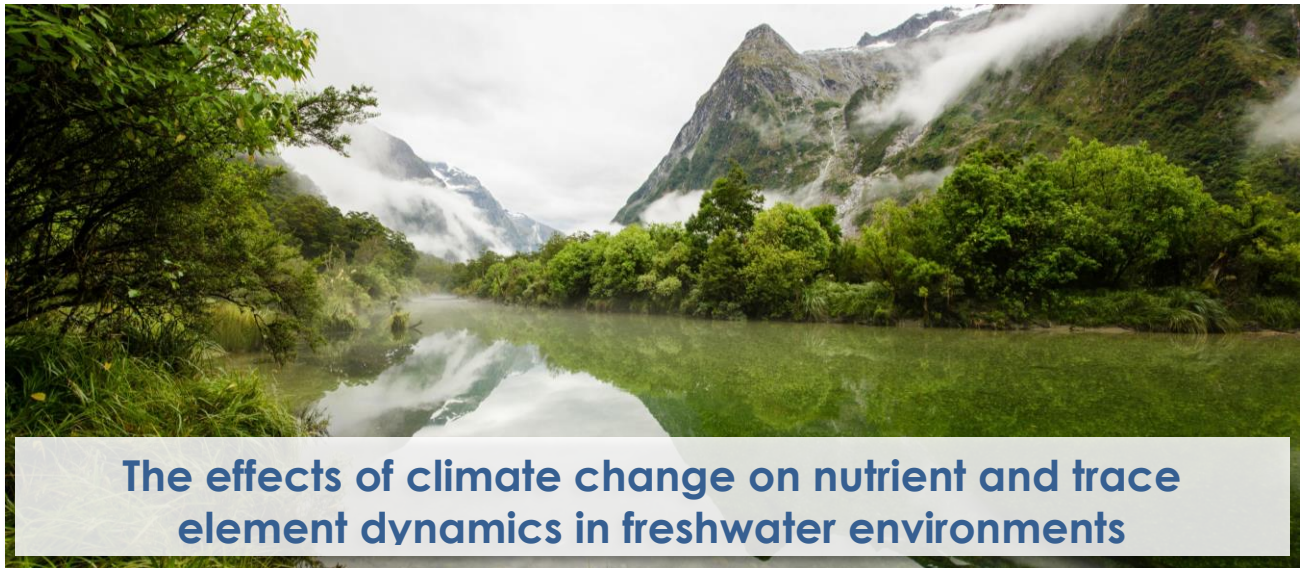


Fully funded PhD position in aquatic biogeochemistry



The effects of climate change on nutrient and trace element dynamics in freshwater environments

Rapidly increasing temperatures and atmospheric carbon dioxide (CO₂) levels are adding substantial pressure to global freshwater systems, especially those that are already suffering degradation. However, current freshwater management and restoration projects rarely consider how these impacts are likely to be exacerbated in the future. Research is urgently needed to understand the potential effects of the unfolding climate emergency on the fluxes of nutrients and trace element contaminants into/from freshwater sediments and their potential effects on aquatic ecosystems.

This PhD project will develop new insight into the effects of increasing temperatures and CO₂ levels on the biogeochemical cycling of nutrients and trace elements in freshwater sediments and the overlying water. The project is part of the wider "Safeguarding Te Mana o te Awa o Waikato from emerging climatic pressures" Research Programme, funded by New Zealand Ministry of Business, Innovation and Employment (MBIE) Endeavour Fund.

The main objectives for the 3-year PhD project are:

- Measurement of nutrient and trace element fluxes across the sediment-water interface in carefully controlled freshwater mesocosm experiments that simulate future climate scenarios.
- Examination of the effects of sediment disturbance under different climatic conditions on nutrient and trace element release into the water columns.
- Analyses of nutrient and trace element speciation to reveal the factors that regulate their bioavailability to key freshwater microorganisms.

Supervisors:

- Associate Professor Niklas Lehto, Lincoln University
- Dr Naomi Wells, Lincoln University
- Dr Adam Hartland, Lincoln Agritech Ltd.

Requirements: You must fulfil the [entry requirements](#) for undertaking PhD study at Lincoln University. Your tertiary-level qualification(s) should be in Environmental Science, or a related subject, with evidence of a strong understanding of chemical or microbiological processes in aquatic environments. Knowledge of carbon, nitrogen and phosphorus dynamics and trace element speciation will be particularly advantageous.

Funding: The position is funded by Lincoln University and covers a generous postgraduate PhD stipend of \$35,000 NZD/year and tuition fees for three years.

Starting date: The project will start as soon as possible after the closing date.

Location: The student will be hosted by [Lincoln University](#) in New Zealand. There will be some travel to and fieldwork at partner institutes and facilities in the wider research programme, including the Lincoln Agritech Ltd. facility in Hamilton and the Cawthron Institute in Nelson.

To apply: Please Email the following to Amal Torky (amal.torky@lincoln.ac.nz) by the closing date:

- [Cover letter](#) that explains your motivation to undertake research in this area. The letter should also highlight the major achievements in your education and career to date, and the relevant expertise and skills that make you an exceptional candidate for this position.
- [Curriculum vitae \(CV\)](#) that contains details of post-secondary education, work experience and skills relevant to this role, as well as the contact details for two referees.
- [Academic transcripts](#), including grades. Please provide an English translation, if not written using the Latin/Roman alphabet.

General queries should be addressed to Assoc. Prof. Niklas Lehto (niklas.lehto@lincoln.ac.nz).

Applications close at 9 am, 14th of January 2024 (New Zealand time, GMT+13 h)