

Conor M. Finlay

SENIOR RESEARCH FELLOW

Trinity Translational Medicine Institute, Trinity College Dublin

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Cellular Immunologist and bioinformatician combining molecular, in vivo and translational research. I am ready to educate the next generation of doctors and scientists and lead my own group to make transformative discoveries.

1. Applicant details

SENIOR RESEARCH FELLOW, TRINITY COLLEGE DUBLIN (2022-PRESENT)

- Myeloid cell dysfunction in COVID-19 (COVID-19 SFI-funded strategic partnership)
- “TCD Omics” - single cell RNA-sequencing (independent project)
- lab management and biomarker research (Trinity Kidney Health Centre with Mark Little).
- Data integration of multi-modal clinical data, supervising development of R package (with Mark Little)
- Longitudinal clinical study design (high parameter (30+) flow cytometry panels) - T cell exhaustion as a predictor of autoimmune relapse (PARADISE, with Mark Little)

HONORARY RESEARCH FELLOW, UNIVERSITY OF MANCHESTER (2021-PRESENT)

- Collaboration on my MRC programme grant with Prof. Judith Allen (approx 20% FTE).

Employment History

Research Fellow

Trinity College Dublin

SUPERVISOR: PROF MARK LITTLE

2021

- Single cell RNA-sequencing lead on COVID-19 strategic partnership. Laboratory management of Trinity Kidney Health Centre (THKC). Clinical data analysis: incorporating data from clinical datasets (RedCap) with biobank datasets to stratify patients and combine with biomarker results for analysis using machine learning.

Research Associate

University of Manchester

SUPERVISOR: PROF JUDITH ALLEN.

2017-2021

- Origin, heterogeneity, proliferation and effector function of macrophages during helminth infection and type 2 immune responses. Funding: Medical Research Council/Wellcome Trust. See recent preprint for outputs.

Lecturer (teaching relief)

Trinity College Dublin

SCHOOL OF BIOCHEMISTRY AND IMMUNOLOGY

2016-2017

- Performed the teaching duties for a senior professor on sabbatical for 1 year. Duties included undergraduate practical supervision, undergraduate and MSc teaching via lectures and tutorials, setting examinations and corrections with associated administration duties.

Post-doctoral Researcher

Trinity College Dublin

SUPERVISOR: PROF KINGSTON HG MILLS.

2013-2016

- Research projects: 1. IP-protected translational project identifying and testing novel helminth-derived proteins as therapeutics for inflammatory disease. 2. Role of mast cells in the alternative activation of macrophages via IL-33. 3. Circadian regulation of autoimmune disease

Education

Special Purpose Certificate in Teaching, Learning & Assessment for Academic Practice

Trinity College Dublin

PERSPECTIVES ON TEACHING AND LEARNING IN HIGHER EDUCATION

2022

- Constitutes one third of the SP Cert

Informatics Training Scheme (Wellcome Trust TPA)

University of Manchester

PROGRAMMING AND COMPUTATIONAL APPROACHES TO BIOLOGY MODULES

2020

- Constituted 50% of taught component of MSc Bioinformatics and Systems Biology

PhD in Immunology

Trinity College Dublin

IMMUNE MODULATION BY THE HELMINTH PARASITE FASCIOLA HEPATICA

2013

- Supervisor: Kingston Mills

BA(Mod) in Natural Sciences

Trinity College Dublin

MAJOR: BIOCHEMISTRY WITH IMMUNOLOGY

2007

- Grade: 1:1, graduated top of class

Referees

Prof Judi Allen

PROFESSOR OF IMMUNOBIOLOGY; JUDI.ALLEN@MANCHESTER.AC.UK

Dr Matthew Hepworth

SIR HENRY DALE FELLOW; MATTHEW.HEPWORTH@MANCHESTER.AC.UK

Prof Kingston HG Mills

PROFESSOR OF EXPERIMENTAL IMMUNOLOGY; KINGSTON.MILLS@TCD.IE

Prof Cliona O'Farrelly

PROFESSOR OF COMPARATIVE IMMUNOLOGY; OFARRECL@TCD.IE

University of Manchester

Lydia Becker Institute

University of Manchester

Lydia Becker Institute

Trinity College Dublin

School of Biochemistry and Immunology

Trinity College Dublin

School of Biochemistry and Immunology

2. Alignment with UCD Strategic themes and SDGs

I am committed to UCD's Rising to the Future Strategy and the UN Sustainable development goals (SDG). **Theme 3 Building a Healthy World:** My past work on neglected tropical diseases has given me an affinity for the 'One Health' concept on the interconnectivity of living organisms: The discovery of health interventions requires a holistic approach that incorporates other species and the environment. My core research focuses on immune cells called macrophages maps across tissues, disease types and species. **Theme 2 Transforming through Digital Technology:** My research and teaching are a blend of the 'wet lab' and data analytics and incorporates the very cutting-edge technologies. **Theme 1 Creating a Sustainable Global Society:** I have implemented green lab policies, linking with SDG#12. I have met and fully support the Postgraduate Workers' Organisation in their pursuit reduce barriers to science in Ireland. *Please see cover letter for more details.*

