Dear Members,

The ASP Executive and I wish you all a relaxing, enjoyable and safe Christmas break for your celebrations with friends and family. We extend our best wishes for the New Year and parasitological prospects for 2016. My sincere thanks to Peter, Robin, Colin and Lisa in settling in the new ASP team.

What a wonderful year it has been for the society, its members and parasitology on the National and International stage. We start with the Nobel prize to 3 eminent parasitologists from Japan, China and Ireland for outstanding drug discoveries that have vastly improved the lives of man and animals alike. Drs William Campbell from Ireland and Japan’s Satoshi Omura won half of the prize for discovering the macrocyclic lactone (ML) avermectin. Ivermectin has been used to treat hundreds of millions of people with river blindness and lymphatic filariasis while moxidectin is the anthelmintic and ectoparasiticide of choice for around 70% of Australian livestock producers. China’s Dr. Tu Youyou was awarded the other half of the prize for discovering artemisinin, a drug that provides a mainstay for malaria control. She is China’s first Nobel laureate in medicine.

October saw the inaugural Science meets Business, an opportunity for science and business leaders to come together and discuss ways to strengthen the links between industry and science, technology, engineering and mathematics (STEM). This event commenced a sophisticated conversation about the importance of linkages between science and business and how to foster these. The timing was well placed with the subsequent launch of the National Technology and innovation Agenda from the Federal Government in December with $1.1b to stimulate research development and commercialisation (extension, together termed RD&E). Follow-ups will occur, providing additional opportunities to highlight the importance of parasite RD&E. The “partner event”, the 16th annual Science meets Parliament will take place on 1-2 March, 2016. Incoming Chief Scientist Dr Alan Finkel will make his first major speech as part of the event, addressing the National Press Club, and registrations will open soon.


In addition, the Government has provided an additional $127M to University block funding in direct response to the Review of Research Policy and Funding Arrangements, led by Dr Watt AO. https://docs.education.gov.au/node/38976. Realistically, we are still in catch-up mode.

On the Society front in this epistle, we have the range of exciting events and reports from members, including ASP Researcher Exchange reports from Jess Engel, Griffith
From the President’s desk continued

University, Vicky Morin-Adeline, Sydney University and Jessica Johnson-Mackinnon, University of Tasmania, and Andrew Teo, University of Melbourne (OzEMalaR) as well as ASP state news and news from the World Federation of Parasitologists (WFP).

Special mentions of prizes and awards are due for to 3 ASP members;

• Abdul Jabbar, University of Melbourne who was awarded the Odile Bain Memorial Prize. This is awarded annually by Parasites & Vectors in association with Merial, to perpetuate the memory of Odile Bain;
• Rama Jayaraj, Charles Darwin University who the Pride of Australia Medal – Inspiration model Medal; and,

An additional update on the XIX International Congress for Tropical Medicine and Malaria 2016 (ICTMM2016) is also available. The Management Committee are very excited to announce the ICTMM 2016 – Early Career Scholar Grant Program- check out the details!!

ASP has also supported “Control of Tropical Livestock Parasites into the Future” Symposium at the Tropical Agriculture Conference (Brisbane Nov15), molecular approaches to Malaria (MAM- Melb, Feb16) and its associated workshop on Parasite Genomics and Bioinformatics (Melb, Feb16). Alex has also provided the latest synopsis from the “Concepts in Parasitology” course in late November and we applaud his continued enthusiasm and organisation, and along with our expert parasite lecturers, to maintain the thrill, thrust and quality of the course at beautiful Kioloa. On the business side, special

mentions on publications are provided by our journals IJP IJP:DDR and IJP:PAW, the latter with its special feature articles from the inaugural conference on “Impact of Environmental changes on Infectious Diseases (IECID)” vol 4, Issue 3 (2015), and from the ’International Congress on Parasites of Wildlife’,vol,4, Issue 1 (2015).

Most importantly, we would like to be aware of your bright ideas and activities that might need assistance or publicity. So read carefully the new contact details for the ASP Executive which are all on the website and in the newsletter (president@parasite.org.au; treasurer@parasite.org.au; secretary@parasite.org.au) and let us know. AND as you may be aware from the AGM, Lisa Jones has increased her role with ASP to 100% as our “Executive Officer”, coming onto full-time with ASP after we signed the agreement with James Cook University earlier this semester. Lisa’s roles have expanded to lead the development and implementation of the Network (including outreach, website administration, conferences and education). As a new activity, Lisa will be the Administrator for financial operations to provide much-needed assistance to the ASP Treasurer, assisting with accounting, financial monitoring and reporting procedures and developing opportunities for funding of projects, initiatives, events and exhibits.

This coincides with another major initiative. To improve efficiency, time and ease of reporting, the ASP is going electronic! Reimbursement of claims will occur through electronic funds transfer (eft), so funding applications will need to supply account details!! We shall be attempting to streamline other processes and changes these will be notified as these are established.

Merry Christmas!

David Emery on behalf of the Executive

Website www.parasite.org.au
Facebook www.facebook.com/ASParasitology
ASP Twitter www.twitter.com/AS_Para

$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 2016 prizes must be made by the eligible University to the ASP Treasurer or Secretary by the 30th September 2016. Please complete the online application form:

Season’s greetings from the ASP

Gula Guri mayin (detail)

In 2015, the Australian Society for Parasitology, with funding from Inspiring Australia, entered into a unique partnership with a group of artists in Far North Queensland. The project, which centered around Bernard Lee Singelton’s magnificent painting, Gula Guri mayin (which means “Heal the body”), explores themes of parasites and health.

parasite.org.au/outreach/gula-guri-mayin/
The major IJP news in 2015 was a change in Editor-in-Chief (E-i-C), with Brian Cooke taking on to the E-i-C role commencing April 2015. Alex Loukas has stayed on as a Deputy Editor after completing 6 years in the E-i-C role - no mean feat in this day and age.

The IJP team remain confident that the IJP will continue to prosper under Brian’s leadership and are looking forward to what lies ahead over the next few years.

Some other highlights from 2015 include:

- IJP joined social media, with a Facebook page started in March 2015 (‘liked’ by 892 people to date; www.facebook/IJPara) and Twitter in October 2015 (22 followers to date; @IJPara). Look for the green on black IJP logo (the ‘real’ IJP page). We now feature a ‘story behind the cover’ for each IJP issue, so if you have a paper accepted for publication, see what you can do to create an amazing cover image and submit it to us for consideration. If your submitted image is selected for the journal cover, it, and your article, will be promoted both on Facebook and Twitter.
- Together with Dale Seaton of Elsevier, Brian developed a talk, tailored to early-career researchers, based around the Elsevier Publishing Campus on ‘how to publish your papers’. Brian and Dale first presented the talk at a very successful Early Career Researcher breakfast at the joint NZSP+ASP conference in Auckland in June 2015.
- Brian also presented the ‘how to publish’ talk at the ASP Concepts in Parasitology course in December, where IJP had sponsored lab coats for course participants. (Image bottom right of 2015 ASP CIP participant Kamil Braima (University of Malaya) with Brian, next page CIP participants and lab coats.)
- Nick Clark and colleagues (45:14 pp 891-899) created the most social media activity to date for an IJP paper and was featured on ABC News and Radio National. His paper is a fascinating piece of work on the high prevalence of avian malaria parasites in invasive Indian Mynahs and their potential threat to native wildlife and domestic birds.

Editors are working on some Special Issues to look forward to in 2016:

- Symposium for International Research and Innovations in Schistosomiasis (SIRIS) 2016 conference (publication planned for March)
- Singapore Malaria Network (SingMalNet) 2016 meeting (publication planned for September)
- Molecular Approaches to Malaria (MAM) 2016 conference (publication planned for October)
- International Congress for Tropical Medicine and Malaria (ICTMM) 2016 (publication planned for November)
- A Special Issue dedicated to the life and works of the late Klaus Lingelbach (publication date to be determined)

As usual, 2015 has been a busy year for IJP. We are grateful to the Editorial Board members, reviewers and authors who continue to make IJP the highest cited journal dedicated to parasitology and publishing original research articles, with its highest impact factor to date of 3.872 (Thomson Reuters® 2015 Journal Citation Reports). We can only achieve our goal of ‘breaking the 4 barrier’ with your continued help and support – so please stick with us!

