



Te Mana Tangata Whakawhanake

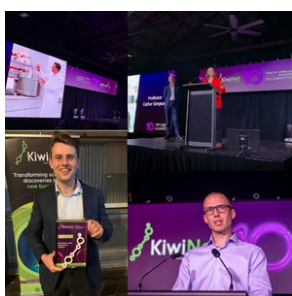
MacDiarmid Institute

Advanced Materials & Nanotechnology

As we welcome spring, we congratulate the graduates of this season from the MacDiarmid Institute. The past three months have seen the tertiary sector welcome back international students, and we also celebrated the MacDiarmid Institute's 20th birthday. The Institute's first Director, Sir Paul Callaghan, had a vision for a vibrant and prosperous New Zealand transformed through science and technology. He saw it was people who would change the landscape of our hi-tech-economy, and set about training them, bringing together not just the scientists but the scientists and the businesspeople, educators, and communities. As we reflect on the past 20 years, it is clear that as much as we have changed over the years, the most important things are as true now as they were 20 years ago. We are spinning science into commerce, sending data savvy PhD graduates into industry, creating opportunities for Māori and Pacific Island science students and inspiring young people around the country to love and study science. Thank you for being with us on this journey. There is so much more to come.



News and Updates



[Deep tech was the winner at the 2022 KiwiNet Research Commercialisation Awards](#)

Three of the six [MacDiarmid finalists for the annual KiwiNet Research Commercialisation Awards](#) won awards. We congratulate alumnus [Jonathan Ring](#), Co-Director Professor [Justin Hodgkiss](#), MacDiarmid affiliated spinout, [Magritek](#). Plus Emeritus Investigator [Professor Cather Simpson](#) won the Commercialisation Icon for her work in the “deep-tech commercialisation space and raising the external profile of the sector in NZ.”. [Read about the winners here.](#)



Call for Independent Post-Doctoral Fellowships



[NanoCamp and DiscoveryCamp](#)

Delayed due to Omicron, NanoCamp and DiscoveryCamp 2022 took place in July - NanoCamp in Auckland and DiscoveryCamp in Wellington. Year 12/13 students spent time in our labs and visited MfE, MPI, the Unleash Space and the Goldwater Wine Science Centre. Applications for the January 2023 camps just closed, and we're looking forward to hosting these at our labs in Palmerston North and Christchurch.

[Call for Independent Post-Doctoral Fellowships](#)

We put out a call this month for [MacDiarmid funded independent postdoctoral fellowships](#). Full details are on the website – Please do share among your networks and encourage suitable candidates to consider applying (closes November 8). These fellowships are an incredible opportunity for emerging researchers to develop their own project within the overall programme areas of the Institute.

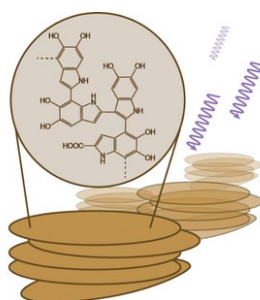
Regional Lecture Series: To Industry and Beyond
Back by popular demand, this year's series reprises our 2019 theme To Industry and Beyond. Upcoming talks will take place in [Nelson \(3 November\)](#), [Tauranga \(21 November\)](#), and Hawke's Bay (28 November). Our speakers feature current and former MacDiarmid researchers and will take audiences behind the scenes for a look at the pathways from the lab bench to industry. We hope to see many of you there!

Recent media



[The science camp breaking down the barriers for Māori and Pasifika students](#)

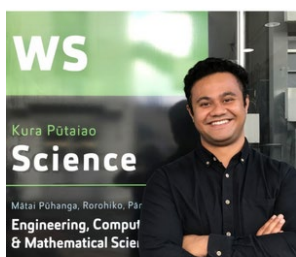
Diversity in academia is essential to expanding our knowledge systems and getting better outcomes for communities. [Read The Spinoff's article](#) featuring two DiscoveryCamp alumni speaking about their experiences on our annual [DiscoveryCamp - Te Tohu Huraina](#)- for Māori and Pacific Island students in Years 12 and 13.



