

CURRICULUM VITAE

DATE: 04/18/2025

NAME: Tania Wong

PRESENT TITLE: Assistant Professor and Chancellor Scholar

HOME ADDRESS: 49 Dodd Street, Montclair, New Jersey 07042

OFFICE ADDRESS: 205 South Orange Avenue, Center for Immunity and Inflammation, F1220, Newark, NJ 07103

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CITIZENSHIP: Republic of Mauritius

EDUCATION:

- A. Undergraduate Graduate and Professional
University of Melbourne
Melbourne, Victoria, Australia
Bachelor of Biomedical Science (Microbiology) 12/2009

University of Melbourne
Melbourne, Victoria, Australia
Honors degree of Bachelor of Science (First class) 12/2010
- B. Graduate and Professional
University of Melbourne
Melbourne, Victoria, Australia
Doctor of Philosophy (Cellular Microbiology)
PI: Professor Elizabeth Hartland 12/2016

POSTGRADUATE TRAINING:

- A. Postdoctoral Appointments
Columbia University
New York, USA
(Microbiology, Immunology and Immunometabolism)
PI: Professor Alice Prince
09/2016-09/2020

ACADEMIC APPOINTMENTS:

Department of Microbiology, Biochemistry and Molecular Genetics
Center for Immunity and Inflammation
Rutgers New Jersey Medical School, Newark, USA
Assistant Professor & Chancellor Scholar
04/2024-present

Department of Pediatrics
Columbia University, New York, USA
Associate Research Scientist
09/2020-04/2024

Department of Microbiology and Immunology
University of Melbourne, Melbourne, Australia
Research Assistant
01/2016-06/2016

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

American Association of Immunologists
Member
2024-present

American Thoracic Society
Member
2021-present

New York Academy of Sciences
Member
2018-present

American Society for Microbiology
Member
2018-present

Australian Society for Microbiology
Member
2013-2015

HONORS AND AWARDS:

Early Career Faculty Travel Grant (selected application)
American Association of Immunologists (AAI)
2025

Travel Award (based on conference abstract)
Staphylococcal Diseases Gordon Research Conference
2023

Oberfield Prize in Basic Science (best postdoctoral research)
Columbia University, Department of Pediatrics
2022

Travel Award (based on conference abstract)
International Conference on Gram-positive Pathogens
2022

Postdoctoral Research Symposium Award (best poster)
Columbia University
2019

Pre Doctoral Awards

Becton Dickinson Graduate Student Award (finalist)
Australian Society for Microbiology
2013

Major Bartlett Travel Scholarship
University of Melbourne, Australia
2013

Melbourne Abroad Travel Scholarship
University of Melbourne, Australia
2013

National Travel Scholarship
Australian Society for Microbiology
2013

Graduate Fee Remission Scholarship (~AUD \$168,000)
University of Melbourne, Australia
2011-2015

Graduate Research Scholarship (stipend) (~AUD \$115,000)
University of Melbourne, Australia
2011-2015

Undergraduate Tuition Fee Scholarship (~AUD \$28,000)
University of Melbourne, Australia
2007-2010

SERVICE ON MAJOR COMMITTEES:

- A. Guest Editor
Frontiers in Cellular and Infection Microbiology, 2021-2022
- B. Associate Editor
Frontiers in Cellular and Infection Microbiology, 2023-present
Journal of Innate Immunity, 2024-present
- C. *AdHoc* Reviewer
Nature Communications, 2024
PLOS Pathogens, 2022, 2023
Journal of Infectious Diseases, 2023, 2025
Frontiers in Immunology, 2022
Communications Biology, 2020, 2022, 2023
Veterinary Microbiology, 2021-2022
Frontiers in Cellular and Infection Microbiology, 2020
Journal of Innate Immunity, 2019, 2024
Antimicrobial Agents and Chemotherapy, 2024
Gut Microbes, 2023
JoVE, 2019

TEACHING RESPONSIBILITIES:

- A. Lectures or Course Directorships
 - University of Melbourne, Department of Microbiology and Immunology*
Course code MIIM30016, 2016
“Regulation of virulence by gastrointestinal pathogens”
(Practical class, lectures, examination grading)
Total of 45 hours
 - University of Melbourne, Department of Microbiology and Immunology*
Course code MIIM30013, 2011-2013
“Diarrhoeagenic *Escherichia coli*” and “Analysis of isoniazid-resistant *Mycobacteria*”
(Practical class, lectures, examination grading)
Total of 270 hours
 - Rutgers School of Graduate Studies, Health Science Campus, Newark
Course code BIOC 5290Q
“Critical Readings of the Literature”
 - Course code GSND 5001Q
“Responsible Conduct of Research”
- B. Research Training
 - Post Doctoral Fellows: Dr. Ridhima Wadhwa, 2024-present (Rutgers New Jersey Medical School)
Dr. Karen Acker, 2017-2019 (Columbia University)
Dr. Wei Shi, 2019 (Beijing Children’s Hospital)
 - Pre Doctoral Students: Alison Zhao, 2017 (Columbia University)

Anastasia Gazgalis, 2017 (Columbia University)
Ibrahim Nawaz Khan, 2018 (Columbia University)
Dario Fucich, 2021-2022 (Emory University)
Ying-Tsun Chen, 2023-2024 (Columbia University)

PhD Candidate: Dr. Blanche Fields, 2018-2022 (Columbia University)

Rotation PhD/MD PhD Candidates: Andreacarola Urso, 2019 (Columbia University)
Juan Torres, 2022 (Columbia University)
Eric Tang, 2025 (Rutgers New Jersey Medical School)

GRANT SUPPORT:

A. Principal Investigator

1. National Institutes of Health (NHLBI)
Understanding the immunometabolic response to *Klebsiella pneumoniae* infection
R00 HL157550, 04/01/2024 – 03/31/2027, \$746,997
2. National Institutes of Health (NHLBI)
Understanding the immunometabolic response to *Klebsiella pneumoniae* infection
K99 HL157550, 04/01/2022 – 03/31/2024, \$247,157
3. Skin Disease Resource-Based Center Columbia University
Host factors that provide immunity to *S. aureus* skin infection
EpiCURE Pilot & Feasibility Study Program, 2019-2020, \$35,000
(co-PI with Dr. Alice Prince)

B. Co-Investigator

1. National Institutes of Health (NHLBI)
Mechanistic role of membrane pore formation in lung-endothelial barrier failure due to bloodborne pathogens
R01 HL036024, 08/20/2022 – 07/31/2026, \$3,043,988
(PI: Dr. Jahar Bhattacharya)
2. National Institutes of Health (NHLBI)
Airway metabolites shape susceptibility to pneumonia
R01 HL170129, 04/2024-03/2028, \$2,880,311
(PI: Dr. Alice Prince)

PUBLICATIONS:

* Corresponding author

A. Refereed Original Article in Journal

1. Urso A, Monk, IR, Cheng YT, Predella C, **Wong Fok Lung T**, Theiller EM, Boylan J, Perelman S, Baskota SU, Moustafa AM, et al. *Staphylococcus aureus* adapts to exploit collagen-derived proline during chronic infection. *Nat Microbiol.*, <https://doi.org/10.1038/s41564-024-01769-9>, 2024
2. Bhushan G, Castano V, **Wong Fok Lung T**, Chandler C, McConville TH, Ernst RK, Prince AS, and Ahn D. Lipid A modification of colistin-resistant *Klebsiella pneumoniae* does not alter innate immune response in a mouse model of pneumonia. *Infect Immun.*, 92(6):e0001624, 2024
3. Tomlinson KL, Chen YT, Junker A, Urso A, **Wong Fok Lung T**, Ahn D, Hofstaedter CE, Baskota SU, Ernst RK, Prince A, et al. Ketogenesis promotes tolerance to *Pseudomonas aeruginosa* pulmonary infection. *Cell Metab.*, 35(10):1767-1781.e6, 2023
4. ***Wong Fok Lung T**, Charytonowicz D, Beaumont KG, Shah SS, Sridhar SH, Gorrie CL, Mu A, Hofstaedter CE, Varisco D, McConville TH, et al. *Klebsiella pneumoniae* induces host metabolic stress that promotes tolerance to pulmonary infection. *Cell Metab.*, 34(5):761-74 e9, 2022

