ARC/NHMRC RESEARCH NETWORK FOR
PARASITOLOGY

NEWSLETTER

Issue No. 22 October 2008

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We gratefully acknowledge the support of our Network Newsletter Sponsor, BioAustralis.

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Dear Network Participant,

For much of the next 12 months, Lisa, Wendy and I, as well as the Network Management and Advisory Committees, will be working towards securing a future for the Network beyond its current funding life, which ends mid-2009. As I mentioned at the annual conference in Glenelg in July, the ARC does not yet have a budget to continue the Research Networks Scheme and is currently conducting a review of the scheme as a whole. There are no updates on that just yet. However, as some of you are no doubt aware, the Green Paper of the Cutler Review of the National Innovation System recently came out (see http://www.innovation.gov.au/innovationreview/Pages/home.aspx). The ARC/NHMRC Research Network Convenors made a submission to this review back in May (see http://www.innovation.gov.au/innovationreview/Pages/SubmissiontotheReviewA-D.aspx) and we've been cautiously pleased to see that Research Networks have been referred to in the Green paper, albeit a bit indirectly. We've drafted a response to the Green Paper, as follows:

"A major set of recommendations in the Report on the National Innovation System, Venturous Australia, centre around increasing and enhancing national and international collaborations. In particular we note that the ARC and NH&MRC Research Networks program is listed as among the portfolio of collaboration mechanisms covered by 'Recommendation 9.3 - A portfolio of collaboration and linkage programs be maintained to support productive partnerships in the National Innovation System and with partners globally.'

"The Research Networks grant scheme is an innovative, most successful and relatively recent initiative from ARC and NH&MRC to establish novel collaborations amongst Australian researchers. They have resulted in some outstanding successes and we feel strongly that they should be continued. However, their funding ceases mid 2009 and currently there are no new application rounds scheduled for ARC Research Networks.

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"The ability of funding bodies to maintain and extend such mechanisms hinges on government response to 'Recommendation 6.3 - Develop a strategy to support the strengthening of publicly funded research agencies (PFRAs) within the National Innovation System over time, including urgent restoration of funding levels' and 'Recommendation 6.4 - In the short term, increase funding both for the PFRAs and the university research system to at least match the proportion of GDP that was allocated to them in the mid-1990s. In the longer term the goal should be to match investment levels of leading OECD economies.'

"In the case of the Research Networks, we note that the 'short term' is very short as they are in imminent danger of being disbanded, with the effort that has been expended in their development dissipated unless a new funding round is initiated. Thus we submit that a targeted allocation to the ARC and NHMRC be authorised before the end of 2008 for an extra 18 months funding to allow the extension of the existing networks with certainty until the end of 2010, if necessary, or the transition to new network structures if appropriate and feasible within this timeframe. Anticipating increased funding for the ARC and NHMRC in future years, this would give time for a new call for Research Network proposals to be made and the outcomes to be determined."

Professor Fiona Stanley will also be speaking about Research Networks (amongst other things) to the Prime Minister's Science, Engineering and Innovation Council.

I will keep you posted on developments. In the meantime, best wishes, and fingers crossed for some great outcomes in the upcoming ARC and NHMRC grant announcements.

Nick

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

Conference News

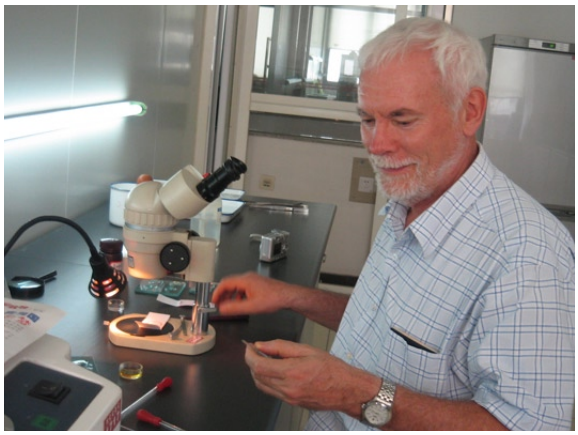
The 2009 ASP & ARC/NHMRC Research Network for Parasitology Annual Conference will be held from 12 to 15 July at The University of Sydney, New South Wales.

