

Program & Abstracts

Monash University - Caulfield Campus

Melbourne, Australia

1st & 2nd October 2015

Program at a Glance

DAY 1

08:30 - 09:15	Registration
09:15 - 09:30	Welcome and Housekeeping
09:30 - 10:30	Plenary Session
10:30 - 11:00	Morning Tea
11:00 - 12:30	Session 1: Molecular and Cellular Parasitology
12:30 - 14:00	Lunch & Poster Session (odd numbers)
14:00 - 15:45	Session 2: Immunology
15:45 - 16:15	Afternoon Tea
16:15 - 17:30	Session 3: Malaria in Pregnancy and Vaccine Development
18:00	Conference Dinner at the Racecourse Hotel

DAY 2

09:00 - 10:45	Session 4: Host - Parasite Interactions
10:45 - 11:15	Morning Tea
11:15 - 12:45	Session 5: Plasmodium vivax
12:45 - 14:15	Lunch & Poster Session (even numbers)
14:15 - 15:45	Session 6: Drug Resistance and Drug Discovery
15:45 - 16:15	Afternoon Tea
16:15 - 17:30	Session 7: Epidemiology
17:30 - 18:00	Awards Ceremony

Dear Conference Delegate,

Welcome to Malaria in Melbourne 2015, the new edition of a successful conference series, hosted this year by Monash University at the Caulfield campus.

Australia is fortunate to have a wealth of world-renowned malaria research and Melbourne in particular hosts a broad diversity of research topics and an unusually high concentration of malaria laboratories. Malaria in Melbourne aims to showcase the high quality work being conducted in Melbourne as well as interstate, while providing a unique opportunity for students and early career researchers to present their work and enrich their professional networks. This conference, held every two years, provides a positive and friendly environment in which the latest data can be shared, ideas exchanged and new friendships/collaborations can be forged.

The program of the next two days seeks to reflect the diverse range of malaria research that is being undertaken in Melbourne and across Australia. As such, there are sessions on host - parasite interaction, malaria in pregnancy, vaccines, drug resistance & drug discovery, molecular & cellular parasitology, immunology, and epidemiology.

The plenary speaker this year is Professor Susan Charman. As a prominent woman in research who has a major interest in antimalarial drug development, we look forward to hearing about her work and also about her professional pathway.

The Malaria in Melbourne 2015 conference has been made possible thanks to the support of our sponsors and to the efforts of the organising committee. This committee is comprised of early career researchers that represent most of the university and medical research institutes involved in malaria research in Melbourne.

We warmly welcome you all to Malaria in Melbourne 2015 and hope that you enjoy the meeting!





Jack Richards Co-Chair Burnet Institute



Natalie Counihan eakin University



Daniel Fernández-Ruiz University of Melbourne





Belinda Morahan University of Melbourne Monash University

WEHI

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Michaela Petter



Chris MacRaild MIPS



Thursday 01/10/2015

08:30 - 09:15		Registration
09:15 - 09:30		Welcome & Housekeeping
09:30 - 10:30		Plenary Session
		Sponsored by Medicines for Malaria Venture Chairs: Teresa Carvalho and Jack Richards
	PL	Drug Disposition: A Key Component of Antimalarial Drug Discovery Prof. Susan Charman - Monash Institute of Pharmaceutical Sciences
10:30 - 11:00		Morning Tea Sponsored by Sigma-Aldrich
11:00 - 12:30		Session 1: Molecular and Cellular Parasitology <mark>Sponsored by Malaria Journal</mark> Chairs: Matt Dixon and Charlie Jennison
	T1	Essential role of SPECT1 and SPECT2 in establishing <i>Plasmodium</i> falciparum liver stage malaria
	T2	Annie Yang – The Walter and Eliza Hall Institute Alternative splicing in Apicomplexa is widespread, and its perturbation inhibits <i>Plasmodium</i> life-cycle progression Lee Yeoh – Department of Biochemistry and Molecular Biology, Bio21,
		University of Melbourne
	13	Microtubule associated protein SPM3 shows dynamic repositioning during cytokinesis and is required for nascent daughter formation Nadira Samad - Department of Biosciences, Bio21, University of Melbourne
	Τ4	The lever arm of Apicomplexan parasites: How tight is their grip on human and agricultural disease? Melanie Williams – The Walter and Eliza Hall Institute
	Т5	Proteomic mapping of mitochondrion and apicoplast in <i>Toxoplasma</i> gondii Azadeh Seidi - Research School of Biology, Australian National University
12:30 - 14:00		Poster Session I (odd numbers) & Lunch
14:00 - 15:45		Session 2: Immunology Chairs: Herbert Opi and Vashti Irani
	Т6	Understanding the early events in the initiation of immune responses to blood stage <i>Plasmodium</i> infection
	T 7	Simon Apte - Molecular Vaccinology Laboratory, QIMR Berghofer Medical Research Institute
	17	efficient control of blood-stage malaria infection and promotes severe disease
	Т8	Lisa Ioannidis – The Walter and Eliza Hall Institute Surviving a Hostile Environment: <i>Plasmodium falciparum</i> complement evasion strategies. Alexander Kennedy – The Walter and Eliza Hall Institute
	Т9	The Dose Dictates the Poison: Dendritic Cell Responses to the Malaria Parasite <i>P. falciparum</i> Xi Zen Yan - Centre for Biomedical Research, Burnet Institute
	T10	Merozoite surface antigens of malaria are effective vaccine antigens to stimulate antibodies promoting opsonic phagocytosis Gaoqian Feng - Centre for Biomedical Research, Burnet Institute

