

Ai Ing Lim, Ph.D.

Postdoctoral Research Fellow
National Institute of Allergy and Infectious Diseases

Education

- Ph.D. in Immunology** Oct 2013 – July 2017
Université Paris Diderot Paris 7, École Doctorale BIO SPC, France
Institut Pasteur-Paris University International Doctoral Program
Marie Curie HOMIN-Initial Training Network Program
Funded by European Union Marie Curie Action and Foundation ARC for Cancer Research
- M.Phil. in Nephrology** Jan 2011 – Dec 2012
Department of Medicine, The University of Hong Kong, Hong Kong
Funded by The University of Hong Kong Postgraduate Scholarship
- B.Sc. (Hons) in Applied Biology with Biotechnology** Sep 2007 – Jun 2010
The Hong Kong Polytechnic University, Hong Kong
Funded by The Hong Kong Polytechnic University International Student Academic Scholarship
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Research Experience

- Postdoctoral Researcher, National Institutes of Health, USA** Oct 2017 – Present
Laboratory of Host Immunity and Microbiome - Dr. Yasmine Belkaid
Dissecting maternal-offspring immune crosstalk
- Ph.D. Student, Pasteur Institute, France** Oct 2013 – Oct 2017
Innate Immunity Unit - Prof. James Di Santo
Cytokine control of human innate lymphoid cell development and function
- M.Phil. Student, The University of Hong Kong, Hong Kong** Jan 2011 – Dec 2012
Department of Medicine, Division of Nephrology - Dr. Joseph CK Leung
Biomarkers of acute kidney diseases
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Fellowships & Research Grants

- 2021 – 2026 **The Branco Weiss Fellowship** ([about](#))
Role: Principal investigator, Transition Award, \$100K/year for 5 years (research)
- 2020 **ACTERIA Doctoral Prize and Research Grant in Immunology** ([about](#))
Role: Principal Investigator, \$150K for 3 years (research)
- 2018 – 2021 **Human Frontier Science Program Postdoctoral Long-Term Fellowship** ([about](#))
Role: Postdoctoral fellow, \$60K/year for 3 years (salary and travel fund)
- 2018 Damon Runyon Fellowship (awarded but declined due to incompatibility with HFSP)
- 2016 – 2017 Foundation ARC for Cancer Research Fellowship
- 2013 – 2016 **European Commission Marie Skłodowska-Curie Action Fellowship** ([about](#))
Role: Graduate fellow
- 2011 – 2012 Basic Science Nephrology Research Grant from Hong Kong Kidney Foundation
- 2011 – 2012 The University of Hong Kong Postgraduate Full Scholarship
- 2007 – 2010 The Hong Kong Polytechnic University International Student Academic Full-tuition Scholarship
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Awards & Honors

2022	NIH CIG William E. Paul Award for the Best Paper in Cytokine Research
2021	Sidney & Joan Pestka Post Graduate Award by Cytokine Society (about)
2021	Best Oral Presentation, Immunology Interest Group Retreat, NIH
2021	Keystone Symposia Scholarship (The Microbiome: From Mother to Child)
2020	ACTERIA Doctoral Thesis Prize (The Best Immunology Thesis in Europe)
2020	Best Oral Presentation, Immunology Interest Group Retreat, NIH
2020	NIH Fellow Award for Research Excellence
2019	Best Oral Presentation, Immunology Interest Group Retreat, NIH
2019	NIH Fellow Award for Research Excellence
2018	L'Oréal-UNESCO For Women in Science International Rising Talent Award (about)
2017	L'Oréal-UNESCO For Women in Science National Award in France
2016	French Society of Immunology Training Award
2015	Best Oral Presentation, Pasteur Institute Immunology Retreat
2012	Best Research Grant Proposal Award, Hong Kong Kidney Foundation
2012	Young Investigator Award, Congress of International Society of Peritoneal Dialysis
2012	Young Nephrology Investigator Award, Hong Kong Society of Nephrology
2012	Outstanding Student Award, HKU- Pasteur Institute Cell Biology Course
2012	Best Poster Presentation, Postgraduate Symposium, The University of Hong Kong

Publications

Lim AI, McFadden T, Link VM, Han SJ, Karlsson RM, Stacy A, Farley TK, Lima-Junior D, Harrison OJ, Desai JV, Lionakis MS, Shih HY, Cameron HA, Belkaid Y. Prenatal maternal infection promotes tissue-specific immunity and inflammation in offspring. *Science*. 373. eabf3002 (2021).

