magnus* and *B. cryptarum* concentrating on the effects of imported *Bombus terrestris* on local bumblebees. She also studies local effects of global warming to the diapause mortality, immune defence and energy resources of bumblebee queens. Marja was in Tartu, Estonia during the last summer, presenting her latest research results on the overwintering survival of ants. She has already collected all the data for her thesis. All that is missing is some data analysing and writing.

As for the master's students, Salla Härkönen has finished her thesis project with interesting results on community of invertebrates in red wood ant mounds. Weird things were found from the mounds of *Formica polyctena* and *F. rufa*. Riikka Elo visited University of Alicante for several months and is now back and working with ant mound associated mites. Maija Arvonen got a baby girl recently and she is in her maternity leave. Heini Pollari is analysing the final data of her thesis project on pollinators. Maria Kakko spent her summer in the basement of the university in a windowless climate room and learned the ways of bumblebees. Now she is just about to get her final data for her thesis on bumblebees.

On 14<sup>th</sup> of October the CBEES research group had a Recreational Day. The evening had a lot to do with games. First we played Yahtzee outside with very large dice. The game was followed by glow bowling at a nearby situated bowling alley. Finally, at the end of the evening we thought that it would be nice to go to an Irish pub. A nice surprise was waiting for us, since when we came there, a band called "Ants in the Pants" was about to perform. We couldn't have asked a more pleasant way to finish our evening!

The culture capital project Antspotting in Turku was a success: tens of thousands of people met ants at the market place, city library, University, and on the field paths. Live ant colony in a large glass terrarium was a centrepiece of attraction in the Natural Science Building of University of Turku where numerous visitors admired the life of the ants. In addition, tens of thousands of people followed the AntCam webcam that was installed into the terrarium. Unfortunately the exact number of webcam visitors was lost due to failure in the media server. Anyway, ants and other social insects are now more familiar to the public.

We are looking forward to the forthcoming winter meeting of IUSSI at The University of Sussex in December. A three person delegation from our group is going to attend the meeting.

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

The ant research group here has seen an expansion with two new PhD students joining the team. **Sam Ellis** will be working on how the nesting strategy of wood ant colonies (polydomous versus monodomous) affects their role within the forest and their robustness to local habitat change. **Yi-Huei Chen** is starting a project on within-species differences in colony organisation across altitudinal gradients, in collaboration with Michel Chapuisat at the University of Lausanne. **Zoe Cook** continues her work on modelling the costs and benefits of decentralisation in polydomous species. **Elva Robinson** has spent some time in the outback working with Ben Hoffmann of CSIRO Darwin on colony organisation in the invasive yellow crazy ant.

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

We were very sad to lose **Dr Bill Jordan**, a senior research fellow at IoZ, who died unexpectedly in June. Bill had been collaborating with **Seirian** and also **Andrew Bourke** (UEA) on various social insect genomics/genetics projects over the last few years. He will be sorely missed, both as a colleague and friend. **Seirian** will be continuing Bill's work on the genetics component of the IPI bumble bee project, which is a collaboration with **Andrew Bourke** (UEA), **Dr Claire Carvell** and **Dr Matt Heard** (Centre for Ecology and Hydrology). We recently appointed **Stephanie Dreier** as postdoc on this project, and she is now deeply ensconced into microsatellite analyses of several thousand bees! To help Stephanie we will be appointing a technician, to start in January – look out for the advert!

Sociogenomics continues to dominate social insect research at IoZ. We are now sequencing the genome of *Polistes canadensis*, the species on which most of our transcriptomics work has focussed to date. Postdoc **Solenn Patalano** is finally getting the chance to apply her expertise in epigenetics to social insects, with a new project on epigenetics and transcriptomics on *Polistes canadensis*, in collaboration with Wolf Reik at the Babraham Institute, Cambridge. NERC CASE PhD student **Claire Asher** (co-supervised by **Bill Hughes**, Leeds) has now moved to London to commence the transcriptomics part (complete with genome sequencing) of her PhD on reproductive dominance in dinosaur ants. We have been joined by postdoc **Inti Pedroso**, who is jointly based at IoZ and Royal Holloway, with **Mark Brown**. Inti has a PhD in bioinformatics, and will be working on a Leverhulme funded transcriptomics project on **Mark's** bumble bee-nematode system, leading on from the work of PhD student **Joe Colgan**. **Seirian** visited the Beijing Genomics institute in August, for the social insect genomics meeting, where we compiled a wish list of 100 social insect genomes (<http://ldl.genomics.org.cn/page/showinsects.jsp>).

