Print Post Approved PP 255003/08218

The Australian Society for Parasitology Inc.

NEWSLETTER

Volume 21 Issue No. 4 October 2010

ARC/NHMRC RESEARCH NETWORK FOR PARASITOLOGY

IN THIS ISSUE

1 From the President's desk
2 News from the Network
3 Events
4 Conference news
5 OzEMalaR news
5 Profile Alyssa Barry
6 Congratulations and Research news - Leann Tilley wins BM Medal
7 Closing dates and nominations for ASP prizes
8 IJP Feature article : Elizabeth Perkins and her collaborative platyhelminth research
10 State news
17 Network Mentorship Scheme
17 BMM Guidelines
18 Jobs in Parasitology
21 ICOPA XII in pictures
24 ASP contact details

From the President's desk

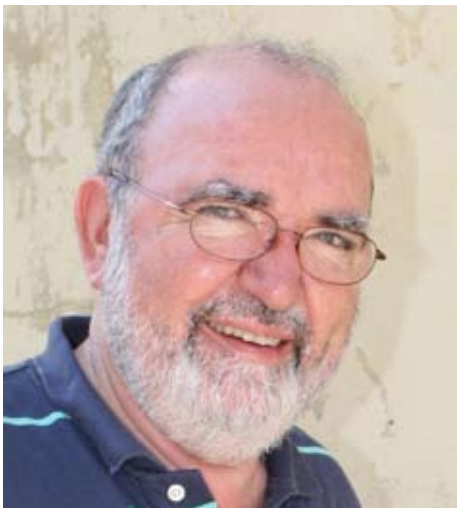
Hello members,

I hope you all enjoyed the ICOPA XII meeting as much as I did. It was a wonderful week of good science and great social interactions. We have received many congratulations from our international guest speakers and delegates. We put on a "good show" and I thought we did the ASP proud: everyone involved in making this event such a success should take a bow. Particular thanks are due to Alan Cowman and David Piedrafita, as Chair and Deputy Chair of the Organising Committee, respectively, whose hard work ensured the meeting was such a great success. The Outreach activities were a particular highlights and our thanks are due to Graham Mitchell and his Committee for their commitment to promoting the Conference so well to the public. I also wish to convey our thanks to Lisa Jones and Nick Smith for their considerable work in Outreach and in organising the ICOPA XII and ASP awards.

The final tally of delegates was 1734 from 94 countries so it was truly an international meeting with 678 Oral presentations and1161 Poster presentations. The meeting received support from 21 sponsors who were acknowledged in the Conference handbook. On behalf of the ASP, I wish to personally thank all our sponsors for supporting the meeting. A full report on the Conference will be provided in a future Newsletter.

As announced at the Conference, the World Federation of Parasitologists has recognised Prof John Sprent's significant achievements by awarding him a WFP Distinguished Parasitologist Award. This is a most notable award which recognises John's substantial career in parasitology. On behalf of the ASP, Prof Mal Jones hosted a ceremony in Brisbane in September to celebrate Prof Sprent's career and present the award and we have included some photographs in this newsletter. I ask all ASP members to join with me in offering John Sprent our heartiest congratulations and thanks for his service to Australian parasitology in particular.

One highlight of the week was the opportunity to award the Bancroft-Mackerras Medal to Prof Leann Tilley from La Trobe University. Well done Leann! Leann was delighted and honoured by her award and we feature an interview with Leann in this newsletter. One of the more satisfying jobs as President is to be able to bestow ASP Fellowships to distinguished



members who have served the ASP and the field of parasitology and I was delighted to award ASP Fellowships to Mal Jones and Robin Gasser-congratulations Mal and Robin! We will feature interviews with Mal and Robin in future newsletters.

At the AGM in Melbourne I was delighted to welcome several new members to serve on Council. Prof Denise Doolan accepted the position of President-Elect and will assume the Presidency at the Cairns AGM. David Jenkins was formally elected as Executive Secretary, Lisa Jones was elected as Newsletter Editor, Haylee Weaver was elected Archivist and Lesley Warner was elected as the SA representative. Welcome aboard! On behalf of the ASP I would like to thank, for their years of service to the ASP, departing vice-president Peter Holdsworth, Kate Hutson as SA State Representative; Julie-Anne Fritz as ACT State Representative and Archivist and Michelle Power as NSW State Representative, Newsletter Editor, and Executive Secretary.

With respect to the Strategic Plan, Council has discussed the draft plan at the Council meeting in Melbourne and I gave members a progress report at the AGM. I am now obtaining comments from Council and will shortly circulate the draft plan to members for comments. I look forward to receiving member's comments and ideas for the future of our Society over the next 6 weeks.

Regards

Terry Spithill

News from the Australian Research Network for Parasitology

News from the Convenor

The last Network Travel Award round for 2010 has just closed and applications are being assessed. The first Travel Award deadline for applications in 2011 will be Friday February 4th.

The 2011 ASP Annual Conference will be held in Cairns from Sunday 10th – Wednesday 13th July, at the Pullman Reef Hotel Casino. The second conference organising committee meeting took place in September and this conference promises an exciting line-up of speakers and events centred around the "One Health" concept in a stunning location in Tropical North Queensland.

Congratulations to ASP members and Network Participants who were recently awarded Australian Research Council's Discovery and Linkage Grants and Fellowships.

Our congratulations to ASP members and Network Participants who were the recipients of the 2010 ASP, ICOPA Committee and Molecular Microbiology Awards at ICOPA XII.

During ICOPA XII Lisa interviewed Graham Mitchell, Chief Scientist for Victorian Government. Graham spoke about parasitology research, in particular within developing countries and on neglected diseases and why it is important to invest in young researchers. To watch the full interview click on the link below:

http://www.youtube.com/watch?v=wBGiVvddSxo

I am delighted to report the great success of the ICOPA XII outreach events. They were very well attended by the general public and conference delegates. Activities included a free public lecture and forum held at the Melbourne Recital Centre "Melbourne Conversations : Climate Change, New Diseases and Parasites - What will it mean for Melbourne?" on Tuesday 17th August. This event was hosted by Dr Graham Mitchell (Chief Scientist, Victorian Government) and featuring expert panellists, Professor Anne Kelso AO (Director WHO Collaborating Centre for Reference and Research on Influenza, Melbourne), Professor Kevin D Lafferty (Marine Ecologist, University of California, Santa Barbara, USA), Sir Gustav Nossal AC CBE (Professor Emeritus, The University of Melbourne), Dr Haylee Weaver (Research School of Biology, Australian National University, Canberra), and Ms Natasha Mitchell (Science Journalist and Broadcaster ABC Radio National), who was the moderator. This event was attended by 250 people. Climate change, new diseases and parasites, hosted by Natasha Mitchell was published on SLOW TV http://www.themonthly.com.au/climate-change-new-diseases-and-parasites-hosted-natasha-mitchell-2687

A BioMelbourne Network breakfast was held on 17th August for 100 business leaders in Melbourne, where talks were presented on parasitology and biotechnology by Dr Debra Woods (Pfizer Animal Health), Professor Simon Croft (London School of Hygiene and Tropical Diseases) and Dr Wayne Best (Epichem), within the theme "The road less travelled: commercialising niche and neglected diseases".

The ICOPA XII outreach program included the highly successful ASP SCHOOLS PROGRAM - Art, Science and Parasites. The winner of "The Art of the Bodysnatchers Competition", to design a cover, featuring a parasite for the International Journal for Parasitology, was Natalya Rojeinikova from John Monash Science School in Victoria. And the winner of the "Parasites in Focus" Online Quiz, with a perfect score, was Amarisa Wangpen from Rossmoyne Senior High School in Western Australia.

Activities for secondary students from Victorian schools at the Gene Technology Access Centre (GTAC) were also organised. An exciting one-day student workshop at GTAC was launched by Marshall Lightowlers (The University of Melbourne). Tony Chiovitti (GTAC), prepared an outstanding program of wetlabs, quizes, and interactive exercises for over 100 Victorian school students. Ian Beveridge (The University of Melbourne) gave expert advice for the microscopy workshop. GTAC ran a full day program in which students investigated how liver flukes find their host snails, examined the larvae of the bot fly and used DNA testing to identify *Plasmodium* species. Students visited "Parasites in Focus" and had to hunt for clues amongst the parasites on show to answer the question, What proportion of animal species are parasites?

After a week at GTAC "Parasites in Focus" hands-on exhibition was showcased at ICOPA XII for delegates to enjoy. Since 2007 our parasite exhibition has entertained more than 200,000 Australian school students and general public visitors at 13 venues in every state and territory across Australia and is now on display at the Museum of the Riverina, Wagga Wagga, NSW.

Also, in this issue, our featured research story from Australian parasitologists who publish in The *International Journal for Parasitology* is from Elizabeth Perkins and Ian Whittington and showcases their *marine parasitology* research. Be sure to check out the other Editor's choices too. http://www.elsevier.com/wps/find/L04_423.cws_home/main

Nick Smith
Convenor, ARC/NHMRC Research Network for Parasitology

Congratulations

Parasitology received some good news from the just-released Australian Research Council's Discovery and Linkage Grant Schemes, to commence in 2011. Three Fellowships were awarded:

Australian Professorial Fellow – **Leann Tilley**, La Trobe University "Probing sexual transformation of the human malaria parasite, *Plasmodium falciparum*, using novel imaging modalities"

QEII Fellow – **Giel van Dooren**, The University of Melbourne, "Biogenesis of the relict plastid of Apicomplexan parasites: the role of a dynamin-related protein in apicoplast division"

QEII Fellow – **Justin Boddey**, Walter and Eliza Hall Institute of Medical Research, "Understanding how Plasmepsin V directs export of malaria virulence proteins to the host cell"

Additionally, a host of Discovery Project Grants were awarded, the awardees including: **Tom Cribb, Mike Bull, Leann Tilley, Matt Dixon, Michael Duffy, Graham Brown, Aaron Jex, Giel van Dooren, Geoff McFadden,** and **Justin Boddey**.

The total value of these grants and fellowships is more than $3.8 million and the projects funded are:

Prof Justin N Marshall, Dr Karen L Cheney, Dr Shelby Temple, A/Prof Thomas H Cribb, "The functions of reef fish colour patterns: how did the coral trout get its spots?" The University of Queensland

Prof Christopher M Bull, Dr David M Gordon, "Parasite transmission through social networks in the pygmy bluetongue lizard" The Flinders University of South Australia

Prof Leann Tilley, Dr Matthew W Dixon, "Probing sexual transformation of the human malaria parasite, *Plasmodium falciparum*," La Trobe University

Dr Michael F Duffy, Dr Anthony T Papenfuss, Prof Graham V Brown, Asst Prof Zbynek Bozdech, Asst Prof Michael S Kobor, "Are

Network news cont...

alternative histones important regulators of transcription in *Plasmodium falciparum*?" The University of Melbourne

A/Prof JeanPierre Y Scheerlinck, Dr Aaron R Jex, Prof Min Hu, "Evaluating host-parasite interplay in individual tissues" The University of Melbourne

Dr Giel G van Dooren, Prof Geoffrey McFadden, "Biogenesis of the relict plastid of Apicomplexan parasites: the role of a dynamin-related protein in apicoplast division" The University of Melbourne

Dr Justin A Boddey, "Understanding how Plasmepsin V directs export of malaria virulence proteins to the host cell" Walter and Eliza Hall Institute of Medical Research.

