

Candidate for 2025-2028 IUIS Council: Laura Cook


Personal statement:

I am currently a Group Leader in the Department of Microbiology and Immunology, University of Melbourne at the Peter Doherty Institute for Infection and Immunity. I am a National Health and Medical Research Emerging Leadership Fellow, an honorary Senior Fellow in the Department of Critical Care, University of Melbourne and an Affiliate Assistant Professor in the Division of Infectious Diseases, University of British Columbia, Canada. I completed my PhD at the University of New South Wales, Sydney in Immunology. I undertook postdoctoral research training under the mentorship of Dr. Megan Levings at the University of British Columbia, Canada. My main research interest is investigating the contributions of regulatory T cells to reshaping immune responses to infection and inflammation. Recently my team and I have developed human organoid and T cell co-culture platforms to explore how immune responses are altered in a tissue environment. My work, published in *Gastroenterology*, showed how different subsets of human regulatory T cells have different effects on intestinal epithelial cells. I have also published extensively on the CD4⁺ T cell memory responses to various disease-relevant antigens. The composition of these responses is associated with different patient outcomes and response to therapy (3 x papers in *Gastroenterology* and *Cellular and Molecular Gastroenterology and Hepatology*)

In Dec 2024 I was elected as the IUIS Coordinator on the Australian and New Zealand Society for Immunology (ASI) Council. My role involves keeping ASI members up to date with IUIS activities. I am committed to raising the profile of immunology researchers through communication and outreach activities. I also strive to ensure ASI members remain connected with the global research community. One example is my dual role as a committee member of the ASI Mucosal Immunology special interest group and my board appointment as the Australia/Asia councillor to the (International) Society for Mucosal Immunology.

I would be honoured to represent ASI on the IUIS Council for 2025-28. Occurring concurrently with my Mucosal Immunology appointments, this will enable me to function as a nexus for the flow of information. This position will help me to ensure ASI members have opportunities to foster collaborations, seize education and travel opportunities, and interact with international immunology societies. I plan to identify opportunities to conduct combined meetings with other societies and build career opportunities, including travel grants, for early career researchers. I will use this role to ensure ASI, despite being geographically isolated, remains meaningfully connected with the international immunology community.

LAURA COOK, PhD

Current Position: Group Leader, Senior Research Officer and NHMRC Emerging Leadership Fellow
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EDUCATION

- 2010 - 2014 **PhD in Immunology**
The Kirby Institute, Faculty of Medicine
University of New South Wales, Sydney, NSW, Australia
Supervisor: Professor Anthony D. Kelleher, PhD, MBBS, FRACP, FRCPA
Thesis: Characterisation of human antigen-specific CD4⁺CD39⁺ regulatory T cells
- 2005 - 2009 **BSc (Hons)** Double Major in Medical Microbiology and Immunology; Pharmacology
Awards: Honours Class 1 and The University Medal in Medical Microbiology and Immunology
University of New South Wales, Sydney, NSW, Australia

CURRENT APPOINTMENTS

- Since 2024 **Group Leader and Senior Research Officer**
Department of Microbiology and Immunology, The University of Melbourne at the Peter Doherty Institute for Infection and Immunity, Melbourne, VIC, Australia

Honorary Appointments

- Since 2022 **Senior Fellow** (Academic Level C)
Department of Critical Care, Melbourne Medical School, The University of Melbourne, VIC, Australia
- 2022 – 2027 **Affiliate Assistant Professor**
Division of Infectious Diseases, University of British Columbia, Vancouver, BC, Canada

Immunology Consultant (casual)

- Since 2023 Longevity Biotech. I provide expert advice on flow cytometric regulatory T cell assays for clinical trials.

PREVIOUS APPOINTMENTS

- Oct 2020 – Sep 2024 **Research Officer** (Academic Level B)
Department of Microbiology and Immunology, The University of Melbourne at the Peter Doherty Institute for Infection and Immunity, Melbourne, VIC, Australia
- Oct 2014 – Oct 2020 **Postdoctoral Research Fellow**
Division of Infectious Diseases, University of British Columbia, Vancouver, BC, Canada
Mentors: Professor Megan K. Levings, PhD and Professor Theodore S. Steiner, MD

CURRENT RESEARCH FUNDING

Current grants held as Chief Investigator = \$11,482,029

- Scheme: **2024 MRFF Cardiovascular Health Stream 1-2 and 4**
Funder: National Health and Medical Research Council, Australia
Title: *MEGA-dose sodium ascorbate to reduce brain and kidney injury arising from HEART surgery (MEGA-HEART)*
Chief Investigator: Prof. Yugeesh Lankadeva
My Role: Co-Chief Investigator
Amount: \$4,857,289 (AUD)
Start: 01 April 2025
End: 31 March 2030
- Scheme: **Melbourne-Calgary Enabling Capabilities Collaborative Seed Funding 2024**
Funder: Cumming Global Centre for Pandemic Therapeutics, Doherty Institute, Australia
Title: *Synergising Human Organoid Platforms to Support Pandemic Therapeutic Research*
Chief Investigator: Dr. Laura Cook
Amount: \$35,000 (AUD)
Start: 01 January 2025
End: 31 December 2025

