

# IUSSI, North-west European Section (International Union for the Study of Social Insects) Spring/Summer Newsletter 2008

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Meetings site: <http://www.zi.ku.dk/iussi/meetings.html>  
Who's who site: <http://www.zi.ku.dk/iussi/newsletter.html>
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## Upcoming Meetings

David Nash keeps a comprehensive and regularly updated webpage of upcoming meetings at <http://www.zi.ku.dk/iussi/meetings.html#iussiuk>. The highlights are listed below:

**IUSSI North-west European Annual Meeting 2008.** Paul Eggleton has kindly agreed to host our Winter Meeting this year again at the Natural History Museum. The date is provisionally set for Friday 5<sup>th</sup> December. There will be no summer field trip or meeting for the NW European Section this year.

**ICE 2008 – Celebrating Entomology: Contributions to Modern Science.** 6-12 July 2008, Durban, South Africa. This meeting includes a whole section on Social Insects, including a symposium organized by NW European Section members Koos Boomsma and David Nash on cooperation and conflict. Abstract submission is now closed, but registration is still open. For further information see: [www.ice2008.org.za](http://www.ice2008.org.za)

**IUSSI European Section Meeting**, 30 August-4 Sept. 2008. La Roche-en-Ardenne, Belgium. This meeting consists of 12 symposia on social insect research and 4 plenaries. Registration deadline is 30<sup>th</sup> April, but places are limited so book ASAP; abstract deadline is 31<sup>st</sup> May. For further information see: [http://www.ulb.ac.be/EU\\_IUSSI\\_2008/information.html](http://www.ulb.ac.be/EU_IUSSI_2008/information.html)

**EurBee3**, 8-11 Sept. 2008. Queens University, Belfast. This is the Third European Conference of Apidology, comprising plenary lectures and symposia (talks and posters) on diverse aspects of the biology of bees, honeybee management and honeybee products. Deadline for abstract submission and early registration is 31<sup>st</sup> May. Plenary lectures at EurBee3 will be given by: **Tom Seeley** (Cornell, USA)

Communication, **Vassya Bankova** (Sofia, Bulgaria) Propolis, **Martin Giurfa** (Toulouse, France) Behaviour, **Steve Martin** (Sheffield, UK) Bee diseases, **Claire Kremen** (Princeton, USA) Pollination, **Dave Goulson** (Sterling, UK) Conservation. For further information see:

<http://www.qub.ac.uk/sites/The3rdEuropeanConferenceofApidology>

**XVI International IUSI Congress**, 8-14<sup>th</sup> August 2010. Copenhagen Denmark. Watch this space:

<http://www.iussi.org/iussi2010/>

## Important Announcements

*Summary of main points discussed at the IUSI North-west European Section business meeting, Dec. 2007.*

- **Name change.** It has been felt for some time that the name of the section ('British Section') did not accurately reflect the membership of the section, since almost half the members of the section are not resident in Great Britain. Following a discussion among the 66 members of the society present at the winter 2007 meeting, several alternative names for the section (and retaining the name 'British Section') were put to the vote. As a result of this vote, the section will henceforth be known as the **North-west European section**.
- **Subscriptions to *Insectes Sociaux*.** Beginning in 2008, the IUSI (North-west European section) will no longer handle subscriptions to *Insectes Sociaux*. Birkhauser will take over direct handling of all subscriptions from individuals. With the new arrangement, sections will no longer have any responsibilities for collecting subscriptions, handling money, negotiating complaints, etc. Birkhauser will soon communicate directly with subscribers concerning renewals for 2008. Gratis subscriptions will continue to be provided to the Editorial Board as at present. If you have questions, please contact Birkhauser directly at [petra.stromberger@birkhauser.ch](mailto:petra.stromberger@birkhauser.ch). The web page for the journal can be found at: <http://www.springer.com/east/home/birkhauser/biosciences?SGWID=5-40293-70-1176665-detailsPage=journal|description>.
- **Section membership and subscriptions.** The North-west European section has grown from 83 members in 2007 to 106 members in 2008. This is excellent news. Please continue to encourage new members of your group to join (contact Rob). The Section will continue to collect membership subscriptions from its members, and it was decided at the winter 2007 meeting that these would, once again, remain unchanged for the 4th year in a row. The two subscription types available are therefore: Ordinary member: £15; Student member: £7.50.

