



Te Mana Tangata Whakawhanake

**MacDiarmid Institute**

**Advanced Materials & Nanotechnology**

As winter sets in here in Aotearoa New Zealand, and much of the world opens up for travel after two years, many of our researchers are looking forward to going abroad to reconnect in person with research collaborators.

For now, we would like to take a moment to share with you our recent news and our recently published [2021 Annual Report](#).

### **Alumni Newsletter Turns One!**

It has been one year since the first issue of the MacDiarmid Institute Alumni Newsletter. Thank you for being part of our readership! On this first anniversary of the newsletter, we would love to hear any feedback you may have. If you could kindly spare a moment, to fill in this quick [anonymous survey to tell us about what you read in the newsletter and what is useful to you](#). Remember this is your newsletter and we want to make sure it's as relevant to you as possible.

Lastly, if you or anyone you know is also interested in receiving our General Newsletter [please let us know](#).

## News and Updates



We held successful Techweek events in May in Auckland and Christchurch ‘*Building Kaitiaki for Intergenerational Deeptech Impact*’. These were valuable networking opportunities for our scientist entrepreneurs, industry partners, investors, and others in our network. Speakers included Investigators, [Associate Professor Franck Natali](#) and [Dr Matthew Cowan](#), and alumni Dr Humphrey Feltham and Dr Maryam Shojaei, and others from the deeptech ecosystem.



[Deputy Director Māori Associate Professor Pauline Harris is part of the expert group advising the government on the principles, values and dates of the Matariki holiday.](#) In the lead up to Matariki, [we gathered stories of the work of the Institute relating to mana taiao](#) – stories which relate to the mana of the natural world.



[Dr Ankita Gangotra pours over innovative technologies and policy initiatives to reduce CO<sub>2</sub> emissions.](#)

Alumna Dr Ankita Gangotra is a postdoc at Georgetown University, USA undertaking interdisciplinary work across academia and policy to decarbonize the cement industry, particularly in the USA. [Dr Gangotra was interviewed by the online magazine 'Physics' by the American Physical Society \(APS\).](#)



[AMN10: The 10th International Conference on Advanced Materials and Nanotechnology 7-10 February 2023.](#)

On behalf of the Chair and Organising Committee we are happy to advise that AMN10 is now taking place in 2023 with an [awesome line-up of speakers](#). The conference is taking place in Rotorua, New Zealand and is now accepting Abstracts and Registrations. Abstract submission closes 26 August 2022.



[Physics Symposium in Honour of Joe Trodahl's 80th birthday \(PSJT\) rescheduled to 8–10 December 2022](#)

You are invited to join for a lively program of physics across a wide range of topics, presented in our poster and oral sessions. A joint event celebrating some of the most recent advances in physics and the life work of [Professor Joe Trodahl](#).



### [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](#).



### [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



### [Fabrum Welcomes Dr Ojas Mahapatra As CEO](#)

Christchurch-headquartered Fabrum, a world-leading engineering innovator, is proud to welcome MacDiarmid Institute alumnus Dr Ojas Mahapatra as CEO. Dr Ojas Mahapatra came to New Zealand from India on a fully funded MacDiarmid Institute doctoral scholarship and studied under [Principal Investigator Professor Simon Brown](#). He [was previously CEO of Photonic Innovations](#).



Budget 2022: Financial support for research eroding.

Co-Director Professor Nicola Gaston's commentary about the 2022 budget appeared in [The Spinoff](#) and the [Science Media Centre](#), and was also picked up in the [NZ Herald](#). Professor Gaston made the point that without substantial new money, the financial support for research is eroding, more so in the current environment of high inflation.



### [Carbon-capture technology not impossible, but just one of many pillars](#)

Principal Investigator Professor Shane Telfer from Massey University was interviewed on Lloyd Burr Live about technology being developed for carbon-capture to suck the CO<sub>2</sub> out of the atmosphere. Carbon capture is one part of our [Towards Zero Carbon - Catalytic Architectures](#) research programme. [Listen to the full interview here.](#)



### [RNZ's Sci Fi/Sci Fact - Supernovae](#)

A supernova is a powerful and luminous stellar explosion that occurs during the last evolutionary stages of a massive star, or when a white dwarf is triggered into runaway nuclear fusion. [Associate Professor Jan Eldridge from the University of Auckland explores the use of supernovae \(or exploding/dying stars\) in fiction.](#)



### [Battery research breakthrough powers success for international student](#)

Alumna Dr Shalini Divya with her MacDiarmid Institute affiliated spinout [Tasmanlon](#) is leading the drive to produce a long-lasting and sustainable battery which could transform renewable energy options. [The story of her journey and work was featured in Think New by New Zealand Education.](#)





[The government has released its first plan on how to get to zero carbon emissions by 2050.](#)

The Science Media Centre (SMC) asked experts to comment on the Emissions Reduction Plan released by the New Zealand government on 16 May. Our Deputy Director Commercialisation and Industry Engagement, [Associate Professor Geoff Willmott commented on the Research and Development \(R&D\) aspect of the plan.](#)