Catherine Gordon, QIMR, on her Network Travel Award to attend a workshop in Jiangxi, China

Events

Conservation and the Ecology of Wildlife Parasites and Diseases symposium

Stephanie Godfrey from Flinders University is organising a wildlife parasites symposium at the Ecological Society of Australia meeting, from the 6th – 10th December, at ANU in Canberra. The symposium will go for a full day, on Tuesday 7th December. There will be 15 talks on a variety of host-parasite/pathogen systems, including mammals, birds and reptiles. See the link below for more details and to register.

http://www.esa2010.org.au/index.html

First Australiasian Scientific Conference on Aquatic Animal Health

The FRDC Aquatic Animal Health Subprogram (AAHS) is pleased to announce the First Australasian Scientific Conference on Aquatic Animal Health to be held 5-8 July 2011 at the Pullman Reef Hotel in Cairns, Queensland, Australia – gateway to the Great Barrier Reef and Daintree rainforest.

The conference provides a forum for presentation of diagnostic, research, management and policy issues encompassing all areas of aquatic animal health and bio-security.

To register your interest please contact Joanne Slater, FRDC Aquatic Animal Health Subprogram Coordinator (email:

joanne.slater@csiro.au) with an expression of interest indicating whether you plan to attend and/or make a presentation, with your contact details: name, institution, postal address, email address, fax and telephone numbers.

"Parasites in Focus" exhibition at Museum of the Riverina

Museum's Botanic Gardens Site, Baden Powell Drive, Wagga Wagga

Phone: (02) 6926 9654
Web: www.wagga.nsw.gov.au/museum

Twenty-six superb photographic prints showing the amazing world of parasitology accompanied by four hands-on parasite exhibits: parasite game show "Who's my host?" and explore lots of different parasites found in Australia and around the world using "The microscopic world of parasites", "Look closer at parasites" and "Parasite lifecycles".

Check Network Events on our website to find out when Parasites in Focus will be at a venue near you, or contact Lisa (Lisa.Jones@uts.edu.au) if you would like to host the exhibition.

http://www.parasite.org.au/arcnet/events

Conference news

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

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:

"One Health"

- Felix Guerrero (US Dept. of Agriculture)
- Peter Deplazes (Universität Zürich)
- Mike Grigg (NIH, USA)
- Deb Holt (Menzies School of Health, NT)
- Andrew Thompson (Murdoch University)

Elsevier Lectures

- Karl Hoffman (Aberystwyth University)
- Ricardo Gazzinelli (Universidade Federal de Minas Gerais & University of Massachusetts)

Tropical Marine Parasitology

- David Blair (James Cook University)
- Lexa Grutter (University of Queensland)
- Rob Adlard (Queensland Museum)

Malaria

- Stephen Rogerson (University of Melbourne)
- EViMalaR Early Career Researcher

Tropical Veterinary Parasitology

- Con Constantinoiu (James Cook University)
- Simon Reid (Murdoch University)
- Brian Cooke (Monash University)

Registration will open in early 2011. We will also be running Outreach Events featuring "Bugs you might get", Early Career Researcher programs, and, subject to interest and demand, Postgraduate Courses in Bioinformatics and Tropical Marine Parasitology so check the ASP website for more details, sign yourself up for RSS feeds or follow the ASP website on Twitter www.parasite.org.au

News from OzEMalaR - Australia/Europe Malaria Research Cooperation

From the Convenor

Congratulations to malaria researcher **Leann Tilley**, La Trobe University, who was awarded the highly prestigious Bancroft-Mackerras medal from the Australian Society for Parasitology. Leann's interview is featured in this newsletter and on the OzEMalaR website.

Congratulations to **Lee Yeoh**, The University of Melbourne, who was awarded Best Student Oral Presentation for an Australian Society for Parasitology Student Member at ICOPA XII. Lee's presentation was entitled, "Localisations and functions of M16 family zinc metallopeptidases in apicomplexan parasites."

Congratulations to **Tegan Dolstra**, Australian National University, who was awarded an ASP Prize for Best Student Poster at ICOPA XII.

Congratulations to **Rowena Martin**, Australian National University and University of Melbourne, awarded a L'Oreal Australia For Women in Science Fellowship on 26 August 2010. Read more about Rowena's prize:

http://www.chiefscientist.gov.au/2010/08/loreal-australia-for-women-in-science-fellowships-rowena-martin/

Rowena was also awarded the inaugural Macquarie University Eureka Prize for Early Career Research at the 2010 Australian Museum Eureka Prizes for her, "Mechanisms of Drug Resistance in the Malaria Parasite" research. Read more about Rowena's Eureka prize:

http://eureka.australianmuseum.net.au/eureka-prize/early-career-research

Rowena was also the recipient of a 2010 ACT Young Tall Poppy Scientist award. Well done Rowena!

Congratulations to **Alex Maier**, La Trobe University, who was a finalist for the Australian Museum Eureka Prize 2010 Scientific Research: Research and Innovation for his malaria research "Undoing Malaria's Molecular Velcro".

Congratulations to Walter & Eliza Hall Institute researchers **Chris Tonkin** and **Justin Boddey** who were among nine 2010 Victorian Young Tall Poppy Science Award winners. Chris was named Victorian Young Tall Poppy of the Year, receiving $5000 for his research "Molecular Parasitology/ Malaria Biology" and Justin was awarded his prize for his research "Malaria Protein Trafficking & Host Cell Remodelling"

Congratulations to **Alyssa Barry**, Burnet Institute, who has recently been awarded funding from the Wellcome Trust (UK) to study two of the six known human malaria parasites. Alyssa's research group is featured below.

Read more researcher news on our website website www.ozemalar.org and also download funding guidelines and an application form to apply for funds 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

The closing date for OzEMalaR Travel Awards is Friday 10 December 2010, we hope to see lots of applications for the final round of OzEMalaR Travel Awards in 2010.

Geoff McFadden
Convenor, OzEMalaR

Congratulations

The Burnet Institute's Dr Alyssa Barry was recently awarded funding from the Wellcome Trust (UK) to study two newly described human malaria parasites in collaboration with researchers at the London School of Hygiene and Tropical Medicine (UK), Mahidol University (Thailand) and University of Bamako (Mali). Until recently, *Plasmodium ovale* was considered to be a single species but is now known to be two different species that co-circulate throughout Africa and Asia (*P. ovale curtisi* and *P. ovale wallikeri*). The project will investigate the prevalence of each species in Papua New Guinea (PNG) and develop new molecular tools to study the population genetics of the two parasites worldwide. The information gained from the study is expected to provide insight into the scale of the disease caused by each species both within PNG and globally and important knowledge for elimination programs. The PNG Institute of Medical Research (PNGIMR), one of Burnets key collaborators in the Asia-Pacific, will be integral to the success of the project through access to field sites and samples while the project will provide training opportunities for PNGIMR students thus strengthening existing links between the two institutes and building further research capacity in PNG.

Profile

Alyssa Barry is a Burnet Institute Senior Research Fellow, a Monash University Adjunct Senior Lecturer and VESKI Innovation Fellow and she co-heads the Molecular Genomic Epidemiology laboratory in the Centre for Population Health, Burnet Institute, together with Professor John Reeder. Their research aims to understand the diversity of malaria parasites and naturally acquired immunity in the human host using genomic, bioinformatic and population genetic tools. Most recently, a major goal of the lab has been to map the diversity of *P. falciparum* populations in Papua New Guinea with a particular focus on candidate vaccine antigens, a project funded by the NHMRC. The information gained will provide a basis upon which to design malaria vaccines and to plan and monitor antimalarial interventions. Alyssa is committed to building research capacity in the Asia-Pacific by providing opportunities for students of malaria-endemic countries to participate in the research and through training workshops. Alyssa and Dr. Anna Hearps (a Burnet colleague) recently conducted a one-week, "Techniques in Molecular Biology", workshop at the PNGIMR, Goroka, the first of its kind at the Institute.

Alyssa would be delighted to hear from students with a basic or medical science background interested in joining the laboratory. See advertisement in the "jobs" section for Honours and PhD positions for the Wellcome Trust *Plasmodium ovale* project.

From left: Anna Hearps (Burnet), Claire Ryan (PNGIMR), Alyssa Barry (Burnet) and Celine Banadas (PNGIMR) who facilitated and organised the "Techniques in Molecular Biology" workshop.

Congratulations and Researcher news

Leann Tilley (pictured above), La Trobe University, is the 2010 recipient of The Bancroft-Mackerras Medal.

The Bancroft-Mackerras Medal for Excellence allows the Australian Society for Parasitology to recognise outstanding contributions of its members to the science of Parasitology. The Medal commemorates the contribution of the Bancroft-Mackerras dynasty to the development of the discipline of Parasitology in Australia from the 1860s to 1960s.

The Bancroft family made great contribution to Australian science, studying public health, insect-borne disease and parasitology amongst many other areas of medical and biological science. They were devoted to studying parasites, including blood parasites. Joseph Bancroft and his son Thomas practiced medicine in Queensland in addition to their scientific pursuits. Joseph's daughter, Josephine Bancroft, was the first member of their family to have a professional career as a scientist and she married fellow scientist, Ian Mackerras.

Leann feels a special kinship with the Bancrofts and Mackerrases. She quotes L Doherty (Med. J. Aust., 1978, 2: 560-3, 591-4): "Josephine and Ian Mackerras were using microscopes to good effect to study parasites. During their University years Ian and Jo often fished off North Head, making smears from the heart blood of their catches. They carried the fish home after sailing, and one cooked them, while the other stained the smears. After supper they would settle down at their microscopes, and search the smears for Haematozoa."

Leann's passion is a modern day version of this – she works with high end imaging equipment and specialist technology to study the malaria parasite Plasmodium falciparum - the most deadly human parasite with approximately 300 x 106 cases per year and 0.9 x 106 deaths per year, mostly in children under the age of 5.

Leann studied Biochemistry at Melbourne University, and did her PhD on red blood cells. Working on malaria is an obvious progression after working on red blood cells and Leann collaborated with Robin Anders who was initially based at the Walter and Eliza Hall Institute of Medical Research. Together with Mick Foley, they were interested in the interaction of the parasite with the red blood cell cytoskeleton. After working in Sydney and doing post doctoral work overseas, Leann moved to La Trobe University and is still there, now Deputy Director of the ARC Centre of Excellence for Coherent X-Ray Science and Director of Research for the La Trobe Institute for Molecular Science. Mick and Robin also moved to La Trobe and the three have continued their collaborative work. Leann says she has always been interested in science, but also enjoys visual arts and she feels like she brings the two together in her imaging work on the malaria parasite.

