

## From the President's desk

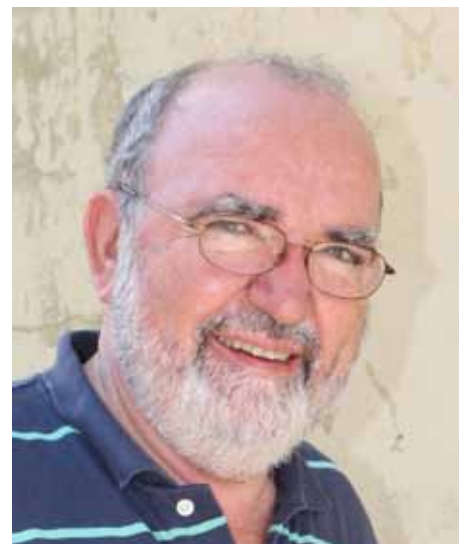
Hello members,

Welcome to the Winter newsletter. It has been a most interesting few months for the Society.

The ASP received the tremendous news that, on 19 May 2011, Prof Alan Cowman was elected Fellow of the Royal Society. This is a most significant Honour bestowed on few Australians and, on behalf of all members, I pass on our heartiest congratulations to Alan. Alan was cited for his many contributions to improving our understanding of malaria biology including revealing molecular mechanisms of drug resistance in *Plasmodium falciparum* as well as mechanisms used by the parasite to invade and establish residence in the red blood cell. He has led the development of reverse genetics technology for malaria and is applying this technology to identify vaccine candidates and develop genetically attenuated parasites as potential vaccines. Alan joins an eminent list of Australian biologists as FRS including Macfarlane Burnet, Frank Fenner, John Sprent and Mike Alpers. Alan's election is also a great honor for our Society. We will celebrate Alan's Honor at the Cairns meeting.

Other major news just announced is the launch of the new open access ASP Journal "International Journal for Parasitology- Drugs and Drug Resistance". We feel the Journal will fill an important niche in the literature and, as a partner to our esteemed IJP, we envisage that over time our new Journal will prove to be just as successful. With our stellar founding Editors in Chief, Kevin Saliba (ANU) and Andrew Kotze (CSIRO), and an eminent Specialist Editorial Board the Journal is off to a flying start. The Journal is looking for submissions so I urge ASP members to submit appropriate papers to the Journal. The Journal website will be announced shortly and members will be advised of the link.

Members will be aware of the recent concern re funding cuts to the NHMRC in the Federal budget. On your behalf, Denise Doolan and I corresponded with 36 members of parliament (including PM Julia Gillard, Treasurer Wayne Swan, relevant Ministers, Tony Abbott, Bob Brown and Independents). We argued our concern that cuts to the NHMRC budget are not an appropriate solution to budgetary pressures, with impacts on graduate training and career options for our young emerging investigators. We were pleased to receive a number of replies and delighted to see that the lobbying of the medical research community was rewarded on budget night. The lesson here is that members of parliament do respond to our concerns and



we need to be proactive in articulating our message to our MPs.

Members will also be aware that the funding for the ARC and NHMRC Research Network for Parasitology ceased after 5 years of wonderful support for our Society. In 2009 Council formed a Task Force to consider options as to how the activities of the Network may continue. The Task Force recommended to Council that:

"the ASP should have 'ownership' of the future Network, with a Convenor appointed by Council and sitting on Council. This will ensure close integration of the new Network into ASP. The future Network should be considered as a wholly owned subsidiary of the ASP, which would allow it to be packaged separately for the purposes of attracting funding for specific activities of the Network.....the Committee proposed a name change for the Network ..... we suggest the ASP survey the membership for ideas".

Accordingly, following our Strategic Planning process, the ASP Council decided to cluster our activities under four pillars of activity and we agreed to have a separate pillar to foster our Education and Training activities, to be managed by the proposed new Network. On January 8, I called for suggestions from members for a new name for this structure. We received 18 emails with suggestions and the voting was evenly spread over several names. This issue was discussed at length by Council at the Mid Term Meeting in Brisbane in February. After due consideration, Council decided that our education and training activities would be fostered by the new "Australian Society for

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# From the President's desk cont...

Parasitology Network". This Network is funded solely by the ASP budget and will report to Council. The Convenor will sit on Council. Australian-based members of the previous Network, which is now retired, have been invited to join the ASP to ensure continuity of activities but now under the banner of the new ASP Network. Council is delighted that Nick Smith and Lisa Jones will continue to serve our Society as Convenor and Communications and Strategic Development Coordinator, respectively, and administer the activities of the ASP Network.

I am pleased to highlight the fact that for the first time the ASP are fostering two Workshops at the Cairns Conference: one in Bioinformatics and one in Aquatic Parasitology. This is another welcome initiative arising from our Strategic Planning process. Members have embraced these opportunities and I look forward to seeing the outcome from these first round of Workshops which will become an ongoing and exciting feature at future annual ASP Conferences.

Finally, it was wonderful to see that our 2012 Conference in Cairns has attracted an eminent group of international and Australian scientists centred around the "One Health" concept with a focus on tropical parasitology for both animal and human health.

Best wishes

*Terry Spithill*

## ASP prize winners

In April, three ASP prizes were awarded to students in parasitology from Murdoch University (Biomedical science, Animal science and Veterinary Science) for which Amanda Ash represented ASP. Two of the recipients were at the award ceremony, Elise Bowen and Rebecca Hembrow, pictured below.



Elise Bowen recipient of Australian Society for Parasitology Prize for Parasitology in Animal Science



Rebecca Hembrow recipient of Australian Society for Parasitology Prize for Parasitology in Veterinary Science

# ASP Fellow Malcolm Jones

Associate Professor Malcolm Jones from The University of Queensland and the Queensland Institute of Medical Research was made a Fellow of the Australian Society for Parasitology Inc. at the XII<sup>th</sup> International Congress of Parasitology at the Melbourne Convention Centre on 19 August 2010.



Malcolm Jones (pictured above) talks to Lisa Jones about his research career and how he became interested in parasitology.

*Tell us how you become involved in parasitology research?*

In his first year of University (at The University of Queensland), Mal had John Sprent as a lecturer who was, at that time in his 60's, nearing retirement but still "With a real passion for parasites," says Mal. "And, he led a department full of inspirational characters, like John Pearson and Colin Dobson," Mal said.

Mal did his PhD under John Pearson, a parasite zoologist who insisted on careful examination - "Old school parasitology," Mal said. During his PhD, Mal studied a group of tapeworms that lived in frogs and reptiles. "I noticed something strange about the early development of these tapeworms and looked further in more detail using electron microscopy. Having EM skills made me employable and for the next 10-15 years I worked in EM areas."

Mal did a post-doc at QIMR on measles virus followed by EM roles at Macquarie University and UQ, during which time he kept some of his parasite research going. Whilst working at UQ, Mal collaborated with Don McManus, who Mal describes as "championing schistosomiasis research". From there, he found a role at QIMR and, ultimately, permanency and an Associate Professorship in the UQ vet school that allows him to keep his research at QIMR going too.

*What interests you about working in this area?*

Mal and his research team are particularly interested in the surface of the schistosome. "We want to find out how they can keep their surface, how they provide it with nutrients, salt, and so on, and what the functions of the surface are."

Mal says lots of his work still comes back to microscopy. "Although we look at the cell biology and the molecular biology of schistosomes, we're finding that microscopy is more important than ever and we get to use some really interesting, new microscopy techniques."

"The deeper we delve, the more we realise, we really know so little about schistosomes," Mal said. "One question that really bothers me is around vaccines against this parasite - will a vaccine ever work? You don't get good protective immunity against schistosomes, so how and why should a vaccine work?"

*How do you see your research developing in the future?*

"I'm fascinated by the biology of the surface lining - the tegument - of flatworms like schistosomes. How do they keep renewing that surface, but keep it intact. There must be some really interesting molecules involved in anchoring and holding surface and transporter proteins taking nutrients and more from that surface to the inside of the parasite. The tegument is one cell covering the entire worm; It's a structure unlike anything outside of flatworms so is the transport system unique to schistosomes? Does it provide a unique service? If so, maybe we can develop unique drug and vaccine targets."

*Tell me about your involvement with the ASP?*

Mal joined the ASP as a first year PhD student in 1982 and went to his first ASP conference that year, held in Marysville, Victoria and organised by Ian Beveridge. "It was a delightful conference," Mal said, "lots of fun."

"When I joined, I thought that the ASP were a very personable bunch, a small society who met

the needs of its members - lots of people who were dotty about parasites." Mal was delighted that, at the forefront of the society, was real support for young scientists. "The Society strove to encourage and support young scientists into parasite research," said Mal, "and it still does - I really like that the Society provides funding for students to attend conferences and gives travel grants and awards. I like the strong sense of history and relevance to Australian development. It is also full of pretty nice people, and still lots of fun!" Mal said.

*How does it feel to be made an ASP Fellow?*

"I'm absolutely delighted!" Mal said of being made an ASP Fellow. "I hold the Society very dear, and have been more and more committed to it over the years. I feel humbled and honoured and feel I am in the company of special people who are also Fellows, especially being made a Fellow at the same time as Robin Gasser - I was very excited to be in that company." He said. "The Society has been very good to me; helped me develop my career, offered comradeship and support across the country."

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

"This may sound funny but do you remember the '10 things you don't know about parasites' session at the 2006 ASP & Network Conference in the Gold Coast? To prepare for my bit of that, I was investigating, and trying to answer the question, how do eggs get out of their host? I ended up putting together a nice paper on the bizarre hatching mechanism of *Schistosoma japonicum*. A quirky bit of science that is not going to conquer the world but did get published in *PLoS Neglected Tropical Diseases*" (2008; Vol2 p344 "Correlative images and dynamic hatching of *Schistosoma japonicum*").

And, really, that sums Mal up - a thoughtful, unpretentious, self-deprecating scientist of the highest quality. The parasitologist's parasitologist.

In the future, Mal wants to do more travelling, and would love to do some teaching in developing nations and in endemic areas, working on a practical level, offering basic training, working with researchers and students teaching them how to do basic research on schistosomiasis.

*It was such a pleasure to interview Mal, and to hear his wonderful insights into parasitology and the ASP*



## News from the ASP Network for Parasitology

At the 2011 ASP Annual Conference, for the first time, we are running post-graduate workshops. Jason Mulvenna, James Cook University, will run a Bioinformatics workshop on the 9th and 10th July and Kate Hutson (James Cook University) will run a Marine Parasitology workshop on Sunday 10th July. Both Jason and Kate have put a lot of time and energy into organising these workshops and preparing course work material, well done to both of you. Sunday 10th July our 2011 ASP Conference welcome event will feature a fabulous set of speakers as part of our public lecture "Parasitic and Venomous Encounters in the Tropics".

In this issue of the ASP Newsletter, IJP: Drugs and Drug Resistance is our feature article, we wish the newest journal from the ASP great success and encourage Australian researchers to submit their papers. We hope to feature research stories from ASP members publishing in IJP: DDR and IJP in the future. Check the ASP website for interviews and articles about ASP members with recent publications.

Congratulations to **Prof Leann Tilley** who was awarded the **The 2011 Beckman Coulter Discovery Science Award**. Leann's recent researcher news features below.

