Te Mana Tangata Whakawhanake
MacDiarmid Institute
Advanced Materials & Nanotechnology

In this issue - our April launch of the New Zealand Cleantech Impact Report 2026 shows nine kiwi startups could offset emissions at the scale of NZ forests, and some science solutions to the Critical Minerals problem.

News and Updates

The Cleantech Impact Report 2026 launched in April at the Cleantech Expo. The 100+ audience included 18 investors, 29 innovator companies and a range of service providers and ecosystem stakeholders.

The Report shows:

1. New Zealand's climate tech companies have the potential to deliver meaningful global emissions reductions, estimated at 19 million tonnes of GHGs annually by 2030, while also strengthening energy systems and supply chain resilience. Realising this opportunity will depend on greater access to international capital to accelerate growth and scale impact.
2. The report highlights 34 companies aligned with the UN Sustainable Development Goal on Climate Action. For nine of these companies, projected emissions reductions by 2030 are on par with the impact of New Zealand's forestry sector, with the potential to grow 10 to 100 times over the following decade.
3. New Zealand innovators are building with global markets in mind, supported

by increasingly international patent portfolios that position them to compete and scale offshore.

'What stands out is that many of these companies are coming straight out of research labs.'

MacDiarmid Institute Director Professor Nicola Gaston

Critical Minerals - a science solution

'Materials scientists have spent decades working on strategies to solve the issues of material cost, availability, and toxicity – how to replace one element with another,' writes Director Professor Nicola Gaston on Newsoom. 'But it's never really the specific elements that are important, in actual fact, but the behaviour of their electrons...It's the electrons that conduct electricity, produce magnetism, and interact with light – and while specific elements may have electrons of the right energies for specific applications, those energy states can be changed, through material design and engineering. We can engineer the electron energies we need by combining elements, creating chemical bonds, and changing quantum energy states. In such ways, replacements and alternatives for all materials exist and more importantly, we can create them.

(Read more about critical minerals and science solutions in the media section below).

MacDiarmid Institute Lecture Series 2026

We are in the early stages of planning a lecture series for 2026 focused on critical minerals. If you're interested in being on the mailing list please email macd-admin@vuw.ac.nz

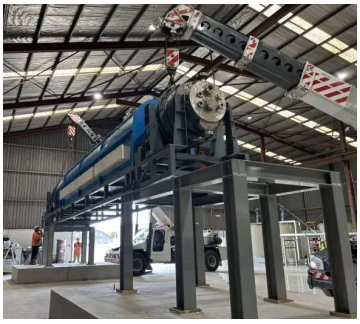
Our Deep Tech Network continues to grow – connecting researchers and start-up founders with investors and others in the deep tech sector. April's Auckland Deep Tech Network lunch was hosted in partnership with the Newmarket Innovation Precinct with James Palmer from

Blackbird VC introducing their founder support programme. If you would like to be on the mailing list for the Deep Tech Networking events, in Dunedin, Christchurch, Wellington or Auckland, please reach out to Kevin, Natalie or Gabby to be added to the mailing lists.

In January we ran our calendar favourite, the annual DiscoveryCamp and NanoCamp, our week-long residential science camps for Year 12/13 high school students. NanoCamp was held in Pōneke Wellington and DiscoveryCamp Tāmaki Makaurau, the programmes covered nan ofabrication and microfluidics, synthesis of MOFs, making magnesium air batteries, visiting start-up OpenStar Technologies and much more!

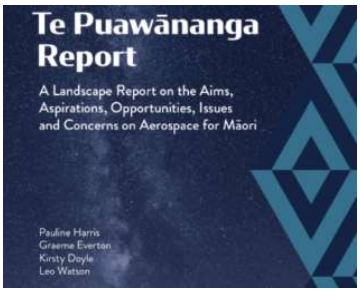
Discovery Scholarships
We are delighted to have awarded 16 scholarships for the 2026 academic year:

- 3 Piki Ake Award - Step It Up Award recipients
- 1 Te Kainga Rua Award - Second Chance Learner Award recipient
- 3 Te Mātauranga Pūtaiao Award - Māori Science Award recipients
- 2 Te Taumata Award - High Achiever Award recipients
- 7 Te Huarahi Ki Mua Award recipients



$6M minerals demonstration plant
Big milestone for start-up Zethos (formerly Zincovery) and another exciting moment for cleantech in New Zealand when Zethos officially switched on its $6M minerals demonstration plant in Christchurch. In less than a decade, their technology has progressed from a University of Canterbury lab to a near commercial scale facility now entering a 12-month trial. It is fantastic to see this journey, led

by Principal Investigator Professor Aaron Marshall and alumnus Jonathan Ring, translating science into real world impact.



