

Dr Mayan Bedggood



**AUT BRAIN HEALTH
RESEARCH INSTITUTE**



Positions

Post-doctoral Research
Fellow – UoA

Contact info

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Research focus

Mayan is a post-doctoral research fellow specialising in the consequences of mild traumatic brain injury and repeated head impacts. Her doctoral research, completed in 2025, used advanced MRI, including quantitative T2 relaxometry, to investigate acute microstructural and inflammatory changes following sports-related concussion. Her current research uses post-mortem histopathology and immunohistochemistry in headbutting rams to investigate repeated head impacts and neurodegeneration. By integrating MRI and histopathology, she aims to establish rams as a natural model of repeated head injury and validate advanced MRI biomarkers for non-invasive detection and monitoring of trauma-related neurodegeneration.

Current projects

1. Ram-ifications of Repeated Head Impacts: Linking In Vivo Biomarkers to Neuropathology
2. Free water-corrected diffusion MRI in acutely concussed sports players

Examples of recent work

Bedggood, M. J., Essex, C. A., Theadom, A., Murray, H., Hume, P., Holdsworth, S. J., Faull, R.L.M., & Pedersen, M. (2025). MRI-T2 Relaxometry is increased in mild traumatic brain injury: Indications of acute brain abnormalities after injury. *Journal of Neuroscience Research*, 103(4), e70034. <https://doi.org/10.1002/jnr.70034>

Bedggood, M. J., Essex, C. A., Theadom, A., Holdsworth, S. J., Faull, R. L., & Pedersen, M. (2024). Individual-level analysis of MRI T2 relaxometry in mild traumatic brain injury: Possible indications of brain inflammation. *NeuroImage: Clinical*, 43, 103647. <https://doi.org/10.1016/j.nicl.2024.103647>