Jason C. L. Tong (唐仲廉)

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EMPLOYMENT

Postdoctoral Research Associate ***2026-***

Radcliffe Department of Medicine, University of Oxford

- Building upon my experience in development and validation of novel nanoscopy techniques and fluorescent tools for advanced imaging of incretin receptors, such as fluorescent Ozempic, Mounjaro, etc.,
- Developing a fluorescent Retatrutide – the next-generation incretin mimetic drug for diabetes and obesity, currently undergoing Phase III clinical trials by pharmaceutical company, Eli Lilly
- Achieving success in this project will illuminate the mechanisms underlying the therapeutic action of these promising medications and serve as a significant asset for the wider scientific community.

EDUCATION

D.Phil in Medical Sciences, University of Oxford ***2020-2026***

Thesis title: Cellular and molecular mechanisms underlying α-cell regulation of β-cell function in health and disease

- Discovered the mechanism by which α-cell activity during hypoglycaemia primes β-cells for glucose elevation via communication at GLP1R, a key target for incretin mimetic drugs for diabetes and obesity—resolving a long-standing debate in the field
- Failure of this α-cell–to–β-cell communication mechanism via GLP1R gives rise to prediabetes
- Pioneered the application of directly quantitative dSTORM nanoscopy in endogenous pancreatic tissue
- Achieved the world's first single-molecule images of incretin drug therapeutic targets GLP1R and GIPR
- Publications in high-impact journals including *Cell Metabolism*, *Nature Metabolism*

Supervisors: Professor David J. Hodson, Professor Jeremy Tomlinson, Dr. Daniela Nasteska

M.Phil in Medicine, University of Sydney ***2017–2019***

Thesis title: Biofunctionalisation enhances cell-based type 1 diabetes therapies via recreation of the native β-cell micro-environment

B.Sc (Honours) in Physiology, University of Sydney (First Class) ***2013–2016***

Thesis title: Arp2/3 complex-mediated contractile actin coat on granules facilitates insulin secretion in β-cells

TEACHING AND SUPERVISION EXPERIENCE

University of Oxford ***2023-Present***

Supervision of Final Honours Scheme (FHS) students in formulating and executing research projects, including teaching lab techniques, statistical and data analysis, reviewing dissertation drafts and practice viva voces.

University of Sydney ***2017–2020***

Taught tutorials, laboratory practicals, lead problem-based learning sessions, marked assessments, and hosted student consultations. Served as one of four academics on the examining panel for Physiology final assessments. Supervision of three undergraduate students, including teaching techniques, analysis, reviewing dissertations.

SELECTED AWARDS AND PRIZES

2026

- Poster Presentation Prize, Young Group Leaders Symposium 2026

2025

- Poster Presentation Prize, Radcliffe Department of Medicine Day 2025

2020

- The Eleanor Sophia Wood Postgraduate Research Travelling Scholarship
- The Boulton Postgraduate Scholarship

2019

- Basic Science Poster Award, Australasian Diabetes Congress
- Selected as a scheduled "Poster Discussion", Australasian Diabetes Congress
- Invited to present a 1-hour research seminar (compared with standard 15 minute student talks), as a result of scoring as the best student presentation in the department for 2018

2018

- JDRF Young Investigator Travel Award, Australian Islet Study Group Meeting

2017

- University of Sydney Postgraduate Research Support Scheme travel award
- Australian Islet Study Group Meeting Poster Presentation Award
- The University of Sydney Honour Roll 2016, First Class Honours

2016

- The University of Sydney Honours Summer Scholarship, 2016
- Bosch Institute Advanced Microscopy Facility Micrograph of the Year finalist

2015

- Invited to participate in the Human Anatomy Special Studies Program for cranial and cervical dissection (one of only 3–5 places per year)

2014

- Top of the cohort, neuroscience research project, dissertation used as an exemplar in subsequent years.