Voices of Māori communities, researchers and industry representatives on Aerospace are captured in Deputy Director Professor Pauline Harris' Te Puawānanga Report: A Landscape Report on the Aims, Aspirations, Opportunities, Issues and Concerns on Aerospace for Māori. Pauline's report was written in collaboration with Strategic Manager Māori Kirsty Doyle, Graeme Everton and Leo Watson, and Juliet Nelson.

Principal Investigator Professor Derek Kawiti was part of the Fast Forward Lecture Series at the University of Auckland,

There's something special about having our researchers together in one place. In April we had the privilege of hosting our researchers in Te Whanganui

a Tara for our research programme meetings, and it was nothing short of energising. Bringing together such a talented, thoughtful, and passionate group was a powerful reminder of the depth of expertise and commitment driving materials science forward in Aotearoa New Zealand. Beyond the meetings themselves it's the conversations in between that really stand out. These moments of connection and collaboration are where real progress happens. We're incredibly proud of our researchers and our students and the work they do.

Congratulations!

To Emeritus Investigator Professor Eric Le Ru who has been elected as a Fellow of the Royal Society Te Apārangi for making fundamental discoveries in how light interacts with nanoparticles. Many of you will know Eric, now an Emeritus Investigator, from his long membership of the Institute — it is a delight to see him being recognised in this way.

And to Associate Investigator James Storey, who was named Reviewer of the Month in April for Communications Engineering (Nature Portfolio). This is an acknowledgement of researchers who have provided outstanding peer review contributions – congratulations, James!

We supported two PhD students to attend the Global Young Scientists' Summit 2026, 5-9 January, in Singapore - Discovery Scholar Jesse Teumohenga and Jacob Lewis.

'A great start to 2026 with the chance to listen and interact with 21 distinguished speakers, 12 of which were Nobel Laureates, as well as young scientists from all across the world and a wide range of fields.'
PhD student Jacob Lewis.

Welcome to our MacDiarmid Emerging Scientists Association (MESA) committee for 2026 - meet the committee here.

AMN12: The 12th International Conference on Advanced Materials and Nanotechnology
Our 12th AMN runs 8-12 February 2026 in Tāmaki Makaurau Auckland. Submissions for abstracts are open! Please see the website for further details and important dates.

Recent Media

Critical Minerals
Director Professor Nicola Gaston spoke with Kathryn Ryan on Nine to Noon, Radio NZ, about about critical minerals and the technological possibilities that circular economy solutions (recycling and reuse) offer.

Nicola was also interviewed by the Listener on the topic of critical minerals this month (paywalled) - coincidentally following up on Principal Investigator Professor Chris Bumby's interview in the Listener on the same subject a week or so prior.

The National Business Review also covered the report, comments from Nicola and from start-ups.

And Nicola is quoted in The Spinoff's article 'Everything you never knew you wanted to know about critical minerals' and an RNZ article regarding a resurrected minerals deal with the US.

'Whenever we're having a discussion about minerals or mining, actually we're having a discussion about materials supply chains to the modern economy' Principal Investigator Professor Chris Bumby from Paihau-Robinson Research Institute on RNZ.

There were pieces in the media in relation to the launch of the New Zealand Cleantech Impact Report 2026 (highlighted in the 'Into the Marketplace' report), including:

- MacDiarmid article: Nine Kiwi startups could offset emissions at the scale of NZ forests and there is a video on the event here.
- Science Media Centre: NZ shows promise in 'cleantech' – Expert Reaction
- NBR: Cleantech Startups could have the same impact as al NZ's forests
- BusinessDesk: Hormuz is our cleantech wake-up call

Social Media

Some of our LinkedIn posts of interest on the launch of the NZ Cleantech Impact Report 2026:

1. University of Auckland Associate Dean Research Faculty of Science, Professor Geoff Willmott: "An important report about a sector we can't ignore"

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2. Cetogenix CEO and co-founder Trevor Stuthridge speaks with Kathryn Ryan on RNZ this morning about the NZ Cleantech Report 2026.

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