



2027 Summer Research Project_Dr Nones

Section	Description
Project title	Evaluate a new technology to measure DNA methylation in Small Cell Lung Cancers
Hours & delivery	24h/week, PA Hospital, Southside Clinical Unit, Woolloongabba.
About the project (150–250 words)	Small Cell Lung Cancer (SCLC) is an aggressive form of lung cancer leading to late-stage disease diagnosis when surgery is no longer an option. We recently showed that DNA methylation of the most common source of tumour tissue in the clinical setting (small biopsies) can stratify SCLCs with distinct clinical outcomes, molecular features and potentially tailored therapeutic options. This project will further explore a new technology to measure whole genome DNA methylation in tissue and blood. 5-Base Sequencing allows for DNA Methylation and mutation Co-Analysis . Here we will compare this new technology to gold standard Methylation arrays and whole genome sequencing in matched samples.
What you'll do (100-150 words)	Candidate will received deidentified data (Methylation arrays, Whole genome sequencing mutations and 5-base data (that includes both methylation and Mutation) - Gain knowledge in analysis of DNA methylation.
What you'll learn (100–150 words)	- Literature review for recent studies involving DNA methylation in SCLC. - Use different approaches to analyse DNA Methylation data to evaluate the new technology and how it can help the understanding SCLC biology. - Produce graphs comparing the technologies to measure methylation and mutations
Project outcomes (75–125 words)	Write a report about the findings.
Who should apply? (75–125 words)	Candidate needs experience in R, Bioconductor and GitHub
Team & supervision (75–125 words)	Candidate will work closely with Dr Katia Nones and Miss Vanessa Lakis (Senior Bioinformatician)
Additional opportunities (optional)	NA
Additional requirements (if applicable)	NA



Contact

Yes, students may contact the supervisor before applying.

Direct enquiries to: k.nones@uq.edu.au_____