5. Giogha C, Scott NE, **Wong Fok Lung T**, Pollock GL, Harper M, Goddard-Borger ED, Pearson JS, and Hartland EL. NleB2 from enteropathogenic *Escherichia coli* is a novel arginine-glucose transferase effector. *PLoS Pathog.*, 17(6):e1009658, 2021
6. Ahn D, Bhushan G, McConville TH, Annavajhala MK, Soni RK, **Wong Fok Lung T**, Hofstaedter CE, Shah SS, Chong AM, Castano VG, et al. An acquired acyltransferase promotes *Klebsiella pneumoniae* ST258 respiratory infection. *Cell Rep.*, 35(9):109196, 2021
7. **Wong Fok Lung T**, Tomlinson KL, Dach F, Annavajhala MK, Gabryszewski SJ, Groves RA, Drikkic M, Francoeur NJ, Sridhar SH, Smith ML, et al. *Staphylococcus aureus* induces an itaconate-dominated immunometabolic response that drives biofilm formation. *Nat Commun.*, 12(1):1399, 2021
8. Gan J, Scott NE, Newson JPM, Wibawa RR, **Wong Fok Lung T**, Pollock GL, Ng GZ, van Driel I, Pearson JS, Hartland EL, et al. The *Salmonella* Effector SseK3 Targets Small Rab GTPases. *Front Cell Infect Microbiol.*, 10:419, 2020
9. Riquelme SA, Liimatta K, **Wong Fok Lung T**, Fields B, Ahn D, Chen D, Lozano C, Saenz Y, Uhlemann AC, Kahl BC, et al. *Pseudomonas aeruginosa* Utilizes Host-Derived Itaconate to Redirect Its Metabolism to Promote Biofilm Formation. *Cell Metab.*, 31(6):1091-1106.e6, 2020
10. **Wong Fok Lung T**, Monk IR, Acker KP, Mu A, Wang N, Riquelme SA, Pires S, Noguera LP, Dach F, Gabryszewski SJ, et al. *Staphylococcus aureus* small colony variants impair host immunity by activating host cell glycolysis and inducing necroptosis. *Nat Microbiol.*, 5(1):141-53, 2020
11. **Wong Fok Lung T**, Acker KP, West E, Craft J, Narechania A, Smith H, O'Brien K, Moustafa AM, Lauren C, Planet PJ, et al. Strains of *Staphylococcus aureus* that Colonize and Infect Skin Harbor Mutations in Metabolic Genes. *iScience*, 19:281-90, 2019
12. **Wong Fok Lung T**, Gabryszewski SJ, Annavajhala MK, Tomlinson KL, Riquelme SA, Khan IN, Noguera LP, Wickersham M, Zhao A, Mulenos AM, et al. Metabolic Adaptation in Methicillin-Resistant *Staphylococcus aureus* Pneumonia. *Am J Respir Cell Mol Biol.*, 61(2):185-97, 2019
13. Newson JPM, Scott NE, Yeuk Wah Chung I, **Wong Fok Lung T**, Giogha C, Gan J, Wang N, Strugnelli RA, Brown NF, Cygler M, et al. *Salmonella* Effectors SseK1 and SseK3 Target Death Domain Proteins in the TNF and TRAIL Signaling Pathways. *Mol Cell Proteomics.*, 18(6):1138-56, 2019
14. Jacquet R, LaBauve AE, Akoolo L, Patel S, Alqarzaee AA, **Wong Fok Lung T**, Poorey K, Stinear TP, Thomas VC, Meagher RJ, et al. Dual Gene Expression Analysis Identifies Factors Associated with *Staphylococcus aureus* Virulence in Diabetic Mice. *Infect Immun.*, 87(5), 2019
15. Pollock GL, Oates CVL, Giogha C, **Wong Fok Lung T**, Ong SY, Pearson JS, and Hartland EL. Distinct Roles of the Antiapoptotic Effectors NleB and NleF from Enteropathogenic *Escherichia coli*. *Infect Immun.*, 85(4), 2017.
16. Wickersham M, Wachtel S, **Wong Fok Lung T**, Soong G, Jacquet R, Richardson A, Parker D, and Prince A. Metabolic Stress Drives Keratinocyte Defenses against *Staphylococcus aureus* Infection. *Cell Rep.*, 18(11):2742-51, 2017.
17. Creuzburg K, Giogha C, **Wong Fok Lung T**, Scott NE, Muhlen S, Hartland EL, and Pearson JS. The Type III Effector NleD from Enteropathogenic *Escherichia coli* Differentiates between Host Substrates p38 and JNK. *Infect Immun.*, 85(2), 2017.
18. Pearson JS, Giogha C, Muhlen S, Nachbur U, Pham CL, Zhang Y, Hildebrand JM, Oates CV, **Wong Fok Lung T**, Ingle D, et al. EspL is a bacterial cysteine protease effector that cleaves RHIM proteins to block necroptosis and inflammation. *Nat Microbiol.*, 2:16258, 2017
19. **Wong Fok Lung T**, Giogha C, Creuzburg K, Ong SY, Pollock GL, Zhang Y, Fung KY, Pearson JS, and Hartland EL. Mutagenesis and Functional Analysis of the Bacterial Arginine Glycosyltransferase Effector NleB1 from Enteropathogenic *Escherichia coli*. *Infect Immun.*, 84(5):1346-60, 2016