### Other important items

- **Student conference grants:** A reminder that the student conference grant has now increased from £100 to £250. Please send your application to Rob. See <http://www.zi.ku.dk/iussi/studentgrants.html> for eligibility and application details.
- **News for Newsletter:** Please remember that any member is invited to email Seirian with their news (concisely!) by 15<sup>th</sup> April (for the Spring/Summer edition) and 15<sup>th</sup> October (for the Autumn/Winter edition). These dates are also given on the website. Reminder emails are still sent to group leaders: if you have not been receiving these requests and think you should be/would like to, then please email Seirian and she will add you to the list.
- **INSECTSmal list:** David Nash maintains a very useful mailing list that was originally for old members of the INSECTS EU network, detailing recent job vacancies/PhD positions and upcoming conferences. David is very happy to add new readers to this list. Some N-W European IUSI members are already on his list. For those of you who are not, and who would like to be, please email [INSECTS@bi.ku.dk](mailto:INSECTS@bi.ku.dk), asking to join.

## Section Gossip Column

**Belfast: The Paxton Lab.** Two local MSc students have joined the group at Queen's for spring/summer fieldwork on social insects. **Theresa Bennett** will be working with postdoc **Staffan Roos** on urban ecology, particularly focussing on bumble bees and the estimate of population size of this important pollinator taxon in the wild and wet extreme northwest of Europe. **David Trew** will assist **Antonella Soro** on her studies of the facultatively eusocial *Halictus rubicundus*; his project will examine patterns of dispersal in the species, and links to ongoing collaboration with **Jeremy Field** and **Cathy Bridge**, now at Sussex University.

A new recruit, EU administration allowing, will Dr **Manuela Giovanetti**, formerly of the University of Milan, who will take up a 2 year Madame Curie fellowship in the group. Her interests cover primitively social bees and wasps, with her PhD based at the Smithsonian Institute in Panama, where she had the good fortune to work with **Bill Wcislo** and **Mary Jane West Eberhard**. In Belfast she will focus on primitively eusocial sphecid wasps (genus *Cerceris*), one of which has been suggested to exhibit pronounced division of labour. Needless to say for the Queen's group, the work will involve some molecular genetic analysis of parentage and relatedness.

Rob's mind and time has recently been taken up with the organisation of the EurBee3 conference, which is being staged in Belfast in September 2008. **Antonella Soro** and Dr **Joachim de Miranda** from the Belfast group are also formally involved in its organisation, though doubtless it will be a matter of 'all hands on the deck' for the final preparations and during the running of the conference. **Juliet Osborne**, Rothamsted Research, has been instrumental in putting together the scientific programme which, we hope, offers an interesting cross-section of current research on the biology of bees (many of which are social...). More details of the meeting are given in the Upcoming Meetings section of this newsletter.

**Bristol – The Franks Lab.** **Nigel Franks'** Ant Lab has two new PhD students: **Nathalie Stroeymeyt**, who is studying individual and collective learning in ants, and **Tom Richardson** who returns to the Ant Lab to study division of labour. **Silvia Perez-Espona** is studying adaptation, coevolution and speciation in an army ant and its associates, having taken on the post-doc position previously held by **Steffi Berghoff**. **Elva Robinson** continues with her post-doctoral research into division of labour and task organisation in ants using RFID technology.

**Copenhagen – The Boomsma, D'Ettorre, Pedersen, Eilenberg and Nash labs!** The *Centre for Social Evolution* (CSE) continues to stir, and we are almost reaching our third birthday (and third annual assessment) in summer 2008, still going at full steam. Our latest new recruits are PhD students **Svetlana Vojvodic**, **Line Vej Ugelvig**, **Anna Mosegaard Schmidt**, **Aniek Ivens** and **Volker Nehring**. Svetlana (or Lana, as she prefers to be called) is doing a project on diseases of honeybees, while Line is working on the phylogeography of the large blue butterfly (*Maculinea arion*) and its association with *Myrmica* ants. Anna is starting a project on evolutionary changes in invasive ants, following up her masters' work on the pharaoh ant. Aniek is doing a joint PhD with the University of Groningen in the Netherlands, in which she is looking at the factors shaping the symbiosis of aphids and the yellow meadow ant. Volker will start soon his PhD which will be on recognition and social parasitism in fungus-growing ants. He received a grant from the German DAAD to work with Patrizia in Copenhagen.

