



Te Mana Tangata Whakawhanake  
**MacDiarmid Institute**  
Advanced Materials & Nanotechnology

Our alumni newsletter turns two!

Welcome to the first newsletter of 2023 and happy 2<sup>nd</sup> birthday to our alumni newsletter! We hope you've enjoyed staying connected with the MacDiarmid Institute as much as we've enjoyed keeping in touch with you all. As always, thank you for reading, and if you know of any other alumni who may be interested in the job openings and other opportunities in this newsletter, please feel free to forward and ask them to [Contact us](#).

For us 2023 kicked off with a hugely successful conference on [Advanced Materials and Nanotechnology \(AMN10\)](#) in Rotorua last month. The biennial conference was attended by nearly 500 scientists, mostly from overseas, who were welcomed with a powhiri from [Ngāti Whakaue](#). In her opening speech, the [Minister for Research, Science, and Innovation, Hon. Dr Ayesha Verrall](#), announced [new initiatives supporting Māori and Pacific people into the Research, Science and Innovation \(RSI\) system and workforce](#). It was a great conference and it was fantastic to see some alumni there as well!

We are excited for what 2023 brings, including our usual calendar events like Techweek and the Regional Lecture Series events. This year we are running Techweek events in Auckland and Palmerston North. And our Regional Lecture Series will begin mid-year. If you're interested in being part of any of these, [please let us know](#).

## News and Updates



### [Diagnosing disease with pill-sized robots](#)

Alumnus [Dr Muhammad Rehan](#) and Associate Investigator [Dr Ebu Avci](#) from [Massey University](#) feature in an article and video by [Education New Zealand](#) on their ground-breaking pill-sized robotic capsule that enables targeted sampling to provide a much more detailed analysis, allowing for earlier diagnosis of killer diseases. [You can learn more about their gut research here](#).



### [Two MacDiarmid students reflect on their time at the Global Young Scientists Summit, Singapore 2023](#)

[University of Otago](#) students [Mohsin Ijaz](#) and [Maia Dean](#) attended the tenth [Global Young Scientists Summit \(GYSS\)](#) in Singapore. GYSS brings together a select group of young researchers from around the world to discuss science and technology trends and how research can address major global challenges. [Read about their experience here](#).



[The 2023 Discovery Scholarships round is now complete, and we were delighted to confirm the following 18 scholarships:](#)

- 6 Te Huarahi Ki Mua Awards (for previous Discovery Scholarship recipients)
- 4 Te Mātauranga Pūtaiao Awards (Māori Science Award)
- 4 Te Taumata Awards (High Achiever Award)
- 3 Piki Ake Awards (Step It Up Award)
- 1 Te Kainga Rua Award (Second Chance Learner Award)

[Meet some of our Discovery Scholar cohort for 2023 here!](#) Watch this space as we'll be adding more profiles soon.



[Derek Kawiti from Te Herenga Waka – Victoria University of Wellington's School of Architecture and Design Innovation, one of two newly appointed Māori professors](#)

Principal Investigator [Derek Kawiti](#) (pictured with [Deputy Vice-Chancellor \(Māori\) Professor Rawinia Higgins](#)) has been appointed as a professor at [Te Kura Waihangā—Wellington School of Architecture and Design Innovation](#). The pōwhiri at Te Aro campus to welcome Professor Kawiti and colleague [Professor Rod Barnett](#) was a special moment for the kura (school) as it was the first time two Māori Professors had been appointed at the same time. [Read the RNZ coverage here.](#)



[Taking nano and quantum science education into Rotorua schools](#)

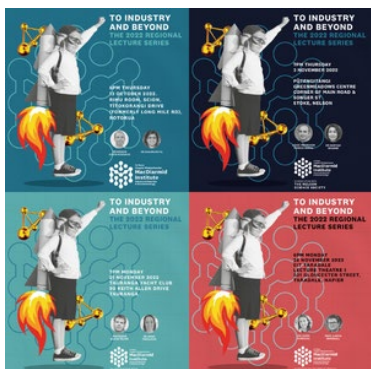
At [AMN10](#) we teamed up with our outreach partners from [Otago Museum](#) and our Australian partners at [FLEET](#) to take science outreach into Rotorua schools for 320 students, ranging from primary school to early high school aged. [Read about the workshops here.](#)



[Update from He Honoka Hauwai: German-NZ Green Hydrogen Centre](#)

The [German-NZ Green Hydrogen Centre](#), co-led by [University of Otago](#), MacDiarmid Institute Principal Investigator, [Professor Sally Brooker](#) and [Dr Paul Jerabek](#) from the [Helmholtz Zentrum Hereon's, Institute for Hydrogen Technology](#) have launched a new [webpage](#) and [LinkedIn](#) page. Their new name *He Honoka Hauwai: German-NZ Green Hydrogen Centre*, logo, and whakatauki was gifted by [Te Rūnanga o Ngāi Tahu](#), which you can [read all about here.](#)

He honoka hauwai, he hirikapo auaha;  
A hydrogen alliance, uniting innovative minds.



