

PhD scholarships (2) in New Zealand on Methane Modelling and Observations

The University of Auckland in partnership with the National Institute for Water and Atmosphere Research in New Zealand seek two highly motivated PhD candidates for three-year PhD studentships on modelling and observing atmospheric greenhouse gases in support of the MethaneSAT satellite mission. MethaneSAT is a joint American and Aotearoa-New Zealand initiative to quantify anthropogenic methane emissions around the world using satellite data with unprecedented precision. The MethaneSAT Mission Operation and Control Centre is hosted at University of Auckland.

One student project will focus on using atmospheric models and observations from the MethaneSAT satellite and MethaneAIR aircraft campaigns to estimate CH₄ emissions from agricultural processes. The other project will focus on field observations of CH₄ and utilisation of those measurements to estimate methane fluxes to evaluate satellite-based estimates. The students will be part of a multi-disciplinary research team working with atmospheric modelling and measurements. Prior to launch, the students will use observations from MethaneAIR, an instrument nearly identical to MethaneSAT developed for operation onboard aircraft. The successful applicants will collaborate closely with the MethaneSAT science team both in New Zealand and at Harvard University. One of the candidates will physically be based at NIWA in Wellington, New Zealand, while the other at the University of Auckland. The students will have the opportunity to spend time at the Harvard University and work closely with the Harvard MethaneSAT team.

The students will be expected to enrol as a PhD student at The University of Auckland (UOA), and they will be co-supervised by Beata Bukosa (NIWA), Sara Mikaloff Fletcher (NIWA) and David Noone (UOA). Prospective candidates must have a background in chemistry, physics, Earth science, or related discipline, have an aptitude for mathematics, be proficient in one or more scientific programming languages within a UNIX environment. Candidates must be eligible for acceptance to The University of Auckland's PhD program, requiring a Masters or equivalent degree.

The start date will be in the second half of 2023. For full considerations, applications should be received by 31/8/2023. Applications should include a cover letter, a recent CV highlighting relevant experience and evidence of eligibility for The University of Auckland PhD program. Information about doctoral study at the University of Auckland can be found at <https://www.auckland.ac.nz/en/study/study-options/postgraduate-study-options.html>

Please direct questions and applications to Dr. Beata Bukosa (beata.bukosa@niwa.co.nz) or Prof. David Noone (david.noone@auckland.ac.nz).