We have also continued the tradition of hosting European students from outside Denmark for research visits this summer, 'though for once they have not all been from the Netherlands ☺. **Nathalie Stroeymeyt** (Belgian/French) spent the summer with CODICES, during which she obtained her MSc on "Chemoreception and nestmate recognition in ants" from the Université Paris-Sud 11 and Ecole Normale Supérieure, and already started a PhD under the joint supervision of Martin Giurfa (Toulouse) and Nigel Franks (Bristol). **Nabila Devos** (French) also managed to get her MSc "The applicability of AFLP markers for elucidating the invasion history of the invasive garden ant, *Lasius neglectus*" from the University of Perpignan. **Sylvia Gerritsma** (Dutch – well there had to be some...) joined **David Hughes'** Thai travelling circus (see her write-up below), which also recruited local MSc students **Sandra Breum Andersen** and **Maj-Britt Pontoppidan**. Maj-Britt defended her MSc "Distributional patterns of *Cordyceps*-infected ants and the correlations with biotic and abiotic factors" successfully in January 2008. For his MSc thesis, **Nick Bos** (Dutch), from the university of Nijmegen, is currently working on olfactory conditioning with respect to nestmate recognition. Also recently arrived has been Panamanian post-doc **Hermógenes Fernández-Marin**, who is investigating the pesticide use of fungus-growing ants and their other defences against several pathogenic fungi.

As for losses, **Anders Kofoed** completed his MSc on “Phylogenetic relationships of South African *Microtermes* species and coevolution with their *Termitomyces* mutualists” in June, and has now moved on to a job in one of the Danish Science Dissemination Centres. **Jens Frederik Broch** completed his MSc on “Environmental and genetic variables affecting immune defence of a leaf-cutting ant” in April and is currently making the transition from being an ant-keeper to becoming an elephant-keeper at Copenhagen Zoo. We also temporarily lost PhD student **Susanne den Boer** who travelled to Perth, Australia, to join **Boris Baer** for a 4 month project at Leigh Simmons’ *Centre for Evolutionary Biology*. Here, she got to know the wonderful world of honeybee sperm, at least when she wasn’t at the beach enjoying Australian summer or babysitting for Boris, whose latest sprog (Lucien Silvan Baer) arrived late last year. After a short stay at the Department she will move on to Panama for another month to do her fieldwork together with almost half of the other CSE members. **Jelle van Zweden** received a STRI fellowship to study nestmate recognition of sweat bees in Panama for 3 months under the gauntlet of Bill Wcislo, after which he will be working hard in order to finish his PhD later this year. **Stéphanie Dreier** is currently busy writing, as she will submit her PhD thesis in July. Post-doc **Fernando Guerrieri** will continue his work as part of CODICES, but has left Copenhagen to re-join the Research Centre on Animal Cognition in Toulouse, France, with a grant from the Danish National Research Foundation and the French CNRS. Post-doc **Sophie Armitage** has also left Copenhagen and is currently living in Madrid, where she is applying for grants to continue her work in insect immune systems. Another Post-doc lost is **Daniel Kronauer** who has just joined Laurent Keller’s group in Lausanne, on his way to taking up a 3-year Harvard junior fellowship in September, in association with the Naomi Pierce lab.

We also have news concerning Family expansions! **David Hughes** added Chiara Congiu Hughes to his Family on 20<sup>th</sup> March 2008. Congratulations! Another reason to celebrate is the engagement of **David Nash**, who will marry his Jane in September this year.

*David Nash/Jelle van Zweden/Matthias Fürst*

**News from CODICES: Patrizia D’Ettorre, Fernando Guerrieri, Stéphanie Dreier and Nathalie Stroeymeyt** attended the French Section IUSSI Meeting, which was held Toulouse, France, 3-5 September 2007. Patrizia gave a plenary lecture showing the achievements of the team and the new challenges on nestmate recognition. Fernando gave a talk on his new work on associative learning in ants. Stéphanie presented a new chapter of her PhD thesis, on queen recognition, and Nathalie presented the work corresponding to her recent Master’s thesis. Her poster won the first prize! Congratulations, Nathalie, and good luck with your PhD in Bristol and Toulouse!

