



October 28th – 29th, 2019
at the Walter and Eliza Hall Institute
Melbourne, Australia

Program

#malariamelb19

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<https://www.malariainmelbourne.org.au>

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: Immunology
12:30 - 13:00	Short Talk Session I
13:00 - 14:00	Poster Session I & Lunch
14:00 - 15:30	Session 2: Molecular & Cellular Parasitology
15:30 - 16:00	Afternoon Tea
16:00 - 17:30	Session 3: Malaria Elimination – Gains & Challenges
18:00	Conference Dinner at The Loft, Victorian Comprehensive Cancer Centre, Level 7

Day 2

09:00 - 10:15	Session 4: Epidemiology
10:15 - 11:00	Career Development Workshop with Dr Audrey Odom John and Morning Tea
11:00 - 12:30	Session 5: Drugs & Resistance
12:30 - 13:00	Short Talk Session II
13:00 - 14:00	Poster Session II & Lunch
14:00 - 15:30	Session 6: New Tools, Diagnostics and Prevention
15:30 - 16:00	Afternoon Tea
16:00 - 17:30	Session 7: Antigenic Targets of Naturally Acquired Immunity
17:30 - 18:00	Awards Ceremony & Closing Remarks

Program

Day 1 – Monday 28th October

08:30 - 09:15 Registration

09:15 - 09:30 Welcome and Housekeeping

09:30 - 10:30 **Plenary Session**

A breath of fresh air: breath volatiles for malaria diagnosis and beyond

Dr Audrey Odom John, Chief, Division of Infectious Diseases at Children's Hospital of Philadelphia

10:30 - 11:00 Morning Tea

11:00 - 12:30 **Session 1: Immunology**

T1 The human gamma/delta T-cell receptor (TCR) is poised to communicate *Plasmodium falciparum* malaria infection

Anouk von Borstel - Biomedicine Discovery Institute, Monash University, Melbourne, Australia

T2 Low *Plasmodium* Parasite Burden is Associated with Memory-Activated Natural Killer Cells in Sickle-Cell Individuals

Claire Loiseau - Centre for Molecular Therapeutics, Australian Institute of Tropical Health & Medicine, James Cook University, Cairns, Australia

T3 Transcriptome Dynamics Reveals Progressive Transition from Effector to Memory in CD4+ T cells in an Experimental Malaria Model

Hyun Jae Lee - QIMR Berghofer Medical Research Institute, Brisbane, Australia

T4 Glycolipid-peptide vaccination induces liver-resident memory CD8+ T cells that protect against malaria

Lauren E Holz - Department of Microbiology and Immunology, The Doherty Institute for Infection and Immunity; Australian Research Council Centre of Excellence in Advanced Molecular Imaging, University of Melbourne, Melbourne, Australia

T5 Deciphering initiation of CD8+ T cell responses to liver-stage *Plasmodium* sporozoite antigens.

Sonia Ghilas - Department of Microbiology and Immunology, Peter Doherty Institute; Australian Research Council Centre of Excellence in Advanced Molecular Imaging, University of Melbourne, Melbourne, Australia

12:30 - 13:00 Short Talk Session I**ST1.1 Modulation of bystander red blood cell metabolism by *Plasmodium falciparum***

Anna E. Sexton - Drug Delivery, Disposition & Dynamics, Monash Institute of Pharmaceutical Sciences, Melbourne Australia

ST1.2 Naturally Acquired Human Antibodies to *Plasmodium falciparum* Transmission-Stage Antigen Pfs230

Ashley Lisboa-Pinto - Burnet Institute for Medical Research and Public Health, Melbourne, Australia

ST1.3 *Plasmodium falciparum* iron regulatory protein governs parasite susceptibility to iron chelation

Danielle Clucas - Walter and Eliza Hall Institute of Medical Research; Department of Medical Biology, The University of Melbourne, Melbourne, Australia

ST1.4 Characterisation of bromodomain protein 4 (PfBDP4) in *Plasmodium falciparum*

Hanh H.T. Nguyen - Department of Medicine/RMH, The University of Melbourne, Melbourne, Australia

ST1.5 Red Flag or False Alarm? Molecular markers of *Plasmodium falciparum* artemisinin resistance in Papua New Guinea

Dulcie Lautu - Population Health & Immunity Division, Walter & Eliza Hall Institute of Medical Research; Department of Medical Biology, University of Melbourne; Disease Elimination and Maternal and Child Health, Burnet Institute, Melbourne, Australia; Vector Borne Diseases Unit, Papua New Guinea Institute of Medical Research, Madang, Papua New Guinea

ST1.6 New insights into mechanisms and targets of immunity to sporozoites towards developing a highly effective vaccine against malaria

Gaoqian Feng - Burnet Institute for Medical Research and Public Health; Department of Medicine, The University of Melbourne, Melbourne, Australia

ST1.7 Defining naturally acquired antibody kinetics to *Plasmodium vivax* antigens in western Thailand

Zoe SJ Liu - Population Health & Immunity Division, The Walter and Eliza Hall Institute of Medical Research; Department of Medical Biology, University of Melbourne, Melbourne, Australia

