



# NEWSLETTER

Volume 30 Issue No.2 July 2019

# Malaria in the area

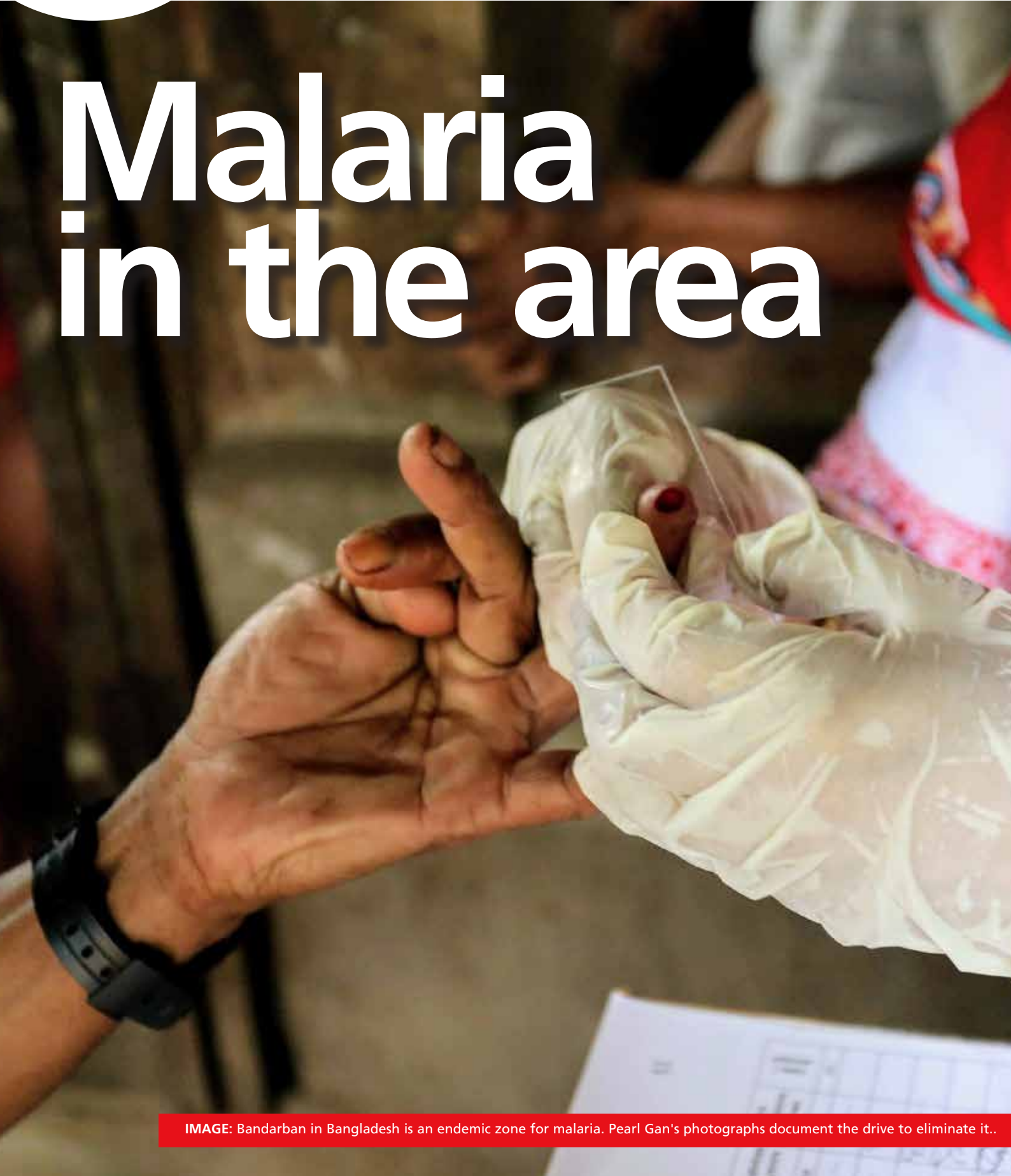


IMAGE: Bandarban in Bangladesh is an endemic zone for malaria. Pearl Gan's photographs document the drive to eliminate it..



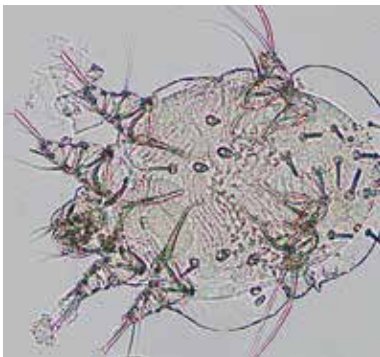
Over 25  
experts  
in the field  
share their  
passion



# Concepts in Parasitology

2019

**A two-week course  
for Postgraduates  
and Early Career  
Researchers**



**25 November -  
8 December 2019**

Australian  
National  
University  
Kioloa Coastal Campus



**Application deadline  
13th July 2019**

For more information, see our website  
[parasite.org.au/education/concepts-in-parasitology](http://parasite.org.au/education/concepts-in-parasitology)  
or e-mail [saralph@unimelb.edu.au](mailto:saralph@unimelb.edu.au)



## **Concepts covered:**

Evolution,  
Drug discovery  
Cell biology,  
Immune responses,  
Diagnostics,  
Bioinformatics  
and many more





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### Dear Members,

Some sad news for the ASP, Mike Rickard, ASP Fellow (1987), BMM winner (1983), past ASP president, passed away on Tuesday 25th June 2019 at the age of 77 years. Mike presented his first paper at the second meeting of the ASP in 1965 and we were fortunate to see Mike last year at the 2018 ASP Conference in Melbourne. Our sympathies to Mike's wife Trish and his family. A full tribute will appear in the next newsletter.

World Malaria Day was held on April 25th and as part of ASP outreach, researchers at Griffith University put together an online quiz asking people how much they know about malaria. They also distributed educational packs on malaria to school children and raised money for Rotarians

Against Malaria to provide mosquito bed nets to vulnerable populations worldwide. Please look at the beautiful photographs taken by Pearl Gan for World Malaria Day as part of a study called "Malaria in Bangladesh", some of which feature in and on the cover of this newsletter. <https://www.acreme.org.au/a-photographers-perspective-malaria-in-bangladesh/>

We have a fantastic array of invited speakers at our 2019 ASP Conference in Adelaide (Monday 8th to Thursday 11th of July), including Associate Professor Elissa Hallem, University of California, Los Angeles, Dr Sarah E. Perkins from Cardiff University, Professor Max Scott from North Carolina State University, Associate Professor Alexis Kaushansky from the Centre for Global Infectious Disease Research, USA, Professor Alan Cowman

## From the President's Desk continued

from WEHI (Walter and Eliza Hall Institute of Medical Research), Professor Justine Smith from Flinders University, Professor Stephen Barker from the University of Queensland, Associate Professor Michelle Power from Macquarie University, Professor Jake Baum from Imperial College London, Associate Professor Tina Skinner-Adams from Griffith University, Dr Sarah Catalano from the South Australian Research and Development Institute (SARDI), Dr Rina Wong from Edith Cowan University, Dr Karina Riggs and Dr Helena Ward from the University of Adelaide, Associate Professor Chris Tonkin from WEHI, Professor Barbara Nowak from the University of Tasmania, Dr Michelle Boyle from QIMR, and Dr Susan de Burgh and Dr Liisa Ahlstrom from Bayer Animal Health. Check out their profiles at <https://www.parasite.org.au/2019conference/invited-speakers/>

On Monday 8th of July we will be holding a public event from 5-7 pm entitled "Extraordinary Women in Parasitology" to open the 2019 ASP Conference sponsored by Bayer Animal Health.