We hope that you all enjoy a well-earned rest over the holiday season and look forward to working with you again in 2016 and beyond.
Merry Christmas from IJP.
Wishing you a happy and successful 2016.
Brian, Alex, Maria and Jan.
Special feature

http://www.journals.elsevier.com/international-journal-for-parasitology-parasites-and-wildlife/

Editors: R.C. Andrew Thompson, Lydden Polley

*IJP-PAW* has had a great year in 2015 with 70 articles submitted at the time of writing which is a slight increase compared to 2014. Our processing time, from receipt to acceptance, is less than 5 weeks and I hope we can reduce this further in 2016.

The majority of the articles that we have published to date are from the USA, Australia and Canada with the UK slowly catching up which is good to see. We plan to heavily promote the journal at next April’s British Society for Parasitology meeting at Imperial College in London.

It is really gratifying to see the diversity of topics covered in the papers published in *IJP-PAW*, not only in terms of parasites - all groups including annelids this year - and areas of research, but also hosts with bees the subject of a recent review by Peter Graystock from the Department of Entomology at the University of California, Riverside.

In addition to the review on bees, Dave Spratt, Ben Mans and Shannon Donahue contributed excellent reviews on *Angiostrongylus* in wildlife, *Theileria* diagnostics, and *Neospora caninum* infections in wildlife, respectively.

We have published two special issues this year with one more ‘in press’. These comprised invited papers and reviews from the International Congress on Parasites of Wildlife (Kruger National Park, 2014), the inaugural international conference on the Impact of Environmental Changes on Infectious Diseases (IECID, Sitges, Spain, 2015), and the 25th International Conference of the World Association for the Advancement of Veterinary Parasitology (WAAVP, Liverpool, UK, 2015).

Lydden Polley and I were invited by *Trends in Parasitology* (*TIP*) to be Guest Editors of a special issue on Parasites and wildlife, which in the end comprised two issues of *TIP*. We saw this as an opportunity to promote to the broad parasitological community some key current foci in wildlife parasitology, particularly those that are neglected, emerging, or in need of rejuvenation (see *TIP* 31:123-4). In turn, our hope was to promote *IJP-PAW* as a new vehicle for the publication of papers on parasites and wildlife.

Elsevier printed a selection of the invited reviews published in *IJP-PAW* since 2013 in time for The WAAVP meeting in July. Seven reviews were...
IJP: Parasites and Wildlife special feature cont...

included including those mentioned above, as well as: The role of wildlife in urban areas (Mackenstedt et al.), Wild and synanthropic species of *Leishmania* in the Americas (Roque et al), Host-parasite interactions in an extreme environment (Kutz et al.) and Zoonotic *Babesia*: the role of wildlife (Yabsley et al.) These printed reviews will be available at forthcoming conferences.

Although we are still waiting for our impact factor to be released, our average overall citation rate for articles and reviews on “parasites” and “wildlife” published since 2012 is 3.4 cites per paper (of 441 papers searched in Scopus), which is encouraging.

Thanks to all our AEs, authors and reviewers for supporting the journal and we look forward to a rewarding 2016.
The journal continues to grow, with submissions increasing each year. We have now published over 120 papers. Full length Original Research Articles have been dominant, although we have also published a number of Invited Reviews. Our impact factor increased from 2.51 to 3.29 in the latest figures released in mid 2015, placing us at a ranking of eighth among all the Parasitology journals. The journal was recently accepted into MEDLINE – an important milestone for any journal.

We are excited to be compiling two Special Issues for 2016, based around two scientific meetings: the “Drug Discovery for Parasitic Diseases” Keystone Symposium in Tahoe City in January, and the “Anthelmintics: From Discovery to Resistance” meeting to be held in San Diego in February.

We would like to encourage all ASP members to consider IJPDDR as a place to publish their work in the areas of drugs and drug resistance, and we also ask the membership to encourage colleagues to consider publishing in the journal.

Selected papers from 2015

Joachim Müller, Samuel Rout, David Leitsch, Jathana Vaithilingam, Adrian Hehl, Norbert Müller. 2015. Comparative characterisation of two nitroreductases from Giardia lamblia as potential activators of nitro compounds. 5, 37-43.


IJP: DDR Special feature cont...


Image copyright Natalie Jane Spillman, Kiaran Kirk. 2015.

On behalf of the Congress Management Committee, the Australian Society for Parasitology (ASP) and the Australasian Society for Infectious Diseases (ASID), we invite you to join us for the XIX International Congress for Tropical Medicine and Malaria (ICTMM 2016). The Congress will be held at the Brisbane Convention & Exhibition Centre from Sunday 18 - Thursday 22 September 2016. The Congress will incorporate the ASP Annual Meeting, as well as a special focus on One Health through the Zoonoses 2016 Conference.

The Congress is an exciting opportunity for delegates to network and share knowledge in the areas of tropical medicine, tropical parasitology, malaria, infectious diseases, zoonoses and veterinary health, travel medicine and more. The program will feature presentations from leading keynote speakers, as well as a growing number of invited speakers:

**Prof. Kevin Marsh**
Senior Advisor at the African Academy of Sciences and Professor of Tropical Medicine, at the University of Oxford.

**Prof. Sharon R. Lewin**
Director at the Doherty Institute for Infection and immunity, University of Melbourne.

**Prof. John Reeder**
Director of TDR, The Special Programme for Research and Training in Tropical Diseases at the World Health Organization.

For further information, please visit: [www.tropicalmedicine2016.com](http://www.tropicalmedicine2016.com)

Like us on Facebook or follow us on Twitter @ICTMM2016 or #ICTMM2016
The “Odile Bain Memorial Prize” (OBMP) is awarded annually by Parasites & Vectors in association with Merial, to perpetuate the memory of Odile Bain (28/04/1939 – 16/10/2012). This award has been established for Odile’s outstanding contribution to medical and veterinary parasitology, her actions in encouraging productive collaborations among biologists, veterinarians, physicians, and fundamental and applied parasitologists worldwide. This award also honours her support to young parasitologists and enthusiasm for parasitology.

Dr Abdul Jabbar is a veterinary parasitologist at the University of Melbourne currently working on epidemiology and control of economically important parasitic diseases of livestock. Abdul describes his research as collaborating or working on drug discovery, evolution, genetics, mitochondrial genomics and molecular diagnosis of parasites of economic significance.

Abdul describes how important the field of parasitology is in an agricultural country like Australia. “As animals are reared on extensive grazing systems that expose them to a variety of parasites all the time and also resistance against major antiparasitic drugs is widespread,” Abdul said. “Veterinary parasitologists have a key role in not only understanding the direct economic losses caused by these parasites, but also helping in controlling these parasites to increase the productivity of production animals. The main challenge is the drug resistance in parasitic nematodes.”

Dr Rama Jayaraj, lecturer and parasitologist at Charles Darwin University (CDU), received the 2015 Pride of Australia “Inspiration Medal” for the Northern Territory (NT) at the Pride of Australia Felicitation Ceremony held in Parliament House in Darwin, NT on 7th October 2015.

Dr Rama Jayaraj has made significant contributions to Indigenous education and provided high-quality student support, while contributing to cancer and parasitology research. He inspired his students and initiated partnerships with many organisations that provide support for his student's projects.

“I am really honoured to receive the award,” Rama said. “There are so many committed health professionals and educators working hard in the NT. I am very humbled.”

Rama said his research in Australia started with ASP whom he considers “my mother and a great association” in his professional life - particularly his research with Prof Peter Smooker from RMIT and Prof David Piedrafita from Federation University on the liver fluke's stage-specific and multivalent recombinant protein and DNA vaccines. (Genet Vaccines Ther. 2012 Aug 31;10(1):7. doi: 10.1186/1479-0556-10-7.) “Peter and David trained me in molecular techniques and tissue handling and moulded me into a successful researcher,” Rama said.

My research with A/Prof Shelley Walton (then at Menzies School of Health Research, NT and now at University of the Sunshine Coast) contributed to a rapid diagnostic test development for scabies using IgE specificity for a recombinant allergen of Sarcoptes scabiei. (Diagn Microbiol Infect Dis. 2011 Dec;71(4):403-7. doi: 10.1016/j.diagmicrobio.2011.09.007. Epub 2011 Oct 21.)

“I believe the best research results from a collaborative team approach” Rama said.

More recently Rama has been working on community engagement and cultural activities focusing on Australian Indigenous alcohol-associated assaults and violence.

“The whole team at CDU is excited about the award,” he said. “We hope it helps to promote the importance of health research and education in the NT, strengthens existing collaborations and creates new ones.”
“Many of our students are nurses, who are mothers and also work full-time,” Rama said. “We have developed and adapted the delivery of our courses using e-learning tools to be more flexible in assisting students to meet their work and study commitments.”

