



Victorian Infection
& Immunity Network

Young Investigator Symposium

Thursday 9 November 2023
Monash Institute of Pharmaceutical Sciences

www.viin.org.au

#viinyis, #YoungVIIN2023

Program-at-a-Glance 2023

THURSDAY 9 NOVEMBER	
08:15 – 08:45	Registration, Sisson's Foyer in Cossar Hall
08:45 – 08:55	Welcome and Acknowledgement of Country, Lecture Theatre
08:55 – 09:25	Session 1, Lecture Theatre Oral Presentations 1: Research Assistants
09:25 – 10:00	Session 2, Lecture Theatre Science Bites 1
10:00 – 10:45	Session 3, Lecture Theatre Keynote Speaker 1: Prof Ben Cowie, The Peter Doherty Institute for Infection and Immunity
10:45 – 11:25	Morning tea, Cossar Hall (includes transit time from and to Lecture Theatre)
11:25 – 12:05	Session 4, Lecture Theatre Oral Presentations 2: Honours students
12:05 – 12:45	Session 5, Lecture Theatre Oral Presentations 3: Early-career researchers
12:45 – 14:00	Lunch and Poster Session 1, Cossar Hall (includes transit time from and to Lecture Theatre)
14:05 – 15:10	Session 6, Lecture Theatre Oral Presentations 4: PhD students
15:10 – 15:50	Afternoon Tea, Cossar Hall (includes transit time from and to Lecture Theatre)
15:50 – 16:20	Session 7, Lecture Theatre Keynote Speaker 2: Dr Kim O'Sullivan, Monash University
16:20 – 16:55	Session 8, Lecture Theatre Science Bites 2
17:00 – 18:00	Evening networking and Poster Session 2, Cossar Hall
18:00 – 18:15	Prize-giving, thank yous and conclusion, Cossar Hall

Thursday 9 November: 8.15am – 6.15pm

08:15 – 08:45	Registration, Cossar Hall
08:45 – 08:55	Welcome and Acknowledgement of Country, Lecture Theatre Chairs: TBC
08:55 – 9:25	Session 1, Lecture Theatre Oral Presentations 1: Research Assistants Chairs: TBC
08:55	Identification of monoclonal antibodies against <i>Plasmodium vivax</i> Apical Membrane Antigen 1 that promote functional responses Chiara Drago, Burnet Institute
09:05	The Omicron BA.1 bivalent COVID-19 booster vaccine enhances the capacity of SARS-CoV-2-specific memory B cells to recognise Omicron BA.5 and BQ.1.1 Holly Fryer, Monash University
09:15	Inflammatory profiles of vaginal <i>Gardnerella vaginalis</i> isolates from South African women with and without bacterial vaginosis Sarah Amir Hamzah, Burnet Institute
09:25 – 10:00	Session 2, Lecture Theatre Science Bites 1 Chairs: TBC
09:25	Long-lived anti-cytokine autoantibodies associated with post-COVID-19 sequelae Catherine Chen, Walter and Eliza Hall Institute of Medical Research
09:29	Modelling & Targeting Cytokine Storm in Dengue virus-infected Mice William Clow, Walter and Eliza Hall Institute of Medical Research
09:33	The role of an innate-like T cell subset during <i>Plasmodium</i> sporozoite infection Phoebe Dewar, University of Melbourne
09:37	The <i>Helicobacter pylori</i> virulence factor, Tipα, is carried by bacterial extracellular vesicles to the nuclear compartment of host cells Jack Emery, Hudson Institute of Medical Research
09:41	IL-4 promotes the generation of liver-resident T cell memory Zhengyu Ge, University of Melbourne
09:45	Influenza vaccine responses to A(H1N1)pdm09 antigens in 2020 and 2021 among repeatedly vaccinated healthcare workers Jessica Hadiprodjo, University of Melbourne
09:49	Mapping the Commitment of Haematopoietic Progenitors to the T Cell Lineage Dhruti Parikh, University of Melbourne and St Vincent's Institute
09:53	Unravelling the roles of haematopoietic thymic antigen presenting cells in unconventional T cell development Yi Wang, University of Melbourne
10:00 – 10:45	Session 3, Lecture Theatre Keynote Speaker 1: Prof Ben Cowie, The Peter Doherty Institute for Infection and Immunity Chairs: TBC
10:00	TITLE TBC
10:45 – 11:25	Morning tea, Cossar Hall

