

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

A highlight from the end of 2025 is our stream of new PhD students joined the Institute as part of our new research programme 2025-2028. Starting a PhD is always a big step, and even more so when it involves moving to another country. We feel very fortunate to have attracted such outstanding PhD students from Aotearoa New Zealand and around the world.

## News and Updates

### [Hon Shane Reti describes the Institute as 'Innovation in Action'](#)

It was wonderful to welcome the Minister of Science, Innovation and Technology, [Hon Shane Reti](#), to some of our materials science deeptech labs, to showcase the fundamental science underpinning the emerging technologies being developed by our researchers. Minister Reti described the Institute as 'Innovation in action'. 'From Nobel-linked chemistry and ultrafast spectroscopy to start-ups and cleanroom labs, it was great to see how (the MacDiarmid Institute's) research is being commercialised in this spirit', he said. (The Minister is shown here speaking with Principal Investigator, [Associate Professor Franck Natali](#), in the lab of start-up company [Liquium](#)).



### [Marsden success](#)

19 of our Investigators have been successful across 12 projects in the most recent round of [Marsden Funding](#), with many of the projects closely aligned with our research programmes. Many of these projects correspond closely to the work of our Zero Carbon and Future Computing research programmes, in particular drawing on new physics and chemistry approaches to develop the materials and devices for tomorrow's advanced conventional and quantum computers.



### [Success at the 2025 KiwiNet Awards](#)

Two of our researchers took home [2025 KiwiNet Research Commercialisation awards](#) this year. [Paihau—Robinson Research Institute](#) Scientist and Associate Investigator, [Dr Ben Mallett](#), won the Ara Ake Breakthrough Innovator Award and was described by the judges as 'a catalyst for driving space innovation in New Zealand'. The KiwiNet judges described Principal Investigator, [Professor Aaron Marshall](#), who is based at [Te Whare Wānanga o Waitaha University of Canterbury \(UC\)](#) and who won the BNZ Researcher Entrepreneur Award, as a 'true star performer...not only advancing research, but also reshaping how it creates value beyond the lab'. [Waipapa Taumata Rau University of Auckland \(UoA\)](#) - based Associate Investigator, [Dr Michel Nieuwoudt](#), was also shortlisted for the KiwiNet Awards, along with UC start-up company [Zincovery](#) (for which Aaron and [alumnus Jono Ring](#), are co-founders).



### Joint Research on Memristive Molecules

Principal Investigators, [UC Professor Simon Brown](#) and [Te Herenga Waka Victoria University of Wellington \(VUW\) Associate Professor Natalie Plank](#), have built a collaboration with scientists at the [Laboratory of Physics and Chemistry of Nano-Objects at the University of Toulouse \(UT\)](#), the [National Institute of Applied Sciences \(INSA\)](#) and the [National Centre for Scientific Research in France \(CNRS\)](#). (Photo of [J r mie Grisolia](#) with Simon Brown and Natalie Plank).



Thanks to a [2023 Te Ap rangi Royal Society Dumont d'Urville Catalyst Grant](#), Simon, Natalie and their PhD students, Sofie Studholme and Marissa Dierkes, have been working both here and in France with [J r mie Grisolia](#), [Simon Tricard](#) and other French colleagues to experiment with adding memristive (memory resistor) molecules to nano-networks. (Simon and Natalie shown here with Institute Director [Professor Nicola Gaston](#) and Institute alumna [Dr Lucy Gloag](#)).



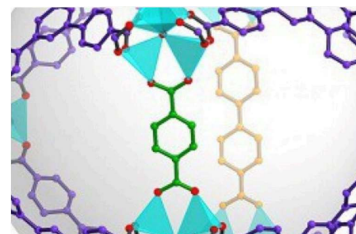
### A Conversation on Methane Capture with the Prime Minister's Chief Science Advisor

Another visitor to our [VUW](#) based labs this quarter was the [Prime Minister's Chief Science Advisor Dr John Roche](#). Dr Roche (shown here with our Catalytic Architectures Research Programme leader, Principal Investigator, [Dr Luke Liu](#)) was particularly interested in our MOF (Metal Organic Framework) research looking to capture methane (from cow sheds) and turning this into green fuels such as methanol. Dr Roche, who serves as Deputy Chair of the [Prime Minister's Science and Technology Advisory Council](#), also visited the Cleanroom labs to discuss quantum computing and devices and the connections between long-running fundamental research and start-ups.



## [And MOFs took out the Chemistry Nobel Prize in 2025](#)

'What a moment for those of us who love MOFs!' [Te Kunenga ki Pūrehuroa Massey University](#) Principal Investigator, [Professor Shane Telfer](#) on the announcement. 'MOFs are a true platform technology. They're phenomenal. We're only limited by our imagination.' Principal Investigator and UC [Professor Paul Kruger](#), commenting on the win.