The 2019 ASP Conference program and abstract e-book, the 2019 ASP AGM agenda, reports and previous minutes will

be available for you to download through Wild Apricot in the Members Only section under "resources". Click on this link (<http://asp.wildapricot.org/memberresources>) you will need your ASP username and password.

At the 2019 ASP AGM, Thursday 11th July 2019 at the Adelaide Convention Centre we will be voting on the following:

- The Society approve the revised Constitution of the Australian Society for Parasitology Inc., as posted on the Society's Website on March 22, 2019 in Volume 30, Issue 1 of its Newsletter
- The Society approve the Principles, By-Laws and Guidelines for Awards, Grants, Journals, Committees and Archives of the Australian Society for Parasitology Inc., as posted on the Society's Website on March 22, 2019 in Volume 30, Issue 1 of its Newsletter
- Election of new positions within the Executive and ASP Council for 2019-2020

My special thanks to all of our Council members for the work they do for the ASP

and to the Executive, my heartfelt thanks to Amanda Ash (Treasurer) and Charlotte Oskam (Executive Secretary) for all your assistance and support – it has been wonderful working with you both.

Thanks to Malcolm Jones who is stepping down as Convenor of the Bancroft-Mackerras Medal and to Leann Tilley who will be taking on this role. Tina Skinner-Adams is stepping down as Incorporations Secretary and we greatly appreciate her contribution.

I would also like to thank our President Elect Barbara Nowak and her Executive. I know you all will do a wonderful job!

A huge thank you to Lisa, our amazing Executive Officer for your energy and commitment and tireless efforts for the society, it is greatly appreciated and thanks particularly to Lisa and Nick Smith for your excellent work on the Constitution.

**Best regards,**

**Una Ryan**  
President of the ASP

[www.parasite.org.au](http://www.parasite.org.au)  
[www.facebook.com/ASParasitology](https://www.facebook.com/ASParasitology)  
[www.twitter.com/AS\\_Para](https://www.twitter.com/AS_Para)

### Closing dates for ASP awards

**ASP Fellowships**  
9 January 2020

**ASP Researcher Exchange, Travel  
and Training Awards & JD Smyth**  
22 March 2019,  
27 September 2019

**John Frederick Adrian Sprent  
Prize**  
30 September 2019

**Bancroft-Mackerras Medal for  
Excellence**  
30 September 2019

More information  
[www.parasite.org.au](http://www.parasite.org.au)

### \$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 2017 prizes must be made by the eligible University to the ASP Treasurer by the 30th September 2017. Please complete the online application form:**

[www.parasite.org.au/awards/asp-undergraduate-prizes/](http://www.parasite.org.au/awards/asp-undergraduate-prizes/)

# Invited speakers at the ASP Annual Conference



Australian Society for Parasitology Annual Conference

# Adelaide 2019



## Associate Professor Elissa Hallem

**University of California, Los Angeles**

Dr. Elissa Hallem is a professor in the Department of Microbiology, Immunology, and Molecular Genetics at UCLA. Her lab studies how skin-penetrating nematodes find and infect hosts using host-emitted sensory cues. Dr. Hallem received a BA in biology and chemistry from Williams College in 1999, and a PhD in neuroscience from Yale University in 2005. After completing a postdoctoral fellowship at

Caltech, she joined the UCLA faculty in 2011. Dr. Hallem was the recipient of a 2012 MacArthur Fellowship.



## Professor Max Scott

**North Carolina State University**

Max Scott is a Professor of Entomology at North Carolina State University. His group studies sex determination and X chromosome dosage compensation mechanisms in insects with application to developing engineered strains of pests for genetic control programs. Scott completed his undergraduate and honors degrees at the University of Western Australia and then moved to Texas for doctoral studies

on epigenetic regulation of gene expression in chickens at Baylor College of Medicine. At NC State University, Scott has worked to develop male-only strains of the New World screwworm for efficient genetic control of this major pest of livestock. He found the genetic systems also function efficiently in sheep blowfly. To facilitate this work, Scott has assembled and annotated the genome sequence for screwworm.





## Dr Alexis Kaushansky

**Center for Global Infectious Disease Research, USA**

Alexis Kaushansky, PhD, is an associate professor at the Center for Global Infectious Disease Research at Seattle Children's Research Institute. She received her BS in chemistry from Harvey Mudd College in 2004, and her PhD from Harvard University in 2010. During her PhD, she trained with Dr. Gavin MacBeath, studying the molecular changes that occur in cancer. She joined Dr. Stefan Kappe's

group as a postdoctoral fellow in 2010 to learn about the complex biology of the Plasmodium parasite, focusing on host-parasite interactions within the liver stage of infection. Work in her laboratory fuses her view that technological innovation can provide an important catalyst for biological insights and her passion for the study of infection diseases



## Professor Alan Cowman

**Walter and Eliza Hall Institute of Medical Research**

Professor Alan Cowman FAA FRS is Deputy Director – Science Strategy at the Walter and Eliza Hall Institute of Medical Research. He obtained his PhD at WEHI in the laboratory of Professor David Kemp through the University of Melbourne. He was awarded a C. J. Martin Fellowship from the NHMRC for postdoctoral work in the laboratory of Dr Gerry Rubin at UC Berkley, studying Drosophila eye

function and development. He returned to WEHI and developed a laboratory that studies malaria. Among many awards and honours, he was elected as Fellow of the Royal Society in 2011 and the Australian Academy of Sciences in 2001. His work is aimed at understanding the function of proteins in Plasmodium falciparum and to use this information for the development of vaccines and drug targets.



## Professor Justine Smith

**Flinders University**

Justine R. Smith is Matthew Flinders Distinguished Professor of Eye & Vision Health at Flinders University, and Consultant Ophthalmologist at SALHN-Flinders Medical Centre. Professor Smith heads a translational research laboratory, which focuses on basic mechanisms of infectious and non-infectious ocular inflammation. Professor Smith is Chair of the Executive Committee Board of the

International Ocular Inflammation Society, a Director of the Board of the International Council of Ophthalmology, Vice-President of Academia Ophthalmologica Internationalis, and Executive Vice-President of the Association of Research in Vision and Ophthalmology. She was identified as one of Science & Technology Australia's inaugural 30 Superstars of STEM.

## 2019 Invited speakers continued



### Professor Stephen Barker

#### University of Queensland

Stephen Barker is a Professor of Parasitology. Barker has been studying ticks and other ectoparasites at the University of Queensland for over 25 years. Recent activities include: (i) a monograph, with Dr Allan Walker (University of Edinburgh) on the "Ticks of Australia. The species that infest domestic animals and humans" (2014, Zootaxa, 3816); (ii) research on the paralysis ticks of Australia, *Ixodes holocyclus*

(paralysis tick) and *Ixodes cornuatus* (southern paralysis tick); and (iii) research on the evolution of the ticks, which lead to the description of two new genera of ticks, *Robertsicus* and *Archaeocroton* (2018, Zootaxa, 4500).



### Associate Professor Michelle Power

#### Macquarie University

Michelle Power is an academic in the Department of Biological Sciences at Macquarie University. Michelle completed her undergraduate degree and PhD at Macquarie University. She was a postdoc at the University of Sydney and a Macquarie University Research Fellow for a year before being appointed an academic. Michelle's research has focussed on host parasite interactions in wildlife, with special interest

in protozoan parasites (*Cryptosporidium*, *Giardia* and *Eimeria*). In 2011 she received the Huw Smith Award for research on *Cryptosporidium* and *Giardia* and Vice Chancellors award for Early Career teaching. More recently Michelle's research has shifted from the traditional approach of single host parasite studies to consider the role of co-infection and endemic microbiota to parasite infection outcomes.