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Day 1 – Monday 28th October

13:00 - 14:00 **Poster Session I & Lunch**

14:00 - 15:30 **Session 2: Molecular and Cellular Parasitology**

T6 **Identification of a novel rhoptry protein that is essential for merozoite invasion**

Benjamin Liffner - Research Centre for Infectious Diseases, School of Biological Sciences, University of Adelaide, Adelaide, Australia

T7 **Evidence that the *Plasmodium* PTEX unfoldase functions at an intracellular stage of the export pathway**

Mikha Gabriela - Burnet Institute, Melbourne; School of Medicine, Deakin University, Waurn Ponds, Australia

T8 **Maurer's clefts: the intersection of virulence and host-cell remodelling**

Olivia Maria Silva Carmo - Department of Biochemistry and Molecular Biology, Bio21 Molecular Science and Biotechnology Institute, University of Melbourne, Melbourne, Australia

T9 **Plasmepsin V is essential in *Plasmodium berghei* liver stages and directs protein export to the infected hepatocyte**

Ryan W.J. Steel - The Walter and Eliza Hall Institute of Medical Research; Department of Medical Biology, University of Melbourne, Melbourne, Australia

T10 **Formin-2 is an integral cytoskeletal organiser in *Plasmodium falciparum* gametocytes**

Sophie Collier - Department of Biochemistry and Molecular Biology, Bio21 Molecular Science and Biotechnology Institute, University of Melbourne, Melbourne, Australia

15:30 - 16:00 **Afternoon tea**

Program

Day 1 – Monday 28th October

- 16:00 - 17:30** **Session 3: Malaria Elimination – Gains & Challenges**
- T11** **The cost-effectiveness of quantitative G6PD testing before using tafenoquine for the radical cure of vivax malaria**
Angela Devine - Global and Tropical Health Division, Menzies School of Health Research and Charles Darwin University, Darwin; Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Australia
- T12** **Malaria National Program of Cambodia's experiences on mHealth for Malaria Elimination**
Pengby Ngor - Malaria National Programme of Cambodia, Mahidol-Oxford Tropical Medicine Research Unit
- T13** **Monitoring the effects of an indoor residual spraying intervention on the reservoir of *Plasmodium falciparum* in an area characterized by seasonal transmission in Ghana**
Kathryn E. Tiedje - School of BioSciences, The University of Melbourne, Bio21 Molecular Science and Biotechnology Institute; Department of Microbiology and Immunology, The University of Melbourne, Bio21 Molecular Science and Biotechnology Institute, Melbourne, Australia
- T14** **Mandla-Malaria Elimination Demonstration Project for supporting India's 2030 Malaria Elimination Goal**
Harsh Rajvanshi - Malaria Elimination Demonstration Project (MEDP), Mandla, Madhya Pradesh, India
- T15** **Evaluation of novel Blood Separator Device as a sample collection tool for malaria elimination**
Sneha Saxena - Burnet Institute, Melbourne, Australia
- 18:00** **Conference dinner at The Loft**

09:00 - 10:15 Session 4: Epidemiology

- T16 Trends of drug-resistance molecular markers before and after Mass Drug Administration in Myanmar**
Aung Pyae Phyo - Malaria Elimination Task Force, Shoklo Malaria Research Unit and Myanmar Oxford Clinical Research Unit
- T17 Estimates of *P. falciparum* msp2 genetic diversity as a surveillance tool for assessing the impact of indoor residual spraying on asymptomatic infections in Ghanaian children**
Charles A. Narh - School of BioSciences, Bio21 Institute, The University of Melbourne, Melbourne, Australia; Noguchi Memorial Institute for Medical Research, University of Ghana, Legon, Ghana.
- T18 Impact of Malaria in Pregnancy on Infant Neurobehavioural Outcomes**
Harriet L. S. Lawford - Mothers, Babies and Women's Health, Mater Research Institute, Faculty of Medicine, The University of Queensland, Australia
- T19 The effects of mass drug administration for malaria elimination on naturally acquired antimalarial immunity: implications for clinical and sub-clinical rebound**
Katherine O'Flaherty - Burnet Institute, Melbourne, Australia; Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne, Australia
- T20 Evolution of *Plasmodium falciparum* after an outbreak sustains malaria transmission in Ecuador**
Shazia Ruybal-Pesántez - School of BioSciences/Bio21 Institute, University of Melbourne, Australia

**10:15 - 11:00 Career Development Workshop
with Dr Audrey Odom John
and Morning Tea**

11:00 - 12:30**Session 5: Drugs & Resistance****T21****Comparing the mode of action of ozonide and artemisinin antimalarials using multiomics**

Carlo Giannangelo - Monash Institute of Pharmaceutical Sciences, Monash University, Melbourne, Australia

T22**Viability of artemisinin-sensitive and artemisinin-resistant *P. falciparum* parasites after artesunate treatment in a volunteer infection study**

Maria Rebelo - QIMR Berghofer Medical Research Institute, Brisbane, QLD, Australia