- **T11** Antibodies and pre-erythrocytic immunity to malaria Liriye Kurtovic - Centre for Biomedical Research, Burnet Institute
- **15:45 16:15** Afternoon Tea
- 16:15 17:30Session 3: Malaria in Pregnancy and Vaccines
Chairs: Elizabeth Aitken and Madi Nije
 - T12 Chondroitin sulphate A modulates the monocyte response to *Plasmodium falciparum*-infected erythrocytes and pathogen products Louise Randall - Department of Medicine, The University of Melbourne
 - **T13** Antenatal malaria screening reduces the effect of *P. falciparum* infection on preterm birth Kerryn Moore - Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne
 - T14 Influence of maternal nutrient supplementation on malaria antibody immunity during pregnancy and infancy Upeksha Chandrasiri Department of Medicine, Peter Doherty Institute, The University of Melbourne
 T15 Mapping epitopes within intrinsically disordered proteins of
 - 115 Mapping epitopes within intrinsically disordered proteins of *Plasmodium falciparum* using computational approaches: implications for immunity and vaccines

Andrew Guy - Centre for Biomedical Research, Burnet Institute

18:00 Conference Dinner Sponsored by Australian Society for Parasitology The Racecourse Hotel (map at the end of program)

Friday 02/10/2015

09:00 - 10:45		Session 4: Host - Parasite Interactions Sponsored by School of Medicine - Deakin University Chairs: Dean Goodman and Stanley Xie
	T16	The repeat region of ring exported protein 1 maintains Maurer's cleft architecture and efficient virulence protein trafficking in <i>Plasmodium falciparum.</i> Emma McHugh - Department of Biochemistry and Molecular Biology, Bio21.
	T17	University of Melbourne The human kinase PAK is essential for <i>Plasmodium falciparum</i> blood stages and shows an unexpected localisation in infected erythrocytes. Jack Williamson - Department of Microbiology, Monash University
	T18	<i>P. falciparum</i> specific exported chaperone Hsp70-x is required for efficient protein export Sarah Charnaud - Burnet Institute
	T19	Dissection of PTEX88, a component of the malaria protein export machinery Scott Chisholm - School of Medicine, Deakin University
	T20	An exported FIKK kinase (FIKK9.4) involved in the phosphorylation of <i>Plasmodium falciparum</i> antigen 332 Ghizal Siddigui - Department of Microbiology, Monash University
	T21	Investigation of the export pathway of Plasmodium parasites utilising small molecule inhibitors of plasmepsin V Michelle Gazdik - The Walter and Eliza Hall Institute
10:45 - 11:15		Morning Tea
11:15 - 12:45		Session 5: <i>Plasmodium vivax</i> Chairs: Jakub Gruszczyk and Andreea Waltman
	T22	Modeling the dynamics of <i>Plasmodium vivax</i> infection and hypnozoite reactivation <i>in vivo</i> Adeshina Adekunle - Infection Analytics Program, Kirby Institute, University of New South Wales, Sydney
	T23	The transcriptome of the <i>Plasmodium vivax</i> gametocytes and blood- stages using classical and single-cell RNAseq Cristian Koepfli - Walter and Eliza Hall Institute
	T24	Antibody responses to <i>Plasmodium falciparum</i> and <i>P. vivax</i> and prospective risk of <i>Plasmodium</i> infection postpartum Alistair McLean - Centre for Biomedical Research, Burnet Institute
	T25	The development and optimisation of a new G6PD deficiency screening assay for safe <i>Plasmodium vivax</i> malaria drug treatment James O'Donnell - Centre for Biomedical Research, Burnet Institute
	T26	Acquisition and longevity of antibodies to <i>Plasmodium vivax</i> pre-erythrocytic antigens in Western Thailand Rhea Longley – Walter and Eliza Hall Institute and Mahidol Vivax Research Unit Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand
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- 14:15 15:45 Session 6: Drug resistance and drug discovery Sponsored by Malaria Journal Chairs: Danny Wilson and Jeff Seow