Website: <http://www.bi.ku.dk/codices>

*Fernando Guerrieri*

**Killer fungus in Thailand:** In September, team *Cordyceps* went of to Thailand to do some field work on the ant killer fungus *Cordyceps*. This fungus takes over the behaviour of its ant host after infection, making it leave the nest to go to the forest floor where it will climb onto a shrub to bite onto a leaf and then dies. The fungus starts growing a big stalk from the ants head. The tip of the stalk then produces infective spores that eventually disperse. In the forest in Khao Chong national park we stayed and worked for 4 weeks, completely isolated from civilization. But it paid off big time! We found lots of dead ants hanging underneath leaves. Even more exciting was the discovery of ants that were alone, highly disorientated and not very good in holding onto a leaf: they were infected with *Cordyceps* and were approximately 2 hours away from being killed by the fungus. We followed these ants until they were in there last phase of their life, biting onto a leaf. Most strikingly, they were all biting onto a leaf around 12 am! They seemed to be synchronizing their death.

In the second week another exciting event happened: we found a trail of *Camponotus leonardi* ants. These ants are the primary host of the *Cordyceps* species that we are studying. We followed them all the way up in the canopy ( $\pm 25$  m) where the colonies live in death branches. Two professional tree-climbers from Malaysia came to our help: Kelsum and Alex. They climbed up in the tree and before we knew it, we had a dead branch filled with little golden ants on the forest floor. We dissected the logs in the lab and tried to get as many ants and brood as possible using a little vacuum cleaner (very useful things!). Lots of work, but no queen... We took them home to Copenhagen and can hopefully infect them in the lab to do behavioural experiments.

During our work we were accompanied by a photographer and a writer from National Geographic and next year in September an article about *Cordyceps* and our fieldwork will appear in National Geographic magazine.

These were the highlights of our stay in Thailand (not including the sunny weather, white beaches, palm trees, clear green sea with beautiful coral reefs and fishes and so on that we saw on our trips to the beach...).

Sylvia Gerritsma

*Picture: David Hughes on the lookout for Camponotus ants. On the top-right a Cordyceps infected ant with a huge fungus stroma growing out of her head. The bottom picture shows a healthy Camponotus leonardii worker-ant, or is she about to bite a leaf?*



**Dublin - The Brown Lab.** Mark Brown, in collaboration with Seirian Sumner (IoZ) has received a grant to look at gene expression in bumble bee queens parasitised by the nematode worm *Sphaerularia bombi*. This builds on a current project which has optimised the worm-bee system and is a new area of research for Mark, who is looking forward to developing the project with Seirian and stepping into the genomic age! If you know of anyone with (or about to get) a good 1st class degree in genetics, please get them to drop Mark a line.

**Gloucester - The Hart lab.** Since I moved from Sheffield things have been pretty busy, what with setting up and running new courses and developing a new lab. I have not let research slide though and I have 5 healthy *Atta cephalotes* colonies that are generating some great data. **Duncan Jackson** (see below) is due to visit soon and we will be investigating further phenomena involving minors on *Atta* trails relating to the Animal Behaviour paper we recently published with Sophie Evison. My first PhD student, **Anne Goodenough**, has her viva in early April (although she worked on nesting birds, not insects) and two more are due to start in September (on issues related to phenology and climate change, and ecological diversity of butterflies). The addition of agent-based ecological modeller Dr **Richard (Rick) Stafford** to the Department is leading to all sorts of new possibilities for research, in particular bringing ideas from other fields to bear on social insect problems. I continue to collaborate with Sheffield colleagues like **Duncan Jackson** and **Sophie Evison**, with a number of papers either published, in press or in development. Duncan and I tend to do rather more collaboration via email than in the flesh, since the latter usually takes place in a pub...

I have also managed to steer a colleague over to the "dark side" of ant research. Formerly a lecturer here, **Sam Elliot** is now in Brazil and is getting heavily involved with *Atta* - and with access to 80+ lab colonies who can blame him? Sam and I are developing a number of large scale projects on disease and *Atta* to take advantage of the replicates available.

