

NEWSLETTER

Volume 24 Issue No. 2 August 2013

From the President's Desk

Dear Members,

In this, my final President's Report, I would like to thank members for their support of the Society during my tenure as President. Robin Gasser will assume the Presidency at the Perth AGM.

The 2013 ASP meeting / 24th International Conference of the World Association for the Advancement of Veterinary Parasitology is almost here. This meeting will be held 25th – 29th August in Perth. There have been more than 690 abstracts and 640 registrations to date, and 68 ASP Student Travel Awards. The final program is now available and includes a broad range of talks of interest by high calibre international and national speakers on single celled or multicellular parasites of medical, veterinary, wildlife or marine importance. The ASP has awarded Invited Lectureship Travel Grants to John Dalton, Susan Little, and Julie Fitzpatrick. Other international invited speakers include John Eckert, Yaowalark Skukthana, Paul Torgerson, Ronald Kaminsky, Norbert Menke, Adrian Hehl, Georg von Samson, Susan Kutz, in additional to stellar national speakers including Ian Beveridge and Brown Besier, Alan Lymbery and Andy Thompson.

There will also be a variety of parasitologybased entertainment as part of ASP Outreach including: Parasites in Focus (Saturday 24th August at Perth Zoo), Parasites and Pets, Parasites and You - What do you really think you know? (Sunday, 25th August, 5-6 pm, Perth Convention Exhibition Centre, Riverside Theatre), Profs, Pints and Parasites. Friends Without Benefits (Tuesday 27th August, at Aviary Rooftop Bar corner William St & Murray St Mall. 530pm onwards), "ASP Members Day Out" including the AGM (Wednesday 28th August, 2pm-5pm at Perth Zoo), and the Merial Conference Dinner (Thursday 29 August 2013, 7.00pm



- 11.30pm). For Early Career Researchers, don't forget the ECR Breakfast event Monday 26th August; as well as the Australian Wildlife Parasitology Workshop (organized by Amanda Ash) and the Bioinformatics and Phylogenetics workshop (organized by Terry Miller and Cinzia Cantanessi) on Sunday 25th August at Murdoch University.

On behalf of the Society, I want to thank Lisa Jones and Nick Smith for their work in Outreach and assisting in the conference organisation; as well as Peter Holdsworth (WAAVP President), Andy Thompson and Brown Besier (WAAVP Conference Co-Convenors) and the local Organising Committee including Alan Lymbery, Amanda Ash, Robert Dobson, Stephanie Godfrey, Russel Hobbs, Caroline Jacobson, Louise Pallant, and Dieter Palmer. Many thanks for your fantastic efforts!

A reminder to members that the 2013 ASP AGM will take place on Wednesday 28th August from 2pm at the Perth Zoo, as part of an "ASP Members Day Out". I encourage all members who are attending the WAAVP/ASP meeting to come along. Council will be meeting on Sunday 25th August.

I am honoured to advise members that

N THIS ISSUE

- 1 From the President's Desk
- 3 Student Prizes
- 4 ASP Invited Lectureships 2013
- 5 Outreach
- 6 Events
- 9 Funding for Liver Fluke and River Blindness
- 10 News from the ASP Network for Parasitology
- 12 Researcher Exchange Travel Award
- 14 OzEMalaR News
- 17 ANU Researcher News
- 18 International Journal of Parasitology (IJP)
- 19 IJP:PAW Feature Interview -Felicity Smout
- 20 IJP:DDR
- 20 Jobs
- 21 State News
- 24 ASP Council

From the President's desk continued

a new Fellow of the Australian Society for Parasitology will be announced at the AGM. Neither the Bancroft-Mackerras Medal nor the JFA Sprent Prize (three-yearly cycle) will be awarded this year.

In other Council news, efforts are continuing to establish the ASP Parasitology Course, with sub-committees now formed for structure of the course content and management with responsibility for funding/ sponsorship. Alex Maier has been appointed as the ASP Parasitology Course Convenor, and will be co-opted to the ASP Council as a non-voting Council member. The Course Content sub-committee consists of Geoff McFadden, Stuart Ralph, and Rob Adlard. The Management sub-committee (includes sponsorship & funding) consists of Kiaran Kirk, Denise Doolan, Kathy Andrews, Robin Gasser, Nick Smith, and Lisa Jones). It is intended that this Course will be introduced in 2014 to coincide with the 50th Anniversary of ASP. In consultation with the Working Group, the Executive is reviewing the budget and determining the level of financial commitment by ASP over the next 3-5 years in order to establish the ASP Parasitology Course.

Also well underway is the organization of the International Congress of Tropical Medicine and Malaria 2016 which will be held in Brisbane in September 2016. As members will be aware, this Congress will be co-hosted by the ASP and the Australasian Society of Infectious Diseases and the Executives of both Societies have met and discussed the finer points of the organization, including the preferred legal structure and selection of the Professional Conference Organiser (PCO). Please mark your calendar for this event!

It is very pleasing for Council to hear of the many and varied State Outreach events planned and undertaken by ASP members. There has been enormous creativity and enthusiasm associated with these events, and all members are encouraged to take advantage of these funds for your benefit.

On the topic of Outreach, I recently had the

privilege of opening the Parasites in Focus exhibition at the Queensland Museum, jointly launched with the Griffith University Eskitis Institute Living Colour photography exhibition. It was a great evening and two stunning exhibitions. I strongly encourage all Brisbane-based parasitologists to visit the exhibitions in the Collectors Co Collector's Cafe at the Queensland Museum, South Bank, for the next few weeks. See later in the newsletter for more coverage of this event.

As noted in the previous letter, at the 2013 MTM Council agreed to provide financial support to defray publishing costs for some papers submitted to the IJP sister journals, IJP: Drugs and Drug Resistance and IJP: Parasites and Wildlife, in order to help establish these journals. Upon discussion with the Executive, the Editors of JJP:DDR (Andrew Kotze and Kevin Saliba) and IJP:PAW (Andy Thompson and Lydden Polley) are currently formulating guidelines for additional flexibility in this support. We have also been informed that the application by IJP:DDR for indexation by Thomson has been approved; this is required for the journal to get an Impact Factor so is excellent news! Also in the works is a plan to promote visibility of IJP:DDR and IJP:PAW on the ASP website by advertising the journals in a similar manner to IJP. In other journal-related news, the impact factor of IJP has rebounded this year, from the slight dip experienced last year; congratulations again to Alex Loukas, Brian Cooke and the Editors and Editorial Board members of IJP, as well as IJP:DDR and IJP:PAW, for an excellent job in promoting parasitology.

I want to again extend my thanks, and those of the Veterinary Parasitology community, to Dave Emery and Ian Beveridge and all the authors for their fantastic effort over many years in creating an e-textbook for Veterinary Parasitology. Thanks and congratulations to Dave also for his successful application for funding support from MLA and AWI to defray the costs of the e-textbook. It will undoubtedly be a very valuable resource for both Australian and international parasitologists, and it is a credit to Australian parasitologists.

In closing, I would like to thank all the members of Council, as well as the various Committees, for their invaluable support during my term as President. I also want to thank all members for their feedback, enthusiasm and dedication. It has been a pleasure serving the Society and I look forward to future interactions.

Look forward to seeing you in Perth!

Best wishes Denise Doolan

Closing Dates for Awards

ASP Network Researcher Exchange, Travel and Training Award and JD Smyth Award Friday 29 November 2013

Bancroft-Mackerras Award

30 September 2013 (for award in 2014)

Sprent Award

30 September 2013 (for award in 2014)

ASP Fellowships

9 January 2013

For more information, visit the ASP website: www.parasite.org.au

Student Prizes

Undergraduate Prize Presentation at Macquarie University

The ASP is delighted to support an undergraduate prize for the Parasitology Unit at Macquarie University. This year the award was presented to Genevieve Kyi. In the picture below, Genevieve receives her prize from Mariella Herberstein, the Head of Biological Sciences at Macquarie.



\$400 Undergraduate Prizes

The Australian Society for Parasitology is pleased to announce that it will be offering undergraduate student prizes of \$400 each to Australian Universities identified as offering a suitable course in parasitology, for presentation to the best undergraduate student in parasitology (highest passing mark/grade).The course(s) must be taught by a financial member of the ASP (of more than one year standing), and must comprise at least 30% parasitology.