Leann says she really enjoys the collaborative aspect of physicists and biologists talking to each other and generating new ideas and approaches to look at an important biological question as stated by Richard Feynman, Nobel prize winning American physicist in a talk at an American Physical Society meeting on December 29th 1959, "It is very easy to answer many of these fundamental biological questions; you just look at the thing!"

Leann says she is thrilled with what she is able to see using the new imaging methods and sees it as a new approach for looking at, and understanding parasites. "It is like having a molecular paintbox," says Leann. "Molecular beacons and fluorescent probes can paint different parts of the cell and show how the organelles interact with each other and their environment."

Leann's research looks at protein trafficking – specifically, the trafficking of proteins to the outside of the red blood cell membrane, which is what causes the disease pathology of malaria. The exomembrane system is bizarre and very different from other trafficking systems. Leann says that, "Once a parasite gets inside a red blood cell it starts renovating; it starts from scratch as there is nothing inside and it needs to have a way of moving proteins around. This is where the Maurer's clefts come in. They are like an extracellular Golgi apparatus."

Initially scientists thought that Maurer's clefts were a continuous structure that can move things from the parasite all the way to the red blood cell surface but Leann says that, "When you look using the latest, most sophisticated imaging techniques you see that it's not a continuous structure at all. It looks more like some sort of vesicle-mediated trafficking system."

Another thing that Leann would like to do is to start applying these fantastic imaging technologies to study antimalarial drug resistance. Leann says it is critically important to preserve the antimalarial drugs that we have and, therefore, critical to understand why the parasites are becoming resistant. Drug resistance to chloroquine began emerging around the world in the 1980s and, now, artemisinin resistance has emerged in the same areas near the Cambodian border. Leann says that, "If artemisinin resistance takes hold, it will be a major step backwards in the fight to eliminate malaria."

Leann is the first female to be awarded the Bancroft-Mackerras Medal and is a great role model for women in science. Leann said, "It's exciting times for women in science with Liz Blackburn winning the Nobel Prize in Physiology or Medicine in 2009 this year and Suzanne Corey, who was director of the Walter and Eliza Hall Institute of Medical Research from 1996 until 2009 about to become the first elected woman president of the Australian Academy of Science. There are good women in high level positions

Congratulations and Researcher news cont...

supportive of other women's career and research directions.

Being awarded the Bancroft-Mackerras Medal makes Leann feel most proud. "It is a good feeling to be acknowledged for your life time of research work. It always feels like things are going slowly, like you're pushing a rock up a mountain. I'm very excited and pleased – it is a wonderful thing and I feel honoured to be included in such a great group of people – it's a real boost to be recognised this way." Leann's award has attracted a lot of publicity (The Age Education section featured Leann recently http://www.theage.com.au/national/education/thinking-small-has-its-reward-20100906-14xrf.html) and this is great for malaria and parasitology research, more generally. And, as Leann says, "Awards like the Bancroft-Mackerras Medal inspire people around you; so many people are genuinely pleased! I am very proud to be recognised for doing something I've always enjoyed doing."

Congratulations to Prof John Sprent recently awarded a WFP Distinguished Parasitologist Award

The World Federation of Parasitologists has recognised Prof John Sprent's significant achievements by awarding him a WFP Distinguished Parasitologist Award. (John Sprent is pictured above left.) This is a most notable award which recognises John's substantial career in parasitology. On behalf of the ASP, Prof Mal Jones hosted a ceremony in Brisbane in late September to celebrate Prof Sprent's career and present the award. As part of the ceremony Mal played a recording of David Heath's speech given at the ICOPA XII closing ceremony and then read the ASP citation for this award.

David Heath, WFP Distinguished Parasitologist, and life member of ASP, wrote to congratulate John. "On behalf of Prof J D Smyth and the parasitological team that he assembled in the Zoology Department, ANU, I congratulate John on this award. I remember the early days of the ASP when John and Desmond and Warwick and Hue Gordon and Madeleine Angel et al. got together to found the Nicholas Society."

John was delighted with the award and gave a lovely speech about science and the collegiality and friendships sciences fosters. At 95, John is as sharp as ever, although now frail.

Some of John's friends from his UQ days attended the ceremony (see photograph above of the event, including the actual award given by President-Elect of the ASP, Denise Doolan. John's wife, Mary Sprent (Cremin), also a Fellow of the ASP, is in the foreground of the group photos.)

2010 ASP Fellowships

Congratulations to **Malcolm Jones** (The University of Queensland and Queensland Institute of Medical Research) and **Robin Gasser** (The University of Melbourne) who were awarded ASP Fellowships at the 2010 ASP Annual General Meeting.

2010 ASP, ICOPA Committee and Molecular Microbiology Awards

Congratulations to ASP members who were the recipients of the 2010 ASP, ICOPA Committee and Molecular Microbiology Awards at ICOPA XII.

ASP Early Career Researcher Awards went to **Philippe Boeuf**, The University of Melbourne, and to **Stephanie Godfrey**, Flinders University.

ASP Prizes for the Best Student Oral Presentations went to **Lee Yeoh**, The University of Melbourne, and to **Kate Richards**, La Trobe University.

Molecular Microbiology Prize for the Best Overall Poster went to **Rowan Ikin**, University of Technology, Sydney.

ASP Prizes for the Best Student Posters went to **Tegan Dolstra**, Australian National University, and **Alison Knight**, Australian National University.

Two of the ICOPA Committee Open Poster Prizes went to ASP Student Members **Rama Jayaraj**, Menzies School of Health Research, NT and **Alana Zakrzewski**, University of Technology, Sydney.

Closing Dates for ASP Awards

Network Travel Award (includes JD Smyth Award)
4 February 2010

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

JFA Sprent Prize
30 September 2011

ASP Fellowships
By 9 January 2011

Visit the ASP website for more information
www.parasite.org.au

IJP feature article

Elizabeth Perkins used the parasite *Benedenia seriolae* for her platyhelminthes research.

Elizabeth Perkins (University of Adelaide), Ian Whittington (University of Adelaide and South Australian Museum), Steve Donnellan and Terry Bertozzi (South Australian Museum) published their *International Journal for Parasitology* article, "Closing the mitochondrial circle on paraphyly of the Monogenea (Platyhelminthes) infers evolution in the diet of parasitic flatworms, " in the September 2010 issue. Ian and Lizzie have been fascinated by the evolutionary biology of flatworm parasites. Lizzie's PhD project focused on relationships in a family of Monogenea and was co-supervised by Steve Donnellan, who has expertise in molecular genetics, and Ian Whittington, who describes himself as a parasitologist/ biologist. Lizzie also had bioinformatic support from Terry Bertozzi. Whilst Lizzie is currently on Heron Island for her latest endeavour in marine biology, Ian talks to Lisa Jones about this research.

Ian, tell us about your research?

"Lizzie's PhD was a story about family histories," Ian said. "In essence, we were interested in the family histories of the parasites and, by investigating them, we generated another hypothesis for the evolutionary origin of lifecycles and the diet of parasitic Platyhelminthes. You can only resolve these questions if you determine the earliest relationships in the evolutionary tree," Ian said.

Through her research, Lizzie generated a whole mitochondrial genome for a monogenean species to develop genetic markers. She then used that genome to compare all of the other flatworm mitochondrial genomes (available at that time in GenBank) to explore the story of relationships among the flatworm.

Ian gave some background to this area of research. "Trematodes (internal flatworms) are very important in livestock and also medically important, as are cestodes (tapeworms), but monogeneans (parasites of fish) are under-represented in terms of research and knowledge. The genome for *Benedenia seriolae* was selected for study because this monogenean affects the fish farming industries in Japan and South Australia. The only other monogenean genomes available for comparison were for gyrodactylids, a family that give birth to live young and are major pathogens of salmon in Northern Europe."

"The evolutionary history of flatworms and the relationships between the three classes of parasitic platyhelminths was debated throughout the 20th Century. It was thought that a natural evolutionary grouping within flatworms was a close relationship between the Monogenea and tapeworms and this was based on the morphological similarities of their hooks. This theory remained unchallenged for much of the 20th Century but, more recently, with different data sources available, there has been a lack of consensus."

"Whether internal flukes (Trematoda) or fish flukes (Monogenea) are at the base of the evolutionary tree has implications for the origins of endoparasitism and complex lifecycles (Trematoda, Cestoda) and ectoparasitism (Monogenea) and adaptive radiation associated with diet," said Ian.

With the introduction of electron microscopy in the 1950s and 60s scientists discovered that the neodermis was a unique character shared by all three groups of parasitic platyhelminths but not the free-living flatworms. This united all three groups as a cohesive evolutionary unit but the question then became, "Which is the most primitive?"

"Once you can establish which is the most primitive group, then you can infer the progression of parasitism through their evolution", Ian said.

"If trematodes are most primitive, then the inference is that the flatworms were initially endoparasites, but if monogeneans are most primitive, then the flatworms were originally ectoparasites", Ian said. "And an evolutionary theory also must make biological sense, so you need to ask yourself why might the parasitic flatworms switch habitat and be internal or external parasites?"

"What makes it such a challenge to piece together the evolutionary history of flatworm parasites is that there are many competing sources of data but we are not necessarily always comparing the same species across independent data sources. We also don't understand how rapidly parasite groups radiate. There are periods when many species may evolve rapidly, but then their radiation may slow again. This is likely to be influenced by host evolution," Ian said.

What did your investigations uncover?

Through their research, using an independent data set of over 30 mitochondrial genomes, Lizzie's analyses led to the rejection of the hypothesis of a close evolutionary relationship between cestodes and monogeneans. So previous theories inferring a 'sister' relationship based on shared 'hooks' in fish flukes and tapeworms were discarded. From their data, Lizzie also found that the two subclasses of Monogenea, the blood feeders, which principally infect fish gills, and the epithelial feeders, which infect fish across many microhabitats, split early, have separate evolutionary histories and morphological and biological similarities between the two groups have been over-emphasised previously. Finally, and most interesting to Ian and Lizzie, their

IJP feature article cont...

research indicates that among the epithelial feeders, a diverse group of monogeneans in terms of morphology, microhabitat and host associations, there may be several different evolutionary lineages. "There may be 15000 species in this group of epithelial feeding parasites so there is much more information to derive," said Ian. "But the concept of independent basal branches in the monogenean tree has stirred up controversy within the parasite evolution community and is ripe for further investigation!" Their new evolutionary hypothesis suggests the most primitive parasitic flatworms were epithelial (skin) feeders. The next historical step was the move to a blood diet, and the step after that was a switch from ecto- to endoparasites feeding on blood. At the top of the tree are the tapeworms that absorb food over the body wall. "The history needs to make biological sense, and our hypothesis fits in with research from Tom Cribb's group, which identifies the most primitive trematodes as endoparasitic blood-feeders", said Ian.

What is next in this evolutionary story?

In the future Ian would like to sample more blood and epithelial feeders, use mitochondrial and nuclear genes for a broader representation of those groups and test the hypothesis that epithelial feeders may belong to different lineages.