Scheme: **Early-to-Mid Career Medical Research Future Fund Grant**
 Funder: National Health and Medical Research Council, Australia
 Title: *MEGA-dose aSCORbatE for Sepsis (MEGASCORES): An interdisciplinary research program to transform management of sepsis in intensive care units.*
 Chief Investigator: Prof. Yugeesh Lankadeva
 My Role: Co-Chief Investigator
 Amount: \$4,897,000 (AUD)
 Start: 01 August 2023
 End: 31 July 2028

Scheme: **Foundation Grant – Round 1**
 Funder: Cumming Global Centre for Pandemic Therapeutics, Doherty Institute, Australia
 Title: *Host-centric therapeutics for the prevention of secondary infections in pandemic patients.*
 Chief Investigator: Prof. Jose Villadangos
 My Role: Co-Chief Investigator
 Amount: \$1,000,000 (AUD)
 Start: 01 January 2024
 End: 31 December 2026

Scheme: **NHMRC Emerging Leadership Level 1 Investigator Grant**
 Funder: National Health and Medical Research Council, Australia
 Title: *Harnessing CD4⁺ regulatory T cells to enhance formation of protective immunity against human viruses.*
 Chief Investigator: Dr. Laura Cook
 Amount: \$650,740 (AUD)
 Start: 01 January 2022
 End: 31 December 2026

COMPLETED RESEARCH FUNDING

Scheme: **MDHS Mid-Career Seeding Ideas Grant**
 Funder: The University of Melbourne, Australia
 Title: *Starting a new conversation: crosstalk between glial and immune cells in the gut.*
 Chief Investigator: Dr. Marlene Hao and Dr. Laura Cook (jointly)
 Amount: \$24,965 (AUD)
 Start: 01 January 2023
 End: 31 December 2023

Scheme: **Department of Microbiology and Immunology Collaborative Grant**
 Funder: The University of Melbourne, Australia
 Title: *Mapping immunosuppressive mechanisms in glioblastoma.*
 Chief Investigator: Dr. Laura Cook and Dr. Theo Mantamadiotis (jointly)
 Amount: \$20,000 (AUD)
 Start: 01 January 2023
 End: 31 December 2023

Scheme: **Tomorrow Maker Award**
 Funder: AMP Foundation
 Title: *Using human gut organoid technology to study T cell memory development.*
 Chief Investigator: Dr. Laura Cook
 Amount: \$25,000 (AUD)
 Start: 01 October 2022
 End: 29 September 2023

Scheme: **2021 VCHRI Institute Team Grant**
 Funder: Vancouver Coastal Health Research Institute, Vancouver, Canada
 Title: *A novel CMV-specific cell-mediated immunity assay to predict CMV infection in renal transplant recipients*
 Chief Investigator: Dr. Sara Belga and Prof. Theodore Steiner (jointly)
 My Role: Co-Investigator
 Amount: \$30,000 (CAD)
 Start: 01 July 2021
 End: 31 December 2022

Scheme: **Doherty Collaborative Seed Grant 2020**
 Funder: The Peter Doherty Institute for Infection and Immunity, Melbourne, Australia
 Title: *Characterising CD4⁺ T cell memory generated by seasonal flu vaccination.*
 Chief Investigator: Dr. Laura Cook; Co-Investigator: Dr. Annette Fox
 Amount: \$20,000 (AUD)
 Start: 01 October 2020
 End: 29 September 2021

Scheme: **Childhood Diseases Research Theme 2020 Seed Grant**
 Funder: BC Children's Hospital Research Institute, Vancouver, Canada
 Title: *Development of a whole blood assay to identify specific food allergens in children with eosinophilic esophagitis or food protein-induced enterocolitis syndrome.*
 Chief Investigator: Prof. Ted Steiner
 My Role: Co-Investigator
 Amount: \$30,000 (CAD)
 Start: 01 April 2020
 End: 31 March 2022

Scheme: **Antimicrobial Resistance: Point of Care Diagnostics in Human Health**
 Funder: Canadian Institutes of Health Research, Vancouver, Canada
 Title: *Immunological tools for C. difficile.*
 Chief Investigator: Prof. Ted Steiner
 My Role: Co-Investigator
 Amount: \$300,000 (CAD)
 Start: 01 January 2017
 End: 31 December 2018

Scheme: **Bertram Hoffmeister Postdoctoral Fellowship**
 Funder: BC Children's Hospital, Vancouver, Canada
 Title: *Characterising Clostridium difficile toxin-specific CD4⁺ T cells.*
 Chief Investigator: Dr. Laura Cook
 Amount: \$80,000 (CAD) – 1.0FTE salary for 2-years
 Start: 01 June 2017
 End: 31 July 2019