**Congratulations to JD Smyth Travel Award and ASP Network Travel Award winners in the first two rounds of the Award scheme for 2011.**

### JD Smyth Travel Award winner

**Philippa Sharman** (James Cook University) won the prestigious **JD Smyth Travel Award** in January 2011 for a Researcher Exchange to National Institute for Agriculture Research (INRA), France

**Laura González Poblete** (University of Tasmania) won the prestigious **JD Smyth Travel Award** in May 2011 for a Researcher Exchange to study salmon parasites as reservoirs of salmon pathogens in Universidad de Chile (Prof. Pedro Smith) and ISA virus identification and analysis of Oceanographic parameters in Universidad de Concepcion (Dr. Rodrigo Gonzalez).

### ASP Network Travel Award winners

**Bjoern Schaeffner** (University of Melbourne) for a Researcher Exchange to University of Connecticut, U.S.A. for 7th International Workshop for Cestode Systematics and

Observation of trypanorhynch material deposited at the University of Connecticut in the laboratories of Prof. Janine Caira

**Megan Dearnley** (La Trobe University) to attend the Woods Hole Biology of Parasitism Course in June 2011.

**Wan Hon KOH** (Murdoch University) for a Researcher Exchange to the University of Technology, Sydney to learn the latest microcopy techniques.

**Victoria Valdenegro** (University of Tasmania) to participate in the Fish Immunology Workshop, Wageningen University, The Netherlands.

**Kylie Easton** (Australian National University) for a Researcher Exchange with Prof Mack, Institut für Technische Mikrobiologie, Mannheim, Germany and with Prof Cotini, Section of Infectious Diseases, Dept Clinical and Experimental Medicine, University of Ferrara, Italy, to study malaria biology.

**Haylee Weaver** (Australian National University) for a Researcher Exchange to the laboratory of Prof Denis Richardson, Quinnipiac University, Connecticut and to work with specimens at the University of Nebraska, U.S.A.

**Stephanie Godfrey** (Flinders University) for a Training Course to attend Ecology and Evolution of Infectious Diseases: Workshop on Modeling and Data Analysis University of California, Santa Barbara, U.S.A.

**Ian Whittington** (University of Adelaide) for a Researcher Exchange to network with, and collaborate on, primitive, blood-feeding fish parasites with Brazilian researcher, Professor Marcus Domongues.

**Gillian Fisher** (Griffith University) for a Researcher Exchange Training in the expression and purification of recombinant *P. falciparum* proteins at the CSIRO Melbourne in Tom Peat's laboratory.

**Nancy Trieu** (University of Queensland) for a training course in Marine Parasitology at James Cook University, Cairns.

**Christie Foster** (University of Sydney) for a training course in Bioinformatics at James Cook University, Cairns.

**Victoria Morin-Adeline** (University of Sydney) for a training course in Marine Parasitology at James Cook University, Cairns.

**Elizabeth Zuccala** (Walter and Eliza Hall Institute) for a World Practical Course on Microscopy: Imaging Infection –From single Molecules to Animals (CSIR, South Africa) Gene Expression & Biophysics Group, The Council for Scientific and Industrial Research (CSIR) Pretoria, South Africa.

**The deadline for applications for the last round of Travel Awards in 2011 will be:**

**Friday 7 October 2011**

Nick Smith and Lisa Jones  
ASP Network for Parasitology

## Congratulations and researcher news

### Leann Tilley

**The 2011 Beckman Coulter Discovery Science Award The Beckman Coulter Discovery Science Award is awarded to an ASBMB member for distinguished contributions to the field of biochemistry and molecular biology.**

<http://asbmb.org.au/awards/tilley.html>

**Leann Tilley** and her research team at La Trobe University have had their research published in Proceedings of the National Academy of Science (PNAS) "Artemisinin activity against *Plasmodium falciparum* requires hemoglobin uptake and digestion"

The research from La Trobe has revealed for the first time the mechanism by which current anti-malarial drugs kill the malaria parasite.

'Recent reports of decreased clinical effectiveness of artemisinin-based drugs are extremely concerning,' Leann said

'It is therefore critical to understand the way artemisinin works so that we can overcome the pathogen's resistance to this drug.'

This new research shows that artemisinin targets a point of critical vulnerability in the malaria parasite.

Research from the La Trobe laboratory demonstrates that supplies of this haemoglobin-derived iron are essential if artemisinin is to destroy the parasite.

'Decreasing the production of this iron renders the parasites resistant to artemisinin,' Leann said.

'We have also shown that the parasite can slow its growth and reduce its haemoglobin uptake rate in response to artemisinin treatment. This helps it avoid the toxic effects of artemisinin.'

Thus the La Trobe study not only gives an important insight into the nature of artemisinin action and resistance, but also suggests that new, longer-lived antimalarials will thwart this resistance mechanism.

Leann has recently moved to The University of Melbourne, Bio21. We wish Leann and her team all the best and look forward to hearing more news from the Tilley lab soon.

## Network Mentorship Scheme

Early career researchers are encouraged to apply to the Network Convenor (nicholas.smith@jcu.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 Smith (nicholas.smith@jcu.edu.au) 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.

### Closing Dates for ASP Awards

**ASP Network Travel Award**  
(includes JD Smyth Award)  
7 October 2011

**Bancroft-Mackerras Award**  
30 September 2011 (for award in 2012)

**JFA Sprent Prize**  
30 September 2011

**ASP Fellowships**  
By 9 January 2012

Visit the ASP website for more information  
**[www.parasite.org.au](http://www.parasite.org.au)**

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## News about Australia/Europe Malaria Research Cooperation

OzEMalaR continues to strengthen links and promote collaboration between Australian malaria research laboratories and European, African & Indian malaria researchers through researcher exchanges and communication. Email Lisa with any news, jobs or events you have for the website ([lisa.jones1@jcu.edu.au](mailto:lisa.jones1@jcu.edu.au)) or with your comments and suggestions.

We are spoilt for choice with conferences in the next year. The 2011 ASP Conference in Cairns 10-13 July will feature a great line-up of malaria sessions and posters, along with a whole host of parasitology research.

The 4th Molecular Approaches to Malaria Meeting 19 - 23 February 2012 at the Mantra Erskine Beach Resort, Lorne, Australia. MAM2012 will focus on the very latest developments in malaria research, covering the spectrum in molecular advances from protein structure and single molecule imaging, cell biology and pathogenesis, right through to host immunity, systems biology and the latest developments in drug discovery/resistance and vaccines – all with an emphasis on cutting edge molecular approaches. As well as confirmed talks from leaders in the field, there will be focused workshops on systems approaches to malaria research, drug discovery, and strategies towards the development of a complete in vitro parasite lifecycle. Check the website: [www.mamconferences.org](http://www.mamconferences.org)

The 2011 Gordon conference on malaria in Tuscany, Italy, will focus on "the science behind malaria control and eradication" and run July 31 - August 5, 2011. Check the website <http://www.grc.org/programs.aspx?year=2011&program=malaria>

Many congratulations to **Prof Alan Cowman** (Walter and Eliza Hall Institute) who has been elected to the Royal Society of London. The Royal Society states that Alan's work has "provided understanding of molecular mechanisms used by the malaria parasite *Plasmodium falciparum* to evade lethal effects of antimalarial drugs. This has allowed monitoring of the geographic spread of drug-resistant malaria in endemic areas. He has also illuminated how the malaria parasite invades and renovates the erythrocyte, an important process for avoidance of host responses. He has led technology development in reverse genetics of *P. falciparum*, describing the first gene knockout in this organism, and is using this approach to identify critical vaccine candidates

and to construct genetically attenuated parasites as potential vaccines." Well done Alan, a highly prestigious accolade for a top researcher.

Congratulations to **Dr Jake Baum**, from Walter and Eliza Hall Institute, and colleagues, Dr Friedrich Frischknecht from the University of Heidelberg, Germany, and Dr Dave Kovar from the University of Chicago, US, who were awarded US\$1.05 million over three years from The Human Frontier Science Program to investigate new methods of preventing malaria infection.

Congratulations to recent OzEMalaR Travel Award winners, listed below. We look forward to hearing about how those Researcher Exchanges went in the near future.

**Justin Boddey** (Walter and Eliza Hall Institute) won an OzEMalaR travel award in 2010 and we hear about his research in our profile of Justin below.

We've had a terrific response from the Australian malaria community with some fantastic Travel Award applications from researchers and we want to see even more in the second half of 2011.

Visit our website [www.ozemalar.org](http://www.ozemalar.org) to find out how you can apply for OzEMalaR Travel Awards to support early career malaria researchers (PhD and postdocs) from Australia to work and be trained in top European laboratories within EviMalaR (= BioMalPar) for malaria research. To check which laboratories are eligible as hosts visit [www.evimalar.org](http://www.evimalar.org). Download funding guidelines from the ozemalar website and start planning your researcher exchanges to utilise this great opportunity. **Our latest OzEMalaR Travel Award winners are:**

**James McCarthy**, (Queensland Institute of Medical Research) for a Researcher Exchange to visit Professor Sauerwein's laboratory in the Netherlands.

**Melanie Rug**, (The Walter and Eliza Hall Institute for Medical Research) for a Researcher Exchange to visit Drs. Marek Cyrklaff and Freddy Frischknecht, Department of Parasitology, University of Heidelberg, Germany.

**Vanessa Mollard**, (University of Melbourne) for a Researcher Exchange to visit A/Professor Robert Ménard at the Pasteur Institute in Paris and Professor Bob Sinden at the Imperial College in London.

**Clare Smith**, (Menzies Research Institute) for a Researcher Exchange to visit Professor Odile Pujalon, Pasteur Institute, Paris, France.

**Megan Dearnley**, (La Trobe University) for a Researcher Exchange to visit Bernhard Nocht Institute for Tropical Medicine collaborating with Prof. Tim Gilberger and Dr. Tobias Spielmann.

**Jo-Anne Chan**, (Burnet Institute) for a Researcher Exchange to visit Malaria Centre laboratories London School of Hygiene and Tropical Medicine, UK.

Our next closing date for OzEMalaR Travel Awards is **Friday 9 September 2011**, we hope to see lots of applications.

Geoff McFadden  
Convenor, OzEMalaR

## Profile - Justin Boddey

Justin Boddey is at the Walter and Eliza Hall Institute of Medical Research (WEHI) and his research focuses predominantly on *Plasmodium falciparum*, the causative agent of the most severe form of malaria in humans. Malaria causes 1 million deaths per year and much suffering for people living in tropical and subtropical regions of the world. Justin's main aim is to understand how this parasite survives in humans and the mechanisms it uses to commandeer host cells to evade immune responses, as this knowledge may help identify new treatments or a vaccine. These are urgently needed. For the past 5 years Justin has studied how the malaria parasite renovates the red blood cell so it can survive within it. He spoke to Lisa Jones about this.