EQUALITY, DIVERSITY, AND INCLUSION (EDI)

I am committed to UCD's **Equality, Diversity, and Inclusion (EDI) strategy and Action plan.** have completed the Equality, Diversity and Inclusion in Higher Education training in TCD. Consideration for EDI has modified how I manage staff and conduct teaching. I am attuned to neurodiversity and have managed neurodiverse staff. My own neurodiversity has driven me to reconstruct my teaching material and assessment to make learning more accessible to a variety of student types. Such approaches approach aligns with UCD's University for All strategy. *Please see cover letter for details.*

3. Key Achievements in Research Excellence and Impact

I started my career in Trinity College Dublin identify pathways that shut down autoimmunity and allergy, leading to three papers in *The Journal of Immunology* and one in *Parasite immunology* and co-authorship in *Nature communications*. Next in Manchester I made a major advance on how adaptive immunity controls macrophages and how macrophage differentiation controls disease outcomes, publishing articles in *Immunity*, *elife*, *Nature Immunology* and *Parasite Immunology*. Recently, back in Ireland I have been conducting patient orientated research where I have submitted my first co-final author paper. I have received a best talk at the Irish Society of Immunology conference, been an invited speaker at 3 conferences and spoken at 13 more. I have received 8 awards. I have supervised 13 research students, reviewed articles, grants and will soon join *Frontiers in immunology* as a review editor. I am the member of 4 scientific societies, and sit on 3 committees. I am a co-inventor on a patent WM01-740-02 that has been commercialised as a biotech company Pravalix Tx.

Funding

AWARDED

Building Engagements in Health Research Scheme

10K EUR, Co-PI

- Understanding mast cells and their progenitors in Telangiectasia Macularis Eruptiva Perstans (TMEP)

Internal TCD

2023

MR/V011235/1 Programme Grant

2.26 MILLION GBP, RESEARCH CO-INVESTIGATOR

- "Macrophages in type 2 immunity: unravelling susceptibility and resistance to tissue nematode infection". I co-wrote grant and provided scientific design and preliminary data. Awarded an honorary position at UoM to facilitate ongoing collaboration after leaving Manchester

Medical Research Council

2021

Building Engagements in Health Research Scheme

10K EUR, Co-PI

- 'Nanoparticle modulation of neutrophil and monocyte responses to ANCA'

Internal TCD

2021

FUNDING, UNDER REVIEW

SFI Pathways program 2022, €425,000. - *Title withheld.* - Short-listed for 2nd stage, expected outcome Q2 2023.

Presentations, Awards & contributions

PRESENTATIONS

- 3 invited speaker presentations
- 13 conference oral presentations, selected from abstract
- 8 conference poster presentations

AWARDS AND MEDIA

- Commentary in *Immunity*: “Macrophages show up in style when Th2 lymphocytes organize their homecoming”
- Paper featured on The Immunology Podcast - Episode 51

DISCIPLINE CONTRIBUTIONS

2023	Kidney Research UK	Grant review
2023	Frontiers in Immunology (in negotiation)	Review Editor
2022	Irish Nephrology Society Conference	Session Chair
2022	Post-Doctoral scientist at TCD	Interview panel
2022	PhD Candidate in TCD	Continuation Viva
2021-2022	Frontiers in Immunology	Article review
2021-2022	Research Assistant at TCD	Interview panel
2021	French National Research Agency (ANR) 2021 generic call	Grant review
2021	BBSRC Discovery Fellows award	Grant review
2021	Venture capital funded Trinity Spinout – Parvalis Tx	Patent (inventor)
2018	Scientific Reports	Article review
2017-2020	Parasite Immunology	Article review