Scheme: **JDRF Canadian Clinical Trial Network Postdoctoral Fellowship**
 Funder: JDRF Canada
 Title: *Characterising GAD65-specific CD4⁺ T cells in T1D patients during treatment with ustekinumab.*
 Chief Investigator: Dr. Laura Cook
 Amount: \$60,000 (CAD) – 1.0FTE salary for 1-year
 Start: 01 January 2016
 End: 31 December 2016

Scheme: **Transplant Research Training Award**
 Funder: Canadian Institutes of Health Research, Canada
 Title: *Optimising an ex vivo Treg expansion protocol for use in transplantation therapy.*
 Chief Investigator: Dr. Laura Cook
 Amount: \$40,000 (CAD) – 0.5FTE salary for 2-years
 Start: 01 September 2014
 End: 31 August 2016

I contributed data and writing to successful team grants totalling over \$1.4M USD as the lead researcher during my postdoctoral fellowship at the University of British Columbia, Vancouver. In Canada, postdoctoral research fellows are considered trainees and are ineligible to be named on most grants.

OTHER GRANTS/FUNDING

2024 – **Lionel Gell Foundation** - \$600,000 (AUD)
 2028 *Funds were donated to support my human organoid research at the Doherty Institute by covering the salary of a research assistant.*

2024 **Pipeline Accelerator Voucher** – Phenomics Australia
Awarded to cover costs of accessing the Victorian Centre for Functional Genomics at the Peter MacCallum Cancer Centre (PeterMac) for developing a high throughput human organoid model to measure effects of co-cultured immune cells (\$42,000 AUD).

2024 **Travel Grant** – The Medical Advances Without Animals Trust
Awarded to support an invited visit by me and PhD student Laraib Amir Ali in July 2024 to HUB Organoids, Utrecht, Netherlands (\$3,000 AUD).

- 2023 **Equipment Grant** – Department of Microbiology and Immunology, University of Melbourne
To purchase specialised equipment for dissociation of human tissues (\$37,730 AUD)
- 2022 **Technique Sharing Grant** - Society for Mucosal Immunology
Supporting travel to learn techniques from other mucosal immunologists (\$1,500 USD).
 I used this grant to send my PhD student, Laraib Amir Ali, to learn organoid monolayer techniques in our collaborator Prof. Roslyn Kemp's laboratory, University of Otago, New Zealand in March 2023.

SELECTED PRESENTATIONS

Conference Oral Presentations (13 of 20 shown); Poster Presentations: 39 in career.

Invited

All costs covered

2024 Federation of Immunological Societies of Asia-Oceania Congress (*also Session Chair*)

Registration costs covered

2025 International Union of Immunological Societies Congress, Vienna, Austria

2024 Australian and New Zealand Society for Immunology Annual Scientific Meeting, Sydney, Australia (*also Session Chair*)

2023 Oz Single Cell Meeting, Melbourne, Australia

2023 ASI Mucosal Immunology and Microbiome Symposium, Noosa, Australia (*also Session Chair*)

2022 ASI and DGfI Joint Workshop, Wöltingerode, Germany (*\$1,500 travel bursary from ASI*)

2021 Plenary speaker, Australasian Cytometry Society Annual Conference - *online*

Selected from abstract

2022 International Congress of Mucosal Immunology, Seattle, USA (*also Session Chair*)

2022 Australasian Vaccines & Immunotherapeutics Development (AVID), Brisbane, Australia

2021 Australian Society for Medical Research, Sydney, Australia (*Alan Skyring Memorial Award Finalist*)

2020 Lorne Infection & Immunity conference, Lorne, Australia (*Best Early Career Researcher Talk*)

2018 Federation of Clinical Immunology Societies (FOCIS) conference, San Francisco, USA

2017 Canadian Society for Immunology Meeting, Banff, Canada

2013 International Congress of Immunology, Milan, Italy

Conference Awards: 1 x best talk, 5 x best poster 10 x travel awards from 54 national & international conferences.

Invited Seminar Presentations (18 of 31 shown):

International

2024 HUB Organoids, Utrecht, Netherlands

2024 ICU department, UMC Utrecht, Utrecht, Netherlands

2022 Neves group meeting, Kings College London, London, UK

2022 Teichmann group meeting, Wellcome Sanger Institute, Cambridge, UK

2021 IDMIT Department/IBFJ, Immunology of Viral Infections and Autoimmune Diseases (IMVA), INSERM U1184, CEA, Université Paris Sud, Paris, France

2020 Center for Research in Transplantation and Immunology, University of Nantes, Nantes, France

2020 Wellcome Centre for Integrative Parasitology, Institute of Infection, Immunology and Inflammation, University of Glasgow, Glasgow, UK

2020 Infection, Immunity and Inflammation Department, Institut Cochin, Université Paris-Descartes Sorbonne-Paris-Cité, Paris, France

