Annual Report

2025

Te Whai Ao
Dodd-Walls Centre
for Photonic and Quantum Technologies

Mai te Kore, ki te Pō, ki te Ao Mārama

From the *nothingness* to the *dark night*, to the *glimmer of light*, to the *bright light of day...*

Te Whai Ao — Dodd-Walls Centre *for Photonic and Quantum Technologies, a Centre of Research Excellence hosted by the University of Otago*

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Charlotte Walshe
Governance Board Chair

Chair's Report

We are starting into 2026 with the government's exciting investment through the NZIAT in a six-month discovery phase into the possibility of a national platform for quantum and quantum-adjacent technologies. This is a significant step into New Zealand's high-value future, and one that hasn't come about accidentally.

The Centre has strategically built on and leveraged the strong foundations we've laid down with our international research, industry, and government partners over the last few years, working to ensure these are activated and ready to deliver on a national quantum platform. In support of this work, Minister Reti has been actively involved in a number of our government and industry events bringing provocation and encouragement for New Zealand to reach further.

To this end, while we have seen Te Whai Ao — Dodd Walls CoRE continue to shine for its science excellence in 2025, it is the engagements with Industry and Education that have really stood out in the International Year of Quantum Science and Technology.

This year has been about helping New Zealanders connect with and understand the potential benefits of emerging quantum and photonic technologies, inspiring them to see themselves on the global stage, to build capability ready to fuel and take advantage of the second quantum revolution, and lead in some key areas.

We have hosted many international research groups and collaborators over the last 12 months but the one that particularly stands out is the visit by the UK's National Physics Laboratory (NPL). These researchers and communicators travelled the country over several weeks spending one-on-one time with industry leaders and economic development agencies. They shared with them how quantum technologies are being developed and deployed commercially in the UK, including the industry collaborations formed to accelerate commercialisation, and build the talent needed to grow. These discussions were practical and, in many cases, demonstrated that NZ companies' UK based customers are already engaging in this work ahead of them.

This industry engagement was followed up a few months later with the very well attended Quantum Meets workshop series, supported by Dr Cathy Foley and taken to regional as well as main centres. These workshops were a first step to bring together peer industry players with potentially common quantum technology needs and benefits, and covered sectors such as agritech, health, aerospace, and advanced manufacturing.

All these activities are critical to our strategy to realise economic benefit for Aotearoa and lay a path to future targeted industry and science collaborations and commercialisations.

In the area of core science, the most notable step in the last year has been seeing our strategy for Māori led research projects come to life, after a couple of years of gestation, with the launch of 2 key projects and more to come. These projects contribute to Aotearoa's journey with Indigenous science locally and globally, as well as providing rangatahi a path to engage with quantum and photonic concepts in a culturally meaningful way and help remove barriers for the next generation of Māori and Pasifika physicists.

Of course, none of this would be possible without our researchers, students, and international

collaborators, and the scientific excellence they strive for. In 2025 we celebrated new RSNZ Te Apārangi Fellows, numerous high value grants, and made further progress with the $12M Quantum Technologies Aotearoa Catalyst investment.

The investment we make in developing our researchers at all career stages is key to fuelling our future both in research and industry. We have seen this grow with the introduction of additional funding mechanisms to help support mid-career researchers and we have continued to promote and develop a strong pool of exceptional emerging researchers who have had great success in the year with MBIE Smart Idea grants and various prizes. We showcased and celebrated much of this work at the annual Symposium in Wellington.

Many of these emerging researchers have also been actively involved in the very successful International Year of Quantum Technology as well as a variety of other related outreach activities in the year. These have been very well received by communities through the country, providing a place for young students and their whānau to touch quantum and photonic technologies in real life. At a high level our ongoing outreach strategy, particularly where it touches communities broadly, is essential in helping to develop New Zealanders' practical familiarity with quantum and photonic technologies, demystifying, engaging, and in the process building social licence.

Our strategy to develop a deep succession pool of science leaders is progressing well with several up-and-coming leaders stepping into our Executive and the Deputy Director teams during the year. These leaders are developing strong cross institutional leadership experience providing future career pathways beyond the Dodd Walls CoRE into New Zealand's broader science system.

A critical enabler for both our scientific and leadership excellence is our Science Advisory Board. These celebrated international researchers who form our Advisory have continued to generously give us their time and wisdom both in the critique of our science to the highest levels, the testing and selection of our senior leadership. In addition, they have provided us with key international connections and benchmarks, helping assure us as a Board that we have the right oversight in place for scientific excellence.

As we set our sights on our goals for 2026 the Board recognises and thanks our stakeholders in government, industry, our community, and internationally. Your provocation and encouragement help drive us on our mission to create scientific, educational, and commercial strength for Aotearoa and our collective future.

We also thank our Centre Director, Frédérique Vanholsbeeck, and her Deputy Director team for their passion and tenacity. It's been a very successful year enabled by your leadership and we look forward to capitalising on this work in 2026.

Last but not least, we would like to thank our researchers, students, and institutions for your pursuit of excellence, and your energy and support on our mission. Your work is what enables us to build an educationally and economically strong Aotearoa for our mokopuna.

Charlotte Walshe
Chair, Governance Board,
Te Whai Ao — Dodd-Walls CoRE

Professor Frédérique Vanholsbeeck
Director

Director's Report

This year has been one of extraordinary momentum, visibility, and collective achievement for Te Whai Ao — Dodd-Walls Centre.

As Director, I have had the privilege of watching our community flourish across every dimension of our mission: from scientific excellence to international engagement, from industry partnerships to public outreach, from supporting emerging leaders to deepening our work with Māori researchers and communities. What stands out most is the power of our people: our students, our early-career researchers, our senior leaders, and our partners across Aotearoa and the world who together have shaped a year defined by impact and aspiration, continuing to position Te Whai Ao at the heart of Aotearoa's photonic and quantum future.

Our profile with Government has never been stronger. Throughout 2025, we engaged repeatedly with Minister Reti, who has shown a genuine interest in the transformative potential of photonic and quantum technologies. His visits to meet our researchers across the motu and conversations across the Quantum Meets workshops reinforced his recognition of our Centre's strengths and national importance. That growing relationship culminated in a defining moment for our sector: the announcement at the ANZCOP conference dinner of a $1.35 million exploratory and discovery fund to accelerate commercialisation opportunities in quantum and quantum adjacent technologies. This announcement reflects years of groundwork by our members and the industry team and signals a clear pathway toward Aotearoa's future participation in the New Zealand Institute of Advanced Technologies (NZIAT).

Our international engagement reached unprecedented heights. We welcomed numerous delegations: from the UK's National Physical Laboratory to teams from India, Utah and Colorado and global leaders, each of them recognising the calibre of our science and the strength of our national ecosystem. Our visit to IBM Quantum near New York, alongside David Lilly from MBIE Washington, underscored our position as a trusted partner in shaping global quantum research collaborations. These engagements have not only strengthened research ties but also highlighted the role Te Whai Ao plays in representing Aotearoa on the world stage.

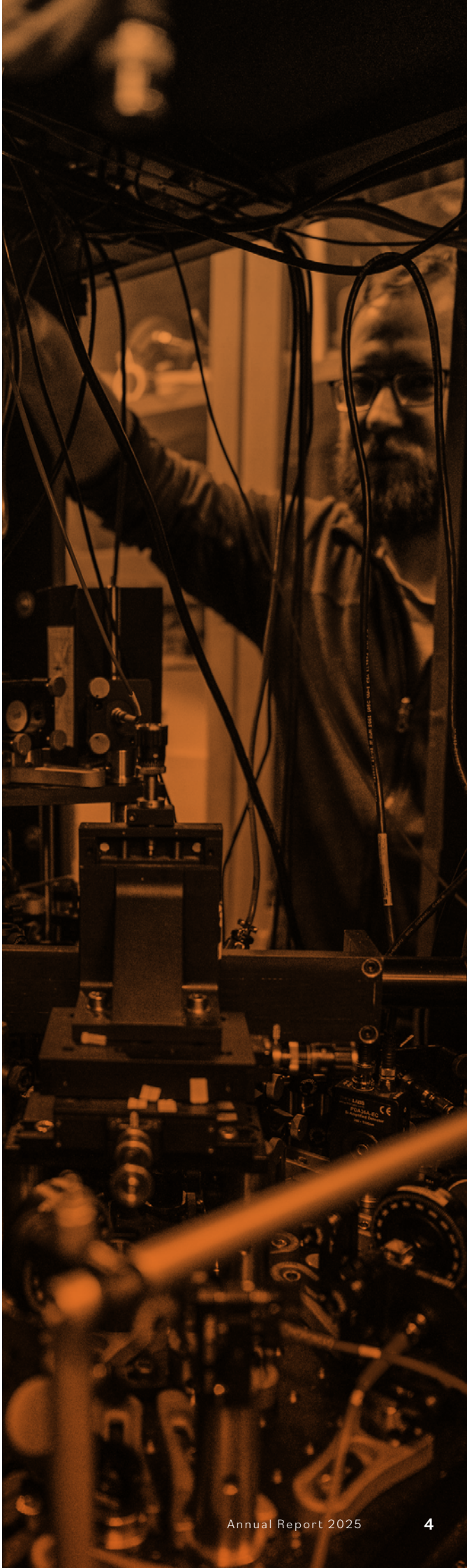
Industry engagement has been one of the defining successes of the year. Our Quantum Meets series, led by Dr Cathy Foley and supported by our outstanding industry team, drew in hundreds of participants across government, industry, and media, helping to clarify national priorities and feed directly into a strategy for photonics and quantum research and development in Aotearoa. It will be an invaluable resource for the coming exploratory phase. TechWeek events, the Aerospace Summit, and a series of targeted industry workshops further deepened these relationships, reflecting a growing appetite for photonics and quantum capabilities across sectors from healthcare to agriculture, space,

environment, and advanced manufacturing. The interest we saw this year shows just how far our Centre has come in demonstrating the economic potential of our science.

This has also been a landmark year for supporting emerging talent. I am immensely proud that we launched our Research Boost Fund to support early to mid-career researchers. The first round was warmly received with 3 successful applications, and we have more rounds planned for next year. In addition, we completed the selection of our next Agnes Blackie Fellow, awarding it to Aditi Kumar, an exceptional emerging researcher whose work embodies the promise of the next generation. Supporting Aditi and her cohort of early-career researchers is one of the most rewarding parts of my role, and the momentum they are generating, through Marsden successes, MBIE Smart Ideas, prizes, fellowships, and international collaborations, gives me enormous confidence in our future.

We also made significant strides in our Māori-led and Indigenous science kaupapa. Two Māori-partnered research projects, one in photonics led by Nate Davis and one in quantum science led by Blair Blackie, are now being launched. Our work on Indigenous photonics and quantum science continued to grow, supported by the UNESCO Quantum crossroad event, which brought Quantum technologies and Art, especially indigenous art, together, and by ongoing engagement with Māori industry and community partners. This is establishing a foundation for long-term, culturally grounded innovation in areas where Aotearoa can lead globally. Our deputy director Māori, Katharina Ruckstuhl, is already planning more engagements for next year. This work is laying the groundwork for a uniquely Aotearoa contribution to global quantum and photonic innovation.

Our public engagement has gone from strength to strength. We launched a refreshed website, rolled out a new external newsletter reaching more than 400 stakeholders, and saw continuous growth in media visibility. Our outreach team delivered innovative programmes, put together incredible events to celebrate the year of quantum science and technologies, especially the very successful Quantum Crossroad, one of the seven global events. Our community engagement team aims to reach the most underserved communities. They have succeeded in bringing activities showcasing our science to communities across the motu, especially very remote areas, inspiring the next generation and ensuring that the benefits of our work are shared widely.



At the heart of our mission is scientific excellence, and this year delivered it in abundance. We celebrated new RSNZ Te Apārangi Fellows, multiple Marsden grants, MBIE Smart Ideas, and the ongoing success of the $12M QTA Catalyst investment. Our researchers continue to push the frontiers of sensing, imaging, frequency conversion, quantum memories, biomedical applications, and more — often in collaboration with the world's leading institutions. These achievements reflect not only individual brilliance but also the deep culture of collegiality, teamwork, and cross-institutional cooperation that defines Te Whai Ao.