Active Collaborations

Lara Dungan, Niall Conlon UNDERSTANDING MAST CELLS AND THEIR PROGENITORS IN TELANGIECTASIA MACULARIS ERUPTIVA PERSTANS	St James' Hospital
Padraic Fallon TITLE WITHHELD; INFLAMMATION FOCUSED (MOUSE)	Trinity College Dublin
Arthur White NEW STATISTICAL METHODS FOR SEMI-SUPERVISED CLUSTERING OF FLOW AND MASS CYTOMETRY DATA	Trinity College Dublin
Legend Biotech (Ireland), Tony Mc Elligott TITLE WITHHELD	Trinity College Dublin
Judi Allen, Lili Zhang B CELL-MACROPHAGE INTERACTIONS IN TYPE 2 IMMUNE RESPONSES	University of Manchester
Pn'g Loke EFFECT OF GENOTYPE ON ALTERNATIVE ACTIVATION OF SEROUS CAVITY MACROPHAGES	NIH, Bethesda, MA
Niall Conlon, Katie Ridge ROLE OF MAST CELL PROGENITORS IN CHRONIC URTICARIA	St James' Hospital
Ross MacManus LINKING IMMUNE CELL PERTURBATIONS TO ANKYLOSING SPONDYLITIS OUTCOMES	Trinity College Dublin
Mark Travis TITLE WITHHELD, T CELL AND INFECTION FOCUSED (MOUSE)	University of Manchester
Maria M. Munoz San Martin TITLE WITHHELD, MICROGLIA FOCUSED (MOUSE)	RCSI
Sharee Basdeo INNATE IMMUNE TRAINING OF HUMAN MONOCYTES AND MACROPHAGES BY SARS-COV2 VACCINE CHAdOx1	Trinity College Dublin
Judi Allen SEROUS CAVITY MACROPHAGE IN NEMATODE CONTROL	University of Manchester
Judi Allen, James Parkinson THE PLUERAL CAVITY MACROPHAGE PROTEOME	University of Manchester
Alvaro Diaz ROLE OF CD40 SIGNALLING IN TISSUE RESIDENT MACOPHAGE PROLIFERATION	Uni. de la República Uruguay

Teaching & Supervision

FORMAL TEACHING

Transcriptomics (2 hr workshop) MSC IN IMMUNOLOGY • Introduction to Transcriptomics and single cell technologies	20 students 2022
Datascience for Immunology (3 workshops and assessment) MSC IN IMMUNOLOGY • 12 hours direct teaching time. Introduction to R programming, with a focus on analysis in R markdown. Analysing and visualising immunology data in R. Single cell RNA-sequencing analysis. Student assessment in Single cell RNA-sequencing analysis. Module design and module reform via committee.	20 students 2022

R programming, data visualisation and transcriptomic analysis (3 workshops) *20 students*

MSC IN IMMUNOLOGY

2021

- Part of immunogenetics module - This included 3 dry lab sessions (in person) and assessment: student presentations of bioinformatic analysis (microarray)

T cells (4 lectures) *30 Students*

BA(MOD) BIOCHEMISTRY WITH IMMUNOLOGY (4TH YEAR)

2016-2017

- This advanced course teaches most aspect of T cell biology from development, T cell education, tolerance, activation through the immunological synapse, APC function, co-stimulation, expansion, tissue/lymph node homing, T cell subset differentiation, regulation and the concept of immune responses types. Assessment: written exam

Cancer immunology and immunotherapy (2 lectures) *30 Students*

BA(MOD) BIOCHEMISTRY WITH IMMUNOLOGY (4TH YEAR)

2016-2017

- Brief history of chemotherapy, failed early immune oncology interventions, recent success, checkpoint inhibitors, combination studies, CAR-T cell, future perspectives Assessment: written exam

Multiple sclerosis (1 lecture) *30 Students*

BA(MOD) BIOCHEMISTRY WITH IMMUNOLOGY (4TH YEAR)

2016-2017

- Th1 and Th17 cells in autoimmunity, animal models of disease, S1p1 inhibitors, VLA4, future targets.