"The parasite makes proteins that directly modify the infected red blood cell. These proteins have an export signature, a five amino acid "barcode", that the parasite recognises and uses to sort the proteins into the red blood cell," said Justin. "I've been looking at this export signal at a molecular level and asking, why are the five amino acids there in all of these proteins – what do they do? It turns out the "barcode" is a proteolytic cleavage site that is recognised by a parasite enzyme that cuts it in half. This reveals a stub that directs the proteins into an export pathway and, if you block the cleavage, you block the export. We are therefore trying to make new compounds that block the cleaving enzyme, called Plasmepsin V, and jam up the export pathway so the parasite dies," he said.

Justin was awarded an OzeMalaR Travel Award in 2010 to investigate if the same export pathway is used during the liver-stage of malaria. He travelled to Lisbon for a researcher exchange with Dr. Maria Mota at the Institute of Molecular Medicine, Lisbon. He reports on his experiences below.

"My researcher exchange in Maria's laboratory was incredibly rewarding. From the moment I arrived I felt very welcome and was quickly aware that every resource had been made available to me. This included working closely with a number of talented post-docs that would give of their own time to teach me. This made an enormous impression on me and I knew I was in the right place to learn about the liver-stages of malaria," Justin said.

"The lab really has a culture of excellence and I was immersed in it every day. No amount

of literature can substitute for that, or convey the volume of information in the time frame. I learned so much and it will really help us to continue this research program back in Melbourne, at WEHI," Justin said.

"We wanted to answer some basic but fundamentally important questions about protein export during the liver-stage. The preliminary data confirms an earlier report that the export pathway between erythrocytes and hepatocytes looks the same. The previous study looked at the circumsporozoite protein whereas we have looked at members of the export pathway itself. Naturally, more evidence is required to prove it conclusively, but if it pans out, it's incredibly exciting. It will have important implications for how hepatocytes are commandeered and how we might stop that from happening. We also screened mutant parasites for their ability to develop through the liver-stage in mice in an attempt to identify proteins that are essential for this process. This work identified some candidate proteins, which is also very exciting. In the future we want to immunise with the mutants," said Justin. "Sometimes weak parasites can be detected in the liver and cleared by the immune system, which primes the host for future infections. This would destroy the parasites before they could cause the clinical blood-stage of disease," he said.

Justin also attended an EVIMalaR Cluster meeting that was held within the Institute in Lisbon. "This forum covered the latest unpublished research in malaria and provided the opportunity to meet a variety of scientists from around Europe, some of whom I had never previously met. It was a great opportunity to discuss future collaborations," Justin said.

"The work in Lisbon was a large collaboration between a number of very generous laboratories and I am indebted to each of them for their generosity. Three months is not a long time, and careful research moves slowly, so much of this work will continue for some time. I am especially grateful to Dr. Mota for hosting me and making me feel so welcome. I sincerely hope we continue to work together in the longer-term. I also sincerely thank all the people that stopped their own work to offer advice or assistance. Collectively, I thank people from the Institute for Molecular Medicine in Lisbon, the Leiden University Medical Center in Amsterdam, and Deakin University, the Burnet Institute and the Walter and Eliza Hall Institute for Medical Research here in Melbourne," Justin said. "And of course, OzeMalaR."

*We wish Justin well in the future and look forward to hearing more about his work. In the first week of July 2011, Justin will be at Cape*

*Canaveral, Florida, for the launch of the space shuttle Atlantis mission to the International Space Station. Justin was selected by NASA (who chose at random 150 people who follow the NASA twitter account for a "tweet-up" at Cape Canaveral - a two-day, informal meeting of people who use the social messaging medium twitter.)*

*Sign up for Twitter and follow OzEMalaR, the ASP, Justin Boddey and a whole host of tweeters. Check the OzEMalaR website [www.ozemalar.org](http://www.ozemalar.org)*



The Institute for Molecular Medicine, Lisbon.



The Alfama region in Lisbon.



# 2012 Conference

2011 ASP Annual Conference Sunday 10th until Wednesday 13th July at the Pullman Reef Casino, Cairns, Tropical North Queensland



The 2011 ASP Annual Conference program includes an outstanding mix of quality international and Australian scientists and events centred around the "One Health" concept integrating tropical parasitology for both animal and human health with the following themes and invited speakers:

## *Headline Speaker*

Patrick Lammie (Centres for Disease Control, USA)

## *"One Health"*

Felix Guerrero (US Dept. of Agriculture)

Peter Deplazes (University of Zurich)

Mike Grigg (NIH, USA)

Deb Holt (Menzies School of Health, NT)

Andrew Thompson (Murdoch University)

## *Tropical Marine Parasitology*

David Blair (James Cook University)

Rob Adlard (Queensland Museum)

Nico Smit (North-West University)

## *Malaria*

Balbir Singh (University Malaysia Sarawak)

Stephen L. Hoffman (Sanaria Inc.)

Stephen Rogerson (University of Melbourne)

## *Elsevier Lectures*

Karl Hoffman (Aberystwyth University)

Ricardo Gazzinelli (Universidade Federal de Minas Gerais & University of Massachusetts)

## *Tropical Veterinary Parasitology*

Con Constantinoiu (James Cook University)

Brian Cooke (Monash University)

Annette Dougall (James Cook University)

## **Conference website [www.parasite.org.au/arcnet/conference](http://www.parasite.org.au/arcnet/conference)**

Free public event "Parasitic and Venomous Encounters in the Tropics", Sunday 10th July at 6pm. Also, run for the first time this year in conjunction with the conference, postgraduate students are able to participate in either a Bioinformatics workshop, run by Jason Mulvenna, QTHA/JCU, or a Tropical Marine Parasitology workshop (run by Kate Hutson, JCU).



# Events

## Molecular Approaches to Malaria 2012

We are pleased to announce that registration for the next **Molecular Approaches to Malaria conference, MAM2012, February 19th - 23rd 2012, Lorne, Australia**, is now open!

The conference looks set to follow in the footsteps of its predecessors presenting the very latest breakthroughs in malaria science as well as providing ample opportunities for networking and socialising with colleagues from across the global malaria research community. The MAM2012 program will provide several opportunities for presenting the best in malaria science. This includes presentations from some of the leading international malaria researchers, a limited number of talks selected from submitted abstracts, poster sessions and short talks. Together, the program will allow delegates to showcase their best work, late-breaking and emerging stories along with opportunities to discuss some of the key issues facing the malaria research community.

Registration will only be possible online from the conference web site - [www.mamconferences.org](http://www.mamconferences.org). We remind you that numbers will be capped (due to capacity of the venue) and therefore urge you to register as early as possible. A late fee will be applied to registrations after September 1st (if slots are still available).

For detailed information about the conference, location, confirmed speakers, registration and abstract submission as well as scholarship opportunities for delegates from resource-poor or malaria-endemic countries please visit the website - [www.mamconferences.org](http://www.mamconferences.org)

We look forward to welcoming you to Lorne during what we hope will be another celebration of the latest and best in malaria parasite molecular and cellular research.

Jake Baum and Kevin Saliba

Co-Chairs MAM2012 Conference Organizing Committee

## The Science Behind Malaria Control and Eradication Gordon Research Conference - July 31 to August 5, 2011 Il Ciocco Hotel and Resort, Tuscany, Italy

**Discussion Leaders:** Sir Richard Feachem, Marcel Tanner, Anthony James, Thomas Wellems, Dyann Wirth, Dominic Kwiatkowski, Odile Puijalon, Allan Saul.

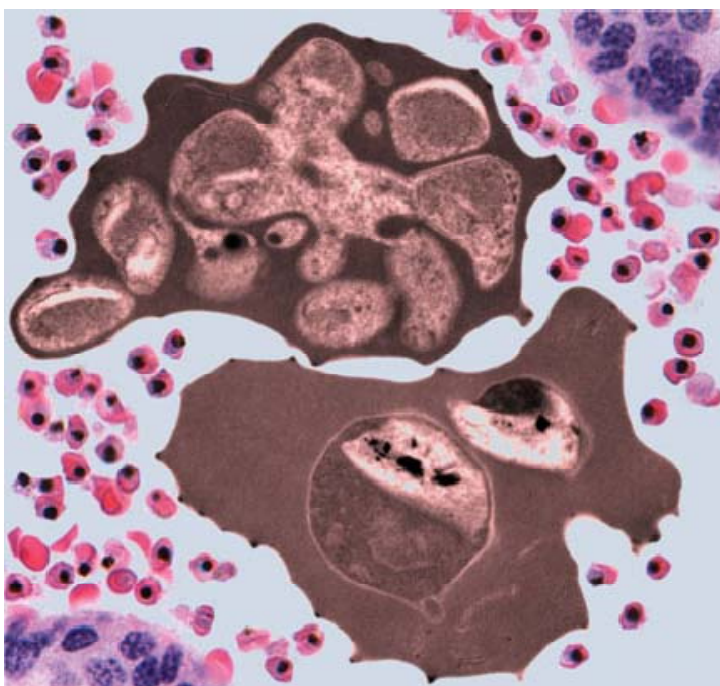
**Speakers:** Pedro Alonso, Anthony James, Jean-Francois Trape, Simon Hay, Tom Smith, Philip Eckhoff, Flaminia Catteruccia, Rhoel Dinglasan, Arjen Dondorp, Elizabeth Winzeler, Kevin Baird, Ian Hastings, David Kaslow, Manuel Llinás, Lucio Luzzatto, David Modiano, Kenneth Vernick, Larry Zweibel, Janet Hemingway, Stefan Kappe. More speakers to be selected from abstracts.

Conference Chair: Patrick Duffy (NIH)  
Vice Chair: Brendan Crabb (Burnet Institute)



[GRC Program Schedule](http://www.grc.org)

[www.grc.org](http://www.grc.org)



Travel awards for young scientists available on a competitive basis.  
Applicants submitting abstracts will be given preference for acceptance.  
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# Events



Website: [www.dnabarcodes2011.org](http://www.dnabarcodes2011.org)

Twitter: [dnabarcodes2011](https://twitter.com/dnabarcodes2011)

RSS: [dnabarcodes2011.wordpress.com/feed](http://dnabarcodes2011.wordpress.com/feed)

## **Fourth International Barcode of Life Conference**

**30 November – 3 December 2011**

[www.dnabarcodes2011.org](http://www.dnabarcodes2011.org)

The 4<sup>th</sup> International Barcode of Life Conference will be held at the University of Adelaide, in Adelaide, Australia, between November 30<sup>th</sup> 2011 and December 3<sup>rd</sup> 2011, in partnership with the Consortium of the Barcode of Life.

The International Barcode of Life Conferences is an important events that take place every two years. The conference allows participants and sponsoring organizations to promote partnerships which enable the international scientific and policy community to better understand, quantify and manage their biodiversity.

The 2011 Adelaide Conference will be the first international barcode conference held in the Southern Hemisphere. It will look to address a range of the areas of Barcoding, including: illegal wildlife and timber trade; pest and disease diagnostics; forensics; quarantine identifications; environmental monitoring and assessment; animal, plant, fungal, algal and bacterial systematics; and Beyond Barcoding.

If you are interested in attending this conference, please fill out the

[Expression of Interest Form](#)

### **CONFERENCE UPDATE:**

[Call for Abstracts: Online Submission Now Open!](#)



# Researcher News

## Menzies researchers win major Research and Innovation Awards

Researchers from the Menzies School of Health Research won the prestigious Chief Minister's Research and Innovation Award. The prize went to the Menzies Leishmania Project Team for their work in identifying the insect that spreads the parasite *Leishmania* in Australia.

