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## In this issue...

Dear Network Participant,

We've just submitted our Annual Report for 2008 to the ARC and, once again, it documents an extremely healthy discipline in Australia. Don't forget to keep checking the Network website for conference updates – the Sydney2009 Conference is fast approaching and an outstanding programme is developing. Early Bird Registration and Abstract Submission both close on April 24.

Also coming up is the annual Woods Hole Biology of Parasitism course. Anyone talented and lucky enough to have been accepted into the Woods Hole course should contact me (Nick.Smith@uts.edu.au) to find out how we might provide some financial assistance to you through the Network Mentoring Scheme.

Finally, a reminder about the account set up on behalf of Kylie Mullin's friends to accept donations, with the money collected to be used to pay for a holiday for Kylie's family, later in the year when they feel able to get away. Kylie tragically passed away at the beginning of this year after a long battle with melanoma and is survived by her husband Daryl, and two young children Katherine (aged 3) and Thomas (aged 1).

Donations can be made by electronic transfer, and the account will remain open for the next couple of weeks. The account details are as follows:

Bank: Commonwealth Bank

Account name: Kylie Mullin Memorial Fund

BSB: 062903

Account #: 10511963

Swift Code/IBAN (for transfers from overseas): CTBAA2US

In making a donation it is not necessary to reveal your name. If you prefer not to do so, but would nevertheless like your name included on a card that will accompany the cheque to be given to Kylie's family in a month's time, please just let Kieran Kirk know (kieran.kirk@anu.edu.au). NB, just to be clear, the card will list the names of those who have contributed so that Kylie's family will know that she had a lot of friends who are thinking of them, but it won't list the amounts of individual contributions. Those who include their names when making the donation need not contact Kieran directly.

Nick

(Nick Smith, Convenor, ARC/NHMRC Research Network for Parasitology;  
nick.smith@uts.edu.au)

# Conference

The Sydney2009 conference website is [www.parasite.org.au/arcnet/conference](http://www.parasite.org.au/arcnet/conference)

and registration and abstract submission are [www.conftool.net/parasitology2009](http://www.conftool.net/parasitology2009)

The Network is, once again, subsidising venue and invited speaker costs and, together with valuable support from a variety of sponsors, this has ensured that the meeting is as affordable as possible; we have been able to keep the same low levels enjoyed for Glenelg2008 including all lunches, tea breaks and evening meals & drinks in your registration fee.

The conference will be from July 12-15, 2009 in the historic Holme Building and Footbridge Theatre at The University of Sydney, with the Conference Banquet being held in the superb Great Hall at The University of Sydney.

**Early bird registration and abstract submission close on April 24, 2008.**

Speakers and sessions:

#### *Opening Plenary Lecture*

- Genevieve Milon (Institut Pasteur, France)

#### *Elsevier Plenary Lectures - Host Cell Modulation*

- John Boothroyd (Stanford University, USA)
- Alan Sher (National Institutes of Health, USA)

#### *Human Helminthiases*

- David Dunne (University of Cambridge, UK)
- Tom Nutman (National Institutes of Health, USA)
- David Rollinson (The Natural History Museum, UK)
- Jeff Bethony (George Washington University, USA)
- Banchob Sripa (Khon Kaen University, Thailand)
- Don McManus (QLD Institute of Medical Research, Australia)

#### *Malaria Vaccine: Fact or Fantasy?*

- Michael Good (QLD Institute of Medical Research, Australia)
- Richard Carter (University of Edinburgh, UK)
- Denise Doolan (QLD Institute of Medical Research, Australia)
- Louis Schofield (Walter and Eliza Hall Institute of Medical Research, Australia)

#### *Immunopathology*

- Georges Grau (University of Sydney, Australia)
- Christian Engwerda (QLD Institute of Medical Research, Australia)
- Nick Hunt (University of Sydney, Australia)

#### *Environmental Health*

- Nigel Beebe (University of QLD, Australia)
- Bart Currie (Menzies School of Health Research, NT, Australia)
- Lydden Polley (University of Saskatchewan, Canada)

#### *Ectoparasites of Livestock*

- Shaun Coffey (Industrial Research Ltd, New Zealand)
- Gary Levot (Department of Primary Industries, New South Wales)

Don't forget that student ASP members are eligible for generous financial assistance to attend the conference from the ASP provided they have been members for a minimum period before the conference – so download an ASP membership application form now from the ASP website

<http://www.parasite.org.au/Membership.html>

(Please note that the ASP membership url in the last Network Newsletter was incorrect.)