Some of you may recall **Matt Wood**, who worked for a while at Tupton in Sheffield. He is now working at Oxford in the Edward Grey Institute and we are working on a NERC funded project investigating pollen on migrating birds. It's odd that from being an ant biologist I now find myself studying a pretty wide variety of things. It's also interesting how much more enthused I have become towards research now that I am not constantly looking for the next job/grant – an endless cycle which very nearly put me off science altogether. I have to say that living in the Cotswolds and having several interesting research strings to my bow is proving to be a very productive atmosphere indeed.

As an aside, we are looking to develop a field course (L2 and L3) to Madagascar. If anyone is interested in developing a joint field course between two or more Universities then please get in touch.



**Hull – The Hammond Lab.** **Rob Hammond's** research focuses on variation in social organization – and in particular he is trying to uncover genetic variation that may contribute to this. In a new research direction he is collaborating with a physicist (**Martin Buzza**, U. of Hull) and physical chemist (**Mika Kohonen**, U. of Hull) to investigate the co-evolution of adhesive properties of ants and their substrates (currently recruiting two PhDs - one modelling, on behavioural: see <http://www.hull.ac.uk/postgraduate/80thanniversaryphd/science/insect.html>).

**Richard Gill** (NERC funded PhD) looks at the causes of variation in reproductive skew among populations of the widespread ant *Leptothorax acervorum*. Currently he is carrying out behavioural and genetic analyses to investigate the proximate mechanisms that regulate and maintain high reproductive skew in Spanish populations of *L. acervorum*. In addition, the role of hydrocarbon profiles on queen status and identification is being investigated. A series of undergraduate project students have been working in the lab: on high skew societies of *Leptothorax acervorum* (**Duncan Coston**), and the effects of variation in within-colony genetic diversity on house hunting in *L. acervorum* (**Laura Jackson** and **Catherine Letchford**).

Finally, **Natalie Gregoire** has been investigating mating frequency and sperm precedence in *Pholidoptera griseoptera* - but that's a bushcricket and so you might not be interested!

**London – The Sumner Lab.** **Thibault Lengronne** has joined **Seirian Sumner's** lab as a PhD student, working on nest drifting in *Polistes canadensis* in Panama. Jointly supervised by **Laurent Keller**, Thibault will be looking at the costs and benefits of drifting behaviour using RFID tags. His first field trip to Panama is in June when he will be joined by **Jessie Barker**, a PhD student of **Kern Reeve** (Cornell University), who will be looking to see if there is any audience effect of nest drifting behaviour in *P. canadensis*. Meanwhile, we have been branching into other aspects of social behaviour, with PhD student **Andy King** (IoZ), undergraduate student **Ben Pettit** (Cambridge university) and **Hillery Warner** (volunteer) working on group decision-making in cockroaches using RFID tags. **Claire Narraway** (PGRA) is working on a project concerned with group coordination in humans (sorry, not insects!), which you are all invited to take part in at London Zoo this summer! **George Busby** continues to carry out gene expression analyses on *P. canadensis*, and **Gaby Peniche** is in the process of writing up a project on the conservation genetic of the BAP species, *Formica rufibarbis*. Seirian will be having another baby before the next newsletter, and so is busy gestating.

**Norwich - The Bourke Lab.** In **Andrew Bourke's** group, **Nehal Saleh** has now arrived and is carrying out work on the chemical ecology of caste conflict and of worker-larval interactions in *Myrmica rubra* ants with funding from a British Ecological Society Early Career Project Grant. **Lucy Friend** is conducting her NERC-funded Ph.D. on testing aspects of kin selection theory in *Leptothorax acervorum*. In another NERC-funded project, **Lorenzo Zanette** and **Sophie Miller** have uncovered preliminary evidence for the occurrence of 'drifter' workers, i.e. workers from foreign, conspecific nests, in wild-caught nests of the bumble bee *Bombus terrestris*. Andrew will shortly be advertising for a technician for 12 months to conduct a NERC-funded study on the heritability of sex ratio and other life-history traits in *B. terrestris*. Meanwhile, in a DEFRA- and Natural England-funded project cosupervised with **Bill Jordan** (Institute of Zoology, London), **Edd Almond** and **Nicky Jenner**, both based at the Institute of Zoology, have been applying genetic census techniques to evaluate the success of agri-environment schemes for bumble bees. Finally, we said farewell to **Jouni Sorvari**, who has now finished his Academy of Finland fellowship at UEA and has returned to a research and teaching position at the University of Turku in Finland. Back at UEA, **Doug Yu's** group welcomed **Joerg Barke** from the University of Groningen, who recently arrived to start a UEA-funded PhD on the bacterial symbionts of ants.