The Pride of Australia “Inspiration Medal” is awarded by the NT News and the Sunday Territorian in the NT. It recognises a member of teaching professions from early childhood to university education or a role model whose compassion and wisdom while teaching, coaching and mentoring youth has been truly inspiring.

Earlier this year Rama received the Ryan Family Award for exceptional performance and contribution to CDU for his commitment to excellence in teaching and involvement in research with a global reach.

Source: http://www.cdu.edu.au/newsroom/Rama-POA
News from the ASP Network for Parasitology

Welcome

Another wonderful year in the ASP Network has seen a very successful Joint Conference of the New Zealand and Australian Societies for Parasitology midyear in Auckland, New Zealand; spectacular public outreach programs and events involving ASP members across Australia; and ASP Researcher Exchange, Travel and Training Awards enabling ASP members to extend their research in Australia and overseas. These are just some of the ways Australian parasitology research has been communicated.

Annual Conference

The 2016 Annual Conference will be part of the International Congress for Tropical Medicine and Malaria 2016 (ICTMM) 16-22 September, at the Brisbane Convention & Exhibition Centre. We hope to see you all next September for, what promises to be, another fabulous, not-to-be-missed, event. See conference information on page 5 of this newsletter. http://tropicalmedicine2016.com/

Network Mentorship Scheme

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

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

ARC Parasitology Grants 2015

Congratulations to the following ASP Members awarded ARC Grants in 2015 Three Discovery Projects, one Fellowship and three Equipment Grants worth over $3 million.

Discovery Projects

Associate Professor Tania de Koning-Ward & Dr Paul Gilson (Deakin University) This project aims to explore the mechanism that enables malaria parasites to thrive in their host cells. Parasites that cause the disease malaria reside inside erythrocytes, a very basic cell that lacks a vesicular trafficking pathway. To survive and thrive in this environment, the parasite has evolved a completely unique cell biological phenomenon termed PTEX to transport its proteins into the host cell. The aim of this project is to determine how this novel PTEX machinery exports proteins into erythrocytes and whether PTEX is also required for parasite survival during the initial stages of a host infection when malaria reside in hepatocytes.

Professor Geoffrey McFadden (The University of Melbourne) This project aims to improve our understanding of malarial genetics. The sexual cycle of malaria parasites occurs in mosquitoes. After sex, parasite progeny multiply to form infective spores that are injected into people by mosquito bite. Development of male and female malaria parasite gametes and their fusion to produce a diploid zygote are well understood, but the subsequent process of meiosis, development of a cyst stage and the sporogonic process to create haploid progeny for new infections are poorly understood in molecular genetic terms. The project aims to dissect the unique genetics of these insect stages using a rodent malaria model to generate crosses of different malaria parasite lines to determine when recombination takes effect.

Dr Stuart Ralph & Dr Aaron Jex (The University of Melbourne) The project intends to provide a detailed picture of how alternative splicing is regulated in four biologically diverse apicomplexan parasites, and to explain why parasites need this molecular trick to survive. Alternative splicing is an important means by which organisms increase the diversity of proteins encoded by their genome. Although this mechanism is well studied in humans, little is known about the extent of this phenomenon in other organisms, nor how the process is regulated. The project plans to test if alternative splicing is required to transition between different life stages.

ASP Outreach Funding

ASP members are encouraged to apply for ASP funding to support outreach in their state. Up to $500 per event is available with a total per state or territory of $2000 per calendar year. Initiatives should foster outreach by members and advance the field of parasitology. ASP President Robin Gasser would like to emphasise that the funds can be used to support a wide range of activities - from seminars, symposia to “beer and nibbles” networking sessions of State members or any other parasitology-related event.

Submit your proposal to your ASP State/Territory Representative for consideration.
just as alternative splicing is required for tissue differentiation in animals, and describe how alternative splicing contributes to apicomplexan proteome diversity.

**Discovery Early Career Research Award**

Dr Adele Lehané (The Australian National University)

This project aims to determine how Apicomplexan parasites regulate their sodium and chloride levels to support the development of new parasite control measures. Apicomplexan parasites cause devastating animal and human diseases. Little is known about the physiology of these parasites, and options for controlling them are few. Apicomplexan parasites must precisely control their internal ion compositions in order to survive, but how they do so is not understood. Recent work has identified a unique Apicomplexan sodium transporter and revealed a number of chloride transporter candidates. Using a combination of molecular biology and physiological techniques, this project aims to characterise the Apicomplexan sodium transporter in detail and elucidate the molecular mechanisms of chloride transport.

**LIEF Equipment Grants**

Professor Gavin Reid; Associate Professor Ute Roessner; Professor Malcolm McConville; Professor Tony Bacic; Associate Professor Peter Meikle; Dr Suresh Mathivanan; Dr Damien Callahan; Dr Nicholas Williamson; Professor Colin Barrow; Professor Andrew Hill; Dr Oliver Sieber; Dr Andrew Webb; Associate Professor Vera Ignjatovic; Professor John Bateman (The University of Melbourne)

An ultra-high-resolution mass spectrometry facility for lipidomics research: This proposal aims to establish an ultra-high-resolution, accurate mass spectrometry facility in Australia for comprehensive lipidomics research. The platform would consist of a Thermo Scientific Orbitrap Fusion mass spectrometer interfaced with ultra-high-pressure high-performance liquid chromatography. This proposal will address a major need for advanced mass spectrometry-based lipid analysis capabilities across mammalian, plant, parasite, and microalgae research disciplines, as well as enabling fundamental studies of lipid separation, chemistry and reactivity. The instrumentation would be applicable to a diverse range of projects including studies of the role of lipid metabolism in mammalian biochemistry and cell biology, plant biology and parasitology, and microalgae biofuel production.

Professor David Sampson; Professor Michael Berndt; Professor Shaun Collin; Dr Elin Gray; Dr Massimiliano Massi; Associate Professor Kevin Pfeifer; Dr Jeremie Rossy; Professor Ian Small; Dr Killugudi Swaminatha-Iyer; Professor Richard Thompson; Professor Mel Ziman (The University of Western Australia)

A single-molecule super-resolution microscopy facility in Western Australia: The project aims to establish a facility combining single-molecule imaging with super-resolution microscopy to enable biologists in Western Australia to resolve and directly observe interacting macromolecules in plants, animals and organisms, Interacting macromolecules form the basis of cell biology. Imaging and characterising such interactions in living cells and tissues has become possible with the latest molecular imaging techniques and super-resolution optical microscopy (with spatial resolutions of 20 nanometres or better). The facility seeks to advance science across diverse regional priorities in agriculture, environment, marine ecology, medicine and health.

Associate Professor Martin Scanlon; Professor Joel Mackay; Associate Professor Paul Gooley; Professor Raymond Norton; Professor Nicholas Dixon; Professor Peter Lewis; Professor Peter Scammells; Professor Jacqueline Matthews; Associate Professor Aaron Oakley; Dr Ann Kwan; Associate Professor Richard Hughes (Monash University)

Distributed facility for fragment based drug discovery: The facility aims to provide researchers with the ability to generate small molecules that modulate therapeutically and biologically important protein targets. Fragment-based drug design (FBDD) provides a rational approach to generate such biologically active compounds. The facility is designed to allow researchers throughout Australia to access the necessary infrastructure to undertake FBDD projects against a range of biologically important targets. The facility aims to enable access to high-throughput nuclear magnetic resonance spectroscopy and surface plasmon resonance, and to generate the capacity for automation in chemical synthesis and sample preparation to expedite the development of novel bioactive molecules. The development of better approaches to hit development may benefit many researchers in Australia employing FBDD.

**Closing dates for ASP awards**

**ASP Fellowships**

9 January 2016

**ASP Researcher Exchange, Travel and Training Awards & JD Smyth**

17 March 2016

29 September 2016

**Bancroft-Mackerras Medal for Excellence**

30 September 2016

**John Frederick Adrian Sprent Prize**

30 September 2016

More information: www.parasite.org.au
NHMRC Parasitology Grants 2015

Congratulations to the following ASP Members awarded NHMRC Grants in 2015: Seventeen grants and three fellowships worth $15 million.