Thank you for your feedback about this year's conference at Glenelg, to read the results of the 2008 ASP & Network Annual Conference Survey please click on the survey link:

http://www.parasite.org.au/arcnet/conference/2008ConfSurveyReport.pdf

Congratulations

Professor David Blair, from James Cook University, was awarded a Fellow of the Australian Society for Parasitology at the recent 2008 ASP & ARC/NHMRC Research Network for Parasitology Conference in Glenelg



Prof David Blair talks to Lisa Jones about his research career and how he became interested in parasitology.

Tell me about your area of research?

My area of research could be summarised under a few headings. Parasitic flatworms have always been centre-stage. My earliest work was on the life-cycles and taxonomy of trematodes of freshwater fish. A natural extension was to get into the taxonomy of the numerous and diverse groups of trematodes found in "iconic" local animals such as dugongs, crocodiles and sea-turtles. I quickly realised that molecular approaches were going to be needed to solve the many taxonomic puzzles that were evident. But molecular data can be used for so much more than that. My adventures into molecules soon had me puzzling over questions concerned with phylogeny, biogeography and host-specificity of trematodes. And what came next? The "g-word", genomics, of course. I started small and played around with mitochondrial genomes of trematodes, which are mere striplings compared with their beefier nuclear cousins. But eventually I got into the big genomes as well. I have been helping draft papers on the genome of the human bloodfluke, *Schistosoma japonicum*. My misspent youth, playing with evolutionary and phylogenetic questions about trematodes, has helped me in putting the genome of this important parasite into perspective. I have felt it an honour to be part of that effort started by colleagues in China.

How did you become involved in parasitology research?

Way back in the Dark Ages I wanted to work on fish systematics and genetics. I almost did go into that field, but when I discovered I was ineligible to apply for the PhD position on that topic, and something came along on the parasites of fish, that seemed just as good. My undergraduate teachers in Parasitology had included such luminaries as Keith Vickerman and Adrian Hopkins, so I was receptive to the idea of working with worms. I had been collecting freshwater fish in Africa as a sideline, and had seen lots of parasites on those, which I tried to identify as far as possible. I also acquired my very own case of schistosomiasis, so I could empathise with the fish. I became fascinated with the sheer variety of trematodes and their extraordinary structure and biology.

What interests you about working in this area?

There are probably more animal species that are parasites than not. However, parasites get far less attention when it comes to studies on evolution and biodiversity. I would like to see that rectified. For my own amusement, I want to understand more about the ways in which parasites evolve and set up that amazing relationship with a host. I also want to know what the host does – in an evolutionary sense – to the parasite.

How do you see your research developing in the future?

Evolutionary questions will feature prominently. Genomic data is what I hope to use to answer some of these. Work on gene flow in schistosomes is another likely area. And of course, I still have that little cache of odd trematodes that need to be described.

Tell me about your involvement with the ASP?

I've been a member of the ASP since being a research I attended my first ASP meeting in Armidale in the winter of 1975. I remember being very cold! I've been a member ever since, but none of the meetings I've attended since then was in such frigid conditions. I was Treasurer in 1989. I have organised (not single-handed) two ASP meetings, one in Christchurch and one in Townsville. I've also done numerous "odd jobs" over the years.

Tell me about the highlight of your science career so far?

Every piece of work feels like the highlight by the time it gets published. But in retrospect some are higher than others. The discovery that different species of *Schistosoma* have different gene orders in their mitochondrial genomes was certainly a major highlight. But then, so was the discovery of blood flukes in Australian crocodiles and the chance to work on lung flukes in China. And I have been known sometimes to wax lyrical about what lives in the dugong's upper lip…

How does it feel to be made an ASP Fellow?

It feels good. I'm far from sure that I deserve the honour.

David, what would you like to do in the future?

Have the time to indulge in parasitological pursuits that don't require meetings or exam marking and hopefully get me out in the fresh air. Of course, there is also that book to be written: I just need to decide on the title and the topic.

Congratulations cont...

Our Convenor, Nick Smith, was made a Fellow of the Australian Society of Parasitology at the conference in Glenelg, for his:

*** research on free radicals and antioxidants in innate immunity, stage differentiation in coccidian parasites, and development of a vaccine against *Eimeria*;**

*** exemplary supervision of graduate students and postdoctoral fellows;**

*** major role in the founding and development of the Institute for the Biotechnology of Infectious Diseases; and**

*** leadership of the ARC/NHMRC Research Network for Parasitology, especially with regard to mentoring and improving career opportunities for young researchers.**

Nick, tell me about your area of research?

