Oakleigh Wilson

University of the Sunshine Coast
School of Science, Engineering, and Technology

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Research Interests

I am a quantitative ecologist integrating big-data computation into ecology. I am interested in animal behaviour and have a life-long passion for evolutionary psychology. My PhD focuses on developing user-friendly theoretical frameworks and data workflows for utilising machine learning in behaviour recognition using animal-borne accelerometers.

Education and Employment

PhD Candidate	2023 -	University of the Sunshine Coast. Optimising the use of machine learning in animal accelerometer behaviour recognition. Advisors: Christofer Clemente, David Schoeman.
Graduate Ecologist	2023 - 2024	Eco Logical Australia. Designing data quality procedures and conducting statistical analyses for government and private sector clients.
Research Assistant	2021 - 2022	University of Queensland. Beta testing procedures and running experiments on participants in psychology Perception research lab.
Science Communication Intern	2021	The Daily Post. Fortnightly science communication articles for a regional newspaper, targeted at a general audience.
Bachelor of Advanced Science, Biology (Hnrs)	2019 - 2022	University of Queensland. Thesis focused on quantifying koala ground-traverse behaviour using GPS and accelerometer behaviour recognition. Advisor: Robbie Wilson.

Awards and Grants

2025	Runner Up Best Student Presentation Award, Australian and New Zealand Society for Comparative Physiology and Biochemistry Conference
2025	3MT Winner and People's Choice, University of the Sunshine Coast School of Science, Engineering, and Technology. 3MT 3rd place and People's Choice, University of the Sunshine Coast.
2025	Best Student Presentation Award, Australasian Society for the Study of Animal Behaviour Conference
2025	Society of Experimental Biology Conference Travel Grant ($800)
2024	Student Research Grant, Ecological Society of Australia ($1500)
2024	Student Research Grant, Australasian Society for the Study of Animal Behaviour ($2500)
2023	People's Choice Poster Award, Australian and New Zealand Society for Comparative Physiology and Biochemistry Conference
2023	Runner Up Poster Award, University of the Sunshine Coast School of Science, Engineering, and Technology Showcase
2021	Evolution Prize, for highest achievement in Evolution course
2021	Summer Research Scholarship, University of Queensland School of Psychology ($3600)

2020   Summer Research Scholarship, University of Queensland School of Biology ($3600)

Publications

Practical guidelines for validation of supervised machine learning models in accelerometer-based animal behaviour classification. **O Wilson**, D Schoeman, A Bradley, C Clemente. (2025) Journal of Animal Ecology. http://doi.org/10.1111/1365-2656.70054

Ignoring What We Don't Know in Accelerometer-based Behaviour Classification: The Open Set Recognition Problem. **O Wilson**, D Schoeman, B Ferdinandy, C Clemente. (2025) Journal of Experimental Biology. https://doi.org/10.1242/jeb.250722

Between the Trees: Quantifying Koala Ground Movement for Conservation. G Sparkes, **O Wilson**, W Ellis, S FitzGibbon, B Barth, C Clemente, M Crowther, R Wilson. (2025) Animals. https://doi.org/10.3390/ani15243537

Teaching

2025 -	Tutorial Lead	SEC602 Ethics in Cybersecurity (University of the Sunshine Coast)
2025 -	Teaching Assistant	ANM100 Animal Ecology Field Course (University of the Sunshine Coast)
2024 -	Teaching Assistant	ANM201 Animal Ecophysiology (University of the Sunshine Coast)
2022	Teaching Assistant	BIOL3205 Animal Ecophysiology (University of Queensland)

Invited Seminars

2025	*"Fitbits for Wildlife: A Biologging Workflow."* Invited Workshop. Australian and New Zealand Society for Comparative Physiology and Biochemistry Conference, University of the Sunshine Coast.
2024	*Artificial intelligence, human error: Thinking critically about machine learning.* Invited Talk. The School of Biomedical Sciences, University of Queensland.

Volunteering

2025 -	Media Committee, leading 'ECR Asks' Initiative. Society for Open, Reliable, and Transparent Ecology and Evolutionary biology (SORTEE). Co-chaired committee for 2026.
2025 -	Website Assistant. Australasian Society for the Study of Animal Behaviour (ASSAB)
2021-2023	Secretary and then President. University of Queensland Social Running Club