NHMRC Parasitology Projects 2015

Project Grants

CIA - Professor Don McManus; CIB - Professor Gail Williams; CIC - Associate Professor Darren Gray; CID - Professor Archie Clements; CIE - Professor Yue-Sheng Li; CIG - Professor Juerg Utzinger

Conquering schistosomiasis in China: the last mile
Queensland Institute of Medical Research

CIA - Professor Nicholas Anstey; CIB - Doctor Tsin Yeo; CIC - Professor Stephen Duffull
Targeting microvascular dysfunction in severe malaria
Menzies School of Health Research

CIA - Doctor Katja Fischer; CIB - Doctor Deborah Holt; CIC - Doctor Simone Reynolds; CID - Associate Professor Lutz Krause; CIE - Professor Bart Currie
A targeted molecular approach to treating scabies and associated bacterial infections.
Queensland Institute of Medical Research

CIA - Associate Professor Katherine Andrews; CIB - Doctor Tina Skinner-Adams; CIC - Professor David Fidock; CID - Doctor Jack Ryan; CIE - Doctor Oliver Hutt
Proguanil: Old Drug, New Tricks
Griffith University

CIA - Professor Raymond Norton; CIB - Professor Peter Scammells; CIC - Doctor Sheena McGowan; CID - Associate Professor Martin Scanlon
Anti-Malarial Agents Targeting Apical Membrane Antigen 1
Monash University

CIA - Professor Leann Tilley; CIB - Professor Malcolm McConville; CIC - Doctor Matthew Dixon
Targeting commitment to sexual differentiation in Plasmodium
University of Melbourne

CIA - Professor Raymond Norton; CIB - Associate Professor Philip Thompson; CIC - Professor Sebastien Perrier
Novel Anti-Infective Agents that Act by Enhancing the Host Innate Response
Monash University

CIA - Professor Georges Grau; CIB - Doctor Valery Combes; CIC - Emeritus Professor Nicholas Hunt; CID - Doctor Bernadette Saunders
Antigen Presentation In Cerebral Malaria Pathogenesis: A Role For Brain Microvascular Endothelium And Microparticles
University of Sydney

CIA - Professor Malcolm McConville; CIB - Associate Professor Spencer Williams
Targeting carbohydrate metabolism in Leishmania
University of Melbourne

CIA - Associate Professor Julie Simpson; CIB - Associate Professor James McCaw; CIC - Doctor Freya Fowkes; CID - Professor Francois Nosten
Slowing the spread of malaria drug resistance by extending the lifespan of the artemisinin derivatives
University of Melbourne

CIA - Professor Jonathan Baell; CIB - Doctor Darren Creek; CIC - Professor Vicky Avery; CID - Associate Professor Michael Edstein; CIE - Doctor Stuart Ralph
New treatments for malaria targeting both the sexual and asexual stages of the causative parasite, Plasmodium falciparum
Monash University

CIA - Professor Ivo Mueller; CIB - Professor Daniel Schofield; CIC - Doctor Wai-Hong Tham; CID - Associate Professor Harin Karunajeewa; CIE - Doctor Leanne Robinson; CIF - Doctor Jetsumon Prachumsri; CIG - Doctor Moses Laman
Novel serological tools to aid malaria elimination in the Asia-Pacific
The Walter and Eliza Hall Institute of Medical Research

CIA - Professor Robin Gasser; CIB - Doctor Neil Young; CIC - Doctor Aaron Jex; CIE - Professor David Rollinson; CIF - Professor Paul Brindley
Genome-based tools to support urogenital schistosomiasis control
University of Melbourne

CIA - Associate Professor Katherine Andrews; CIB - Doctor Tina Skinner-Adams; CIC - Doctor Jack Ryan; CID - Doctor Oliver Hutt; CIE - Professor Andrew Davey
New drugs for malaria prevention
Griffith University

CIA - Doctor John Croese; CIB - Doctor Paul Giacomin; CIC - Associate Professor Graham Radford-Smith; CIE - Associate Professor Tony Rahman; CIE - Mrs Louise Marquart
Hookworm therapy for Coeliac Disease: A randomised, double blind, placebo-controlled clinical trial
James Cook University

CIA - Doctor Lynette Beattie; CIB - Doctor Geoffrey Gobert
The role of IL-17 in regulating liver macrophage permissiveness for Leishmania infection

AUSTRALIAN SOCIETY FOR PARASITOLOGY INC. ABN 65 979 686 445
Queensland Institute of Medical Research

**CIA - Professor Geoffrey McFadden**
Can malaria parasite resistance to an important drug spread?
University of Melbourne

**Research Fellowships**

**Professor Don McManus**
New interventions to end neglected tropical diseases in Asia
Queensland Institute of Medical Research

**Professor Marshall Lightowlers**
Immunological control of cysticercosis and hydatid disease
University of Melbourne

**Career Development Fellowship**

**Doctor Neil Young**
Genomic-based tools to support the control of urogenital schistosomiasis and hepatic opisthorchiasis
University of Melbourne

Best of luck to everyone applying for grants in the new year!

Wishing you all a very Happy New Year and Season’s Greetings.

Nick Smith
Convenor, ASP Network for Parasitology

Lisa Jones
Executive Officer, ASP Network for Parasitology

Photos from ASP Network Outreach events in 2015.
In August, I had the opportunity to do a 2-week researcher exchange/training stint in Professor John P. Daltons’ lab at Queens University in Belfast, UK. My visit to Queens University was organised in-between presenting my work at the 25th International Conference of the World Association for the Advancement of Veterinary Parasitology (WAAVP), Liverpool, UK and the VII European Congress of Protistology and International Society of Protistology joint international conference (VII ECOP-ISOP) held in Seville, Spain during which I was able to represent the ASP on all three of my presentations. While the research carried out in the Dalton Lab on Fasciola hepatica is different to my PhD work on Tritrichomonas foetus, I was very excited at the prospects of using my time between conferences to expand my knowledge and network.

During the exchange, not only was I welcomed to participate in lab meetings and hear about the labs’ on-going projects, but I was able to fulfil the main purpose for my research exchange. This was to learn about recombinant protein production and purification which are the primary techniques used in the Dalton lab. My interest in acquiring these skills stems from my recent publication of three transcriptome libraries for the bovine, feline and porcine T. foetus isolates that revealed an interesting transcription pattern of protease virulence factors between the two parasitic isolates (bovine and feline) and the commensal isolate (porcine) of the parasite. Further investigation of these virulence patterns require recombinant expression of the peptides, which I have had limited exposure to during my PhD. During my time in the Dalton Lab, I was able to learn about the techniques and equipment the lab uses, discuss potential avenues to approach the project, as well as discuss pitfalls of the techniques in relation to the project with Prof. Dalton, his postdocs and PhD students. As an added bonus to my visit, I gained experience using a cell bioreactor (Prof. Dalton calls it his ‘toy’). I worked closely with Prof. Dalton to understand how ‘the toy’ works and we managed to get a culture going which was very exciting and sparked new ideas of a possible collaboration. So keep an eye on this space!

In all, my trip to the Dalton Lab, albeit short, was a great success and fun. I really enjoyed the company of all of my lab colleagues and the new networks I’ve created. I am especially thankful to Krystyna Cwiklinski (postdoc) for welcoming me into her home and exploring Belfast by-day with me, and along with Tara Barbour (PhD student) and Eduardo de la Torre (postdoc in Dr. Mark Robinson’s lab), the trio entertained my urge to experience Belfast by-night as well. I am immensely grateful to Prof. Dalton for his amazing hospitality during the 2 weeks and for allowing me unlimited access to pick his brain about his work, his experiences in academia, his jaw-dropping knowledge on the history of Belfast and for sharing his life-long wisdom on what constitutes the perfect Guinness!
ASP Network Researcher Exchange, Training and Travel Award: Jessica Johnson-Mackinnon

Jessica Johnson-Mackinnon PhD student, The University of Tasmania, visited Prof John Archibald at Dalhousie University; Prof Ben Koop at University of Victoria and Dr. Ahmed Siah at BC Centre for Aquatic Animal Health Services. This report by Jessica Johnson-Mackinnon, The University of Tasmania.

Dalhousie University:

The first part of my exchange took place at Dalhousie University in Halifax N.S. I spent two weeks working with Prof. John Archibald’s Lab with the intention of sharing knowledge. Dr. Archibald’s group are primarily bioinformaticians that focus on gene and genome evolution, secondary endosymbiosis, the evolution of photosynthetic organelles and molecular evolution and systematics of microbial eukaryotes. In particular Dr. Archibald’s Lab has sequenced genomes of Neoparamoeba pemaquidensis and Paramoeba invadens. Several new directions of research were discussed including the use of sister genomes for uncovering target genes, comparative genomics of the endosymbionts and host genomes. Project logistics are currently being discussed between the two labs which will lead to collaboration sometime in the near future.

Victoria:

University of Victoria: The next part of my exchange took place in Victoria B.C. where I went to the University of Victoria and met with Prof Ben Koop’s Lab. Their lab focuses on Molecular Biology, Genetics and Evolution. They have several large projects including work on Sea Lice and the Salmon Genome project. They allowed me to use of their lab for sample processing and allowed me to gain some valuable insight into Salmon genomics and the roles that this might play in parasite-host interactions and host immune response.