20. Giogha C, **Wong Fok Lung T**, Muhlen S, Pearson JS, and Hartland EL. Substrate recognition by the zinc metalloprotease effector NleC from enteropathogenic *Escherichia coli*. *Cell Microbiol.*, 17(12):1766-78, 2015
21. Yang Z, Soderholm A, **Wong Fok Lung T**, Giogha C, Hill MM, Brown NF, Hartland E, and Teasdale RD. SseK3 Is a *Salmonella* Effector That Binds TRIM32 and Modulates the Host's NF-kappaB Signalling Activity. *PLoS One.*, 10(9):e0138529, 2015
22. Pearson JS, Giogha C, Ong SY, Kennedy CL, Kelly M, Robinson KS, **Wong Fok Lung T**, Mansell A, Riedmaier P, Oates CV, et al. A type III effector antagonizes death receptor signalling during bacterial gut infection. *Nature.*, 501(7466):247-51, 2013

B. Other Articles

* Corresponding author

Reviews and Editorials

1. Naderer T, Mu A, Monteith AJ, and **Wong Fok Lung T***. Editorial: Understanding the effects of metabolites and trace minerals on microbes during infection. *Front Cell Infect Microbiol.*, 13:1276271, 2023
2. Prince A and **Wong Fok Lung T***. Immunometabolic control by *Klebsiella pneumoniae*. *Immunometabolism* (Cobham), 5(3):e00028, 2023
3. Howden BP, Giuleri SG, **Wong Fok Lung T**, Baines SL, Sharkey LK, Lee JYH, Hachani A, Monk IR, and Stinear TP. *Staphylococcus aureus* host interactions and adaptation. *Nat. Rev. Microbiol.*, 21(6):380-395, 2023
4. **Wong Fok Lung T**, Chan LC, Prince A, Yeaman MR, Archer NK, Aman MJ, and Proctor RA. *Staphylococcus aureus* adaptive evolution: Recent insights on how immune evasion, immunometabolic subversion and host genetics impact vaccine development complex. *Front. Cell. infect. Microbiol.*, 12:1060810, 2022
5. Tomlinson KL, Prince AS, and **Wong Fok Lung T***. Immunometabolites Drive Bacterial Adaptation to the Airway. *Front Immunol.*, 12:790574, 2021
6. **Wong Fok Lung T**, and Prince A. Consequences of Metabolic Interactions during *Staphylococcus aureus* Infection. *Toxins (Basel).*, 12(9), 2020
7. **Wong Fok Lung T**, Riquelme SA, and Prince A. Pulmonary Pathogens Adapt to Immune Signaling Metabolites in the Airway. *Front Immunol.*, 11:385, 2020
8. Pearson JS, Giogha C, **Wong Fok Lung T**, and Hartland EL. The Genetics of Enteropathogenic *Escherichia coli* Virulence. *Annu Rev Genet.*, 50:493-513, 2016
9. **Wong Fok Lung T**, Pearson JS, Schuelein R, and Hartland EL. The cell death response to enteropathogenic *Escherichia coli* infection. *Cell Microbiol.*, 16(12):1736-45, 2014
10. Giogha C, **Wong Fok Lung T**, Pearson JS, and Hartland EL. Inhibition of death receptor signaling by bacterial gut pathogens. *Cytokine Growth Factor Rev.*, 25(2):235-43, 2014

