

UQ Winter Research Project Description - 2026

Please use this template to create a description of each research project, eligibility requirements and expected deliverables. Project details can then be uploaded to each faculty, school, institute, and centre webpage prior to the launch of the program.

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| Project title: | Split-Second Decisions: How the Brain Chooses Between Competing Actions |
| Hours of engagement & delivery mode | Hours of engagement: 25-35 hours per week for 4 weeks (29 Jun – 24 July 2026). Projects are offered on-site at the UQ St Lucia campus |
| Description: | <p>Many actions require us to rapidly choose between competing options. For example, deciding which direction to move, which button to press, or which response to make often happens in a fraction of a second. Understanding how the brain makes these fast decisions is a major question in cognitive neuroscience. This project explores how the brain selects actions when multiple responses are possible. Participants will complete computer-based tasks in which they must respond quickly to visual signals by choosing between alternative actions. By changing how many response options are available and how informative cues are, the study will examine how decision demands influence reaction time and performance.</p> <p>Scholars will help conduct experiments with human participants and will gain hands-on experience with behavioural research methods used to study decision making. The project will provide insight into how the brain resolves competition between possible actions in order to produce rapid and efficient behaviour.</p> |
| Expected learning outcomes and deliverables: | This project will provide scholars with valuable hands-on experience in behavioural testing and data collection. Depending on individual interests and the project's scope, there may also be opportunities to work with neuroimaging or brain stimulation methods and to develop some basic computational analysis skills. Scholars will learn how to set up and administer experiments, including participant recruitment and testing, and will gain practical experience in conducting research and collaborating with cognitive neuroscience researchers. |
| Suitable for: | This project is suited to students with a background in psychology who are interested in cognitive neuroscience and experimental research. Preference will be given to students in their 3rd or 4th year, although exceptional 2nd-year students will also be considered. |
| Primary Supervisor: | Dr Sam Armstrong |
| Further info: | Students interested in applying for this project are encouraged to contact Dr Sam Armstrong via email before submitting their application. |

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