### Regional Lecture Series 2023

We are planning the Regional Lecture Series 2023 for between July-September this year. As usual, the lectures will be delivered in regional centres and as well as the evening talks, we plan to organise school visits. If you are keen to volunteer to contribute to the content and delivery of the series, please email [MacD-Admin@vuw.ac.nz](mailto:MacD-Admin@vuw.ac.nz) (cc [vanessa.young@vuw.ac.nz](mailto:vanessa.young@vuw.ac.nz)).

### Science Advisory Panels

We commenced an online platform for regular engagement between technology companies and our scientists in the form of Science Advisory Panels. Each panel session hosts a company that is interested in pursuing research to overcome a technical challenge with commercial relevance. If you or your company is interested in being part of our Science Advisory Panel, please contact [Kevin Sheehy](mailto:Kevin.Sheehy@vuw.ac.nz).



### Internships

As you probably know, we offer internships to our affiliated graduates so they can experience working on real industry problems. We have a comprehensive network of companies, start-ups, NGOs, and government agencies. If your company or workplace wishes to host an internship, please [contact us](#).



## Recent media



### Is the next big breakthrough really, really, really small?

Principal Investigator, [Associate Professor Natalie Plank](#) from [Te Herenga Waka – Victoria University of Wellington](#), researches nanoscale physics, specialising in the study of carbon nanotubes. Her research focuses on creating incredibly fast, accurate, and sensitive sensors. [Learn more about her nanoscale research here.](#)





### [RNZ Our Changing World: Green data storage, green walls](#)

Alumnus [Dr Joe Schuyt](#) currently a postdoc with Principal Investigator [Professor Grant Williams](#) at [Te Herenga Waka – Victoria University of Wellington](#), spoke with [RNZ's Claire Concannon](#) on "[Our Changing World](#)" about how using luminescence to encode data into specialised materials might be the key to our growing data storage needs. [Listen to the episode here.](#)



### [Professor Michelle Simmons: making machines at the atomic limit](#)

[AMN10](#) Plenary Speaker [Professor Michelle Simmons](#) from [Silicon Quantum Computing](#) at the [University of New South Wales](#) spoke with [Kim Hill](#) on [RNZ's "Saturday Morning"](#) about her team's recently built quantum processor in silicon that simulates the behaviour of a small organic molecule - a major milestone towards the world's first quantum computer. [Listen to the full interview here.](#)



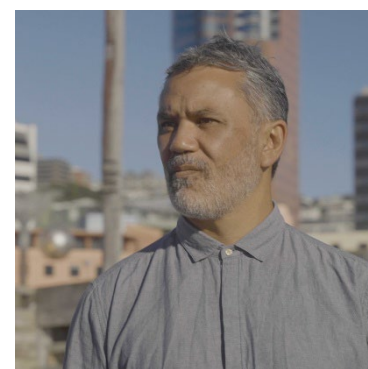
### [AMN10 - Professor Richard Taylor. Fractal fluency: Using fractal designs to promote health and performance](#)

[University of Oregon Professor Richard Taylor](#) gave the [AMN10 public talk](#) at [Scion](#) in Rotorua, speaking of fractal patterns in nature, about using architecture and design to adapt these to home and work environments to create wellbeing and citing the neuroscience behind this effect. [Listen to his RNZ interview with Kim Hill to hear more about his work.](#)



### [Dame Margaret Brimble's new drug wins FDA approval](#)

Trofinetide, the first drug treatment for the neurological condition known as [Rett Syndrome](#), is the first neurological drug from Aotearoa New Zealand to receive [FDA approval](#). It marks a remarkable achievement in the 20-year journey since the molecule was first discovered by Associate Investigator, [Distinguished Professor Dame Margaret Brimble](#). Originally investigated for treating brain injuries, it instead began clinical trials in 2012 in connection with Rett syndrome.



