

Mark MacDougall

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HIGHLIGHTS

- Extensive theoretical and practical knowledge of animal behaviour, bioacoustics and biotremology and the real-world applications of these disciplines.
- Highly multidisciplinary background including competencies in marine biology, commercial science and conservation.
- Strong research, academic writing, critical thinking and analytical skills.
- Experienced and capable science communicator in both academic and general contexts.
- Successfully completed a PhD at the University of Canterbury.

QUALIFICATIONS

PhD: Biological Sciences – University of Canterbury	2022-2025
Master of Science (First Class Honours): Biology – University of Waikato	2016-2017
Postgraduate Diploma in Science: Ecology and Biodiversity – Victoria University of Wellington	2012-2013
Bachelor of Science: Biology and Marine Science – University of Auckland	2009-2011

Publications

MacDougall, M., Stringer, L.D. & Nelson X. J. (2026). Vibrational duetting and mating behaviour of the passion-vine hopper *Scolypopa australis* (Walker) (Hemiptera: Ricaniidae) *Journal of Natural History*, 60(13-16), 891-903.

MacDougall, M., Nelson, X. J. & Stringer, L. D. (2025). Harshing the vibes: Behavioural responses to predation and deterrent vibrational playback in *Scolypopa australis* (Hemiptera: Ricaniidae). *Journal of Applied Entomology*, 149(4), 598-608.

MacDougall, M., Stringer, L.D., Borthwick-Taylor, G. & Nelson X. J. (2024). Vibrational communication in *Scolypopa australis*: Characterising spontaneous and intrasexual calls in an invasive orchard pest. *Entomologia Experimentalist et Applicata*, 172(12), 1128–1140.

RELEVANT EXPERIENCE

Research Associate, Bioeconomy Science Institute, Lincoln

2025-Present

- Providing advice, technical recommendations and strategy for vibration and acoustic based pest management projects for the Bioprotection portfolio as the resident biotremology specialist.
- Designing experiments, performing behavioural trials and undertaking analysis for biotremology based projects.
- Community education, media engagement and science communication concerning biotremology for both general audiences and stakeholders.
- Writing and publishing project results in scientific journals.

PhD candidate, University of Canterbury, Christchurch

2022-2025

- Undertook a biotremology research project investigating vibrational communication in an invasive planthopper species.
- Developed familiarity and expertise with biotremology analysis methods, including laser-doppler vibrometry and spatio-temporal analysis using Raven software.
- Employed well developed research and academic writing skills to produce and submit a six chapter thesis.
- Displayed competence with experimental design, hands-on technical lab work and data analysis.
- Adapted, submitted and successfully published two data chapters as papers in scientific journals while studying.
- Demonstrated capability to self-manage, troubleshoot and work independently.
- Brought well developed science communication, presentation and public speaking skills to several conferences and seminars.

Technician/trainer (Intermediate Level), Hill Laboratories, Hamilton

2019-2022

- Instructed new technicians in Food Chemistry test methods and SOPs as the main Food Chemistry trainer.
- Managed multiple time-sensitive test methods with various prep requirements as part of the Food Chemistry team.
- Followed routine scientific methods and quality control measures closely to ensure results with a high degree of quality, accuracy and replicability.
- Performed data entry with particular regard for attention to detail.
- Worked with specialist equipment and instruments and performed regular calibrations and maintenance.
- Adhered to appropriate health and safety protocols and MPI and IANZ designated standards at all times.
- Developed and maintained positive working relationships across multiple teams.

MSc Research Project, University of Waikato, Hamilton

2016-2017

- Conducted an observational field study to establish the singing order of the dawn chorus in New Zealand songbirds, and a playback experiment to determine whether acoustic stimuli can alter the singing order.
- Acquired skill with a variety of unfamiliar instruments and analysis software.
- Demonstrated ability in experimental design, planning, data collation and record keeping.
- Extensively reviewed literature and contextualised findings within the existing framework of understanding, and collated all results and knowledge obtained into an MSc thesis to present findings.

Demonstrator, University of Waikato, Hamilton

2016

- Instructed and supervised laboratory and field work for undergraduate biology students in a third year animal behaviour course.
- Engaged students, shared scientific and technical knowledge and communicated concepts succinctly.
- Ensured work was carried out with utmost concern for health and safety protocols and student wellbeing.

VOLUNTEER WORK

Host and tour guide, Sanctuary Mountain Maungatautari reserve, Pukeatua

2012-2014

REFERENCES

Lloyd Stringer – Bioprotection Team Leader, Bioeconomy Science Institute, 021 232 7452

Ximena Nelson - PhD Supervisor, University of Canterbury, 021 028 53007

Stephanie Trower - Client Services Manager, Hill Laboratories, 027 464 5616