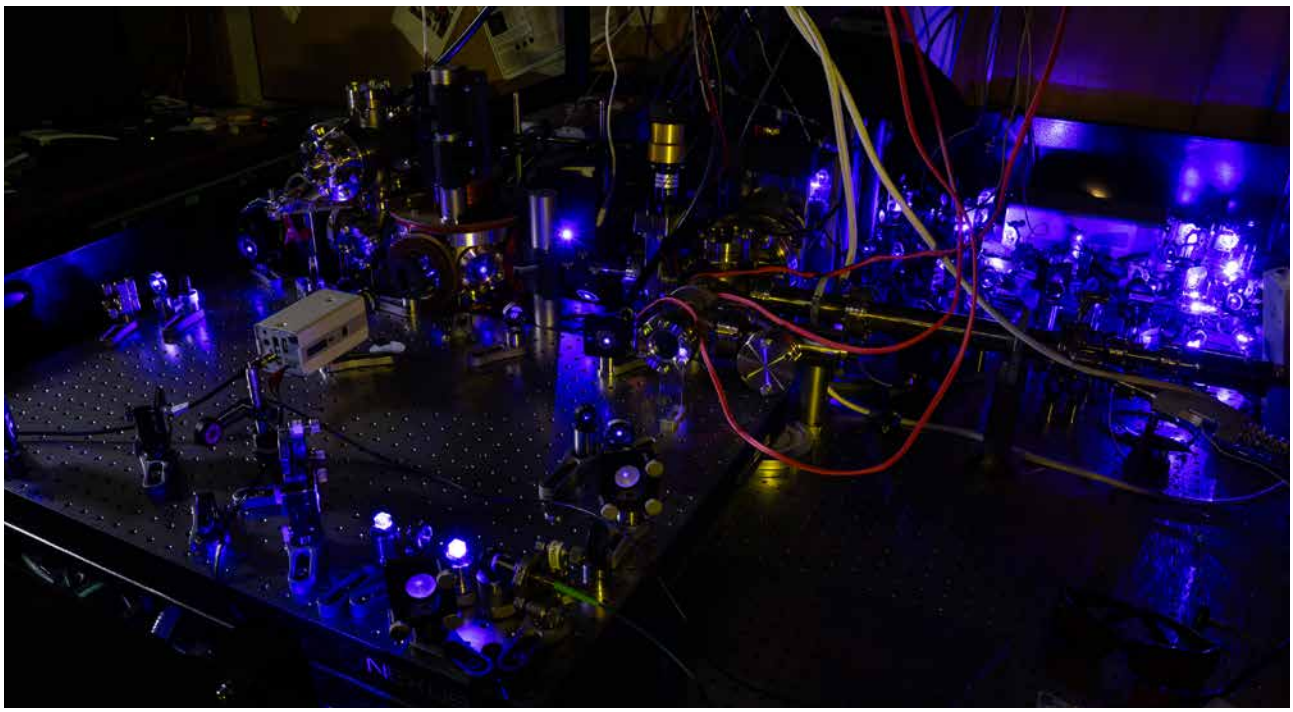
Finally, I want to acknowledge the fabulous work of our student chapters. We now have three chapters in Auckland, Wellington, and Dunedin. I am confident that next year, Christchurch will be present. They all held successful events this year and supported our community engagement work. The newly funded chapter from Wellington supported the symposium, where the vibe was very welcoming for our students, especially the new recruits. A special thank you to the Auckland chapter, which organised a very successful KOALA summer school that brought together more than 70 students in optics and photonics from Australia and New Zealand. They truly are our leaders of tomorrow.

As I look back on the year, what stands out most is the sense of shared purpose across our Centre. Our members, leadership team, partners, and stakeholders have all contributed to a vibrant, collaborative, and future-focused ecosystem. We are not just navigating a rapidly evolving science landscape; we are helping shape it. Whether engaging with Ministers, working with global partners, supporting emerging researchers, or inspiring the public, Te Whai Ao continues to define what photonic and quantum research can achieve for Aotearoa.

I want to thank everyone who made Te Whai Ao successful and a fun environment to lead, from our students and members to the leadership team, our incredible admin team, and our very wise and supportive boards. Thank you.

I now invite you to explore the pages that follow and celebrate the remarkable achievements of our Centre this year. Our momentum is strong, our vision is clear, and together we are shaping the future of photonic and quantum technologies for Aotearoa

Professor Frédérique Vanholsbeeck
Director
Te Whai Ao — Dodd-Walls Centre



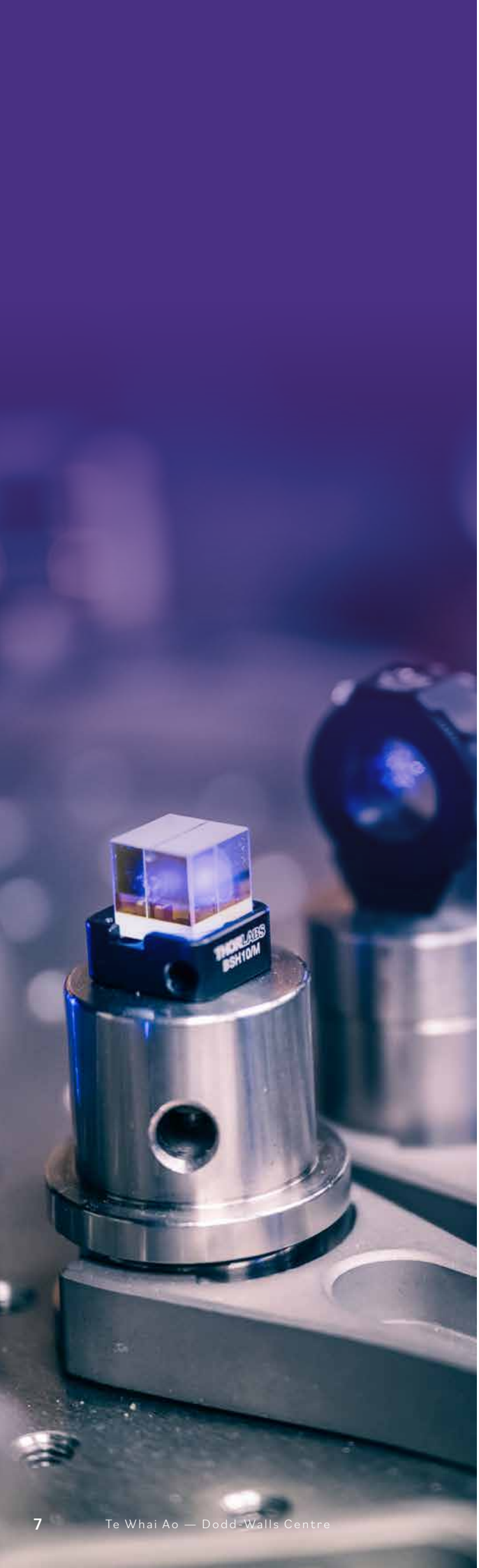
KOALA 2025

the 16th Conference on Optics, Atoms, and Laser Applications

Tāmaki Makaurau Auckland | 1–5 December

Established in 2008, the Conference on Optics, Atoms, and Laser Applications (KOALA) is a non-profit, student-led conference dedicated to providing early career researchers (postgraduate and PhD students) in optics, photonics, quantum science, and laser applications with a platform to present their research and connect with peers and industry leaders. With around 100 attendees in recent years, KOALA is the leading student conference in Australia and Aotearoa New Zealand. Returning from Australia to Auckland for the first time in a decade, KOALA 2025 coincides with the UNESCO International Year of Quantum Science and Technology—making this year's event especially significant.

This year, KOALA welcomed 78 attendees from 16 universities across Australia (9), New Zealand (4), China, Canada, and France. The scientific programme featured 41 oral presentations and 37 posters, alongside five plenary talks delivered by distinguished speakers: Cather Simpson (University of Auckland), Thomas Busch (Okinawa Institute of Science and Technology Graduate University), Haoran Ren (Monash University), Anastasiia Zalogina (University of Technology Sydney), and John Roche (Department of the Prime Minister and Cabinet, New Zealand). For the first time in recent years, the conference introduced two



professional development workshops: “Academic Writing: Publishing, Papers and Grants,” presented by Stéphane Coen, and “Science Communication in a Corporate Environment,” facilitated by Lesley Stone from the Science Communicators Association of New Zealand (SCANZ).

The programme also included a pōwhiri and two panel discussions. The pōwhiri formally welcomed attendees onto the campus marae, and sharing in this cultural experience was a highlight for many participants—particularly those visiting from outside Aotearoa New Zealand—setting a meaningful and respectful tone for the week ahead. The Inclusion, Diversity, Equity, and Access (IDEA) panel brought together Frédérique Vanholsbeeck (Te Whai Ao Dodd — Walls Centre), Ben Pollard (University of Auckland), and Andy Wang (Te Whai Ao Dodd — Walls Centre) to explore equity in Aotearoa New Zealand, conference culture, and individual responsibility, with strong engagement from attendees. A midweek Careers panel featured Lewis Hill (Max Planck Institute for the Science of Light), Simon Ashforth (Engender Technologies), Andrew Hilliard (Fisher & Paykel Healthcare), and Hannah Sheridan (Luminona Diagnostics), offering diverse perspectives on career pathways across academia and industry. An industry exhibition held afterwards further strengthened connections between students and sponsoring organisations. The conference also featured a social programme, including a quiz night and a visit to a Tāmaki Makaurau landmark, providing valuable opportunities for attendees to network and build connections beyond the technical sessions.

Overall, the attendees, speakers, sponsors came together for a highly successful week of scientific exchange, professional development, and community building.

The dedicated organising committee, whose efforts made KOALA 2025 possible, included Dodd-Walls students Carlie Watt and Matthew Macnaughtan (Co-chairs), Caitlin Smith, Darven Murali Tharan, Hazel Hogan-Murphy, Jeffery Low, Maisie Russell, Mitchell Chalmers, Sanutep Chan, Simon Barter, Thomas Clarkson, and Tillmann Spellauge. The organising committee extends their sincere gratitude to Te Whai Ao Dodd — Walls Centre for their generous support, without whom this event would not have been possible.

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Who We Are

Te Whai Ao — Dodd-Walls Centre has been built upon Aotearoa New Zealand's outstanding tradition of atomic and optical physics.

Our History

The Centre, named for Jack Dodd and Dan Walls, was established as a Centre of Research Excellence in 2015 and combines research strengths in quantum optics (a field Walls helped create), photonics, and precision atomic physics. The overarching research areas are the control and manipulation of light for precision measurement and the transfer of information, and the use of light for the manipulation of quantum states of matter.

The photon is the discrete packet of energy which is the quantum particle of light. The manipulation of light when these quantum characteristics are important is quantum optics. Photons – quanta of light – are created and interact through quantum changes in matter and hence precision quantum physics at the smallest scale – atomic physics – is intimately tied with quantum optics and photonics. This connection is the birthplace of laser physics, precision spectroscopy, and measurement.

This is the field that has given us atomic clocks which are essential for our global positioning system and timing controls of our electricity networks and financial trading floors, through to broadband internet and inertial guidance systems in intercontinental airliners. Photonics already underpins a rapidly growing $1.5bn of output in the New Zealand economy, with the next wave of quantum technology, driven by multibillion-dollar investments through the public and private sectors in the United States, Europe, and China, poised to spread across the globe. Te Whai Ao — Dodd-Walls Centre's research and skilled graduates underpin the extant photonics industry and activity in Aotearoa New Zealand and pave the way for the coming second quantum revolution.

Te Whai Ao; the first light

The Dodd-Walls Centre for Photonic and Quantum Technologies was officially blessed with a new te reo Māori name at the Ōtākou Marae on 3rd of March, 2023.

Te Whai Ao, representing the first rays of light that break the darkness of night, was originally suggested by the Director of the Office of Māori Development at the University of Otago, Tuari Potiki.

The full name, Te Whai Ao — Dodd-Walls Centre for Photonic and Quantum Technologies, encompasses both those who have gone before – highlighted by the names of pioneering New Zealand physicists Jack Dodd and Dan Walls – and our future, through Te Whai Ao, representing the knowledge and advances that will come through our research, and the training and education of the next generation of rangatahi.

The new name has been implemented as a commitment to growing science and research capabilities with Māori.