PhD Thesis

1. **Wong Fok Lung T**, Characterisation of a family of novel glycosyltransferases from enteropathogenic *Escherichia coli* and *Salmonella*, University of Melbourne, Australia, 2016

C. Abstracts

1. **Wong Fok Lung T**, Liu Z, Zhang Y, Fucich D, Monk I R, Shah S S, Sridhar S H, Riquelme S, Sebra R, Howden B P, Wang C and Prince A, Airway immunometabolites drive *S. aureus* adaptation by targeting global transcriptional regulators, **Gordon Research Conference on Staphylococcal Diseases**, New Hampshire, USA 2023
2. **Wong Fok Lung T**, Fucich D, Drikic M, Park H, Lewis I, Uhlemann AC and Prince A, Immunometabolic regulation through dietary intervention promotes airway clearance of *K. pneumoniae*, **Cell Symposia Conference on Infection Biology in the Age of the Microbiome**, Paris, France, 2023 and **Midwest Microbial Pathogenesis Conference**, Chicago, USA 2023

3. **Wong Fok Lung T**, Zhang Y, Liu Z, Fucich D, Monk I R, Shah S S, Sridhar S H, Riquelme S, Sebra R, Howden B P, Wang C and Prince A, Airway immunometabolites impact *S. aureus* central metabolism and virulence via post-translational modification of targets, **International Conference on Gram-Positive Pathogens**, Omaha, USA, 2022
4. **Wong Fok Lung T**, Zhang Y, Liu Z, Fucich D, Monk I R, Shah S S, Sridhar S H, Riquelme S, Sebra R, Howden B P, Wang C and Prince A, Airway immunometabolites impact staphylococcal central metabolism and virulence, **American Society for Microbiology**, Washington D.C., USA, 2022
5. **Wong Fok Lung T**, Charyotonowicz D, Beaumont K, Shah S, Sridhar S, Drikic M, Fowler B, Hofstaedter C, Varisco D, Urso A, Lewis I, Ahn D, Ernst R K, Sebra R and Prince A, *K. pneumoniae*-induced host metabolic stress promotes tolerance to pulmonary infection, **Gordon Research Conference** on Basic and Translational Cellular Metabolism in Immunity, Providence, USA, 2022
6. **Wong Fok Lung T**, Charyotonowicz D, Beaumont K, Shah S, Sridhar S, Gorrie CL, Mu A, Hofstaedter C E, Varisco, D, McConville T H, Drikic M, Fowler B, Urso A, Shi W, Fucich D, Annavajhala M K, Khan I N, Stockwell B R, Lewis I, Hachani A, Upashyay Baskota S, Uhlemann AC, Ahn D, Ernst R K, Sebra R and Prince A, *K. pneumoniae*-induced host metabolic stress promotes pulmonary infection, Columbia University (Pediatric Fellows' Research Forum), New York, USA, 2022
7. **Wong Fok Lung T**, Drikic M, Fowler B, Sridhar S, Francoeur N, Smith M, Sebra R, Ernst R K, Lewis I and Prince A, *Klebsiella pneumoniae* ST258 induces a host metabolic response that promotes bacterial persistence, **Keystone Symposia Conference** on Integrating Metabolism and Immunity (virtual), and **American Thoracic Society** (virtual), 2021
8. **Wong Fok Lung T**, Shi W, Urso A, Annavajhala M, Uhlemann AC and Prince A, Carbapenase producing *Klebsiella pneumoniae* ST258 activates the T6SS in response to the host metabolite itaconate to promote bacterial adaptation to the lung, **American Thoracic Society** (virtual), 2020
9. **Wong Fok Lung T**, Monk I R, Acker K, Mu A, Wang N, Riquelme S A, Noguera L P, Pires S, Gabryszewski S J, Howden B P and Prince, A, Metabolic consequences of *S. aureus* SCV infection prevent trained immunity, **American Society for Microbiology**, San Francisco, USA, 2019
10. **Wong Fok Lung T**, Monk I R, Acker K, Mu A, Wang N, Riquelme S A, Noguera L P, Pires S, Gabryszewski S J, Howden B P and Prince, A, Metabolic consequences of *S. aureus* infection prevent trained immunity, **Cell Symposia Conference** on Metabolites as Signaling Molecules, Seattle, USA, 2018
11. **Wong Fok Lung T**, Wickersham M, Parker D and Prince A, *S. aureus* induction of glycolysis promotes necroptosis and persistent infection, **Keystone Symposia Conference** on Cell Death, Inflammation and Adaptation to Tissue Stress, Breckenridge, USA, 201
12. **Wong Fok Lung T**, Wickersham M, Parker D and Prince A, *S. aureus* induction of glycolysis in keratinocytes promotes necroptosis, **Keystone Symposia Conference** on Pattern Recognition Signaling: From Innate Immunity to Inflammatory Disease, Banff, Canada, 2016
13. **Wong Fok Lung T**, Creuzburg K, Giogha C, Ong S Z, Pollock G, Zhang Y, Fung K Y, Pearson J and Hartland E, EPEC'S take on an elixir of immortality: providing insights on the functional regions of the unique glycosyltransferase effector NleB, **BacPath**, Melbourne, Australia, 2015
14. **Wong Fok Lung T**, Creuzburg K, Giogha C, Ong S Z, Pollock G, Zhang Y, Fung K Y, Pearson J and Hartland E, When EPEC overrides the license to kill: Mapping potential substrate "docking" sites of a novel bacterial enzyme NleB1 which inhibits host cell death, **Victorian Infection and Immunity Network Young Investigator Symposium**, Melbourne, Australia, 2014 and **Monash University Microbiology Student Conference**, Melbourne, Australia, 2014