	(includes transit time from and to Lecture Theatre)
11:25 – 12:05	Session 4, Lecture Theatre Oral Presentations 2: Honours Students Chairs: TBC
11:25	Lifting the Break: Regulation of Programmed Death-Ligand 1 in Dendritic Cells Delaram Babaei, Bio21, University of Melbourne
11:35	An isothermal CRISPR-Cas12a point-of-care assay for rapid and sensitive detection of <i>N. gonorrhoeae</i> Natasha Dyson, University of Melbourne and Walter and Eliza Hall Institute of Medical Research
11:45	Investigating the effects of amino alcohol antimalarials on artemisinin activity in <i>Plasmodium falciparum</i> Jennifer Le, Monash Institute of Pharmaceutical Sciences
11:55	Identification of potential HLA-A*03:01 restricted CD8+ T cell epitopes conserved across influenza A and B viruses Hannah Priest, Monash University
12:05 – 12:45	Session 5, Lecture Theatre Oral Presentations 3: Early-Career Researchers Chairs: TBC
12:05	Potent, HIV-specific latency reversal through CRISPR activation delivered by lipid nanoparticles exhibiting a high efficiency of transfecting resting CD4+ T cells with minimal toxicity Paula Cevaal, Peter Doherty Institute of Infection and Immunity, University of Melbourne
12:15	Olaparib attenuates bleomycin-induced pulmonary fibrosis in a sheep model Habtamu Derseh, Federation University
12:25	Multi-omic approaches define new functional roles for the transient receptor potential vanilloid 4 (TRPV4) ion channel in macrophages Nathan Nguyen, Monash University
12:35	Identifying antibody responses to PfEMP1 that protect children from severe malaria Isobel Walker, Peter Doherty Institute for Infection and Immunity, University of Melbourne
12:45 – 14:00	Lunch and Poster Session 1, Cossar Hall (includes transit time from and to Lecture Theatre) See below for more information
14:00 – 15:10	Session 6, Lecture Theatre Oral Presentations 4: PhD Students Chairs: TBC
14:00	Characterisation of Novel Cytokine Interferon Epsilon in the Murine Peritoneal Cavity Jasmine Chuah, Hudson Institute of Medical Research
14:10	Characterising host immune responses to invasive multi-drug resistant ST34 monophasic <i>Salmonella</i> Sahampath Hettiarachchi, Monash University and Hudson Institute of Medical Research
14:20	Partners in crime: investigation of influenza-group A streptococcus coinfection Jenny Hua, Murdoch Children's Research Institute

14:30	CD1c presentation of a branched ganglioside, GD1a Guan-Ru Liao, Monash University
14:40	Characterising the expression and signalling properties of NKp44-isoforms in Natural killer cell cytotoxicity Alexander Sedgwick, The Peter Doherty Institute for Infection and Immunity and University of Melbourne
14:50	Understanding persistence of <i>Streptococcus pneumoniae</i> serotype 6B in Mongolia following vaccine introduction Paige Skoko, Murdoch Children's Research Institute
15:00	Dysregulated immune responses via TLR7 drive maternal and foetal complications during gestational IAV infection Gemma Trollope, RMIT University
15:10 – 15:50	Afternoon Tea, Cossar Hall (includes transit time from and to Lecture Theatre)
15:50 – 16:20	Session 7, Lecture Theatre Keynote Speaker 2: Dr Kim O'Sullivan, Monash University Chair: TBC
15:50	Title TBC
16:20 – 17:00	Session 8, Lecture Theatre Science Bites 2 Chairs: TBC
16:20	Differences in Fc-dependent functional activities of ChAdOx1-S and CoronaVac vaccine-induced antibodies against SARS-CoV-2 Alexander Harris, Burnet Institute
16:24	Geospatial mapping of malaria and anaemia among mothers and infants in Papua New Guinea Catherine Ives, Monash University
16:28	The molecular definition of potent <i>Plasmodium falciparum</i> invasion inhibitory epitopes on PTRAMP-CSS Pailene Lim, Walter and Eliza Hall Institute of Medical Research
16:32	CD28 stimulation enhances CAR T cell differentiation, particularly in older patients, but CD28 abundance is predictive of CAR T cell product quality Palak Mehta, RMIT University
16:36	Functional antibody responses after quadrivalent HPV vaccination Chau Quang, The University of Melbourne
16:40	Bypassing antimalarial drug resistance by altering parasite redox mechanisms Annie Roys, Monash Institute of Pharmaceutical Sciences
16:44	Methylseleninic acid induces HIV viral reactivation from latently infected cells in vitro and ex vivo Rory Shepherd, The Peter Doherty Institute of Infection and Immunity
16:48	The lipidome of lipid droplets changes significantly during viral infection in the brain Zahra Telikani, La Trobe University
17:00 – 18:00	Evening networking and Poster Session 2, Cossar Hall
18:00 – 18:15	Prize-giving, thank yous and conclusion, Cossar Hall