Additional Outcomes:

During my trip I was unexpectedly given the opportunity to visit BC Centre for Aquatic Health Services and a salmon farm on Vancouver Island. During this period I worked with the BC Centre for Aquatic Health Services, specifically Dr. Ahmed Siah. The trip was very successful with all samples collected being viable. I was also able to extend my trip down the cost of the United States where AGD outbreaks have been reported since mid 1980s. I was able to obtain samples from a farm along the cost and with lab space generously offered by the USGS Western Fisheries Research Centre, was able to process those samples and have them sent back to my home lab. These samples were again viable and will be an extremely useful addition to my research.

I was also able to give several presentations during my trip, which allowed me to discuss the research being done by my lab and myself, and also promote the ASP and parasitology in Australia. On my return I have given a presentation outlining the trip and its benefits to my lab group and encouraged those who are not members already to join the ASP.
News about Australia/Europe Malaria Research Cooperation

As our OzEMalaR grant comes to a close at the end of 2015 we are very pleased to be able to highlight wonderful collaborations that have taken place through OzEMalaR funded Researcher Exchanges for Australian malaria researchers to EviMalaR laboratories.

Our news stories will be promoted through our facebook page, www.facebook.com/ozemalar and on twitter twitter.com/OzEMalaR

If you are running events, programs, public outreach please email details to Lisa.Jones1@jcu.edu.au for promotion through the ASP membership.

We hope to see you all at the 5th Molecular Approaches to Malaria Conference, February 21-25, 2016 in Lorne, Australia.

Visit the MAM2016 website www.mamconferences.org for more details and to register your interest and don’t forget to ‘like’ our facebook page www.facebook.com/MAMconference and follow us on twitter twitter.com/MAMLorne

Geoff McFadden
Convenor, OzEMalaR
OzEMalaR Travel Award Scheme

Images (top) Andrew Teo with Prof Lars Hviid; (bottom) Summer party at CMP from left: Research assistant: Iben, Phd student: Susna, Post Doc: Mette, Robert and Morten
After a very successful visit to the Centre for Medical Parasitology in 2014, which led to further collaboration between both laboratories, I was awarded a travel scholarship from both OzeMalar and ASP (JD Smyth Postgraduate Travel Award). I am deeply grateful for the funding as this has allowed me to learn new experimental technique, the high-throughput adhesion-inhibition assay (recently published assay, Nielsen and Salanti 2015, Methods Mol Bio), which I will be setting it up in Melbourne for the very first time. This will definitely bring about more collaboration within the malaria research community in Australia.

Exposure to malaria leads to the development of antimalarial antibodies, however, it remains unclear how these antibodies are protective against malaria. Therefore, by bringing this technology back to Australia, this will allow us to do in vitro testing of functional malarial antibodies and to compare the different kinds of functional antibodies as correlates of protection, which will contribute to the understanding of malaria vaccine design.

During my visit I also managed to exchange ideas with the researchers in CMP, which will lead to more collaborations in the future.

The data generated will be used for the forthcoming publication.
Relapsing infections could challenge malaria eradication

Eliminating malaria in the Asia-Pacific could prove more challenging than previously thought, with new research showing that most childhood infections with *Plasmodium vivax* malaria in endemic areas are the result of relapsed, not new, infections.

An international study found that four out of five children in Papua New Guinea (PNG) aged five to 10 years old were susceptible to recurring infection with the malaria parasite *Plasmodium vivax*, which can ‘hide’ undetected in the liver. *P. vivax* is the most widespread malaria parasite worldwide, and the predominant cause of malaria in the vast majority of countries outside Africa.

The discovery has significant repercussions for the country’s – and region’s – malaria control program, as well as other areas globally where *P. vivax* is a significant cause of malaria, such as Central and South America, South and South-East Asia and the Middle East.

The research study was led by Dr Leanne Robinson from the Walter and Eliza Hall Institute and Papua New Guinea Institute of Medical Research and Professor Ivo Mueller from the Walter and Eliza Hall Institute and Barcelona Centre for International Health Research, Spain.

Dr Robinson said the research showed relapsing infections with *P. vivax* were responsible for 80 per cent of infections in PNG children aged five to 10 years.

“Our research has shown that one of the biggest problems in realising malaria eradication is relapsing *P. vivax* infections, which are critical for sustained transmission in the region,” Dr Robinson said. “Children treated with drugs that targeted the liver and blood stages of infection had 80 per cent fewer malaria infections than those treated with drugs that only targeted the blood stage of infection.”

Dr Robinson said *P. vivax* malaria was problematic for global
Relapsing infections could challenge malaria eradication cont...

malaria control efforts, especially in PNG and the Asia-Pacific where it is the major cause of infection and illness in young children. "P. vivax parasites are able to hide in the liver for long periods of time before ‘reawakening’ to cause disease and continue the transmission cycle," she said. "Mass drug administration that includes a drug that kills parasites in the liver is likely to be a highly effective strategy for eliminating malaria in PNG."

Professor Mueller said mathematical modelling showed current programs would be unable to achieve elimination because the programs could not identify and treat children with dormant liver infections. “We need a better way of identifying children who are chronically infected with malaria so that they can be treated,” he said. “It is the only way to stop the malaria transmission cycle in PNG, and is likely to be the case for eliminating malaria in other parts of the Asia-Pacific and Americas."

Professor Mueller and an international team of collaborators successfully secured a AUD$1.15 million grant through the Global Health Innovative Technology (GHIT) Fund to accelerate development of a test that identifies people with dormant malaria parasites in their liver. GHIT is a public-private partnership between Japanese pharmaceutical companies, the Japanese government and the Bill & Melinda Gates Foundation to leverage Japanese biotechnology capabilities to fight neglected disease.

The team will work with Japan’s Ehime University, Switzerland’s Foundation for Innovative New Diagnostics (FIND), and Japanese biotech CellFree Sciences Co. Ltd. to develop biomarkers for P. vivax malaria that could drive the development of new diagnostic tools. This is only the second diagnostic project supported by the GHIT Fund and the first to be led by an Australian institute.

Professor Mueller said the GHIT Fund was a great model for bringing together the best minds, technologies and resources to develop new diagnostics and treatments for diseases that are devastating the developing world, such as malaria. “The funding will support development of a diagnostic test to identify people with chronic malaria infections so that we can effectively treat them, which will be critical for achieving malaria eradication in PNG and in the Asia-Pacific region,” he said.

The research study, published in PLoS Medicine, was supported by the TransEPI consortium, funded by The Bill & Melinda Gates Foundation, National Health and Medical Research Council, Swiss National Science Foundation Grant, Cellex Foundation, International Centers of Excellence in Malaria Research and Victorian Government Operational Infrastructure Support Scheme. Preliminary work on the diagnostic test was supported by Australian Department of Foreign Affairs and Trade (DFAT) through FIND.


Dr Leanne Robinson with a blood sample in the Papua New Guinea Institute of Medical Research laboratory in Madang, Papua New Guinea. Credit: Mayeta Clark/Walter and Eliza Hall Institute
The findings could lead to a vaccine to protect pregnant women from Toxoplasma infection, which carries a serious risk of miscarriage or birth defects, as well as drugs to clear chronic infections in people with compromised immune systems, such as cancer patients.

Toxoplasma is a common parasite transmitted by cats and found in raw meat. Around 30 per cent of the population is infected. The research projects were led by Dr Chris Tonkin, Dr Justin Boddey, Dr Alex Uboldi, Mr James McCoy and Mr Michael Coffey from the Walter and Eliza Hall Institute.

Dr Tonkin said Toxoplasma required a human host cell – such as a brain cell (neuron) – to live in. The research team discovered how the parasite hijacks the host cell to enable its own growth and survival, hibernating for decades by creating its own food reserve.

"Toxoplasma infection leads to massive changes in the host cell to prevent immune attack and enable it to acquire a steady nutrient supply," Dr Tonkin said. "The parasite achieves this by sending proteins into the host cell that manipulate the host’s own cellular pathways, enabling it to grow and reproduce."

Dr Boddey said some of these proteins might even influence the behaviour of the host. "There is a fascinating association between Toxoplasma infection and psychiatric diseases including schizophrenia and bipolar disorder. It is now possible to test whether proteins sent from the hibernating parasite into a host neuron disrupt normal brain function and contribute to development of these diseases," he said.