Our Future

This report is a compilation of research activities which took place during this reporting year.

Our beacons form the foundation of our science plan. This approach enhances the connectivity across the Centre's membership and enables us to establish new directions that will allow us to make the most impact globally while providing our students with a scientific grounding that is truly collaborative. More information on our Beacons can be found in this report under the Beacon section.

Our world-class research allows students and early-career researchers to work at the very cutting edge in Aotearoa New Zealand, developing skills and knowledge of value to a vast range of employers and industries. Our most important product, our students and early-career researchers, are equipped to lead both Aotearoa New Zealand's growing high-tech economy and the more traditional agrarian industries. Furthermore, our outstanding educational outreach programmes, delivered in partnership with museums, schools, and key stakeholders, ensure the benefits of a high-quality STEM education are open to all.

Our Mission

- To advance globally distinctive research into photonic and quantum technologies to future-proof critical capabilities and infrastructure for Aotearoa's economy and well-being.
- To solidify our position as a research centre that is recognised as one of the world's leading organisations in the field of photonic and quantum technologies
- To support the rapidly growing high-tech industry sector, thus ensuring New Zealand's economic diversification and providing career pathways for the outstanding people that we train
- To build upon and enhance the acknowledged strength of New Zealand in the areas of non-linear and quantum optics, precision atomic physics, and quantum fluids
- To provide support for New Zealand's climate action through improved environmental measurement and monitoring
- To train and develop skilled researchers and students to the highest international standards
- To ensure that the benefits of advances in science and technology, especially in photonics and quantum technologies, are available to all
- To capitalise upon the international investment in quantum and optical sciences for the benefit of New Zealand

Our Partners

We collaborate with tertiary and non-tertiary New Zealand, and international partners.

Tertiary Partners

University of Otago
ŌTĀKOU WHAKAIHU WAKA

Waipapa Taumata Rau University of Auckland

AUT
AUCKLAND UNIVERSITY OF TECHNOLOGY
NEW ZEALAND

VICTORIA UNIVERSITY OF WELLINGTON
TE HERENGA WAKA

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

UC
UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Non-Tertiary Partners

D&K Technology
Projects
Systems
Technology

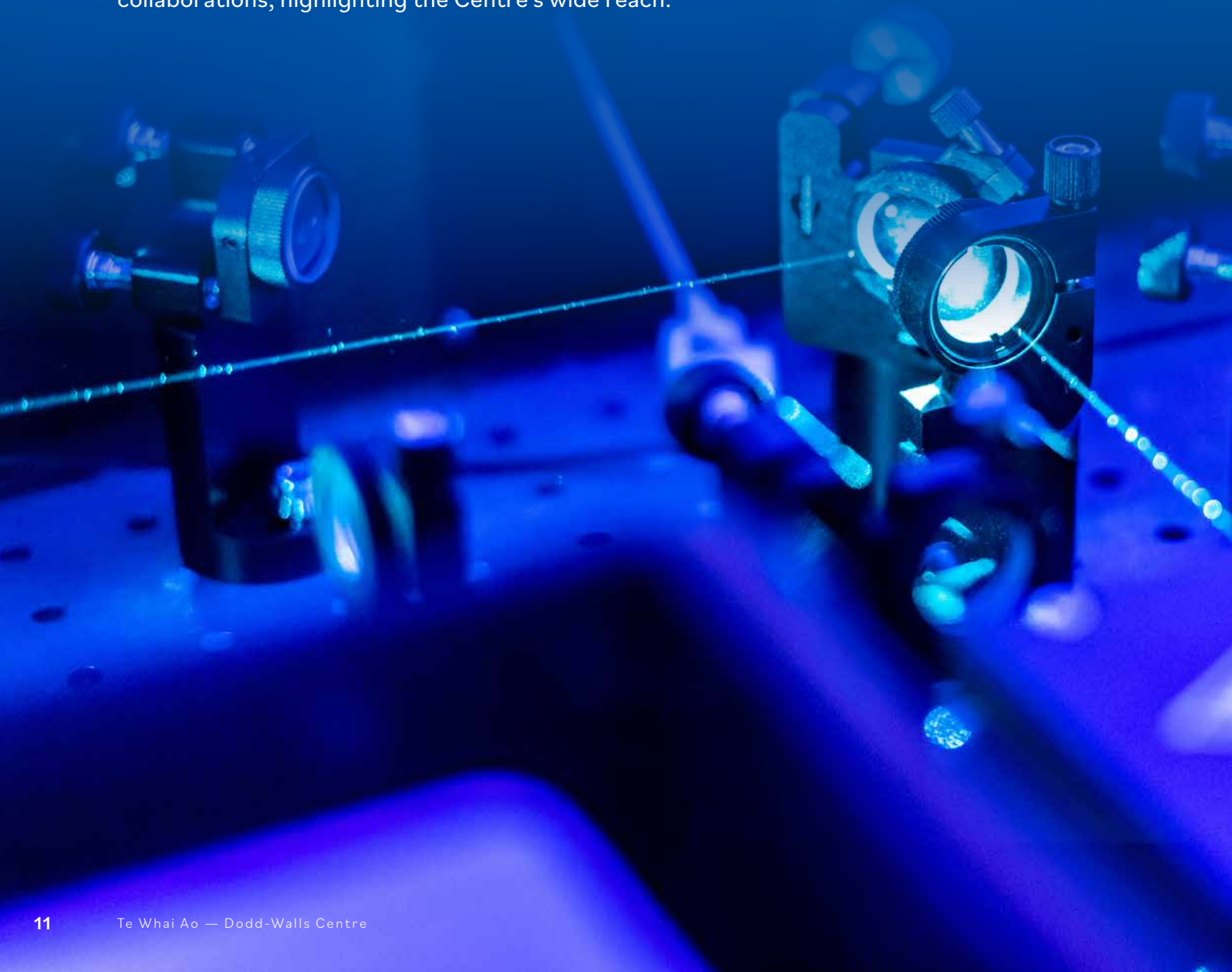
Measurement Standards Laboratory
of New Zealand

SOUTHERN PHOTONICS

MOTAT

Research programme: our beacons

The refreshed programme, known as the Beacons, is made up of three strands of photonic and quantum technologies research. These are called the One, the Many, and the All, simultaneously acknowledging the degrees of freedom particles enjoy across a range of systems from the simple to the very complex. Almost all the projects involve international collaborations, highlighting the Centre's wide reach.



The One Beacon

Quantum technologies and photonic sensing: Systems with a small number of degrees of freedom.

This programme has applications in ring laser gyroscopes (the small versions of which are used in drones and aeroplanes) through to fibre sensors and free space communications. It features two flagship projects.

Optical Microresonators

In this project, a femtosecond laser at the University of Otago will use ultra-short pulses to make new kinds of optical micro resonators for medical imaging and astronomy. These are highly precise measurement tools. The resonators, or microcombs as they're known, can generate microwave signals for remote sensing using LIDAR technology. Among other outcomes, the project will seek to optimise microcomb performance, test them at different frequencies in the UV spectrum and use them to construct a new type of radiometer for measuring the ozone layer. The project will benefit from collaborations with the University of Adelaide in Australia and the Australian Centre of Research Excellence in Optical Microcombs.

Precursors of New Quantum Phases of Matter in Systems of Few Dysprosium Atoms

This project draws on DWC researchers' ability to control and manipulate single atoms. It explores the properties of dysprosium, the most magnetic atom in the periodic table, using optical tweezer techniques to merge individually prepared atoms. This is expected to deliver insights into the quantum pairing mechanisms arising and the behaviour of the building blocks of matter, known as fermions.

Projects

- O3 - Photonic Emulation of Quantum Spin Systems
- O4 - Exploring Polariton Dynamics: A Multidisciplinary Approach to Photonics and Quantum Optics
- O5 - Quantum Metrology
- O6 - Rare-earth ions in low symmetry sites for quantum information
- O7 - Passive Resonant Ring Laser Gyros, Active Ring Laser Gyros and Geophysical and Geodetic Sensing
- O8 - Adaptive Optics for Taiaho Observatory
- O9 - Optical Fiber Sensors for Extreme Environments of Temperature and Radiation

The Many Beacon

Emergence and emulation in light and matter: Many body quantum and classical systems.

This programme focuses on systems where many simple components interact causing complex collective behaviours. It is right at the heart of the development of new laser sources and relies upon fundamental concepts such as self-organisation, synchronization, solitons and phase transitions. It features two flagship projects.

Ultrashort Raman Solitons in Externally Driven Resonators

The Many Beacon's first flagship project will explore and harness a recently discovered ultrashort pulse generation scheme. It's an exciting development amid an increasing drive for precision spectroscopy and laser micromachining. DWC researchers have produced "Raman solitons" with durations well below 100 femtoseconds. These are the shortest-ever pulses generated in resonators (active or passive) made from a single commercially available optical fibre and could potentially be transferred into a chip-scale format.

Dynamics of Interfacing Light with Quantum Matter

Developing a fundamental understanding of light scattering from quantum matter is the subject of the second flagship project. It intends to improve our understanding of the physical world, providing a new window into the physics of phase transitions, such as when a liquid becomes a gas. This project uses University of Otago's ultracold atom machine to cool Bose-Enstein Condensates which are predicted to quantum mechanically enhance the rate at which light is dispersed.

Projects

- M3 - Novel Coherent Ising Machine (CIM)
- M4 - Direct Emission Yellow Fibre Lasers
- M5 - Quantum Fluids with Finite Range Interactions
- M6 - Quantum Motion in Two Dimensions

The All Beacon

Optical imaging and spectroscopic sensing: Studying the properties of complex systems such as materials, our environment, people, biological systems etc.

Research within this Beacon focuses on the development and application of optical techniques to study materials, people, the environment and even cultural artefacts. It seeks to deliver breakthrough applications in fields such as medical diagnostics and environmental monitoring. It features three flagship projects.

Multi-Modal Sample Analysis

The first flagship project will assist our knowledge of human and animal bodies, including the breakdown of cartilage, bones and the brain. It will use a handheld imaging tool to allow optical biopsies to be done on-the-fly at the point of care. Collaborators include the University of Adelaide and the Flinders University, both in Australia, as well as the Centre for Brain Research at Auckland University.

Novel Nanoparticles for Optical Sensing and Surface Enhanced Raman Scattering for Detecting Disease using Extracellular Vesicles

The detection of diseases using optical sensing is the focus of the second flagship project. It seeks to develop novel luminescent nanoparticle systems which are optimised for optical imaging, temperature measurement and photoacoustic imaging. It will also use femtosecond machining to isolate extracellular vesicles (tiny liquid filled membrane sacs) and apply light to identify diseased cells. Clinicians are seeking advances in diagnostics and the use of biomarkers to improve treatment of breast cancer and pre-eclampsia in the placenta.

Non-destructive and Non-contacting Testing of Materials under Extreme Conditions

The third project expects to provide new insights into objects by testing them without touching them or destroying them, especially under extreme conditions such as those in space. DWC researchers have created a world-class facility to inject light and detect elastic waves in objects. Practical and industrial applications have so far included the measuring of ripeness in fruit and the state of timber, ice and rock. Now, the new laser ultrasound capability at controlled temperatures and pressures will provide valuable insights in space exploration and the development of green hydrogen production.

Projects

- A4 - Photoactive Molecules for Spatial and Temporal Release of the Biological Signalling Molecule Nitroxyl
- A5 - Time-Resolved Spectroscopy with Integrating Spheres
- A6 - Improving Food Production Systems and Sustainability using Advanced Photonics
- A7 - Photonics for Cultures

Research Excellence

Delivering a game-changer for prostate cancer detection and treatment

NZ researchers are using new technology to improve prostate cancer detection, diagnosis and treatment, improving outcomes for thousands of men.

Worldwide, prostate cancer incidence and mortality rates are rising. New Zealand has one of the worst rates of prostate cancer in the developed world, with 75.8 cases per 100,000 males. Māori men have a lower overall life expectancy and poorer health outcomes across all conditions, and prostate cancer is no exception.

Dr Claude Aguergaray, Dodd-Walls Centre Principal Investigator and his team are leading the development of new real-time prostate cancer detection technology enabling in vivo, real-time, prostate cancer diagnosis and improved surgery outcomes.