Menzies won three awards; the *Leishmania* Project Team won the Chief Minister's Research and Innovation Award and the Tropical Knowledge Awards, while Dr Kate Mounsey won the inaugural NT Young Tall Poppy award.

Worldwide, Leishmaniasis is a devastating infection caused by *Leishmania* parasites.

It can be fatal if left untreated, and causes tens of thousands of cases and deaths each year, particularly in Africa and South America. Australia and the Antarctic were thought to be free of the parasites. However, in 2003, *Leishmania* infections were discovered in captive red kangaroos in the Northern Territory. Genetic analysis of the NT *Leishmania* has revealed it is a new species not found elsewhere in the world.

Dr Annette Dougall, Dr Deborah Holt and Associate Professor Shelley Walton were the lead Menzies' researchers who worked on the *Leishmania* project, in close collaboration with the Territory Wildlife Park, the NT Government's

Medical Entomology Branch, the Berrimah Veterinary Laboratories and the Australian Quarantine and Inspection Service.

"Our work focused on defining the lifecycle of this parasite. We have shown that a number of different animals native to the Darwin rural area can be infected by the parasites," Dr Holt said.

"This project found the first evidence anywhere in the world that an insect other than a sand fly is capable of transmitting *Leishmania*."

"This has significant implications for biosecurity in Australia, with the possibility that important *Leishmania* species, which are capable of infecting humans and our native wildlife, could be transmitted within Australia."

"This project is a really good example of using the expertise that is available in the Northern Territory by collaborating with four terrific organisations on this research," Dr Holt said.

The research team was thrilled to be recognised through these awards. "It is wonderful to see this ground-breaking research suitably recognised with the Chief Ministers' Award," Professor Jonathan Carapetis, Director of Menzies School of Health Research, said. "Identifying the vector that can spread this potentially lethal infection is an essential first step to understanding how it can be controlled, in order to ensure that Australia doesn't see the widespread devastation in animals or even humans that *Leishmania* has caused in other continents."

Professor Carapetis also paid tribute to Dr Mounsey.

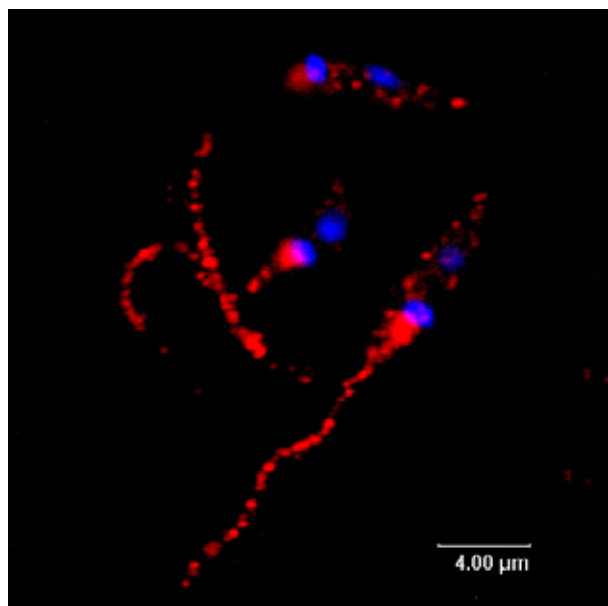
"The Young Tall Poppy is a national program that, each year, recognises in every State and Territory a young person who is both a researcher of the highest calibre, and who spreads the good word about science to a wide audience."

"Kate is a wonderful young woman who is the embodiment of those characteristics. Her research into scabies is providing essential information to help our efforts to control this important disease in Aboriginal communities."

"The burden of scabies remains high in remote Aboriginal communities, with scabies and skin infections in childhood linked to extreme rates of renal and heart disease in adults," Dr Kate Mounsey said.

"My research aims to better understand how drug resistance occurs by measuring responses of scabies mites to drugs, and conducting molecular studies on scabies mite genes involved in drug resistance."

"Additionally, I am investigating immune responses to scabies using a world-first animal model of scabies. This will reveal specific defects that predispose people to crusted scabies, which will ultimately result in new treatment strategies and improved skin health for disadvantaged communities."



*Leishmania* images courtesy of Joan Curtis and Emanuela Handman, Walter and Eliza Hall Institute of Medical Research (Australia) and are part of "Parasites In Focus" travelling exhibition.

### ASP membership website

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E: [pwynn@internode.on.net](mailto:pwynn@internode.on.net)



# IJP news

Australia has long been thought to be free of *Leishmania* but the recent discovery of a new species infecting kangaroos, and other macropods, has prompted a re-think. In work, recently published in the International Journal for Parasitology, **Annette Dougall** and colleagues from the Menzies School of Health in Darwin set out to answer how...read the full story online at the ASP website [www.parasite.org.au/?p=180](http://www.parasite.org.au/?p=180)

## International Journal for Parasitology

**Impact Factor 3.822\***

**\*©Journal Citation Reports® published by Thomson Reuters, 2010**  
**[www.elsevier.com/locate/ijpara](http://www.elsevier.com/locate/ijpara)**

### April Issue

**The kinetics of local cytokine and galectin expression after challenge infection with the gastrointestinal nematode, *Haemonchus contortus***

**Nicholas Robinson, Jill Pleasance, David Piedrafita, Els Meeusen**

**Multi-locus analysis of *Giardia duodenalis* intra-Assemblage B substitution patterns in cloned culture isolates suggests sub-Assemblage B analyses will require multi-locus genotyping with conserved and variable genes**

**Caroline M Wielinga, Una Ryan, RC Andrew Thompson, Paul Monis**

**Evidence incriminating midges (Diptera: Ceratopogonidae) as potential vectors of *Leishmania* in Australia**

**Annette Marie Dougall, Bruce Alexander, Deborah Holt, Tegan Harris, Amal H Sultan, Paul A Bates, Karrie Rose, Shelley F Walton**

### June Issue

**Lysosomal degradation of *Leishmania* hexose and inositol transporters is regulated in a stage-, nutrient- and ubiquitin-dependent manner**

**James E. Vince, Dedreia Tull, Scott Landfear, Malcolm J. McConville**

### July Issue

**The life cycle of *Cardicola forsteri* (Trematoda: Aporocotylidae), a pathogen of farmed southern bluefin tuna, *Thunnus maccoyii***

**Thomas H. Cribb, Robert D. Adlard, Craig J. Hayward, Nathan J. Bott, David Ellis, Daryl Evans, Barbara F. Nowak**

**Phylogenetic and phylogeographic relationships in *Ixodes holocyclus* and *Ixodes cornuatus* (Acari: Ixodidae) inferred from COX1 and ITS2 sequences**

**Simon Song, Renfu Shao, Rick Atwell, Stephen Barker, Dianne Vankan**

# Announcing IJP: DDR

**International Journal for Parasitology: Drugs and Drug Resistance was launched on June 15, 2011 by Elsevier, in association with the Australian Society for Parasitology Inc. The new Open Access Journal is dedicated to collaborations and cutting-edge research in Parasitology.**

The new electronic open access journal is closely affiliated with the leading parasitology journal, International Journal for Parasitology, and will address a critical area of research, covering anti-parasite drug identification, development and evaluation, and parasite drug resistance. The journal's remit also includes research into natural products as anti-parasitic agents, and bioactive parasite products. The Journal encourages critical comment and debate on matters of current controversy in the area of parasite drug resistance and anti-parasite drugs via "Current Opinions". Studies can be aimed at unicellular or multicellular parasites of human or veterinary importance.

The two founding Editors in Chief of International Journal for Parasitology: Drugs and Drug Resistance are Kevin Saliba (Australian National University) and Andrew Kotze (CSIRO), who are responsible for the editing of submissions in the area of unicellular and multicellular parasites, respectively. Lisa Jones spoke with Kevin and Andrew.

Kevin said, "IJP: DDR is exactly in line with my own research priorities – biochemical and physiological processes of the malaria parasite – we aim to identify weaknesses in parasite and target these with drugs."

"I'm excited about being part of a new journal that might help synthesise a lot of these related articles around basic drug discovery and drug targets. It is our aim to put these discoveries into a single journal and create a single forum for discussing these issues collaboratively," said Kevin.

"We believe that IJP: DDR will enhance research focus, lead to collaborations and help generate new ideas for researchers. I'm looking forward to helping shape a new journal and hopefully IJP: DDR will be equally highly regarded as IJP."

Andrew Kotze has had 15 years with CSIRO looking at ways to kill intestinal parasites, and new ways to detect resistance. "I'm interested in killing parasites, so I look at potential drugs and the effect on worms and use various techniques to find new drug targets."

"My research focuses on identifying weaknesses in parasites and so drugs and drug resistance is

central to the research," Andrew said.

Andrew and Kevin encourage all researchers working on parasites and anything pharmacological related to parasites to submit their manuscripts. IJP: DDR is an online journal, manuscripts come in, are processed and then issued online, and there is a fee for publishing.

Prof Terry Spithill, President of the Australian Society for Parasitology, said, "The Society is delighted to have fostered the founding of this new journal, which we anticipate will provide a stellar forum for the dissemination of original discoveries in the pharmacological control of parasites of human and veterinary significance."

"We are delighted to continue our excellent relationship with the Australian Society for Parasitology, and we are confident that IJP:DDR will quickly establish itself as the leading journal for publishing the latest research into parasite drug treatment and resistance," added Executive Publisher Dale Seaton.

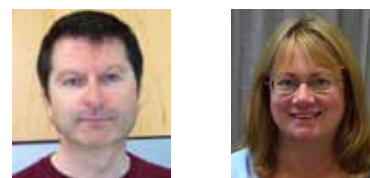
More information about the scope of articles accepted for submission are available on the Journal's website. Article submissions for IJP:DDR can be made at <http://ees.elsevier.com/ijpddr/>

The following 20 leading scientists make up the specialist editorial board of IJP: DDR

**Kathy Andrews** (Griffith University, Australia)  
**Michael Barrett** (University of Glasgow, UK)  
**Conor Caffrey** (University of California, San Francisco, USA)  
**Simon Croft** (London School of Hygiene & Tropical Medicine, UK)  
**Tim Geary** (McGill University, Canada)  
**Thaddeus Graczyk** (Johns Hopkins University, USA)  
**Nick Jonsson** (University of Glasgow, UK)  
**Ray Kaplan** (University of Georgia, USA)  
**Richard Martin** (Iowa State University, USA)  
**Aaron Maule** (Queens University, UK)  
**Silvia Moreno** (University of Georgia, USA)  
**James Morris** (Clemson University, USA)  
**Ric Price** (Menzies School of Health Research, Australia)  
**Stuart Ralph** (University of Melbourne, Australia)  
**Georg von Samson-Himmelstjerna** (Freie Universität Berlin, Germany)  
**Nick Sangster** (Charles Sturt University, Australia)  
**Andrew Thompson** (Murdoch University, Australia)  
**Adrian Wolstenholme** (University of Georgia, USA)  
**Debra Woods** (Pfizer Animal Health, USA)

*(editors pictured L-R clockwise from top left: Tim Geary; Nick Jonsson; Richard Martin; Conor Caffrey; Debra Woods; Kevin Saliba; Kathy Andrews; Georg von Samson-Himmelstjerna; Ray Kaplan; Silvia Moreno; Adrian Wolstenholme; Andrew Thompson; Simon Croft; Ric Price; Stuart Ralph)*

# IJP

INTERNATIONAL JOURNAL FOR PARASITOLOGY


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Perth Convention Exhibition Centre  
Western Australia



24th International Conference of the World Association  
for the Advancement of Veterinary Parasitology



# Jobs in parasitology

See the latest jobs in parasitology on the ASP and OzEMaR websites

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

<http://www.ozemalar.org>

## Research Fellow - Kinomics in *P. falciparum* Monash University

Job No. 497280

Faculty of Medicine, Nursing and Health Sciences, School of Biomedical Sciences, Department of Microbiology

Clayton campus

Full time, 12 month fixed-term appointment  
January 2012 start date

Remuneration: \$74,032 - \$79,469 pa Level A PhD /

\$83,651 - \$99,337 Level B

(includes 9% employer superannuation)

we are looking for a highly motivated and enthusiastic individual to join our new and friendly collaborative laboratory in the Department of Microbiology, and contribute to advance our understanding of kinomics in *P. falciparum*.