[New Zealand researchers use world-first technology to discover how melanin protects skin from UV radiation](#)
'A maze of mirrors and lenses lies inside [Victoria University of Wellington](#)'s laser lab, and it's unlocking the secrets of the skin' - MacDiarmid Co-Director Professor [Justin Hodgkiss](#) featured on Newshub on new NZ technology showing how melanin protects skin from UV radiation. Research funded by Marsden Fund and published in [PNAS News](#), authored alongside alumni Dr [Aleksandra Ilina](#), Dr [Karen Thorn](#) and Dr [Paul Hume](#).



liquium



[Engaging more Pasifika students with STEM subjects](#)

Associate Investigator [Dr Taniela Lolohea](#), Chemistry lecturer at [AUT](#), says it's hard to find Pasifika students at Honours level with STEM backgrounds. Pasifika are underrepresented in STEM. The Government has recognised it and say they're pushing hard for Pasifika achievement in STEM. Listen as Dr Lolohea talks this on RNZ's [Afternoons with Jesse Mulligan](#).

[Investment Reflections – #14 Advemto and #15 Liquium By Andrew Chen of Matū](#)

"It's pretty tiring to hear the trope that academics make for bad founders because they don't know anything about the commercial world.". Venture Partner, [Dr Andrew Chen](#) writes about founders, MacDiarmid Institute Co-Director Professor [Justin Hodgkiss](#) of [Advemto](#), and Associate Investigator Associate Professor [Franck Natali](#) of [Liquium](#).

[RNZ's Sci Fi/Sci Fact – Zero Point Energy](#)

[Professor Cather Simpson](#), Emeritus Investigator with the MacDiarmid Institute and a Professor of Physics & Chemistry at [University of Auckland](#), investigates Zero Point Energy from The Incredibles. "Think of one of those squeeze dolls, except you're doing it to light...mathematically."

Minister Dr Ayesha Verrall [recently announced the award of 3 German-New Zealand green hydrogen research grants](#) as part of Aotearoa New Zealand's move towards a more sustainable, low-emissions economy. Many MacDiarmid Institute are investigators involved in this programme led by Principal Investigator Professor [Sally Brooker](#), including Principal Investigators Associate Professors [Aaron Marshall](#), [Nigel Lucas](#), [Geoffrey Waterhouse](#), Drs. [Anna Garden](#) and [Chris Bumby](#), and Associate Investigators, Associate Professor [Peng Cao](#) and Dr [Kim McKelvey](#).

Tūhura Otago Museum's science engagement manager Jessa Barder spoke to RNZ's FirstUp programme about [taking science to the Chatham Islands](#). [Listen to the full podcast episode here](#). Pictured is MacDiarmid researcher [Dr Anna Garden](#) speaking to visitors at the Chatham Islands Museum about the MacDiarmid Institute climate change mitigation science displayed at the Far From Frozen exhibit.

[Our Changing World – Plasma jet technology](#)

Auckland University of Technology chemistry lecturer and MacDiarmid Institute Associate Investigator, [Dr Taniela Lolohea](#), is focused on how plasma jet technology can be used to improve thin, high quality, specific purpose coatings. Listen to him on [RNZ's Our Changing World](#) talking about his research into low temperature plasma jet tech for surface coatings.



Principal Investigator and Co-Director Professor [Justin Hodgkiss](#) was interviewed for [this article on Newsroom addressing the ethical dilemma for electric vehicle buyers in New Zealand](#). “Cobalt is already the most expensive part of the battery. More than everything else put together, and the prices, availability and supply chains are wildly unpredictable... when you're manufacturing, hundreds of thousands of cars a year there's every incentive to get rid of cobalt.”.

Thank you for your continued interest and support in the MacDiarmid Institute and if you know anyone who is also interested in receiving our General Newsletter [please let us know](#).