



Genomics Aotearoa team update

Welcome to the Genomics Aotearoa update for June 2021

GA team changes

We welcome Jess McLean to Genomics Aotearoa. Jess is excited to be joining the team as *Advisor – Communications and Research Activities*, where she will be handling digital communications and supporting engagement in Genomics Aotearoa research. Jess previously worked for the University of Otago Libraries and has completed a postgraduate diploma in Science Communication and undergraduate degrees in Biochemistry and English.

The Genomics Aotearoa's Vision Mātauranga position has now been advertised – see [Vision Mātauranga Manager - Genomics Aotearoa](#). Please pass this on to anyone who may be interested in applying for the position. Applications close June 30.

New projects

Environmental Microbiomes

Metagenomics is rapidly transitioning into a mainstream tool in microbial ecology, and there is a need for approaches to reconstruct and analyse challenging prokaryotic (bacterial and archaeal) community sequence data along with the genomes of other understudied organisms (viruses and microeukaryotes). These gaps will be filled by providing clear approaches and guidance via three subprojects: (1) virome, (2) microbial strain heterogeneity, and (3) microeukaryotes. The Principal Investigator for the Environmental Microbiomes project is [Kim Handley](#), University of Auckland. Outcomes will include:

- Guidelines in virome genome identification and annotation, including best approaches for dereplication across multi-sample datasets.
- Methods for recovering challenging prokaryotic genomes.
- Guidelines in eukaryote binning and dereplication.

Genomics Aotearoa seminar series

Thanks to recent seminar presenters [Manpreet Dhani](#), on Reflections on the giant genome of the giant weta, and [Phil Lester](#) who discussed genetic methods for the control of honey bee parasites and pathogens. Both were very interesting presentations on the complexities of understanding and utilising genomes in the New Zealand context.

Let us know if you need more information or a copy of the presentations. And email if you can help or if you are interested in presenting at future seminars claire.grant@otago.ac.nz.

Bioinformatics training

Environmental DNA Workshop, 24-25 June 2021, Auckland

A few spots remaining for this workshop.

Advances in genomics over the past decade have greatly expanded the breadth of community ecology and enabled fine scale study of many ecosystems. Environmental DNA (eDNA) is DNA

material isolated from environmental substrates, including water, soil, air, or even within larger organisms (using a broader definition of 'environment'). The eDNA samples can be amplified with PCR and sequenced with next-generation sequencing technologies to study the biodiversity of the environment, in a method called metabarcoding. In this workshop we will review the most common methods for metabarcoding in order to identify the taxonomic components and determine the relationship across these communities. Through a combination of demonstration and hands-on practicals, you will learn the basic concepts and core tools needed to analyse eDNA metabarcoding data for a wide range of studies.

Registration: <https://www.eventbrite.co.nz/e/environmental-dna-workshop-auckland-tickets-156442241957>

Imputation Workshop, Expression of Interest

Genotype imputation is a key component of modern genetic studies. It is a cost-efficient approach to approximate high-density genotypes or full sequence data from low-density genotypes/low-pass sequencing data of individuals. This workshop is intended for anyone interested in learning how to use either Beagle or Minimac to impute genotypes and how to evaluate the imputation performance. A brief overview of imputation will be followed by demonstrations and exercises, including:

- Quality control and preparation of genetic data for imputation
- Evaluate the imputation performance using different parameters

Express your Interest: https://otago.au1.qualtrics.com/jfe/form/SV_5vwUUNiSjxVWMm

Please get in touch with Ngoni Faya to discuss workshop opportunities ngoni.faya@otago.ac.nz

Share your events and workshops information with Ngoni ngoni.faya@otago.ac.nz or Megan Guidry (NeSI) megan.guidry@nesi.org.nz to add to the Genomics Training Calendar in New Zealand - Workshops NZ page on Genomics Aotearoa's GitHub <https://genomicsaotearoa.github.io/workshops-nz/>

In the news

The Rewarewa genome recently sequenced, has implications for both the New Zealand honey industry, and the preservation of our taonga species. Read about this story https://www.waateanews.com/waateanews/x_news/Mjc0OTI/Rewarewa-genome-should-boost-honey-industry

Coming up

- June 17-18:** He Pito Mata Awakening the Potential - Early Career Research Wānanga, Royal Society Wellington, <https://www.royalsociety.org.nz/events/he-pito-mata-awakening-the-potential-early-career-research-wananga/>
- June 18:** **GA Seminar Series** - Maren Wellenreuther, "Something fishy is going on-how genomics can provide insights into fisheries management."
- July 2:** **GA Seminar Series** - Neil Gemmill, Environmental DNA for biodiversity, "Biosecurity, global health and monster hunting."
- July 8-18:** NZ International Science Festival, Otago Museum, Dunedin
- July 16:** **GA Seminar Series** - Emily Koot, "Rewarewa research."
- July 25-27:** ANZCCART2021 conference, Queenstown

New on Sciblogs

Indigenous Genomic Databases – two case studies, by Phillip Wilcox,
<https://sciblogs.co.nz/genomics-aotearoa/2021/05/26/indigenous-genomic-databases-two-case-studies/>

Share genomics news via:

- Twitter <https://twitter.com/GenomicsNZ>
- GitHub <https://genomicsaotearoa.github.io/>
- LinkedIn www.linkedin.com/company/genomics-aotearoa/
- Slack <https://genomicsaotearoa.slack.com/messages/DCWHX56P9/>

Let us know if you have anything to contribute - claire.grant@otago.ac.nz.

Genomics Aotearoa contacts

Director: Prof Peter Dearden, peter.dearden@otago.ac.nz, 03 479 7832

Operations Manager: Jayashree Panjabi, jayashree.panjabi@otago.ac.nz
03 479 7954

Communications Manager: Claire Grant, claire.grant@otago.ac.nz, 027 489 4471

Business Support Coordinator: Jess McLean, jess.mclean@otago.ac.nz, 03 479 5943

Training Coordinator: Ngoni Faya, ngoni.faya@otago.ac.nz, 022 317 1364

Please pass the update on to others in your team.

Email [Claire Grant](mailto:claire.grant@otago.ac.nz) with news and feedback.



Please consider the environment before printing this email

Warning: This electronic message together with any attachments is confidential. If you receive it in error: (i) you must not read, use, disclose, copy or retain it; (ii) please contact the sender immediately by reply email and then delete the emails.

The views expressed in this email may not be those of Genomics Aotearoa. <https://www.genomics-aotearoa.org.nz/>