POSTER 1

12:45 – 14:00	Lunch and Poster Session 1, Cossar Hall (includes transit time from and to Lecture Theatre)
1	Fibroblastic Reticular Cells coordinate protective adaptive immune responses during viral infection in the spleen Yannick Alexandre, University of Melbourne, Mid-career researcher
2	Structural landscape of SARS-CoV-2 entry: Molecular interplay between spike glycoprotein human serine proteases Naveen Vankadari, University of Melbourne, Mid-career researcher
3	Identification of a potent dengue virus inhibitor using a virtual compound screen Thomas Burton, University of Melbourne, Early-career researcher
4	Investigating the monocyte inflammatory response to bacterial ligands in patients with Crohn's disease Paul Gill, Monash University, Early-career researcher
5	CD4+ T cell recognition of Haemagglutinin epitopes across different influenza strains Emma Grant, La Trobe Institute for Molecular Science (LIMS), La Trobe University, Early-career researcher
6	DISC-The Next Generation of African swine fever vaccine Fan Jia, CSIRO, Early-career researcher
7	Investigating the role of lipid droplets in the antiviral mechanism of <i>Wolbachia</i> Robson Kriiger Loterio, Monash University, Early-career researcher
8	Antibody responses and B-cell memory formation after COVID-19 vaccination in patients with primary immunodeficiency Jessica Canning, Monash University, Honours student
9	Discovery of new enzyme function in <i>Plasmodium falciparum</i> Nadine Djunaedi, Monash University, Honours student
10	Characterising the replication complex of a recently isolated novel Australian henipavirus Emily Dowling, CSIRO Australian Centre for Disease Preparedness and Deakin University, Honours student
11	Characterizing the immune memory response generated toward Group A <i>Streptococcus</i> Selwyn Lo, Monash University, Honours student
12	Comparison of Cellular Immunity in Fractional and Standard Dose of Pfizer-BioNTech (BNT162b2) in Healthy Mongolian Adults Kiara Mangano, Murdoch Children's Research Institute, Honours student
13	The role of the human kinase B-Raf in <i>Plasmodium falciparum</i> blood-stage infection Adedoyin Akinware, RMIT University, Masters student
14	Identification of novel malaria proteins involved in parasite-host cell interactions Christina Dizdarevic, Deakin University, Masters student
15	$\gamma\delta$ T cell-derived IL-4 promotes cellular immunity to liver-stage malaria Shirley Le, University of Melbourne, Masters student