"This new technology will transform prostate cancer detection and treatment with less invasive, more accurate and more effective procedures," says Dr Aguergaray. "There's a real need for a new approach to this deadly disease. Our research will improve health outcomes by eliminating barriers to diagnosis and providing more compelling and effective paths to successful treatment."

According to Dr Cynthia O'Sullivan, Advanced Training Registrar in Urology at Wellington Public Hospital, Māori men are about 20% less likely to be diagnosed with prostate cancer than non-Māori men but are 50% more likely to die from the disease once diagnosed.

Māori men are less likely to see their GP and when they do, are less likely to see the GP that they wanted or to be screened for prostate cancer, says Dr O'Sullivan. She says these barriers may explain why Māori men are more likely to present with distant disease or spread of disease at the time prostate cancer is diagnosed.

Current care invasive, ineffective and time consuming

The current standard of care to diagnose prostate cancer is invasive and ineffective, which can lead to men avoiding diagnosis due to stigma around the technique. It's also known to miss early-stage signs of prostate cancer.

Improved detection

Dr Aguergaray's team is developing a device that can instantaneously detect whether cell tissue is cancerous. The team uses a purpose-built, non-invasive laser probe to retrieve information about the make-up of live tissue.

Improved diagnosis

"Traditionally, patients who have suspected prostate cancer (patients with elevated PSA level or other symptoms) have to undergo up to three surgical biopsy procedures to get a diagnosis. On average, 12 biopsy cores are collected each time and are sent to a pathology lab. Results take on average 3 weeks," says Dr Aguergaray.

"Our diagnostic probe does not require samples to be collected; it is proving to be very accurate and gives an instant picture of whether the area tested contains any cancerous tissue. This could be a game-changer for prostate cancer detection and treatment."

Improved surgical outcomes

The new device will also have a strong impact on prostate removal surgeries.

"Currently, about 30 per cent of surgeries on prostate cancer patients leave some cancer behind. These men are at risk of developing aggressive cancers and require further adjuvant treatments (radio or chemotherapy)," says Dr Aguergaray. "Our instrument can guide clinicians during resection surgeries to ensure they remove all the cancer, dramatically improving patient outcomes."

Dr Aguergaray and his team are conducting further clinical trials at the Manukau SuperClinic in Auckland to test their instrument directly on patients, including Māori men. Around 100 men will be involved. He says the road to full commercialisation is very hard to predict.

"It will take several years, say five to ten. We will also use our system in other clinical trials in the United States in the coming years as we work towards securing the relevant regulatory approvals there."

Support for commercialisation

Dr Aguergaray says being part of Te Whai Ao — Dodd-Walls has given him access to a broad range of expertise and support which he wouldn't have otherwise enjoyed. He's found it useful to share his experience of commercialisation with others at the same stage of company and product development. While there has been R&D funding for his project for a few years now, the Centre has recently provided him with a small grant through the Prototyping and Commercialisation Fund to assist with the myriad of tasks involved in promoting his start-up and seeking investors for it.

Notable Research Funding Awarded

Professor Harald Schwefel, Dr. Mallika Suresh and Annika Seppälä

MBIE Endeavour Program | $10,500,000 (excl GST)

Building critical capability for space-based climate monitoring with next generation photonics

Professor Keith Gordon

AI in Council RSNZ Marsden Led by Dr. PM Novis from Bioeconomy Science Institute | $3,000,000

Tales of time and scale: Looking back in time through Aotearoa's rock art

Dr. Stuart Murdoch

Marsden Fund | $941,000

Kerr optical frequency combs in tapered fiber resonators

Professor Joachim Brand

Marsden Fund | $941,000

Unveiling hidden order in ultracold matter: The case of odd-frequency superfluidity

Dr. Talia Xu

Marsden Fund | $360,000

Light Signals: A New Communication System for Monitoring New Zealand's Remote Environments and Enhancing Safety.

Associate Professor Nick Rattenbury

AI in Council RSNZ Marsden Led by Professor R Meyer from University of Auckland | $3,000,000

Interstellar Asteroids, Black Holes and the Big Bang

Quantum Weaving

Aitia te wahine i roto i te pa harakeke.

Marry the woman found in the flax plantation.

This whakataukī (proverb) indicates the central importance of weaving and related crafts in Māori society

This year, Te Ropū Whai Ao has instigated the very first Māori-led or partnered Te Whai Ao research projects. Following a rigorous process led by the Deputy Director Māori, Katharina Ruckstuhl, two applications were successful: that of Dr Nate Davis for his project: Harnessing Te Rā: Photon Splitting Solar Cells; and another by Professor Blair Blakie in partnership with Professor Russell Bisset (Ngāi Tahu): Quantum Weaving: Connecting Quantum Fluids with Mātauranga Māori (traditional knowledge). In this article, we look more closely at the second project, an exciting field of study that not only links cultures, but fields of creative and academic endeavour.

Professor Blakie's project integrates mātauranga Māori, connecting theoretical quantum physics to traditional Māori weaving. It builds on a decade of ultracold atom manipulation, especially those atoms with magnetic properties, such as erbium and dysprosium. Previous collaborative research has identified that quantum fluids of atoms with magnetic properties self-organise into stripe-like patterns. The scientific goal of the project is to find the

conditions where the system will self-organise into a braided or woven pattern. Project objectives include understanding the conditions to stabilise these woven quantum states, their mechanical and vibrational properties, and their formation dynamics.

But there's another goal, and that's to enrich our quantum physics research and strengthen reciprocal knowledge exchange, generating new scientific insights informed by Māori philosophies.

The team will spend time learning from Ngāi Tahu weavers. Through visits and workshops, they will explore the practice of weaving, their pattern meanings, and narratives.

Associate Professor Ruckstuhl says that quantum physics and Māori weaving are not usually paired.

> "However, in this project we're trying to understand how two quite different approaches to the material world might create knowledge 'sparks'."

She says creative insight can often be found where people explore the unfamiliar and then apply it back to their own worlds. She is hoping that the two-way experience might lead to all participants coming away with interesting ideas.

The project also aims to reconnect a distinguished Māori physicist based overseas with his South Island iwi. Professor Russell Bisset (Ngāi Tahu) now lives in Innsbruck and is an Assistant Professor at the city's university. This project will help raise his profile with local tauira (students) who can see for themselves what's possible for a Māori quantum physicist.

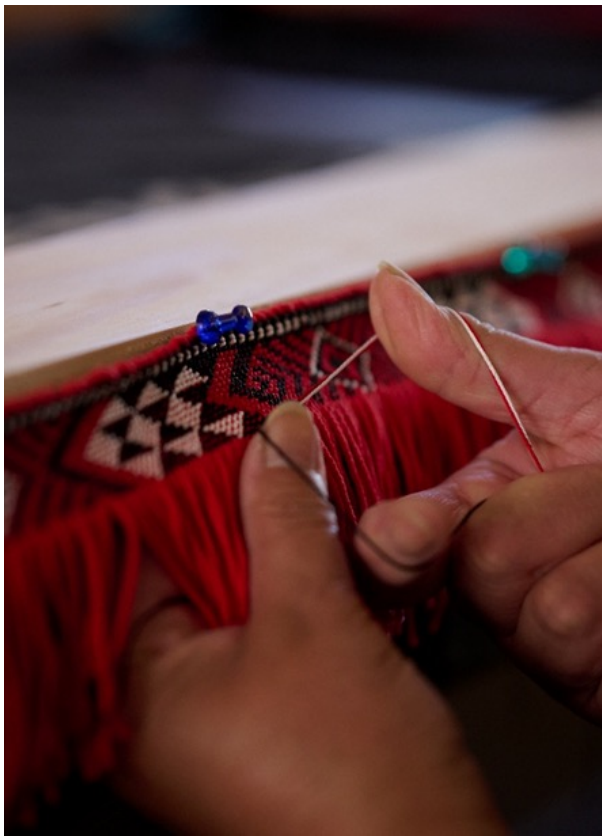
Professor Blakie says the work really will be at the intersection of knowledge, culture and science and he's excited for multiple reasons.

> "Russell has been away from New Zealand since 2012. He'll be coming back twice during this project. By providing opportunity for a leading Ngāi Tahu scientist to explore a distinctly Māori practice, we're both promoting a two-way knowledge exchange and empowering a strong role model for future tauira.
>
> "From a scientific perspective, to control a self-organising structure in this way would be novel in the field of many-body physics, leading to deep insights into a new class of materials. Dynamical processes for materials are not well understood in physics. We can learn how quantum fluids self-organise, determining general principles which may assist in other fields"

The study of self-organisation in magnetic quantum fluids is a relatively recent field in physics, inspired by the invention of stable ferrofluids in the early 1960s. Magnetic quantum fluids have a unique combination of superfluidity (the ability to flow without resistance) and the ability to form patterns spontaneously. While classical ferrofluids have found applications in seals, controlled shock absorbers, various sensors, and acoustic systems, future applications for magnetic quantum fluids are still in the minds of the researchers.

Practical uses for the theory aside, Professor Blakie has been exploring the "magical" and "spooky" effects of quantum mechanics for decades. He says atoms do strange things when they're made very cold and very dilute. So his experience listening to sometimes "surreal" myths and legends while falling asleep on an overnight trip to Ōtākou marae resonated powerfully.

> "I got the feeling from being there that Māori culture is much more accepting of quantum effects than many others," he says.



Computation using the physics of light

Liam Quinn might look like your everyday Postdoctoral Fellow, but he has an interest in a deceptively simple model that has the power to reshape computing.

He's a member of the Many Beacon team and has garnered the respect and support of numerous colleagues since he joined the Centre in 2020 as a student.

In part, that's because he's prepared to work on an old well-studied model to create modern computational platforms. The Ising problem (or Ising Model) is a mathematical model used to study how individual pieces of a system influence each other. The problem it solves is basically: Given many interacting yes/no choices, what combination gives the best overall outcome?

The Ising machine is sometimes referred to as a 'toy model', as it allows us to simplify complex systems into a form that is much easier to analyse. It helps scientists understand a wide range of phenomena: from how materials become magnetic when their atomic spins align; to how diseases spread and even how opinions form within communities. To explain, Liam points to Lord Kelvin's 19th-century tide calculator: a simple network of connected cogs, capable of predicting complex ocean tides.

> "Optical pulses of light can be made to operate the same as those cogs by recirculating them in a closed loop. With engineered interactions between these light pulses, the system naturally settles into a preferred configuration or optimal solution. In this way, we let physics do the work for us."

For his Honours project, Liam worked with DWC Principal Investigator Dr Claude Aguergaray on Claude's prostate research and found he enjoyed the fundamental science of light and the application to interesting problems.

Following his Honours, he began his own research on protected symmetry breaking in Kerr resonators for random number generation.

His work resulted in two publications in 2023, one on symmetry breaking (co-authored with Professor Stéphane Coen, together with Professor Miro Erkintalo, Associate Professor Stuart Murdoch and others) and the other on random number generation with many of the same colleagues. Liam says his supervisors have been incredibly supportive.

> "So much so that I literally chose the supervisors, rather than the project,".

And he has immense respect for Senior Research fellow, Ray Xu, who runs the laboratory for his work.

> "Ray has been my biggest mentor outside of my supervisors. Without him, I would have taken an extra ten years to achieve what I have. Every lab needs a Ray."

When COVID hit in the second year of Liam's PhD, he found himself working at home without a laboratory, and, like many others, he "pivoted" his focus, returning to his love of photons. He ran simulations at home to show they should be able to turn their optical random number generator into an Ising machine, a tool with the capability of a hybrid computer.

> "By creating pulses of light at high or low intensity, you can do some basic computing. You start with unbiased optical spins, but you can force them to "talk" to one another. The simulations looked good. Post COVID, I built a proof-of-concept experiment to make every pulse "talk" to its neighbour in both directions to see if this determined the best solution."