## Announcement

### **Australian Academy of Science - International Grants: Scientific visits to Asia, Europe & North America**

The Australian Academy of Science is inviting applications from Australian professional scientists to visit Europe, North America and South East Asia between 1 January 2010 and 31 December 2010, to collaborate with researchers in those countries.

Applicants must propose a collaborative research project, or specific activity, which has been developed in consultation with host scientists. The duration of the visits must be 14 to 40 days.

Information, deadlines and application forms are available on the web site:

<http://www.science.org.au/internat/programs.htm> (to Asia, North America, Europe)

# Research News

**A new genetic research finding about lice has scientists scratching their heads in amazement at the miracle of nature.**

**Congratulations to Network parasitologists at The University of Queensland, Associate Professor Stephen Barker and Dr Renfu Shao who had their collaborative research (with Professor Ewen Kirkness from the J. Craig Venter Centre, Rockville, MD.) on lice published online in a special issue *Genome Research* to mark the 200th anniversary of the birth of Charles Darwin on February 12, 2009. ([www.genome.org](http://www.genome.org), Shao et al. *Genome Res.* doi:10.1101/gr.083188.108). The paper was highlighted in this week's issue of the journal *Nature* (<http://www.nature.com/nature/journal/v458/n7238/full/458552b.html>)**

Associate Professor Stephen Barker, parasitologist from the University of Queensland, says that "Lice are a challenge for parents of primary-school aged children all around the world, including Australia."

"Lice are a nuisance familiar to parents and children around the world and, in developing regions, some lice can be vectors for serious diseases such as epidemic typhus. Yet, for all the trouble this pest causes, new research is indicating that the louse may actually be quite unique in the animal world; but it will be of little comfort to parents that head lice have the most highly evolved mitochondrial chromosomes of all multi-celled animals," said Stephen.

"Almost all multi-celled animals, including humans, have one large mitochondrial chromosome, but lice have more than twelve mini-chromosomes," Stephen said. "What's more, parts of these mini-chromosomes join to one another for a while only to split again later - this is extraordinary."

"These mini-chromosomes seem to sit at the summit of mitochondrial chromosome evolution," his colleague, Dr Renfu Shao said. "So the mitochondrial chromosomes of lice, in this sense, are extreme genomes," Renfu said. "The lice that infect the nearest living relatives of humans, the chimpanzee, also have these extreme genomes," he said. "While multiple mitochondrial minichromosomes have been previously described in plants and protists, this is the first report of an animal adopting a highly fragmented mtDNA structure," Renfu said.

Stephen said, "We are examining the implications of the work for knowledge of the biology of lice. Efforts are underway to sequence the genome of the human body louse, *Pediculus humanus*, which will lead to new strategies for treatment and prevention of infestation."

*The body louse mitochondrial genome story is also out in Science News.*

[http://www.sciencenews.org/view/generic/id/42342/title/Louse-y\\_genome\\_surprise](http://www.sciencenews.org/view/generic/id/42342/title/Louse-y_genome_surprise)

**In other news, Michelle Power, parasitologist at Macquarie University featured in the Sydney Morning Herald online news 30/03/09 in a report by Richard Macey: "Genetic testing has revealed that Sydney's recent *Cryptosporidium* outbreak in swimming pools may have stemmed from a single infected person."**

"We have analysed about 250 samples from the current outbreak, and they are all the same strain of *Cryptosporidium hominis*," Michelle said.

