



2027 Summer Research Project

Section	Description
Project title	Investigating PFAS contamination in Australian beverages
Hours & delivery	20-36 hours per week, 6 weeks, in line with Summer Research Program requirements. Location: Dutton Park Campus. Hybrid. Required on site presence during lab work.
About the project (150–250 words)	Per- and polyfluoroalkyl substances (PFAS) are synthetic chemicals used in non-stick formulas, fire retardants and other industrial applications. They have come under increasing scrutiny for their ability to last for a long time in the environment and our bodies, leading to their commonly nickname of 'forever chemicals'. There is increasing evidence of potential health impacts from exposure to these chemicals and determining how people are exposed is becoming increasingly important. This project aims to determine the types and levels of PFAS in a variety of Australian made beverages. The sample will involve method development for extracting PFAS from different beverages, quantification of said PFAS and analysis of what this means in terms of risk to the consumer. You will gain training and hands-on experience of a complete environmental chemistry workflow including sample preparation, extraction, validation, instrumental analysis, data interpretation and risk assessment.
What you'll do (100-150 words)	With the assistance of experienced analytical chemists, you will be developing a laboratory method (SPE and LC-MS/MS) for the detection of PFAS in beverages. You will learn how to apply quality assurance and control (QAQC) to validate your LC-MS methods and when doing solid phase extractions (SPE). You will be trained in the use of liquid chromatography tandem mass spectrometry (LC-MS/MS) for analysis of your samples. You will be shown how to interpret this data and combine it with your method development notes, enabling you to communicate your findings and fit them within current environmental health literature.
What you'll learn (100–150 words)	Specific skills will include: solid-phase extraction (SPE), direct injection, QAQC, LC-MS/MS, peak integration, data interpretation and a deeper understanding of PFAS.
Project outcomes (75–125 words)	Expected outcomes include methods for PFAS extraction in beverages with different properties (alcoholic, non-alcoholic, carbonated, non-carbonated, concentrates etc.) and quantitative data on PFAS concentrations in said beverages. The project is expected to contribute to a broader understanding of PFAS contaminant exposure. The final project output is a brief written report or a draft research paper. Oral presentation of key findings is also encouraged.
Who should apply? (75–125 words)	Students with interests in analytical chemistry, chemical exposure and modern chemical contamination would suit this project well.
Team & supervision (75–125 words)	The project will be run at the Dutton Park campus with the Queensland Alliance for Environmental Health Sciences (QAEHS) and will be supervised by Dr Joseph Clokey and Mr Lachlan Jekimovs, and input from the QAEHS Analyst team (Ms Rebecca Gordon, Ms Kristie Thompson and Dr Pritesh Prasad).



Additional opportunities (optional)	QAEHS has a strong record of developing students post projects, including supporting publication, presentation and further studies. Motivated students are always welcome to continued engagement with their research and we can help students exploring options around future research or further study.
Additional requirements (if applicable)	Any required safety or laboratory training, checks, fieldwork, licences, or other prerequisites will be confirmed with the supervisor before the project begins. For laboratory work Hepatitis B and Tetanus vaccination are required.
Contact	Student contact with the supervisor before applying: Direct enquiries to: Dr Joseph Clokey j.clokey@uq.edu.au ; Dr Pritesh Prasad p.prasad1@uq.edu.au .