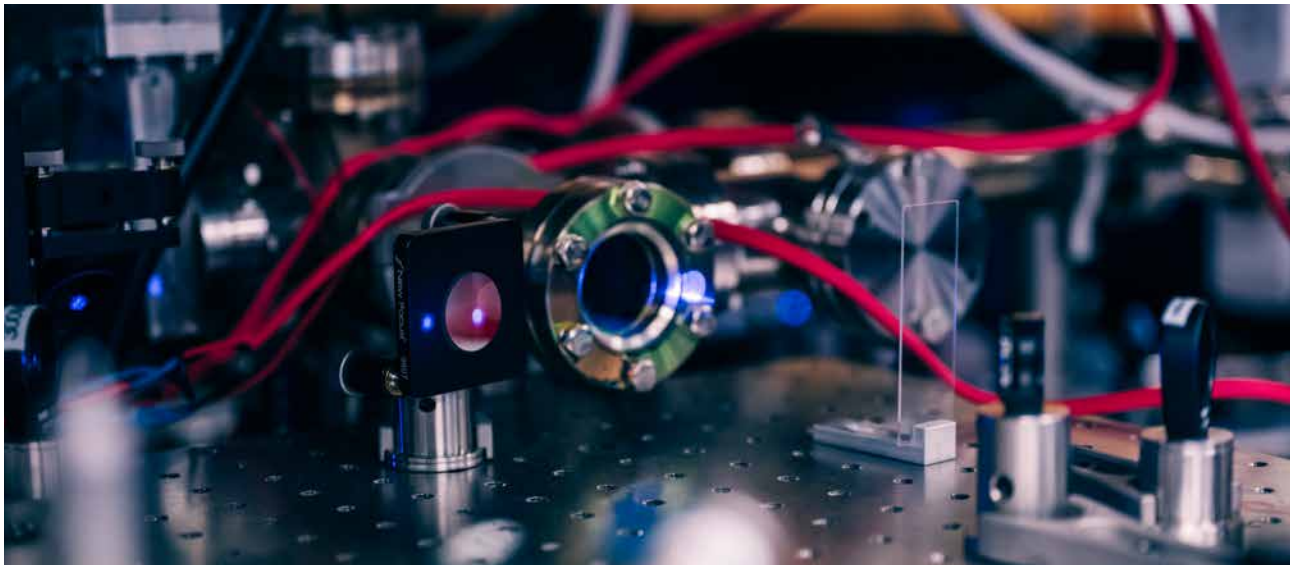
It worked.

> "Ising machines already exist, and ours is exceptionally stable. Because of its special symmetry-breaking properties, we think it has an advantage. It can also operate at room temperature, continuously for over an hour. "

The machine is very energy-efficient because it uses the natural, continuous dynamics of optical pulses to explore an almost infinite number of possible solutions. It's also readily scalable. Such "probabilistic computing" is more powerful than classical computing.

> "We've gone from one pulse to 1000 pulses in a few short years. It will have its own niche as a near-term solution. Indeed, it may be some time before powerful fault-tolerant quantum computers become widely available."

Liam has another paper in hand, currently in pre-print, this one on the Ising machine.



Prizes and Peer Recognition

Each year, our members receive awards, honours, and peer recognition for their contributions. In 2025, this pattern continued, with individuals at all career stages acknowledged for their exceptional academic and professional achievements. This report documents and recognises their accomplishments.

Dr. Aditi Kumar

Agnes Blackie Memorial Fellowship recipient

Dr. Luke Trainor

Awarded a Mana Tūāpapa Future Leader Fellowship by the Royal Society, Te Apārangi.

Dr. Zongda Li

University of Auckland Vice Chancellor's Prize for Best Doctoral Thesis .

Sofie Claridge

Is pursuing a PhD in Machine Learning and was awarded a scholarship to intern at the Jet Propulsion Laboratory (JPL) in Southern California

The Royal Society Te Apārangi

announces three researchers from Te Whai Ao — Dodd-Walls Centre elected to its Academy of Fellows.

Professor Stéphane Coen,

The University of Auckland.

Professor Rod Badcock,

Chief Engineer at Paihau — Robinson Research Institute

Professor Geoffrey Waterhouse

The University of Auckland.

A hybrid platform providing a step forward in quantum technologies

Coupling together excitations supported by different materials or structures is a staple of experimental physics and is also at the forefront of developments in quantum technologies. These hybrid systems allow scientists to tailor the properties of the excitations to suit specific technological requirements.

There has been a lot of interest recently in systems comprising coupled microwave photons and magnetic excitations. The combined excitations of this system are termed magnon-polaritons. These hybrid quasiparticles inherit properties from both magnons and photons and allow the system to be fine-tuned for a number of applications in quantum technologies. They have potential applications in quantum network components such as quantum repeaters, transducers, and quantum memories.

Now scientists from the Dodd-Walls Centre for Photonic and Quantum Technologies and the Vienna University of Technology in Austria, have demonstrated a new method of control over magnon-polaritons. The study was conceived and led by Dr Nicholas Lambert, working with Associate Professor Jevon Longdell and Professor Harald Schwefel. In the paper, entitled “Coherent control of magnon-polaritons using an exceptional point” the team studied a cavity magnonic system, in which the excitations of a magnetic material are coupled to photons at microwave frequencies.

A loss of energy in such systems is usually regarded as a drawback; in this work, energy loss is shown to be a powerful tool for system control. When two coupled modes have a specific difference between their loss or gain, a feature termed an “exceptional point” emerges. Exceptional points have intriguing effects on the dynamics of systems due to their topological properties. They have been studied in optics, electronics, and acoustics, but not previously used to control hybrid systems.. By carefully controlling the loss and gain in coupled active microwave resonators, the team used the topological properties of the exceptional point to carry out coherent manipulations on the state of the system.

The team’s experiment is the first to show that encircling and traversing an exceptional point can deterministically switch excitations between magnon-polariton modes or prepare them in a coherent superposition of states. The method works on nanosecond timescales, much faster than the lifetime of the excitations, making it compatible with the demands of quantum information processing. Both frequency and gain are precisely controlled to ensure that the amplitude of the excitations of the system remain in the linear regime, avoiding instability.

Dr Lambert says this form of coherent control provides a new tool to prepare a quantum state. The subtle dynamics near the exceptional point can be harnessed to initialise the system in a superposition of states - a key requirement for gate-based quantum computation and other applications.

“The highly controllable nature of our hybrid platform provides a new avenue for exploring the intriguing dynamic properties of coupled systems,“ he says.

As well as being a powerful tool to investigate the physics of energy loss and gain, the novel methods demonstrated are sufficiently general to manipulate hybridised states in a variety of systems; they are not limited to magnonic devices. Furthermore, due to the large bandwidth of the tunability of the cavity modes highly non-adiabatic regimes could also be explored.

Dr Lambert’s initial work was undertaken with back-up funding from Te Whai Ao — Dodd-Walls Centre and during his research he has found it useful to meet colleagues at the annual Symposium to exchange ideas.

The next step for the researchers is to extend their experiments to cryogenic temperatures only a fraction of a degree above absolute zero. This will present significant challenges in thermal management and power consumption but would allow microwave frequency quantum devices such as superconducting or semiconducting qubits to be controlled using similar techniques.

Wellington Symposium 2025

Dodd Walls Centre Symposium — Student Experience

By Finnian Smith, PhD student at Te Herenga Waka — Victoria University of Wellington

Quantum physics — and the eclectic cohort of brilliant minds it attracts — can be intimidating even for the bravest researchers. The annual Dodd Walls Symposium is a perfect example of this, bringing together New Zealand's foremost specialists in photonics and quantum technologies.

To the outsider looking in, the symposium sessions may seem like verbose technical jargon that borders on wizardry. But if you look beyond the solitons, the Hamiltonians, even those pesky donor-acceptor systems, you see the symposium for what it was: the bringing together of a community of passionate scientists genuinely engaged with each other's work.

This year, the students typified this passion. We heard a variety of talks in a range of fields. Talks were well refined, well researched, and well presented, with a breadth and depth of knowledge and understanding typical of the DWC symposium. Having been to the past 5 DWC Symposiums, it is clear to see that the Centre for Excellence is indeed developing excellence amongst its cohort. I sat down with a few of these students to talk more and discuss their experience of both the DWC symposium and as students of the DWC.

Masaya Hiraishi, a recent PhD graduate from the University of Otago and a close friend of mine, was the first to sit down for a chat following the

symposium. Masaya spoke warmly of the connections he had made and the conversations that pushed his thinking over the course of the week. Masaya's work on optical and microwave spectroscopy of rare-earth antiferromagnetic crystals has recently been published in nature [1] Hiraishi, M., Roberts, Z.H., King, G.G.G. et al. Long optical coherence times in a rare-earth-doped antiferromagnet. Nat. Phys. 21, 1112–1117 (2025). https://doi.org/10.1038/s41567-025-02920-x, a testament to his personal prowess and the high calibre of DWC-affiliated student research.

Another friend from Otago, Peter Remoto, brought his research on low-frequency Raman spectroscopy to the symposium. For Peter, some of the most memorable moments were simply meeting new people, enjoying discussions over food, and building friendships that extend beyond poster sessions and lecture halls. He also highly recommended the reuse of the throwable microphone for next year (here's looking at you 2026 DWC symposium planning committee).

Carlie Watt, from the University of Auckland, is a well-known face amongst the DWC cohort. Carlie's exciting work is focused on spectroscopy for cultural heritage: paint identification and plastic degradation, a rather unique avenue. Despite her divergent PhD pursuit, Carlie's favourite part of the symposium was actually

meeting with various new and old collaborators. Carlie's experience highlights both the variety and interconnectness of the research the DWC explores.

This year's DWC Symposium brought together a larger number of attendees, creating a vibrant sense of connection and engagement not seen before. I would describe the conference not as a meeting of associates but closer to a gathering of friends. From my perspective, this is a great thing, as we continue to discuss the necessity to compete on the global stage, close collaboration is fundamental when competing against the financial juggernauts of much larger continents. If this year's event is any indication, the next generation of quantum and photonics physicists is more than ready to take on the challenges ahead.

Auckland's Optic and Photonics Student Chapter

The University of Auckland's Optics and Photonics Student Chapter (OPS) has had a busy and rewarding year.

Our major undertaking for 2025 was to host and organise the 16th Conference for Optics, Atoms, and Laser Applications (KOALA 2025). This "for students, by students" event saw 78 postgraduate and PhD students from across Aotearoa New Zealand, Australia and beyond join us for a week, presenting their research and establishing connections with peers and industry.

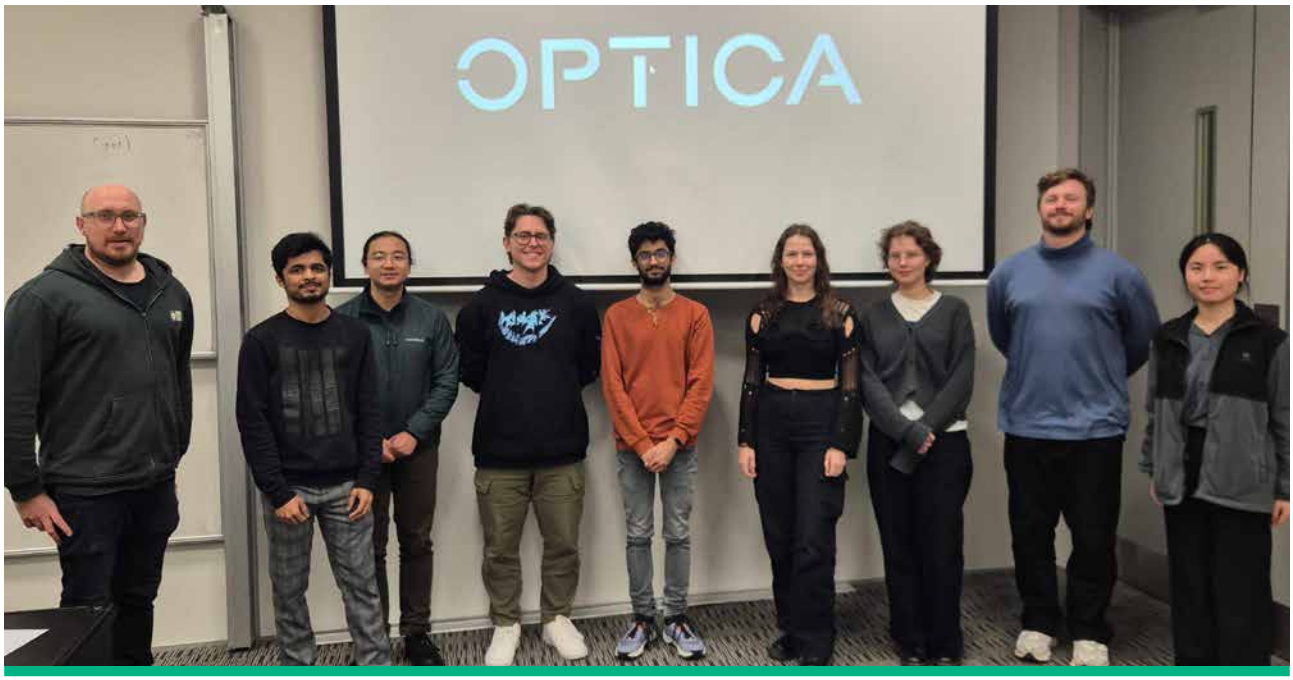
In addition to KOALA, we organised a range of professional and social events. We kicked off the year with a writing retreat at the Leigh Marine Research Institute. Located away from Auckland's city bustle, Leigh provided an ideal environment to focus, reflect, and put ideas to paper. Alongside productive writing sessions, the retreat also fostered social connection through communal cooking, trips to the beach, and making the most of the excellent stargazing conditions. Most evenings were spent admiring the "planetary parade" and spotting constellations, galaxies, and nebulae. We extend our sincere thanks to Jamie Rowntree and Professor Craig Radford at the Leigh Marine Research Institute for making this memorable experience possible.