I'm interested in the early, innate responses to parasitic infection and the way parasites manipulate those responses. My group is currently focused on protozoan parasites and it still amazes me that these single celled organisms can so profoundly influence their much bigger, seemingly more complicated hosts.

I'm also interested in vaccine development for parasitic infections, a line of research we've been pursuing with the chicken parasite, *Eimeria*, for nearly 20 years. It's led me into areas I never thought I'd go, dissecting the cell and developmental biology of the Coccidia and giving lectures to poultry producers and vets about the science behind vaccination. That always brings me down to earth and makes me appreciate that the best science should, one day, lead to some practical benefit.

Nick, how did you become involved in parasitology research?

I actually wanted to study endocrinological systems for Honours but I dithered a bit and by the time I got up the courage to ask the supervisor I though would be best, he had taken on as many students as he could cope with. However, he took the time to introduce me to Chris Bryant who convinced me to have a go at studying the early immune response to a rat roundworm, *Nippostronglylus brasiliensis.* Neither Chris nor I really knew much about immunity (and I knew nothing about parasites) so we went in without any preconceptions and, fortunately, generated some nice data and publications. I stayed in Chris' group for a PhD and a postdoc before heading to Switzerland and switching my focus to protozoa.

How do you see your research developing?

We're still working hard on the *Eimeria* vaccine and making some really nice fundamental discoveries about the parasite's biology - as with everything parasitological, it's far more complex and elegant than we ever imagined. I fear, though, that we're coming to the end of our technological abilities to go any deeper into how this particular parasite works. It's not an easy one to study being intractable to *in vitro* culture. So, I'm slowly returning to my "roots" and interest in early, innate immunity. I'm particularly interested in the macrophage's response to parasites like *Toxoplasma* and *Leishmania*, which take the seemingly paradoxical step of actually living inside this central cell of the immune system. I've spent 20 years studying *Eimeria* and I can easily see 20 years worth of work to do on *Leishmania* and *Toxoplasma*.

Tell me about your involvement with the ASP?

I've been a member of the ASP since being a research student at ANU in the mid-1980s. I've gone to, and thoroughly enjoyed, most annual meetings in the time since, except for a few when I was overseas. In the past, I've also enjoyed being a specialist editor for the Society's journal, The International Journal for Parasitology, and am very proud that now it is clearly one of the most respected journals going around. And, of course, being asked by the Society to head the Network has been a huge honour and a continuing thrill.

Tell me about the highlight of your science career so far?

That's easy. I can still vividly remember the day that my first PhD students graduated - that was a fantastic feeling. As a university academic doing research, I think it's one of my major responsibilities to train research students and I gear my research programmes and quest for funding around this idea. The more highly educated our country is the better - if we have more people who can genuinely, and critically, question, analyse and evaluate the enormous amount of information we are all bombarded with these days, then the better off our society will be.

How does it feel to be made an ASP Fellow?

Embarrassing. There are so many people who are Fellows of the Society that I have longed admired and I'm not really convinced I belong in those ranks. I know that our work with the Network has had a great affect on the discipline and parasitology community in Australia, and that that is a large factor in the Society honouring me in this way, but I still sort of feel the job is only half done - there is so much more we could do. So, I'm extremely flattered and honoured but a bit embarrassed too.

What would you like to do in the future?

Aside from trying to secure a longer term future for the Network, especially the initiatives that benefit our younger researchers, I'd like to build up the study of macrophage responses to parasites into a programme that will keep me, and a string of students and postdocs, busy for the next 20 years.

Network Researcher Exchange, Training and Travel Awards

Congratulations to the most recent Network Exchange, Training and Travel Award Winners:

Corinna Paeper, ANU, to attend courses at Wageningen University.

Elizabeth Perkins, The University of Adelaide, to fund a Researcher Exchange to visit Prof.Jean-Lou Justine in New Caledonia.

Patrick Driquez, QIMR, to fund a Researcher Exchange to visit Prof. Phil Felgner in California.

Malcolm Jones, QIMR, to fund a workshop to launch a project for estimating the economic burden of parasites in Australia.

Fernanda Caldascardoso, QIMR, to fund a Researcher Exchange to visit Prof. Edgar Cavalho and Dr Jeff Bethony in Brazil.

Leann Tilley, La Trobe University, to fund a visit by Kiaran Kirk for a grant writing retreat.

Tamsin Barnes, The University of Queensland, to fund a Researcher Exchange to visit Drs. Patrick Giraudoux and Paul Torgerson.