T cell differentiation, effector function and regulation (2 lectures) *20 students*

MSC IN IMMUNOLOGY

2016-2017

- Introductory course to T cell biology, differentiation and the cytokine control of immune responses. Assessment: written exam

Introduction to parasite and type 2 Immune responses (3 lectures) *20 students*

MSC IN IMMUNOLOGY

2014-2017

- This is an advanced course that covers aspect of type 2 immune responses. Th2 cells, helminth infections, eosinophils, M2 macrophages, wound repair, hygiene hypothesis and allergy. Workshop style with three PBL topics. Assessment: written exam

Integrated Tutorials *3 students*

BA(MOD) BIOCHEMISTRY WITH IMMUNOLOGY (3RD YEAR)

2014-2017

- Ongoing small group tutorials for 3 students each year integrated with specific modules

RESEARCH PROJECT SUPERVISION

2023	Ba(Mod) Molecular Medicine (intercalating Medical student)	TCD
2022	Ba(Mod) Molecular Medicine (intercalating Medical student)	TCD
2021-2022	Bachelor in Medicine	TCD
2021-2022	Research Assistant	TCD
2021-2022	PhD student	TCD
2021	Ba(Mod) Molecular Medicine (intercalating Medical student)	TCD
2020-2021	Mres Infection Biology	UoM
2018-2019	Mres Infection Biology	UoM
2017-2021	PhD Student	TCD
2016	Msc Immunology	TCD
2015-2017	PhD Student	TCD
2015	Msc Immunology	TCD
2014	Msc Immunology	TCD

Additional teaching duties In 2016 I took on the academic duties for a Professor in TCD on teaching sabbatical. This included all aspects of the role, including practical supervision, assessment and marking, tutorials and administrative duties. I have organised visits for school students between 2013-2016. I sit on thesis committees for 3 PhD students.

Outreach, organisation, and patient & public involvement in research _____

Discover Research Night, Dublin Sep 2014. Marie Skłodowska-Curie-funded. I was the event organiser responsible for public engagement at Trinity Biomedical Sciences Institute, organising a team of 50 researchers in leading themed tours of scientific facilities. We were the most subscribed event of Dublin Research Night (>500 members of the public).

10th International Symposium on Bordetella, Sep 2013. Logistics manager responsible for operations of the conference including registration, AV equipment and support for speakers.

Manchester Immunology Group Seminar Series, May 2017 – Sep 2018. Co-lead organiser. Handling invitations, hospitality, communications, for renowned international speakers to visit University of Manchester.

School talk, Oaklands Community College, Edenderry Co. Offaly, 2021. “The life of a scientist”.

TCD Omics Core facility. I have established formal pipelines for a single cell RNA-sequencing core service ‘TCD Omics’. I have successfully lobbied my institute to fund a research assistant to support the service under my supervision.

Patient involvement I have worked alongside patient representatives for Vasculitis Ireland as part of the PARADISE project.

Online Appendix _____

Please see my gitub for a long form CV with exhaustive list of presentations, awards, datasets, training and skills, etc.