### Professor Jake Baum

#### Imperial College London

Following Bachelors and Masters degrees at Oxford University, Jake received his PhD from the London School of Hygiene and Tropical Medicine in August 2002, his thesis focused on malaria parasite population genetics. In 2003, he moved to WEHI in Melbourne to work on the fundamentals of malaria parasite molecular and cellular biology. Following a visiting fellowship at Yale University in the

pioneering lab of Thomas Pollard, Jake established his own lab at WEHI in 2010. In 2013 Baum was recruited by Imperial College where he is now Professor of Cell Biology and Infectious Diseases. Jake's current laboratory has a broad research portfolio including major programmes in drug discovery, vaccinology, biophysics, engineering & material sciences.



## Associate Professor Tina Skinner-Adams

### Griffith University

Associate Professor Tina Skinner-Adams is an academic in the School of Environment and Science, Griffith University and a Research Leader at the Griffith Institute for Drug Discovery (GRIDD). She holds four current National Health and Medical Research Council Project Grants to investigate new anti-parasitic drugs with a research focus on malaria and giardiasis. Tina completed her undergraduate and

honours degrees at Murdoch University before moving to the University of Western Australia to complete her PhD. She has been working in the field of anti-parasitic drug discovery and inhibitor target identification since the completion of her PhD at institutes including QIMR Berghofer, the University of Queensland and Griffith University.



## Dr Sarah Catalano

### SARDI Aquatic Sciences, Primary Industries and Regions SA

Dr Sarah Catalano is a Senior Research Scientist in Aquaculture at the South Australian Research and Development Institute (SARDI). Sarah completed her honours degree, investigating the parasite assemblages of arripid fish species, and PhD, examining the dicyemid parasite fauna of southern Australian cephalopod species, at the University of Adelaide, South Australia. She was awarded the University

Doctoral Research Medal, Channel 9 Young Achiever Award and South Australian PhD Research Excellence Award for her PhD work. Her current research at SARDI applies next generation sequencing technologies to examine the gut microbiome of cultured fish species in an effort to improve health outcomes. She is also a guest lecturer in Marine Parasitology at the University of Adelaide.



## Dr Rina Wong

### Edith Cowan University

Dr Rina Wong is a lecturer in the School of Medical and Health Sciences at Edith Cowan University. She completed her undergraduate studies at Curtin University with first class honours. She completed fieldwork with the Papua New Guinea Institute of Medical Research and at Case Western Reserve University for her doctoral research on the in vitro and genetic aspects of treatments for falciparum malaria,

whilst based at the University of Western Australia. For her doctoral dissertation Dr Wong was awarded the John Frederick Adrian Sprent Medal by the Australian Society for Parasitology (ASP). As a musician-scientist, Rina has performed for both local and international audiences and, as Dr Rina Fu, has started engaging young children through her picturebook "My Mad Scientist Mummy."



## 2019 Invited speakers continued



### Dr Karina Riggs

**University of Adelaide**

Dr Karina Riggs is an Education Specialist and inaugural member of the Adelaide Education Academy at The University of Adelaide. Karina lectures in Microbiology and Genetics and shares her passion for Science with undergraduate students by using innovative active learning strategies in her classes. Karina is co-facilitator of the Learning Analytics University wide CoP and

also a member of the Flipped Classroom CoP. Karina has been recognised nationally for her outstanding contributions to student learning and teaching excellence as the recipient of an OLT citation in 2015, Commendation in 2017 and Excellence in Teaching Team Award 2018.



### Associate Professor Chris Tonkin

**Walter & Eliza Hall Institute of Medical Research**

Chris Tonkin is a laboratory head and Associate Professor at The Walter and Eliza Hall Institute of Medical Research. Finishing in 2004, Chris undertook his PhD at the University of Melbourne under Prof. Geoff McFadden, investigating protein targeting to the relict plastid of apicomplexan parasites. He then undertook a postdoc with Prof. Alan Cowman at The Walter and Eliza Hall Institute of Medical Research, on

epigenetic regulation of antigenic variation in *Plasmodium falciparum*. In 2010 Chris was promoted to laboratory head at WEHI where he started a new program of research on *Toxoplasma*. His interests broadly lie in understanding the molecular basis of host-parasite interactions across apicomplexan parasites and how this information can be utilized to design new therapies.



### Professor Barbara Nowak

**University of Tasmania**

Barbara is Professor at the Institute for Marine and Antarctic Studies and Deputy Associate Dean Research College of Science and Engineering at the University of Tasmania (UTAS). She has honorary Professor positions at RMIT Melbourne and Aarhus University Denmark. Barbara has her PhD from Sydney University and has been working at UTAS since 1991. Her research interest focus on various aspects

of fish health, such as fish parasitology, fish immunology and fish pathology, including both wild and farmed fish. Barbara has published over 250 papers and supervised more than 35 PhD students. She has received numerous awards for her research and supervision of PhD students.



## Dr Michelle Boyle

### QIMR Berghofer

Dr Boyle is an EMBL Australian Group Leader and Team Head at QIMR-Berghofer. She completed her PhD at the University of Melbourne and Burnet Institute in 2012. She conducted post-doctoral studies at the University of California, San Francisco, and then at Burnet Institute and Menzies School of Health Research, Darwin.



## Dr Helena Ward

### University of Adelaide

Helena Ward is a microbiologist who gained her PhD on serotype variation in *Vibrio cholerae* from the University of Adelaide, South Australia. She has post-doctoral experience in microbiology and molecular biology research and the biotechnology industry. Her previous roles include Program Director of the Medical and Pharmaceutical Biotechnology program at the University of South Australia and

Research Fellow in Medical Education at Flinders University. Helena is currently a Senior Lecturer in Medical Education at The University of Adelaide focussing on curriculum development and assessment design. Her research interest in health professional education focuses on patient agency using activity theory.



## Dr Susan de Burgh

### Bayer Animal Health

Susan graduated from the University of Sydney in 2003. Her passion for veterinary parasites started at Bayer in 2010, with a fascination for the resilience of fleas and the weird and wonderful lifecycles of worms. She achieved her membership in Veterinary Parasitology from the ANZ college of Veterinary Scientists in 2018. This year she has embarked on a Masters

program researching the emerging vector-borne disease in cattle, *Thieleria*.

## 2019 Invited speakers continued



### Dr Liisa Ahlstrom

#### Bayer Animal Health

Liisa graduated from the University of Queensland with a BVSc in 2001, before working in small animal practice. From 2002 – 2008 Liisa taught Veterinary Anatomy at UQ and in 2010, completed a PhD on “Factors that affect the transdermal penetration of glucocorticoids in dogs”. Liisa was a Lecturer in Veterinary Anatomy in the Faculty of Veterinary Science, at The University of Sydney from 2008 – 2012,

completed a Graduate Certificate in Higher Education and continued her research in the field of transdermal drug penetration. Liisa joined Bayer Animal Health as a Technical Services Veterinarian in 2013, and has since discovered a passion for companion animal parasites and vector-borne diseases! Liisa continues to enjoy her involvement in parasitology research and teaching.



### Professor Leann Tilley

#### The University of Melbourne

Leann Tilley is Professor of Biochemistry and Molecular Biology at the Bio21 Institute. Leann was awarded the Georgina Sweet Australian Laureate Fellowship from the ARC and is Past-President of the Australian Society for Biochemistry & Molecular Biology. Leann’s laboratory is developing and implementing new imaging modalities, including Super-Resolution Optical Microscopy, Electron Tomography and

cryoEM. Leann believes that answering the major medical and biotechnology questions of the 21st century will require convergence of the life and physical sciences, with particular reliance on advanced imaging techniques. She believes that answering important questions requires teams of passionate gender and culturally diverse people who provide different ideas, perspectives and backgrounds.