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



[Internship Business Analyst Life Sciences / Biotech at Venture Valuation AG](#)

The successful candidate will support Venture Valuation AG in the development and maintenance of our global business development database Biotechgate. This includes research and writing their monthly VC deal summary and support in the annual biotech trend analysis for different countries. Based in Switzerland and must have right to work in EU. **For more information and to apply [see here.](#)**



[Biology Technician - contract role at Engender](#)

Engender is looking for an experienced biology technician to join our cell-handling, analysis, and processing team for a 6-month contract. You will report to our Biology Team Lead and will be working with other experienced biologists, as well as with physical scientists and engineers to achieve Engender's ambitious goals and timelines. **For more information and to [apply see here.](#)**



[Avertana are recruiting a Scientist, Chemical process operator and Chemical or process engineer role.](#)

The applicant must have a Masters or above in inorganic chemistry and have specialised in titanium dioxide and/or nanomaterials/crystallisation and/or sulphuric acid neutralisation chemistry. Plus 3 – 5+ years of R&D / industrial / laboratory work experience. **For further details and how to apply contact:**

**[brandon@avertana.com](mailto:brandon@avertana.com)**



[RA opportunities at the Robinson Research Institute at Victoria University of Wellington](#)

The Robinson Institute runs major government research programmes on Green Metallurgy, Superconducting Aircraft, and Electromagnetic Space Thrusters. Several RA roles are available for those with a strong background in Materials science, Physics, or Engineering. These short-term roles are available for up to 6 months duration. Email **[Chris.bumby@vuw.ac.nz](mailto:Chris.bumby@vuw.ac.nz)** or **[Tahlia.crabtree@vuw.ac.nz](mailto:Tahlia.crabtree@vuw.ac.nz)** to find out more.



[Research Fellow Position at Monash on the “Circular Economy of Plastics”](#)

A 2-year Research Fellow position to work on an exciting interdisciplinary project which aims to produce circular polymer products from food waste streams is available. The project will be based within the faculty of Engineering at Monash University and is in collaboration with our partners at Deakin University and RMIT. Email **[leonie.vanthag@monash.edu](mailto:leonie.vanthag@monash.edu)** for more information.



[Senior Material Scientist / Materials Research Engineer at Humble Bee Bio – Flexibility of a Australia or Wellington location.](#)

Apply your scientific skill and commercial knowledge to developing new technology, and helping disrupt the global plastics industry. Candidate is required to have a PhD in biomaterial sciences, biofabrication techniques, chemistry, or similar training. Must have worked in a space developing novel biomaterials.

**[For information or to apply, visit Seek.](#)**



[Scientist at Tasmanion](#)

Tasmanion are seeking a scientist to carry out aluminium-ion battery research and development focused on improving the battery performance, automating battery assembly techniques, and creating a prototype. Candidate requires a PhD in Chemistry, qualified within the last 5 years; be experienced in electrochemistry and managing research projects; have relevant experience in battery research. **[Applications to be made on LinkedIn and close 5pm on 8 July.](#)**



[Postdoctoral Fellowship - Smart Biosensor – Scion](#)

Scion are seeking a postdoctoral fellow with multi-disciplinary skills to join Scion for a smart biosensor project. The two-year project is part of the Science for Technological Innovation (SfTI) National Science Challenge (NSC) Biosecurity Spearhead Project, with financial support from Predator Free 2050 Ltd. **For further details and to apply, please [see here](#). Applications close 3 July 2022.**



Catalyst: Seeding - Paengawhāwhā April 2022 open call

On behalf of MBIE, Royal Society Te Apārangi has opened the April 2022 Call for Catalyst: Seeding, which facilitates new small and medium pre-research strategic partnerships with international collaborators that cannot be supported through other means, and with a view to developing full collaborations that could be supported through Catalyst: Strategic over time. **[See here for detailed information and to apply by Thursday 21 July 2022, 5pm.](#)**



### Electron Microscopy access and training

There is an Exchange programme funding electron microscopy born from collaboration between AMMS, Microscopy Australia and NZ. Young researchers as well as technical staff may apply. The final 2022 round has a deadline of 22nd of November. Professor Richard Tilley, former MacDiarmid PI, is specifically open to applications from NZ who would like to take advantage of their facilities at UNSW, for both training and research. **Please contact him directly if interested.**

### New Zealand-German academic exchange programme

Education New Zealand supports early-career researchers from New Zealand to collaborate on research projects in Germany. Education NZ will support participating New Zealand institutions by funding travel and living expenses for research trips to Germany. **Applications close 30 June 2022, 11:59 pm NZT exclusively via the Education New Zealand online application portal.**

### Fulbright New Zealand Scholar Awards

New Zealand academics, artists or professionals are invited to apply for a Scholar Award to undertake research and/or lecture in the US. Awards valued at up to US\$37,500 are granted each year, towards three to five months of lecturing and/or research. **Applicants must complete the official online application and upload all required supporting documents by the deadline of 1 October 2022.**

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. So please stay in touch - 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.