Publications

1. Finlay, C. M., Parkinson, J. E., Zhang, L., Chan, B. H. K., Ajendra, J., Chenery, A., Morrison, A., Kaymak, I., Houlder, E. L., Murtuza Baker, S., Dickie, B. R., Boon, L., Konkell, J. E., Hepworth, M. R., MacDonald, A. S., Randolph, G. J., Rückerl, D., & Allen, J. E. (2023). T helper 2 cells control monocyte to tissue-resident macrophage differentiation during nematode infection of the pleural cavity. *Immunity*, 1–18. <https://doi.org/10.1016/j.immuni.2023.02.016>
2. McEntee, C. P., Houston, S., Finlay, C. M., Rossi, S., Liu, G., Shaw, T. N., Casulli, J., Fife, M., Smedley, C., Griffith, T. S., Pepper, M., Hussell, T., Hansbro, P. M., Schwartz, J. M., Paidassi, H., & Travis, M. A. (2023). A subset of CD4+ effector memory T cells limit immunity to pulmonary viral infection and prevent tissue pathology via activation of latent TGF β . *bioRxiv*, 2023.03.02.527395. <https://doi.org/10.1101/2023.03.02.527395>
3. Han, J., Gallerand, A., Erlich, E. C., Helmink, B. A., Mair, I., Li4, X., Eckhouse2, S. R., Dimou, F. M., Shakhsher, B. A., Phelps, H., Chan, M., Schilling5, J. D., Finlay, C. M., Judith, Allen, E., Jakubick, C. V., Else, K., Onufer, E. J., Zhang, N., & Randolph, G. J. (2023). In-depth comparison of human serous cavity resident macrophages and dendritic cells to their murine counterparts. *PREPRINT (Version 1) Available at Research Square*. <https://doi.org/https://dx.doi.org/10.21203/rs.3.rs-2689141/v1>
4. McManus, C. M., Bouchery, T., Suleiman, M., Kildemoes, A. O., Ferguson, A., Wang, T., Finlay, C. M., Chan, R., Renahan, T., Mukundan, A., Nkurunungi, G., & Bobardt, S. D. (2022). Hydra 2022: return of the interactive conference on helminth parasitology after the pandemic. *Trends in Parasitology*, 38(12), 999–1007. <https://doi.org/10.1016/j.pt.2022.09.013>
5. Fiancette, R., Finlay, C. M., Willis, C., Bevington, S. L., Soley, J., Ng, S. T. H., Baker, S. M., Andrews, S., Hepworth, M. R., & Withers, D. R. (2021). Reciprocal transcription factor networks govern tissue-resident ILC3 subset function and identity. *Nature Immunology*, 22(10), 1245–1255. <https://doi.org/10.1038/s41590-021-01024-x>
6. Cunningham, K. T., Finlay, C. M., & Mills, K. H. G. (2021). Helminth Imprinting of Hematopoietic Stem Cells Sustains Anti-Inflammatory Trained Innate Immunity That Attenuates Autoimmune Disease. *The Journal of Immunology*, 206(7), 1618–1630. <https://doi.org/10.4049/jimmunol.2001225>
7. Finlay, C. M., Cunningham, K. T., Doyle, B., & Mills, K. H. G. (2020). IL-33–Stimulated Murine Mast Cells Polarize Alternatively Activated Macrophages, Which Suppress T Cells That Mediate Experimental Autoimmune Encephalomyelitis. *The Journal of Immunology*, 205(7), 1909–1919. <https://doi.org/10.4049/jimmunol.1901321>
8. Finlay, C. M., & Allen, J. E. (2020). The immune response of inbred laboratory mice to *Litomosoides sigmodontis*: A route to discovery in myeloid cell biology. *Parasite Immunology*, 42(7), e12708. <https://doi.org/10.1111/pim.12708>
9. Czajkowska, B. I., Finlay, C. M., Jones, G., & Brown, T. A. (2019). Diversity of a cytokinin dehydrogenase gene in wild and cultivated barley. *PLOS ONE*, 14(12), e0225899. <https://doi.org/10.1371/journal.pone.0225899>
10. McEntee, C. P., Finlay, C. M., & Lavelle, E. C. (2019). Divergent Roles for the IL-1 Family in Gastrointestinal Homeostasis and Inflammation. *Frontiers in Immunology*, 10. <https://doi.org/10.3389/fimmu.2019.01266>
11. Campbell, S. M., Knipper, J. A., Ruckerl, D., Finlay, C. M., Logan, N., Minutti, C. M., Mack, M., Jenkins, S. J., Taylor, M. D., & Allen, J. E. (2018). Myeloid cell recruitment versus local proliferation differentiates susceptibility from resistance to filarial infection. *eLife*, 7, e30947. <https://doi.org/10.7554/eLife.30947>
12. Finlay, C. M., Stefanska, A. M., Coleman, M. M., Jahns, H., Cassidy, J. P., McLoughlin, R. M., & Mills, K. H. G. (2017). Secreted products of *Fasciola hepatica* inhibit the induction of T cell responses that mediate allergy. *Parasite Immunology*, 39(10), e12460. <https://doi.org/10.1111/pim.12460>
13. Sutton, C. E., Finlay, C. M., Raverdeau, M., Early, J. O., DeCoursey, J., Zaslon, Z., O'Neill, L. A. J., Mills, K. H. G., & Curtis, A. M. (2017). Loss of the molecular clock in myeloid cells exacerbates T cell-mediated CNS autoimmune disease. *Nature Communications*, 8(1), 1923. <https://doi.org/10.1038/s41467-017-02111-0>
14. Finlay, C. M., Stefanska, A. M., Walsh, K. P., Kelly, P. J., Boon, L., Lavelle, E. C., Walsh, P. T., & Mills, K. H. G. (2016). Helminth Products Protect against Autoimmunity via Innate Type 2 Cytokines IL-5 and IL-33, Which Promote Eosinophilia. *The Journal of Immunology*, 196(2), 703–714. <https://doi.org/10.4049/jimmunol.1501820>
15. Bernard, N. J., Finlay, C. M., Tannahill, G. M., Cassidy, J. P., O'Neill, L. A., & Mills, K. H. (2015). A critical role for the TLR signaling adapter Mal in alveolar macrophage-mediated protection against *Bordetella pertussis*. *Mucosal Immunology*, 8(5), 982–992. <https://doi.org/10.1038/mi.2014.125>
16. Finlay, C. M., Walsh, K. P., & Mills, K. H. G. (2014). Induction of regulatory cells by helminth parasites: exploitation for the treatment of inflammatory diseases. *Immunological Reviews*, 259(1), 206–230. <https://doi.org/10.1111/imr.12164>
17. Coleman, M. M., Finlay, C. M., Moran, B., Keane, J., Dunne, P. J., & Mills, K. H. G. (2012). The immunoregulatory role of CD4 + FoxP3 + CD25 – regulatory T cells in lungs of mice infected with *Bordetella pertussis*. *FEMS Immunology & Medical Microbiology*, 64(3), 413–424. <https://doi.org/10.1111/j.1574-695X.2011.00927.x>
18. Walsh, K. P., Brady, M. T., Finlay, C. M., Boon, L., & Mills, K. H. G. (2009). Infection with a Helminth Parasite Attenuates Autoimmunity through TGF β -Mediated Suppression of Th17 and Th1 Responses. *The Journal of Immunology*, 183(3), 1577–1586. <https://doi.org/10.4049/jimmunol.0803803>