### Professor Rebecca Traub

#### The University of Melbourne

Rebecca graduated as a veterinarian from Murdoch University in 1997 and completed her PhD in 2004 on canine parasitic zoonoses in tea-growing communities of India, for which she was awarded the John Adrian Sprent Prize by the ASP. Following an ARC Postdoctoral Fellowship Industry, Rebecca worked in Veterinary Public Health at UQ (2006 - 2014) and, since 2014, the Melbourne Veterinary School, where she

teaches Veterinary Parasitology. Rebecca’s research covers the field of veterinary public health, with a focus on the diagnosis, epidemiology and control of neglected tropical diseases, including canine parasitic and vector-borne zoonoses and human soil transmitted helminthiasis in the Asia Pacific. Rebecca is the Founding Director of the Tropical Council for Companion Animal Parasites (TroCCAP).





## Dr Clare Anstead

### The University of Melbourne

Clare Anstead is a Postdoctoral Research Fellow, Faculty of Veterinary and Agricultural Sciences, University of Melbourne and has led a team of parasitologists to decode the genes of the Australian sheep blowfly. Clare is a PhD graduate from the Chilton Parasitology laboratory at the University of Saskatchewan. Her research expertise includes ectoparasite identification, parasite

population genetics, parasite microbiome analyses, and parasite genomics. In 2018 Clare was awarded a grant from Australian Wool Innovation to lead a four-year research collaboration between AWI, the University of Melbourne and CSIRO conducting preliminary research into the development of a flystrike vaccine targeting the Australian sheep blowfly, *Lucilia Cuprina*.



## Professor Una Ryan

### Murdoch University

Una Ryan is Professor in Biochemistry at Murdoch University and President of the Australian Society for Parasitology. Una's research has concentrated on the molecular detection and epidemiology of vector and water-borne pathogens (<http://www.murdoch.edu.au/Research-capabilities/Vector-and-Waterborne-Pathogens-Group/>). Una's research uses genotyping tools to improve detection methods and to study

transmission dynamics. Her team works on the molecular epidemiology of enteric parasites such as *Cryptosporidium* and *Giardia* and blood borne parasites such as *Babesia*, *Theileria* and *Trypanosomes* and they are also interested in novel therapeutics for pathogens.



## Dr Sarah E. Perkins

### Cardiff University

Dr. Sarah Perkins is a wildlife biologist from Cardiff University, UK, with research focused on quantifying the role of individuals in parasite persistence. Her research involves ecological manipulation experiments and longitudinal monitoring of wild mammal populations and their parasite community to identify patterns underlying heterogeneities in infection. From long-term ecological studies on wild rodents her

research has identified 'super-spreaders' of infection, revealed the role of biodiversity in creating hotspots to tick-borne disease and quantified interactions between coinfecting parasites. Sarah's most recent work investigates how bacterial communities (microbiota) and eukaryotic parasites (macrobiota) interact in wildlife hosts.

# A message from Mohammad Al-Hasnawy

**After four years in Australia, Monhammad has returned to his home country of Iraq.**

Undoubtedly, many postgraduates and researchers around the world would love to work within Australian universities to develop their scientific and personal skills.

That was my dream in 2013 when I got a scholarship to study my PhD abroad. My journey to achieving this dream took me to Monash University and Federation University between 2014-2018 where I met and worked with friendly supervisors and staff on campus and lived with lovely

people off campus.

At the same period, I was a member of a great scientific society which is the Australian society for Parasitology (ASP). I met with its members at meetings and conferences during these four years. This was indeed a great opportunity to build up my scientific skills and career.

The outcome of this journey has been obtained. I have arrived back in my home country of Iraq where I now work as a lecturer at Veterinary Medicine college, as well as a director of the scholarships and cultural relations department at Al-Qasim Green University (QGU).

I hope to be able to share my knowledge and experience with colleagues, in addition to fulfilling the duties that have been given to me.

Finally, I am thankful for everyone in Australia and Iraq, who helped me to achieve this dream.

**Below: Mohammad Al-Hasnawy**





# World Malaria Day at Griffith

**An interactive morning tea was arranged at the Griffith Institute for Drug Discovery (GRIDD) to highlight World Malaria Day 2019.**

## The event

The World Malaria Day event – an interactive morning tea – was advertised through Twitter, Facebook and email. Approximately 30-40 people attended the event, enjoying morning tea and participating in instructive, educational activities, including decorating cup-cakes with malaria themes (the decorator of the best cup-cake won a jar of sweets; see image 1; judged by Dr. Gillian Fisher, Dr. Megan Cross and Dr. Maria Greenup), pinning the sporozoite on the liver and answering questions about malaria (see image 2). All activity participants earned tickets for a raffle prize basket. A photo-booth was also set-up for people to acknowledge World Malaria Day and show their support (image 3). Many of these photos were distributed through social media and were used to further promote World Malaria Day and parasitology. Malaria fact sheets and event specific pens were also distributed among attendees.

## Social media campaign

A social campaign about malaria and parasitology research was conducted through GRIDD's official twitter account (@GRIDD\_GU) to reach a broader audience. The campaign continued from

15th March to 30th April with two posts per week. The strategy included short videos about malaria research, informative short notes, and advertisements for our World Malaria Day morning tea. The hashtags used included #WorldMalariaDay, #ZeroMalariaStartsWithMe, #StepUpTheFlight.

## Outcomes

The morning tea at GRIDD was well received by those who attended the event. People appreciated the interactive cupcake decorating competition very

much and learned a lot about malaria, malaria parasites and mosquito vectors by discussions and conversations with others. The educational activities (pin the parasites, general quiz) also facilitated further learning and the opportunity for organizers to promote parasitology and malaria research to others. The ASP banner was also displayed at the event, promoting our society and its interest in furthering parasitology outreach and education. As an example of the social media reach, a single tweet from GRIDD during our World Malaria Day campaign received 2813 impressions.



**Above left: Some of the brightly decorated cup-cakes**



**Top right: World Malaria Day attendees participating in activities**

**Right: Selected pictures from the photo-booth.**





# Upcoming events

## Impact of Environmental Changes on Infectious Diseases – Innovative Responses

3-5 June 2020

James Cook University Campus,  
Singapore

IECID 2020 is the third meeting in the series and builds upon two previous and highly successful meetings in 2015 and 2017. The conference provides a forum for showcasing current research and findings in the field, as well as for identifying future research challenges and highlighting the inter-disciplinary approaches needed to meet them.



Environmental (including climate) variations are linked to the (re)emergence and changes in the distribution and epidemic potential of several important infectious diseases. In some cases, the links are relatively straightforward, involving the exposure of naïve populations of humans and other biological taxa to unfamiliar pathogens. In other cases, relationships are confounded, such as by the movements of people, by ecological disturbance, by drugs resistance or by weakened immunity, for example due to co-infection and/or malnutrition. These increasingly significant health challenges are driving innovative responses involving emerging

technologies as well as new approaches, systems and inter-disciplinary partnerships, in the process opening-up new avenues for research and effective preventative, diagnostic and mitigation measures.

Plenary lectures will open each day followed by round table discussions, parallel sessions and large poster sessions.

**Abstract deadline: 17 January 2020**

**Further information:**

<https://www.elsevier.com/events/conferences/impact-of-environmental-changes-on-infectious-diseases>

**10TH INTERNATIONAL SYMPOSIUM  
FOR FISH PARASITOLOGY**

**AUSTRALIAN SOCIETY FOR PARASITOLOGY  
ANNUAL CONFERENCE**

**CAIRNS, AUSTRALIA  
6-9 JULY 2020**

**ISFPX**

**The Australian Society  
for Parasitology  
Inc.**

**ISFPX.ORG**

The 10th International Symposium on Fish Parasites will be held in conjunction with the annual meeting of the Australian Society for Parasitology in Cairns, Australia from 6 - 9 July 2020.