To be successful, you must have:

- demonstrated ability to implement complex scientific projects;
- at least one post-doc experience in biological research; and
- ability to write scientific papers and to present scientific data to an informed audience.
- Previous implementation of projects in molecular biology and transgenesis of malaria parasites would place you in high standards.

As part of this team, you will be expected to integrate into a friendly and highly interactive environment, and work collaboratively with others across the Monash Clayton campus. We place an emphasis on team spirit, cooperation and career advancement.

Your application must address the selection criteria. Please refer to "How to apply for Monash jobs"

Please also include your latest academic transcript

with your application.

Enquiries

Professor Brian Cooke, Microbiology on, +61 3 9902 9146

Professor Christian Doerig, on +41 21 693 0983 or e-mail: christian.doerig@epfl.ch

**Closing Date Friday 30 September 2011, 11:55pm Aus. Eastern Standard Time**

<http://jobs.monash.edu.au/jobDetails.asp?sJobIDs=497280&ICategoryID=641%2C+640%2C+636&IBrandID=&IWorkTypeID=&ILocationID=&stp=AW&Language=en>

<http://www.monash.edu>

## Research Assistant - Kinomics in *P. falciparum* Monash University

Job No.:497276

Faculty of Medicine, Nursing and Health Sciences, School of Biomedical Sciences, Department of Microbiology

Clayton campus

Full-time, 12 month fixed-term appointment  
January 2012 start date

Remuneration: \$68,039 - \$73,441 HEW Level 06  
(includes 9% employer superannuation)

We are looking for a highly motivated and enthusiastic individual to join our new and friendly collaborative laboratory in the Department of Microbiology, and contribute to advance our understanding of kinomics in *P. falciparum*.

As part of this team, you will be expected to integrate into a friendly and highly interactive environment, and work collaboratively with others across the Monash Clayton campus. We place an emphasis on team spirit, cooperation and career advancement.

To be successful, you must have:

- At least four years experience in biological research;
- Experience in cell culture;
- Experience in standard molecular biology techniques (including PCR, Southern/western blotting, molecular cloning);
- Well developed organisational skills (e.g. managing stocks of consumables and collections of biological samples); and
- Proficiency with basic informatics tools (Excel, PowerPoint, basic bioinformatics, etc).
- Experience with culture of malaria parasites in red blood cells and managing a laboratory will be highly regarded.

Your application must address the selection criteria. Please refer to "How to apply for Monash jobs". Please also include your latest academic transcript with your application.

Enquiries

Professor Brian Cooke, Microbiology on, +61 3 9902 9146

Professor Christian Doerig, on +41 21 693 0983 or e-mail: christian.doerig@epfl.ch

**Closing Date Friday 30 Sep 2011, 11:55pm Aus. Eastern Standard Time**

<http://jobs.monash.edu.au/jobDetails.asp?sJobID=497276&ICategoryID=637%2C+639%2C+638&IWorkTypeID=&ILocationID=&stp=AW&Language=en>

<http://www.monash.edu>

# Jobs in parasitology cont...

## Postdoctoral Researcher – Host/Parasite Interactions James Cook University, Cairns

Expressions of interest are invited for a postdoctoral position in the new Queensland Tropical Health Alliance Laboratories at James Cook University in Cairns, Australia. A PhD and research background in parasitology, immunology or cell & molecular biology are essential. Experience working with protozoan parasites, particularly those within the Phylum Apicomplexa is desirable. You will be responsible for developing and conducting a program of research investigating the host/parasite interactions of toxoplasmosis, a complex disease

caused by the parasite, *Toxoplasma gondii*. You will have excellent interpersonal skills, enjoy being part of an interactive research team but will also be highly self-motivated and capable of independent thought and action. The position is fulltime for a fixed term of 2 years and is available immediately. Salary will be in accordance with qualifications and experience. Benefits include 5 weeks annual leave, generous employer superannuation and attractive options for salary packaging. The University reserves the right to invite applications or, alternatively, not to make an appointment. For further information contact Professor Nick Smith (tel. (07) 4042 1315; email, [nicholas.smith@jcu.edu.au](mailto:nicholas.smith@jcu.edu.au)) before August 31, 2011.

Professor Nick Smith  
Queensland Tropical Health Alliance,  
Faculty of Medicine, Health and Molecular  
Sciences,  
James Cook University,  
Building E4, McGregor Rd, Smithfield, Cairns,  
QLD, 4878  
Australia  
tel: +61 7 4042 1315

# Bancroft-Mackerras Medal guidelines

## Nominations for Bancroft-Mackerras Medal

The Bancroft-Mackerras Medal may be awarded to a member of the Society who, in the opinion of the selection committee, has made an outstanding contribution to the science of parasitology, particularly in work published during the last five years.

Nominations should be made by a proposer and seconder, and should consist of:

A detailed statement of nomination describing the nature of the "outstanding contribution to the science of parasitology" for which he/she has been responsible. The statement should be signed by the proposer and seconder, or each may submit a separate statement.

A curriculum vitae including a list of all publications.

Note that the Medal is intended for members whose research program has been productive during the last five years. The permission of the nominee is not required and the nominee need not be aware of the nomination.

Nominations should be sent direct to the current ASP Executive Secretary. Detailed information on nomination and selection procedures is given in the By-Laws of the ASP Constitution. Nominations are due each year at the end of September.

# State News

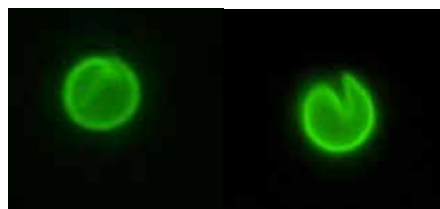
## New South Wales

### The University of Sydney

#### Laboratory of Veterinary Parasitology @ McMaster Building

**Ashlie Hartigan**, working on emerging myxosporidiosis in Australian frogs, had her work accepted for PLoS ONE. She has recently returned from here research exchange program in the Czech Republic, which yielded more exciting data. We are saying good bye to **Jessica King**, who has done an excellent job on *Neospora caninum* during the past four years of her PhD. Jess is graduating next month - congratulations! We wish Jess all the best in her new job. We welcome our new PhD student **Christi Foster** joining the *Chromera* project.

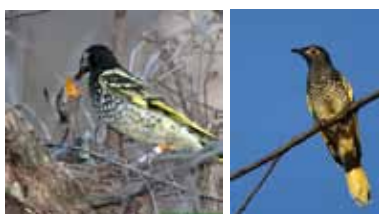
Our BSc(Vet) student, **Rona Baragahare**, has elucidated the clinical cryptosporidiosis in Murray Cod and applied human antibody detection kits to rapidly identify diseased animals with *Cryptosporidium molnari*. Her histopathology work has been accepted for Aquaculture and her diagnostic application is now published in Applied and Environmental Microbiology.



*Cryptosporidium molnari* oocysts from Murray cod stained with FITC labelled antibody. The spherical oocysts are approximately 5 µm in diameter and possess a *Cryptosporidium* typical semicircular suture.

**Victoria Morin-Adeline** had her research published in *Parasitology* on the diurnal shedding

pattern of *Isoospora* in an endangered Regent Honeyeater at the Taronga Zoo. The Regent Honeyeater, *Xanthomyza phrygia*, is endemic to south-eastern Australia. Originally, this Australian iconic bird could be seen overhead in flocks of hundreds along the Eastern coastline of Australia from Queensland to South Australia. It is no longer found in large parts of its former distribution including South Australia and there have been very few sightings in Queensland. The population of the Regent Honeyeater is estimated at between 800 and 2000 and is continuing to decline. In the past decade, the Recovery Program has become a large-scale project involving habitat restoration, wild population monitoring and a zoo based breeding program operating at Taronga Zoo and a number of birds suitable for reintroduction were bred and released. Vicki has now started her Honours students.



The Regent Honeyeater, *Xanthomyza phrygia*. Photos courtesy of Dean Ingwersen (Regent Honeyeater recovery project).



Newly described *Isoospora* sp. detected in the Regent Honeyeater.

in a recent paper published in *PLoS One* by Dr Jan Slapeta and colleagues from the University of Sydney, it has been shown that the cane toad did not introduce this parasite to Australia, but, more subtly, it seems that the mere presence of the cane toad in Australia has increased the prevalence of a native parasite in native frogs.

Read this story on the ASP website  
[www.parasite.org.au/?p=175](http://www.parasite.org.au/?p=175)

Read the *PLoS One* article <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0018871>



Scanning electron microscopy of myxospores recovered from the gall bladder of the Striped Marsh frog (*Limnodonastes peronii*). Myxospores are ellipsoidal, shell valves have ridges and suture line cross-sectioning the spore. Scale bar, 5 µm. Figure from Hartigan et al. 2011 (doi:10.1371/journal.pone.0018871.g004)

### Department of Pathology at Sydney Medical School



Professor Jill Trehwella, Meidong Zhu, Georges Grau, Meika Foster and Malcolm France

A new method of studying cerebral malaria that avoids animal testing has been recognised by an award at the University of Sydney.

**Professor Georges Grau**, of the Department of Pathology at Sydney Medical School, developed an *in vitro* model to study the disease to replace the customary method of inoculating mice with a rodent specific malaria parasite.

Focusing on one particular aspect of cerebral malaria, specifically the lesions in small brain blood vessels, Professor Grau was able to avoid



# State News cont...

testing on animals and could use human cells obtained with informed consent instead.

His system has also been taken up by researchers in the USA and Europe, and has been adapted to the study of other diseases of the brain including viral encephalitis, tumour metastasis, multiple sclerosis and cryptococcal meningitis.

Professor Grau's work has been recognised with the university's inaugural Award for the Reduction of Use of Animals in Research.

The first of its kind from an Australian research institution, the award is designed to encourage researchers to think about how they can reduce or replace animal testing altogether.

The founder of the award, Dr Malcolm France, Director of Laboratory Animal Services, says it is a reaction to a strong history of non-animal methods already in place at the University.