Requests for 2013 prizes must be made by the eligible University to the ASP Treasurer or Secretary by the 30th September 2013. Requests for prizes must include the following for each eligible course:

- 1. Course name/code/degree year
- 2. Number of Students enrolled in 2013
- Number of hours dedicated to parasitology (and total number of hours for the course)
- 4. Name of financial ASP member (of at least 1 year standing) teaching course

Australian Society for Parasitology Prize Presentations at the University of Sydney

As part of his NSW rep duties, Colin Stagg recently attended the Faculty of Veterinary Science Prize giving ceremony at the University of Sydney to present Claire Doyle (left) and Eloise Fogarty (right) with the Australian Society for Parasitology Prizes.

It was a great night and Colin is happy to report that the future looks bright for veterinary parasitology research in Australia based on the number of talented students receiving awards.





ASP Invited Lectureships 2013

WAAVP and ASP Conference 2013 ASP Invited Lectureship Itineraries

Professor John Dalton



Professor John Dalton is a Canada Research Chair in Infectious Diseases at the Institute of Parasitology, McGill University. He has a renowned research record in antimalaria drug design, vaccine development and development of novel, parasitederived immunotherapeutics. Professor Dalton has previously been the Bancroft Fellow in Residence at QIMR and has close collaborative links with a number of Australian researchers. His visit will enable him to continue to develop these collaborative links.

15-24 August

JCU, Cairns, Queensland (Alex Loukas/Nick Smith) University of Queensland and QIMR, Brisbane, Queensland (Malcolm Jones/Don McManus/Don Gardiner)

25-30 August

Murdoch Univ and WAAVP conference, Perth, Western Australia

31 August – 7 September

Univ Sydney, UTS, UWS, Sydney, NSW (Jan Slapeta/Sheila Donnelly/Colin Stack)

Professor Julie Fitzpatrick



Professor Julie Fitzpatrick is Chief Executive of the Moredun Group and Scientific Director of the Moredun Research Institute, one of the largest livestock parasitological groups in the world. Professor Fitzpatrick's research focuses on livestock health and disease, and food security, particularly in developing countries.

20 August

Peter Willadsen/CSIRO Brisbane, Queensland.

21st August

David Emery, Univeristy of Sydney.

22nd August

Malcolm Knox and Ian Colditz, CSIRO Armidale, NSW.

25-29 August

WAAVP, Perth, WA. Keynote presentation - "The Role of Veterinary Parasites and Parasitologists". Presentation - "Barbervax". Presentation at satellite workshop on "Contract Research Organisations"

31 August - 1 September

Sheep Veterinarian's Conference, Albany, Western Australia.

Professor Susan Little



Professor Little is Regents Professor and Endowed Chair in Veterinary Parasitology at the Center for Veterinary Health Sciences, Oklahoma State University, and former President of the AAVP. She has a very active research program focusing on tickborne diseases. Her visit will enable her to meet with research groups working on vector-borne diseases at the University of Melbourne, University of Queensland and Murdoch University.

15-16 August

Univ Melbourne, Melbourne, Victoria

19-20 August

University of Queensland, Brisbane, Queensland

22-29 August

Murdoch Univ and WAAVP conference, Perth, Western Australia

Outreach

The Eskitis/ASP photography exhibition at the Queensland Museum

Professor Denise Doolan, President of the ASP, and other members of the ASP Executive were present for the launch of the Eskitis/ASP photography exhibition on Wednesday 24th July at the Collector's Café Queensland Museum SouthBank Brisbane.

The program for the evening consisted of

- A welcome to the Museum and introductions of the speakers by Dr John Hooper, Head of Natural and Ancient Environments Program
- Introduction to the Eskitis Institute – Prof Ron Quinn, Director, Eskitis Institute
- Introduction to the Eskitis photo competition – Prof Alan Mackay-Sim, Director, National Adult Stem Cell Research Centre, Eskitis Institute
- Introduction to Parasites-in-Focus images – Prof Denise Doolan, President of the Australian Society for Parasitology











Outreach continued

Tommy Leung at the Taranaki Young Conservationists Club.

While Dr Tommy Leung was visiting New Plymouth, on the North Island of New Zealand, his collaborator suggested that he give a talk on parasites to the Taranki Young Conservationists Club. A picture from the event and the event flyer are shown below.



Outreach Funding

ASP members are encouraged to apply for ASP funding to suport outreach in their state. Up to \$500 per event is available with a total per state or territory of \$2000 per calendar year. Proposals are to be submitted for consideration by State Representatives. Initiatives should foster outreach by members and advance the field of parasitology. This pool of funds has not yet been widely accessed and ASP President Denise Doolan would like to emphaises that the funds can be used to support a wide range of activities - from seminars, symposia atc to "beer and nibbles" networking sessions of State members or any other parasitology-related event.

Proposals are to be submitted for consideration by State/Territory Representatives.

Events

The ASP now has a Google+ account and will use it for live streaming of events.

The ASP has a Google + page. We'll be doing live streaming of public events from this page. There's one coming up on Sunday 25th August, called "Parasites and Pets, Parasites and You" – details are shown on the flyer that follows. To watch the stream you'll need a Google+ account. If you miss out on the live event you'll be able to watch it via the ASP youtube channel.

The ASP's Google Plus account is here:

https://plus.google.com/100938254649203 422506#100938254649203422506/posts



The ASP's resident social media guru, Dr Tommy Leung of the University of New England, explains Google+ and live streaming on this quick video introduction:

http://www.youtube.com/watch?v=Ot7clzY-I6c





The Australian Society for Parasitology will hold our joint "Inspiring Australia" public events in Perth with our partners Perth Zoo, Scitech and Murdoch University and would love you, your friends and family to join us:

Parasites in Focus

Join us on Saturday 24th August 2013 at Perth Zoo for an adventure through the fascinating world of parasites with activities suitable for everyone to enjoy, and an opportunity for zoo patrons to get "under the skin" of Australia's parasitologists. Cost: entry into Perth Zoo.

Parasite images courtesy of Cath Covacin, Stephen Barker and Rick Webb, University of Queensland.

This Inspiring Australia initiative is supported by the Australian Government through the Department of Industry, Innovation, Science, Research and Tertiary Education in partnership with the Australian Society for Parasitology Inc., Scitech, Murdoch University and Perth Zoo



Parasites and Pets. Parasites and You -What do you really think you know?

Free public event for the whole family Sunday, 25th August, 5-6 pm, Perth Convention **Exhibition Centre, Riverside** Theatre.

Can parasites really burrow through your skin or be a cure for gut diseases? Join our lively talk about parasites and book the children into our "Young parasites science club" free, fun, supervised science activities for young scientists during the presentation. Bookings essential:

An Australian Government Initiative

PerthZoo

SAVING 🐳 WILDLIFE

Profs, Pints and Parasites. **Friends Without Benefits.**

Tuesday 27th August, at Aviary Rooftop Bar cnr William

St & Murray St Mall. Doors and bar open at 5.30pm with the banter kicking off from 6-8pm. From evolution and environment to why you need to "watch your orifices" with new threats on the block - parasites play a far more important (and horrifying) role in the world than you have ever imagined...Follow the twitter feed #profsandpints **Cost: Free entry.**

www.petparasites.eventbrite.com.au





www.thehiddenzoo.wordpress.com

Australian Society for Parasitology in association with Scitech presents...

AND PARASITES

Friends Without Benefits.

Held at The Aviary Lounge for one night only, top thinkers from the fascinating and frightening realm of Parasitology will take the people of Perth on a journey through curious and contentious challenges currently rousing debate in science today.

From evolution and environment to why you need to "watch your orifices" with new threats on the block – parasites play a far more important (and horrifying) role in the world than you have ever imagined...

Featuring:

Prof Peter O'Donoghue, Professor in Parasitology, The University of Queensland

Dr Stephanie Godfrey, DECRA Postdoctoral Fellow, Murdoch University

TUESDAY 27 AUGUST AVIARY LOUNGE BAR



FREE

DOORS AND BAR OPEN AT 5.30PM WITH THE BANTER KICKING OFF FROM 6-8PM









Funding for Liver Fluke and River Blindness

Professor Terry Spithill of La Trobe University will lead a just-funded quarter of a million research project to develop a new vaccine against liver fluke.

The Australian Research Council supported project is being carried out in collaboration with the specialist animal health company Virbac (Australia) Pty Ltd.

The research is aligned with one of La Trobe University's new Research Focus Areas (RFAs) Securing Food, Water and the Environment.