Later in the year, during the CLEO/ECBO/LIM conference in Munich, Germany, several of our members participated in lab tours of the Multiphoton Imaging Lab and the Laser Centre at the Munich University of Applied Sciences. These visits provided valuable insight into international research environments, exposure to diverse areas within the optics community, and opportunities to expand our professional networks. We thank Professors Heinz Paul Huber and Thomas Hellerer for generously hosting us.

Beyond these major trips, we continued to build engagement within our student community through social events such as pool nights, hosted at Old Government House and open to all students in the department. We organised a coordinated International Day of Light 'watch party' with the Otago student chapter, featuring Quantum Computing and its Applications, a technical talk presented by Daniel Egger from IBM Research–Zurich. Our members also assisted in Te Whai Ao — Dodd Walls Centre outreach, showcasing optics and photonics at a range of public-facing events organised by the Centre throughout the year.

Finally, we would like to thank the other members of the OPS executive committee for their time and enthusiasm this year: Thomas Clarkson (Treasurer), Darven Murali Tharan (Secretary), and general committee members Caitlin Smith, Matthew Macnaughtan, and Hanlin Li.

Wellington Optic and Photonics Student Chapter



The Victoria University of Wellington Optics and Photonics Student Chapter was formally established in 2025, marking an important milestone in creating a dedicated community for students interested in optics and photonics at the University.

The chapter was founded to connect students across research groups and institutions, including Victoria University of Wellington and the Robinson Research Institute, and to provide a foundation for future academic, professional, and industry engagement.

During 2025, the chapter's efforts were focused on establishing its governance structure and confirming membership. The executive committee consists of Nikita Shumilov (President), Finnian Blaauw-Smith (Vice President), Alla Gisich (Secretary), and Sanutep Chan (Treasurer). The chapter's Optica student members include Azizeh Alidoust Ghatar, Adit Batra, Fatima Bibi, Stefania Glukhova, Vinay Gudala, Midhuna Sobhna Joy, Yuzhou Xiao, as well as the executive committee members listed above, representing Victoria University of Wellington and the Robinson Research Institute.

Looking ahead to 2026, the Wellington Optica Student Chapter plans to transition from establishment to active engagement. Planned initiatives include hosting seminars with academic staff and invited speakers, organising student networking activities, and developing connections with research institutes and industry partners within the Wellington region. With a committed executive committee and a growing membership, the chapter looks forward to a productive and impactful year ahead.

Finally, we thank Optica for its support in enabling the establishment of the Wellington Optica Student Chapter and look forward to contributing to the wider optics and photonics community in New Zealand.

The Otago Optic and Photonics Student Chapter

The Otago Optics Student Chapter was successfully revived on March 8, 2025, after remaining dormant since the pandemic.

We had a dynamic and productive year in 2025, and our chapter continues to foster engagement with the vibrant optics and photonics research community supported by Te Whai Ao — Dodd-Walls Centre.

In just seven months, we have grown from 12 founding members to 17 active members and organized/attended nine diverse events reaching various participants of all ages across New Zealand. Our initiatives spanned all four activity categories: five outreach programs (ASB Polyfest in Auckland, International Day of Light (Dunedin), Tirama Mai in Christchurch, Otago Polyfest and the NZ International Science Festival-Dunedin), two professional development events (International Day of Light Watch Party with speaker Peter Knight, and OPTICA Activity Night, which allowed us to recruit new members), and technical education through our Tree Planting Workshop led by Tim Jowett. We also participated in the 2025 DWC Symposium in Wellington. This balanced approach ensured holistic member development while engaging communities.

Despite being newly revived, we expanded our participation across New Zealand—from Auckland's largest youth cultural festival to Christchurch collaborations—demonstrating our ability to build partnerships across cities. We engaged with various communities and even connected our members with global optics leaders through virtual events. Achieving this scope and diversity in such a short timeframe reflects exceptional organizational energy and commitment to rebuilding our chapter's presence in New Zealand's optics and photonics community. We gratefully acknowledge the guidance and support of our advisers, Professor David Hutchinson and Dr. Mallika Suresh. We also commend the dedication of our board members—President Jervee Punzalan, Vice President Linjie Shao, Secretary Samyajit Gayen, and Treasurer Josh Christensen—who collectively made these achievements possible. The Otago Optics Chapter has successfully re-established itself as a growing community positioned for continued innovation and impact in the coming year.

Strategic Impact

The research plan of Te Whai Ao — Dodd-Walls Centre, together with our strategic initiatives, is designed to deliver on six key impact areas.

These specified impacts reflect the areas in which Te Whai Ao – Dodd-Walls Centre makes a direct contribution. Weaved throughout are the principals of equity and wellbeing and Te Whai Ao's commitment to Te Tiriti o Waitangi.

Increased Scientific Impact

- International reputation for research measured by the volume and quality of publications
- Continued development of the Centre as a flagship centre of New Zealand research

Stronger Workforce

- Increased supply of technically and scientifically trained, highly numerate graduates entering employment in New Zealand
- Increased inclusion of under-represented groups in STEM-based careers
- The breadth of our research equips students with the skills to choose a pathway into academia, industry, or to start up their own company

Better Careers

- Opportunities for graduates to support New Zealand industry
- Help students engage with industry enabling a pathway towards a fulfilling and rewarding career in New Zealand
- Our graduates are sought after in the workplace

Improved Decision-Making

- Provide expert advice to national and local government, industries, iwi, and community groups leading to more informed decision-making by these groups
- Our researchers provide expert advice in their role on public sector panels and boards. This engagement adds expertise to decision making or data analysis

Improved Scientific Literacy

- Encourage children, through our education programmes, into STEM subjects, which also target hard to reach groups and foster inter-generational learning to raise the level of appreciation, understanding, and enjoyment of science
- We work with museums and other partners to create programmes and educational resources which provide opportunities for ongoing learning and discovery

Enhanced Economic Output

- Research solutions for existing industries and support for the development of new industries based upon technology transfer
- We foster start-ups and continue to work with New Zealand's largest companies

Visiting one of the most remote schools in the country: Kaingaroa School on Rēkohu-Wharekauri-Chatham Island

Community Engagement

This year was an especially significant one for the Centre's community engagement programme, as 2025 marked a full century since the development of quantum mechanics. To celebrate this milestone, UNESCO declared 2025 the International Year of Quantum Science and Technology (IYQ): an entire year dedicated to raising public awareness of the importance and impact of quantum science and technology on all aspects of life.

For the Centre, this meant looking for more opportunities to add a quantum perspective to our engagement activities and explanations, using experiments with fluorescence and phosphorescence, polarising filters, lasers and superconductors to engage communities across Aotearoa with examples of quantum concepts or first-generation quantum technologies.

Additionally, the Centre was successful in securing IYQ sponsorship to host a unique, inaugural gathering in 2025. This gathering, Quantum Crossroads, brought together practitioners and leaders from around the world across art, culture, education, community, Indigenous knowledge systems, and quantum science and technology to craft a 10 year vision – with specific recommendations - to facilitate these disciplines working together to achieve the ideal quantum future for all. The resulting document of recommendations will be submitted to UNESCO directly ahead of the official closing ceremonies for the year in February of 2026.

Independently of IYQ, this year also saw the Centre initiate our 3-year plan to begin annual rural school tours to remote areas of Aotearoa, with week-long trips to the Gisborne and Southland regions undertaken. These school tours not only included classroom programming but also set aside time for us to build relationships with the teachers outside of the classroom. As a result, the Centre saw improved contact with these areas, both in terms of acting as a resource to support the teachers upon request but also in connecting their students with opportunities available for scholarships and camps.

This was all in addition to public talks and workshops, homework clubs and festivals, as well as maintaining our ongoing support of communities on Rēkohu, Chatham Island.

In all, the Centre reached nearly 9,500 individuals through face-to-face engagement this year. While this represents a decrease from previous years, this is largely due to a number of external factors, including the economic climate, which resulted in some of our annual, large-scale events being cancelled or having a smaller-than-usual turnout or, in some cases, having to cancel or downsize our presence due to unexpected changes to availability of staff and equipment.

Key

- Community Event
- School Visit
- Homework Club
- Public Talk
- Lab Tour
- Science Wānanga
- Other

Chatham Islands

North Island

South Island

In the community

NZ International Science Festival

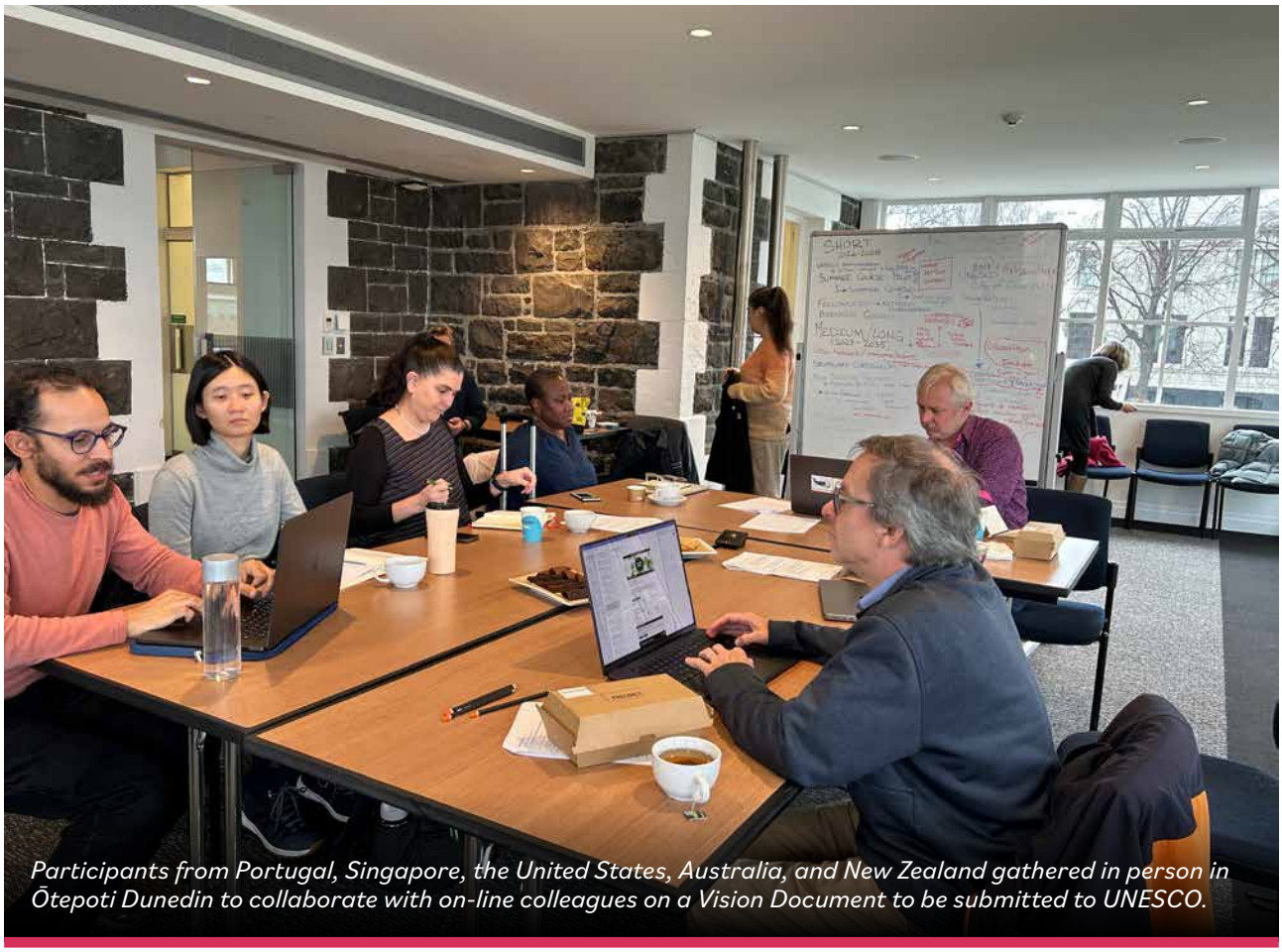
Demonstrating one aspect of superconductivity during the NZ International Science Festival in Ōtepoti Dunedin – the Centre spearheaded its quantum science theme for the year.