PUBLICATIONS IN REVIEW

Dwivedi, A., Ui Mhaonaigh, A., Carrol, M., Little, M and Finlay, C.M. low density neutrophils in SARS-Cov 2 **Under Review, I am co-last and co-corresponding author**

Online Appendix

DATASETS, CODE & WEBSITES

scRNA-seq expression app

[HTTPS://SHINY.ITS.MANCHESTER.AC.UK/MDEHSJPR/ORIGINAL/](https://shiny.its.manchester.ac.uk/mdehsjpr/original/)

PARADISE R package for analysis of Rar Kidney disease dataset (private)

ON REQUEST

L sigmodontis collective analysis

[HTTPS://GITHUB.COM/CONORISCO/LITO_DATABASE](https://github.com/Conorisco/LITO_DATABASE)

scRNA-seq data from Immunity paper 2023

[HTTPS://WWW.NCBI.NLM.NIH.GOV/GENE/QUERY/ACC.CGI?ACC=GSE189031](https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE189031)

[shiny app](#)

2023

[R package](#)

2023

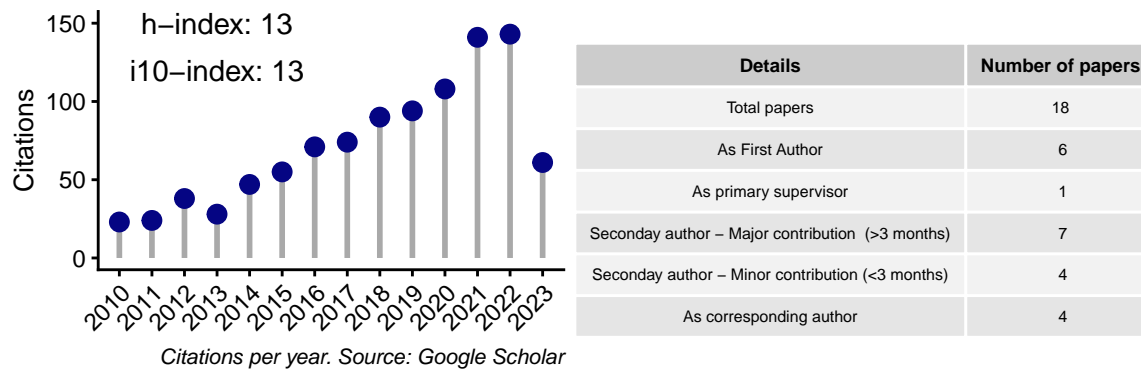
[Github](#)

2022

[NCBI](#)

2021

CITATION METRICS



MANUSCRIPTS IN PREPARATION OR REVIEW, ETC (PRE-PRINTS AS LISTED AS PART OF PUBLICATIONS)

- Ridge, R., Finlay, C.M., O' Farrelly, C., Moran, B., Alvarado-Vazquez, A., Hallgren, J., Conlon. CD34+ CD117+ FcεR1lo cells in peripheral blood are elevated in patients with chronic spontaneous urticaria and display phenotypes which correlate with treatment response
- Dwivedi, A., Ui Mhaonaigh, A., Carrol, M., Little, M and Finlay, C.M. Characterisation of low density neutrophils in SARS-Cov 2 patients (Under review)
- Finlay, C.M. Parkinson, J.P., Chan, B.H.K. and Allen, J.E. The proteome of the pleural fluid
- O'Conluain, R., Hollingsworth, s., Little, M. and Finlay, C.M., Soluble urokinase plasminogen activator receptor is a biomarker of kidney disease in ANCA-associated vasculitis

