

PhD Opportunity: Airborne Particulates in the Pacific Island Countries

*University of New South Wales
School of Civil and Environmental Engineering*

The ambient air quality in Pacific Island Countries (PICs) has been declining in recent years, with a corresponding rise in respiratory illnesses. Since 2020, UNSW has been conducting air quality monitoring in urban and peri-urban areas of Honiara (Solomon Islands) and Suva (Fiji), later expanding to Tonga and Vanuatu in 2022. Measurements of particulate matter (PM_{2.5} and PM₁₀) consistently exceed the 2021 WHO Air Quality Guidelines for both annual and 24-hour limits ([Hilly et al., 2025](#)). This alarming trend highlights potential health risks and exposure, exacerbated by emissions from ongoing pollution sources and the absence of a legal framework to regulate air quality.



Figure 1: Air Quality Monitoring Station in Tonga urban

This project has established a regional air quality monitoring network, enabling real-time data sharing across Pacific nations. Figure 1 shows a typical air quality monitoring station being used. We seek PhD candidates who will actively contribute to research that informs monitoring and policy development in the South Pacific. This work is part of a collaborative partnership between UNSW, The University of the South Pacific (USP), Fiji National University, Queensland University of Technology, The University of Queensland, The University of Sydney, ESR New Zealand, and the University of Oxford, with support from Pacific governments and the World Health Organization.

The successful candidate will actively contribute to the research consortium and possess strong research and communication skills. Applicants should have a background in environmental engineering, geography, or environmental science (or a related field) and experience in one or more of the following areas: (a) fieldwork, numerical modelling, and large data analysis; (b) laboratory analysis and pollutant monitoring; (c) household surveys; and (d) remote sensing (preferred but not essential). Experience in monitoring pollutants, macro-nutrients, and micronutrients in air, water, or soil is desirable.

Eligible domestic and international candidates may receive a **Research Scholarship (3.5 years)** with potential top-up funding for exceptional applicants. Details on **Australian Government and UNSW scholarships** are available [here](#).

A **Cotutelle PhD option** with UNSW and USP is available, awarding a joint PhD upon completion. If you have any questions or would like further information on the project, please contact Dr. Andrew Dansie (a.dansie@unsw.edu.au) or Dr. Jimmy. J. Hilly (j.hilly@unsw.edu.au).