"The importance of considering non-animal alternative methodologies in research is crucial," says Dr France.

"The award recognises the replacement and reduction of animals in research. While these are considered the most challenging measures to take, they are also understandably preferred given the values of our community as expressed in our national Code of Practice."

## Charles Stuart University

### School of Animal and Veterinary Science

Parasitologists rule CSU School of Animal and Veterinary Science since **Nick Sangster** has been appointed as the Head of the School. Prior to this position, Nick was Associate Head of the School and Acting Head of the school in addition to his role as Professor in Veterinary Pathobiology. We congratulate him and wish him all the best for his future endeavours.

**Shokoofeh Shamsi** received an award from Australian Academy of Science to visit Dr Hiromu Sugiyama's lab in National Institute of Infectious Diseases, in Tokyo, as part of her ongoing research interest on anisakid nematodes. In 2011, 12 awards were made on a competitive basis, to leading Australian scientists to undertake important international collaborative research

under the International Science Linkages – strategic Policy Component.

### Meet the Boss Man...by Stephen Love (NSW Primary Industries)



I first met **Arthur Le Feuvre** (pictured above) at his Queensland DPI office in Warwick. I am not sure why I dropped in. It was just before WormBoss got rolling. Perhaps I had just heard of this 'sheepo' (as 'sheep and wool officers' are known in NSW), and wanted to say g'day.

Le Feuvre is large, larger than life. I'm a tad over 6 foot (183 cm) tall: Arthur is several tads taller again. I think he used to play football (rugby). I imagine the scrums were a bit lopsided and he wouldn't need lifting in the line-outs. When not playing football he could easily have served as a temporary strainer post in an outback Queensland fence-line.

His office was large too, and full of interesting books, old and new, and assorted paraphernalia. His mind might be like that as well: large and full of interesting and unexpected things.

I first heard of the idea that was to become WormBoss when **Brown Besier** rang me early in the days of the Sheep CRC. Brown, a vet parasitologist with the WA Dept of Agriculture, was program manager for things wormy in the CRC. No doubt Brown asked lots of other people as well, but Le Feuvre had worked his magic.

There was an earlier attempt to create a national project providing information and resources supporting best practice in sheep worm control, the number one endemic disease, from an

economic viewpoint, of sheep in Australia. This ancestor of WormBoss was known as SCIPS - Sustainable Control of Internal Parasites in Sheep - and was supported by Australian Wool Innovation, or whatever it was called then. The project was lead by **Nick Sangster**, then an Associate Professor (parasitology) at the Sydney Uni vet school, and now a Prof, at CSU Wagga Wagga. Others in the team were the usual suspects - vets, parasitologists and others - from the various states.

Before SCIPS a standard reference for vets, parasitologists and others was a book CSIRO published on the epidemiology and control of helminths of sheep. The information in this needed updating, expanding and re-publishing. It was thought that publishing another (paper) book would be too expensive and harder to expand, revise and distribute, so SCIPS took advantage of the burgeoning world wide web instead.

SCIPS blossomed for a while, but then withered a little on the vine. The website still exists, however (last time I looked), and some of its material was used by the WormBoss Team (some of whom were also SCIP-ees), although re-written to a fair degree, a broader audience being in view.

And so one of Arthur's ideas was born, although he would be quick to add that the idea that became WormBoss was kicked around by Arthur along with a few others, including Maxine Lyndal-Murphy (parasitologist at Qld DPI, now DEEDI) and veterinarian Deb Maxwell, who was then with Qld DPI.

In this respect, Arthur is a bit like **Keith Dash**, the father of WormKill (with **Hugh Gordon** perhaps being a grandfather, and **Ian Barger** an uncle or cousin?). Like Keith Dash, although the leader and champion, Arthur was inclusive, fostering a good, cooperative spirit among the initial core team, as well as engaging a wide range of other players and stakeholders.

Again, like Dash, Arthur came up with the name for the new program. Keith Dash's epiphany happened in the shower after his morning run. He turned up at a WormKill planning meeting (Armidale, winter 1984) and said he had a name: 'WormKill!'. I am not sure how Arthur came up with WormBoss. It may not have been in the shower, but quite possibly involved quantities of

# State News cont...

fluid nonetheless.

After 2-3 years of frantic work, Arthur and team had WormBoss -

[www.wormboss.com.au](http://www.wormboss.com.au) - launched in 2005.

Before WormBoss was launched, Arthur was saying that, if successful, this could serve as a model for projects on lice and flies. Arthur already had FlyBoss and LiceBoss in view and indeed, for most of its development, Arthur took the lead of FlyBoss as well.

The effort was well-focussed because, after worms, flies and lice are the next most important disease agents for sheep in Australia.

Arthur retired from Qld DPI a few years ago, which freed him up for other projects, for example 'VetsPets' and recording songs and yarns about outback Queensland. But he is still actively involved in the on-going development and promotion of WormBoss, which for several years has been under the leadership of Rob Woodgate, from Western Australia.

Although approaching his 69th this year, the irrepressible Le Feuvre is still going strong, much like his father who is 97. Clearly he comes from a line of long if slightly damaged livers. By way of disclaimer, I have no conflicts of interest in writing this, it was entirely unsolicited, and Arthur probably would be slightly embarrassed if he had seen this beforehand. I don't even expect a beer from Arthur, not least because I can't drink it.

So, why write all this? Because people forget, or never knew, and some people - and things they have done - shouldn't be forgotten.

SL

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## Western Australia Murdoch University

### News from Murdoch Parasitology

**Andy Thompson** recently hosted a visit from the Drugs for Neglected Diseases Initiative (DNDi) to discuss the future role of Murdoch and Epichem in drug discovery for neglected diseases. For the last three years, DNDi have funded a collaborative effort in Australia involving Murdoch, Epichem and the Centre for Drug Optimisation at Monash looking at drug optimisation and new treatments for Chagas disease. This has proved very successful and DNDi have agreed to continue funding this research for another three years but will broaden the programme 'down under' to include leishmaniasis and Human African Trypanosomiasis (HAT). This will involve a significant increase in personnel but also a concentration of DNDi's global drug discovery effort at Murdoch who will take a leading role with support from a large CRO in China.

Recent visitors to the lab have included **Claudia Tritschler**, a final year veterinary student from the University of Zurich who spent three months with the group gaining experience in wildlife parasitology, and **Nawal Hijawi** who, although now based in Jordan, visits regularly in order to maintain links and establish collaborative projects. Nawal's research is now more focussed on local problems, and in particular leishmaniasis. **Joseph Shlomai**, from the Kuvim Center for the Study of Infectious and Tropical Diseases at the Hebrew University-Hadassah Medical School in Jerusalem, will spend three months with the group on sabbatical. Joseph's interests in the molecular genetics of trypanosomes will tie in nicely with current research in the group on *T. cruzi* and related wildlife trypanosomes.

**Andy Smith** who has been working with the group in conjunction with the Department of Conservation (DEC) has 'gone to the dark' side and accepted a position as Senior Ecologist with Chevron. Andy will maintain his collaborative links with everyone at Murdoch and DEC but his field trips will now be confined to Barrow Island, if allowed out from behind his desk. With just a few weeks left before he starts at Chevron,

Andy managed to fit in one last field trip - to the Monte Bello's!

### Postgrad news

**Amanda Worth** has started her PhD on the influence of *Toxoplasma* infection on wildlife behaviour, concentrating on the woylie. This will be quite a challenging project but with the support of DEC and complementary studies in laboratory rats, it promises to be an exciting and novel research project.

**Craig Thompson** has been spending a lot of time in the field monitoring woylies, **Judy** has been doing likewise, while **Fran Jones** and **Wan Hon Koh** have been busy pipetting away in the lab.

**Amanda Ash** has 'handed in' and now plans to disappear for travelling - we are not sure where, but intends to keep 'her hand in' when it comes to parasitological pursuits once she has recovered from the PhD blues!!!

### Andy's Travel

And of course, to maintain his Frequent Flyer status, **Andy Thompson** has got some extensive travel planned for the year. The first of which will be to Europe where Andy has been invited to give a talk on "Parasitology and Swiss - Australian Cooperation" in celebration of **John Eckert's** 80th Birthday, next month in Zurich. Andy will then head off to Nagasaki for a WHO Consultation meeting on Chagas disease in the Western Pacific.

## Queensland The University of Queensland

### UQ School of Chemistry and Molecular Biosciences (incl. Parasitology)

The fifth floor laboratories occupied by the UQ resident parasitologists (**Peter O'Donoghue**, **Steve Barker** and **Tom Cribb**) have been closed and are undergoing refurbishment for

# State News cont...

the new Centre for Environmental Genomics. Consequently, POD and SCB have moved down to the third floor whilst poor THC has moved to another building in another School. Nonetheless, business as usual. POD has two new Honours students (**Michelle Chan** and **Odette Pletzer**) working on the identification of coccidia from rodents and haematozoa from birds. He also has another student (**Ishani Sahama**) located in **Kathy Andrew's** lab at QIMR where they are working on malaria. His postgraduate students **Linda Ly** and **Veronica Zhang** have completed their PhD confirmations and are forging ahead with studies on termite flagellates and human malaria. We are all looking forward to the ASP conference in Cairns and hoping for great weather!

POD and Steve Barker would like to hear from anyone who has an interest in either participating in or recommending students to enrol in a Postgraduate Masters in Parasitology by coursework and by distance-education (ie on-line). Please email Steve Barker to register your interest. [s.barker@uq.edu.au](mailto:s.barker@uq.edu.au)

## UQ School of Veterinary Science, Gatton

**Mal Jones** has just returned from Thailand where he was attending the Royal Golden Jubilee PhD Congress in Pattaya. The congress is held annually for recipients of the RGJ scholarships and their Thai and foreign supervisors. After the congress, Mal headed north to Khon Kaen with his colleague **Dr Smarn Tesana** and student **Panita Khampoosa** for a series of meetings about their work on early development of human liver flukes. Occasionally, (i.e. at least three times per day), he was able to attend to the eating of some delicious Thai food. Mal's favourite dish was Tom Yum with ant pupae- the pupae are soft, and squishy and, for added taste and texture, explode when chewed! **Leigh Cuttell** is currently undertaking a 1 year research project funded by Meat Livestock Australia, aimed at developing and validating a high-turnaround molecular-based diagnostic test for detecting DNA specific for *Cysticercus bovis* in lesions submitted from abattoirs. Congratulations to **Rebecca Traub** on the birth of daughter Rayah at the end of March. Rebecca will be on maternity leave until the end of the year – we're missing her already! **Steven Kopp** and **Lyn Knott** enjoyed a trip to San Francisco in February for a Bayer meeting. They took a side trip to Alcatraz and were lucky to escape! 2011 has brought with it some interesting specimens

to the diagnostic lab. Lyn has been busy with submissions from peacocks, wombats, snakes, tigers and camels, as well as the usual domestic animals.

## QIMR

### Tropical Parasitology Lab (Griffith University/QIMR):

There have been a few comings and goings in the Tropical Parasitology Lab over the past few months. We said farewell to research assistant **Linh Tran** who has moved on from the world of parasites to dentistry and to **Annaliese Woods** who graduated with a first class Honours at the end of 2010. Annaliese's hard work was also recognised by the award of a University Medal! Since then we have had two new researchers join our team. **Gillian Fisher** recently started work towards her PhD and will investigate new applications of synthetic chemistry for malaria biology and antimalarial drug discovery. **Ishani Sahama**, our new Honours student, is investigating how HDAC inhibitors kill malaria parasites.