Liver fluke is a parasite that is endemic, mainly in sheep and cattle pastures in south-eastern Australia.

It also affects pigs, goats, alpacas and deer, as well as humans who live in fluke-infested



areas.

It costs more than \$3 billion globally per year in lost production, stock deaths, as well as treatment costs and prevention.

Professor Spithill is also co-Director of AgriBio, Victoria's new \$288 million Centre for AgrioBioscience, which opened recently on La Trobe University's Melbourne Campus at Bundoora.

He says the liver fluke parasite is developing

resistance to drugs currently used to fight the disease.

'This represents a substantial threat to our ability to control the parasite, with a consequent impact on economic productivity in rural communities.'

Using cutting-edge technologies, Professor Spithill and his team will target a complex of the parasite's proteins also known as 'tegument proteins' to try and develop the new vaccine.

The research team includes Dr Glenn Anderson and Dr Robert Dempster from Virbac (Australia) Pty Ltd based in Sydney.

Source: La Trobe Unversity. To read a transcript of Terry Spithill's interview on 3RRR or to listen to the podcast, please visit <u>http://www.latrobe.edu.au/news/</u> podcasts/transcript?mode=results&gueries id_guery=250292

Dr Warwick Grant of La Trobe University is one of only two Australians among 58 scientists world-wide recently awarded a \$100,000 Grand Challenges Explorations grant from the Bill and Melinda Gates Foundation

With more than 120 million people at risk from a chronic debilitating parasitic disease called river blindness, his ground-breaking global health research focuses on a new method for evaluating the effectiveness and safety of drugs that might be able to eradicate this disease.

Dr Grant says currently there are no laboratory models with which to test new drugs against river blindness before they are used in clinical trials on humans.

He plans to develop one based on a parasite that infects an Australian bush rat found on the east coast near the Victorian and New South Wales border. The parasite – spread by ticks and first described 30 years ago by a CSIRO scientist – causes a disease in rats very similar to river blindness in humans. Dr Grant will collect and transfer this parasite into laboratory rats.

Establishment of the parasite in the laboratory rat will create a model in which it will be possible to screen candidate drugs to replace ivermectin which has been used successfully in a mass distribution campaign



initiated by the World Health Organisation over the past 25 years in Africa, preventing 40 million people from being infected with the parasitic worm that causes the disease.

Dr Grant says river blindness is caused by a parasitic nematode called *Onchocerca volvulus* which is transmitted by a tiny blood-sucking fly that bites humans.

"Ivermectin prevents the disease by killing juvenile worms,' he says, 'but it does not kill adult worms, and many rounds of treatment with ivermectin treatment are required before adult worms eventually die of old age and transmission stops. The drug also cannot be used in areas where there is potential co-infection with other parasites.'

News from the ASP Network for Parasitology

Congratulations to recent grant winners listed at the end, we are currently putting together the 2012 ASP Annual Report and parasitology research in Australia continues to look strong. Don't forget to send in all of your researcher news, media and outreach participation and great images for inclusion in our newsletter and Annual Reports.

2013 Conference

The ASP again will be offering some great opportunities for ASP Student Members and Early Career Researchers at WAAVP2013, and we also have an exciting series of "Inspiring Australia" & ASP public events planned. All events are detailed below. Book early so that you don't miss out! We are looking forward to seeing many of you at WAAVP2013 in Perth and for those who are social media savvy...Follow the twitter feed #waavp2013

ASP & Murdoch University Workshops for Early Career Researchers, Sunday August 25th at Murdoch University

Cost: \$50 ASP members, \$150 nonmembers includes bus transfers between Perth Convention Centre and Murdoch University

Time: This will be a full-day workshop time 830am-415pm with the coach collecting workshop attendees at 800am outside of the Perth Convention Centre (please be 10 minutes early) Maximum number of participants 30 (per workshop)

If you have already registered for WAAVP2013 then you will need to email Lynne Greenaway lynne.greenaway@ eecw.com.au and she can add the workshop (1 or 2)to your registration

Workshop 1 Australian Wildlife Parasitology

The aim of the workshop is to provide theoretical and practical information of what we know (and don't know) about parasites in wildlife – specifically in our unique Australian wildlife.

The morning session will feature guest speakers from both the Murdoch University parasitology group and external collaborators, who are expert in the areas of:

• The biology and ecology of Australian wildlife. This will provide an introduction into the uniqueness of our native fauna, of which both local and international delegates should find equally fascinating

• The parasites of Australian wildlife and how they are similar or dissimilar to those more commonly found in other parts of the world

• The diagnostic approaches used to identify these parasites. In particular how the use of traditional microscopy techniques and modern molecular tools can best work in tandem.

The afternoon practical session will give participants the opportunity to try their hand at locating and identifying parasites from some of our native Australian fauna.

Workshop 2 Bioinformatics and Phylogenetics

This workshop will introduce students to some of the basics behind modern techniques used to edit and annotate nucleic acid sequence data (including those generated using next-generation sequencing), produce robust alignments, perform some of the most commonly used phylogenetic inference algorithms and edit the resulting phylograms for publication. Whilst presenters will introduce students to and provide information on the theories underpinning the analyses, the goal of this short course is to provide a practical framework for taking the students own DNA sequence data from the sequencer to publication. Much of this course will involve handson work (i.e. sitting in front of a computer analysing data) and students are encouraged to bring their own data, although datasets will also be provided.

ECR Breakfast event Monday 26th August

All Early Career Researchers (awarded a PhD within 5 years) and students attendinf WAAVP 2013 are invited to the ECR Breakfast event. The ECR Breakfast will be held on Monday 26th August, kicking off bright and early at 6:45am UNTIL 8am. The Perth Convention and Exhibition Centre (PCEC). This event will be hosted by the Australian Society for Parasitology and will include a buffet breakfast. ASP members, Dr Cinzia Cantacessi (James Cook University) and Dr Terry Miller (James Cook University) will lead a program packed full of great advice for furthering your career in science. But, just as importantly, the ECR Breakfast will give to a chance to meet a group of like-minded researcher and tell them about your work and interests in a "speed-dating" format so that you will have new friends and allies from the beginning of the conference and, perhaps, through the rest of your careers. It's a networking opportunity not to be missed. And it's free! Places are limited reserve your ticket by Monday 19 August. **BOOK NOW**

"ASP Members Day Out"

The 2013 ASP AGM will take place on Wednesday 28 August 2013 from 2pm at Perth Zoo as part of our "ASP Members Day Out". Please meet at the ASP stand at 2pm at PCEC for transportation to Perth Zoo. Approximate finish time will be 5pm and you will be transported back to PCEC in the city. There is no additional cost to ASP Members to be part of the ASP Members Day Out, but please e-mail lisa.jones1@jcu.edu.au to book your seat on the bus.

Public Outreach Events

The Australian Society for Parasitology will hold our joint "Inspiring Australia" public events alongside the WAAVP Conference in Perth and would love you, your friends and family to get involved and come along. Download a flyer for Perth Public Events:

Parasites in Power: The Hidden Zoo

Join us on Saturday 24th August 2013 at Perth Zoo for an adventure through the fascinating world of parasites with activities suitable for everyone to enjoy, and an opportunity for zoo patrons to get "under the skin" of Australia's parasitologists. Cost: entry into Perth Zoo. www.thehiddenzoo.wordpress.com

Parasites and pets, Parasites and You – What do you really think you know?

Free public event for the whole family Sunday, 25th August, 5-6 pm, Perth Convention Exhibition Centre, Riverside Theatre. Can parasites really burrow through your skin or be a cure for gut diseases? Join our lively talk about parasites and book the children into our "Young parasites science club" * free, fun, supervised science activities and "Barn Babes" petting zoo for young scientists during the presentation. Free parasite check for the first hundred people to register* to bring in a pet poo sample, register now to receive further instructions. Follow the twitter feed #waavp2013 Event cost: Free. *Bookings essential by August 22: petparasites. eventbrite.com.au

Profs, Pints and Parasites. Friends Without Benefits.

Tuesday 27 August evening, at Aviary Rooftop Bar cnr William St & Murray St Mall. Doors and bar open at 5.30pm with the banter kicking off from 6-8pm. From evolution and environment to why you need to "watch your orifices" with new threats on the block – parasites play a far more important (and horrifying) role in the world than you have ever imagined... Follow the twitter feed #profsandpints Cost: Free entry.