## Reports

### Report from the Central Association of Bee-Keepers (CABK) Spring Meeting, March 2008.

This was held at "Roots and Shoots" in Lambeth, London 8 March '08. The CABK has as its tag line "Bringing science to the beekeeper", and this UK charity has its origins in what is now the British Beekeeping Assoc. (BBKA). Unlike IUSI, most members of CABK are 'amateurs' (not entomologists or similar), but over the years it has encouraged professional level presentations and their publication in a series of slim, A5 sized reprints. Also some more comprehensive reprint collections have been published, and the latest is well worth looking at viz. *Aspects of Sociality in Insects*, edited by Norman Carreck. This has a beautifully written little preface by Rob Pickard (currently CABK president), and a succinct and useful introduction by Steve Martin (<http://www.cabk.org.uk/publications.htm>).

The first presentation was by David Perkins of 'Roots and Shoots' on The Natural History of London. As one might expect, this was both fascinating and quite depressing - especially when considering the history of the area and how few green spaces still exist and how fragile they are. But there is hope, and he described some of the exemplary initiatives being undertaken by 'Roots and Shoots' (R&S) itself and others in and around the Capital. R&S's facilities are constructed in an eco-friendly way, and the charity generates its own solar powered electricity, has other green roof areas, a wildlife garden complete with bee hives, vegetable and shrub areas, as well as vocational training for local young people, especially in 'green' areas and so on. R&S is well worth a visit sometime (<http://www.rootsandshoots.org.uk/>) - and all just a short walk from the London Eye!

The second presentation was by Paul Eggleton of the Natural History Museum on termites ('the sophisticated cockroaches'). All IUSSI members will be well aware of his fascinating work in this area, but beekeepers are sometimes a bit surprised at how complex other eusocial insect societies can be! I am ashamed to say that I had been unaware of the seminal little book by E Marais on termites (*The Soul of the White Ant*). So I've been reading that as extra background since Paul's excellent presentation, which had brought all completely up to date on the latest findings.

Lars Chittka, (QM Univ, London) presented on a different title than the one originally scheduled, much to my even greater pleasure (!) His talk was entitled "Can Bees Learn by Example ?" One of the many aspects that he explained very well is the distinction that needs to be made between telling/informing and learning, of relevance to such issues as the DL in honeybees. The experiments and work on 'tradition' quite captured my imagination. Is there memory through the metamorphosis in such insects ? I was particularly interested in this issue, as am involved in setting up some work this summer on vibration measurements across/through the comb. As for the other speakers, there was some excellent short discussion periods afterwards, nicely managed by Rob Pickard, who is a very observant and experienced beekeeper himself. One discussion centred on the observation that for the troublesome *Varroa defensis* mite. *Apis ceranae* do not seem to learn to groom in the same way as the other (*A.m.m.*) - at least in Wales, it was said (!); so I wondered if it might be possible to observe such in the context, too, of some tests I am involved in with treatment of *A.m.m.* for *Varroa* through application of very fine 'fogging' of colonies with FGMO (paraffin). It also seems that some of the observations that go back to Lindauer, Kirchner etc are still very hot topics - as is the face recognition issue, where from an evolutionary viewpoint bees would seem to have no reason to use/develop this capability.

Chris Haines of the Roy. Entomological Soc finally gave details of the National Insect Week 2008 planned for the UK this summer (June 23-29). This follows the successful one held in 2006. See <http://www.nationalinsectweek.co.uk/>. For those interested in CABK, there will be another such meeting this time next year, as well as a CABK conference later this year in Stratford, UK (Nov. 21-23).

Dave James

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## Job Vacancies

Web-wonder David Nash is keeping an excellent record of vacancies in the social insect world on the IUSSI British Section webpage <http://www.zi.ku.dk/iussi/vacancies.html>. Please check it for jobs you might be interested in, and also keep him informed about any jobs coming up in your labs. A couple of hot-off-the-press adverts are included below.