We were delighted to have Dr **Elli Leadbeater** join us as a Leverhulme Fellow earlier this year. Elli has been extremely productive this year in producing a Science paper (with **Jeremy Field**), and squeezing in a field trip to Texas just before the arrival of her baby boy, Arran! Many congratulations to Elli! Elli will be continuing her work on the honey wasp *Brachygastra mellifica* when she returns from her maternity leave next year. We also welcomed NERC CASE PhD student **Henry Ferguson-Gow** from UEA (co-supervised by **Andrew Bourke**), who will be at IoZ for the next year to continue his comparative study on ant diversification, with **Seirian** and **Dr Kate Jones**. PhD student **Thibault Lengronne** (co-supervised by **Laurent Keller**, Lausanne) is now in the final stages of writing up his work on nest drifting in *Polistes canadensis*. New NERC funded PhD student **Emily Bell** will be joining us in early December to carry on behavioural work on phenotypic plasticity *P. canadensis*.

On a more frivolous note, artist **Ollie Palmer**, who has been working with **Seirian**, is about to unveil his "Ant Ballet" installation at ZSL London Zoo, which will act as a vehicle for furthering outreach to zoo visitors on social insect biology and research. Come see it!

Finally, IoZ are currently advertising four-year postdoctoral fellowships, preferably on projects involving genomics, but not essential. Email **Seirian** if you're interested in applying (deadline 21<sup>st</sup> Nov).

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## Journal news

### Invitation to submit review articles to *Insectes Sociaux*

We are eager to publish more review articles in *Insectes Sociaux*. Our long-term aim for the future is to have at least one review article per issue. So if you have a review manuscript ready about any aspect of arthropod sociality, consider submitting it to *Insectes Sociaux*. If you have an idea for a suitable and timely review article that you have not yet written, please contact our associate editor Michiel Dijkstra ([michielbendert.dijkstra@unil.ch](mailto:michielbendert.dijkstra@unil.ch)) in advance to avoid overlap with other review manuscripts in preparation.

The length of review articles should not exceed 10 printed pages (including references) in the usual *Insectes Sociaux* format, i.e. roughly 65,000 characters including spaces. The editorial and refereeing process is the same for reviews as for other articles, with one exception : as a small token of our appreciation, the corresponding author will receive 200 € per accepted review article.

The web site of our new (since May 2011) online submission system is:  
<http://www.editorialmanager.com/inso/default.asp>"

### **Psyche call for papers**

Topic: Hymenopteran Collective Foraging and Information Transfer about Resources  
2012

Manuscript Due: Friday, 3 February 2012

First Round of Reviews Due: 4 May 2012

Publication Date: 3 August 2012

More information: <http://www.hindawi.com/journals/psyche/si/hcfi12/>

Social insect foraging and the transfer of information about the location and quality of food and other resources, such as building materials and potential nesting sites, continues to be a topic of intense research and interest in biology. Recent advances show that some social insect species (ants, bees, and wasps) can stimulate nestmates to forage and communicate food source location through several mechanisms, including visual local enhancement, scent trails, dance communication in *Apis* species. By understanding the mechanisms and the patterns of collective foraging within the social insects, we may reach a deeper understanding of their ecology and the important role they play as pollinators and predators. We invite investigators to contribute both original research and review articles that will stimulate continuing efforts to understand the patterns of collective foraging and resource communication in social insects. In particular, we are interested in articles that improve our understanding of task partitioning in foraging, mechanisms used to provide information about resource location and quality, how individuals transfer this information to nestmates, how collective colony foraging arises and is coordinated, how foragers deal with exploitation by competitors, and other current topics in collective foraging.

### **International Journal of Zoology call for papers**

Message from Adam Hart: I'm the lead editor on a special issue of the International Journal of Zoology focussing on "citizen science". The call for papers can be found at <http://downloads.hindawi.com/journals/ijz/si/cs.pdf> and the deadline for submissions is February 3<sup>rd</sup>. Papers will be free to publish. For this special issue we are seeking papers that critically explore the role of citizen science in zoological research.