2020 Virtual GI Seminar Series: Guts & Bugs, Rutgers University, New Brunswick, USA

National

2024 Olivia Newton John Cancer Research Institute, Melbourne, Australia

2022 Menzies Institute for Medical Research, University of Tasmania, Hobart, Australia

2022 Department of Biochemistry and Chemistry, LaTrobe Institute for Molecular Sciences, Melbourne, Australia

2022 Centre for Inflammatory Diseases, Hudson Institute of Medical Research, Melbourne, Australia

2021 Centre for Inflammatory Diseases and Centre for Innate Immunity and Infectious Disease (CID/Ciid), Monash University and Hudson Institute of Medical Research, Melbourne, Australia

2020 The Garvan Institute, Sydney, Australia

2020 Treg Special Interest Group Seminar Series, Australia - *online*

2020 Monash Biomedical Discovery Institute, Melbourne, Australia

2020 Immunology Division, Walter and Eliza Hall Institute (WEHI), Melbourne, Australia

SELECTED AWARDS

- 2024 **Animal Welfare Excellence Award – 1st Prize** - University of Melbourne, Australia
For developing a human organoid system complete with immune function to reduce and eventually replace the use of animals as a pre-clinical model (\$5,000).
Funds to support me and PhD student Laraib Amir Ali to visit the HUB Organoids, Utrecht, Netherlands.
- 2022 **Gordon Ada Career Advancement Award** - Australian & New Zealand Society for Immunology
To recognise and further advance the research of mid-career members 6-14 years post-PhD (\$4,000).
- 2020 **Postdoctoral Career Advancement Award** - Australian & New Zealand Society for Immunology
To recognise and further advance the research of early-mid career members < 6 years post-PhD (\$3,000).
- 2010 **Molly Price Award** - Australian Federation for Graduate Women
Awarded to outstanding women science students with significant community involvement.
- 2009 **NSW Flow Cytometry Prize** - Centenary Institute, University of Sydney, Australia
Competitive award for outstanding work making significant use of flow cytometry.
- 2009 **Faculty of Science Award** - University of New South Wales, Australia
For outstanding performance in the Honours year of the Bachelor of Science program.
- 2009 **Jackson Prize** - School of Biotechnology and Biomedical Sciences, University of New South Wales, Australia - *Best overall honours year performance in the school.*
- 2009 **The University Medal in Medical Microbiology and Immunology** - University of New South Wales, Australia - *Awarded to the top student for outstanding academic performance.*

SUPERVISION AND MENTORING

STAFF - Current

- 2024 – **Dr Gesa Albers**, Research Fellow (Level A7), University of Melbourne. Gesa is working under my direct supervision 1.0FTE on projects I direct.
- 2024 – **Charlene Chen**, Research Assistant, University of Melbourne. Charlene is working 1.0FTE on projects I direct. Her salary is supported by philanthropic funds I received to support human organoid research at the Doherty Institute.
- I contribute to the supervision and salary of **Jo Pooley**, laboratory manager for the combined Villadangos/Mintern laboratories, which encompasses the Cook group.

STAFF - Previous

- 2015 – 2020: **May Wong**, Senior Research Technician, University of British Columbia. I supervised May at 0.4FTE for work on projects I was leading as a postdoctoral fellow. She is a co-author on 6 of my first author research publications. I supported her attendance at the IBD-focused Kenneth Rainin Foundation Symposium with me in 2015 as a professional development opportunity. Similarly, I edited and encouraged her to submit an abstract to the Federation of Clinical Immunology Societies 2019 annual conference, which was subsequently accepted as an oral presentation.
- 2018 – 2020: **Stacey (Xiaojiao) Wang**, Research Technician, University of British Columbia. I supervised Stacey at 0.2FTE for work on clinical cohort studies I was leading as a postdoctoral fellow. I trained her in flow cytometry and the clinical SOPs I had developed for several studies.

PhD STUDENTS – Completed

- 2015 – 2021: Co-supervisor: **Dr Jessica Tuengel**, Department of Medicine, University of British Columbia.
Immune ontogeny and lymphocyte responses to primary herpesvirus infections in Ugandan infants.
- First author of 1 x research publication, on which I am second last author.
 - Currently a flow cytometry technical sales specialist, Cytex Biosciences, USA
- 2023 – 2025 Co-supervisor: **Samuel Widodo** (commenced degree Jan 2021)
Department of Surgery, University of Melbourne, Melbourne, Australia
CREB-mediated regulation of macrophages in glioblastoma
- Oral presentation, 2023 VCCC Alliance Research Conference, Melbourne, Australia
 - Poster presentation, 2023 ISREC-SCCL Symposium, Lausanne, Switzerland
 - Poster presentation, 2024 Lorne Cancer Conference, Lorne, Australia
 - Lead researcher on work funded by a Dept seed grant awarded to me and Dr Theo Mantamadiotis
 - 2024 International Student of the Year – Research, Victorian International Education Awards, Australia
- 2022 – 2025 Co-supervisor: **Rachel Peiris** (commenced degree April 2021)
Florey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, Australia
Physiologic and pharmacologic treatments of Gram-negative sepsis in rats
- Best three-minute thesis (3MT) Talk, 2023 IgV annual scientific meeting, Chirnside Park, Australia
 - Poster presentation, 2024 Lorne Infection & Immunity conference, Lorne, Australia
 - First author on paper in preparation for a Jun 2024 submission to *Nat Med* (I am co-senior author).