15. **Wong Fok Lung T**, Pearson J and Hartland E, Type III effectors of enteropathogenic *Escherichia coli* and *Salmonella* that disrupt host cell signaling, **Australian Society for Microbiology**, Adelaide, Australia, 2013, **Victorian Infection and Immunity Network Young Investigator Symposium**, Melbourne, Australia, 2012, and **Lorne Infection and Immunity Conference**, Melbourne, Australia, 2012

PRESENTATIONS:

A. Scientific (*Basic Science*):

1. **European Society of Clinical Microbiology and Infectious Diseases/ESCMID** Global, Vienna, Austria, 2025
Immunometabolism in bacterial infections
2. **KlebClub 2025**, virtual, 2025
Diet-mediated immunoregulation promotes *K. pneumoniae* airway clearance
3. **ESKAPE 2025**, virtual, 2025
Diet-mediated immunometabolic regulation promotes pulmonary clearance of *Klebsiella pneumoniae*
4. **19th International Symposium on Staphylococci and Staphylococcal Infection**, Perth, Australia 2024
Regulation of airway fumarate by *S. aureus* promotes pneumonia
5. **Gordon Research Conference on Staphylococcal Diseases**, New Hampshire, USA 2023
Airway immunometabolites drive *S. aureus* adaptation through increased fumarate hydratase activity
6. **Cell Symposia Conference on Infection Biology in the Age of the Microbiome**, Paris, France, 2023
Immunometabolic regulation through dietary intervention promotes *K. pneumoniae* airway clearance
7. **Pediatrics Infectious Diseases Division, Columbia University**, New York, USA, 2022
Understanding how multi-drug resistant *K. pneumoniae* facilitates pulmonary infection through immunometabolic interactions
8. **International Conference on Gram-Positive Pathogens**, Omaha, USA, 2022
Airway immunometabolites impact staphylococcal central metabolism and virulence via post-translational modification of targets
9. **Biomedicine Discovery Institute, Monash University**, Melbourne, Australia, 2022
K. pneumoniae-induced host metabolic stress promotes pulmonary infection
10. **Beijing Children's Hospital, Capital Medical University**, Beijing, P.R. China, 2019
Induction of host glycolysis by *S. aureus* small colony variants promotes necroptosis and persistence
11. **Microbial Pathogenesis Data Club, NYU Langone**, New York, USA, 2018
S. aureus induction of glycolysis promotes necroptosis and persistence
12. **Australian Society for Microbiology**, Adelaide, Australia, 2013
Type III effectors of enteropathogenic *Escherichia coli* and *Salmonella* that disrupt host cell signaling