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Department of Zoology  
School of Natural Sciences  
Trinity College Dublin



## PhD Studentship Gene expression in a host-parasite system

A 3-year PhD studentship is available to study gene expression in bees parasitised by a nematode worm. The project will be supervised by Dr Mark Brown (Trinity College Dublin), Dr Seirian Sumner (Institute of Zoology, London) and Professor Mark Blaxter (University of Edinburgh) and will involve a combination of parasitological, next-generation sequencing, quantitative-PCR, and bioinformatic analysis.

The position is open to EU citizens. The ideal applicant will have (or be expecting to attain) a 1st or 2:1 honours degree (or equivalent) in Genetics or Biology, preferably with experience in RNA work and good quantitative skills. The position will start on 01.10.08 and will involve working in Ireland and the UK. Requests for further information and applications (a CV, cover letter and names of 2 academic referees) should be made to Mark Brown ([mabrown@tcd.ie](mailto:mabrown@tcd.ie)). The deadline for applications is 15.05.08.

Trinity College Dublin ([www.tcd.ie](http://www.tcd.ie)) is Ireland's premier university (ranked 13th in Europe and 53rd in the World). The School of Natural Sciences ([www.tcd.ie/naturalscience](http://www.tcd.ie/naturalscience)) has a thriving research environment, with particular strengths in ecology, evolution, gene expression and parasitology.

This research is funded by  
Science Foundation Ireland





**2 PhD Studentships (Hull University 80<sup>th</sup> Anniversary Scholarships)**

**Project: A Multidisciplinary Study of Insect Adhesion and Friction – Towards the Next Generation of Adhesives, Smart Friction Devices and Insect Barriers**

**Supervisors:** Dr M. M. Kohonen  
Dr D. M. A. Buzza  
Dr R. L. Hammond

**Location:** Department of Physical Sciences & Department of Biological Sciences  
The University of Hull

We are seeking two highly motivated PhD students to join an innovative multidisciplinary project on insect adhesion and friction. The aim of the project is to gain a fundamental understanding of insect adhesion and friction mechanisms, with a view to applying this knowledge to the development of a new generation of bio-inspired adhesives, smart friction devices and environmentally friendly methods of insect control. The research will be built upon a powerful integration of physical and biological approaches to the problem. One student will investigate, through experiments and modeling, the effect of surface properties and pad biomechanics on insect adhesion and locomotion (physical studentship supervised by Dr Kohonen and Dr Buzza). The other student will investigate the influence of insect adhesion on insect behaviour and foraging ecology, including the relationship between plant substrates and insect adhesion mechanisms in insect-plant mutualisms. This work will be based on behavioural observations and experiments in the lab and in the field (biological studentship supervised by Dr Hammond and Dr Kohonen).

The preferred start date is September 2008, although other dates may also be considered. Applicants for the physical studentship should have at least an upper second class degree in Physics, Physical Chemistry, Materials Science, or related subjects. Applicants for the biological studentship should have at least an upper second class degree in Biology, Ecology, or related subjects. Only UK/EU citizens are eligible for full funding (maintenance, stipend and tuition fees). The stipend will be £12,940 per annum (tax free) plus additional income from teaching.

The closing date for applications is the 16<sup>th</sup> of May, 2008. Application forms, which can be downloaded from the site shown below or obtained from the Admissions Office, should be returned as soon as possible to:

Admissions Office  
The University of Hull  
Cottingham Road  
Hull HU6 7RX  
Tel: +44(0)1482 466850  
Fax: +44(0)1482 442290  
Email: [admissions@hull.ac.uk](mailto:admissions@hull.ac.uk)

Application forms download:

[http://www.hull.ac.uk/admissions/postgrad/how\\_to\\_apply/index.html](http://www.hull.ac.uk/admissions/postgrad/how_to_apply/index.html)  
<http://www.hull.ac.uk/elements/downloads/admissions/pgappform.pdf>

More detailed information about this project can be obtained by downloading the following document: *Insect adhesion. Further details.pdf* (to appear soon on the websites of Drs Kohonen, Buzza, and Hammond, as well as on the University of Hull Graduate School website).

Alternatively, please contact any of the following people:

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Dr Martin Buzza	Phone: +44(0)1482 466420	Email: <a href="mailto:D.M.Buzza@hull.ac.uk">D.M.Buzza@hull.ac.uk</a>
Dr Rob Hammond	Phone: +44(0)1482 466506	Email: <a href="mailto:R.Hammond@hull.ac.uk">R.Hammond@hull.ac.uk</a>