16	Host erythrocyte and reticulocyte cell signalling during infection with <i>Plasmodium spp.</i> Mohammad Shuaib, RMIT University, Masters student
17	Novel Drug Targets for Inhibiting Malarial Nuclear Import Alec Wehmeier, Deakin University, Masters student
18	Fc-dependent functional antibody responses in immunity to severe <i>Plasmodium falciparum</i> malaria in children Grace Wright, Burnet Institute, Masters student
19	Enzymatic processing in influenza antigen presentation Hong Ngoc Le, Biomedicine Discovery Institute, Monash University, Research assistant
20	Transmission dynamics and population structure of <i>P. falciparum</i> and <i>P. vivax</i> in Mondulkiri Province, Cambodia Katelyn Stanhope, Burnet Institute, Research assistant
21	Factors associated with infant carriage of antimicrobial resistance genes: a systematic review Aseel Al-Araji, Deakin University, PhD student
22	Interleukin-2, not chemokine receptors CXCR3, CXCR5 or CXCR6, controls Th1/Tfh fate bifurcation during blood-stage malaria Takahiro Asatsuma, Peter Doherty Institute for Infection and Immunity, University of Melbourne, PhD student
23	Anti-inflammatory effect of increased IgG4 following SARS-CoV-2 mRNA vaccine boosting is antigen dependent Carissa Aurelia, Peter Doherty Institute of Infection and Immunity, University of Melbourne, PhD student
24	Functional assessment of the NOD2 signalling pathway in patients with primary immunodeficiency Ebony Blight, Monash University, PhD student
25	Mechanism of self-ganglioside presentation by the antigen presenting molecule CD1b Yanqiong Chen, Monash University, PhD student
26	Defining targets and mechanism of action of immunity against <i>Plasmodium vivax</i> malaria Rosy Cinzah, Burnet Institute, University of Melbourne, PhD student
27	Investigating the chronic pulmonary and vascular consequences of influenza infection in atherosclerotic mice Madison Coward-Smith, RMIT University, PhD student
28	Response and resistance to combination immune checkpoint blockade associate with distinct baseline and on-treatment blood T-cell profiles in melanoma patients Jack Edwards, Monash University, PhD student
29	Restoring sensitivity of <i>Streptococcus pneumoniae</i> to tetracyclines with metal ionophores Chloe Estoque, University of Melbourne, PhD student
30	Investigating the role of cytokine signalling regulator CISH in T-cell responses to viral infections Rifqa Fayaz, Deakin University, PhD student
31	Attenuating inflammation-driven neural damage through the cGAS-STING pathway in a mouse-model of traumatic brain injury Amelia Fryer, University of Melbourne, PhD student

32	Investigating the frequency of T cell subsets in the ganglionic and aganglionic bowel in Hirschsprung Disease Ashleigh Gould, Monash Institute of Pharmaceutical Sciences, PhD student
33	Characterising Antibody Epitopes to a Malaria Parasite Protein to Inform Vaccine Design Timothy Ho, Burnet Institute, PhD student
34	Monocytes support antibody-mediated protection in malaria Jessica Horton, Burnet Institute, PhD student
35	Development of Real-Time Biosensors to Detect Airborne Allergens Kira Hughes, Deakin University, PhD student
36	Defining novel virus restriction factors for respiratory virus infections Shirley Lin, University of Melbourne, PhD student
14:00	[Return to main program above]