# Documenting the malaria elimination program in Bangladesh

Pearl Gan describes her trip to Bandarban, an area in the South-East of Bangladesh, bordering Myanmar. Her photographs document the work underway to address the treatment and prevention of malaria.

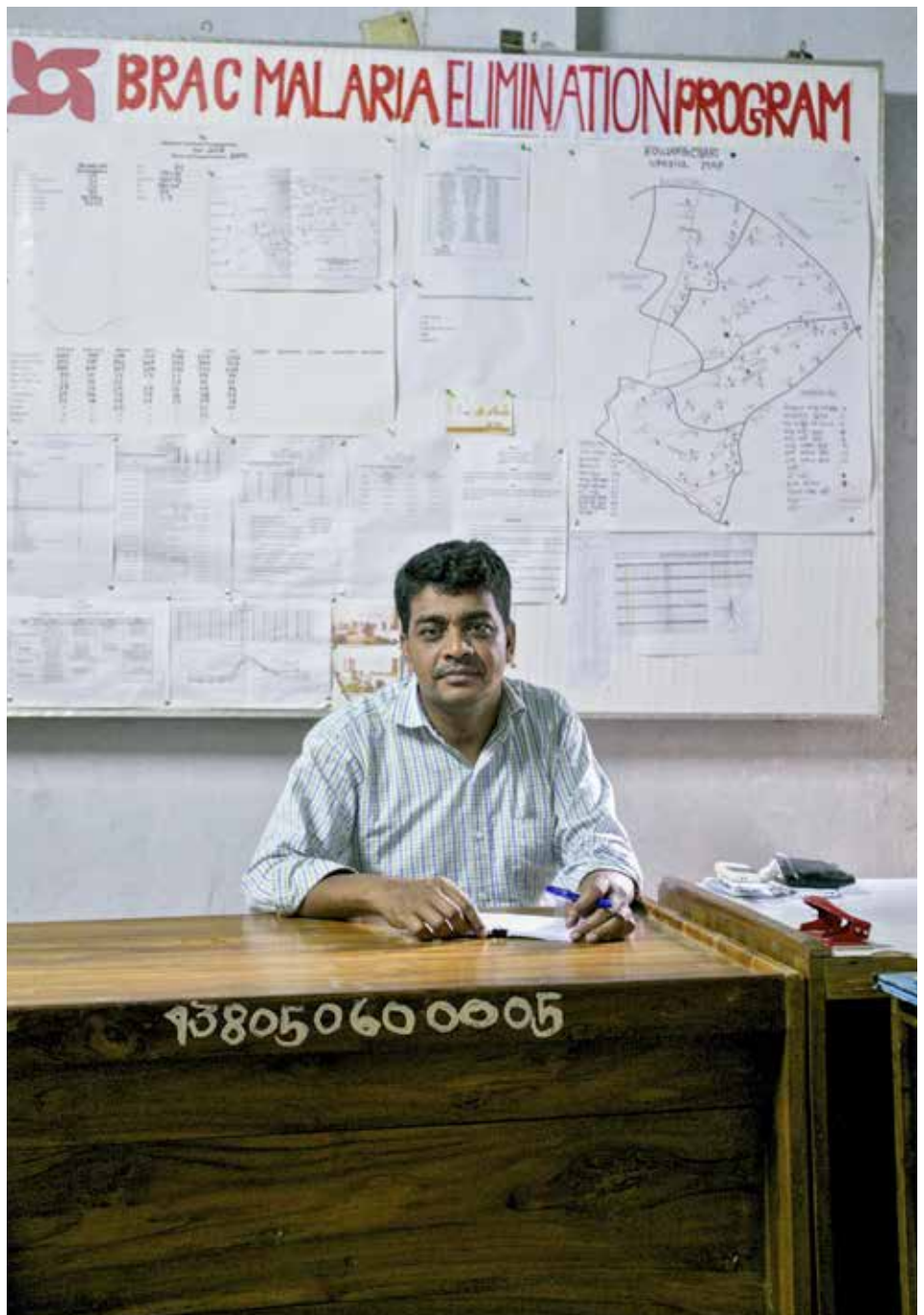
I am the photographer in residence with Oxford University Clinical Research Unit, Vietnam. My malaria project with Professor J. Kevin Baird and Oxford University Clinical Research Unit, Vietnam and EOCRU, Jakarta started in December 2015. In this trip to the Bandarban Track in Bangladesh, I was hosted by BRAC.

The Bandarban track remains an endemic zone for malaria despite much has been achieved in the efforts to eliminate this mosquito-borne disease. The major reasons for the mosquito-borne disease are because of the hilly frontiers, immense rain, large forest area, inadequacies in healthcare system and the geographical isolation in reaching the treatment and other healthcare services.

Thanks to the efforts of the National Malaria Control Programme (NMCP) in Bangladesh and the establishment of a 21 NGOS partnership led by BRAC; it has significantly helped the local communities by increasing the access to malaria treatment, prevention and engagement efforts to raise awareness; including those in the geographically-challenged areas.

I believe that continued medical, educational and engagement efforts in Bangladesh will contribute immensely to bringing us a step closer to realising the ambitious, yet achievable, goal of worldwide malaria elimination by 2030.

**All photographs are copyright of Pearl Gan in association with OUCRU, Vietnam and EOCRU, Jakarta.**  
Website : [www.pearlgan.com](http://www.pearlgan.com)



**The malaria program in Bandarban is driven by BRAC's elimination program.**

**Above: BRAC's District Manager**

**Facing page: visiting patients on the Bandarban track. Images include the use of Long Lasting Insecticide Nets and a mobile malaria worker (MMW) performing, analysing and recording a blood test for malaria.**







## News from the ASP Network for Parasitology

# ASP Network Researcher Exchange, Training and Travel Award Report

**With the support of the ASP, Sarah Preston attended Science Communication Camp in the Simi Valley, Los Angeles.**

Science communication is becoming an important aspect of our work as scientists. It is extremely important that within our busy scientific life, that we take the time to present our research not only to our peers but also to our local community and politicians so that they also understand the importance and relevance of our work.

I was lucky enough last year (in November) to attend the Science Communication Camp in the Simi Valley, Los Angeles, (<https://scicommcamp.com/>) thanks to the support from ASP. This was a three day camp run by science & wildlife journalist, Sarah Keartes, Emmy Award-winning journalist, television presenter/producer, and podcaster Cara Santa Maria and award-winning science journalist, author, speaker, and expedition leader

Jason Goldman. I was very excited by this opportunity as I recently discovered an excellent podcast called "talk nerdy" by Cara Santa Maria where a range of scientists or science communicators are interviewed.

Unfortunately, I missed this first night due to a flight cancellation (mechanical issues...) however although I was told that I did miss a fantastic talk by Maryn McKenna who has recently published the book called "The Fatal Menace of MRSA Superbug". I was given her book for free to read (highly recommend it) and got to chat to Marilyn throughout the next couple of days. I also missed out on a pre-camp workshop called "so you want to write a book". Luckily, I was also able to meet up with the presenter Adam Becker and get a few tips on how to write a sci-fiction book. He said the secret is to just write...

I arrived early on the Saturday morning, just in time for breakfast. I was swiftly registered and given a drink bottle, shirt and a few other things (a good conference for freebies). For the first

round of workshops, you could have chosen from the following; Pitching 101; Science scriptwriting; Interviewing and being interviewed; Science illustration essential

I choose to participate in the interviewing and illustrating workshops.

The interviewing workshop was run by public radio reporter and podcast producer Sanden Totten. Firstly, he went explained how to construct an interview and then we got to pair up and practice our interviewing/interviewee skills. I was paired with Emily from the East coast of America who was currently running a plumbing business. She did her Bachelor degree in Science and was at the camp to try and work out how or should she use her degree to become a science communicator.