PhD STUDENTS – Ongoing

- 2024 – Principal supervisor: **Deirdre Cuff**

- Department of Microbiology and Immunology, University of Melbourne, Melbourne, Australia
- Commenced early May, *Effect of regulatory T cells on shaping cellular immunity*.
- 2021 – Principal supervisor: **Laraib Amir Ali**
 Department of Microbiology and Immunology, University of Melbourne, Melbourne, Australia
Regulatory T cell functions within adaptive immune responses
- Invited presentation at the 2023 2nd Annual Treg Mini-Symposium, Monash University, Australia
 - Oral presentation, 2023 IgV annual scientific meeting, Chirnside Park, Australia
 - Best three-minute thesis (3MT) Talk, 2022 IgV Student Roadshow, Melbourne, Australia
 - Best 1st year PhD poster, 2022 Doherty Institute Graduate Research Conference
 - Melbourne Research Scholarship (2021 – 2024)
 - 2023 Major Bartlett Travel Grant
 - 2023 STEM Mentee, IMNIS Engage Program, Australian Academy of Technology and Engineering
 - First author on manuscript in preparation for *Immunol Cell Biol* (I am senior author).
- 2021 – Co-supervisor: **Chad Poloni** (commenced Aug 2020)
 Division of Infectious Diseases, Department of Medicine, University of British Columbia.
Investigating CD4⁺ type 1 regulatory T cells as a cellular therapy for inflammatory bowel disease
- Received a Friedman Award from the University of British Columbia to fund a 6-month study abroad term under my primary supervision at the Doherty Institute in 2024.
 - 4YF PhD scholarship, University of British Columbia (2021 – 2025)
 - 2022 TRIANGLE ENRICH PhD scholarship
 - First author on 1 x review article published in *Immunol Cell Biol* (I am senior author).
 - Co-first author on a *Nat Comms* research article (I am third senior author).
 - Oral presentation, 2024 Annual Conference of the Australasian Society of Clinical Immunology and Allergy (ASCI), Adelaide, Australia
 - 3 x invited presentations in Canada and Australia

MASTER OF BIOMEDICAL SCIENCE STUDENTS – Completed

- 2021 – 2022: Principal supervisor: **Willem Cornelissen**
 Department of Microbiology and Immunology, University of Melbourne, Melbourne, Australia
Immuno-paralysis following severe infection or trauma (scored H1)

MASTER OF BIOMEDICAL SCIENCE STUDENTS – Ongoing

- 2024 – Principal supervisor: **Jade Bibo**
 Department of Microbiology and Immunology, University of Melbourne, Melbourne, Australia
Molecular crosstalk between regulatory T cells and dendritic cells

HONOURS STUDENTS – Completed

- 2023: Principal supervisor for Honours student **Dong Li**
 Department of Microbiology and Immunology, University of Melbourne, Melbourne, Australia
Starting a new conversation: crosstalk between enteric glial cells and regulatory T cells (scored H1)
- 2022: Principal supervisor for Honours student **James Maiden**
 Department of Critical Care, University of Melbourne, Melbourne, Australia
The cytokine response to COVID-19 and the effects of immunomodulation in the intensive care unit
- Scored an H1 and received the Kate Leslie Research Award for top scoring thesis.
 - Commencing an MBBS degree at University of Western Australia in 2024.
- 2021: Principal supervisor for Honours student **Olivia Campisi**
 Department of Microbiology and Immunology, University of Melbourne, Melbourne, Australia
Characterising T cell responses following seasonal influenza vaccination (scored H1)
- Co-author on manuscript in preparation for *Immunol Cell Biol* (I will be senior author).

UNDERGRADUATE RESEARCH STUDENTS – Completed

- 2018: Principal supervisor: **Elmeri Häkkinen**, Co-operative Research Program Student
 Department of Medicine, University of British Columbia, Vancouver, Canada
- Co-author on research article published in *Immunol Cell Biol* (I am first author).
 - Enrolled in a Bachelor of Computer Science at University of British Columbia.
- 2017: Principal supervisor: **Kyle Reid**, Co-operative Research Program Student
 Department of Medicine, University of British Columbia, Vancouver, Canada
- Co-author on research article published in *Immunol Cell Biol* (I am first author).
 - Completing a PhD in Immunology from the University of Toronto in 2024.
- 2016: Principal supervisor: **Brett de Bie**, Co-operative Research Program Student
 Department of Medicine, University of British Columbia, Vancouver, Canada.
- Co-author on research article published in *Immunol Cell Biol* (I am first author).

