Logan Zane John Williams

BSc, BMedSc(Hons), MBChB

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Education

2020– **Doctor of Philosophy**, *PhD*, King's College London, *United Kingdom*.
School of Biomedical Engineering and Imaging Science

2014–2019 **Bachelor of Medicine and Bachelor of Surgery**, *MBChB*, The University of Auckland, *New Zealand*.
Faculty of Medical & Health Sciences

2016–2017 **Bachelor of Medical Science (First-Class Honours)**, *BMedSc(Hons)*, The University of Auckland, *New Zealand*.
Department of Paediatrics & Child Health

2011–2014 **Bachelor of Science (Biomedical Science)**, *BSc*, The University of Auckland, *New Zealand*.
Faculty of Medical & Health Sciences

Journal Publications

2021 **Williams, L. Z. J.**, Fitzgibbon, S. P., Cupitt, J., Dimitrova, R., Poppe, T., Bozek, Schuh, A, Makropoulos, A, O'Muircheartaigh, J, Duff, E. P., Rueckert, D., Hajnal, J. V., Smith, S. M., Edwards, A. D., & Robinson, E. C. (2021). Structural and functional asymmetry in the neonatal cerebral cortex. *In preparation*

Fawaz, A., **Williams, L. Z. J.**, Alansary, A., Rueckert, D., Edwards, A. D., & Robinson, E. C. (2021). Benchmarking Geometric Deep Learning for Cortical Segmentation and Neurodevelopmental Phenotype Prediction. *In preparation*

Bass, C., da Silva, M., Sudre, C., **Williams, L. Z. J.**, Tudosiu, P-D, Alfaro-Almagro, F., Fitzgibbon, S. P., Smith, S. M. & Robinson., E. C. (2021). ICAM: Interpretable Classification and Regression via Disentangled Representations and Feature Attribution Mapping in 3D MRI. *bioRxiv*. https://arxiv.org/abs/2103.02561

Dimitrova, R., Pietsch, M., Ciarrusta, J., Fitzgibbon, S. P., **Williams, L. Z. J**, Christiaens, D, Cordero-Grande, L., ... & O'Muircheartaigh, J. (2021). Preterm birth alters the development of cortical microstructure and morphology at term-equivalent age. *bioRxiv*. https://doi.org/10.1101/2021.06.03.446550

2020 **Williams, L. Z. J.**, & Grainger, R. (2020). Discussion paper: Social accountability for students in a machine learning era. *Focus on Health Professional Education: A Multi-disciplinary Journal*, 21(1), 114. http://dx.doi.org/10.11157/fohpe.v21i1.363

Williams, L., I'Anson, J., Malarkey, M., Purcell, A., de Vries, N., & McKinlay, C. (2020). Information sharing in neonatal intensive care: Parental perceptions and preferences. *Journal of Paediatrics and Child Health*. https://doi.org/10.1111/jpc.14842

2019 Richards, G.C., Bradley, S.H., Dagens, A.B., Hasse, C.B., Kahan, B.C., Rombey, T., Wayant, C., **Williams, L.Z.J.** & Gill, P.J. (2019). Challenges facing early- and mid-career researchers: potential solutions to safeguard the future of evidence-based medicine. *BMJ Evidence-Based Medicine*. http://dx.doi.org/10.1136/bmjebm-2019-111273

Williams L.Z.J. (2019). Repurposing a rare opportunity: a brief insight into how implicit bias towards biomedicine impacts the care received by patients with a rare illness. *Orphanet journal of rare disease*, 14(1):53. https://doi.org/10.1186/s13023-019-1024-6

2018 **Williams, L.Z.J.**, McNamara, D., & Alsweiler, J.M. (2018). Intermittent hypoxemia in infants born late preterm: a prospective cohort observational study. *The journal of paediatrics*. https://doi.org/10.1016/j.jpeds.2018.08.048

2016 Shen, X, Kaur, S, Power, A, **Williams, L.Z.J.**, & Ward, ML (2016). Positive inotropic effect of prostaglandin F2α in rat ventricular trabeculae. *Journal of cardiovascular pharmacology*, 68(1), 81-88. https://doi.org/10.1097/FJC.0000000000000392

Conference Proceedings

2021 **Williams, L. Z. J.**, Fawaz, A., Glasser, M. F., Edwards, A. D., & Robinson, E. C. (2021). Geometric Deep Learning of the Human Connectome Project Multimodal Cortical Parcellation. *Machine Learning in Clinical Neuroimaging*

Dahan, S., **Williams, L. Z. J.**, Rueckert, D. & Robinson, E. C. (2021). Improving Phenotype Prediction using Long-Range Spatio-Temporal Dynamics of Functional Connectivity. *Machine Learning in Clinical Neuroimaging*