T23**A genetic resistance trap in malaria parasites: exploiting the differential metabolism of the parasite between its two hosts**

Hayley D Buchanan - School of BioSciences, The University of Melbourne, Melbourne, Australia

T24**Screening the Medicines for Malaria Venture Pathogen Box for invasion and egress inhibitors of the blood stage of *Plasmodium falciparum* reveals several inhibitory compounds**

Madeline G. Dans - Burnet Institute, Melbourne, Australia; School of Medicine, Deakin University, Warrnambool, Australia

T25**Ex vivo and in vivo study of gametocyte production in artemisinin-resistant *Plasmodium falciparum***

Zuleima Pava Imitola - QIMR Berghofer Medical Research Institute, Brisbane, Australia

12:30 - 13:00

Short Talk Session II

- ST2.1 Identification and characterisation of novel hepatocyte effector proteins of *Plasmodium falciparum***
Jelte M. M. Krol - Walter and Eliza Hall Institute of Medical Research; Department of Medical Biology, University of Melbourne, Melbourne, Australia
- ST2.2 Regulation of splicing in *Plasmodium falciparum***
Emma McHugh - Department of Biochemistry and Molecular Biology, The University of Melbourne, Parkville
- ST2.3 Assaying translation in apicomplexan parasites: a doxycycline case study**
Emily M. Crisafulli - Department of Biochemistry and Molecular Biology, Bio21 Molecular Science and Biotechnology Institute, The University of Melbourne, Melbourne, Australia.
- ST2.4 Visualizing MHC-II restricted response to rodent malaria**
Matthias H. Enders - Department of Microbiology and Immunology, Peter Doherty Institute for Infection and Immunity; The ARC Centre of Excellence in Advanced Molecular Imaging, University of Melbourne, Melbourne, Australia
- ST2.5 Plasmepsin V is essential for liver infection by malaria parasites**
Matthew O'Neill - Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia,
- ST2.6 The role of anti-malarial immunity in sub-clinical *Plasmodium falciparum* and *P. vivax* infection and clearance time.**
Merryn Roe - Burnet Institute, Australia; School of Public Health and Preventive Medicine, Monash University, Australia.

- ST2.7 Real-time Whole Genome Sequencing of *Plasmodium* Field Isolates**
Zahra Razook - Population Health and Immunity Division,
Walter and Eliza Hall Institute of Medical Research,
Melbourne, Australia
- 13:00 - 14:00 Poster Session II & Lunch**
- 14:00 - 15:30 Session 6: New Tools, Diagnostics and Prevention**
- T26 A new mass spectral library for high-coverage, reproducible analysis of the *Plasmodium falciparum*-infected red blood cell proteome**
Ghizal Siddiqui - Monash Institute of Pharmaceutical Sciences, Monash University, Melbourne, Australia
- T27 Validation of a novel amplicon deep sequencing tool for genotyping *Plasmodium vivax***
Jason Rosado - Unit of Malaria: Parasites and hosts, Institut Pasteur; Sorbonne Université, Paris, France
- T28 The effectiveness of repellent delivered through village health volunteers on malaria incidence in South-East Myanmar: a stepped-wedge cluster randomised controlled**
Julia C. Cutts - Burnet Institute, VIC, Australia and Yangon, Myanmar
- T29 Evaluation of a novel malaria diagnostic device**
Petra Molnar - Department of Physics, Budapest University of Technology and Economics and MTA-BME Lendület, Budapest, Hungary
- T30 Telomere-to-telomere de novo assembly of long read sequencing data unlocks complex variation in the *Plasmodium falciparum* genome**
Somya Mehra - Population Health and Immunity Division,
Walter and Eliza Hall Institute of Medical Research,
Melbourne, Australia
- 15:30 - 16:00 Afternoon Tea**

16:00 - 17:30 Session 7: Antibodies and Antigens - Uncovering Form and Function

- T31 Global diversity and natural selection of leading *Plasmodium falciparum* vaccine candidate antigens**
Myo Naung - Population Health and Immunity Division,
Walter and Eliza Hall Institute of Medical Research,
Melbourne, Australia
- T32 Identifying functional antibodies that protect pregnant women against placental malaria infection**
Elizabeth Aitken - Department of Medicine (RMH), Peter
Doherty Institute, University of Melbourne, Melbourne,
Australia
- T33 *Plasmodium vivax* invasion: structural scaffolds and human monoclonal antibodies**
Li-Jin Chan - Infectious Diseases and Immune Defence,
The Walter and Eliza Hall Institute of Medical Research;
Department of Medical Biology, The University of
Melbourne, Melbourne, Australia
- T34 Importance of functional antibodies in protection of pregnant women from malaria**
Timon Damelang - Department of Microbiology and
Immunology at Peter Doherty Institute for Infection and
Immunity, University of Melbourne, Melbourne, Australia
- T35 Structural studies of human antibody responses against leading malaria vaccine antigen PfCSP**
Stephen W. Scally - Program in Molecular Medicine, The
Hospital for Sick Children Research Institute, Toronto,
Canada

17:30 - 18:00 Awards Ceremony & Closing Remarks