



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	Validation of lung cancer biomarkers
Hours & delivery	Hybrid can be considered depending on the workload. At least 25 hours on-campus would be expected. UQ Thoracic Research Centre at UQ Northside Clinical Unit, The Prince Charles Hospital, Chermside.
About the project (150–250 words)	With Australia-first National Lung Cancer Screening Program launched last year, lung cancer requiring further investigation by bronchoscopy will be essential to confirm a lung cancer diagnosis and execute prompt management, including determining eligibility to life-saving targeted treatments. Early lung cancers with small tumour size are most treatable by surgery and conferring the best chance of survival. Currently, bronchoscopy samples, except bronchoscopy biopsy, are limited to confirming a diagnosis of lung cancer only. Our previous research shows high sensitivity to detect a mutation that can be targeted by effective molecular treatment despite some of the samples being reported as no lung cancer being detected. This could be due to the composition of cells in bronchoscopy samples where no or very minimal cancer cells present. Further, we have also identified the change in microRNA expression in blood plasma that was specific to lung cancers that have spread into the nearby lymph nodes. With a multidisciplinary team of scientists, clinicians and statisticians, we will improve lung cancer diagnosis by detecting genetic changes through bronchoscopy and a blood test, both low-risk procedures but already used in routine care. We will also work closely with pathology and clinical teams from the outset to make sure any new test fits smoothly into everyday hospital practice, not just the laboratory.
What you'll do (100-150 words)	- handle biological samples - perform nucleic acid extraction - perform digital PCR experiments - data analysis
What you'll learn (100–150 words)	The scholar will gain laboratory skills by performing experiments and data analysis under supervision. The scholar will be encouraged to contribute to abstract and manuscript, should there be significant contributions during the summer program. The scholar is also encouraged to present the work to team members.
Project outcomes (75–125 words)	The scholar will be equipped with hands-on laboratory experience to pursue Honours or HDR.
Who should apply? (75–125 words)	Students with keen and genuine interests in research. Students with keen and genuine interests in research, with or without prior research experience. Vaccination status meeting Metro North requirements will be highly desired due to handling of biological samples.
Team & supervision (75–125 words)	Provide details about the supervision and research environment. Include the supervisor's name and position, as well as the research group or lab. You should also indicate who students will work with during the project. Dr. Kelly Chee, Postdoctoral Research Fellow – Principal Advisor Prof. Kwun Fong, Director of UQ Thoracic Research Centre



Prof. Yang, Head of UQ Northside Clinical Unit, UQ

**Additional
opportunities**
(optional)

Describe **any additional opportunities associated** with the project, such as presentations, networking, or publications, pathways into ongoing research or further study. These experiences can **help students understand the broader value** of participation.

**Additional
requirements**
(if applicable)

Proof of vaccination status fulfilling Metro North HHS requirements before commencement.

Contact

Students must contact the supervisor before applying.

Direct enquiries to: Dr. Chee, t.chee@uq.edu.au