MEDIA AND COMMENTARY

- Li, X., and Jakubzick, C. V. (2023). Macrophages show up in style when Th2 lymphocytes organize their homecoming. Immunity 56, 900–902. 10.1016/j.immuni.2023.04.007.
- Immunity paper featured on The Immunology Podcast - Episode 51
- https://www.tcd.ie/news_events/articles/2023/researchers-tackle-parasitic-worms-that-infect-millions-worldwide/
- Trinity College and University of Manchester tackle parasitic worms that infect millions, Irish Medical Times, Vol 74 No.4, April 2023

SHORT-LISTED APPLICATIONS

- Short-listed for UKRI Innovation/Rutherford Fund Skills Development Fellowship (Computational Biology), 2017.
- Short-listed for academic-industry partnership post-doctoral position, Belgium, 2019
- Short-listed as candidate from school of medicine for Science Foundation Ireland Pathways programme, 2021
- Short-listed for Lister Prize 2023

ORAL PRESENTATIONS

2023	AI-driven Digital Content Technology (ADAPT) Collaboration Day (Invited talk)	<i>TU Dublin</i>
2023	Irish society of Parasitology	<i>Tralee, Ireland</i>
2023	Building Engagements in Health Research	<i>TCD, Dublin</i>
2022	Mononuclear Phagocytes in Health and Disease (Invited talk)	<i>CRICK, London</i>
2022	Parasitic Helminths: New Perspectives in Biology and Infection	<i>Hydra, Greece</i>
2022	COVID-19 Immunology, Vaccines and Lessons for the Future (Invited talk)	<i>TCD, Dublin</i>
2022	Trinity Translational Medicine Institute - Conference 2022 (Invited talk)	<i>TTMI, Dublin</i>
2021	Cytokine and interferon society meeting	<i>Cardiff</i>
2019	Irish Society of Immunology (best presentation award)	<i>RCSI, Dublin</i>
2019	BSI Type 2 Immunology Meeting	<i>Manchester</i>
2019	KU Leuven, UZ Gasthuisberg Campus (Invited talk)	<i>KU Leuven</i>
2015	Molecular and cellular biology of helminth parasites IX	<i>Hydra, Greece</i>
2015	TBSI Post-Doc Research Day	<i>TCD, Dublin</i>
2015	1st TBSI-Weimann joint Immunology conference	<i>Rehovot, Israel</i>
2015	European Congress of Immunology	<i>Vienna</i>
2009	European Congress of Immunology	<i>Berlin</i>

POSTER PRESENTATIONS

2019	British Society of Immunology	<i>Liverpool</i>
2018	Type 2 Immunity in Homeostasis and Disease	<i>Bruges</i>
2017	British Society of Immunology	<i>Brighton</i>
2016	British Society of Immunology	<i>Liverpool</i>
2015	Frontiers in neurology	<i>TCD, Dublin</i>
2014	Cytokine and interferon society meeting	<i>Melbourne</i>
2012	Keystone: Biology of Cytokines	<i>Colorado</i>
2011	Cytokine and interferon society meeting	<i>Florence</i>

AWARDS

2022	Wiley Top Cited Article Award - Parasite Immunology
2021	EFIS/EJI Travel/Abstract Award Winners Presenting at Cytokines 2021
2019	Best presentation from selected abstracts - Irish Society of Immunology
2015	Visiting student training scheme - Weizmann Institute of Science
2015	TBSI Post-Doc Research Day - Runner up talk prize
2014	Milstein Travel Award - International Cytokine society
2007	Valdicotrian - Biochemistry with Immunology degree
2007	Best Undergraduate Research Poster Prize - School of Biochemistry and Immunology

TRAINING

2023	LAST (Ireland) course - awaiting exam outcome	<i>LAST Ireland</i>
2022	Illumina Sequencing (NovaSeq 6000)	<i>Illumina</i>
2018	Single Cell RNA-sequencing	<i>Earlham Institute</i>
2017	Home Office personal animal licence	<i>Manchester</i>
2014	Fluorescent activated cell sorting	<i>UCD</i>

THESIS COMMITTEES AND CONTINUATION VIVAS

2022-2023	School of Computer Science and Statistics PhD student	<i>Ultan Doherty</i>
2022-2023	School of Medicine PhD student	<i>Sarah Connolly</i>
2021-2023	School of Medicine PhD student	<i>Mariya Al Hamrashdi</i>