ARC Linkage Project Grants

Congratulations to the most recent recipients of ARC Linkage Project Grants – ASP members won over \$2.5 million of new research funding in the latest round of the scheme that links academic researchers with industry partners:

Spithill, Prof Terence W; Anderson, Dr Glenn R; Dempster, Dr Robert P;

Development of a novel vaccine targeting parasite tegument proteins for liver fluke disease in livestock; LaTrobe University and Virbac (Austrlaia) Pty Ltd.

Gasser, Prof Robin; Jex, Dr Aaron R; Gilbert, A/Prof Jack A; Haydon, Dr Shane R; Stevens, Dr Melita;

Establishing next-generation technology platforms for the detection and monitoring of microorganisms in Melbourne water catchments; The University of Melbourne and Melbourne Water Corporation.

Gasser, Prof Robin; Pozio, Dr Edoardo; Young, Dr Neil D; Boag, Dr Peter R; Sternberg, Prof Paul W; Chang, Dr Bill C; Harnessing next-generation technologies to tackle major food-borne parasites and design new interventions; The University of Melbourne and YourGene Biosciences Australia Pty Ltd.

Capon, Prof Robert J; Knowles, Dr Aleta G; *Antiparastic agents to safeguard Australian livestock;* The University of Queensland and Eli Lilly Australia.

Irwin, A/Prof Peter J; Ryan, Prof Una M; Bunce, A/Prof Michael; Banks, A/ Prof Peter; Gilbert, Prof Marcus T; Rees, Dr Robert L; Mencke, Dr Norbert **R**; Troublesome ticks: a new molecular toolkit to investigate zoonotic tickborne pathogens in Australia; Murdoch University, Bayer Australia Ltd and Bayer HealthCare.

Ryan, Prof Una M; Haile, Dr James; Halliwell, Dr David J; Ball, Dr Andrew; Bath, Dr Andrew; Xiao, Dr Lihua;

Innovative approaches to understanding and limiting the public health risks of Cryptosporidium and Giardia in animals in Australian catchments. Murdoch University, Centres for Disease Control and Prevention, USA, Water Quality Research Australia Ltd, Water Corporation of WA, and Sydney Catchment Authority.

Thompson, Prof Richard C; Godfrey, Dr Stephanie S; Lymbery, Dr Alan J; McCallum, Prof Hamish I; Morris, Mr Keith D; Wayne, Dr Adrian F; The ecology of parasite transmission in fauna translocations; Murdoch University and WA Department of Environment and Conservation.

Nick Smith Convenor, ASP Network for Parasitology

Lisa Jones Communications Coordinator

Closing date in 2013 for ASP Network for Parasitology Travel Awards

Friday 29 November 2013

Researcher Exchange Travel Award

Sarah Catalano, a PhD candidate at the University of Adelaide, describes her researcher exchange to the Santa Barbara Museum of Natural History (SBMNH), California, USA.

This program allowed me to capitalize on my visit to North America, where I firstly attended and presented at the 88th Annual Meeting of the American Society of Parasitologists held in Quebec City, Canada. I was awarded a meritorious student prize for my presentation on dicyemid research in Australian waters, and subsequently invited by Prof Armand Kuris to give a presentation to his lab group at the University of California, Santa Barbara (UCSB), while visiting the SBMNH. This was an exciting and unexpected outcome which I accepted with delight. For my visit to the UCSB, I was given a tour of the campus, met undergraduate and graduate students in the lab group and learnt about their studies, presented my research on dicyemid parasites and explored possibilities for future projects and collaborations with Prof Kuris and his research team. Such an unanticipated opportunity would not have been possible without funding provided by the ASP for travel to Santa Barbara in the first instance.

The main purpose of my trip was to examine the extensive dicyemid type and voucher collections at the SBMNH. Over the past six months, the collection has been catalogued and systematically arranged, although a large proportion still included material of uncertain standing and without identification to genera and species. Upon examination of this material, I believe two previously described genera within Dicyemida are not valid. A manuscript will be drafted to explore this finding, with the possibility of molecular tools also being incorporated to support this notion.

Additionally, I was able to provide Dr Geiger with identifications on dicyemid species that were previously unknown. As the collection is extensive and not all material could be examined during my stay, Dr Geiger has offered to loan material for further examination on my return to Adelaide. A proportion of the collection also contains material from cephalopod species that have not been described. This material will be included in loans and new species descriptions will be drafted and published.

A final outcome of this visit to SBMNH was having the opportunity to meet and liaise with Dr Eric Hochberg, who has studied dicyemid parasites for over 35 years. Dr Hochberg has recently retired from the Museum, however he has a wealth of knowledge about this group and was enthusiastic and willing to share this information with me. He provided me with his personal notes on the standings and classifications of each genera, as well as access to older, obscure literature and notes by a past author, Dr Robert Short, who described the first dicyemid species from the southern hemisphere (New Zealand). We also discussed theories on the unknowns in the dicyemid life cycle and how transmission to the next host individual may occur. Dr Hochberg was in charge of managing and updating the webpage on Dicyemida in the World Register of Marine Species (WoRMS), however due to his retirement, he feels this is an obligation he can no longer fulfill. He offered this role over to me and it will now be my responsibility to ensure this list is frequently updated and reflects the valid taxonomic entities within Dicyemida.

This research exchange has been nothing short of amazing! As I approach the end of my postgraduate studies, I am eagerly exploring the possibility of postdoctoral research. This research exchange has opened the door for me to overseas collaborations and allowed me to 'market' myself to an international network of researchers. In line with the aims of the ASP, the research exchange has definitely helped me to promote and facilitate interactions between colleagues, peers and potential research partners as well as create future professional development opportunities.













Above: The entrance to the Santa Barbara Museum of Natural History

Previous page left to right: Sarah Catalano with Dr Eric Hochberg, Prof Armand Kuris and Dr Daniel Geiger

This page left: examination of type and voucher dicyemid material at the Museum.

OzEMalaR

News about Australia/Europe Malaria Research Cooperation

MIM 2013 : Malaria in Melbourne

Our Melbourne-based malaria community are gearing up to run Malaria in Melbourne 2013 which is open to all researchers with an interest in malaria. The meeting is focused on showcasing Australia's next generation of malaria researchers, highlighting the important contributions they make toward combating this debilitating disease. Malaria in Melbourne 2013 (MIM 2013) is firmly focused on Australia's next generation of researchers giving them the opportunity to present their work and provide a forum to begin new collaborations. MIM 2013 will be held on the 14th - 15th October 2013 at the Alfred Medical Research and Education Precinct (AMREP), The Alfred Hospital, Melbourne, Australia.

Early Bird Registration and Abstract submission closes 31st August.

http://parasite.org.au/mim/

OzEMalaR Travel Award winners

Congratulations to our latest OzEMalaR Travel Award winners:

- Dr Ming Kalanon, Postdoctoral researcher, School of Medicine, Deakin University for a Research Exchange with Prof. Robert Menard laboratory at Institut Pasteur, in France.
- Mr Lee M Yeoh, PhD student, University of Melbourne for a Training program EMBL-EBI/Wellcome Trust Summer School in Bioinformatics at Wellcome Trust Genome Campus, Hinxton, Cambridge, UK.

OzEMalaR funding runs until the end of 2014 and we want to see lots of applications in the next two years to make the most of such a fantastic opportunity.

The deadlines for 2013/14 OzEMalaR Travel Awards are:

Friday 13 September 2013 Friday 15 November 2013 Friday 10 January 2014

Visit our website www.ozemalar.org to find out how you can apply for OzEMalaR Travel Awards to support early career malaria researchers (PhD and postdocs) from Australia to work and be trained in top European laboratories within EviMalaR (=BioMalPar) for malaria research. To check which laboratories are eligible as hosts visit www.evimalar. org.uk

Download funding guidelines from the OzEMalaR website and start planning your researcher exchanges to utilise this great opportunity. We hope to see lots of new applications in 2013 & 2014.

For example, researchers wanting to join the Malaria Experimental Genetics (Advanced course) 9-15 February 2014 desribed below.

If you are not currently but would like to be part of the OzEMalaR Network please contact Lisa with your details. Please email Lisa with any news, jobs or events you have for the website (lisa.jones1@jcu.edu.au) or with your comments and suggestions.

Please email Lisa with any news, jobs or events you have for the website (lisa.jones1@jcu.edu.au) or with your comments and suggestions.