## Molecular Vaccinology laboratory

A new postdoctoral fellow has started in the QIMR Molecular Vaccinology laboratory. **Sonia Gillan** completed her doctoral research at the University of Otago, New Zealand. Her experience is in analysing immune profiles in large animal models of Mycobacterial diseases, primarily ovine disease caused by *Mycobacterium avium* subspecies paratuberculosis (MAP). MAP infection causes Johne's disease, an agriculturally important disease that causes significant decreases in productivity in cattle, deer, goat and sheep. Disease is caused by inflammation of intestinal tissues which prevents absorption of nutrients which in turn causes weight loss, loss of wool and decreases in milk production. Current research aims to better understand the immunology so as to improve diagnostics and protection by vaccination.

## Malaria Biology laboratory

The Malaria Biology Laboratory welcomes two new students, **Alice Butterworth** who has just started her PhD with **Tina Skinner Adams** and **James McCarthy**, and **James Byron** who is doing his honours year with **Katharine Trenholme**. We also welcome back **Liam**

**St Pierre** who has returned from his world tour. Congratulations to **Chris Peatey** who recently submitted his PhD, Chris will stay with the Malaria Biology laboratory as a postboy and is enjoying being back at the bench. Congratulations also to **Rachael McGeorge** who successfully achieved her confirmation of candidature.

## James Cook University – School of Marine and Tropical Biology, Townsville

**David Blair** and **Kate Hutson** emerged relatively unscathed following cyclone Yasi, but have thrown themselves into a busy first semester of teaching. Kate and David are also organising a workshop at James Cook University, Cairns campus, immediately prior to the ASP conference (Sunday 10th July). The workshop – Aquatic Parasitology Workshop: Detection and Diagnosis – has an impressive line up of national and international presenters discussing everything from protozoans to arthropods and biological tags to immunology. There has been considerable interest in the workshop from the aquaculture industry, veterinary pathologists and students. To have a squiz at the itinerary see <http://www.marineparasites.com/workshop.html>

Honours student, **Alex Brazenor**, supervised by Kate and David, is investigating the effect of varying water parameters on the life cycle of two ectoparasites of barramundi – a copepod, *Lernanthropus latis* and a monogenean, *Neobenedenia* sp.. He has successfully hatched hundreds of *Lernanthropus nauplii* which have reached the infective copepodite stage. Research Associate, **Natalie Bool**, joined the Marine Parasitology Laboratory in February and is also examining barramundi parasites as part of a research project on enhancing adaptive capacity for farming barramundi (funded by NCARRF-FRDC).

**Kate** (ex SA member), **Sarah Catalano** (SA member) and **Ian Whittington** (SA member) recently published the final report for a three year research project titled 'Metazoan parasite survey of selected macro-inshore fish of southeastern Australia, including species of commercial importance' funded by ABRS and FRDC. The parasite fauna of more than one thousand fish hosts was examined and several new parasite species were discovered, along with many species not known to occur in Australian waters. They are looking forward to continuing to publish the results from this research over the next 18 months. Sarah (who completed her Honours in



# State News cont...

2009 with Kate and Ian) recently published the third manuscript from her Honours thesis! Her photograph of *Argulus diversicolor*, a marine branchiurid from the body surface of arrpid fishes, featured as the cover image of Marine and Freshwater Research. Congratulations to **Emma Brock** (SA member) who completed her Honours thesis (supervised by Kate, Ian and Mike Steer) on the parasite fauna of King George whiting in November last year. Emma published her first scientific paper in *Journal of Fish Biology* earlier this year following work she did with Kate and Mike as part of a SARDI Summer Scholarship (South Australian Research and Development Institute, Aquatic Sciences).



Image: Lernanthropus latis Nauplii I larvae



Image: Copepodite



Image: Cover of MFR

## James Cook University – School of Pharmacy and Molecular Sciences

**Andreas Lopata** recently relocated from RMIT University and joined James Cook University in Townsville. Andreas is heading the Molecular Immunology Group in the Comparative Genomic Centre and continues his research activities on immunological reactive proteins and allergens from *Anisakis* species. This research project is funded by the ABRS and has resulted in a recent joined publication on the high prevalence of this parasite in commercially important fish species. Current activities focus on tropical fish species including Barramundi.

## James Cook University – Cairns Campus

**Prof Nick Smith, Dr Kate Miller, PhD students Phillipa Sharman and Rowan Ikin and Lisa Jones** recently relocated from UTS and joined James Cook University in Cairns. Nick continues his research activities on *Toxoplasma gondii* and *Eimeria*.

The new **Queensland Tropical Health Alliance (QTHA)** building was opened in Cairns on 14th July by the State Treasurer Andrew Fraser and also marked the official launch of QTHA

**Colette Godfrey** joined as laboratory manager and **Melanie Commerford** joined to look after the animal house for the new QTHA research laboratory at JCU Cairns. Members of the Loukas research group who moved to Cairns in the first half of 2011 were **Darren Pickering** and **Mark Pearson**. Also new in the first half of 2011 joining the Loukas laboratory are **Severine Navarro** and **Jeremy Potriquet**. **Lindsay Dent** (University of Adelaide) was a visiting researcher. Congratulations to **Nathalie Ruysers**, who gave birth to a healthy baby boy!

## DEEDI Applied Biotechnology Animal group - DEEDI and UQ (Qld Alliance for Agriculture and Food Innovation)

**BIG NEWS.** **Ala Lew-Tabor, Jess Morgan** and **Manuel Rodriguez Valle** from this group have been transferred (virtually) to QAAFI at UQ as members of the Centre for Animal Science. QAAFI is a new Institute in The University Queensland (URL <http://www.qaafi.uq.edu.au/>). The rest of the group are in DEEDI as part of the Animal Science group. We are still a team and still working on the same projects - so here is our update.

**Jess**, now a member of the QAAFI alliance, is busy screening chicken poo from around Australia for *Eimeria*. To help her in this endeavour **Dr Rosie Godwin** has joined the DEEDI crew as poo girl. Anyone with unvaccinated chooks who would be willing to donate some poo to the cause please email jess at [jessica.morgan@uq.edu.au](mailto:jessica.morgan@uq.edu.au) and we will send you a sample pack.

**Ala** and **Manuel** are still busy with cattle tick antigens and trials together (Beef CRC and MLA) with **Louise Jackson** in Biosecurity and **Jim Rothwell** and **Emily Piper** from the Vet School at Gatton. The December-February was a busy time had by all on a daily roster to collect and sort ticks :-). (Thanks also to **Wayne, Anthea, Sandy, Cathy and Bing**). The next trial starts in May. **Tao Xu** is busy expressing and studying tick proteins for his PhD and we welcome **YiLei Ma** undertaking an 8 unit semester course in tick gene expression in yeast towards his Masters in Molecular Biology (UQ). **Manuel's** biotechnology production laboratory is coming along nicely. In January we had a bit of delay to all work due to the Brisbane flood. The Animal Research Institute (ARI) at Yeerongpilly went 'under'. Our floor was OK but all fridges and freezers were not immediately connected to generator power - so a few problems. The chicken sheds Jess uses.... another problem with most things floating away or flooding.... So lots of re-ordering and insurance claiming but we are back to normal now (well some of us never will be normal....)

# State News cont...

Other than that we are busy with papers and grant writing like everyone else :-).



## Northern Territory Menzies School of Health Research

Work has just commenced on the second phase of the "Beating Scabies and *Strongyloides*" project in the East Arnhem community of Galiwin'ku. The project involves the evaluation of the use of mass administration of ivermectin for the treatment of scabies and strongyloidiasis. This year will be the second round of community screening and drug treatment. The local community were heavily involved in the development of the project and support for the project is strong. A number of community members are working on the project in various roles. PhD student **Wajahat Mahmood** is currently at Galiwinku training with parasitologist Jenny Shields to undertake direct microscopic analysis of faecal specimens collected from children during this second phase of the project.

In early 2011, **Menzies' Global Health Division's malaria team** welcomed two new research assistants and one Honours student. **Jessica Loughland** joined us from Sydney and will be involved in our malaria immunology and pathophysiology studies. **Nadine Kurz** will assist projects investigating *ex vivo* drug susceptibility of novel anti-malarials and molecular aspects of drug resistant *P. vivax* malaria. **Grennady Wirjanata** who was awarded his BSc in Biotechnology at RMIT University in Melbourne last year started his Honours

project on the development and validation of novel quantification methods for *ex vivo* drug susceptibility testing in *Plasmodium*.

In March 2011, **Pak Prayoga**, a laboratory technician from the Malaria Research Unit of the Papuan Health and Community Development Foundation (PHCDF) in Timika (Papua, Indonesia) visited the Global Health Division to support laboratory QC procedures for routine field assays and to train new staff members in malaria microscopy.

## South Australia South Australian Museum / University of Adelaide

First year PhD student **Sarah Catalano** has completed the core degree requirements (project proposal, preliminary seminar, literature review) for bean counters at the Uni of Adelaide. She has now started her research in earnest on the mesozoan dicyemid parasite fauna of the giant Australian cuttlefish, *Sepia apama*, throughout its range in southern Australian waters. Her project is co-supervised by **Professor Bronwyn Gillanders** (Uni of Adelaide), **Professor Steve Donnellan** (SA Museum) and **Ian Whittington** (SA Museum/Uni of Adelaide). The breeding ground of this cuttlefish species in South Australian waters is subject to heavy commercial and recreational fishing pressure and other industrial developments potentially threaten its environment. Five populations of *S. apama* are recognised throughout southern Australian waters from molecular analyses, but its species status is unresolved. Sarah will use dicyemid parasites as phenotypic markers to help understand *S. apama* population structure, potential species status and host biology. To achieve this, Sarah will first examine genetic diversity among dicyemids from several other cephalopod species in SA waters. She has recently been busy with field work collecting cephalopod samples from numerous prawn trawl trips as well as with writing funding applications. Sarah has already secured grants from the Holsworth Wildlife Research Endowment, Sir Mark Mitchell Research Foundation and the Norman Wettenhall Foundation. Congratulations

Sarah!

**Ian Whittington** was an invited speaker at the Society for Integrative & Comparative Biology's annual conference held in Salt Lake City, Utah, USA in early January 2011. He delivered a presentation on egg hatching strategies in monogeneans for a symposium entitled Environmentally Cued Hatching Across Taxa: Embryos Choosing a Birthday. Other talks covered larval and hatchling emergence in taxa as diverse as molluscs, crabs, fish, amphibians, reptiles and birds. For a variety of reasons, Ian's involvement in the symposium was 'virtual'. He prepared a PowerPoint presentation in advance, added his dulcet Aussie/Brummie tones as a narration in synch with animations and videos and sent it to the symposium organisers. With help and advice from video-conferencing folk at the Uni of Adelaide, Ian linked to the symposium early one morning Adelaide-time via EVO and a Tandberg unit for a Q&A session and then a 30 minute round table discussion. All seemed to go well and Ian's GBR images apparently warmed the delegates in Utah who were enduring -8°C! Perhaps more conferences will be run virtually in the future to save travel time and expense, reduce carbon footprints and use the technological capabilities available to us. All papers from this symposium will, subject to peer-review, be published in Integrative & Comparative Biology (formerly American Zoologist) in mid-2011.