Next, I participated in the illustrator workshop. This was one of the highlights for me. The workshop was run by Rachel Ignotofsky who has written and illustrated the following books called Women in Science, Women in Sport and most recently The Wondrous Workings of Planet Earth.

For me, this was a workshop that provided great insight into how to be an illustrator but also accentuated some of my frustrations regarding the textbook pictures that I have to use in my lectures to teach biology. This workshop gave me great inspiration to develop my own pictures and illustrations and as I like to draw as a hobby (hopefully it won't take up too much time!)

Following on from lunch was a round of discussion sessions; you could pick from the following topics; listening and the art of not being a know-it-all; cultural cognition and the role of perspective;



**Left: Sarah interviews Emily**



**Left: Rachel Ignatovsky's science illustration workshop**

**Below: an inspirational talk by volcanologist Jess Phoenix**



don't reinvent the wheel. I chose to participate in "Listening and the art of not being a know-it-all" which explained "how not to be a no-it-all" and how to bring the trust of the public back to science. The discussions were interesting and particularly important in the current climate in America where the culture is currently very dismissive of the science in a range of areas, recently highlighted by the Measles outbreak.

There were a number of interesting discussion points. As scientists, we are never 100% certain but our role is to remove uncertainty. We need to teach

people that science is a process and that experiments build on each other. It's like shining a torch light at the stars as we only know a little about a huge problem.

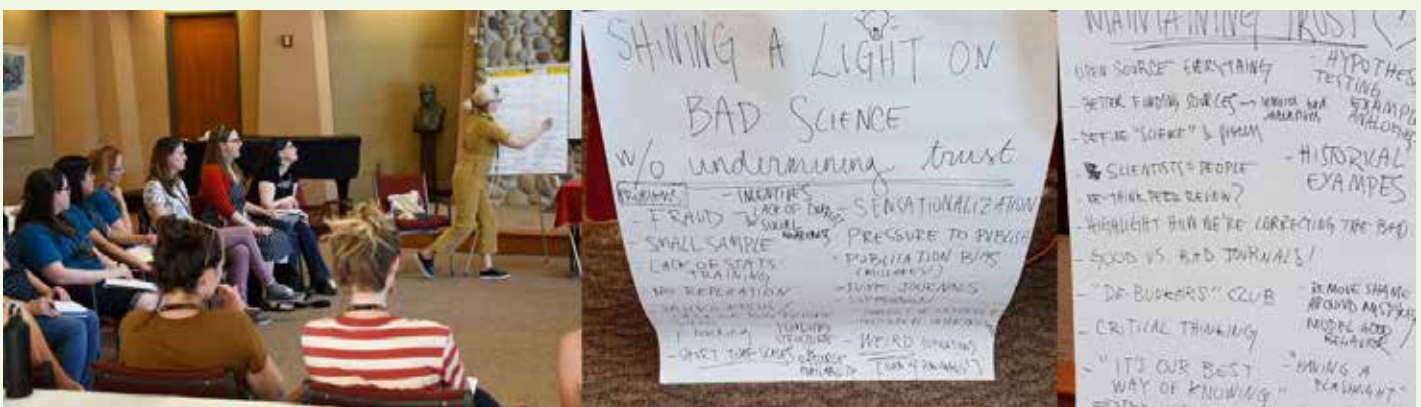
It was then time for a break where we could either go rock climb or go for a hike. I chose to go for a hike. To finish up the day we had happy hour drinks at 5:30 pm followed by a fireside chat with Jess Phoenix. Jess is actually a volcanologist and ran for congress in Simi Valley (very conservative area). Jess's talk was inspirational and provided great insight into the politic process over there.

Next was dinner followed by the Science Carnival! The Science Carnival was a whole lot of fun! There were shark skulls, rocks and minerals, microscopes

and specimen slides plus some reptiles to cuddle. We were also privileged to see a performance by a magician. He actually studied a bachelor of engineering but decided to follow his love of magic. He has some great advice about building a presence on stage which I think we can all relate to with either teaching undergraduates or presenting our research at a conference. The night ended with an actual campfire and smores.

The next day was checkout but not before

**Below: Sarah joins a lively discussion "Shining a light on bad science."**





## Sarah Preston continued



another hike up to the “house of cards” which was actually where the power rangers was filmed (we are in LA is suppose...). There was then a group of us that used some free tickets that SciCom Camp provided to check out the natural history museum in LA. It was a good experience walking around the museum with a group of scientists or science communicators that had great knowledge in areas such as rocks and wildlife photography (photo below).

### A visit to Cara Santa Maria

Following on from the conference, I had the chance to catch up again with Cara Santa Maria and ask Cara questions about her podcast “Talk Nerdy”. Firstly, as it was Tuesday (Voting day) so we needed to head to the ballot box. After that we chatted about how she finds people to interview and constructs her interview. Cara’s background prior to science media was teaching biology and psychology to

undergraduate students. She is currently completing a PhD in clinical psychology whilst featuring on National Geographic’s Explorer as a correspondent, runs her weekly podcast and co-host two other podcasts (“Skeptic’s guide to the universe” and “Fixed that for you”). Cara is very determined to ensure that she include diversity and in particular women and people with colour. Her dog is also very helpful at helping her interview scientists and other science communicators and with producing the episode.

Lastly, I would like to thank ASP for providing me with the opportunity to attend the workshop. I recommend this



**Top left: Sarah and friends pretending to be dinosaurs**

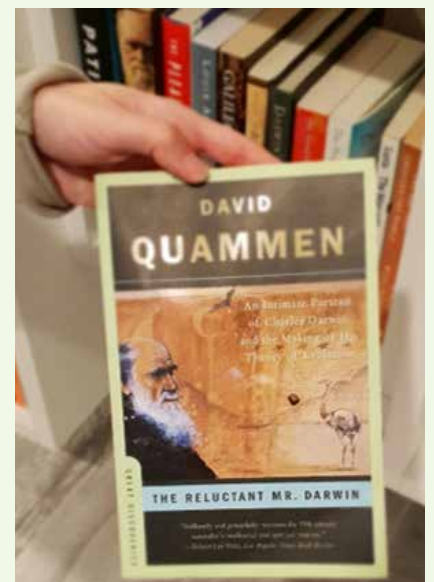
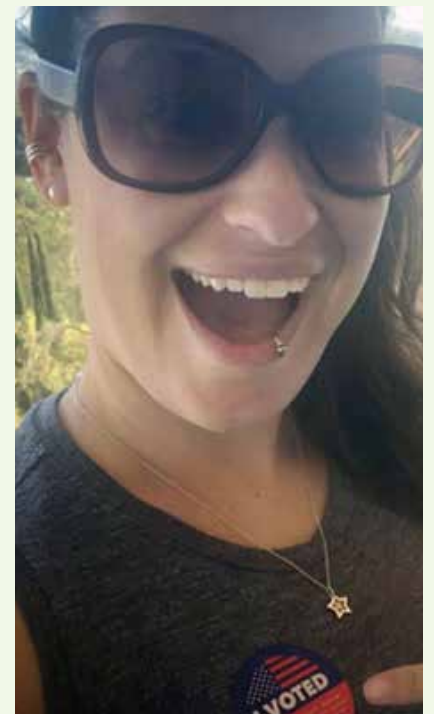
**Bottom left: an activity from the Science Carnival to celebrate the end of camp**

**Above: Sarah with Cara's dog**

**Above right: Cara Santa Maria**

**Right: Cara's book recommendation, The Reluctant Mr. Darwin by David Quammen**

workshop to everyone, particularly those that are trying to decide what to do with their science degree (PhD or Honours), it’s exciting to know what other career paths are out there. It was very refreshing to think of your research and your role as a scientist in the grander scheme of things. I also came away with 5 new books to read for free, two drink bottles and two shirts!