Geoff McFadden Convenor, OzEMalaR

Malaria Experimental Genetics

9-15 February 2014 Wellcome Trust Genome Campus, Hinxton, Cambridge

This laboratory-based advanced course will give participants a working knowledge of and practical experience in cutting edge Plasmodium experimental genetics techniques, from designing gene targeting vectors and creating transgenic parasites to phenotyping the strains that result. The goal is to facilitate the participants' own research careers by exposing them to state-of-the-art experimental approaches, while discussing the advantages and limitations of each approach.





Website: http://www.wellcome.ac.uk/Education-resources/Courses-and-conferences/Advanced-Courses-and-Scientific-Conferences/Advanced-Courses/WTVM051209.htm

Call for volunteers as malaria vaccine hopes rise

A vaccine which could spell the end of the scourge of malaria may finally be within reach.

Researchers at Griffith University's Institute for Glycomics have been able to induce malaria immunity in animals and are now poised to advance first-stage human trials.

New research approach

Professor Michael Good said the research team had taken a new approach to creating a vaccine for malaria; the mosquitoborne disease which afflicts a quarter of a billion people around the world. One million sufferers die each year and the vast majority of those are children under the age of five.

"Previous studies have focused on individual antigens on the parasite or in the infected red blood cell, and while some of these studies showed promise none translated to success in late-stage clinical trials," Professor Good said.

"We have taken a different approach by working with an immune response to the whole malaria parasite.

Malaria parasites were treated in the test tube with a chemical which blocked the ability of the parasite to multiply and so when given to mice they did not get sick.

"To our great surprise we found that those animals were then protected, not just against the same strain of malaria parasite they were treated with, but against every strain we exposed them to," Professor Good said.

Towards human clinical trials

"While this study was undertaken in laboratory animals, we believe these results provide a compelling rationale for testing a vaccine targeting human malaria parasites.

"One of the most exciting findings in this study is that the vaccine protected against multiple strains of malaria as this has been the greatest obstacle to date in developing an effective vaccine. The vaccine will also be very cheap to make."

The study findings have been published online in "Crossspecies malaria immunity induced by chemically attenuated parasites" for the leading international journal, The Journal of Clinical Investigation.

Director of the Institute for Glycomics, Professor Mark von

Itzstein said the research team had produced outstanding results.

"This is a very significant advance in our understanding of malaria and the potential for preventing infection in humans," Professor von Itzstein said.

"I am delighted to see this world-leading research now progressing to human clinical trials and I join in the call for volunteers to take part."

Volunteers needed

There are stringent suitability requirements so not everyone who would like to volunteer will be able to do so. As the trials will be conducted on the Gold Coast, volunteers will need to live in South East Queensland so they can be monitored daily, but the rewards may be greater than anyone can imagine.

"There are currently 247 million cases of malaria across 109 different countries," Professor Good said.

"Of the million sufferers who die each year, 85 per cent are young children who are simply not strong enough to fight off the killer parasite. If this vaccine works, the world will be a very different place."

Anyone wanting to become a volunteer should contact Dr Danielle Stanisic who is leading the clinical trial. Her email is: <u>d.stanisic@griffith.edu.au</u>.

Cross-species malaria immunity induced by chemically

attenuated parasites Michael F. Good, Jennifer M. Reiman, I. Bibiana Rodriguez, Koichi Ito, Stephanie K. Yanow, Ibrahim M. El-Deeb, Michael R. Batzloff, Danielle I. Stanisic, Christian Engwerda, Terry Spithill, Stephen L. Hoffman, Moses Lee, Virginia McPhun *J Clin Invest*. 2013; doi:10.1172/JCI66634

http://www.jci.org/articles/view/66634?key=c4d24ede72f2d54f5147&ti cket=ST-1372334694rF7D1DE868E8C1FB2DE

Story Source: Griffith University <u>http://www.griffith.edu.au/</u> This story featured in The Australian July 02, 2013 <u>http://www.</u> <u>theaustralian.com.au/higher-education/australian-malaria-vaccine-</u> <u>promising/story-e6frgcjx-1226671593776</u>

No idle chatter: study finds malaria parasites 'talk' to each other

Researchers at WEHI have made the surprise discovery that malaria parasites can 'talk' to each other – a social behaviour to ensure the parasite's survival and improve its chances of being transmitted to other humans. The finding could provide a niche for developing antimalarial drugs and vaccines that prevent or treat the disease by cutting these communication networks.

Professor Alan Cowman, Dr Neta Regev-Rudzki, Dr Danny Wilson and colleagues from the Walter and Eliza Hall Institute in collaboration with Professor Andrew Hill from the University of Melbourne showed that malaria parasites are able to send out messages to communicate with other malaria parasites in the body. The study was published recently in the journal *Cell*.

Professor Cowman said the researchers were shocked to discover that malaria parasites work in unison to enhance 'activation' into sexually mature forms that can be picked up by mosquitoes, which are the carriers of this deadly disease.

"When Neta showed me the data, I was absolutely amazed, I couldn't believe it," Professor Cowman said. "We repeated the experiments many times in many different ways before I really started to believe that these parasites were signalling to each other and communicating. But we came to appreciate why the malaria parasite really needs this mechanism – it needs to know how many other parasites are in the human to sense when is the right time to activate into sexual forms that give it the best chance of being transmitted back to the mosquito."

Dr Regev-Rudzki said the malaria parasites inside red blood cells communicate by sending packages of DNA to each other during the blood stage of infection. "We showed that the parasites inside infected red blood cells can send little packets of information from one parasite to another, particularly in response to stress," she said.

The communication network is a social behaviour that has evolved to signal when the parasites should complete their lifecycle and be transmitted back to a mosquito, Dr Regev-Rudzki said. "Once they receive this information, they change their fate – the signals tell the parasites to become sexual forms, which are the forms of the malaria parasite that can live and replicate in the mosquito, ensuring the parasites survives and is transmitted to another human."

Professor Cowman said he hopes to see the discovery pave the way to new antimalarial drugs or vaccines for preventing malaria. "This discovery has fundamentally changed our view of the malaria parasite and is a big step in understanding how the malaria parasite survives and is transmitted," he said. "The next step is to identify the molecules involved in this signalling process, and ways that we could block these communication networks to block the transmission of malaria from the human to the mosquito. That would be the ultimate goal."

Story and picture (showing Professor Alan Cowman and Dr Neta Regev-Rudzki) courtesy of WEHI



ANU Researcher News

Tilo Fobes & Renate Zelger report on a fruitful retreat for the parasitology groups at ANU.

The idea for a joint retreat of the Parasitology groups at ANU had been hanging around longer than a dormant liver stage of *P. vivax*. While the three malaria research groups at the Research School of Biology have their strengths in "Ion regulation" (Kirk), "Physiology, Biochemistry and Pharmacology" (Saliba) and "Membrane Transporters" (Martin) in the parasite, the addition of the Maier and van Dooren Labs added expertise in "Functional Genomics" and "Cell Biology of Toxoplasma", respectively. The final and most recent addition of the Cockburn lab to the John Curtin School of Medical Research finally establishes enough critical mass to launch the first retreat of these Apicomplexan researchers at ANU.

So it was on a usually cold winter morning that we made our way to the lovely coastal escape that is the ANU campus in Kioloa on the NSW south coast.

From arrival it went straight to the conference rooms, where the groups showcased their recent results and overviews as well as pondering on "BIG Questions in Parasitology".

Lunch breaks and afternoon tea were catered by the local restaurant and provided energy to go the whole day.

The evening was capped off by a beautiful barbeque and some drinks with lively discussions.

After the morning run we went back to plan out more alliances fleshing out the synergy between the groups.

In the wilderness of Kioloa the enthusiastic parasitologists even discovered new species of parasites. Most of them were only seen for a short moment, before they vanished again. We were able to catch and categorize at least one. The parasite was named *Trypanosoma marshmellowa*, showing the main characteristics of the genus *Trypanosoma*: the flagella, the clearly visible nucleus and kinetoplast. During the short research on the new species we already found the best way for eradication: putting in on a stick and holding it into the fire pit.

Apart from scientific discussions there was also room for social interactions. In addition to offering a great conference venue, the ANU Kioloa campus provided a beautiful backdrop for an afternoon on the beach.



The weather was in our favour with around 20 degrees and the bravest of us jumped into the water for a swim or surf, while others explored the surrounding forests on mountain bikes.