**Emma Brock** completed her Honours year in November 2010 and was awarded 1st Class Honours for her project on metazoan parasites of King George whiting. Congratulations Emma! Emma was supervised by **Kate Hutson (James Cook University)**, **Mike Steer (SARDI Aquatic Sciences)** and **Ian Whittington**. As a recipient of an ABRS Honours Capacity-Building Award, Emma hopes to acquire more whiting samples early in 2011 to collect additional specimens of selected parasite taxa to fulfil reporting requirements and hopefully complete a publication.

**Ian Beveridge** visited Adelaide for a week in early January 2011 and brought new material and returned some loans to the Australian Helminthological Collection (AHC) at the SA Museum. He also acted as courier for some material from **Dave Spratt**. Ian's visits usually means **Leslie Chisholm**, Collection Manager of the AHC, is busier than normal ensuring that all returned material is safely returned, registering and databasing new specimens and pulling out the next load of specimens that Ian wishes to borrow for his next umpteen projects. Leslie received a promotion recently in the ranks of the

# State News cont...

collections management at the SA Museum, so congratulations to her.

**Lesley Warner** has started a review of the Acanthocephala from fish hosts, an ABRIS funded project, which has involved a visit to **Sylvie Pichelin** in Brisbane and a visit from **Haylee Weaver** from Canberra. As is usual with such projects, there has turned out to be much more unidentified and undescribed material out there than was first thought. A relatively modest project has now become a major effort

## SARDI Aquatics

In 2010, SARDI Aquatics said farewell to **Craig Hayward**. Craig accepted a faculty position Tohoku University, Sendai, Japan. Congratulations Craig, we will miss you!

**Nathan Bott** has been kept busy these past few months through travelling to a conference in San Diego, USA and a workshop at the Cawthron Institute, Nelson, New Zealand. In between travelling, he has been working on the procurement of a new 454 GS Junior sequencing system, and learning all about the wonders of procurement guidelines! The objective for 2011 is to finish reports, turn them into papers and write some grant proposals.

## Flinders University

The Flinders University parasitology contingent finished off 2010 with some great news...

**Mike Bull** received an ARC grant to continue his work on parasite transmission in reptile populations – this time to look at the effect of network structure on pathogen transmission in the endangered Pygmy Bluetongue Lizard (*Tiliqua adelaidensis*). Well done Mike!

Flinders was well represented at the recent Ecological Society of Australia conference, held in Canberra in December – with **Aaron Fenner**, **Jody O'Connor** and **Steph Godfrey** giving talks. Steph organised a symposium on Conservation and the Ecology of Wildlife Parasites and Diseases at the conference, which was well attended – a full day packed with 16 parasite talks on a variety of host-parasite systems. **Jody O'Connor** won a student prize for her talk on the impacts on *Philornis downsi* on Galapagos Finches – nice one Jody!

**Steph Godfrey** graduated from her PhD in December. Her PhD explored the host-parasite ecology of tuatara in New Zealand, and the role of social organisation on parasite transmission using social networks. She has now just finished up her third field season with **Caroline Wohlfeil** (PhD student), looking at parasite transmission in the sleepy lizard (*Tiliqua rugosa*) using network models.

## ACT The Australian National University

The **Nematode Molecular Genetics group** at the ANU welcomed three new Honours student this year: **Zarshis Avari**, **Yun Zhong** and **Shouvik Aditya** and a new PhD student **Jinzi Yang**. We also said farewell to **Lisa McEwan** who started a job with AQIS at the end of last year. This year promises to be eventful, as we are moving in July into a new building, and our old wing is being demolished almost as soon as we are gone. Consequently, we are currently busy planning our "worm relocation strategy". The excitement of moving aside, we have also recently published a paper on a nematode specific gene (Hetherington et al. 2011. Dev Biol 350: 267-278) in collaboration with **Michel Labouesse's** group in France.

**Dave Spratt** from the CSIRO reports that a serious issue associated with this year's cool wet summer has been sudden mortalities in tammar wallaby (*Macropus eugenii*) colonies used in research. This is seen more regularly in coastal colonies around Sydney but this year (as also happened in 2002), there have been substantial losses (one third or more) in the colony at CSIRO Ecosystem Sciences in Crace, in the ANU colony near Black Mountain, and in the colony at Tidbinbilla Nature Reserve west of Canberra. Death is rapid; animals look fine one day, poorly and lethargic the next and may be dead before nightfall. Investigations into the aetiology of the disease are under way with the suspicion that an arbovirus is involved, possibly associated with movement of an insect vector from coastal habitats onto the tablelands due to persistent and damp northeast or easterly

winds. Losses to long-term research projects, one in particular associated with development of an immunocontraceptive vaccine, have been devastating.

On the parasitological scene, **Dave Spratt** has prepared a textbook chapter on the Muspiceida and in conjunction with **Ian Beveridge** and **Marie-Claude Durette-Desset** is preparing a chapter on the Trichostrongylina for the new edition of the Handbuch für Zoologie. In addition, a revision of the filarioid nematodes from monotremes, marsupials and murids in Australasia with description of nine new species is currently at proof stage in Zootaxa. Finally, after 38 years, the next few months will be Dave and his colleague's last on the lovely site surrounding the old Gungahlin Homestead built in 1868. The group are moving over to the CSIRO site at Black Mountain to join other members of the new CSIRO Ecosystem Sciences following the amalgamation last June of the Divisions of Sustainable Ecosystems and Entomology.

## Tasmania The University of Tasmania

PhD student **Clare Smith** was recently chosen as a semi-finalist for the Premier's Tasmanian Young Achiever Awards. She gained selection for The Spirit of Tasmania Award, acknowledging her achievements and contributions in the community (cricket representative and state team rowing coach) and successes in her malaria research studies. Clare, along with a bunch of loyal Malaria Genetics Lab supporters, and her family and friends, attended the awards function held at Wrest Point Casino on Friday 9th April. Clare is currently in her final year of her PhD, and this award was a small but welcome distraction from thesis writing! For the record, the eventual winner of the Premier's Award was another scientist, **Stanislav Shabala** who works at the University of Tasmania as an astrophysicist.

## Lorne Conferences, February 2011.

ASP members of the Malaria Genetics Group



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attended the Lorne Genome, and Infection and Immunology conferences in February 2011.

**Gaetan Burgio and Brendan McMorran** presented talks about their respective work on mutagenesis screening in mice for malaria resistance genes, and how platelets kill intraerythrocytic malaria parasites. **Clare Smith** also presented a poster on her studies on how targeting red cell enzymes may be used to treat malaria infections. There were many thoroughly interesting talks on the latest advances in genomics and infectious disease at these conferences. The conditions outdoors were also very agreeable (from a Tasmanian perspective at least) and the beach was enjoyed by all.

In June **Clare Smith** will attend the 61st Meeting of Physiology & Medicine Nobel Laureates in Lindau, Germany. The meeting gathers 26 Nobel Laureates and 570 young researchers from over 80 countries to meet and exchange ideas, discuss projects and build international networks. Clare gained successful nomination to the meeting through the Australian Academy of Science, which will fund her travel to Lindau. It is a truly exciting opportunity. Over 20,000 researchers initially applied to attend, so well done to her for being successful. She is especially interested in meeting with **Elizabeth Blackburn** who originally hails from Tasmania, and won the Nobel Prize for Medicine in 2009 for her work on chromosome telomeres.

## National Centre for Marine Conservation and Resource Sustainability

**Richard Taylor** received Rob Lewis Medal for excellence in postgraduate research (AMC UTAS). Richard graduated in August 2010, his thesis was on resistance to Amoebic Gill Disease in Tasmanian Atlantic salmon and resulted in four publications. This is the second year in the row that this award is won by a PhD student supervised by Barbara Nowak. Neil Young was 2009 recipient.

Funding from Australian Academy of Science allowed **Barbara Nowak** to expand further her collaboration with **Dr Simon Jones**, Pacific Biological Station, Department of Fisheries and Oceans and **Prof Ben Koop** University of Victoria. Barbara spent 6 weeks in Canada and USA, mostly sampling on salmon farms and working in the lab. She also discussed

potential for new collaborations with a number of researchers, including **Dr Sonja Saksida** (Salmon Health Research Centre Campbell River) and **Dr Eva Jacob** who is working on parasitic copepods as a source of viral pathogens in fish. Barbara met with **Dr Bob Kabata** to discuss sea lice taxonomy. During the trip Barbara collected 80 fish samples (mostly salmon gills) and 90 water samples, these are currently being analysed at Pacific Biological Station. Barbara have also investigated presence of microsporidian infections in sealice and Atlantic salmon. The samples will provide the basis for future publications. During her trip Barbara have also spent some time finishing two invited book chapters, one on Amoebic Gill Disease and one on *Neoparamoeba perurans*. Barbara gave presentations at Pacific Biological Station and University of Victoria focusing on fish parasites affecting Australian mariculture.



*Dr Simon Jones*

**Barbara Nowak** was one of the three keynote speakers at the DAFINet (Danish Fish Immunology Research Center) meeting in Copenhagen (9-10 November). She presented two talks – one on health challenges in marine hatcheries (including parasites) and the other on salmon immune response in particular in yersiniosis infections. There were a number of talks on parasitic diseases of fish, including sea lice infections, white spot and PKD (proliferative kidney disease). This is most likely due to the high level of involvement of Prof Buchmann's group (University of Copenhagen) in fish parasitology.

This year we are very busy continuing our research on salmon and tuna health. PhD student **Nicole Kirchhoff** is planning to submit her thesis on tuna health this year. PhD students **Victoria Valdenegro and Laura Gonzalez**, who are both working on Amoebic Gill Disease, are

preparing for their confirmation of progression. Master student **Catarina Norte dos Santos** will join tuna health team to work on the effects of blood fluke on gill pathology. We are expecting four new PhD students to start in the next six months.

## Victoria

### Walter and Eliza Hall Institute

#### Infection and Immunity

First and foremost we have moved into our new building!!!

There have been some new appointments in the division: **Prof Ivo Mueller** has joined as a lab head. **Dr Alyssa Barry** has been appointed a new lab head. She has come from the Burnet Institute. **Dr Diana Hansen** has been promoted to lab head.

A paper from Jake Baum's lab received a lot of press:

Super-resolution dissection of coordinated events during malaria parasite invasion of the human erythrocyte.

Riglar DT, Richard D, Wilson DW, Boyle MJ, Dekiwadia C, Turnbull L, Angrisano F, Marapana DS, Rogers KL, Whitchurch CB, Beeson JG, Cowman AF, Ralph SA, Baum J.

Cell Host Microbe. 2011 Jan 20;9(1):9-20.

The Discoveries needs Dollars campaign was a great success and stirred up plenty of energy and optimism within the Australian medical research community.

Congratulations to **Chris Tonkin**, who welcomed a little boy 'Luca William Tonkin' in the new year.



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