# ASP Network Researcher Exchange, Training and Travel Award Report

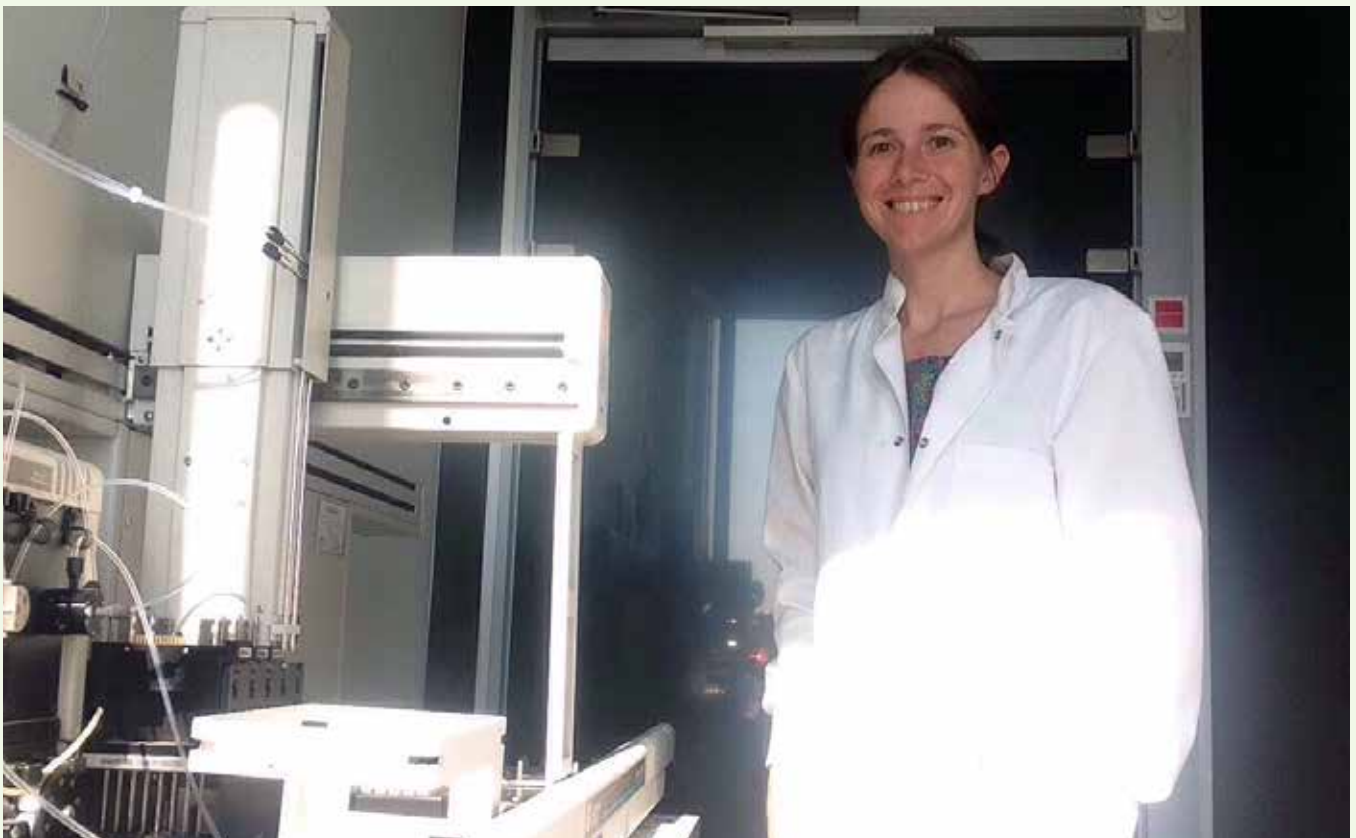
**Elizabeth Aitken of the University of Melbourne reports on her recent visit to the University of Copenhagen in Denmark.**

In May I went to visit Dr Morten Nielsen at the Centre for Medical Parasitology (CMP), University of Copenhagen in Copenhagen, Denmark. I was there to take advantage of their high throughput assay system which measures how well individual's antibodies inhibit the binding of parasites to endothelial and epithelial receptors. While working with Morten Nielsen I learnt how the assay worked and was able to use it to measure how well

antibodies in a cohort of pregnant women from Papua New Guinea could prevent parasites from binding placental receptors. This work will go into a manuscript describing work looking in detail at what kinds of antibodies protect individuals from pregnancy malaria, which we plan to submit this year. While in Copenhagen I also caught up and discussed projects with two other collaborators at the CMP, Dr Ali Salanti (who is helping us look at antibody responses to recombinant proteins) and Dr Anja Jensen (who has an interest in severe malaria in children). Being in Europe also meant that I was able to easily fly across to Spain and attend the second Antibody and Complement Conference which was held in Girona, it

was great to have the opportunity to present our work on antibody responses to *Plasmodium falciparum* and hear all about the advances in the antibody field. Attendance at the conference also provided an opportunity to meet more researchers and set up new collaborations. Overall it was a great trip, thank you to the ASP for supporting my visit to Copenhagen.

**Below: Elizabeth Aitken with the robot which she used to do parasite binding assays at the Centre for Medical Parasitology in Copenhagen**



## IJP

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## 49:01 (January)

## Review Article

*Giardia*: an under-reported foodborne parasite. Una Ryan, Nawal Hijjawi, Yaoyu Feng, Lihua Xiao

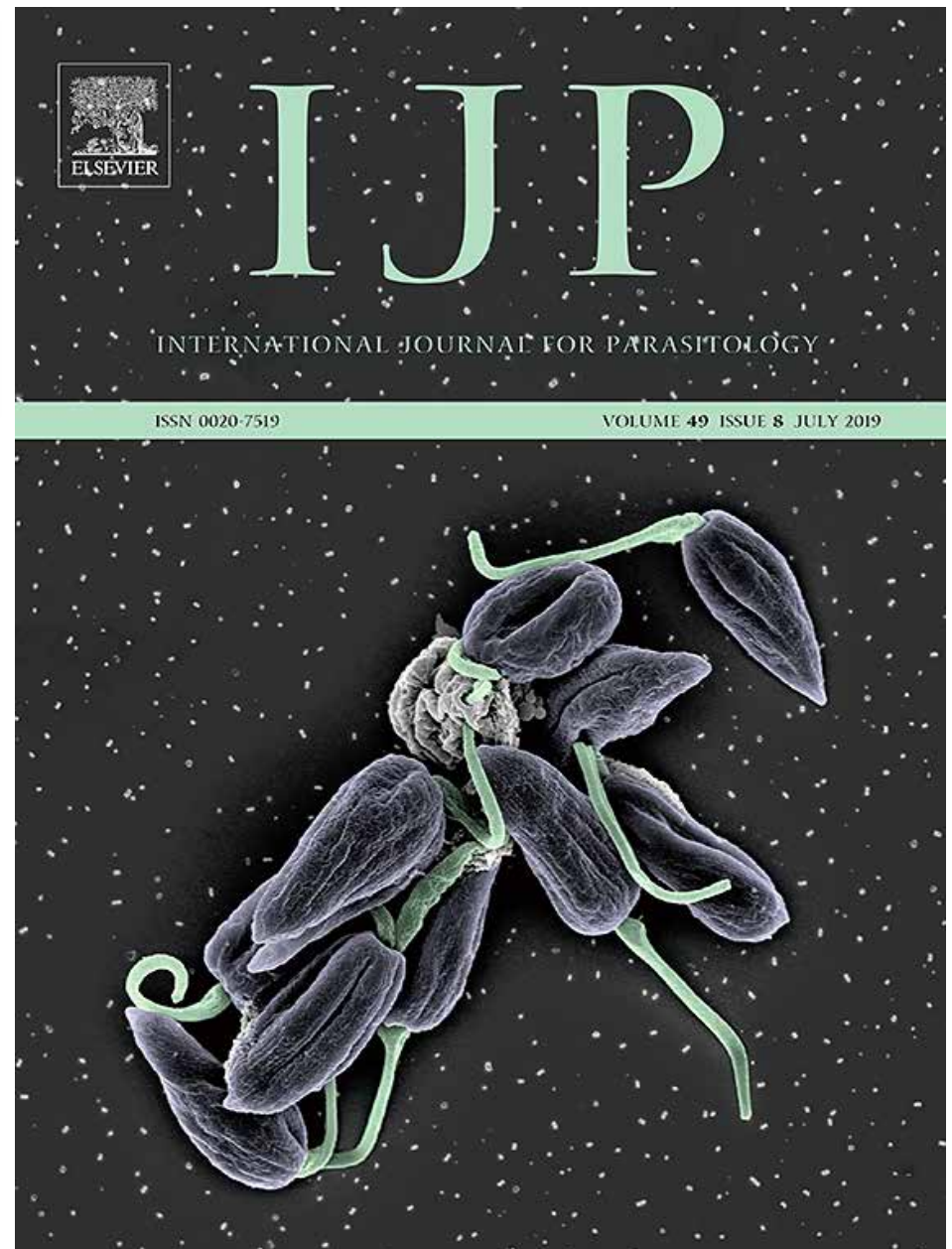
## 49:02 (February – Babesiosis Special Issue)