To satisfy a bunch of competitive scientists a beach frisbee game was on the program. After a few points of training the proper game started and it became a hard fight until the very end with a close win of the better team (and no severe casualties).

Finally, there was a trivia night about research papers and figures as well as identifying old and young scientists from the field.

We must say that the retreat was a great success, both scientifically and personally, with uncovering many new avenues to explore for the ANU parasitology contingent in Canberra.



www.parasite.org.au

IJP



INTERNATIONAL JOURNAL FOR PARASITOLOGY

April 2013

Lynda M Curtis, Alexandra S Grutter, Nico J Smit, Angela J Davies, *Gnathia aureamaculosa*, a likely definitive host of *Haemogregarina balistapi* and potential vector for *Haemogregarina bigemina* between fishes of the Great Barrier Reef, Australia

Sejal Gohil, Lev M Kats, Torsten Seemann, Kate M Fernandez, Ghizal Siddiqui, Brian M Cooke, **Bioinformatic prediction of the exportome of Babesia bovis** and **identification of novel proteins in parasite-infected red blood cells**

May 2013

Invited Review

Jessica C. Kling and Heinrich Körner, Different regulatory mechanisms in protozoan parasitic infections

June 2013

Succinctus

Holman C. Massey, Jr, Najju Ranjit, Jonathan D. Stoltzfus, James B. Lok, *Strongyloides stercoralis* daf-2 encodes a divergent ortholog of *Caenorhabditis elegans* DAF-2

August 2013

Lígia Pizzatto, Crystal Kelehear, Richard Shine, Seasonal dynamics of the lungworm, *Rhabdias pseudosphaerocephala*, in recently colonised cane toad (*Rhinella marina*)

populations in tropical Australia

Manuel Rodriguez-Valle, Paula Moolhuijzen, Emily K. Piper, Olivia Weiss, Megan Vance, Matthew Bellgard, Ala Lew-Tabor, *Rhipicephalus microplus* lipocalins (LRMs): Genomic identification and analysis of the bovine immune response using in silico predicted B and T cell epitopes

Special Issues for publication in late 2013 and early 2014

November 2013 - Zoonoses

February 2014 - 12th International Congress on Toxoplasmosis

Elsevier's Postdoc Free Access Program

Elsevier have sent the ASP a link to their "Postdoc free access program". This program is aimed at recent PhD researchers who are currently without a job, providing them access to Science Direct for up to 6 months for free. Please click on the link below or copy and paste into your browser.

http://www.elsevier.com/authors/an-opportunity-for-postdoctoral-scholars.

A Special request

Ian Beveridge and Abdul Jabbar are on a mission to collect all hard copies of IJP. They are missing the following volumes (issues) and would like to hear from anyone who can supply these copies:

Volumes 17(all issues), 18 (all issues), 19 (all issues), 20 (all issues), 21 (4), 22(3,4), 24 (3,8), 27(5), 31(3,11,14), 32(1,2,3,4,5,8,9,10,12,13,14) and 33(1,3)

Please email Abdul if you can help jabbara@unimelb.edu.au

IJP:PAW Feature Interview

Felicity Smout's recent paper in IJP:PAW on Ancylostoma ceylanicum in wild canids is a direct result of ASP Travel Award support given to Felicity by the ASP last year for her molecular work at Murdoch University. Felicity talks to Lisa Jones about her parasitic nematode research.

LJ: Tell us about the history of your parasitic nematode *Ancylostoma ceylanicum* research.

FS: My original PhD project was to determine the disease burden of wild dogs in the Wet Tropics of North Oueensland and the mechanisms and risk of transmission of diseases of wild dogs to wildlife, domestic animals and humans. I have expanded upon this to include investigations into Indigenous communities and camp dogs and their associated diseases. As Ancylostoma ceylanicum had recently been reported in domestic dogs in Australia and given its potential to cause a patent infection in humans, I was interested to see if was also present in dingoes. Due to the history of misidentification of A. braziliense as A. ceylanicum in Australia, and elsewhere, I was extremely careful to ensure I had identified the correct parasite. So by using Biocca's (1951) morphological description along with expertise from parasitologists such as Aileen Eliott and confirmation with molecular biological techniques, I was happy that I had found the right worm.

What is *Ancylostoma ceylanicum* and is there any cure or vaccine available to protect animals or humans from contracting it?

Ancylostoma ceylanicum is a common hookworm of domestic dogs and cats in countries throughout Asia. This parasite has also recently been reported in domestic dogs and people in Australia and a heavy infection can result in bloody diarrhoea and iron-deficient anaemia. Human infection with *A. ceylanicum* can cause severe abdominal discomfort and diarrhoea as well as cognitive impairment and should be considered to be of significant zoonotic importance. At this stage there is no vaccine available to protect animals or humans from contracting this parasite. However, a simple and safe treatment is readily available in Benzimadazoles such as Albendazole.

What impact will your results have for animals and humans at risk or suffering from Ancylostoma ceylanicum?

The zoonotic potential of this parasite should not be underestimated. These results will give both veterinarians and human health care workers the information necessary to encourage the use of simple treatment against hookworm infections in dogs, cats and humans. Indigenous communities are at particular risk because of the limited management of domestic dog health and the presence of freeroaming community dogs that can be exposed to parasite eggs and larvae in soil contaminated by wild dogs. Together with the warm, moist conditions of the tropics this provides an ideal scenario for the success of soil-transmitted helminth infections

Tell us about your supporters and





how they have helped your research progress.

I would like to thank CSIRO Atherton. Cairns Council and Damian Morrant for assistance with sample collection. I am also very grateful for the support I have received from the people in Yarrabah and Mossman Aboriginal communities. Funding assistance was received from the ASP Network for Parasitology Researcher Exchange Travel Award which allowed me to travel to Murdoch University and spend six months working in Professor Andrew Thompson's lab learning molecular biology techniques. An ARC linkage grant has also funded much of my project and I have received an APAI scholarship along with assistance from JCU's School of Public Health, Tropical Medicine and Rehabilitation Sciences and the School of Marine and Tropical Biology.

Tell us what happens next in your Ancylostoma ceylanicum research.

Given that *A. ceylanicum* has previously been found in cats and wild felids, further investigation is necessary to evaluate the hookworm population of domestic and feral cats in the region. Future studies will also concentrate on animals in potentially high risk Indigenous communities to determine the extent of *A. ceylanicum* infection in Far North Queensland and to assess the risk of zoonotic transmission and disease.

"First report of *Ancylostoma ceylanicum* in wild canids" Smout, Thompson, Skerratt. Published in IJP-PAW. Link: <u>http://www. sciencedirect.com/science/article/pii/</u> <u>S221322441300014X</u>

Left: Felicity and Smokey

IJP: DDR



Recent papers

Kaiser E. Dawood, Jess A.T. Morgan, Fiona Kenyon, David McBean, Andrew W. Greer, Charlotte G.S. Burgess, Alison A. Morrison, David J. Bartley, Yvonne Bartley, Leigh Devin, Mintu Nath, Frank Jackson, **A comparative study of the effects of four treatment regimes on ivermectin efficacy, body weight and pasture contamination in lambs naturally infected with gastrointestinal**

Jobs

PhD scholarship available at Murdoch University

A PhD scholarship is available for an ARC Linkage project entitled "Innovative approaches to understanding and limiting the public health risks of Cryptosporidium and Giardia in animals in Australian catchments".

Project Background: *Cryptosporidium* and *Giardia* are the major public health concern of water utilities worldwide. This proposal will target a key knowledge gap; the lack of quantitative data on human infectious species. *Cryptosporidium* and *Giardia* in animals and human sewage in catchments across Australia will be analysed using next generation sequencing and quantitative PCR. Quantitative microbial risk assessment (QMRA) based on this data will be used to develop improved catchment management and risk mitigation strategies.