POSTER 2

17:00 – 18:00	Evening networking and Poster Session 2, Cossar Hall (includes transit time from and to Lecture Theatre)
37	<p>Defining the fine specificity of antibody responses to polymorphic and conserved epitopes of the lead malaria vaccine antigen: <i>Plasmodium falciparum</i> circumsporozoite protein</p> <p>Alessia Hysa, Burnet Institute and University of Melbourne, PhD student</p>
38	<p>Elucidating the prognostic and functional roles of NK cell subsets in bladder cancer</p> <p>Md Abdullah Al Kamran Khan, University of Melbourne, PhD student</p>
39	<p>Plasma metabolomic variation in Juvenile idiopathic arthritis is not exclusively driven by chronic inflammation</p> <p>Jooa Kwon, University of Melbourne and Murdoch Children's Research Institute, PhD student</p>
40	<p>Regulation of thymocytes migration during T cell development by Coronin 2a, a putative actin-cytoskeleton regulator</p> <p>Thuy Trang (Jenny) Lam, University of Melbourne, PhD student</p>
41	<p>The lipid droplet recruits antiviral signalling proteins following cellular viral infection</p> <p>Jay Laws, La Trobe University, PhD student</p>
42	<p>Unveiling the interplay of <i>Coxiella burnetii</i> Dot/Icm effectors: insights into host immune subversion</p> <p>Yi Wei Lee, University of Melbourne, PhD student</p>
43	<p>MMV687794 impairs blood-stage <i>Plasmodium falciparum</i> invasion by perturbing lysophospholipids</p> <p>Dawson Ling, Burnet Institute, PhD student</p>
44	<p>Activity of bis-1,2,4-triazines, a novel potent antimalarial, requires parasite-mediated activation process</p> <p>Peiyuan (Annie) Luo, Monash Institute of Pharmaceutical Sciences, PhD student</p>
45	<p>Alteration of neuroimmune pathways rescues impaired intestinal permeability and behaviour in a mouse model of colitis</p> <p>Samantha Matta, RMIT University, PhD student</p>
46	<p>Discovering novel natural products to combat antibiotic resistant pathogens</p> <p>Negero Negeri, Monash University, PhD student</p>
47	<p>Dissecting Mechanisms of CD8+ T Cell-Mediated Melanoma Control</p> <p>Lewis Newland, University of Melbourne, PhD student</p>
48	<p>Uncovering the regulatory networks for <i>Klebsiella pneumoniae</i> iron acquisition</p> <p>To Nguyen, Monash University, PhD student</p>
49	<p>BCL-2 and BCL-XL dynamically regulate LPS-primed macrophage survival and inflammation in the absence of BCL2A1</p> <p>Ashlyn Pascoe, Monash University and Hudson Institute of Medical Research, PhD student</p>
50	<p>Identifying Merozoite Surface Proteins as Targets of Protective Functional Antibody Responses against <i>Plasmodium falciparum</i> and <i>P. vivax</i> malaria</p> <p>Kaitlin Pekin, Burnet Institute, PhD student</p>
51	<p>Mucosal delivery of self-assembling nanoparticle vaccines against SARS-CoV-2 using recombinant influenza virus vectors</p>

	Devaki Pilapitiya, University of Melbourne and The Peter Doherty Institute for Infection and Immunity, PhD student
52	TREML4 ablation in mice leads to the development of innate immune memory following polymicrobial sepsis Corey Pollock, La Trobe University, PhD student
53	Gasdermin D mediates the severity of influenza a virus-induced lung disease Sarah Rosli, Hudson Institute of Medical Research, PhD student
54	Understanding the protective role of goblet cells in Hirschsprung Disease Matthew Rowe, Monash Institute of Pharmaceutical Sciences, PhD student
55	Developing precision RNA therapeutics for Tuberculosis Jan Schaefer, Walter and Eliza Hall Institute of Medical Research, PhD student
56	Enhancing thermal stability of live virus vaccine using metal organic frameworks Aimee Talbot, CSIRO, PhD student
57	Towards the development of non-antibiotic based strategies to clear <i>Klebsiella pneumoniae</i> from the gut Sher Maine Tan, University of Melbourne, Peter Doherty Institute for Infection and Immunity, PhD student
58	Assessment of monovalent and bivalent SMAC mimetics to both shock and kill the HIV reservoir Kiho Tanaka, Peter Doherty Institute for Infection and Immunity, PhD student
59	The polyphenol rich sugarcane extract (PRSE) has potential antiviral activity against influenza A virus <i>in vitro</i> Caolingzhi Tang, University of Melbourne, PhD student
60	Redefining iNKT cells thymic development pathway in human Naeimeh Tavakolinia, University of Melbourne, PhD student
61	Understanding the role of rodent malaria clag genes in new permeation pathway formation Mitchell Trickey, Deakin University, PhD student
62	Promoting Extrinsic Apoptosis to Diminish Latent HIV Reservoir in Vivo Le Wang, University of Melbourne, PhD student
63	Exploring the Potential of <i>Plasmodium falciparum</i> Exportin-1 as a Target for 2- Aminobenzimidazoles through Nuclear Fractionation Coupled Proteomics Yunyang Zhou, Monash Institute of Pharmaceutical Sciences, PhD student
18:00 – 18:15	Prize-giving, thank yous and conclusion, Cossar Hall