"The advantage of whole genomes for flatworms means we can identify and compare particular genes and infer gene function," said Ian. "For example, we can focus on genes for glucose transport and then see if trematodes and cestodes express these genes. We can also see whether epithelial feeders express genes for blood digestion. We can investigate genetic information conserved across all three platyhelminth groups and use it to piece together a full evolutionary history," Ian said.

"This is the 'biggest picture' evolutionary story I've been involved in, it is very exciting and one of the great advantages of collaborating with evolutionary biologists like Steve Donnellan, Terry Bertozzi and Lizzie", Ian said.

We look forward to hearing more about this fascinating evolutionary history in the future.

Download the IJP article http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T7F-504BT5S-3&_user=972264&_coverDate=09%2F30%2F2010&_rdoc=3&_fmt=high&_orig=browse&_origin=browse&_zone=rslt_list_item&_srch=doc-info(%23toc%235057%232010%23999599988%232214754%23FLA%23display%23Volume)&_cdi=5057&_sort=d&_docanchor=&_ct=14&_acct=C000049659&_version=1&_urlVersion=0&_userid=972264&md5=5278264e349528fb4bcc7cc5439e76c2&searchtype=a

Ian Whittington and Lizzie Perkins studying a ray for parasites during a field trip to New Caledonia.

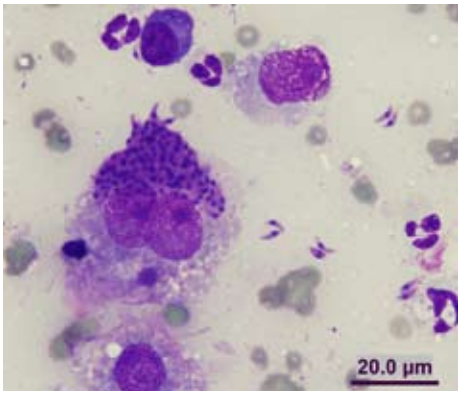
State news

New South Wales

University of Sydney

Laboratory of Veterinary Parasitology @ McMaster Building

We are pleased to have successfully finished all parasitology teaching, including the new Agents of Disease and Laboratory Disease Investigation. It has been busy as always on all fronts. We have also encountered the 'giant-enormous' flea - *Bradiopsylla echidnae* (5 mm!!!) from an echidna during our project with Merial into the diversity of fleas. The clinical samples are always bringing interesting cases, including an example of lung toxoplasmosis (the cat is still alive and doing well see image below).



Toxoplasma gondii *in cat's lungs. (Courtesy of Patricia Martin, Faculty of Veterinary Science, University of Sydney).*

Jessica King has been awarded the Chief Executive's prize for achievement as an Invasive Animal CRC for her work on *Neospora* and neosporosis. Most importantly, she submitted her PhD thesis in September. Congratulations!

Giselle Walker is currently visiting Paris, supported by the Network Researcher Exchange, Training and Travel Award, to undertake ultrastructural work on *Chromera velia*. We have uncovered non-reductive iron uptake - another surprising attribute of this closest living sister to parasitic apicomplexa: published in *Plant Physiology* [10.1104/pp.110.159947].

John Debenham, BVSc student has been investigating coccidiosis in echidnas and presented at The Australasian Committee of the Association of Avian Veterinarians annual conference in conjunction with the Unusual and Exotic Pet Veterinarians. John was the winner of the prestigious "Anne Martin Scholarship".

Our Honours students, **Patricia O'Keeffe** and **Matthew Van der Saag,** have completed their projects on frog myxozoa diagnostic DNA hybridisation and cat *Tritrichomonas foetus*, respectively. Matt's Honours presentation was ranked the top in the year! We wish them both very best in the future.

Last but not least, we wish all the best to **Michelle Robinson** (and **Mark**) and their baby girl, Erin!

University of Technology, Sydney

In June and July, **Nick Smith** and **Alana Zakrzewski** both visited the National Institutes of Health in Bethesda, USA, meeting with scientists from **Mike Grigg's** and **Alan Sher's** labs and presenting a seminar on their work with the $P2X_7$ receptor and toxoplasmosis. They continued on to the Gordon Host-Parasite Interactions Conference, Nick presented a talk on oocyst wall formation in coccidian parasites and Alana a poster on the $P2X_7$ receptor. Nick continued on to Zurich to visit Peter Deplazes and begin discussions to set up a collaboration on toxoplasmosis.

In August, **Nick, Alana, Rowan Ikin, Philippa Sharman, Amanda Hudson, Joel Barrett, Sarwat Al-Qassab** and **John Ellis** attended ICOPA, all presenting or co-presenting talks and posters. Congratulations to Rowan and Alana, who took home Best Poster Prizes.

UTS was lucky to host Professor **Dominique Soldati** and **Fiona Tomley**, before and after ICOPA, for seminars and research discussions.

Nick was off again in October, this time to Guangzhou, China, with **Marilyn Katrib** and **Philippa Sharman** to present their work on *Eimeria* at the 10th International Coccidiosis Conference. On their return, they were delighted to learn of **Sonja Frölich's** submission of her Honours thesis on *Eimeria* oocyst wall formation and **Amanda Hudson's** award of her PhD for her excellent research into helminth drug resistance. Very well done Amanda!

Charles Sturt University, Wagga Wagga

Prof **Sandip Malhotra** and Dr **Neeshma Jaiswal** from Allahabad Central University, India, spent two weeks at Charles Sturt University with **Shokoofeh Shamsi**. They brought a collection of anisakid nematodes from Indian sharks and fish for identification.

Also, currently two Vet students from the Netherlands are visiting Shokoofeh's lab at CSU. **Gineke Eulink** and **Margriet Keulen** are from Utrecht University on 2 month internships and getting experience in parasites of freshwater fish species in Murray darling basin in NSW. Of course they won't be allowed to leave unless they learn a bit about anisakids as well!

Novartis Animal Health

Novartis Animal Health launched Zolvix, a revolutionary sheep drench and the first product from the new 'orange' class of anthelmintics called the Amino-Acetonitrile Derivatives (AADs), in Australia on 1 September 2010. Zolvix contains the active ingredient monepantel, which has a novel, nematode-specific mode of action. Zolvix kills nematodes including those resistant to the existing anthelmintic classes. Much of the Zolvix development work was completed at Novartis' R&D facility in western Sydney. Novartis Animal Health also launched the Optimum drenching system, which consists of the new, award-winning Optiline drencher and Optivix backpack, both of which were created in close cooperation with sheep producers and industry experts. The Optiline drencher has been ergonomically designed to make it easy to use, with the welfare of both the animal and user in mind. Altogether, the new drenching system is a ground-breaking step forward in making drenching less of a hassle for sheep producers and ensuring that the correct dose of Zolvix is given to sheep every time.

State news cont...

Western Australia

Curtin University

News from the west……..

At Curtin Uni, **Brioni Moore** continues her fine work in PNG, coordinating field research for an NHMRC Project Grant, led by **Prof Tim Davis** (University of WA). She is studying"Novel artemisinin-based combination therapies for children exposed to high transmission of multiple *Plasmodium* species". The laboratory work at Curtin is the responsibility of **Kevin Batty** and **Madhu Page-Sharp**. Madhu has developed expertise with LC-MS analysis of artemisinin compounds (for the PK studies), complementing the well-established HPLC assays for quinolines and other antimalarial drugs.

Kevin Batty, Paul Murray and **Louise Whittell** (PhD student) were awarded a Curtin Research Grant for 2010, to study the "Antimalarial activity of isocryptolepine derivatives". This project was a finalist in the 2010 Curtin University Commercial Innovation Awards, and preliminary results were presented by Paul and Kevin at the ICOPA conference.

University of Western Australia and Telethon Institute for Child Health Research

Chris Peacock's group is currently split between the Discipline of Microbiology and immunology at UWA and the Telethon Institute for Child Health Research in Subiaco. He has a lab and full time position at UWA and an Honorary position and an isolation laboratory at TICHR. Whilst the group is small, (Chris, an RA, one postdoc and two students this year) they are doing some great work on *Leishmania*. They have now sequenced the kangaroo *Leishmania* genome, which they presented at ICOPA. An aim of this research is to identify differences between the kangaroo *Leishmania* and human *Leishmania* to identify determinants of human pathogenicity.

Additionally, Chris has a grant application in to look at South American mucosal leishmaniasis with collaborators in the USA and Brazil. They also have applications in to look at the biosecurity issue related to the presence of a competent vector for leishmaniasis in the Northern Territory with a group run by Deborah Holt at the Menzies Institute.

Murdoch University

Murdoch Parasitology continues to be productive with the generation of more offspring, the latest being a baby boy (Zaid) born to **Unaiza Parker** on the 12 August.

On the scientific front, continued financial support from the Department of Environment and Conservation (DEC) has allowed several new projects to get off the ground. The first will look at the impact of parasite infection on native fauna translocation programmes in WA, and ways to ameliorate their effects and improve translocation success. This is an important issue for WA at the moment, particularly with increased mining activities in the State such as the Gorgon gas project on Barrow Island, necessitating the removal of large numbers of marsupials to the mainland. Our new PhD student, **Judy Dunlop**, will be spearheading this project and will be monitoring animals following their translocation to mainland WA.

Again in collaboration with DEC, **Craig Thompson** will be investigating what arthropods play a role in the transmission of trypanosomes to native fauna in WA. As part of this project, Craig will undertake a longitudinal study of a mixed, captive population of woylies (bettongs) from areas where the level of trypanosome infection is markedly different in order to better understand the transmission and life cycle of trypanosome infection in marsupials.

Andy Thompson (keeping his frequent flyer status high) recently travelled to Laos for the penultimate project meeting for the ACIAR pig zoonoses project. **Jamie Conlan** is the local driving force for this project which should really be re-named the pig and dog zoonoses project in view of Jamie's findings. Dogs play a fundamental role in the dynamics of taenia cestode transmission and it appears that through competitive action *Taenia hydatigena* mitigates the public health risk from *T. solium*. Hookworm is common and a serious problem in the human population in the rural areas studied. Although mass chemotherapy regimes can be mounted, along with education, to alleviate this problem, the finding that dogs are infected with the emerging, zoonotic hookworm *A. ceyalnicum*, is going to mean that control efforts will also have to target the dog population, which will be a problem given that they are largely free roaming in the villages.

Fran Jones has also started her PhD recently. Fran will be working on a new ARC funded project investigating the *Giardia* proteome. This will be in collaboration with Richard Lipscombe, who heads locally-based biotech company Proteomics International and **Rob Steuart** who is now at Curtin University.

A number of colleagues took the opportunity to visit the group on their way to ICOPA, including **Vanessa Yardley** from the London School of Tropical Medicine and Hygiene, **Kurt Pfister** from the Vet School in Munich, and **Andrea Valigurová** from Masaryk University in the Czech Republic. A great opportunity for pre-conference research discussions and a sumptuous curry evening before everybody left!

Queensland

Department of Employment, Economic Development and Innovation

Biosecurity Sciences Laboratory

The Biosecurity Sciences Laboratory (BSL) (formerly the Yeerongpilly Veterinary Laboratory) moved from its home at the Animal Research Institute, Yeerongpilly to a brand new facility at the Queensland Health and Food Sciences

State news cont...