Melbourne researchers have discovered how a common parasite hijacks host cells and stockpiles food so it can lie dormant for decades, possibly changing its host’s behaviour or personality in the process.
‘Hijacking’ and hibernating parasite could alter brain behaviour cont...

Once *Toxoplasma* parasites establish infection, they can lie dormant in our bodies for the rest of our lives. In people with suppressed immune systems, such as cancer patients, the parasite can reactivate and cause neurological damage and even death.

Dr Tonkin said the teams had identified pathways that allow the parasite to establish chronic infections, unveiling potential avenues for treatment that clear the dormant parasite.

“We discovered that, similar to animals preparing for hibernation, *Toxoplasma* parasites stockpile large amounts of starch when they become dormant,” he said. “By identifying and disabling the switch that drives starch storage, we found that we could kill the dormant parasites, preventing them from establishing a chronic infection.”

Dr Tonkin said the finding could lead to a drug to clear chronic *Toxoplasma* infections, or even a vaccine to prevent infection in at-risk people, such as pregnant women.

“Cats are one of the primary transmitters of *Toxoplasma* parasites,” Dr Tonkin said. “If the parasites are transmitted to pregnant women, for example through contact with kitty litter, there is a substantial risk of miscarriage or birth defects.

“We hope to use our discoveries to develop a vaccine that stops cats transmitting the parasite, to prevent these potentially catastrophic consequences.”

Dr Boddey said it had long been a mystery how the *Toxoplasma* parasite transported proteins into the host. “Our study showed that the parasite includes a signature on the exported proteins that ‘earmark’ them for transport into the host cell,” he said. “Blocking transport makes the parasite much less dangerous in infection models, suggesting this may also be a new way of treating *Toxoplasma* infections.”

The research findings were published today in the journal Cell Host & Microbe and in the journal eLife. They were supported by the National Health and Medical Research Council, the Australian Research Council, veski, the Human Frontiers Science Program and the Victorian State Government Operational Infrastructure Support Program.

Cell Host & Microbe paper
Regulation of Starch Stores by a Ca2+-Dependent Protein Kinase Is Essential for Viable Cyst Development in Toxoplasma gondii - See more at: http://www.cell.com/cell-host-microbe/abstract/S1931-3128(15)00458-8

eLife paper
An aspartyl protease defines a novel pathway for export of *Toxoplasma* proteins into the host cell - See more at: http://elifesciences.org/content/early/2015/11/18/eLife.10809#sthash.BK3Bhd7a.dpuf

There is an explanatory video with lead researcher Dr Chris Tonkin to accompany the story available at: https://www.youtube.com/watch?v=Op16a_SyGi0&feature=youtu.be

EuPathDB parasite bioinformatics workshop

We are pleased to announce a EuPathDB parasite bioinformatics workshop to be held at the Walter and Eliza Hall Institute of Medical Research, Melbourne, Vic, Aus from February 15-19, 2016. The workshop is held the week before the Molecular Approaches to Malaria Conference 2016.

Please note that the workshop expenses are covered by the course. Accommodation costs will be covered for students who are members of the Australian Society of Parasitology (see cost and fees section below).

Come learn how to effectively use EuPathDB resources and mine available data to help guide your research.

For more information and to apply, please visit: http://workshop.eupathdb.org/melbourne/2016/

The application deadline is January 15, 2016 and the course is limited to 30 participants.

The workshop will cover all the EuPathDB component databases (EuPathDB, AmoebaDB, CryptoDB, GiardiaDB, MicrosporidiaDB, PlasmoDB, PiroplasmaDB, ToxoDB, TrichDB, TriTrypDB and OrthoMCL), and will run from 4:00pm on Monday, February 15 to 12:00pm on Friday, February 19, 2016

Who should apply: This workshop is intended to be a 4 day thorough and intensive introduction to database resources that are part of the EuPathDB.org Bioinformatics Resource Center (EuPathDB, AmoebaDB, CryptoDB, GiardiaDB, MicrosporidiaDB, PlasmoDB, PiroplasmaDB, ToxoDB, TrichDB, TriTrypDB and OrthoMCL). The ideal candidate would have a need to become a frequent and extensive user of one or more of these database resources and presumably has a bioinformatics research problem that they might work on as part of their training while attending the course. Preference will be given to applicants that are in a position to benefit most from intensive training and that are in a position to return to their home institution and transfer their newly acquired knowledge to others. Evaluation of the applications will focus heavily on your responses to the questions asked on the application page and on letters of recommendation.

Costs and Fees: The course is free. All training materials are covered. Accommodation costs will be covered for students who are members of the Australian Society of Parasitology travelling to Melbourne. Attendees are expected to provide their own transportation to the course and pay for a few of their meals. No travel funds are available. Letters of acceptance will be mailed early to facilitate the solicitation of outside travel funds. Hotel room charges will be paid by the course from February 15 through 11:00am February 19 (Note: course ends at 12PM on February 19).

We acknowledge generous support from the Molecular Approaches to Malaria Conference 2016, The Australian Society of Parasitology, and the Walter and Eliza Hall Institute of Medical Research.

If you have any questions please email help@eupathdb.org, saralph@unimelb.edu.au or tonkin@wehi.edu.au

Sincerely,

David Roos
Omar Harb
Stuart Ralph
Chris Tonkin
Jobs

8 Postdoc and 11 PhD positions available
ApicoLipid Team, LAPM UMR5163/ IAB CRI INSERM-UJF U823, Institut Jean Roget, France

PhD student
http://www.labex-parafrap.fr/en/international-training-programs/international-phd-program/phd-call2

Postdoctoral fellow
http://www.labex-parafrap.fr/en/international-training-programs/postdoctoral-program/postdoct-2ndcall

Both positions focus on the membrane biogenesis of *Toxoplasma gondii* and *Plasmodium falciparum*. Experience on molecular biology of both Apicomplexa parasites would be preferable but not required for the postdoctoral position.

Additionally there will be a total of 8 Postdoctoral positions and 11 PhD fellowship of 3 years long each available through the French Parasitology network Parafrap, led by Prof Artur Scherf

http://www.labex-parafrap.fr/fr/

These positions will be held in leading French parasitology groups, including ours and many others on a wide range of topics on the biology and fight against human parasites.

Positions will start in September-October 2016.

Recruitment is based on a competitive process described in the attached flyers with initial online applications.

All details are available via these 2 links:

http://www.labex-parafrap.fr/en/international-training-programs/postdoctoral-program/postdoct-2ndcall

http://www.labex-parafrap.fr/en/international-training-programs/international-phd-program/phd-call2

Deadline 1st March 2015

Postdoctoral fellow
TropIQ Health Sciences, The Netherlands

TropIQ Health Sciences is looking for a talented postdoctoral fellow to join our dynamic group of scientists focused on the discovery of new interventions for poverty-related infectious diseases. The candidate will enroll in a global postdoc training program supported by the Bill & Melinda Gates Foundation in collaboration with the California Institute for Biomedical Research (Calibr). The program offers a unique opportunity to receive training in drug discovery and translational research at TropIQ while working closely with research teams at Calibr and other global partners. The training program is restricted to a total of 15 post-doctoral fellows worldwide. At TropIQ, the fellow will work as part of a team of scientists to identify and characterize small molecules that block malaria transmission from humans to mosquitoes and vice versa. The postdoctoral fellow will publish their findings in high impact, peer-reviewed journals and may be coinventor on patents related to their work. The fellowship has a duration of two years.

Following successful completion, fellows have the opportunity to transition to permanent positions at the China Discovery Institute, which is being established in China by the Bill & Melinda Gates Foundation.

The main project will focus on the identification of small molecules that target parasite or mosquito pathways that underlie parasite development and onward transmission. In addition the fellow will dedicate 20% of their time to a project aimed at an understanding of the nutritional requirements for mosquito fecundity. Both projects will use high throughput screening strategies to identify small molecules with modulatory activities. The fellow will be responsible for design and execution of the experimental work and reporting of project progress both internally as well as to the project partners. The fellow is expected to disseminate the project results in high impact scientific journals.

Please send your application letter and curriculum vitae to the address below by electronic mail. Correspondence may be in Dutch or English as preferred.

Please submit your application before January 30th 2016.

More information and contact
dr. Koen Dechering, CEO
E. k.dechering@tropIQ.nl
T. +31-6-51483935
www.tropIQ.nl
Lecturer/Senior Lecturer Aquaculture: TAHELISLAPUSAQ (Ref. No.)

James Cook University Singapore

The appointees will be experienced academic / faculty members and will be responsible for teaching and supervision in under-/ post graduate courses in relevant Business degrees.