ASB Polyfest

Piloting a new demonstration of the polarisation of light at ASB Polyfest in Tāmaki Makaurau Auckland.

Tīrama Mai festival

We brought back the laser maze for the Christchurch City Council's Tīrama Mai festival at the Arts Centre in Ōtautahi Christchurch



Participants from Portugal, Singapore, the United States, Australia, and New Zealand gathered in person in Ōtepoti Dunedin to collaborate with on-line colleagues on a Vision Document to be submitted to UNESCO.

Te Araroa

In Te Araroa, curious why blue dots are spaced closer together than the red dots through the diffraction glasses.

Uaua/Tolaga Bay

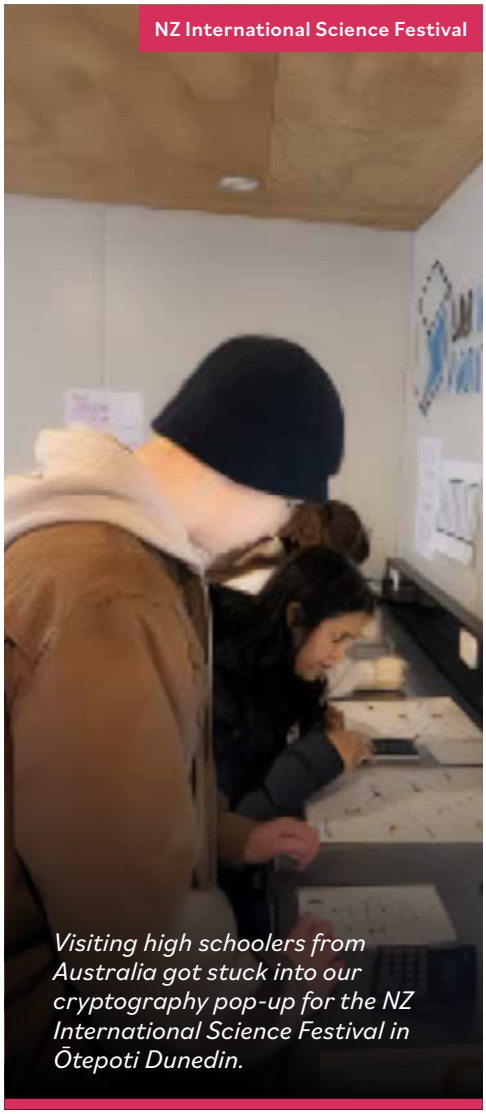
In Uaua/Tolaga Bay, experiencing why reflection or absorption of specific wave lengths can help us sort fruit more efficiently.

Ōtautahi Christchurch.

Exploring how light is reflected and absorbed in a kaleidoscope/teleidoscope making workshop in Ōtautahi Christchurch.

MOTAT's STEM Fair

Exploring light and colour at MOTAT's STEM Fair



NZ International Science Festival

Visiting high schoolers from Australia got stuck into our cryptography pop-up for the NZ International Science Festival in Ōtepoti Dunedin.

2025 marked a full century since the development of quantum mechanics

Industry Activities

Our industry, communications and engagement team made significant inroads in 2025, broadening reach and diving deeper into key industry sectors to build on the "photonic and quantum curiosity" sparked in 2024.

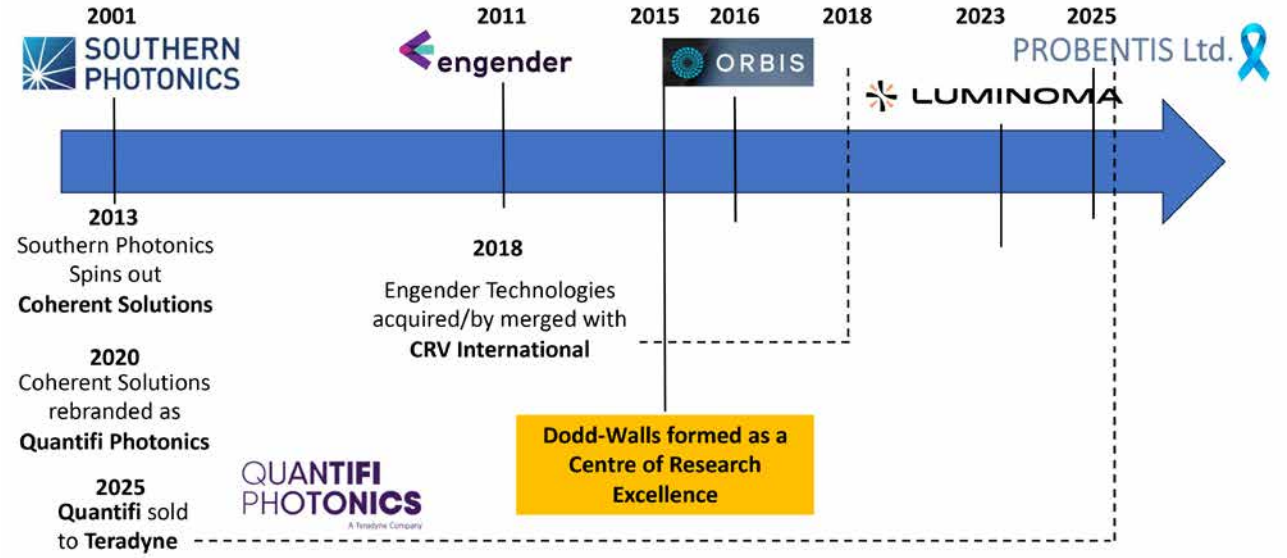
They captured the attention of industry and Government leaders, which undoubtedly played a part in the Government's announcement of a $1.35m "discovery fund" to consider the commercialisation opportunities for our technology in 2026.

In March, the Centre's Board was able to meet Dr Amanda Caples, the Australian state of Victoria's lead scientist. In New Zealand, to speak at the BioTech NZ conference, Dr Caples brought the Board up to speed on the latest developments in the Australian quantum ecosystem.

This was followed by a visit from the UK's National Physical Laboratory (NPL) representatives, Melanie Hardman, Strategic Lead for Quantum Science and Healthcare and Tim Prior, Quantum Programme Manager. The Centre was able to reciprocate the warm hospitality our members had received when touring the UK the previous November and attending the National Quantum Technologies Showcase.

Together, we held a series of "quantum readiness" meetings in April, exploring opportunities to collaborate. Based on NPL's UK industry engagement experience, we sought to better understand the capability needs of leading Kiwi businesses, the quantum supply chain in NZ and introduce NPL's skills to potential Kiwi partners. NPL's presence provided an opportunity to get together with companies such as Fisher & Paykel Healthcare, Rakon and Outset Ventures in Auckland; Government officials, Paihau Robinson-Research, Measurement Standards Laboratory and Ravensdown's Agnition Ventures in Wellington; Tait Communications, Fabrum NZ Space Agency, and Christchurch NZ in Christchurch, as well as Scott Automation in Dunedin.

Te Whai Ao — Dodd-Walls Centre joined the MacDiarmid Institute and other partners to run TechWeek events in Auckland and Dunedin in May. These brought research entrepreneurs and companies together to build the networks that underpin successful research and development. One of the hot topics covered was the newly funded, $20 million industry PhD programme that provides opportunities for companies in partnership with university researchers. The Dunedin event focused on the science driving commercial growth in New Zealand's manufacturing sector.



The timeline for commercialisation of photonic and quantum technologies demonstrates the importance of a pipeline of fundamental research.

By June, planning was well underway for the Quantum Meets series with industries, which is highlighted in a separate article in this report. It was led by Australia's former Chief Scientist Dr Cathy Foley. This took a market segment-based approach to further understand industry needs, share current research capability and explore opportunities for further engagement. It began with a "Quantum 101" webinar in mid-July, which garnered more than 100 participants and continued with four meetings in Wellington (infrastructure), Christchurch (space and the environment), Auckland (health) and Hamilton (agriculture).

The Wellington workshop provided an opportunity to introduce Dr Foley to Dr Shane Reti, the Minister of Science, Innovation and Technology. It was a chance to repeat key messages about the importance of photonic and quantum technologies to the NZ economy, at a time when officials were creating a new Public Research Organisation, the NZ Institute for Advanced Technologies (NZIAT). A large gathering of more than 200 key stakeholders joined an event at Parliament where the air was abuzz.

In July, Dr Reti visited Te Whai Ao — Dodd-Walls researchers at the University of Auckland to find out more about the work they're doing. The newly announced Prime Minister's Chief Science Advisor, Dr John Roche attended the meeting at Parliament, as well as the Quantum Meets Agriculture workshop and paid a visit to the Auckland team. By September, the profile of the Centre was well and truly lifted among key decision makers. This was reinforced with our involvement at the Aerospace Summit in Christchurch in October.

This Government is unabashedly in pursuit of economic growth and one piece of information we shared consistently was a slide showing the companies we've been involved with on their commercialization journey. This also demonstrates the time it takes to move from fundamental to applied science ready for market.

The drive to commercialise was top of mind throughout the year. Te Whai Ao — Dodd-Walls Centre has grants to assist members, and applications are regularly invited from researchers preparing to take their ideas to market. Support was provided through the commercialisation and prototype fund - backing new potential in microresonators, diagnostics and spectroscopy.

As the year drew to a close, students prepared for the annual Symposium, which was held in Wellington. The industry team arranged for an update from Dr Hema Sridhar of Koi Tū, the Centre for Informed Futures, which has been working closely on the reform of the science system. She described 4 types of research: stewardship, knowledge-generating, policy-focused, and exploitable – each with different risk profiles and stakeholders.

Many students went straight from the Symposium onto the KOALA student conference in Auckland, also attended by Dr John Roche. This, in turn, was followed by the Australian and New Zealand Conference on Optics and Photonics (ANZCOP) presented annually by the Australian and New Zealand Optical Society (ANZOS). The Centre sponsored both events.

While the ANZCOP conference dinner drew a line under the events for the year, it was not a quiet closing ceremony by any means. The guest speaker, Minister Reti used the opportunity to unveil a $1.35m fund for the sector to explore and discover opportunities for photonic and quantum research commercialisation. This is considered a precursor to involvement in the NZIAT and a report is due by the end of June 2026. Our team will be working closely with officials as this is developed.

Events aside, the Centre's communications have gone from strength to strength. There was at least one story in media mentioning Dodd-Walls every month in 2025, a notable achievement. For the second year running our LinkedIn followers grew at a rate of nearly 50%. The Dodd-Walls website has been refreshed (new metrics will follow) and we've started a new external newsletter, sent to more than 400 stakeholders every few months. Our short form brochure describing the Centre's areas of expertise has been reprinted several times and we're ready to expand on this.

On reflection, 2025 was an incredibly busy year, which cemented and deepened our existing stakeholder relationships. We got cut-through with key decision makers in Government and are well positioned to play an active role in the country's advanced technologies future. The team already has an active programme planned for 2026 and looks forward to sharing the results in due course.

Te Herenga Waka Marae during the 2025 Symposium welcoming.