SELECTED PUBLIC ENGAGEMENT

NIHR Oxford Biomedical Research Centre ***2026***

Participated in the running of a stand for the Oxford Centre for Diabetes, Endocrinology and Metabolism at the Joint Biomedical Research Centre Health Research Showcase 2026 at the Westgate Shopping Centre, Oxford, to increase awareness of and engage with members of the public about our research into diabetes and other metabolic disorders.

The High Commission of Australia to the United Kingdom ***2026***

Invited to attend a small roundtable discussion of Australian academics and students with the visiting High Commissioner of Australia to the United Kingdom, The Honourable Jay Weatherill AO. I discussed with the High Commissioner the novelty and impact of my work on incretin receptors and the fast-paced movement in the field.

Breakthrough T1D UK ***2026***

Participated in the conception, design, and delivery of a colouring book aimed to present and explain type 1 diabetes in an engaging and accessible way for young audiences.

The Court of St James's ***2025***

Nominated by The High Commission of Australia as a representative at a Royal Garden Party hosted at Buckingham Palace to meet HM The King, recognising 'excellent contributions in education and skills'.

The High Commission of Australia to the United Kingdom ***2025***

Invited to Australia House to meet the High Commissioner of Australia to the United Kingdom, The Hon Stephen Smith, to discuss my own research, and the work being performed in science by high-performing Australians in the United Kingdom comprising celebrations for Australia Day 2025.

Diabetes UK ***2023-Present***

Delivered seminars to Patient Support Groups about my research in diabetes, especially adapted for an audience of people living with diabetes; participated in the organisation and running of a site-visit by Diabetes UK supporters and donors to the Oxford Centre for Diabetes, Endocrinology and Metabolism.

IF Oxford: The Oxford Science and Ideas Festival ***2023-Present***

Participated in the organisation and running of stalls at the IF Oxford Science and Ideas Festival on behalf of our department, to engage with members of the public about diabetes research.

SELECTED ACADEMIC SERVICE

Peer review ***2026-***

Invited peer reviewer for submitted manuscripts to *Diabetologia*, and Cardiovascular Diabetology – Endocrinology Reports.

Radcliffe Department of Medicine Researchers Association ***2026-***

Committee Member

Organisation of the departmental committee bringing together early-career researchers for social, academic, networking, and career-development events.

Wolfson College, Oxford ***2021-2023***

Garden Building Project Steering Committee Member

One of two students elected to contribute to the planning consultation for a new accommodation block for the college, with college leadership and project architects. The 'Garden Building' has received planning approval and is set to open in Autumn 2027.

University of Sydney ***2013***

Student Liaison Officer, Faculty of Science

Elected as a student representative to communicate feedback for biology units of study.

LEADERSHIP EXPERIENCE

- **President, Oxford University Australia & New Zealand Society** ***2021-2025***
- **President, Sydney University Disney Appreciation Society** ***2014–2016***
- **Publicity Officer, Sydney University Wind Orchestra** ***2015***
- **General Executive Officer, Sydney University Chocolate Society** ***2013-2015***

SELECTED CONFERENCE PRESENTATIONS

Pharmacology 2026 ***2026***

GLP1R nanodomain signalling and cell-cell crosstalk in the pancreatic islet. Invited oral presentation in the symposium 'Location, location, location – Advances in spatial GPCR pharmacology uncovering new therapeutic concepts for metabolic disorders' to be delivered at: Pharmacology 2026; 2026, forthcoming; Manchester, UK.

Young Group Leaders Symposium ***2026***

Cellular and molecular mechanisms underlying α-cell regulation of β-cell function in health and disease. Poster presentation delivered at: Young Group Leaders Symposium; 2026, Mar 25; Berlin, Germany.

Winner of the Poster Presentation Prize

Radcliffe Department of Medicine Day ***2025***

Localised GLP-1 receptor pre-internalisation directs pancreatic alpha cell to beta cell communication. Poster presentation delivered at: Radcliffe Department of Medicine Day; 2025, Mar 17; Oxford, UK.