Duties

• A leadership role in curriculum development and teaching.
• Course coordination.
• Supervision of major honours or postgraduate research projects.
• Supervision of the program of study for honours and postgraduate students engaged in course work.
• Research, including, where appropriate, leadership of a large research team.
• Significant contribution to the profession, and/or discipline.

Selection Criteria for appointment as Lecturer/Senior Lecturer:

• A PhD in Aquaculture or a related discipline.
• An active research agenda within aquaculture (such as with hatchery, physiology or aquatic animal health) and a substantial publication record relative to career stage.
• Success in obtaining research funding.
• Evidence of quality teaching and supervision of students at under- and postgraduate levels.
• The ability to teach across a range of subjects at various levels.
• Evidence of academic leadership.
• Demonstrated ability to establish and maintain effective relations with colleagues in an academic environment and with people from diverse backgrounds, including the communication and engagement skills necessary to build and maintain relationships with industry and other external actors.
• Excellent oral and written communication skills.

To apply visit https://www.jcu.edu.au/jobs/academic-jobs

Closing Date: 6 January 2016
Postdoctoral Research Fellow

Australian Institute of Tropical Health & Medicine, James Cook University, Cairns, Australia

http://www.aithm.jcu.edu.au/about/what-is-aithm/

An opportunity exists for a postdoctoral position in the immunology of infectious diseases, with an emphasis on malaria as a key indication and systems immunology as a platform. A specific interest is to explore the mechanisms underlying immune responsiveness and vaccine efficacy, using samples from humans experimentally infected with Plasmodium parasites in controlled human malaria infections, or naturally exposed to malaria in geographically distinct field sites, as well as rodent models of malaria. A second opportunity exists for a postdoctoral position with an emphasis on omic-based technologies and rational vaccine design. An underlying concept is that development of optimally efficacious interventions against chronic infectious diseases such as malaria will need to improve on nature, and this can be accomplished by mining large-scale omic datasets to identify molecules and mechanisms underlying protective immunity. It is anticipated that this research will have broad application to a wide range of infectious and chronic diseases, with important implications for vaccination.

Selection Criteria

1. A PhD in any aspect of biological sciences
2. Expertise in cellular and molecular immunology, with a strong interest in systems immunology and computational science; and/or in immune regulation and host-pathogen interactions
3. Demonstrated proficiency to carry out high quality research, and record of professional achievement in the relevant discipline area
4. Demonstrated high-level skills in written and verbal communication, organization, and time management
5. Good interpersonal skills, and an ability to work in a team environment
6. Capacity to think outside the box to foster creative achievement and innovative approaches
7. Experience working in a multidisciplinary environment
8. Expertise in host-pathogen interactions, immune regulation, malaria, reverse vaccinology, and/or vaccine development

Additional Details & Application Form: https://www.jcu.edu.au/jobs/academic-jobs (# 15456)

Email: Denise.Doolan@jcu.edu.au  Tel: 61 (0) 430 589 981

Application Deadline: 24th January 2016
State News
New South Wales

Charles Sturt University

At CSU Shokoofeh Shamsi started collaboration with Em Prof Lesley Warner on a project on taxonomy of freshwater fish Acanthocephalans. Lesley is visiting Shokoofeh’s laboratory in Late November and early December. Jaydip Suthar (Master student), Kate McSpadden, Sara Baker and Brenton Kilby (Honours students) all successfully completed their degree and are due to be graduated in December. Well done and it was great to have you all on board. Isaac Kane (animal science student) with strong interest in aquaculture and has joined Shokoofeh’s group to work on freshwater fish parasites. Eleanor Stiller has got entry to Honours program to work on taxonomy of marine nematodes in Moreton Bay under Shokoofeh’s supervision. Anita Poupa and Thomas Williams both are progressing well on their projects.

CSIRO

In CSIRO McMaster laboratory Peter Hunt and his group have started their Poultry CRC funded work on Ascaridia galli in free-range laying hens which includes efforts to detect infections earlier in the production cycle and also an evaluation of the economic impact of infection. A new PhD student, Nisha Sharma is working with Peter, Isabelle Ruhnke and Brad Hine on A. galli as well.

The University of Sydney

After submitting her PhD thesis Christie Foster, from the Faculty of Veterinary Science at the University of Sydney, has been busy drawing parasites and has set up an online parasite gift store for people passionate about parasites to purchase their favourite parasites printed on various items like clothing, stationery, home decor, etc. Christie might start a trend! Check them out online: http://www.redbubble.com/people/xtie/collections/423433-parasite-illustrations

Western Australia

Murdoch University

The Parasitology Section

The Parasitology Section has had a lot to celebrate this year, with Aileen Elliot being a finalist – and receiving second place – in the Eureka Prize for Science Photography for her photo of a thorny-headed worm. Congratulations Aileen! Fran Jones has submitted her PhD on “Phenotypic characterisation of Giardia infections in canines using proteomic tools”; Judy Dunlop was awarded her PhD for her thesis entitled: The Ecology and Host-Parasite Dynamics of a Fauna Translocation in Australia, and Unaiza Parker was awarded her PhD for her thesis entitled: “Molecular Epidemiology of Blastocystis infections” – Congratulations to Fran, Judy & Unaiza!

Amanda Ash has been busy collecting greyhound poo’s across the country as a part of a national study to obtain baseline prevalence of GI parasites in the racing greyhound industry; her results will be reported to the national greyhound body early in 2016, so stay tuned!

Stephanie Godfrey has two new students, Karina Stampe Jakobsen (MSc student from the University of Odense, Denmark) and James Barr (Hons student, Murdoch), who have been busy on Penguin Island this spring, catching lizards and collecting parasites as a part of a small research project investigating the influence of behaviour and individual personality on parasite transmission in the King’s skink (Egernia kingii). With the help of Aileen Elliot and in collaboration with Hugh Jones (UWA), we have found a range of ecto- and endo-parasites on these reportedly social skinks.

Our work on our ARC Linkage project in collaboration with the Department of Parks and Wildlife has been busy, with a second translocation of woylies being carried out this winter, and the first paper from this work (which forms Amy Northover’s PhD project) has now been accepted for publication in EcoHealth. Hamish McCallum (Griffith University) will be joining us in March to help with the modelling of our dataset.

The Fish Health Unit

The Fish Health unit has two new students in 2015, studying freshwater mussels. As a result of work by one of our previous PhD student, Mike Klunzinger, the species Westralunio carteri has recently been listed as Vulnerable by the IUCN and by Commonwealth and State governments. To follow on from Mike’s study, Le Ma has commenced a PhD on the demographics of mussel populations and Debbie Pomersbach is undertaking an Honours project on reproductive biology. Freshwater mussels have a fascinating life history, with the first larval stage being parasitic on fish, and we are hoping that Le and Debbie’s work will provide us with information to develop effective conservation plans for the species.

Vector- and Water-borne Pathogen Research Group news

This research group at Murdoch University is headed up by Una Ryan and Peter Irwin, supported by Charlotte Oskam and Andrea Paparini. Alex Gofton provides technical support and the team has a total of 10 postgrad students working on a range of projects involving ticks, haemoparasites,
State News continued

bacteria and enteric protozoa. The group continues its research into tick-borne disease in Australia using next generation sequencing with a recent publication (Gofton et al., 2015 – Parasites and Vectors B: 345) that describes the development of a blocking primer technique to facilitate microbiome studies of Ixodes holocyclus ticks from the northern beaches area of Sydney. The issue of which, if any, pathogens are transmitted by enzootic ticks to potentially cause a Lyme disease-like illness in people continues to cause significant controversy and media interest. Peter was recently interviewed by the ABC, although the reporting of our findings was not as accurate as he would have liked! To make a long story short, the group has identified a number of potentially pathogenic bacteria, including Neoehrlichia spp., but did not find any Lyme disease-causing Borrelia bacteria in the Australian ticks. The hunt continues, with new manuscripts submitted and the last-minute scrambling to put in for another ARC Linkage Project with partners Bayer Australia and Bayer Germany.

Alireza Zahedi is making great progress on another ARC Linkage project on Cryptosporidium in catchments and several manuscripts are in preparation or submitted. Dr. Fuchun Jian has been visiting our laboratory from Henan Agricultural University in China for the last 12 months, working closely with Alireza. She will return to China in December and we are very grateful for all her hard work. She will be missed by all in the group.

Congratulations to Dr Aaron Jex at The Melbourne University for his promotion to the Associate Professor level!

Assoc Prof Aaron Jex has recently joined the Walter & Eliza Hall Institute, Melbourne as a Lab Head in Population Health & Immunity Division.