We are looking for a hard-working motivated student to work with a team with extensive experience and expertise in this area. **nematodes in Scotland** Volume 3, Pages 77-84

Tatsuki Sugi, Kyousuke Kobayashi, Hitoshi Takemae, Haiyan Gong, Akiko Ishiwa, Fumi Murakoshi, Frances C. Recuenco, Tatsuya Iwanaga, Taisuke Horimoto, Hiroomi Akashi, Kentaro Kato, **Identification of mutations in TgMAPK1 of** *Toxoplasma gondii* conferring resistance to 1NM-PP1, Volume 3, Pages 93-101

Christopher C. Evans, Andrew R. Moorhead, Bobby E. Storey, Adrian J. Wolstenholme, Ray M. Kaplan, **Development of an in vitro bioassay for** measuring susceptibility to macrocyclic lactone anthelmintics in *Dirofilaria immitis*, Volume 3, Pages 102-108 Janina Demeler, Jennifer H. Gill, Georg von Samson-Himmelstjerna, Nicholas C. Sangster, **The** *in vitro* assay profile of macrocyclic lactone resistance in three species of sheep trichostrongyloids, Volume 3, Pages 109-118

Sang Joon Lee, Eunseok Seo, Yonghyun Cho, **Proposal for a new therapy for drug-resistant malaria using** *Plasmodium* **synthetic lethality inference**, Volume 3, Pages 119-128

Marlene Areskog, Bitte Ljungström, Johan Höglund, Limited efficacy of pour-on anthelmintic treatment of cattle under Swedish field conditions, Volume 3, Pages 129-134

The studentship is available from late 2013/ early 2014 for a duration of three years. The stipend is \$30,000 pa, tax-free. The scholarship is open to Australian and New Zealand citizens and permanent residents. The successful applicant will have an honours degree, upper IIA minimum, or research masters in a relevant discipline.

For more information contact: Prof. Una Ryan, School of Veterinary and Life Sciences on (08) 9360 2482 or email an application, including a full CV and an introductory letter describing any relevant experiences that would make you a suitable candidate, together with contact details for two referees to Una Ryan at: <u>Una.Ryan@murdoch.edu.au</u>

Assistant Professor of Veterinary Parasirology at Purdue University

The Department of Comparative Pathobiology, College of Veterinary Medicine at Purdue University (www. vet.purdue.edu/cpb) invites applications for an academic-year (9-month), tenuretrack position in Veterinary Parasitology at the Assistant Professor level. The successful candidate would be expected to establish an internationally recognized, extramurally funded research program in host-parasite interactions and to participate in teaching veterinary parasitology in the D.V.M. and Veterinary Technology programs. Applicants must have a Ph.D. in parasitology or related field. Preference will be given to those with a D.V.M. (or equivalent) degree and postdoctoral research experience.

Applications should be submitted as a single PDF file including a cover letter, curriculum vitae, summary of research interests, statement on teaching philosophy, and the names and contact information of 3 references via email to <u>whiteb@purdue.edu</u>. Review of applications will start August 1, 2013, and continue until the position is filled. Applicants needing more information are encouraged to email Dr. Suresh K. Mittal, Chair of the search committee (mittal@purdue.edu).

State News

Australian Capital Territory

The Australian National University

The various parasitology groups at ANU recently enjoyed a joint retreat in Kioloa on the NSW south coast. A report on the retreat, written by **Tilo Fobes & Renate Zelger**, appears in the *Researcher News* section of this newsletter.

New South Wales

University of Sydney

Laboratory of Veterinary Parasitology @ McMaster Building

Ian Beveridge and **David Emery** are very pleased to report that all of the major sections of the e-textbook for parasitology teaching "down-under" are IN!! The text has proven larger and more comprehensive than originally anticipated, thanks to the diligence of the authors of the respective chapters. At this point, the Introduction (Chapter 1), the large Chapter 2 (parasites with over 50 line drawings), Chapter 3.1 (HxPxE and immunity), Chapters 4.2 (small ruminants) 4.3 (cattle) and 4.4 (pigs) have

been formatted into "In design" while several others are being circulated for refereeing. Due to its size and coverage, the cost has increased so that external funding is being sought to augment the generous and enthusiastic support from the ASP. We are confident that the final product will be immensely valuable as a parasitological resource, thanks to the wideranging input from national experts and legends! Several pdfs (sections 4.2, 4.3 and 3.1) were made available for students in 2013 and feedback has been very positivemostly wanting the complete tome! We are also very optimistic with the movement of sections to the e-formatting group, that the text will be ready for download from "Continuing Veterinary Education" (CVE) in time for Semester 1, 2014.

Macquarie University

It has been some time since the parasitology group at Macquarie University submitted news. So I will start by introducing the current team.

- Matthew Lott is doing a PhD investigating nematode parasites in crocodiles and also developing molecular tools to undertake community analyses of nematode populations. Matt has been with us since 2010 when he started Honours on nematodes in rock wallabies
- Amy Asher has also been with us for a while and is currently in her third year of a PhD. Amy is examining the epidemiology of *Giardia* in humans in NSW. Amy recently extended her study and began collaborating with **Deb** Holt (Menzies) to look at diversity of Giardia in remote communities.
- **Tiffany Delport** is also undertaking a PhD. Tiffany's focus is on examining the impacts of humans on the endangered Australian Sea lion. Tiffany is targeting a range of organisms (bacteria and protozoa) and examining transmission patterns between humans and seals.

- Elke Vermeulen is the most recent addition to the group. Elke joined us in December 2012 and is doing her PhD on protozoan parasites in endangered brush-tailed rock wallabies and investigating differences in parasites communities between captive-bred animals and wild populations and how human interaction affects the parasite community structure.
- Koa Webster is still with us in an Honorary capacity and is continuing her research on stress in bats and koalas.
- Lachlan Byatt is our current research assistant and is also working on the rock wallaby project.

We also have a few part time staff: **Sinead Robinson-Cast** is helping Amy with Giardia work , and **Louise Crotty** is working with **Michelle Power** on her new project exploring host parasite interactions in grasshoppers in Alpine Australia. Michelle is currently at the University of Bourgogne (Dijon, France) and working with **Dr Yannick Moret** on grasshopper immunity and parasitism. Michelle's visit is supported by an ASP Travel Award.

Liette Waldron graduated with her PhD (*Cryptosporidium* in humans) in 2012 and is now working at Macquarie University in a laboratory manager role. **Matt Dowle** completed his PhD in 2012 (population genetic structure, *Cryptosporidium*, ectoparasite loads and stress hormone profiles of urban bandicoots) and graduated in 2013. Matt continues to work as an environmental consultant.

The parasitology unit (introduced in 2011) continues to run very well in its intensive mode (3 weeks) during the summer session (Macquarie University now has three sessions a year). The unit draws over 50 students and the intense mode delivery enables continuity between practical classes that is not possible with weekly practical classes. Michelle and the tutors (Matt and Amy) find this a great way to teach and engage students. The ASP supports an undergraduate prize for the Unit and this

State News continued

year the award was presented to Genevieve Kyi. (Please see the *Student Prizes* page of this newsletter for further details.)

University of Western Sydney

Teaching is finally over for the year for **Colin Stack**, who is now officially on sabbatical for 6 months. Colin will use this teaching free opportunity to get back into the laboratory to do some research and also spend some time in the laboratory of **Mark Robinson** at Queen's University Belfast. PhD students **Leah Cronin** and **Allison Gee** are not too sure how to feel about Colin working in the lab, sure he'll constantly be asking "where do I find...?". On a more serious note we would like to wish Leah (soon to be Leah Stroud) our best wishes on the occassion of her recent wedding.

We are also hoping that the readers of this newsletter may be able to help us locate some clinical isolates of *Trichomonas vaginalis* for a comparative study we are undertaking with *Tritrichomonas foetus* (in collaboration with Jan Slapeta USyd) and we are also looking for to sera from cows known to be infected with *T. foetus*. All help is gratefully appreciated, even the name of a contact would be good.

As part of his NSW rep duties, Colin Stagg recently attended the Faculty of Veterinary Science Prize giving ceremony at the University of Sydney to present **Claire Doyle** and **Eloise Fogarty** with the Australian Society for Parasitology Prizes. It was a great night and I am happy to report that the future looks bright for veterinary parasitology research in Australia based on the number of talented students receiving awards.

Charles Sturt University

Shokoofeh Shamsi has been busy with teaching as well as supervising research students. Two of the summer scholarship students in Shokoofeh's lab, Leah Brunt and Thomas O'Brian completed their projects on acanthocephalans from marlins and cormorant parasites, respectively. They both will present the results of their project in WAAVP in Perth. **Anna Turner**, Honours student with Shokoofeh and **Skye Wassen** is progressing really well. She finished all her sampling (freshwater fish) and parasite collections and is in the process of analysing her data. She will present her work at the 2nd Australasian Scientific Conference on Aquatic Animal Health, in Cairns July 2013 and in the CSU Faculty of Science HDR Symposium. Shokoofeh is also hosting **Prof Moussa Tavassoli** from Urmia University from end of June for a 6 months sabbatical. He is going to work on genetic characterisation of dogs and sheep parasites form Iran.