INTERVIEW PANELS

2022	Post-Doctoral scientist at TCD (TTMI lab)	<i>Interview panel</i>
2022	Research Assistant at TCD (Core funded)	<i>Interview panel</i>
2022	Research Assistant at TCD (our lab)	<i>Interview panel</i>
2021	Research Assistant at TCD (our lab)	<i>Interview panel</i>

COURSES

UNIVERSITY OF MANCHESTER

- Data Protection
- Introduction to High Performance Computing
- Introduction to version control using Git
- Introduction to the UNIX shell
- Programming with Python
- Data analysis using R
- Introduction to Python

TRINITY COLLEGE DUBLIN

- Biological safety workshop
- Cyrogenics safety workshop
- Radiological safety workshop
- LAST animal handling course (2009)
- Data Protection and Health Research (2021)
- Project Management
- Academic Practice: Perspectives on Teaching and Learning in Higher Education (1/3 SpCert - July 2022)
- Data Protection: Data Transfer and Secondary Use of Data (2021)
- Equality, Diversity and Inclusion in Higher Education

SOCIETIES AND COMMITTEES

SOCIETY MEMBERSHIP

- British Society of immunology
- Irish Society of Immunology
- International Cytokine & Interferon Society
- Myeloid Network

COLLEGE COMMITTEES

- STTAR Data Committee (2021-present)
- Single Cell TCD core facility working group (Chair)
- FLOCI -Flow cytometry analysis committee (2021-Present)
- Post-Doc Representative for comparative medicine unit (CMU; animal research unit) executive committee (2016)
- Covid Strategic partnership (SFI Funded) (2021-present)
- STTAR Covid-19 M-Bio LIMS (clinical data access)

SKILLS ANNEX

I have a broad skillset that includes animal research, translational research, molecular biology, bioinformatics and clinical data analysis that make me uniquely well suited to the design and management of research projects from a multidisciplinary point of view.

Programming, Data analysis, Statistics & Visualisation: R (Fluent, 6 years), Python (Intermediate, 4 years), RMarkdown (Intermediate, 4 years) Unix/Bash (Beginner). Data analysis/visualisation in and in R. Other programs: FlowJo and Prism, Adobe Illustrator, biostatistics and its application to experimental design and interpretation. Database creation and maintenance. R Shiny Apps. high-performance computing (basic).

Bioinformatics Expert in summarising take-home messages from single cell RNA-sequencing analysis in R and python (5 years experience). Mass cytometry analysis (FACS, Spectre). Analysis of microarray/bulk RNA-seq datasets analysis in R (limma, DESeq2), nCounter nanosting analysis. Pathway analysis (IPA, GO), regulatory network analysis (SCENIC), trajectory inference (Slingshot, RNA velocity), clustering (hierarchical and graph-based methods), dimension reduction (UMAP, t-SNE, PCA), basic experience with machine learning (non linear, random forest) and systems biology (graphs, networks, logical modelling and differential equations).

Animal models of Disease: 12 years experience in *in vivo* model design: Autoimmunity (Experimental autoimmune encephalomyelitis, DSS-colitis, Imiquimod-induced inflammation), Cancer (B16 melanoma, CT26 lung), Infection (*L. sigmodontis*, *B. pertussis*, *F. hepatica*), Allergy (Allergen airway hypersensitivity) and general *in vivo* manipulation (Cell transfers, Irradiation/bone marrow transplantation peritonitis models, circadian rhythm modulation, cytokine administration, intraplural injections).

Laboratory techniques: Expert in cell culture, cell sorting (BD Machines), high parameter (30+) flow cytometry, mass cytometry (including panel design, optimisation, storage, batch correction), tissue digestion, ELISA, lab management, inventory, ordering, health and safety.

Molecular biology NGS library preparation (Illumina) for single cell RNA-sequencing (BD Rhapsody and 10X genomics), Illumina sequencing (NovaSeq 6000) study design for NGS experiments, RNA extraction, RT-qPCR, nucleic acid QC (TapeStation, Qubit), PCR. Label free quantitative proteomics, bulk RNA-seq and ATAC-seq library preparation, enzyme assays.

Clinical research and research data handling: Ability to manage and interact with multidisciplinary teams of clinicians and scientist. Cell isolation from blood (Whole blood, granulocytes/neutrophils, PBMC), biobanking, clinical database management (RedCap). Patient stratification, data curating and multi-modal integration: data analysis of longitudinal clinical datasets with 100s of clinical fields and 10000s of patients. Writing reports in RMarkdown to be read by clinicians and scientists.