Dr Clare Anstead presented an oral presentation on the genome of blowfly at the WAAVP conference in Liverpool in August 2015 and also visited the Natural History Museum, London. She will be presenting a talk at the University of Saskatchewan in early January 2016.

Pasi K. Korhonen submitted his PhD thesis for examination.

PhD candidate, Andreas Stroehlein was awarded the Sir Ian Clunies-Ross Prize ($650)

Grants received

NHMRC Career Development Fellowship
Dr Neil Young
Genomic-based tools to support the control of urogenital schistosomiasis and hepatic ostrichiosis 419,180

NHMRC Project Grant
Prof Robin Gasser, Dr Neil Young and Dr Aaron Jex
Genome-based tools to support urogenital schistosomiasis control 429,644

ARC Discovery Project
Dr Stuart Ralph
Dr Aaron Jex
Alternative splicing in apicomplexan parasites 336,400

University of Melbourne Early Career Research Grant
Dr Clare Anstead
Drug compound testing on Haemonchus contortus 40,000

List of significant publications


12. Molecular detection of Cyclospora in water, soil, vegetables and humans in

Victoria

The University of Melbourne

Gasser Laboratory

Congratulations to Dr Neil Young who was awarded the NHMRC Career Development Fellowship
State News continued


22. A perspective on Cryptosporidium and Giardia, with an emphasis on bovines and recent epidemiological findings. Adv Parasitol. 2015 Aug;82:243-301


34. Impact of next-generation technologies on exploring socioeconomically important parasites and developing new interventions.


Lightowlers Laboratory

Marshall Lightowlers has been racking up the frequent flier miles!

In October he travelled to Beijing to present his groups work on anti-cestode vaccines at the Bill & Melinda Gates Foundation Grand Challenges meeting. Marshall says he stayed in the Kerry Hotel and was amazed by the electronic toilet in his bathroom. On the wall beside the toilet, in easy reach, there was a control panel (picture) by which front, rear, up, down, oscillating or pulsating flushing or ‘cleansing’ could be achieved, followed if desired, by a blow dry. He says the conference was interesting and covered a broad range of activities being undertaken by the Foundation to improve the lives of poor people in poor countries. Marshall presented at the opening session of a meeting-long theme on Translational Vaccinology.

Another trip away saw Marshall travel to
attend the first International Conference of CYSTINET, which is a European Network on Taeniasis/Cysticercosis established under the COST (European cooperation in science and technology) program.

This month he is off to Geneva where he has been asked to make a presentation concerning diagnosis of porcine cysticercosis at a WHO Stakeholder Meeting on T. solium Taeniasis/Cysticercosis Diagnostic Tools.

Grants awarded

NHMRC Research Fellowship
**Prof Marshall Lightowlers**
Immunological control of cysticercosis and hydatid disease
AUD 828,300

Bill & Melinda Gates Foundation
**Prof Marshall Lightowlers**
Dr Charles Gauci
Development of a one-shot vaccine for porcine cysticercosis
USD 200,000

Jabbar Laboratory

**Dr Piyumali Perera** graduated on 9th December 2015 and she will take a role of Senior Lecturer in Zoology at the University of Peradeniya, Sri Lanka.

**Mackenzie Kwa** completed his Bachelor of Honours in Veterinary Science and he worked on taxonomy of the Australian paralysis tick and its relatives.

Walter and Eliza Hall Institute

**Michael Coffey**, a PhD student with Dr Chris Tonkin and Dr Justin Boddey, published a paper on the characterisation of a novel protease involved in export of *Toxoplasma* proteins into the infected host cell, in many ways this mechanism is homologous to the PEXEL/Plasmepsin V story in malaria parasites.

See link below for more information.
http://elifesciences.org/content/early/2015/11/30/eLife.10809

Monash University

Creek Laboratory

The Creek lab at the Monash Institute of Pharmaceutical Sciences welcomed two new post-docs in 2015. **Ghizal Siddiqui** moves over to Parkville after recently completing her PhD with **Brian Cooke** in Monash's Microbiology department. **Anubhav Srivastava** joins the lab after completing his PhD with Andy Waters at the Wellcome Centre for Molecular Parasitology in Glasgow, UK. **Ghizal and Anubhav** bring further expertise in parasite proteomics and metabolomics to the lab, and will investigate mechanisms of drug action and resistance in *Trypanosoma brucei* and *Plasmodium falciparum*.

Congratulations to **Darren Creek** on his recent promotion to Senior Lecturer at MIPS. Darren’s growing research team was further bolstered by recent NHMRC funding for antimalarial drug discovery on a project led by **Prof Jonathan Baell** (MIPS), in collaboration with the Avery (Griffith), Edstein (AAMI) and Ralph (Unimelb) groups.

In September **Darren** was invited to give a plenary presentation for the annual meeting of Paramet (Leeds, UK), an EU consortium for the study of parasite metabolism, and also presented at the trypanosomatid microsymposium in Glasgow, UK.

Federation University

David Piedrafita and Travis Beddoe Group

**Dhanasekaran Sakthivel**, a PhD student, received a travel award from the Society for Glycobiology to attend the Society for Glycobiology Annual Meeting on December 1-4, 2015 in San Francisco, CA.

**Dhanasekaran** also attended the 2015 Crystallography School jointly organized by Okinawa Institute of Science and Technology, Japan and the Comprehensive computing suite for protein crystallography (CCP4) on November 1-7, 2015. This course is intended mainly for PhD students and postdoctoral researchers in the area of structural biology. She was supported by a ASP travel exchange award.

Tasmania

The University of Tasmania

Welcome back

PhD students **Jessica Johnson-Mackinnon**, **Tina Oldham** and **Jimena Balli Garza** have just returned from their research trips.
Jessica travelled to Canada to visit a number of research groups working on fish parasites and to collect samples of amoebae from farmed Atlantic salmon for her analysis. Her trip was funded by ASP and it is outlined in a separate report. Tina Oldham spent some time in Norway where she was practicing setting up equipment which she will use in her field work in Tasmania. She has also run short experiments with Atlantic salmon. Jimena Balli Garza spent some time at RMIT in Nathan Bott’s laboratory working on a collaborative project on tuna parasites. This was her second trip to RMIT this year.

Presentations

Barbara Nowak gave a departmental seminar on Parasitic Diseases in Fish Mariculture at the Department of Veterinary Medicine at Cambridge University.

ASMR Member news: 2015 NHMRC Outcomes

ASMR Member news: 2015 NHMRC Outcomes

State News continued

NHMRC Outcomes 2015 – Announced by Minister of Health on 9/11/15

1. Overall NHMRC investment is static compared to last year. In ‘real-terms’ this is declined investment.

2. Static NHMRC project grant investment = $419,719,973 (2014 = $419,982,953; Total grant applications in 2015 (3758) was comparable to 2014 (3700), however, the proportion of successful project grants for 4 years was higher (27.9%) compared to 2014 (19.9%).

3. Funded rates for project grants are the lowest in NHMRC history = 13.7%

4. Fellowship Outcomes:
   a. ECR Fellowship investment = $35,823,120 (Success rates = 21.4%; reduced investment and success rate compared to 2014;)
   b. CDF Fellowship investment = $23,915,192 (Success rates = 11.9% in 2015 vs 19.5% in 2013; the lowest rates across all schemes; static investment;)
   c. Research Fellowship investment = $55,654,700 (Success rates = 23.8% in 2015 vs 30.1% in 2014; Static investment;)


6. No announcement on Medical Research Future Fund (MRFF) disbursements which were scheduled for 2015. Current funds in the MRFF account are well short of that required to allow disbursement of the $10M promised this year.

On behalf of ASMR, congratulations to members who received an NHMRC project or fellowship. It is Governments investment into NHMRC and the NHMRC peer review process, which has resulted in unmatched returns on investment (every $1 invested returns on average $2.17 in health and economic benefits) and significant savings linked to increase well-being of Australians.

Sadly for those dedicated and highly ranked researchers who missed out, many of them world leaders in their field, the actuality is that investment into NHMRC has been declining in real terms for a number of years, so much so that we are at a critical point, losing expensively trained, highly skilled researchers, to an extent that it may take years to recover the loss of valuable intellectual capital.

The proposed MRFF is a positive step towards increasing investment, but it unfortunately does not solve today’s problem. A significant injection of investment into NHMRC, with its proven track record of exceptional returns through transparent peer review, is required immediately to avoid the loss of intellectual capital which our workforce represents.

These uncertain times emphasise the need to continue to engage with your federal politicians, the community and key stakeholders. The resulting loss of the sector will become clearer in the coming months.
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