"If it had originated from different sources we would have expected to see multiple strains. When sporadic cases, reported over the past 12 months, were analysed they identified 24 strains, involving both the human and animal species," she said.

Michelle reported, "People who are infected, but not necessarily appearing ill, usually have 5,000 to 10,000 parasites per gram of faeces. However, some samples from the latest outbreak contained more than 1 million."

*For the full story in the Sydney Morning Herald online news click on the following link <http://www.smh.com.au/national/crypto-clue-one-person-to-blame-for-outbreak-20090330-9h2q.html>*



Eggs from a human body louse *Pediculus humanus*. Image courtesy of Cath Covacin, Stephen Barker, and Rick Webb, The University of Queensland.

# Network Travel Award Profiles

**Elizabeth Perkins is studying towards her PhD at The University of Adelaide and won a Network Travel Award in September 2008 for a Researcher Exchange to visit Professor Jean-Lou Justine in New Caledonia. Lizzie speaks to Lisa Jones about her research on marine parasites and her Network Travel award.**

**Lizzie, tell me about your area of research and what interests you about working in this area?**

"I work on the molecular phylogenetics of a monogenean family, the Capsalidae, which are ectoparasites of marine fish. These parasites occur in fish farms, public aquariums and most importantly they infect a huge range of marine fishes – including rays and sharks," Lizzie said.

Lizzie says these parasites have an interesting evolutionary history and as part of her research she wants to produce a robust phylogenetic history of the parasites and look at how they have evolved across fish.

Lizzie says "I find parasites fascinating and understudied in their phylogenetic and evolutionary history – there are so many interesting questions about the hosts and parasites."

**How has the Network Travel Award helped your research develop?**

"With my Network Travel Award I was able to visit the laboratory of Professor Jean-Lou Justine in Noumea, New Caledonia. New Caledonia is a French colony with Noumea being the capital. It is the third largest island in the South Pacific region and is surrounded by the world's largest lagoon and beautiful coral reefs. Through the work of Professor Justine, New Caledonia has been recognised as a region supporting a large diversity of monogenean parasites allowing me to maximise the diversity and numbers represented in my analyses," Lizzie said.

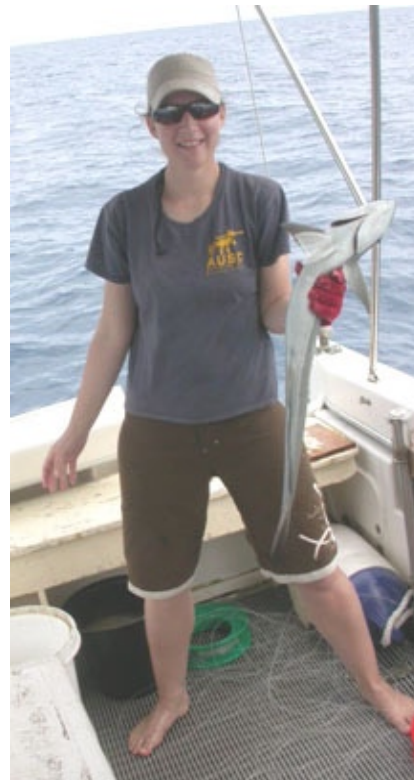
"The first few days generally began bright and early as we headed out fishing at around 7am for four days straight. Depending on just how windy it was, we managed to get out to a range of the beautiful reefs that surround New Caledonia and set about catching some fish. I had gone to Noumea with a bit of a fish "wish" list and, while you can never predict exactly what will take your bait, many of the exact fish species we were after did just that!" Lizzie said.

"Afternoons were occupied with fish dissecting and searching through fins, branchiostegal membranes, gills and skin scrapings for elusive worms. There were some fantastic finds with the branchiostegal membranes proving to be an excellent site for worms," Lizzie said.

"In the final days, with the assistance of some spear fishers, I got some fantastic fish to look through. In total we dissected 26 fish species for over a hundred vials of worms and fish tissue – a fantastic effort and some very useful additions to my work," Lizzie said.