### [Watch "The Drawing Board" – new television show hosted by Principal Investigator Professor Derek Kawaiti](#)

Principal Investigator [Professor Derek Kawaiti](#) from [Te Herenga Waka – Victoria University of Wellington](#) hosts the new show "[The Drawing Board](#)" made by [Te Māngai Pāho fund media](#) and broadcast on [Māori+](#). The series spans stories about whenua (land), partnership, and the intersection of architecture & sustainability. Spot the MacDiarmid Institute Governance Board Chair [Hēmi Rolleston](#), [Scion's](#) General Manager Te Ao Māori and Science Services, in Episode One!



### [Making Venture Capital Investing more accessible – a Deep Tech future](#)

Check out [Matū's Dr Andrew Chen](#) chatting with Simon Pound on the "[Business Is Boring Podcast](#)" about Deep Tech innovations including our affiliated start-up [Liquium](#) and other novel materials and energy tech, and on breaking down the barriers to making Venture Capital more accessible. [Listen to the full episode here.](#)

If you have something newsworthy coming up (a paper about to be published, job-related announcement, or anything cool your company is working on) and you'd like some help obtaining media around it, please email [Vanessa Young](#) (ideally before the publication or announcement – we're used working with embargoed content).



## Opportunities



### [Liquium senior chemical process engineer, Wellington](#)

MacDiarmid Institute affiliated spin-out, [Liquium](#) is currently seeking a senior chemical process engineer with experience that can help them scale their re-imagined ammonia production process. If this sounds like you or someone you know, [please check out more details here.](#)



### [Research Fellow – School of Chemical Sciences, University of Auckland](#)

[Professor Jon Sperry](#) is seeking a researcher with a PhD in synthetic chemistry, ideally with experience in mechanochemistry, to work on a [Royal Society of New Zealand Te Apārangi](#) funded project focused on new solid-state synthesis methods. Role available immediately, or start date up to August/Sept 2023. [Informal enquiries can be sent to Prof Jon Sperry.](#)

### [Aquafortus Technologies, Chemist roles and Lab](#)

[Technicians Aquafortus Technologies](#) specialise in advanced water recovery technologies and are expanding and recruiting for a R&D Chemist, Analytical Chemist, 2x Process Chemists and 2x Lab Technicians. [For information on the six roles available and to apply, see here.](#)





Assessment and Contract Monitoring Advisor at MBIE

The Contestable Investments team at [MBIE](#) has a full-time fixed term position (from as soon as possible until mid-September 2023) available as an Assessment and Contract Monitoring Advisor. Anyone who is interested, please send your CV and cover letter to [Aubrey Dosado](#) by **COB Monday 3<sup>rd</sup> April**. Aubrey is also happy for people to email her directly with any queries.



[Laser/optics physicist for an Auckland-based start-up working on wireless laser energy transmission systems](#)

Physicist role with experience working with lasers and photovoltaics and who can design subsystems for safe laser operations. The job also offers rarely seen benefits, such as: flexible working hours, unlimited paid personal leave, generous parental leave, relocation support, and even a budget for your side projects. [See Seek for more information.](#)



[2024 Bower Award and Prize for Achievement in Science](#)  
[The Franklin Institute](#) is currently accepting nominations of individuals who have made significant contributions to understanding the unique properties of soft matter or to the development of applications utilizing soft matter. [For complete award criteria and nomination instructions, please see the Franklin Institute website.](#)

As you'll know from your time as a MacDiarmid student or early career researcher, we're always looking for volunteers to help with our educational outreach ([Regional Lecture Series](#), events organised through our [museum partnerships](#), and our [RNZ series](#) etc.) If outreach is your thing, and you'd like to stay involved with this, please [contact us](#).



### Anything to share?

We'd love to celebrate your journey post-graduation. It helps us tell stories and paint pathways for secondary school students and others who are keen to see where science can lead them. If you would like to share with us your story or a recent discovery, achievement, media appearance etc. [Contact us!](#) We'll take care to only share where and how you'd like us to.

As always, there are plenty of opportunities to stay connected with the MacDiarmid Institute whānau, by joining our [LinkedIn Alumni Group](#) in particular. We'd love to continue receiving feedback on this newsletter, and to hear if there's anything else MacDiarmid-related that you'd like to be kept up to date on. Please also forward this newsletter to other alumni you know.

If you are a MacDiarmid alumni and have been forwarded this email by someone else and would like to join our quarterly alumni newsletter mailing list (and also hear of opportunities in between newsletters, e.g. jobs, scholarships and updates on the Techweek events etc.), please [contact us](#) and we'll add you to our mailing list.