PhD ADVISORY COMMITTEE MEMBER - Ongoing

- 2023 – Ms Olivia Moscatelli, Tye-Din laboratory, Immunology Division, WEHI
- 2023 – Ms Thalia Frota, Mackenzie laboratory, Dept of Microbiology and Immunology, University of Melbourne

INSTITUTIONAL LEADERSHIP

- 2024 – current: Executive Committee member, Dept of Critical Care, Melbourne Medical School
- 2024 – current: Steering Committee member, Victorian Centre for Functional Genomics, PeterMac
- 2023 – current: Internal Advisory Group, Cumming Centre for Global Pandemic Therapeutics, Doherty Institute
Following an EOI process I was selected to fill the Early-to-Mid Career Researcher position.
- 2023 – current: Co-Chair, Australian Institute for Infectious Diseases Vaccines and Immunotherapy Focus Group
- 2025 – current: Co-Chair for the early-mid career researcher network (eMERGE), Doherty Institute
I have been actively involved in this community since 2023 acting as an events co-ordinator and attending leadership committee meetings. I was voted in as co-chair from Feb 2025.
- 2023: Panel member, Faculty of Medicine Dentistry and Health Sciences Town Hall on preparing NHMRC Investigator Grants, University of Melbourne
- 2023-2024: Presenter, Academic Seminar Series “Applying for a Postdoc”, Doherty Institute. I suggested this event and delivered a presentation on my experiences undertaking a postdoctoral research fellowship in Canada, followed by a panel discussion. In a 2023 post-event survey completed by 47/55 attendees we had a 4.72/5 overall rating with a 100% rating that expectations were met.
- 2022: Presenter, Melbourne Cytometry Platform Seminar “Know your Flow”, University of Melbourne
- 2022 – 2023: Peer reviewer, Faculty of Medicine, Dentistry and Health Science Fellowship Peer Review Program for the NHMRC Investigator Grant Scheme. The grant I reviewed in 2022 was awarded an EL1.
- 2021 – current: Co-organiser, annual QIAGEN PhD Achievement Awards Department of Microbiology and Immunology, University of Melbourne
- 2021 – current: Grant review panel, Faculty of Medicine Dentistry and Health Sciences, University of Melbourne
- 2021 – 2022: Co-chair of the COVID-19 research seminar series “A COVID Affair” at the Doherty Institute
- 2021 – 2023: Examiner, 1 x PhD thesis at Monash University and 4 x Honours theses and 1 x BIOM30003 research paper at the University of Melbourne
- 2019: Founder, “The Flow Cytometry Buddy”, University of British Columbia, Canada. An institute-wide flow cytometry mentoring/peer networking initiative to over 50 flow cytometry core users.

PROFESSIONAL LEADERSHIP

Conferences/Events

- 2025: Organising committee, Mucosal Immunology and Microbiome Symposium, Noosa, Australia
- 2023: Organising committee, Mucosal Immunology, Innate Immunology, and Immunometabolism Workshop & Chair, Mucosal Immunology Symposium at the Australian and New Zealand Society for Immunology Annual Scientific Meeting, Auckland, New Zealand.
- 2022: Co-organiser, inaugural Treg Cell Mini Symposium, Doherty Institute, Melbourne, Australia,
- 2022: Organising committee, Australasian Cytometry Society annual conference, Melbourne, Australia.
I instigated the Early-Mid Career Cytometrist award, now a central part of this annual conference.
- 2022: Organising committee, Lorne Infection & Immunity Conference, Lorne, Australia
- 2022: Host of ASI Day of Immunology public tour of the Doherty Institute.
- 2021: Organising committee, Victorian Infection & Immunity Network Young Investigator Symposium
- 2014 – 2023: Judge and moderator for 12 conferences in Canada and Australia, including MDHS Graduate Research Conference, University of Melbourne since 2020.

Societies

- International Union of Immunological Societies (IUIS) Representative, Australian and New Zealand Society for Immunology (2025 – 2028).
- Australia/Asia Region Councillor, Society for Mucosal Immunology (2024 – 2027).
- Committee Member, Mucosal Immunology Special Interest Group of the Australian and New Zealand Society for Immunology since 2023.
- Award Judging Panel Member, Australian and New Zealand Society for Immunology since 2020.

EDITORIAL AND PEER REVIEW CONTRIBUTIONS

- Grant review, NHMRC Investigator Grants (3 x grant rounds), MITACS Canada (2 x grants) and the National Science Centre, Poland (2 x grants).
- Peer review completed for 87 manuscripts, <https://www.webofscience.com/wos/author/record/2172613>
- Editorial board member of *Clinical & Translational Immunology* and *Frontiers in Immunology*.
- Guest Editor of a 2023 Special Issue of *Immunology & Cell Biology* – [CD4⁺ T cells in infection and vaccination](#).