 - T27 Molecular markers of *Plasmodium falciparum* drug resistance from a high transmission setting in Bongo District, Ghana.
 - Charles Narh School of BioSciences, Bio21, The University of Melbourne
 Changes in malaria transmission and immunity and the emergence of artemisinin resistance in Thailand from 2001-2011
 Ricardo Ataide Burnet Institute
 - T29 A randomized open-label clinical trial of artesunate-mefloquine versus chloroquine for the treatment of uncomplicated Plasmodium knowlesi malaria in Sabah, Malaysia (ACT KNOW trial) Matthew Grigg - Global and Tropical Health Division, Menzies School of Health Research and Charles Darwin University
 - T30 Repurposing cancer drugs inhibiting kinases a new perspective for antimalarial drug discovery? Simona John von Freyend - Monash Biomedicine Discovery Institute and Department of Microbiology, Monash University
 - T31 Dihydroartemisinin induces stress pathways in the malaria parasite Plasmodium falciparum Jess Bridgford - Department of Biochemistry and Molecular Biology, Bio21, The University of Melbourne
- **15:30 16:00** Afternoon Tea

16:00 - 17:30 Session 7: Epidemiology Chairs: Abby Harrison and Camila Franca

- T32 Var gene diversity of Plasmodium falciparum clinical isolates among six sentinel health sites across Uganda.
 Shazia Ruybal-Pesántez - School of BioSciences, Bio21, University of Melbourne
- T33 Rising incidence of knowlesi malaria in Sabah, Malaysia, but falling notification-fatality rate in adults with use of intravenous artesunate, and absence of *P. knowlesi* deaths in children

Bridget Barber - Global and Tropical Health Division, Menzies School of Health Research and Charles Darwin University

T34 Using molecular epidemiology to gain insight into the differential epidemiology of *Plasmodium falciparum* and *Plasmodium vivax* in the Solomon Islands

Yi Wan Quah - The Walter and Eliza Hall Institute

T35 Naturally Acquired Immune Response to the ICAM1 binding PfEMP1 Domain DBL2β_{PF11_0521} is associated with reduced risk of high density *P falciparum* malaria in young Papua New Guinean Children Sofonias Tessema - The Walter and Eliza Hall Institute

17:30-18:00 Awards Ceremony

Susan Charman is Director of the Centre for Drug Candidate Optimisation, and Professor at the Monash Institute of Pharmaceutical Sciences. She completed her PhD in pharmaceutical science in the US and worked for two years in the pharmaceutical industry before moving to Monash University. She currently leads a team of 20 scientists that undertake ADME-informed drug candidate optimisation in collaboration with drug discovery chemists and biologists to enhance and accelerate drug candidate design and progression. She has established a successful model for conducting collaborative, translational research within a university environment, and her group has contributed to programs that have progressed 22 new drug candidates into clinical trials. She is particularly interested in the lead optimisation of novel drug candidates for neglected and tropical diseases and has contributed to projects resulting in one approved antimalarial, three antimalarial drug candidates currently in clinical development and four in preclinical development. She has attracted significant funding from industry and competitive grants, has published over 130 peer-reviewed manuscripts, and is coinventor on 7 patents.



Venue: Monash University - Caulfield Campus

Halstead Lecture Theatre; Building K, Level 3 900 Dandenong Road; Caulfield East, Victoria; Australia

Public transport:

Take any train towards Cranbourne or Pakenham or Frankston and get off at Caulfield station



Conference Dinner at The Racecourse Hotel: http://www.racecoursehotel.com.au/



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