Potential topics include, but are not limited to:

- Successful citizen science or volunteer-based projects with scientifically significant results
- Citizen science or volunteer-based projects that were successful with respect to the "citizen" element but did not generate statistically significant results
- Projects where issues of data analysis have not been adequately addressed, as long as reasons for this are acknowledged and discussed
- Studies where the impact of citizen science or volunteer-based data collection has exceeded that of traditional academic approaches
- Successful volunteer training programmes that have enhanced the ability of volunteers to collect data



- Citizen science and volunteer-based approaches for data collection that were unsuccessful and the reasons for that lack of success
- Statistical or technological methods for recruitment of citizen or volunteer scientists or analysis of resultant data
- Collation and/or analysis of citizen science data
- Taxonomic, geographical, or approach-based reviews of citizen science projects
- Web-based recruitment and data collection

## Conference reports

### ESEB 2011

I am in the end of my PhD and thus I have been in all sorts of conferences. I must admit I like small ones because of their cozy atmosphere, nice food and location and many possibilities to wonder around and talk to people. The conference I went to in August this year was a big one. It was the 13th Congress of the European Society for Evolutionary Biology, held Tuebingen 20-25 August 2011.

The conference had more than 1000 participants all over the world (more than 40 countries), but most of people came from Germany, UK, Switzerland and USA. The composition of participants was nicely diluted by younger people, including Diploma students who made a conference vibrant and lively. Although the conferences included 29 regular symposia there was a strong bias towards evolutionary ecological genomics, climate change and evolution and experimental evolution across the microbe/macrobe divide. I think it clearly reflects hot topics in biology and gives a hint to potential students who want to start their carriers.

The organization of the conference was a great example of German pedantic approach. I actually liked it very much. First of all, all the abstracts were on USB flash, rather than printed (I do not like those printed ones because once you get it you start thinking if there is enough space in the luggage to be able to take such a book back home). Then, an absolutely great approach was employed to remind speakers about 1 min left and the absolute deadline for the talks – an audio! First, a voice said “1 min left”, and then “discussion”, after this nice music started becoming louder and louder, so there was no chance to go overtime. I think this should become a tradition. Moreover, all rooms were clearly marked with a piece of paper, there was also a room number inside on the wall for those who mistakenly rushed inside and had no idea what symposium was on.

As for posters, there were two kinds of them: essence posters and regular ones. The only difference I found was the size – essence posters were smaller.

There were quite a few interesting talks, and what made them even more entertaining was a green hand. On one of the pages of the program one could find a printed green palm, and if you showed this palm during discussion session, you had a priority, meaning that you are a student and is eager to ask a question and even more eager to get an answer.

Altogether, I established some new connections and more importantly, I have strenghtened the old ones. The conference was a good fun and a lot of experience and I want to thank Northwest European section of IUSSI for funding.

*Anton Chernenko*

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# IUSSI Northwest European Section Winter Meeting

\* indicates student talk (15 minutes including questions)

**Thursday 15th December**

## Registration & introduction

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10.30am Coffee and registration

11.00am Introduction

## Session 1: Organisation of social insect colonies

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11.15am **Matthias Becher** (Rothamsted Research, United Kingdom)  
Modelling honey bees: colony dynamics, foraging and parasites

11.35am **Tomer Czaczkes\*** (University of Sussex, United Kingdom)  
Ant foraging on complex trails

11.50am **Joanito Liberti\*** (University of Copenhagen, Denmark)  
Garden stealing in fungus-growing ants

12.05pm **Zoe Cook\*** (University of York, United Kingdom)  
The effects of recruitment strategy on the benefits of polydomy in ant colonies

12.20pm **Patrick Hogan** (University of Sheffield, United Kingdom)  
Automating theoretical biology: emergent social behaviour from agent-based mathematics

12.40pm **Ricardo Oliveira\*** (Ludwig-Maximilians-Universität München, Germany)  
Ants marching – are the foraging trails species-specific in *Lasius* ant species?