Eric Hanssen, La Trobe University, to fund a Researcher Exchange for a laboratory visit by Prof Hans-Peter Beck from the Swiss Tropical Institute.

Final application date in 2008

The Network Researcher Exchange Training and Travel Award scheme continues to prove to be an outstanding success and young researchers are particularly encouraged to apply for assistance. There is just one more application round with the following deadline:

Friday November 28

Applications will be assessed by a specific assessment committee and applicants will be advised of the outcome, where possible, within 4 weeks.

Guidelines for the Network Researcher Exchange, Training and Travel Awards can be found at www.parasite.org.au/arcnet/funding

Alex Umbers during her Network Researcher Exchange Travel Award to visit the laboratory of Julie Moore, Centre for Tropical and Emerging Diseases, Georgia for training in the isolation of fresh placental primary syncytiotrophoblasts.

Events

Check out the latest parasitology events on the Network website

www.parasite.org.au/arcnet/events

The ASP & ARC/NHMRC Research Network for Parasitology present "Parasites in Focus" photography exhibition

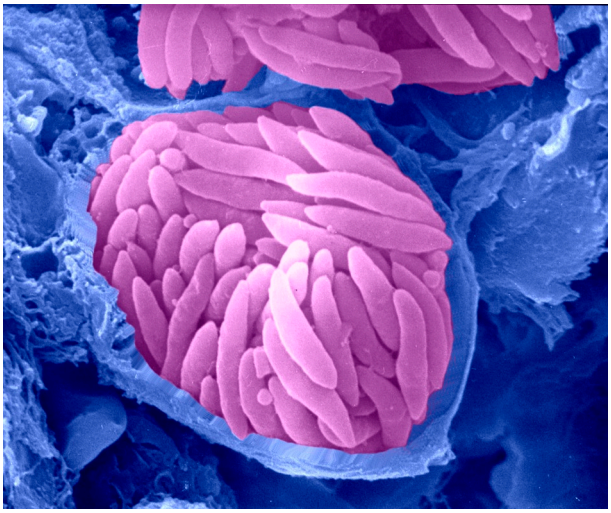
Twenty-six superb photographic prints showing the amazing microscopic world of the parasite.

10 September to 31 October 2008

Perth Zoo

20 Labouchere Rd, South Perth, Western Australia

For more information visit **www.perthzoo.wa.gov.au**



Parasite image *Eimeria tenella* schizont. "Remarkably these parasites can also reproduce by producing hundreds of clones of themselves packed into a single cell of their host." from "Parasites in Focus"

The ASP and the Network are co-sponsoring symposia at the Australian Health and Medical Research conference at the Brisbane Convention Centre, November 16 – 21 2008

http://www.ahmrcongress.org.au

The invited speakers sponsored by the ASP and the Network are:

- Charles King, USA
- Giovanna Raso, QIMR
- Ian Riley, UQ
- Scott O'Neill, UQ,
- Malcolm McConville, University of Melbourne
- Andreas Hofmann, Griffith University
- Tina Skinner-Adams, QIMR

Other societies are also sponsoring speakers with parasitological interests, so there will be a major focus on parasites of medical importance at the congress.

Registration is now open for the 4th AHMRC.

This meeting represents a fantastic opportunity for Australasian researchers, particularly students, to attend an international quality meeting at low cost.

We welcome and encourage you all to attend and actively participate in this meeting that happens only every second year.

Announcements

Research Advances in Malaria

Cell Biology of Malaria:
Understanding Infection, Targeting Interventions

May 28-29, 2009 / Baltimore, Maryland

Topics include: *Plasmodium* blood and liver stage biology, parasite invasion and dissemination, protein trafficking, host cell-parasite interaction, structure and function of host membrane, cytoadherence, organelle biogenesis, nutrient uptake and biosynthetic pathways.

CONFIRMED SPEAKERS

- **Michael Blackman** National Institute for Medical Research, UK
- **Jürgen Bosch** University of Washington
- **Isabelle Coppens** Johns Hopkins Bloomberg School of Public Health
- **David Fidock** Columbia University College of Physicians and Surgeons
- **Kasturi Haldar** University of Notre Dame
- **Stefan Kappe** Seattle Biomedical Research Institute
- **Kiaran Kirk** The Australian National University
- **Manuel Llinás** Princeton University
- **Geoff McFadden** University of Melbourne
- **Robert Ménard** Institut Pasteur, Paris Sean Prigge Johns Hopkins Bloomberg School of Public Health
- **Artur Scherf** Institut Pasteur, Paris Joseph Smith Seattle Biomedical Research Institute
- **David Sullivan** Johns Hopkins Bloomberg School of Public Health
- **Leann Tilley** La Trobe University
- **Andrew Waters** University of Glasgow

Detailed information on program, registration and abstract submission deadline for posters and short talks is available at malaria.jhsph.edu/plasmo09.

