

## **PhD scholarship: Identifying the genomic underpinnings of successful asexuality**

We are seeking a highly motivated PhD student to undertake a research project on "Identifying the genomic underpinnings of successful asexuality". This project is led by Thomas Buckley (Manaaki Whenua - Landcare Research and The University of Auckland, New Zealand) in collaboration with Julie Blommaert (Plant and Food Research, New Zealand), Octavio Palacios-Gimenez (Friedrich-Schiller-Universität Jena, Germany) and a Postdoctoral Fellow (Manaaki Whenua - Landcare Research). The PhD student will investigate the suite of genomic strategies that New Zealand stick insects have used to adapt to the challenges of asexual reproduction. Applying comparative genomic methods to independent lineages of New Zealand asexual and sexual stick insects, we hope to reveal what these adaptations are and how they have evolved. Our research will address key questions on the evolution of different reproductive strategies.

Using whole genome assemblies to PhD student will identify and examine the structure and evolution of sex chromosomes among sexual and asexual lineages. RNA-seq will be used to study shifts in gene function on sex chromosomes and autosomes in sexual and asexual lineages. Cytogenetic methods, FISH and single cell sequencing will also be employed. Field sampling and insect rearing of asexual, sexual lineages will be required. These methods will be used collectively to assess how asexual genomes are rearranged to preserve reproductive gene function.

Applicants must have an interest and skills in at least some of the following: genome assembly, annotation, population genomics, genome evolution, coding, high performance computing, and bioinformatics. The student will work under the supervision of Thomas Buckley (Manaaki Whenua - Landcare Research and The University of Auckland). This PhD position is funded for 3 years and covers includes tuition fees and tax free stipend of \$35,000 NZ per year. Funding is via a Marsden Fund grant from the Royal Society of New Zealand. This successful applicant is expected to begin during late 2022 or early 2023. Please submit applications directly to Thomas Buckley ([buckleyt@landcareresearch.co.nz](mailto:buckleyt@landcareresearch.co.nz)) and provide a CV, academic transcript, contact details for three referees, and a letter detailing your research interests and motivation for considering the project. Information on enrolling in the PhD program at the University of Auckland can be found below:

<https://www.auckland.ac.nz/en/study/international-students.html>

<https://www.auckland.ac.nz/en/study/applications-and-admissions/how-to-apply/postgraduate-admission/doctoral-applications.html>

<https://www.auckland.ac.nz/en/study/applications-and-admissions/entry-requirements/postgraduate-entry-requirements/doctoral-entry-requirements.html>

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