



2027 Summer Research Project Template

Help us present your project in a way that connects with the right students. Thoughtful, engaging descriptions tend to attract stronger and more suitable applications. Thank you for putting a project forward - these programs rely on your contribution, and we couldn't do it without you.

Section	Description
Project title	Shaping the Sense of Touch: Exploring Brain Plasticity in the Somatosensory Cortex
Hours & delivery	This project will run for 6 weeks (consecutive or otherwise) between 11 January and 19 February 2027, at an average of 30 hours per week. Work will be mostly on-site, since testing participants is a core part of the project, though some tasks (such as data analysis or participant recruitment) can be done remotely. How flexible is the adult brain?
About the project (150–250 words)	This project investigates how experience can change the way we perceive touch, focusing on the somatosensory cortex – the brain region that represents our skin and fingers. Students will help design and/ or run behavioural experiments testing how simple interventions, such as tactile training or synchronous finger stimulation, can improve or disrupt touch perception. These tasks are fun and accessible, yet powerful. They let us infer how the brain changes in response to experience by observing behaviour and perception, without the need for expensive brain imaging.
What you'll do (100–150 words)	You'll be involved in several key stages of a behavioural neuroscience study. This could include helping design and refine tactile stimulation protocols, recruiting and screening participants, and running testing sessions using vibrotactile stimulation equipment. You'll learn to collect and organise behavioural data, and contribute to preliminary analysis of touch perception performance across conditions. Depending on your interests, you may also help troubleshoot experimental scripts (we generally use MATLAB for stimulus delivery) or assist with literature searches to contextualise the findings. Throughout, you'll work closely with your supervisor and lab members to interpret results as they come in, and you'll have input into how the project is either designed, run and/ or analysed.
What you'll learn (100–150 words)	• Hands-on experience with behavioural methods in cognitive neuroscience • Skills in experimental design, data collection, and/ or basic analysis • Understanding of key concepts in brain plasticity and sensory processing • (Optional) Experience producing a short report or presentation summarising your findings • (Optional) Exposure to cutting-edge brain imaging facilities
Project outcomes (75–125 words)	By the end of the project, you'll have contributed to a genuine research dataset examining how tactile experience shapes perception, and you'll understand how it fits into the broader study of brain plasticity.



	You may produce a short written report or presentation summarising your findings and their significance, which you can present at the summer scholars presentation day, if you choose (we will support you in this process). You'll also come away with practical experience in running a behavioural study end-to-end, valuable grounding for further research, honours, or postgraduate study.
Who should apply? (75–125 words)	This project is open to students from any background or training. Experience in psychology, neuroscience, or experimental methods is helpful but not necessary. Students from any year level are welcome to apply, though preference may be given to 2nd or 3rd year students, who often bring relevant skills such as statistical analysis or programming gained through coursework.
Team & supervision (75–125 words)	You'll be primarily supervised by me (Dr Harriet Dempsey-Jones), Research Fellow in the School of Psychology and Centre for Advanced Imaging. You'll work within my lab alongside my supervisor, Professor Ross Cunnington, and postdoctoral researcher Dr Sam Armstrong. We hope to take on more than one summer scholar this year, so there's a collaborative, supportive lab environment. The project can be run as independent work for one scholar or as a joint project for two, depending on what suits the student(s) best.
Additional opportunities (optional)	As part of a neuroimaging lab, students will have the chance to see how behavioural findings connect to brain imaging research, with the chance to visit UQ's state-of-the-art 7T MRI scanner, one of only two in Australia.
Additional requirements (if applicable)	NA
Contact	Yes, students may contact the supervisor before applying. Direct enquiries to: Harriet Dempsey-Jones (h.dempseyjones@uq.edu.au)