Registration Deadline:
February 15, 2009. Registration limited.

Contact: plasmo09@jhsph.edu

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

The Institute for the Biotechnology of Infectious Diseases (IBID) is offering ten PhD Scholarships (worth $25,000 p.a.) and three Postdoctoral Fellowships to commence in 2009.

IBID recently relocated to new state-of-the-art laboratories in downtown Sydney and provides a strong collegial, supportive environment. It has modern facilities for pathogen culture and maintenance, molecular and cell biology, genetics and protein chemistry. IBID also provides expertise in major enabling technologies including proteomics and microscopy. IBID consists of groups led by internationally renowned scientists who carry out high quality basic and applied research to help understand and control infectious diseases.

If you are an outstanding young scientist seeking a PhD or postdoctoral position and want to work in a rapidly growing institute that offers a dynamic environment, visit our website (www.science.uts.edu.au/ibid) and send your CV with an expression of interest to:

Serena Sequeira,
Executive Assistant,
Institute for the Biotechnology of Infectious Diseases,
Faculty of Science,
University of Technology, Sydney,
PO Box 123, Broadway, NSW, 2007
Email: serena.sequeira@uts.edu.au

Positions Vacant

The Consortium for Conservation Medicine, based at Wildlife Trust in New York City, is ramping up its research program in infectious disease ecology and seeks outstanding candidates for seven positions.

Five Postdoctoral Positions
1. Vector-borne disease modeler to study the dynamics of Chikungunya and other vector-borne diseases. Excellent spatial statistical and modeling skills required.

2. Emerging Disease 'Hotspots' modeler to extend the research recently published in Nature 2008;451: 990-3. Strong statistical, GIS / spatial analysis, and database skills required.

3. Ecologist/Modeler to study the dynamics of Nipah virus and other viral pathogens in peri-domestic and wild animals in Bangladesh. A strong background in statistics is required.

4. Ecologist or Veterinarian to run field programs surveying wildlife in Bangladesh and India for our new program on pathogen discovery.

5. Avian Influenza Ecologist/Modeller to study the dynamics and spread of H5N1 avian influenza in China and globally.

Two Staff Positions at CCM HQ

1. Program Coordinator, who will be a recent graduate (bachelor's or master's level) in the biological sciences. Responsibilities include grants management, operational logistics for research programs, and international meeting coordination. International travel is required.

2. Program Assistant, who will be a bachelor's degree level candidate, to manage office functions in New York. Candidate must have excellent organizational and communication skills.

All positions are based in New York and require some international travel. **Review of applications will begin October 15th and continue until positions are filled.**

Candidates should submit a full Curriculum Vitae, names and email address of 2 academic referees, and a cover letter by email to **jobs@conservationmedicine.org** stating clearly the position of interest and career goals.

Full descriptions for each position are available on

www.conservationmedicine.org

Institut Pasteur Group Leader Positions

The Institut Pasteur is renewing its international call for candidates wishing to create junior research groups on its Paris, France campus. The call is open to researchers in all disciplines currently covered by the Institut Pasteur (Virology, Immunology, Parasitology, Mycology, Cell Biology, Infectiology, Epidemiology, Microbiology, Structural Biology, Chemistry, Neuroscience, Genomics, Genetics, Developmental Biology and In Silico Biology).

The deadline for applications is December 31, 2008.

Short-listed candidates will be called for interview in March-April 2009 and decisions will be announced on June 30.

Candidates should have up to 8 years postdoctoral experience. Successful candidates will be appointed as head of a group of 5-6 people for a period of 5 years. The budget (up to 1,350,000€ over 5 years) includes the salary for the group leader (if necessary), a three-year postdoctoral position, a technician, basic laboratory equipment, a major contribution to running costs and essential major equipment, and access to on-campus facilities including state-of-the-art technology platforms.

Candidates should send their formal applications by mail and, as a single pdf file, by E-mail to

Director of Scientific Evaluation,
Prof. Alain Israël,
Institut Pasteur
25, rue du Dr. Roux,
75724 Paris,
France

email: **g5@pasteur.fr**