Winner of the Poster Presentation Prize (of ~60 student presentations in the department)

European Incretin Study Group Meeting ***2024***

Locally pre-internalised GLP-1 receptor mediates α cell regulation of β cell function. Oral presentation delivered at: European Incretin Study Group Meeting; 2023, Apr 4-6; Cambridge, UK.

Australasian Diabetes Congress ***2019***

Re-introduction of native extracellular matrix proteins recapitulates the native oscillatory Ca^{2+} phenotype in primary mouse beta-cells. Poster presentation delivered at: Australasian Diabetes Congress 2019, Australian Diabetes Society; 2019 Aug 21-23; Sydney, Australia.

Selected for 'Poster Discussion' and 1st prize winner of the Basic Science Poster Award

Australian Islet Study Group Meeting ***2018***

Polymer biofunctionalisation to enhance a microenvironment for β-cell encapsulation. Oral presentation delivered at: Australian Islet Study Group Meeting; 2018 Nov 30; Canberra, Australia.

Winner of the JDRF Young Investigator Travel Award (Type 1 Diabetes)

Australian Islet Study Group Meeting ***2017***

A biocompatibility screen of polymers for synthetic encapsulation of beta-cells in type 1 diabetes. Poster presentation delivered at Australian Islet Study Group Meeting; 2017 Sep 1-2; Perth, Australia.

Winner of the Best Poster Presentation Award

Australian Islet Study Group Meeting **2016**

An Arp2/3 complex-mediated contractile actin coat on insulin granules facilitates secretion in beta-cells. Oral presentation delivered at: Australian Islet Study Group Meeting; 2016 Nov 18; Melbourne, Australia.

PUBLICATIONS

Journal articles:

Tong JCL., Frazer-Morris C., Shilleh AH., Viloria K., de Bray A., Nair AM., Johnson PRV., Spiers R., Kobiita A., Olaniru OE., Persaud SJ., Hauffe R., Kleinridders A., Schultz C., Bruce Verchere, C., Cui C., Campbell JE., Cyranka M., Epanchintsev A., Ämmälä C., Broichhagen J., Hodson DJ. (2025). Localized GLP-1 receptor pre-internalization directs pancreatic alpha cell to beta cell communication. *Cell Metab*., 37(8), pp. 1698-1714. doi: 10.1016/j.cmet.2025.06.009

Wong CK., Yusta B., **Tong JCL**., Broichhagen J., Hodson DJ., Drucker DJ. (2025). Reassessment of antibody-based detection of the murine T cell GLP-1 receptor. *Cell Metab*., 37(9), pp. 1783-1788. doi: 10.1016/j.cmet.2025.06.012

de Bray A., Roberts AG., Armour S., **Tong J**., Huhn C., Gatin-Fraudet B., Roßmann K., Shilleh AH., Jiang W., Figueredo Burgos NS., Trott JPP., Viloria K., Nasteska D., Pearce A., Miyazaki S., Tomlinson JW., Owen DM., Nieves DJ., Ast J., Cyranka M., Epanchintsev A., Ämmälä C., Reimann F., Soykan T., Ladds G., Adriaenssens AE., Trapp S., Jones B., Broichhagen J., Hodson DJ. Fluorescent GLP1R/GIPR dual agonist probes reveal cell targets in the pancreas and brain. (2025). *Nat. Metab.*, 7, pp. 1536-1549. doi: 10.1038/s42255-025-01342-6

Capozzi ME., Bouslov D., Sargsyan A., Chan MY., Chen A., Gray SM., Viloria K., Bareja A., Douros JD., Lewandowski SL., **Tong JCL**., Hasib A., Cuozzo F., Ross EC., Foster MW., Weinstein LS., Hussain MA., Merrins MJ., Willard FS., Huising MO., Sloop KW., Hodson DJ., D'Alessio DA., Campbell JE. (2025). β-cell Gαs signaling is critical for physiological and pharmacological enhancement of insulin secretion. *J. Clin. Investig*., 135(16), e183741. doi: 10.1172/JCI183741

