



December 2025

Kia ora tātou

This year's milestone celebrations of 150 years since the signing of the Metre Convention, have made me think a bit more about MSL's own history. Key milestones such as New Zealand joining the Metre Convention, establishment of the Measurement Standards Act, and the creation of the MSL brand have helped to establish MSL into its current form. And of course, the many wonderful people that shared this journey have contributed to its culture.

As we move towards 2026, I can't help but wonder if we will reach another milestone in our story as we bid farewell to Callaghan Innovation and prepare to join Earth Sciences New Zealand. For me, this is an exciting opportunity to reflect on all the things that have brought us to this point and ensure we take all the best bits with us. It's also a perfect time to consider how MSL can grow its services to meet New Zealand's future needs.

In the meantime, I can assure you that MSL will continue to deliver our usual services so please don't hesitate to reach out to your regular contacts for calibrations and advice. We'll keep you updated as we progress through this transition.

Enjoy the holidays.

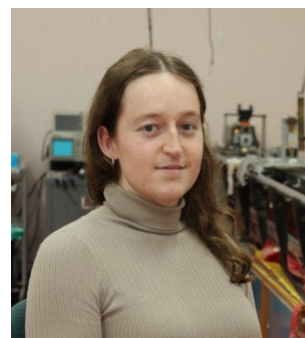
Meri Kirihimete,

Peter McDowall

Introducing Charlotte Hayton!

We welcomed **Charlotte** in November as a Research Technician in the Length Standards team.

Originally from New Zealand, she grew up in rural Australia and returned to pursue tertiary study at Otago University in Dunedin, where she completed both her BSc Hons and MSc in Physics. Her master's studies focused on optics, where she designed and constructed a laser system for addressing atomic Dysprosium, and a low drift reference cavity system for the atomic physics lab group at Otago.





New funding for NZ-UK collaboration on seismic sensing

We're delighted to announce that MSL has been successful in the latest funding round from Quantum Technologies Aotearoa (QTA). Dr Johan Grand from our time team will use the grant to expand on an already very productive collaboration with the National Physical Laboratory (NPL).

In 2024, NPL and MSL joined forces with Southern Cross Cables Limited to deploy an optical interferometry system onto an existing subsea telecoms cable across the Tasman. This system turns the cable into an ocean-spanning array of environmental sensors and seismometers.

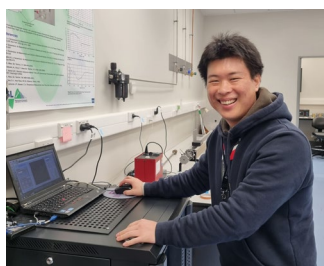
In its first year, the system detected signatures of more than 100 seismic events, including both local and regional earthquakes.

The additional funding from QTA runs until the end of 2028, and it will be used to strengthen the collaboration, improve the sensitivity of the system, and to process and send the data more easily to our collaborators at Earth Sciences New Zealand.

We're proud to be using metrology to improve and expand New Zealand's national hazard preparedness network.

For more on this ground-breaking collaboration, read [our latest case study](#).

Meet our research assistant interns



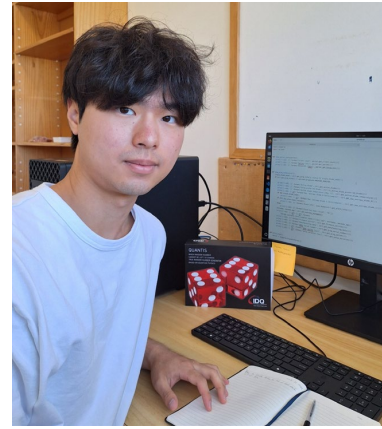
We're excited to have **Min Lee** join us over the summer. Min is an Electrical and Electronic Engineering (Hons) student at Victoria University of Wellington.

Min will be focusing on upgrading the software that controls our thermocouple homogeneity scanner.

This specialised tool is used for non-invasively assessing the condition of wire in a thermocouple. It quantifies uncertainty based on wire inhomogeneity and tells us whether a thermocouple should be annealed or replaced. This is critical for ensuring that thermocouples are making accurate temperature measurements.

Jeruh Kim is currently studying Penultimate Software Engineering (Hons) at the University of Auckland. We're thrilled to have him join Dr Vladimir Bubanja in the Electricity and Magnetism team working on statistical testing of quantum random number generators (QRNGs).

QRNGs rely on intrinsic randomness from physical phenomena, unlike pseudo-RNGs that are seed-determined. This project will compare outputs from several pseudo-RNGs and QRNGs using statistical randomness tests, with QRNG implementations including single-photon path choices and quantum tunneling.



Who We Serve...

Recognising the diverse work of our amazing team!

As New Zealand's national metrology institute (NMI), MSL's goal is to support New Zealand's economy, wellbeing, and innovation by providing measurement standards and expertise that are globally relevant and trusted. So much of what we do sits below the surface, just out of sight of the general public, and we're trying to change that.

Over the past few months, we've been sharing some great examples on "Who we serve" on our LinkedIn page:

- #1 New Zealand and beyond
- #2 From farm to table
- #3 Innovators
- #4 Manufacturers
- #5 Healthcare
- #6 Critical infrastructure
- #7 Trust and confidence
- #8 Government

World Metrology Day Celebration 2026

Please save the date and join us for our own World Metrology Day on Friday 22 May 2026, at Gracefield Innovation Quarter, Lower Hutt. Your formal invitation will be sent out in March next year.

This will be a wonderful opportunity for all of us – stakeholders, customers, MSL staff and friends of metrology – to connect and enjoy expert speakers, presentations, and lab tours.

Holiday closure notice

MSL and our Inwards/Outwards Goods Store will close at midday on Friday 19 December, and will reopen on Wednesday 7 January 2026.

We thank you for your support throughout the year and look forward to assisting you in the new year.

Wishing you a safe and happy holiday season!



www.measurement.govt.nz



info@measurement.govt.nz

[MSL's Strategic Plan](#)

Tell us what sort of information you would like to receive in future updates from us by emailing info@measurement.govt.nz



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