On June 14, Shokoofeh hosted 150 high school students from across the Riverina, as part of the 2013 Agricultural Enrichment Day held by Graham Centre for Agriculture Innovation. Every year Graham Centre offers high school students the opportunity to observe and take part in work done by professional agricultural and animal scientists.

Northern Territory

Menzies School of Health Research

Since 2012, the Global and Tropical Health Division at Menzies has several new students and staff members on board:

Zuleima Pava Imitola joined the malaria team from Colombia in late 2012. Zuleima has previously worked for three years on projects that aimed to establish and evaluate *in vitro* drug susceptibility and rapid diagnostic tests for falciparum malaria in Colombia. She joined the team after completing her Masters degree in Epidemiology at the Institute of Tropical Medicine "Pedro Kouri" in Havana, Cuba. At Menzies, she started her PhD project on the "Molecular characterisation of drug resistant *Plasmodium vivax* isolates from Southeast Asia" under the supervision of Dr **Jutta Marfurt**, Dr **Sarah Auburn**, and Prof **Ric Price**. Her project has a focus on evaluating novel methods for the ex vivo drug susceptibility surveillance of *Plasmodium* and investigating the role of known and newly identified putative molecular markers of chloroquine resistance in *P. vivax*.

In January 2013, we also welcomed two new research assistants:

- Ammar Aziz joined the team from Cairns where he was working with Prof Alex Loukas and Dr Jason Mulvenna on helminth proteomics. He will be working closely with Dr Sarah Auburn and Dr Jutta Marfurt on the molecular characterization of *P. vivax* in the Asia-Pacific region and *P. knowlesi* in Sabah, Malaysia.
- Irene Handayuni joined the team from Sydney where she was working as a Scientific Officer in a private pathology laboratory focusing on gastrointestinal parasites. She will be involved in several studies that aim to improve current and investigate novel tools for the *ex vivo* phenotypic characterization of *P. vivax* and will have a key role in our "Community Malaria Operational Research Program" In Timika, Papua, Indonesia.

We welcome Zuleima, Ammar and Irene to our group and hope you will soon have the opportunity to meet them in person and hear their stories they have to tell from the "top end".

Menzies has commenced a new series of knowlesi malaria studies in northeast Sabah in Malaysian Borneo in collaboration with the Queen Elizabeth Hospital (QEH), the Sabah Ministry of Health and the London School of Hygiene and Tropical Medicine. *Plasmodium knowlesi* cases are increasing and this simian species is now the commonest cause of human malaria

State News continued

in this region (William *et al.*, PLoS NTD, 2013). Menzies-QEH studies have shown it is three times more likely to cause severe malaria than *Plasmodium falciparum* (Barber et al., CID, 2013). A case-control study will determine risk factors for knowlesi malaria and a randomised controlled clinical trial will determine whether artemisinin-based combination therapy (ACT) is better than chloroquine for its treatment.



PhD student Matt Grigg and Project field workers in Songsogon Suyad, Sabah, for the knowlesi case-control study.

Victoria

Monash University

Congratulations to Brian Cooke, Monash University who won the 2012 Hemorheology and Microcirculation Award from the International Society for Clinical Haemorheology presented at the 7th International Conference on Hemorheology and the 14th International Congress on Biorheology, held July 4 7, 2012 in Istanbul for a significant contribution to the field with Brian's work on 'Parasitic infections of red blood cells'.

Brian also won three first prizes at the Lang Lang Agricultural Show in February for his scones, jams and pickles (we can't wait to taste them at the next conference Brian! – ed).



Brian Cooke at the Lang Lang Show

The University of Melbourne

The Biomolecular Parasitology Lab at the Centre for Animal Biotechnology, Faculty of Veterinary Science, The University of Melbourne recently welcomed a visitor. **Pongsakorn Martviset**, a PhD student from Rudi Grams' lab at Thammasat University, Thailand arrived in early February for a 9 month visit. During this time he will analyse a tegumental protein of *Fasciola hepatica* using advanced gene-silencing techniques to gain insight into its function. This is a diversion from the ongoing work in the lab but drawing on techniques that we have developed for schistosomes.

Congratulations to **Bernd Kalinna** who, since January this year, is now Editor-In-Chief of *Experimental Parasitology*.

Council of the Australian Society for Parasitology Inc.

Executive

President

Denise Doolan Queensland Institute of Medical Research, The Bancroft Centre, PO Box Royal Brisbane Hospital, Herston 4029 T: (07) 3362 0382 F: (07) 3362 0105 E: Denise.Doolan@qimr.edu.au

State Councillors

ACT

Richard Allen Research School of Biology, Australian National University, Canberra, ACT 0200 T: +61 2 6125 3129 M: 040204 7278 F: +61 2 6125 0313 E:richard.allen@anu.edu.au

SA

Lesley Warner South Australian Museum North Terrace Adelaide SA 5000 Email: I.warner@cqu.edu.au

President-elect

Professor Robin Gasser The University of Melbourne T: (03) 9731 2283 robinbg@unimelb.edu.au

Executive Secretary

Robert Adlard Queensland Museum PO Box 3300, South Brisbane Queensland 4101 T: (07) 3840 7723 F: (07) 3846 1226 E: robert.adlard@qm.qld.gov.au

Treasurer

Kathy Andrews Eskitis Institute for Drug Discovery, Don Young Road, Building N.75, Griffith University, Nathan, Queensland, Australia 4111 T: 07 3735 4420 E: k.andrews@griffith.edu.au

NSW Colin Stack Senior Lecturer, School of Science and Health, University of Western Sydney Locked Bag 2797 NSW 1797 T: +61 2 4620 3237

TAS

Melanie Leef University of Tasmania AMC, NCMCRS Locked Bag 1370 Launceston, Tasmania 7250 E: mleef@utas.edu.au

NT

Jutta Marfurt Menzies School of Health Research Global and Tropical Health Division PO Box 41096 Casuarina, NT 0811 T: 08 8922 7918 F: 08 8927 5187 E: jutta.marfurt@menzies.edu.au

VIC

Neil Young Gasser Laboratory Faculty of Veterinary Science The University of Melbourne Parkville, Victoria, 3010 Phone: +61 9 731 2330 E: nyoung@unimelb.edu.au

QLD

Terrence Miller Queensland Museum PO Box3300 South Brisbane, QLD 4101 T: 07 3842 9173 E: terrence.miller@qm.qld.gov.au

WA

Alan Lymbery School of Veterinary and Biomedical Sciences Murdoch University Perth WA 6150 E: a.lymbery@murdoch.edu.au

Other Members

Incorporation Secretary

Chris Peatey QIMR, The Bancroft Centre, Herston, QLD 4006 T: (07) 3362 0419 E: chris.peatey@qimr.edu.au

Bancroft-Mackerras Medal Convenor

Roger Prichard McGill University, E: roger.prichard@mcgill.ca

Webmaster

Jason Mulvenna QIMR, The Bancroft Centre, Herston, QLD 4006 E: jason.mulvenna@gmail.com

IJP Editor

Alex Loukas Queensland Tropical Health Alliance, James Cook University, Cairns QLD 4878 E: editor@IJP.org.au T: (03) 5256 1394

ASP Network

Convenor

Nick Smith Queensland Tropical Health Alliance, James Cook University, Cairns QLD 4878 T: (07) 4232 1315

E: nicholas.smith@jcu.edu.au

IJP:DDR Editors

Dr Kevin Saliba Research School of Biology, ANU kevin.saliba@anu.edu.au (02) 61257549 and Dr Andrew Kotze CSIRO Animal, Food and Health Sciences andrew.kotze@csiro.au (07) 32142355

IJP:PAW Editor

Prof RCA (Andrew) Thompson School of Veterinary and Biomedical Sciences Murdoch University Murdoch WA T: (08) 9360 2466 E: a.thompson@murdoch.edu.au

Newsletter Editor

Lisa Jones ASP Network for Parasitology, QTHA, James Cook University, Cairns QLD 4878 T: (07) 4232 1311

E: lisa.jones1@jcu.edu.au

Archivist

Haylee Weaver Building 41 Research School of Biology The Australian National University Acton, ACT 0200 T: (02) 6125 4940 F: (02) 6125 0313 E: haylee.weaver@anu.edu.au