[Royal Society Te Apārangi Hamilton Award](#) [Recognises Pioneering Data-Storage Chemistry](#). [VUW](#) based Associate Investigator, [Dr Mat Anker](#), received the [Hamilton Award](#) (awarded for an early-career researcher for excellence in scientific research) for discovering the four-electron reduction of benzene, providing access to new classes of data-storage materials. His paper, with student Georgia Richardson, was published as the cover article in the prestigious Nature Chemistry in January this year, and the story behind the work was profiled earlier this year [here](#).



And UC [Professor Aaron Marshall](#) won the [Royal Society Te Apārangi Pickering Medal](#) for [pioneering research in electrochemistry, and for successfully commercialising sustainable technologies](#).



'It still hasn't fully sunk in!'

Our alumna and affiliated start-up [Tasmanlon](#) co-founder and CEO, [Dr Shalini Divya](#), on winning FIRST PRIZE in the idea stage category at the [Entrepreneurship World Cup \(EWC\)](#) in Riyadh.



## Joint outreach trip to Rēkohu/Chatham Islands – 6-14 October

We joined a small team of scientists and science communicators on an outreach trip to the Chatham Islands (Rēkohu/Wharekauri) for school visits including whakawhanaungatanga at the two schools on the main island, pub talks, talks at the council chambers, a pub quiz, a short-film screening, science showcase and two community pop-up science days. We'd visited before (in 2022) and were eager to go back, recognising the value of repeat outreach visits, especially in more remote communities.



## MBIE Endeavour success

Successful MBIE Endeavour funding of Principal Investigator, [UC Professor Volker Nock's](#) "Microfluidic devices driven by capillary action as a new diagnostic platform" includes fellow Associate Investigator, UC [Professor Renwick Dobson](#), and Principal Investigator, [UoA Professor Jadranka Travas-Sejdic](#), and will enable the team to expand their capillarie microfluidics work.



It was great to see some of our Auckland-based alumni at the alumni event we ran in November, and to hear from alumna [Dr Thomas Kerr-Phillips](#) about hosting a MacDiarmid Institute intern at [Dennison Technologies](#). Thanks to all who came and we look forward to seeing others of you at alumni events in other centres next year!



You can [read about 'Our Inspired 100' here](#)

We continue to update this list of our 'Inspired One Hundred' alumni working in or supporting the deep tech sector in New Zealand. If you know of anyone (including yourself) who ought to be on it, or if you know of details that have changed, please let [vanessa.young@vuw.ac.nz](mailto:vanessa.young@vuw.ac.nz) know.

## Recent Media

Associate Investigator, [Dr Ben Mallett](#) features with others in this article and video profile in [BusinessDesk](#). Congrats to the whole Paihau-Robinson and Hēki mission team for the success of this — and in a story that leads with what we all understand is crucial understanding about the importance of fundamental science: 'It's based on superconductor technology that was patented in New Zealand in the late 1980s.'

[Congratulations to Associate Investigator, Dr Nate Davis, on the Easterfield medal](#)

Awarded by the NZ Institute of Chemistry! Check out [this recent article in BusinessDesk](#) regarding his work on singlet fission for solar cells at VUW.

## Opportunities

[MacDiarmid Institute call for postdoctoral proposals](#)

We invite applications for new Post-Doctoral Fellowship research projects which will contribute to and align with the Institute's strategic plans and research programmes. The candidate will work under the supervision of a MacDiarmid Institute Investigator. Several positions are expected to be awarded in this round of funding. [See here for more information.](#)

**Deadline: 9am Friday 27 February 2026**

Advemto is seeking an ambitious recent graduate to help build the future of multi-omic single-cell analysis. Joining a multidisciplinary team of physicists, chemists, and biologists, you will lead a focused ~6 month project (ideally commencing this summer, with potential for an ongoing role) centered on the design and synthesis of DNA-templated fluorescent probes and bead conjugates. Advemto are looking for a candidate with postgraduate research lab experience in chemistry or biology—specifically someone with a strong grasp of DNA chemistry and exceptional bench skills. This role is in a fast-moving startup, which values independence, initiative, and a collaborative spirit. If this might be you, please send your expression of interest to [Justin.Hodgkiss@Advemto.com](mailto:Justin.Hodgkiss@Advemto.com)

The opportunity will remain open until a candidate is found, but the company will be screening candidates immediately so please apply soon.

Multiple roles available at Neara in Australia

### [Senior Machine Learning Engineer - Australia](#)

As a Senior Machine Learning Engineer at Neara, you will create machine learning models that drive the digitisation of real-world infrastructure from a variety of data sources such as LIDAR, imagery, and vector data sources.

### [Senior Data Engineer - Australia](#)

As a Senior Data Engineer at Neara, you will work primarily on building out Neara's nascent data & integration platforms to power our digital twin use-cases.

### [Senior Software Engineer - Australia](#)

As a Senior Software Engineer at Neara, you will be designing and implementing features in one of our engineering groups.

### **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.

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 Institute -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 Institute 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 Techweek events etc.), please [contact us](#).



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