Precinct at Coopers Plains. All sections of BSL are now in one building for the first time so that an umbrella is not required when it is raining to move from lab to lab! Asian honey bees are still pouring into the lab for examination for exotic mites (up to 195 nests) and **Cath Covacin** is still hard at work examining bees and comb. **Louise Jackson** and **Ralph Stutchbury** attended ICOPA XII in Melbourne and really enjoyed talking with international visitors and we were impressed with the venue (and technology). Louise also attended the post-ICOPA tick vaccine summit in Brisbane, hosted by the Beef CRC, where fellow tick vaccine enthusiasts gathered to discuss future international collaboration and harmonisation. We are impatiently waiting for cattle to arrive so that we can start the all-important Beef CRC cattle tick vaccination-challenge experiments, which will be done at the Centre for Advanced Animal Science at the UQ Gatton campus.

Applied Biotechnology Animal Group

The Applied Biotechnology Animal group at ARI farewelled Biosecurity in May and we are still here for now. The Beef CRC tick vaccine project team has been busy producing antigens for trials - its all happening (see BSL report). **Manuel Rodriguez**, **Jess Morgan** and **Ala Lew** attended ICOPA XII, which was great, and **Wayne Jorgensen**, Manuel and Ala attended the tick vaccine 'summit' in Brisbane, which included representatives from EMBRAPA (Brazil), USDA, WSU, ILRI, MLA and the Australian research team (UQ, DEEDI, Murdoch Uni). **Terry Spithill** attended as an 'independent' vaccine parasitologist to keep the team on track and to pose objective questions (thanks Terry). **Tao Xu** has commenced a PhD with Manuel and **Jim Rothwell** (UQ) looking at yeast tick gene expression - welcome Tao. He will be forced to join ASP very soon :-). BIG NEWS: With the formation of the new joint UQ/DEEDI Institute - Queensland Alliance for Agriculture and Food Innovation (http://www.qaafi.uq.edu.au/), several parasitologists at ARI will be taking up the offer to be seconded to University of Queensland as members.

Tick Fever Centre

The Tick Fever Centre has just started an MLA-funded project on the innate susceptibility of cattle breeds to *Babesia bovis* and *Anaplasma marginale*. In the last 10 to 20 years there has also been increasing infusion of other exotic breeds, including Wagyu, Senepol, and Tuli, into the northern Australian beef herd; and there is a need for more data on the susceptibility to tick fever parasites of these breeds and some of the resultant crosses. Some of these breeds have been bred for, and used to increase resistance to, cattle ticks; whether there is also improved resistance to tick fever parasites (as with *B. indicus*) is unknown.

Theileria is a common, usually benign, infection of cattle in eastern Australia; however, in recent years there has been a sharp increase in outbreaks of clinical 'benign' theileriosis. There are currently no drugs registered for treatment of theileriosis in Australia and the recently-formed Working Group emphasised the need to find a suitable therapeutic agent. TFC has started a MLA-funded project to assess the efficacy of Buparvaquone against Australian isolates of *Theileria*. Buparvaquone is registered in about 20 countries for the treatment of East Coast fever and tropical theileriosis and there is evidence in the literature that it is also effective against the causes of benign theileriosis. The aim is to obtain a Minor Use Permit for buparvaquone to allow affected cattle to be treated.

TFC together with Bing Zhang (Molecular Bioscience Technologies, DEEDI) have developed and validated real-time PCR assays for the detection of *Babesia bovis* and *B. bigemina*. Work is currently underway to develop and validate a real-time PCR assay for *Anaplasma centrale* and *A. marginale*.

Kelly Brayton from Washington State University visited TFC in August to discuss our collaborative projects and to find out about their current research into *Babesia* and *Anaplasma*. **Vish Nene**, Director, Biotechnology Theme at ILRI in Kenya also visited the centre for a tour and discussions.

University of Queensland

Parasitology Unit, School of Chemistry and Molecular Biosciences

Staff and students have recovered well from ICOPA, having enjoyed good company, good science and good catering. **Peter O'Donoghue** has renewed contacts to finish his survey for coccidia in wildlife (20 years of samples), his survey for haemoprotozoan (10 years of samples), and his atlas of testate amoebae. POD recently completed two checklists for protozoa in Australia (testate amoebae and free-living ciliates) for the Zoological Catalogue produced by the Australian Biological Resources Study (ABRS). He is also updating his earlier checklist of parasitic protozoa by including another 800 references published over the last decade since the publication of the earlier version. His Honours student, **Ben Brimblecombe**, has completed sampling testate amoebae from moss samples in south-east Queensland and is identifying them by scanning electron microscopy and X-ray spectroscopy. His other Honours student, **Kalaivani Rethinasingham**, has analysed rumen samples from deer (red, fallow and rusa) and identified over 30 different species of endosymbiotic ciliates. His new PhD student, **Linda Ly**, is examining local termite colonies for endosymbiotic flagellates and was acquiring the title of Typhus-Mary due to her un-erring ability to sample negative termite species (only the lower termites have flagellates). Fortunately, her latest trip to Noosa (wonder how she selected that site?) returned many positive samples so she is busy with light and electron microscopic descriptions.

School of Veterinary Science

The School of Veterinary Science was formally opened on 6th August. Our new $100 million complex is official and we held a very successful Practitioners Symposium to show it off to veterinarians both locally and from further afield.

We welcome **Dr Karang Agustina**, a Lecturer in Veterinary Public Health from Udayana University, Bali. Karang is spending 9 weeks at **Rebecca Traub's** lab training in molecular and immunodiagnostic techniques to help assess an intervention study on the control of swine-related parasite zoonoses as part of a ACIAR funded collaborative project entitled, "Improvements and sustainability of sweet potato-pig production systems to support livelihoods in highland Papua and West Papua, Indonesia."

SVS Symposium – Rebecca Traub with John Edwards and colleagues.

Mal Jones has two international visitors at the moment. **Martin Kasny** from Charles University, Czech Republic, won a Group of Eight Universities European Fellowship to work with Mal on aspects of the tegument of schistosomes. Meanwhile PHD student **Panita Khampoosa** from Khon Kaen University in Thailand is visiting to do some EM work on egg development in *Opistorchis viverrini*.

Mal Jones, Jim Rothwell, Lyn Knott, Christian Gray, Tamsin Barnes, Puteri Azaziah, Leigh

State news cont...

Cuttell and **Robyn Nagel** enjoyed their time at ICOPA although some of the less hardy struggled with the chilly Victorian weather.

Opening of the New Veterinary Science Building at UQ (L to R) Head of School – Jon Hill, Dean of Faculty – Roger Swift, Member for Blair – Shayne Neumann, DVC – Paul Greenfield.

New Veterinary Science Building at UQ

New Veterinary Science Building parasitology laboratory at UQ

General news

A Brisbane-based consortium led by **Mal Jones** is bidding, in conjunction with the ASP other societies and organizations (QIMR, UQ, Qld Tropical Health Alliance), to host the International Congress of Tropical Medicine and Malaria (ICTMM) in Brisbane in 2016. Our plan is to incorporate ASP 2016 into the ICTMM, while maintaining the usual focus of our national conference.

As part of the bid process, three members of the international board, Santiago Mas-Coma, Jong-Yil Chai and Maria Bargues, visited Brisbane after ICOPA to inspect local facilities including our proposed venue, the Brisbane Convention and Exhibition Centre.

The visitors were very impressed with Brisbane. They enjoyed particularly a helicopter ride to Moreton Island, the local seafood and the opportunity to cuddle koalas and crocodiles. They also met (but did not cuddle) the Qld Deputy Premier, local councillors and MPs, as well as clinicans and scientists from QIMR and UQ.

The Brisbane team is looking forward to the final bid, which will be made at ICTMM 2012 in Rio de Janeiro!

Queensland Museum

Dr Rob Adlard has just returned from a fish parasite collection trip to Lizard Island funded by BHP Billiton in partnership with The Great Barrier Reef Foundation, the Australian Institute of Marine Science, the Australian Biological Resources Study and the Alfred P. Sloan Foundation. Rob was accompanied by **Prof Ian Beveridge**, QM research officer **Dr Terry Miller** and PhD student **Holly Heiniger**. The team collected a wide variety of fish species through targeted spear-fishing, lucky-dip line-fishing and localised sprays of anaesthetic to narcotise and net smaller species. Lizard Island produced its normal 25 knots of SE trade winds for most of the time but was nonetheless a beautiful place to work and very productive parasitologically.

Mieke Burger, former PhD student at UQ School of Chemistry & Molecular Biosciences and the Queensland Museum supervised by Rob Adlard, has now received her PhD and will graduate at the ceremony at UQ at the end of this year. While PhD student **Ricky Gleeson** continues through the final year of his studies and is writing furiously at the QM but taking a little time out for minor issues like appendicitis (darn malingerer…).

QM Parasite Collection Manager **Dr Mal Bryant** has been undertaking a full audit of the specimens and data of the International Reference Centre for Avian Haematozoa collection of around 60,000 specimens and is preparing space for a donation of teaching and other material from the collection based at the School of Chemistry and Molecular Biosciences at UQ.

Queensland Institute of Medical Research

Malaria Biology laboratory

The Malaria Biology Laboratory are accumulating plenty of frequent flyer points at the moment as, in addition to the whole lab attending ICOPA, they have all been doing lots of travelling. **Rachael McGeorge** is spending 3 months working (and having fun according to her face book page) in Gainesville Florida where she is visiting **Prof Ben Dunn's** laboratory. Thanks to a Network Travel Award, which is supporting Rachael's trip.

Chris Peaty is heading off to the Woods Hole Meeting and is looking forward to getting out of the lab and to writing up his thesis when he returns. **Don Gardiner** and **Katharine Trenholme** are off to Geneva in October to give a presentation to the Medicines for Malaria Venture Expert Scientific Advisory Committee, having been short listed for a MMV drug discovery grant. **Tina Skinner-Adams** and **Alice Butterworth** are planning their safari to Zambia where they will be looking at the effect of protease inhibitors on the incidence of malaria in HIV infected women. Rumour has it that **James McCarthy** may pay them a visit en route to the American Society of Trop. Med meeting in Atlanta.