**Lizzie also won a Network Travel Award in April 2006 with colleague Dr Leslie Chisholm for a Researcher Exchange to visit to Centro Investigatoni in La Paz, Mexico. Lizzie describes this research trip as one of her career highlights.**

"This was my first real exposure to live worms, larvae and eggs, and sampling. It was my first experience fishing to obtain parasite samples."



Elizabeth Perkins catching fish to study parasites during her Network Researcher Exchange to New Caledonia.

# Network Mentorship Scheme

Early career researchers are encouraged to apply to the Network Convenor (nick.smith@uts.edu.au), in strict confidence, for funding to participate in the Network Mentorship Scheme. The scheme allows young investigators to be paired with experienced, successful researchers to discuss, plan, prioritise and set targets for their career. Typically, the early career researcher will fly to the institute of a senior parasitologist and spend a day there. Arrangements for professional development and progress to be reviewed by the pair annually can also be arranged.

Importantly, mentors need not be from an individual's home institution but can be drawn from across the Network. The scheme has proved very valuable for several young researchers and their mentors already.

To apply, simply write to Nick with a brief outline of your research interests and aspirations. You can also indicate a preferred mentor or ask Nick for advice on whom amongst the Network participants may be most suitable.

## Positions Vacant

Check out the latest parasitology jobs on the Network website

[www.parasite.org.au/arcnet/jobs](http://www.parasite.org.au/arcnet/jobs)

### Research Director

#### **Institute for Biotechnology of Infectious Diseases (IBID), Faculty of Science, University of Technology, Sydney**

As Director of IBID, you will be able to develop, implement and promote pioneering research designed to increase IBID's international research profile. Offering strategic leadership and administrative management to your team you will help towards achieving the University's research strategy and policy. Furthermore you will be allowed to contribute to increasing the threshold level of research performance by achieving research targets set out in the University's Research Investment Plan.

Using your influencing skills you will actively initiate and manage IBID's research strengths liaising with academic staff associated with projects to produce research outcomes for IBID, while continuing to be an active researcher in your own right. Salary range: A remuneration package will be negotiated based on skills and experience. The university offers 17% employer provided superannuation and generous salary packaging opportunities.

To apply, go to [http://www.jobs.uts.edu.au/job/job\\_details.cfm?id=369118&from=direct](http://www.jobs.uts.edu.au/job/job_details.cfm?id=369118&from=direct)

Please include details of three referees in your CV.

If you require further information on the position contact Professor Bruce Milthorpe on 02 9514 1751 or email [milthorpe@uts.edu.au](mailto:milthorpe@uts.edu.au).

**Closing Date: 13 April 2009**

Ref No. R030309

#### **The University of Adelaide, Roseworthy Campus Lecturer/Senior Lecturer Veterinary Parasitology (Ref: 2200)**

This continuing position, which is available immediately, will be based at the Roseworthy campus, north of Adelaide city and approximately 50 minutes drive from the city or 25 minutes drive from the Barossa Valley, one of Australia's premier wine growing areas.

To be successful you should have:

- a higher degree, preferably at doctorate level or equivalent, in your field of expertise or a closely related discipline;
- teaching experience at tertiary level;
- potential to undertake relevant, high quality research;
- strong interpersonal skills and demonstrated ability to work collaboratively as a member of teaching and research teams.

The successful applicant will be appointed at an appropriate level depending on qualifications and relevant experience. Applicants eligible for veterinary board registration in South Australia are highly desirable.

Salary

(Level B) \$70,075 - \$83,215 per annum.

(Level C) \$85,837 - \$98,932 per annum. (Plus an employer superannuation contribution of 17% applies).

For the selection criteria and instructions on how to apply, go to <http://www.adelaide.edu.au/jobs/current/VetSchoolx6/>

For information regarding this position please contact Ms Sarah Hocking, phone: + 61 8 8303 7740.

**Deadline for applications: 1 May 2009.**