Germanos M., Yau B., Taper M., Yeoman C., Wilson A., An Y., Cattlin-Ortolá J., Masler D., **Tong J**., Naghiloo S., Needham EJ., van der Kraan AG., Sun K., Loudovaris T., Diaz-Vegas A., Larance M., Thomas H., von Blume H., Thorn P., Ailion M., Asensio C., Kebede MA. (2025). Cab45G trafficking through the insulin secretory pathway is altered in human type 2 diabetes. *iScience*, 28, 2, 111719. doi: 10.1016/j.isci.2024.111719

Cuozzo F., Viloria K., Shilleh AH., Nasteska D., Frazer-Morris C., **Tong J**., Jiao Z., Boufersaoui A., Marzullo B., Rossoff DB., Smith HR., Bonner C., Kerr-Conte J., Pattou F., Nano R., Piemonti L., Johnson PRV., Spiers R., Roberts J., Lavery GG., Clark A., Ceresa CDL., Ray DW., Hodson L., Davies AP., Rutter GA., Oshima M., Scharfmann R., Merrins MJ., Akerman I., Tennant DA., Ludwig C., Hodson DJ. (2024). LDHB contributes to the regulation of lactate levels and basal insulin secretion in human pancreatic β cells. *Cell Rep.*, 43, 4, 114047. doi: 10.1016/j.celrep.2024.114047

Jevon D., Deng K., Hallahan N., Kumar K., **Tong J**., Gan WJ., Tran C., Bilek M., Thorn P. (2022). Local activation of focal adhesion kinase orchestrates the positioning of presynaptic scaffold proteins and Ca^{2+} signalling to control glucose-dependent insulin secretion. *eLife*, 11, e76262. doi: 10.7554/eLife.76262

Koneshamoorthy A., Seniveratne-Epa D., Calder G., Sawyer M., Kay TWH., Farrell S., Loudovaris T., Mariana L., McCarthy D., Lyu R., Liu X., Thorn P., **Tong J**., Chin LK., Zacharin M., Trainer A., Taylor S., MacIsaac RJ., Sachithanandan N., Thomas HE., Krishnamurthy B. (2022). Case Report: Hypoglycemia Due to a Novel Activating Glucokinase Variant in an Adult – a Molecular Approach. *Front. Endocrinol*., 13, 842937. doi: 10.3389/fendo.2022.842937

Tran C., Hallahan N., Kosobrodova E., **Tong J**., Thorn P., Bilek M. (2021). Plasma Surface Engineering to Biofunctionalise Polymers for β-Cell Adhesion. *Coatings*., 11, 9, 1085. doi: 10.3390/coatings11091085

Ma W., Chang J., **Tong J**., Ho U., Yau B., Kebede MA., Thorn P. (2020). Arp2/3 nucleates F-actin coating of fusing insulin granules in pancreatic β cells to control insulin secretion. *J. Cell Sci*, 133, 6, jcs236794. doi: 10.1242/jcs.236794

Conference papers:

de Bray A., **Tong J**., Huhn C., Roßmann K., Shilleh AH., Jiang W., Roberts A., Viloria K., Nasteska D., Pearce A., Miyazaki S., Tomlinson J., Owen D., Nieves D., Ast J., Cyranka M., Epanchintsev A., Ämmälä C., Reimann F., Ladds G.,

Adriaenssens A., Trapp S., Jones B., Broichhagen J., Hodson DJ. (2025). daLUXendins reveal dual GLP1R/GIPR agonist targets in the pancreas and brain. *Endocrine Abstracts*, 109, P98. Society for Endocrinology BES 2025, Harrogate United Kingdom, Mar 10-12, 2025. doi: 10.1530/endoabs.109.P98

Ma W., **Tong J**., Chang J., Thorn P. (2018). Endocytosis occurs right after fusion pore open and plays crucial roles in granule collapse. *Diabetologia*, 61, S235-S235. 54th Annual Meeting of the European-Association-for-the-Study-of-Diabetes (EASD), Berlin Germany, Oct 01-05, 2018. NEW YORK: SPRINGER.

REFEREES

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