

MSc scholarship available

Swimming capabilities of native freshwater fish

National Institute of Water & Atmospheric Research and University of Waikato, Hamilton, New Zealand

Overview

Instream structures such as culverts, weirs and dams disrupt the connectivity of rivers and streams worldwide. This impedes the movement of fish and other organisms, contributing to declines in freshwater biodiversity and ecosystem health. Restoring connectivity is increasingly recognized as being key to successfully restoring freshwater ecosystems. However, achieving this is reliant on knowledge of the movement capabilities of fish and their ability to overcome migration barriers.

In New Zealand, relatively little is known about the swimming capabilities of our native fish species. This information is required to help define suitable design criteria for allowing fish passage at instream structures. NIWA has recently received funding from MBIE to investigate dispersal & recruitment constraints on native freshwater biodiversity. As part of this project we will be undertaking work to better characterise fish swimming capabilities and refine fish passage design guidelines.

About the MSc project

The successful student will collaborate with NIWA scientists to undertake laboratory trials quantifying the swimming capabilities of native fish species. The student will gain experience in fish husbandry and take responsibility for running laboratory swim-tunnel experiments.

The objectives of the project are to establish critical swimming speeds and swimming time to fatigue relationships for indicator fish species. We are also seeking to understand how this may be impacted by environmental factors such as water temperature. The results will inform development of updated design criteria for instream structures in New Zealand.



Details of the scholarship

We are seeking a high calibre graduate student with demonstrated skills in written and oral communication and strong self-motivation to work.

The student will be co-supervised by Dr Paul Franklin (NIWA), Dr Eleanor Gee (NIWA) and Professor Brendan Hicks (University of Waikato).

The scholarship is for study at the University of Waikato and consists of a NZ \$17,500 student stipend in the thesis year only to cover course fees and living expenses.

Start time for the thesis component of the work is July 2020.

Eligibility

Applicants require a BSc in biology/freshwater ecology or related discipline. Experience working in freshwater environments and with fish is preferred.

The scholarship is open to students of any nationality and candidates must meet the entry requirements for the University of Waikato masters programme (see www.waikato.ac.nz/study/enrolment/postgraduate).

Applying for this scholarship

Applications should be sent to paul.franklin@niwa.co.nz by 31 October 2019. Please include: (1) a full CV including the names of two referees willing to provide confidential comments about your suitability for the scholarship, (2) Copies of your academic transcripts, (3) a short statement about your research interests and experience, and (4) an indication of your potential start date.

The scholarship will remain open until filled, but we expect to start reviewing applications in November 2019. The start date is negotiable, but successful candidates must be enrolled by February 2020 at the latest.