Heinsalu, R., **Williams, L. Z. J.**, Ranja, A., Zampieri, C. A., Uus, A., Robinson., E. C., Rutherford, M., Story, L. & Hutter, J. (2021). Predicting preterm birth using multimodal imaging. *Perinatal, Preterm and Paediatric Image Analysis*

Bass, C., da Silva, M., Sudre, C., **Williams, L. Z. J.**, Tudosiu, P-D, Alfaro-Almagro, F., Fitzgibbon, S. P., Smith, S. M. & Robinson., E. C. (2021). ICAM: Interpretable Classification and Regression via Disentangled Representations and Feature Attribution Mapping in 3D MRI. *Medical Imaging with Deep learning*

Conference Presentations

2021 **Williams, L.Z.J.**, Fitzgibbon, S. P. Bozek, J., Winkler, A. M., Dimitrova, R., Poppe, T., Schuh, A., ... & Robinson, E. C. *Structural and functional cortical asymmetry in the Developing Human Connectome Project*. 27th Annual Meeting of the Organisation of Human Brain Mapping, Virtual. 2021

2019 **Williams, L.Z.J.**, I'Anson, J, Malarkey, M, Purcell, A, Brougham, N, de Vries, N, & McKinlay, C. *Parents prefer a mixture of electronic and printed health information*. 23rd Annual Congress of the Perinatal Society of Australia and New Zealand, Gold Coast. 2019

2017 **Williams, L.Z.J.**, McNamara, D, & Alsweiler, J.M. *Oxygen saturation trends in late preterm infants*. 2nd Annual Congress of the joint European Neonatal Societies, Venice. 2017

Williams, L.Z.J., Taylor, J, & Alsweiler, J.M. *Intermittent hypoxaemia and neurodevelopmental outcomes in extremely preterm infants with bronchopulmonary dysplasia*. 37th Annual Scientific Meeting of the Perinatal Society of New Zealand, Wellington. 2017

Williams, L.Z.J., McNamara, D, & Alsweiler, JM. (2017). *Intermittent hypoxaemia in infants born late preterm*. 21st Annual Congress of the Perinatal Society of Australia and New Zealand, Canberra. 2017.

Theses

Doctoral Thesis

Title *Imaging the genetic influences of cognition and neuropsychiatric disorders across the lifespan*

Supervisors Dr. Emma Robinson & Professor David Edwards

Description This thesis examined genetic factors that contribute to cortical organisation by utilising large scale, multimodal magnetic resonance imaging and genomic data from the UK Biobank and Developing Human Connectome Project.

Honours Thesis

Title *Intermittent hypoxaemia in infants born late preterm*

Supervisors Dr. Jane Alsweiler & Dr. David McNamara

Description This thesis examined the frequency of intermittent hypoxaemic events in babies born between 34–36 weeks' gestational age compared to those born at term, using overnight pulse oximetry.

Employment

Vocational

11/2019–02/2020 **Foundation Year 1 Doctor**, *Middlemore Hospital*, South Auckland, New Zealand.
Completed rotation in obstetrics & gynaecology

Miscellaneous

2014–2017 **Anatomical dissection**, *Faculty of Medical and Health Sciences*, Auckland, New Zealand.
Responsible for developing anatomical specimens for undergraduate medical teaching

Scholarships & Awards

2021 1st place, 3-Minute Thesis Presentation - School of Biomedical Engineering & Imaging Sciences Postgraduate Research Symposium

2020 Wellcome Genome Campus Advanced Course Bursary

2019 Commonwealth PhD Scholarship

MBChB VI Senior Scholar Award

MBChB VI Rotary Club of Auckland Prize for the Most Distinguished Medical Graduate of the Year

MBChB VI Dean's Medal

MBChB VI David Scott Prize in Diabetes and Metabolic Medicine

Royal Society for Medicine Psychiatry Section: Students and Trainees Award (2nd place)

Centre for Evidence-based Medicine: Doug Altman Scholarship

2018 MBChB V WW Phillipps Award in Medicine

MBChB V Population Health Prize (Academic)

Australasian Faculty of Public Health Medicine: John Snow Scholarship

Findacure Student Voice Essay Competition: 1st place overall

2017 MBChB IV First in Course

2016 John Hamel MacGregor Award in Medical Science

2015 The University of Auckland Summer Research Scholarship

2014 MBChB II Kingsley Mortimer Memorial Prize

2013 The University of Auckland Summer Research Scholarship

2011 The University of Auckland Jubilee Award - Tier 3

Teaching

King's College London

2021 MSc/MRes 7MRI0010 Advanced Machine Learning

2020 BEng 6CCYB064 Machine Learning for Healthcare Applications

The University of Auckland

2015,2016 MBChB 221 A&B Microanatomy

2014–2016 MEDSCI 142 Biology for Biomedical Science: Human Organ Systems

2013,2016 MBChB 221 A&B Human Anatomy