## Business meeting & lunch break

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12.55pm IUSSI business meeting

13.25pm Lunch (provided)

## Plenary 1

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14.15pm **Audrey Dussutour** (Université Paul Sabatier, Toulouse, France)  
Communal nutrition in ants: the collective mouth and gut

## Session 2: Proximate and ultimate explorations of natural history features

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- 15.00pm **Salla-Riikka Vesterlund\*** (University of Turku, Finland)  
Status of the imported bumblebee *Bombus terrestris* in Finland and its effect on native sibling species in a changing climate
- 15.15pm **Adam Smith** (University of Leeds, United Kingdom)  
Juvenile hormone expression in solitary and eusocial individuals of the facultatively eusocial sweat bee *Megalopta genalis*
- 15.35pm **Richard Gill** (University of London, United Kingdom)  
Does exposure to sublethal pesticides affect the behaviour and health of bumblebees?
- 15.55pm **Rowena Mitchell\*** (University of Leeds, United Kingdom)  
Size and asymmetry: are there costs to winning the royalty race?

## Coffee and posters

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- 16.10pm Coffee and poster session

## Session 2 con't: Proximate and ultimate explorations of natural history features

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- 17.00pm **Jacob Holland\*** (University of East Anglia, United Kingdom)  
The proximate control of male production in the bumble bee *Bombus terrestris*: the importance of a queen-based clock
- 17.15pm **Martin Kärcher** (University of Sussex, United Kingdom)  
Factors influencing virgin queen survival duration and choice in the stingless bee *Melipona quadrifasciata*
- 17.35pm **Rachelle Adams** (University of Copenhagen, Denmark)  
Mercenaries against Genghis Khan in the world of ants: the evolution of life history strategies in *Megalomyrmex* ants

## End of session & dinner

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- 17.55pm End of the sessions  
Evening meal: Time and venue to be announced

## Friday 16th December

### Plenary 2

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- 9.30am **Tristram Wyatt** (University of Oxford, United Kingdom)  
Chemical communication in social insects: pheromones (fixed, species-wide signals) vs. signature mixtures (variable, for identity including colony odour)

### Session 3: Kin recognition and inclusive fitness

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- 10.15pm **Edd Almond** (University of East Anglia, United Kingdom)  
Kin-selected conflict and the evolution of lifespan and ageing in *Bombus terrestris*
- 10.35am **Eva Schultner\*** (University of Helsinki, Finland)  
Cannibalism and conflict in *Formica* ants
- 10.50am **Thibault Lengronne\*** (University of Lausanne, Switzerland)  
Assured fitness returns and nest-drifting behaviour in tropical paper wasps

### Coffee break

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- 11.05am Coffee

### Session 3 con't: Kin recognition and inclusive fitness

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- 11.35am **Ellouise Leadbeater** (Zoological Society of London, United Kingdom)  
Nest inheritance is the missing source of direct fitness in a primitively eusocial insect
- 11.55pm **Gabrielle Lockett** (University of Southampton, United Kingdom)  
Kin-selected conflict and the evolution of lifespan and ageing in *Bombus terrestris* – age-associated transcription
- 12.15pm **Jonathan Green\*** (University of Sussex, United Kingdom)  
Social parasitism as a novel tool for testing models of reproductive skew
- 12.30pm **Heikki Helanterä** (University of Helsinki, Finland)  
Within colony cue variation and potential for nepotism in *Formica* ants
- 12.50pm **Janni Larsen\*** (University of Copenhagen, Denmark)  
Division of labour and recognition ability in a leaf-cutting ant

### Lunch break

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- 13.05pm Lunch

#### Session 4: Causes and impact of diseases on social insect colonies

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- 14.05pm **Matthias Fürst** (University of London, United Kingdom)  
One against many: the impact of parasite communities on queen fitness in bumble bees
- 14.25pm **Joanna Malagocka\*** (University of Copenhagen, Denmark)  
Obligate fungal pathogen of red wood ant (*Formica rufa*): field observations of infection rate and host response
- 14.40pm **Joe Colgan\*** (University of Dublin, Ireland)  
Immune regulation in the sexes and castes of the important ecological pollinator, *Bombus terrestris*
- 14.55pm **Sophie Evison** (University of Leeds, United Kingdom)  
Strength in diversity: a genetic basis to resistance to brood diseases in honey bees

#### Coffee, awards & end of meeting

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- 15.15pm Coffee and award of prize for the best student talk
- 16.30pm End of meeting