



**UNSW**  
SYDNEY



## **Research Stipend funded PhD Opportunity: Airborne Particulates in the Pacific**

*University of New South Wales  
School of Civil and Environmental Engineering  
School of Chemical Engineering  
UNSW Sydney*

Airborne particles play a critical component of Earth System behaviour, affecting atmospheric, oceanic, biological, terrestrial and human systems. Wind erosion of sediments and fires are the major natural sources of these particles that, once airborne, can be transported for thousands of kilometres from their source across oceans and continents. Anthropogenically-produced airborne particles are mainly from combustion engines and industrial emissions and, most recently, from urbanised centres releasing wind-borne microplastics that can be deposited hundreds of kilometres away.

The ambient air quality of Pacific Island Countries (PICs) has been deteriorating in recent years and increasing incidences of human respiratory illness observed. This project aims to capture and characterise airborne particulates in Fiji and the Solomon Islands to determine island and non-island sources of airborne particulates in the South Pacific. The student will undertake field monitoring and laboratory-based analyses of collected airborne particles. The analyses will characterise the particles to consider urban and non-urban air quality and the impacts on human health and the environment. Regional depositional events of particles originating from distant sources (long range transport of desert dust, major equatorial forest fires) are to be monitored for and their contribution considered if a regional event is captured.

UNSW's research is being undertaken as part of collaborative research partnership. The research partners are Fiji National University, the University of Oxford, the Queensland University of Technology and the University of Queensland with the support of the Fijian Government, the Solomon Islands Government and the World Health Organisation.

The successful candidate will play an engaged and interactive role with the consortium and have both exceptional research and communication skills. The candidate should have a background in either environmental engineering, geography or science (or similar), and a demonstrated ability to conduct field work and laboratory analysis. Demonstrated experience in the monitoring of pollutants, macro-nutrients and micronutrient compounds in air, water or soil would be beneficial. Experience or interest in the use of remote sensing technologies to would be advantageous but not essential.

The successful candidate will receive a Higher Degree Research Stipend of AUD \$27,596 per year for 3 years funded by UNSW. A successful international candidate will need to satisfy the requirements for a Research Training Program Fee offset or Tuition Fee Scholarship. Please see <https://research.unsw.edu.au/higher-degree-research-programs> for information on your eligibility, competitiveness and PhD entry requirements.

Further information on the project and research stipend may be obtained from **Dr. Andrew Dansie** (a.dansie@unsw.edu.au). Applications should be submitted (including a cover letter, one page statement on why you want to undertake this research, academic transcript and CV) to Dr Dansie at UNSW Sydney.