Tropical Parasitology Laboratory

Two new recruits from the UK have recently joined **Don McManus'** lab. After a chance meeting with Don in Liverpool, Dr **Barrie Anthony** came to QIMR in May this year. Before this he was based at the University of Salford in the UK, where he completed his PhD on the interaction of hepatic stellate cells with eggs of *Schistosoma mansoni*. He is keen to continue this work and hopes to look at the interaction of hepatic stellate cells with schistosome antigens and the role of these interactions in fibrogenesis. This will improve our understanding of the pathology of schistosomiasis and help in the identification of new treatments or the development of pathology limiting vaccines. With a bit of luck, Barrie might also be able to soak up some sun and develop a tan, an opportunity which was limited back in Salford. Originally from Nigeria, **Adebayo Molehin** obtained his Master of Research (MRes) degree in Molecular Parasitology at the University of Glasgow where he carried out two research projects entitled, 'Characterization of *Plasmodium falciparum* resistance to buthionine sulfoximine (BSO)' and 'Comparative proteomic analysis of pentamidine

State news cont...

resistant *Leishmania*'. Both projects involved a wide range of laboratory techniques such as tissue culture, enzyme activity assays, molecular biology, proteomics and mass spectrometry. He has come to QIMR to undertake a PhD in molecular parasitology because of the strong recommendation from his course coordinator at the University of Glasgow. He will be working on a project entitled, 'The induction and modulation of protective immunity against schistosomiasis japonica' with a special interest in *Schistosoma japonicum* serine protease inhibitors (serpins) as potential vaccine antigens. Both Barrie and Adebayo have settled in well and are enjoying the Brisbane winter and the Australian wines. Barrie is a staunch rugby league fan so it was a great pity the Brisbane Broncos missed out on the finals, the first for 19 years.

Molecular Vaccinology Lab

Bruno Douradinha is just completing 3 months field work in Madang, working with **Leanne Robinson, Jack Taraika, Danga Mark, Patricia Rarau, Ivo Mueller** and colleagues at the PNG Institute of Medical Research. Jack will be visiting the Doolan lab during the last 2 weeks in September to help assay some of the samples collected in Madang, as part of capacity building with PNG IMR.

The Tropical Parasitology Group (GU/QIMR)

welcomes two new PhD students – Dulangi Sumanadasa and Vanida Choomuenwai. Both students will be working on malaria drug discovery and target identification related projects.

James Cook University

School of Marine and Tropical Biology, Townsville

David Blair and **Kate Hutson** both presented and enjoyed socialising at ICOPA in Melbourne. Directly following ICOPA, David travelled to Chengdu, Sichuan in SW China to attend the International Symposium of Schistosomiasis Control and Research there. The meeting evaluated progress and problems in the march towards eventual eradication of schistosomiasis in China, and especially in Sichuan Province where prevalence is now much reduced.

David has introduced Kate to various new experiences and parasites in the tropics. David has long been involved in dugong and turtle autopsies and has described many beautiful and unusual trematodes that infect them. One particularly peculiar parasite, *Labicola elongata*, infects the upper lip of the dugong, living in abscesses that can be felt as a series of lumps along the lip.

David Blair and Kate Hutson with dugong

Alex Brazenor with anaesthetised barramundi

Kate is busy in her new Marine Parasitology Laboratory and has commenced research on the parasites of barramundi. She recently visited a barramundi farm in Hinchinbrook, Queensland with undergraduate volunteer **Alex Brazenor** and postdoctoral fellow **Leonardo Mata** to collect specimens of *Neobenedenia* (Monogenea) for infection experiments. Alex intends to commence an Honours project in the Marine Parasitology Laboratory in 2011. Kate is enjoying teaching in the School and creating new aquatic animal health lectures and practicals with an emphasis on parasites.

Northern Territory

Menzies

In the Tropical and Emerging Infectious Diseases Division, PhD student **Wajahat Mahmood** has spent the last three months in the lab of Professor **Ben Dunn** in the Department of Biochemistry and Molecular Biology at the University of Florida. Ben is an expert in the structure and function of aspartic proteases and presented at the ASP conference in Adelaide in 2008 followed by visits to several Australian labs as an ASP travelling fellow. Waji has been investigating the enzyme kinetics and substrate specificity of a scabies mite aspartic protease in Ben's lab. This has been an invaluable experience for Waji and has been a major step forward in his project.

Congratulations go to **Linda Viberg** on the birth of son Hamish in April. We are starting the indoctrination early with Hamish being the youngest attendee at ICOPA in August. Although he slept through a lot of the talks and the band at the conference dinner, Hamish was part of a large Menzies strong contingent who all thoroughly enjoyed both the science and social aspects of ICOPA. Congratulations to **Alan Cowman, David Piedrafita, Terry Spithill** and all others involved for the amazing amount of work they put in to make it such a fantastic event.

Over the last couple of months we have been working with Dr. **Bethany Jackson,** a veterinarian who is working on a project through Kakadu National Park and the Northern Territory Government, looking at the potential for black rats to act as disease vectors into the native mammal population. Bethany spent many weeks trapping native and feral rats, assessing their health and taking blood and tissue samples. In our lab she was testing her samples for any evidence of infection with the recently described Australian *Leishmania* species, while at the Berrimah Veterinary Labs she tested for a range of other parasites and diseases. Her work will provide valuable information for the ongoing efforts to ascertain the reasons for recent small mammal decline in the Northern Territory. Bethany is extremely enthusiastic about wildlife health, bringing us a "present" one morning of samples from a possum with heavy crusting of the skin and ears. Together we isolated some mites from the skin and have enlisted the help of

State news cont...

Ian Beveridge to identify them.

The International Health Division has morphed into the Global Health Division and has been continuing their work establishing a laboratory in Sabah, Malaysia. The new lab will allow them to further their research on *Plasmodium falciparum* and *P. vivax* in the South-East Asian region as well as developing further work on *P. knowlesi* infections in humans. The lab in Sabah will complement their collaborative research in Timika in West Papua, Indonesia which focuses on malaria, tuberculosis and sepsis.

South Australia

The focus for SA members over the last couple of months has been getting ready for, attending (with representation from Adelaide Uni, Flinders Uni, SARDI and the South Australian Museum) then recovering from ICOPA. At present all seems quiet on the working front as we consolidate contacts made and take on board the new ideas and fresh perspectives gained from the conference. Those students who have end of year deadlines are busy "writing up" and the grant writing season being upon us, with ABRS proposals due next month, are our justification for not being able to report on research breakthroughs and international travel. One positive outcome from ICOPA was the recent visit of **Lesley Warner** to Macquarie University, hosted by **Michelle Power,** to assist a student with nematode identifications. That this aspect of mentoring our student members was taken seriously by Lesley can be confirmed by the fact that she was suffering the somewhat painful effects of a broken toe and that all efforts were made on her behalf in Sydney to make her stay as painless as possible.

Australian Capital Territory

Australian National University

Rowena Martin has been awarded the Eureka Prize for Early Career Research for her work on the mechanism by which mutations in a particular protein gives rise to the phenomenon of chloroquine resistance in the human malaria parasite, *Plasmodium falciparum*. The $10,000 prize is awarded for outstanding scientific research conducted by an individual or groups of early career researchers who are 35 or younger.

In the same week Rowena was also awarded one of three L'Oreal Australia Fellowships for women in science. The three L'Oreal Fellowship winners were selected from over 160 nominees. The Fellowships "are awarded to women who have shown scientific excellence in their career to date" and provide $20,000 "for early-career women scientists to consolidate their career and rise to leadership positions in science".

Rowena is also the recipient of the ACT Young Tall Poppy Award. The annual award is focussed on "promoting awareness and recognition of Australia's outstanding intellectual achievers, especially in scientific endeavours, and to encourage younger generations to follow in their footsteps through undertaking further study and careers in the sciences".

Tegan Dolstra, from Rowena Martin's lab, ANU, won a student poster prize at last week's International Congress of Parasitology for her poster entitled "Introduction of just three mutations into the '*Plasmodium falciparum* chloroquine resistance transporter' is sufficient to induce chloroquine transport".

Research by **Ian Clark** on the roles of TNF in brain dysfunction and disease recently featured on the "60 Minutes" program (Sunday, 29 August).

General news

Finally a welcome to **Anup Patel**, who has recently joined the ASP. Anup works at Capital Pathology in Canberra as a Medical Scientist in Microbiology and has had an interest in the field of parasitology for almost 7 years. Anup began his interest in parasitology during his training as a Biomedical Scientist, in the Microbiology Department at The Pennine Acute Hospitals NHS Trust - North Manchester General Hospital (Manchester, U.K.) and has continued throughout his career.

Tasmania

University of Tasmania

Menzies Research Institute

Menzies Research Institute Tasmania students participate in outreach programs at Tasmanian schools.

Every year, as part of national science week, the University of Tasmania runs the Young Tassie Scientists program to raise awareness of the range of career and study options available in science. Two students from the Malaria Genetics Group at the Menzies Research Institute Tasmania joined in the fun this year; Honours student **Laura Wieczorcki** and PhD student and ASP member, **Clare Smith**. In two exhausting days they managed to visit 16 schools in the greater Hobart area. They talked to groups of school children about malaria, their projects and careers in science. The groups ranged from prep to year 10 (the preps became a handful when they realized lollies were on offer for answering questions!). They all learnt about the malaria lifecycle and how to design drug-testing experiments. The feedback received from the teachers and students was fantastic and it was a great experience and opportunity to communicate the problem of malaria and science research in general to Tasmanian school children and teachers.

Clare Smith wins best student poster at national genome conference.

Several researchers from the Malaria Genetics Group at the Menzies Research Institute Tasmania attended the Lorne Genome Conference in Victoria in February 2010. PhD student **Clare Smith** won a prestigious prize for best student poster at the conference for her poster entitled: "Towards novel antimalarial treatments: a host-directed therapy and the haem biosynthetic pathway". This was an impressive effort given the paucity of parasite-related research on display. Well done Clare!

State news cont...

School of Aquaculture and National Centre for Marine Conservation and Resource Sustainability

ASP member Mel Andrews is now Dr Mel Andrews.

Congratulations to **Mel Andrews**, who recently graduated with a PhD from University of Tasmania. She worked in Prof **Barbara Nowak's** laboratory at the School of Aquaculture and National Centre for Marine Conservation and Resource Sustainability in Launceston. Her project involved studies on the arthropod parasites of striped trumpeter. Mel has now taken up a postdoctoral research fellow position at Kinki University in Japan, working on parasites of farmed marine fish. Congratulations Mel and best wishes for your studies in Japan.

"Mel Andrews graduation" Dr Mel Andrews following her graduation at the University of Tasmania, flanked by Prof Barabara Nowak (right) and Dr Jenny Cobcroft (left).

General news

ICOPA: The Tassie perspective

Proportionally, Tasmanian ASP members were probably the most well-represented of the ASP membership in the ICOPA program; five of the eight Tassie ASP members presented talks and and additional two presented posters. Three members based at the University of Tasmania's School of Aquaculture, group leader Prof **Barbara Nowak**, and PhD students **Victoria Valdengro** and **Laura Gonzalez** gave talks in the aquatic parasitology sessions. Laura and Victoria are recently joined ASP members who've both also just started their PhDs. Victoria presented on her Masters research project investigating tuna ectoparasites, and Laura on her Masters work on sealice affecting salmon farmed in Chile. They are both now working on Amoebic Gill Disease. Dr **Brendan McMorran** and PhD student **Clare Smith** from the Menzies Research Institute Tasmania presented talks on their studies on malaria. **Andreas Greth**, who began his PhD in the Malaria Genetics Group at the Menzies, and Dr **Gaetan Burgio** (also from the Menzies) also presented their work as posters during the conference. We all enjoyed ICOPA immensely, and returned home with many new ideas, new contacts and some happy memories. Thank-you to organisers!