PUBLICATIONS (*^ = equal contribution; citations from Google Scholar)

Research Publications (13 of 26 as first/co-first author, supervised students/staff in orange)

1. Tatovic D*, Marwaha A*, Taylor P, Hanna SJ, Carter K, Cheung WY, Luzio S, Dunseath G, Hutchings HA, Holland G, Hiles S, Fegan G, Williams E, Yang JHM, Domingo-Vila C, Pollock E, Wadud M, Ward-Hartstonge K, Marques-Jones S, Bowen-Morris J, Stenson R, Levings MK, Gregory JW, Tree TIM*, Dayan C* and the **USTEKID Study Group** (including **Cook L**). (2024). Ustekinumab for type 1 diabetes in adolescents: a multicenter, double-blind, randomized phase 2 trial. *Nature Medicine*. [30:2657-2666](#) 14 citations.
2. Trang KB*, Sharma P*, **Cook L***, Mount Z, Thomas RM, Kulkarni NN, Pahl MC, Pippin JA, Su C, Kaestner KH, O'Brien JM, Wagley Y, Hankenson KD, Jermusyk A, Hoskins JW, Amundadottir LT, Xu M, Brown KM, Anderson SA, Yang W, Titchenell PM, Seale P, Zemel BS, Chesi A, Romberg N, Levings MK, Grant SFA and Wells AD. (2024). 3D chromatin-based variant-to-gene maps across 57 human cell types reveal the cellular and genetic architecture of autoimmune disease susceptibility. *medRxiv*. (DOI: [10.1101/2024.08.12.24311676](#))
3. Trang KB, Pahl MC, Pippin JA, Su C, Littleton SH, Sharma P, Kulkarni NN, Ghanem LR, Terry NA, O'Brien JM, Wagley Y, Hankenson KD, Jermusyk A, Hoskins JW, Amundadottir LT, Xu M, Brown KM, Anderson SA, Yang W, Titchenell PM, Seale P, Kaestner KH, **Cook L**, Levings MK, Zemel BS, Chesi A, Wells AD and Grant SFA. (2024). 3D genomic features across >50 diverse cell types reveal insights into the genomic architecture of childhood obesity. *eLife*. [13:RP95411](#)
4. **Cook L**, Wong MQ, Rees WD, Schick A, Lisko DJ, Lunken GR, Wang X, Peters H, Oliveira L, Lau T, Mah R, Bressler B, Levings MK* and Steiner TS*. (2024). Dysregulated immunity to *Clostridioides difficile* in IBD patients without a history of recognized infection. *Inflammatory Bowel Diseases*. [30\(5\):820-828](#).
5. Gaultier GN, McMillan B, Poloni C, Lo M, Cai B, Zheng JX, Baer HM, Shulha H, Simmons K, Citlali Márquez A, Bartlett SR, **Cook L**, Levings MK, Steiner TS, Sekirov I, Zlosnik JEA, Morshed M, Skowronski DM, Krajden M, Jassem AN, Sadarangani M. (2024). Adaptive immune responses to two-dose COVID-19 vaccine series in healthy Canadian adults > 50 years: a prospective, observational cohort study. *Scientific Reports*. [14\(1\):8926](#).
6. Mannar D*, Saville J*, Poloni C*, Zhu X, Bezeruk A, Tidey K, Ahmed S, Tuttle K, Vahdatihassani F, Cholak S, **Cook L**, Steiner TS and Subramaniam S. (2024). Altered receptor binding, antibody evasion and retention of T cell recognition by the SARS-CoV-2 XBB.1.5 spike protein. *Nature Communications*. [15\(1\):1854](#). 10 citations
7. **Cook L**, Zaunders J, Seddiki N, van Bockel D, Kelleher AD* and Munier CML*. (2023). Parallel analysis of multiple human memory CD4⁺ T-cell subsets within antigen-specific responses using cell proliferation dyes. *Immunology & Cell Biology*. [101\(2\):171-178](#).
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19. **Cook L**, Munier CML, Seddiki N, Hardy MY, Anderson RP, Zaunders J, Tye-Din JA, Kelleher AD* and van Bockel D*. (2020). Circulating gluten-specific, but not CMV-specific, CD39⁺ regulatory T cells have an oligoclonal TCR repertoire. *Clinical and Translational Immunology*. [9\(1\):e1096](#). 10 citations.
20. **Cook L**, Lisko DJ, Wong MQ, Garcia RV, Himmel ME, Sideman E, Bressler B, Levings MK* and Steiner TS*. (2020). Analysis of flagellin-specific adaptive immunity reveals links to dysbiosis in patients with inflammatory bowel disease. *Cellular and Molecular Gastroenterology and Hepatology*. [9\(3\):485-506](#). 31 citations.
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23. Dawson NAJ, Lam AJ, **Cook L**, Hoeppli RE, Broady R, Pesenacker AM and Levings MK. (2018). An optimised method to measure human FOXP3⁺ regulatory T cells from multiple tissue types using mass cytometry. *European Journal of Immunology*. [48\(8\):1415-1419](#). 9 citations.
24. **Cook L**, Munier CML, Seddiki N, van Bockel D, Ontiveros N, Hardy MY, Gillies JK, Levings MK, Reid HH, Petersen J, Rossjohn J, Anderson RP, Zaunders J, Tye-Din JA and Kelleher AD. (2017). Circulating gluten-specific FOXP3⁺CD39⁺ regulatory T cells have impaired suppressive function in celiac disease. *Journal of Allergy and Clinical Immunology*. [140\(6\):1592-1603](#). 89 citations, in top 10% most cited publications worldwide.
25. **Cook L**, Zaunders JJ and Kelleher AD. (2016). Comment on “A cytokine-independent approach to identify antigen-specific human germinal center T follicular helper cells and rare antigen-specific CD4⁺ T cells in blood. *Journal of Immunology*. [197\(7\):2557-8](#).
26. Seddiki N*, **Cook L***, Hsu DC, Phetsouphanh C, Brown K, Xu Y, Kerr SJ, Cooper DA, Munier CM, Pett S, Ananworanich J, Zaunders J and Kelleher AD. (2014). Human antigen-specific CD4⁺CD25⁺CD134⁺CD39⁺ T cells are enriched for regulatory T cells and comprise a substantial proportion of recall responses. *European Journal of Immunology*. [44:1644-1661](#). 75 citations, in top 10% most cited publications worldwide.