## Original Research Articles

Evidence for transmission of the zoonotic apicomplexan parasite *Babesia duncani* by the tick *Dermacentor albipictus*. Andrea Swei, Kerry E. O'Connor, Lisa I. Couper, Jose Thekkiniath, Patricia A. Conrad, Kerry A. Padgett, Joseph Burns, Melissa H. Yoshimizu, Ben Gonzales, Brandon Munk, Nicholas Shirkey, Lora Konde, Choukri Ben Mamoun, Robert S. Lane, Anne Kjemtrup

Insights into the evolution and drug susceptibility of *Babesia duncani* from the sequence of its mitochondrial and apicoplast genomes. Azan Z. Virji, Jose Thekkiniath, Wenxiu Ma, Lauren Lawres, James Knight, Andrea Swei, Karine Le Roch, Choukri Ben Mamoun

A library of recombinant *Babesia microti* cell surface and secreted proteins



for diagnostics discovery and reverse vaccinology. Catherine M. Elton, Marilis Rodriguez, Choukri Ben Mamoun, Cheryl A. Lobo, Gavin J. Wright

Up-regulated expression of Spherical Body Protein 2 truncated copy 11 in *Babesia bovis* is associated with reduced

cytoadhesion to vascular endothelial cells. Gina M. Gallego-Lopez, Audrey O. T. Lau, Roberta M. O'Connor, Massaro W. Ueti, Brian M. Cooke, Jacob M. Laughery, Telmo Graça, Sally A. Madsen-Boutersea, Daiane P. Oldiges, David R. Allred, Carlos E. Suarez

*International Journal for Parasitology continued***Succinctus**

Analysis of the *Babesia microti* proteome in infected red blood cells by a combination of nanotechnology and mass spectrometry. Ruben Magni, Alessandra Luchini, Lance Liotta, Robert E. Molestina

**Invited Reviews**

Investigating disease severity in an animal model of concurrent babesiosis and Lyme disease. Purnima Bhanot, Nikhat Parveen

To kill a piroplasm: genetic technologies to advance drug discovery and target identification in *Babesia*. Caroline D. Keroack, Brendan Elsworth, Manoj T. Duraisingh

Human Babesiosis. Peter J Krause

Vaccination against babesiosis using recombinant GPI-anchored proteins. Sarah Nathaly Wieser, Leonhard Schnittger, Monica Florin-Christensen, Stephane Delbecq, Theo Schetters

Unravelling the cellular and molecular pathogenesis of bovine babesiosis: is the sky the limit?. Carlos E. Suarez, Heba F. Alzan, Marta G. Silva, Vignesh Rathinasamy, William A. Poole, Brian M. Cooke

**49: 03/04 (March)****Original Research Articles**

Identifying 'firebreaks' to fragment dispersal networks of a marine parasite. Francisca Samsing, Ingrid Johnsen, Eric A. Trembl, Tim Dempster

Somatic proteome of *Haemonchus contortus*. Tao Wang, Guangxu Ma, Ching-Seng Ang, Pasi K. Korhonen, Rong Xu,

Shuai Nie, Anson V. Koehler, Richard J. Simpson, David W. Greening, Gavin E. Reid, Nicholas A. Williamson, Robin B. Gasser

**49:05 (April)****Original Research Articles**

Out-of-Africa, human-mediated dispersal of the common cat flea, *Ctenocephalides felis*: the hitchhiker's guide to world domination. Andrea L. Lawrence, Cameron E. Webb, Nicholas J. Clark, Ali Halajian, Andrei D. Mihalca, Jorge Miret, Gianluca D'Amico, Graeme Brown, Bersissa Kumsa, David Modrý, Jan Šlapeta

Risk factors for infection with soil-transmitted helminths during an integrated community level water, sanitation, and hygiene and deworming intervention in Timor-Leste. Susana V Nery, Naomi E Clarke, Alice Richardson, Rebecca Traub, James S McCarthy, Darren J Gray, Andrew J Vallely, Gail M Williams, Ross M Andrews, Suzy J Campbell, Archie C A Clements

**49:06 (May)****Original Research Articles**

Highly heterogeneous residual malaria risk in western Thailand. Wang Nguitragool, Stephan Karl, Michael White, Cristian Koepfli, Ingrid Felger, Pratap Singhasivanon, Ivo Mueller, Jetsumon Sattabongkot

**49:07 (June)****Original Research Articles**

Transcriptome and histone epigenome of *Plasmodium vivax* salivary-gland sporozoites point to tight regulatory control and mechanisms for liver-stage differentiation in relapsing malaria. Vivax Sporozoite Consortium (Ivo Muller, Aaron R. Jex, Stefan H. I. Kappe, Sebastian A. Mikolajczak, Jetsumon Sattabongkot,

Rapatbhorn Patrapuvich, Scott Lindner, Erika L. Flannery, Cristian Koepfli, Brendan Ansell, Anita Lerch, Samantha J Emery-Corbin, Sarah Charnaud, Jeffrey Smith, Nicolas Merrienne, Kristian E. Swearingen, Robert L. Moritz, Michaela Petter, Michael F. Duffy, Vorada Chuenchob)

A novel multilocus sequence typing scheme identifying genetic diversity amongst *Leishmania donovani* isolates from a genetically homogeneous population in the Indian subcontinent. Sultana Shahana Banu, Wieland Meyer, Kennio Ferreira-Paim, Qinning Wang, Katrin Kuhls, Elisa Cupolillo, Gabriele Schönan, Rogan Lee

**49:08 (July)****Original Research Article**

Major determinants of the occurrence of a globally invasive parasite in riverine fish over large-scale environmental gradients. Alberto Maceda-Veiga, Ralph Mac Nally, Andy J. Green, Robert Poulin, Adolfo de Sostoa



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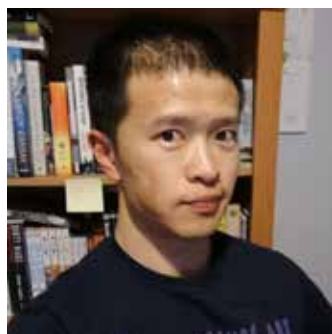
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