"ICOPA" Victoria Valdengro, Barbara Nowak and Laura Gonzalez (left-right) at ICOPA, Melbourne 2010.

Dr **Simon Jones**, a Senior Scientist from Pacific Biological Station, Department of Fisheries and Oceans in Canada was one of the ASP visiting lecturers, co-chairs and invited speakers. He visited University of Tasmania and University of Queensland following ICOPA. He gave lectures on parasites affecting fish in Canada, focusing on sea lice. His lectures were attended by university staff and students, as well as researchers from other institutions and aquaculture industry. Simon also met with researchers and students.

"Simon Jones East Coast" Dr Simon Jones enjoys the wild and beauty of Tasmania's East Coast.

Victoria

Walter and Eliza Hall Institute

Chris Tonkin and **Justin Boddey** received Victorian Young Tall Poppy Awards from the Institute of Policy and Science, with Chris being awarded Victorian Young Tall Poppy of the Year!

Justin Boddey has been very active at getting travel grants: receiving the following Travel Awards: EMBO Short-term Fellowship (8,700 euros); Australian Academy of Science Rod Rickards Fellowship ($11,500); OzEMalaR travel award ($9,600); American Australian Association Sir Keith Murdoch Fellowship (US$16,500).

Justin aslo received a prize for best Oral presentation prize at Melbourne Protein Group Postdoctoral Symposium ($400); Oral presentation prize at VIIN Postdoctoral Symposium ($150) and Best Parasitology Presentation prize at the same meeting ($300) sponsored by IJP.

WEHI researchers have been publishing their work, and you can read more about their stories on the OzEMalaR website www.ozemalar.org

Wai-Hong Tham published a very nice story with **Professor Alan Cowman**, head of the institute's Infection and Immunity division, and **Dr. Danny Wilson, Sash Lopaticki, Jason Corbin, Dr. Dave Richard, James Beeson** and collaborators at the University of Edinburgh. Their research into pathways used by malaria parasites to infect human cells was published in the journal *Proceedings of the National Academy of Sciences*. They have recently identified a novel pathway which serves as the major alternative avenue for invasion that does not depend on glycophorins.

James Beesons' group has also published some work as part of their WEHI-PNGIMR:

Richards JS, et al. 2010. "Association between naturally acquired antibodies to erythrocyte-binding antigens of *Plasmodium falciparum* and protection from malaria and high-density parasitemia." *Clinical Infectious Diseases*, 51: e50-60.

Jack Richards and his collaborators examined antibodies among Papua New Guinean children who were treated with antimalarials and observed for reinfection and malaria. The Erythrocyte-binding antigens appear important targets of acquired protective immunity. These findings support their further development as

State news cont...

vaccine candidates.

Reiling et al, "Evidence that the erythrocyte invasion ligand PfRh2 is a target of protective immunity against *Plasmodium falciparum* malaria."*Journal of Immunology*, 2010

Their research found evidence suggesting that the *P. falciparum* reticulocyte-binding homologue, PfRh2, is an important target of protective immunity in humans, and that antibodies act by controlling blood-stage paraitemia, and support its potential for vaccine development.

Members from the **Beeson** lab, in collaboration with **Baum** and **Ralph** groups have developed a novel method for the isolation of *P. falciparum* merozoites at high purity and yield which maintain invasive capacity. It is hoped that the new isolation technique will allow a new method for malaria parasitologists to answer basic biological questions about how the *P. falciparum* merozoite invades and how human immune system targets this stage of the parasites life-cycle.

Boyle MJ, Wilson DW, Richards JS, Riglar DT, Tetteh KK, Conway DJ, Ralph SA, Baum J, Beeson JG, "Isolation of viable Plasmodium falciparum merozoites to define erythrocyte invasion events and advance vaccine and drug development." Proc Natl Acad Sci U S A. 2010 Aug 10;107(32):14378-83.

The University of Melbourne

Gasser laboratory

On 15th August 2010, **Professor Robin Gasser** was awarded a Fellowship of the Australian Society for Parasitology (FASP) during the International Congress of Parasitology (ICOPAXII) held in Melbourne.

Dr Neil D. Young received the 2009 Rob Lewis Medal for Excellence in Postgraduate Research from the University of Tasmania (AMC). Fantastic!

Aaron Jex received an NHMRC ACHIEVEMENT AWARD (4th March 2010). See http://www.nhmrc.gov.au/media/media/rel10/100305.htm You ripper! Well deserved!

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.

Network Mentorship Scheme

Early career researchers are encouraged to apply to the Network Convenor (nick.smith@uts.edu.au), in strict confidence, for funding to participate in the Network Mentorship Scheme. The scheme allows young investigators to be paired with experienced, successful researchers to discuss, plan, prioritise and set targets for their career. Typically, the early career researcher will fly to the institute of a senior parasitologist and spend a day there. Arrangements for professional development and progress to be reviewed by the pair annually can also be arranged. Importantly, mentors need not be from an individual's home institution but can be drawn from across the Network. The scheme has proved very valuable for several young researchers and their mentors already.

To apply, simply write to Nick Smith (nick.smith@uts.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.

Adult Anilocra pomacentri *on* Chromis nitida – *Heron/Wistari Reefs. Image courtesy Rob Adlard, Queensland Museum.*

Jobs in parasitology

See the latest jobs in parasitology on the ASP, Network and OzEMalaR websites

http://www.parasite.org.au
http://www.parasite.org.au/arcnet/jobs
http://www.ozemalar.org

Post-doctoral Research Fellow and Ph.D. Studentship at Monash University

Opportunities exist in the Cooke Laboratory in The School of Biomedical Sciences at Monash University for researchers wanting to become involved in exciting work to elucidate the cellular and molecular mechanisms by which parasites of red blood cells cause disease in humans and animals.

Two positions are currently available:

Post-doctoral Research Fellow. You will be involved in projects to determine the function of novel proteins in malaria and/or *Babesia* parasites which we believe play a role in host red blood cell modification. The successful candidate will have a PhD and a track record in microbiology, molecular cell biology or a related area. Previous experience in molecular parasitology is highly desirable but not essential.

Ph.D. Studentship. A position is available for a highly-motivated and enthusiastic PhD student. Applicants should have completed a BSc (Hons) degree and have been awarded a H1 or equivalent. The project will investigate the cellular and molecular mechanisms by which malaria and/or *Babesia* parasites modify red blood cells.

Location. Monash University, Clayton Campus

Further information or applications:

Associate Professor Brian M Cooke telephone (03) 9902 9146 or email: brian.cooke@monash.edu

The University of Melbourne

(http://research.vet.unimelb.edu.au/gasserlab/index.html)

Honours and PhD projects available for entry in 2011. PhD scholarships will be available to work in the following three areas:

- GENOMICS AND GENETICS OF ZOONOTIC PATHOGENS

An opportunity exists in our group for a high caliber PhD student focused on a career in infectious (including zoonotic) diseases. The research will focus on the development and use of molecular tools and will involve field work components. Prior experience in the use of molecular techniques, such as the genomic DNA isolation, polymerase chain reaction, gel electrophoresis and DNA sequencing, would be advantageous.

Supervisors: Drs Aaron R. Jex and Matt J. Nolan

- NEMATODE GENOMICS AND NOVEL DRUG TARGETS

The livestock industries are worth billions of dollars a year, but the many parasites of animals cause substantial losses to producers, the industries and the economy due to the diseases they cause. The control of economically important parasites of livestock has relied largely on the use of chemical compounds (anthelmintics). However, the excessive use of such compounds has led to drug resistance in parasites, such that many treatments are no longer effective. There is a need to develop new compounds. This interdisciplinary project provides the opportunity to work on fundamental aspects of parasite biology and the development of new anti-parasite compounds.

Supervisors: Drs Bronwyn E. Campbell and Cinzia Cantacessi

- COMPUTATIONAL STUDIES EXPLORING THE MOLECULAR BIOLOGY OF PARASITIC WORMS

An opportunity exists for a highly motivated and creative PhD student to work on a project centered on employing genomic and bioinformatic technologies to identify and explore crucial biological pathways in socio-economically important parasitic worms of humans and animals. An improved understanding of parasites and their relationship with their hosts at the molecular level will lead to better strategies for the treatment of emerging and neglected parasitic diseases. A good working knowledge of molecular biological concepts is essential.

Supervisors: Drs Neil D. Young and Robin B. Gasser

Contact: Professor Robin B. Gasser, robinbg@unimelb.edu.au

Honours and PhD vacancy for the Wellcome Trust *Plasmodium ovale* project at Burnet Institute

The Molecular Genomic Epidemiology Laboratory in the Centre for Population Health, Burnet Institute aims to understand the diversity of malaria parasites and naturally acquired immunity in the human host using genomic, bioinformatic and population genetic tools. The lab has recently received funding from the Wellcome Trust (UK) to study the epidemiology and population biology of two newly described human malaria parasite species (see Page 3).

We would be delighted to hear from enthusiastic Honours or PhD students with a basic or medical science background. Currently we have one Honours and one PhD vacancy for this project. Please contact Alyssa Barry (alyssa.barry@burnet.edu.au) for more information.

Post-doctoral Researcher in Immunology at James Cook University, Cairns Campus

A postdoctoral researcher is sought to join the Helminth Biology laboratory in the Queensland Tropical Health Alliance at James Cook University (JCU) in Cairns, Australia. The successful applicant will explore the roles of hookworms and their secretory proteins in modulating autoimmune pathogenesis. The successful applicant must be independent, show leadership qualities and be willing to supervise postgraduate students. Experience and a publication track record in the immunology of murine models of helminth infections is highly desirable. The project involves animal work and participation in clinical trials. The successful applicant will be experienced in the use of flow cytometry, adoptive transfers in mice, and have a thorough working knowledge of cellular immunology.

For more information contact:

Professor Alex Loukas by Email: Alex.Loukas@jcu.edu.au or Telephone: 07 4042 1608
www.jcu.edu.au/phtmrs/staff/academic/JCUPRD_056013.html

Jobs in parasitology cont...

PhD Student Opportunities at Menzies School of Health Research, Charles Darwin University

Three exciting PhD opportunities are available for enthusiastic students to join the malaria team in the Global Health Division of the Menzies School of Health Research, Charles Darwin University.

1. "Optimization and validation of novel ex vivo tools for the phenotypic characterization of drug resistant *Plasmodium vivax* malaria"

We are looking for a PhD student who is motivated to work on a project aiming to further develop and validate novel quantification techniques for the in vitro drug susceptibility of *P. vivax*, with the final goal to have a robust, reliable and preferably automated assay that is implementable in field laboratories in malaria endemic countries and will eventually facilitate the surveillance of drug resistant strains of P. vivax.