Review articles (3 x senior author; 2 x co-first author)

1. Dinevska M, Widodo SS, **Cook L**, Styli SS, Ramsay RG and Mantamadiotis T. (2024). CREB: a multifaceted transcriptional regulator of neural and immune function in CNS tumors. *Brain Behavior and Immunity*. [116:140-149](#) 14 citations
2. Poloni C, Schonhofer C, Ivson S, Levings MK, Steiner TS and **Cook L**. (2023). T-cell activation-induced marker assays in health and disease. *Immunology & Cell Biology*. [101\(6\):491-503](#). 21,335 full text views 56 citations, in top 5% most cited publications worldwide.
3. Yadegar A*, Pakpoor S*, Kizhakkayil F, Nabavi-Rad A, **Cook L**, Walter J, Seekatz AM, Wong, K, Monaghan T^ and Kao D^ (2023). Beneficial effects of fecal microbiota transplantation in recurrent *Clostridioides difficile* infection. *Cell Host & Microbe*. [31\(5\):695-711](#). 36 citations, in top 5% most cited publications worldwide.
4. Wardell C, MacDonald KN, Levings MK* and **Cook L***. (2021). Cross talk between regulatory T cells and antigen presenting cells: lessons for clinical applications. *European Journal of Immunology*. [51\(1\):27-38](#). 26 citations.
5. Pesenacker AM*, **Cook L*** and Levings MK. (2016). The role of FOXP3 in autoimmunity. *Current Opinion in Immunology*. [43:16-23](#). 39 citations.
6. Hoeppli RE, MacDonald KG, Levings MK and **Cook L**. (2016). How antigen specificity directs regulatory T cell function: self, foreign and engineered specificity. *HLA*. [88\(1-2\):3-13](#). 36 citations.
7. Hoeppli RE*, Wu D*, **Cook L*** and Levings, MK. (2015). The environment of regulatory T cell biology: cytokines, metabolites and the microbiome. *Frontiers in Immunology*. [6:61](#). 196 citations and listed as one of the "100 Articles from 2015 in the Spotlight", in top 5% most cited publications worldwide.

Editorials

1. **Cook L** and Munier CML. (2023). Help is on the way: critical roles of CD4⁺ T cells in infection and vaccination. *Immunology & Cell Biology*. [101\(6\):489-490](#)
2. **Cook L** and Levings MK. (2020). T-cell specificity matters in IBD: impaired IL10 production revealed by OmpC-tetramers. *Cellular and Molecular Gastroenterology and Hepatology*. [10\(3\):647-648](#).

Clara Hijano

From: Connie Jackaman <secretary@immunology.org.au>
Sent: Friday, 11 April 2025 05:10
To: IUIS
Cc: Tyani Chan; Laura Cook
Subject: Nomination for IUIS Council 2025-2028 - Dr Laura Cook
Attachments: LCook_IUIS Council_2025.pdf

Categories: Clara

Dear Secretary General,

Please find attached nomination for Dr Laura Cook for IUIS Council on behalf of the Australian and New Zealand Society for Immunology.

Please let us know if you need any further information,

Thanks,
Connie

Connie Jackaman, ASI Honorary Secretary

E: secretary@immunology.org.au | www.immunology.org.au



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