



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	What do our pupils reveal about how we evaluate strangers?
Hours & delivery	20–30 hours per week. Hybrid delivery, based at The University of Queensland, St Lucia campus. Students will need to attend campus for laboratory-based eye-tracking and pupillometry sessions, with some project work and data analysis able to be completed remotely.
About the project (150–250 words)	Faces provide a rich source of social information. Within a fraction of a second, we form impressions of strangers that alter how we behave towards them. Yet much of what we know about face perception comes from highly controlled photographs of people deliberately posing stereotypical emotions. This project will investigate how we spontaneously respond to more naturalistic facial attributes by measuring changes in pupil diameter. The pupil responds not only to light, but also to cognitive and emotional processes, providing a window into how the brain evaluates what we see. Recent work in our laboratory demonstrates that pupil responses can reveal aspects of face perception that are not captured by explicit behavioural judgements. Using images from the Wild Faces Database – a large collection of naturalistic facial behaviours developed in our laboratory – we will ask whether pupil responses to unfamiliar faces vary systematically with their perceived emotional and social characteristics. A primary question will be whether pupil responses track emotional valence, but the project may also examine attributes such as genuineness, trustworthiness or memorability. The student will contribute to designing the experiment, collecting pupillometry data, and investigating which properties of a stranger's face best predict the observer's physiological response.
What you'll do (100–150 words)	You will work with the research team to develop and run a pupillometry experiment using naturalistic face images from the Wild Faces Database. You will learn how stimuli are selected for a controlled experiment and how existing behavioural ratings can be used to generate testable predictions about responses to individual faces. You will assist with participant recruitment and collect eye-tracking data in the laboratory, including calibrating the eye tracker and monitoring data quality. You will then learn how pupil recordings are preprocessed and analysed. Depending on progress, you will examine whether image-by-image pupil responses are predicted by perceived emotional valence and other face and image attributes. You will participate in regular research meetings and help interpret the emerging results in the context of current research on face perception.
What you'll learn (100–150 words)	This project will provide hands-on experience with the complete research process in experimental psychology and cognitive neuroscience. You will learn how to translate a broad theoretical question into a testable experiment, work with a large naturalistic stimulus database, and collect high-quality eye-tracking and pupillometry data from



human participants. You will gain experience with experimental design, participant testing, data quality control, preprocessing and statistical analysis, as well as visualising and interpreting time-resolved physiological data.

More broadly, you will develop transferable research skills including critical reading, reproducible data management, problem solving, scientific communication and working collaboratively within an active research laboratory.

Project outcomes
(75–125 words)

By the end of the project, we aim to have collected and analysed a new pupillometry dataset examining responses to naturalistic faces. The primary outcome will be an initial characterisation of whether pupil responses vary with the emotional valence of unfamiliar faces and whether other facial attributes provide additional explanatory power.

The resulting dataset will also provide pilot evidence for future research examining how physiological responses reflect the spontaneous evaluation of other people.

Who should apply?
(75–125 words)

This project would suit a student in psychology, cognitive science, neuroscience or a related discipline who is interested in visual perception, social cognition, or human neuroscience. No previous eye-tracking or programming experience is required, although experience with statistics, R, MATLAB or Python would be useful. The most important qualities are curiosity, reliability, and a willingness to learn new technical and analytical skills.

Team & supervision
(75–125 words)

The project will be supervised by Associate Professor Jessica Taubert in the School of Psychology at The University of Queensland and conducted within the **BrisBrain Laboratory**. The laboratory investigates the cognitive and neural mechanisms that allow humans to detect faces and extract socially meaningful information from them, using methods including behavioural experiments, eye tracking, pupillometry and neuroimaging.

The student will work alongside members of the research team and receive guidance in experimental design, participant testing, data processing and analysis. Regular meetings will provide opportunities to discuss progress, troubleshoot problems and connect the summer project with the laboratory's broader research program in face and social perception.

Additional opportunities
(optional)

The student will have the opportunity to participate in laboratory meetings and engage with other lab members working across behavioural and cognitive neuroscience projects. Depending on the progress and findings of the project, there may be opportunities to contribute to further analyses or a research publication. The project may also provide a useful pathway for students considering an Honours or higher-degree research project in cognitive neuroscience.

Additional requirements
(if applicable)

The project involves laboratory-based testing of human participants at UQ St Lucia. Any required research ethics, laboratory and eye-tracking training will be provided before data collection begins.

Contact

Yes, students may contact the supervisor before applying.

Direct enquiries to: Associate Professor Jessica Taubert (j.taubert@uq.edu.au)