Levy R, Langlais D, Bezait V, Rapaport F, ..., **Lim AI**, ..., Casanova JL, Puel A. Inherited human c-Rel deficiency disrupts myeloid and lymphoid immunity to multiple infectious agents. *J Clin Invest*. 2021;131(17):e150143.

Lima-Junior D, Krishnamurthy SR, Bouladoux D, Collins N, Han SJ, Chen EY, Constantinides MG, Link VM, **Lim AI**, Enamorado M, Cataisson C, Gil L, Rao I, Farley TK, Kassiotis G, Attig J, Hspa SH, Fischbach MA, Kassiotis G, Belkaid Y. Endogenous retrovirus promote homeostatic and inflammatory responses to the microbiota. *Cell*. 2021 Jul 8;184(14):3794-3811.

Stacy A, Andrade-Oliveira V, McCulloch JA, Hild B, Oh JH, Perez-Chaparro PJ, Sim CK, **Lim AI**, Link VM, Enamorado M, Trinchieri G, Serge JA, Rehermann B, Belkaid Y. Infection trains the host for microbiota-enhanced resistance to pathogens. *Cell*. 2021 Feb 4; 184(3):615-627.

Lim AI, Harrison OJ, Belkaid Y. Pre-birth Memory. *Nat Immunol*. 2019 Mar;20(3), 254-256.

Lim AI, Di Santo JP. ILC-poiesis: Ensuring tissue ILC differentiation at the right place and time. *Eur J Immunol*. 2019 Jan;49(1):11-18.

Stadhouders R, Li BWS, de Bruijn MJW, Gomez A, Rao TN, Fehling HJ, van IJcken WFJ, **Lim AI**, Di Santo JP, Graf T, Hendriks RW. Epigenome analysis links gene regulatory elements in group 2 innate lymphocytes to asthma susceptibility. *J Allergy Clin Immunol*. 2018 Dec;142(6):1793-1807.

Bezait V, Li J, Lin JX, Ma CS, Li P, Bousfiha A, ..., **Lim AI**, ..., Puel A, Casanova JL. A recessive form of hyper-IgE syndrome by disruption of ZNF341-dependent STAT3 transcription and activity. *Sci Immunol*. 2018 Jun 15; 3(24):eaat4956.

Li Y, Masse-Ranson G, Garcia Z, Bruel T, Kök A, Strick-Marchand H, Jouvion G, Serafini N, **Lim AI**, Dusseaux M, Hieu T, Bourgade F, Toubert A, Finke D, Schwartz O, Bousso P, Mouquet H, Di Santo JP. A human immune system mouse model with robust lymph node development. *Nat Methods*. 2018 Aug; 15(8):623-630.

Li Y, Strick-Marchand H, **Lim AI**, Ren JZ, Masse-Ranson G, Li D, Jouvion G, Rogge L, Lucas S, Li B, Di Santo JP. Regulatory T cells control toxicity in humanized model of IL-2 therapy. *Nat Commun*. 2017 Nov 24; 8(1):1762.

Di Santo, **Lim AI**, Yssel H. 'ILC-poiesis': generating tissue ILCs from naive precursors. *Oncotarget*. 2017 Sep 19;8(47):81729-81730.

Lim AI, Li Y, Lopez-Lastra S, Stadhouders R, Paul F, Casrouge A, Serafini N, Puel A, Bustamante J, Surace L, Masse-Ranson G, David E, Strick-Marchand H, Le Bourhis L, Cocchi R, Topazio D, Graziano P, Muscarella LA, Rogge

L, Norel X, Sallenave JM, Allez M, Graf T, Hendriks RW, Casanova JL, Amit I, Yssel H, Di Santo JP. Systemic human ILC precursors provide a substrate for tissue ILC differentiation. [Cell](#). 2017 Mar 9;168(6):1086-1100.