2. "Analysis of the Genetic Diversity in *Plasmodium vivax* Malaria Parasites"

An exciting PhD opportunity is available for an enthusiastic student to join the malaria team in the Global Health Division of the Menzies School of Health Research, Charles Darwin University, to study the genetic diversity of *P. vivax* malaria parasites. The project will provide the opportunity to learn a range of molecular laboratory and analytical skills, including experience of new whole genome sequencing technologies in collaboration with the Wellcome Trust Sanger Institute, Cambridge, UK. There will be opportunities to work with a collaborative network across the Asia-Pacific region, gaining first-hand field work experience to complement laboratory experience.

The ideal candidate will have a passion for molecular biology and epidemiology, willing to learn bioinformatics skills, and a desire to join a vibrant multi-disciplinary team undertaking translational research. In return, the project will provide the opportunity to learn a range of molecular biology and analytical skills, work with a collaborative network across the Asia-Pacific region, and gain field and laboratory research experience.

3. "Identification and validation of molecular markers of drug resistant *Plasmodium vivax* malaria"

We are looking for a PhD student embarking on a project aiming to identify and validate molecular markers of drug resistant *P. vivax* using a whole genome sequencing and genome-wide analysis approach. The data will provide the indispensible opportunity for mapping novel drug resistance candidates and eventually provide essential molecular markers for the surveillance of drug resistant *P. vivax*.

For further information contact:
Jutta Marfurt or Sarah Auburn
Phone: 08 8922 7918
Email:jutta.marfurt@menzies.edu.au, or

sarah.auburn@menzies.edu.au

Applications should include a covering letter, CV, academic history, details of two referees and certified copies of qualifications.

CSIRO Livestock Industries: PhD projects available in 2011

A population genetics-orientated PhD studentship opportunity exists working at Armidale NSW in close collaboration with the University of Melbourne. You will use modern molecular techniques, including next generation sequencing, to analyse migration and selection in parasitic nematodes which infect hosts of importance in an Australian context.

For further information please contact:

Peter Hunt, CSIRO McMaster laboratory, Armidale, NSW, Australia, Phone +61 2 6776 1321, Fax +61 2 6776 1333, email peter.hunt@csiro.au

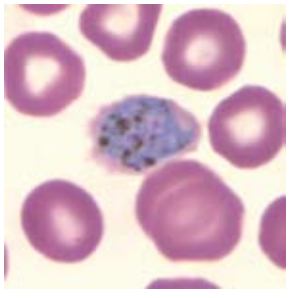
And, for more information regarding scholarships and PhD projects at CSIRO FD McMaster, please contact:

Dr Malcolm Knox, Ph: (02) 6776 1440 or email Malcolm.Knox@csiro.au

Please include the project number A1 when identifying your project preference on the PhD scholarship application form.

The completed application should be marked 'Confidential' with 2010/744 in the reference number field and submitted via the CSIRO Careers website (www.csiro.au/careers).

Closing date Friday 5 November 2010.



Plasmodium ovale parasite image courtesy Alyssa Barry.

ASMR Professional Development Day (PDD) "Steps to success: The key ingredients to running a successful research group"

ASMR would like to invite you to participate in this PDD to be run on Monday 15th November as part of the biannual Australian Health and Medical Research Congress (AHMRC) at the Melbourne Convention and Exhibition Centre in Melbourne.

This event is aimed at mid and early career researchers dedicated to a long lasting career and looking to achieve their full potential.

Facilitated by Dr Sarah Meachem our confirmed speakers are Stella Clark (CEO, Bio21 Cluster), Moira Clay (Telethon Institute), Maria Kavallaris (Children's Cancer Institute), James Whisstock (Monash University) and Andrew Sinclair (MCRI).

Our program covers

- Succeeding in Science

The key issues to running a successful research group including people management, building a functional team and conflict resolution (authorship, work ethic, personality clashes)

- Leadership skills

Are you ready for independence? What makes a good leader and what skills are required? This session will identify the funding strategies available to gain independence and will discuss the key factors in building the right team for you.

- Managing your team

This session will discuss how you can get the most out of your group and the importance of team building. How do you recognise and develop talent? Interactive activities and discussions will explore conflict resolution – within and beyond the team.

- Maximising your effectiveness

Mentoring is a key component in running a successful research program. This session will examine the importance in establishing a good mentoring relationship, what to look for in a mentor and how to be a mentor

For more information, or to register go to http://members.asnevents.com.au/register/event/1052 with reduced rates for ASMR members and congress participants.

CHANGE OF ADDRESS

If you have changed your address, title or name; or if there is a mistake in your mailing label, please fill out the details below and send them to:

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c/- 50 Kansas Drive
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Or Fax 03 9005 2824

Or Email: pwynn@internode.on.net

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ICOPA XII in pictures














From left to right starting at the top Terry Spithill (CSU) & prizewinner Rama Jayaraj (Menzies, NT); Terry Spithill & ASP Fellow Robin Gasser (Uni Melb); Alan Cowman & prizewinner Rowan Ikin (UTS); Terry Spithill & prizewinner Kate Richards (La Trobe); Terry Spithill & BMM recipient Leann Tilley (La Trobe); Terry Spithill & prizewinner Stephanie Godfrey (Flinders); prizewinner Philippe Boeuf (Uni Melb); Terry Spithill and the World Federation of Parasitologists committee; Terry Spithill & prizewinner Alison Knight (ANU); Denise Doolan (QIMR), John Sprent, Katharine Trenholme (QIMR), Malcolm Jones (Uni QLD), Mary Sprent; Terry Spithill & ASP Fellow Malcolm Jones (Uni QLD); Terry Spithill & prizewinner Tegan Dolstra (ANU); Alan Cowman and prizewinner Alana Zakrzewski (UTS);

ICOPA XII in pictures







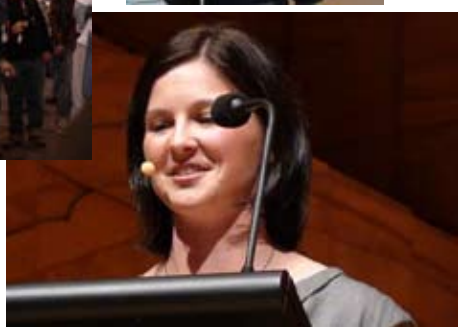






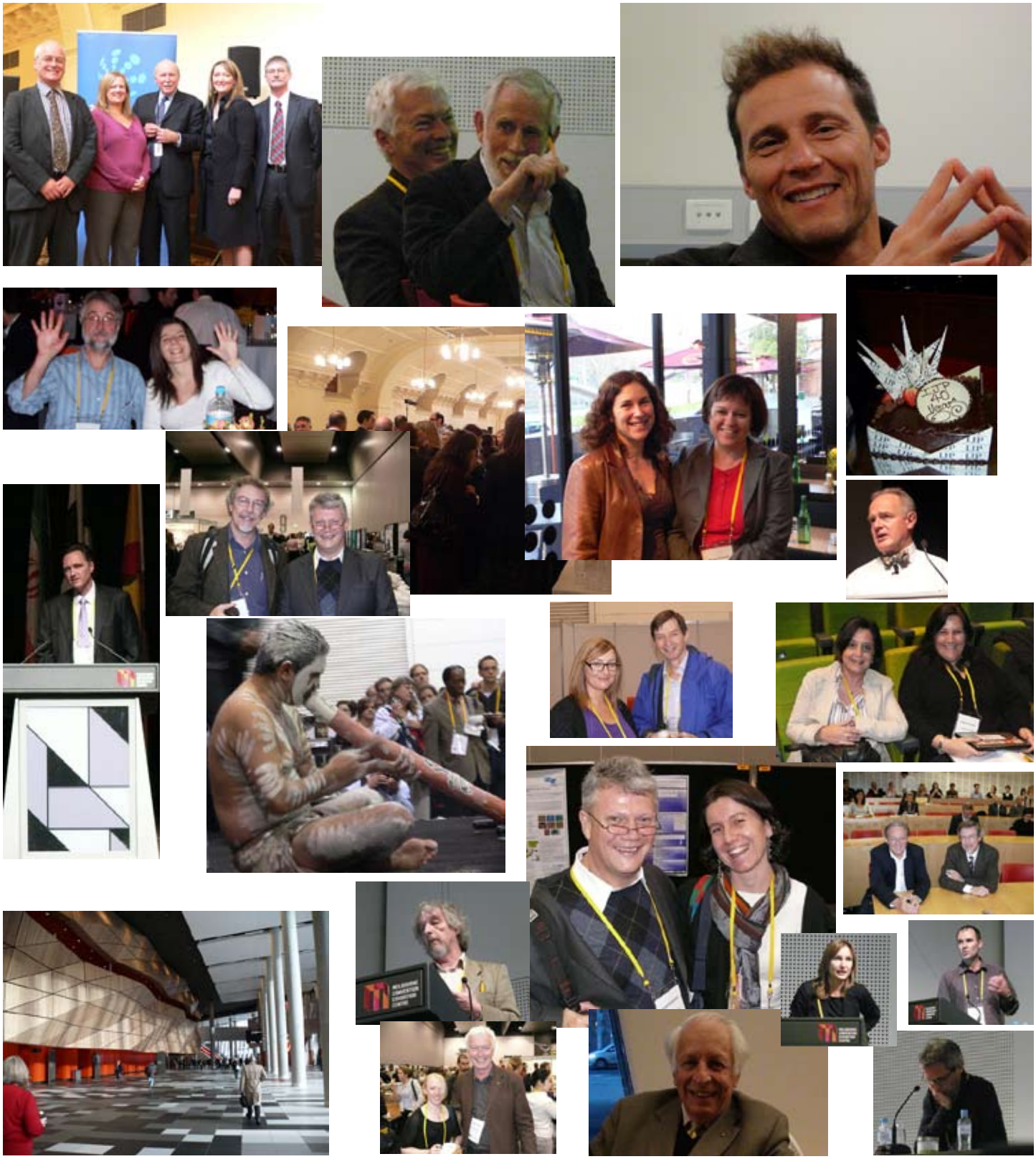







Left to right from top Ian Whittington & Kate Hutson; Nick Smith & Valery Coombes; Deb Holt; Alastair Craig & Lisa Jones; Shelley Walton & Vern Bowles; Robin Anders, Anthony Holder & Marshall Lightowlers; Sarah Catalano; Cesar, Emmanuel, Charlie & Cristian; Ian Whittington, Sarah Catalano, Kate Hutson, Leslie Chisholm, and Lesley Warner; David Jenkins; Tony Chiovitti; Philippe Boeuf & Nicaise Tuikue Ndam; Haylee Weaver enjoy ICOPA XII with other conference delegates

ICOPA XII in pictures



Left to right from top Simon Croft, Deborah Woods, Graham Mitchell, Michelle Gallagher, Wayne Best; Michael Good & Robin Anders; Kevin Lafferty; Robin Gasser & Cinzia Cantacessi; Lisa Jones & Maree Overall; Jonanthan Carapetis; Georges Grau & Louis Schofield; Marshall Lightowler; Stephen Rogerson; Valery Coombes; Nick Hunt; Louis Schofield & Celine Barnados; Georges Grau; Michael Good; Sir Gus Nossal enjoy ICOPA XII along with other conference participants.

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