Lim AI, Verrier T, Vosshenrich C, Di Santo JP. Developmental options and functional plasticity of innate lymphoid cells. [Curr Opin Immunol](#). 2017 Mar 27;44:61-68.

Lim AI, Menegatti S, Bustamante J, Le Bourhis L, Allez M, Rogge L, Casanova JL, Yssel H, Di Santo JP. IL-12 drives functional plasticity of human group 2 innate lymphoid cells. [J Exp Med](#). 2016 Apr 4;213(4):569-83.

Lim AI, Chan LY, Tang SC, Lai KN, Leung JC. Albumin and glycated albumin activated KIM-1 release in tubular epithelial cells through distinct kinetics and mechanisms. [Inflamm Res](#). 2014 Oct;63(10):831-9.

Lim AI, Chan LY, Tang SC, Yiu WH, Li R, Lai KN, Leung JC. BMP-7 represses albumin-induced chemokine synthesis in kidney tubular epithelial cells through destabilization of NF- κ B-inducing kinase. [Immunol Cell Biol](#). 2014 May-Jun; 92(5): 427-35.

Lim AI, Tang SC, Lai KN, Leung JC. Kidney injury molecule-1: More than just an injury marker of tubular epithelial cells? [J Cell Physiol](#). 2013 May;228(5):917-24.

Lim AI, Chan LY, Lai KN, Tang SC, Chow CW, Lam MF, Leung JC. Distinct role of matrix metalloproteinase-3 in kidney injury molecule-1 shedding by kidney proximal tubular epithelial cells. [Int J Biochem Cell Biol](#). 2012 Mar 21; 44:1040.

Leung JC, Chan LY, Lam MF, Tang SC, Chow CW, **Lim AI**, Lai KN. The role of leptin and its short-form receptor in inflammation in db/db mice infused with peritoneal dialysis fluid. [Nephrol Dial Transplant](#). 2012 Jan 28.

Leung JC, Chan LY, Tang SC, Lam MF, Chow CW, **Lim AI**, Lai KN. Oxidative damages in tubular epithelial cells in IgA nephropathy: role of crosstalk between angiotensin II and aldosterone. [J Transl Med](#). 2011 Oct 6; 9:169.

Patent

Di Santo JP, **Lim AI**. 2016. Human innate lymphoid cell precursors: identification, characterization, applications. US Provisional Patent 62/428, 310. Deposited Nov 2016.

Academic Service & Leadership Experience

2020 – Present Organize speaker lunch for NIH fellows to promote scientific interaction in Immunology Interest Group Steering Committee
2017 – Present Advocate for equality, diversity, and inclusion in science together with L'Oréal-UNESCO for Women in Science Foundation
2013 – 2017 Organized regular scientific meetings and training for HOMIN members from Paris, Madrid and Siena
2013 – 2017 Organized and participated in annual interview event for Pasteur-Paris International Doctoral Program

Professional Activities

2020 – Present Elected member, Immunology Interest Group Steering Committee, NIH
2018 – Present Active reviewer in Frontiers in Immunology Journal
2017 – Present Member, American Society of Immunology
2013 – Present Member, French Society of Immunology
2010 – 2013 Member, Hong Kong Nephrology Society

Scientific Presentations (Invited speaker)

2021 Scripps Immunology & Microbiology Symposium
2021 NIH Immunology Interest Group Retreat (Best oral presentation)
2021 Keystone Symposia The microbiome: From Mother to Child
2020 NIH Immunology Interest Group Retreat (Best oral presentation)
2019 NIH Immunology Interest Group Retreat (Best oral presentation)

2019 Human Frontier Science Program Annual Meeting
2019 RIKEN-Tsinghua International Immunology Program
2018 L'Oréal-UNESCO for Women in Science Award Ceremony
2017 World Immune Regulation Meeting
2012 Congress of International Society of Peritoneal Dialysis