Creating impact through commercialisation

The Government's restructuring of the science system this year has been accompanied by a strong focus on deriving commercial outcomes from academic research.

For Dodd-Walls, that's meant showcasing our start-ups in progress, and with her nomination as a KiwiNet Awards finalist, the spotlight was turned on Dr Michel Nieuwoudt.

The Co-Founder and Chief Science Officer at Luminoma was nominated for the 2025 Researcher Entrepreneur Award, which honours an experienced entrepreneurial researcher whose outstanding contributions to research commercialisation has driven meaningful impact. Up against two other finalists, Dr Nieuwoudt was required to demonstrate that her work had led to the creation of new products and/or services from publicly funded research.

Formed in 2023, Luminoma has created a commercially viable diagnostic tool to identify skin cancer. It's a handheld wand and spectroscopic device that uses laser light to reveal a material's properties – in this case whether a skin lesion is likely to be malignant or benign. Dr Nieuwoudt says a key aspect is the non-invasive and rapid nature of the tool.

> "It uses a weak laser, such as what you might amuse a cat with. We use light to probe the changes in the molecules in skin cancers, and we can tell the difference between the cancerous molecules and those which are OK."

The company emerged following a five-year Smart Ideas grant received in 2017 which enabled the team to conduct a proof-of-concept study. Inspired by the success of that (providing the correct skin cancer diagnosis with 99% accuracy) the team started a second study and a spin-off company to make the devices.

Dr Nieuwoudt says they hope to have the devices ready in three years.

> "Now we're in our second study, using our first prototype to measure cancers in six clinics in the North Island. When we finish this pilot study around March 2026, we will test this diagnostic algorithm to see how it works in clinical trials. Then we will apply for a CE mark in Europe and convert that to Australia and NZ."

Skin cancer is the most common cancer in New Zealand and our death rate from melanoma is the highest globally -more than road deaths - with about 70% of cases diagnosed in people over 50.

Dr Paul Jarrett, Clinical Head of Dermatology at Middlemore Hospital, is the key clinician working on the project since its inception. He says it's important to remember that people with skin of colour also get skin cancer.

> "It's widely known that Māori and Pacific people get melanoma at a much lower rate, but they present late. This study has purposely recruited people from all ethnicities."

Funded by a Research Acceleration Programme Stage II Te Tītoki Mataora award through MedTech-iQ, the study has been able to measure Raman spectra from patients in North Island clinics with higher Māori populations, such as Rawene, Dargaville and Wellsford, as well as the Manukau Super Clinic and Middlemore Hospital in South Auckland in an attempt to include larger numbers of Māori and Pacific peoples.

The device has the potential to slash the country's death rate from the disease and revolutionise early diagnosis of skin cancer worldwide. Clinicians say it will be a key tool in the diagnostic toolbox.

> "A leading dermatologist at the Mayo Clinic, one of the world's leading institutions for medical care, research, and education, is very excited about his and has invited us to come and work with them," says Dr Nieuwoudt.

Every founder is inspired by someone or something. For Dr Nieuwoudt it was both, a family member whose Mum had died of melanoma. Dr Nieuwoudt says her former supervisor, now Luminoma co-founder, Professor Cather Simpson helps maintain her drive to succeed, while the expertise within the Dodd-Walls Centre has provided a great academic and commercial sounding board.

Luminoma continues a strong history of commercialization in the field of photonics at Auckland University and the Photon Factory, stretching back to Southern Photonics and its offshoot Quantifi (acquired for a large sum earlier in the year) and including Engender, Orbis, and most recently Probentis.

While Dr Nieuwoudt didn't take home the award, just being among the top three KiwiNet finalists was absolutely a win. It has raised her profile and that of Luminoma and by extension the Dodd-Walls Centre immeasurably. For the record, the competition was incredibly tough: University of Canterbury Professor Aaron Marshall received the award for his multiple projects in clean-tech innovation.

Economic Impact - Quantum Meets

For the industry team, the year was marked by significant engagement, encouraged by experience across the Tasman.

Research into the Australian market for quantum and photonic technologies highlighted the success of Australia's former Chief Scientist (2021-2024), Dr Cathy Foley, in connecting with business. During her term, Dr Foley significantly lifted the profile of deep technology and inspired government investment accordingly.

In a series called "Quantum Meets", she took a sectoral approach, bringing industry specialists together with academics to understand business needs and consider how technology could address them. The White Papers produced from those discussions are now steering the development of photonic and quantum technologies in Australia.

In the spirit of true trans-Tasman co-operation, Dr Foley agreed to support a similar approach in New Zealand. Working with the Dodd-Walls team, the engagement began with a well-attended "Quantum 101" webinar outlining the basics of quantum and photonic technologies, their use today and their impact in the near term. This was followed by a whirlwind week of half-day meetings in August, bringing together academics, venture capitalists and government and industry in multiple centres.

It kicked off with a lively event at Parliament, at which the Minister of Science Innovation and Technology, Dr Shane Reti, welcomed Dr Foley, and attendees were given a taste of what was to come. In Wellington, the focus was on infrastructure; in Christchurch, the meeting covered both space and sustainability; Hamilton naturally focused on agriculture, and, in Auckland, the topic was Quantum Meets health.

Quantum Meets Infrastructure considered challenges such as a lack of network information, structural health monitoring and geotechnical surveys. Quantum and photonic solutions to issues in the water, roading and electricity networks were discussed and the need for more predictive modelling was highlighted.

The Space and Sustainability workshop raised the issues of GPS blocking, space junk, and environmental

monitoring. Solutions to business needs for greater security and precision were discussed, as well as improved sensing and greater speed. Attendees learned about the goal of a quantum network using satellites in space.

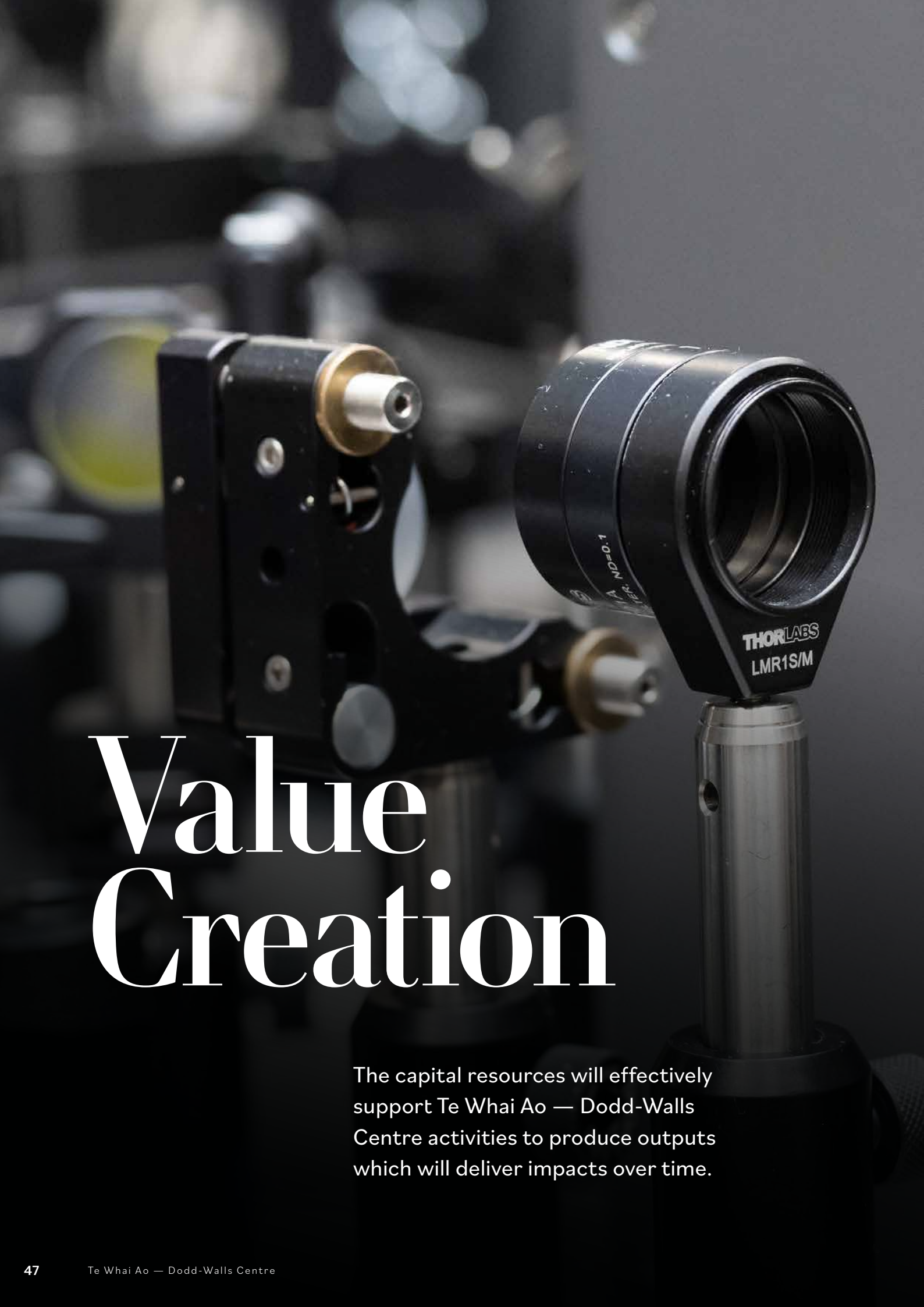
At Quantum Meets Agriculture, plant and animal health, environmental monitoring and supply chain traceability were at the fore. The need for continual product analysis throughout the processing chain was raised, and it was explained that photonics could be used to speed up chemical imaging. Strong opportunities for quantum in the Māori economy were considered.

The Quantum Meets Health workshop explored how quantum tech is reshaping diagnostics, drug discovery, and precision medicine, with this future already unfolding. The use of quantum and photonic technologies to improve logistics and supply chains was discussed, and the long timelines in drug development were widely lamented.

Afterwards, meeting outputs were reviewed for potential projects. The sectors most likely to benefit in the near term were identified as infrastructure, space and sustainability. This was fed into the development of a Quantum Technologies commercialisation landscape being undertaken by Quantum Technologies Aotearoa. A follow-on session has been held with Energy, Efficiency and Conservation Aotearoa. The Institute of Directors has expressed an interest in helping its members prepare for a quantum future and there remains a long "to-do" list for 2026.

In a year in which the future of the science sector has been under review, the most powerful outcome of this work has been to build relationships within government, as well as industry. Minister Reti and New Zealand's newly appointed Chief Scientist Dr John Roche were well engaged in the series and have since met with Members. Accordingly, the Centre is well positioned to participate as the new Advanced Technologies Public Research Organisation is rolled out.

In addition to all the attendees, the Industry Team would like to thank the following Members and Affiliates for truly espousing the collaborative spirit across Te Whai Ao: Rod Badcock, Simon Granville, Uli Zuelicke, John Cater, Harald Schwefel, Keith Gordon, Cushla McGoverin, Katharina Ruckstuhl and Maarten Hoogerland.



Value Creation

The capital resources will effectively support Te Whai Ao — Dodd-Walls Centre activities to produce outputs which will deliver impacts over time.

Capital Inputs

- Human and intellectual capital
- Manufactured capital (physical assets)
- Financial capital

Activities and Operations

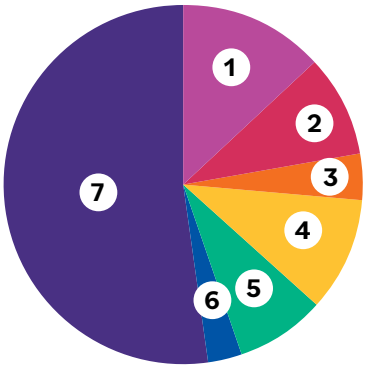
- National and international research collaboration
- Competence and capability training of researchers and students
- Industry engagement
- Education and public outreach activities
- Excellence in governance and management
- Scientific and Industry Advisory panels comprised of leading international scientists and industry leaders

Outcomes and Impacts

- Enhanced research capability and scientific output
- Increased supply of highly skilled graduates
- Improved diversity in the workforce and academic cohort
- Health, wellbeing, and environmental gains through research
- Economic gains through support of New Zealand industries
- Economic gains through commercialisation of research
- Improved public understanding and appreciation of science
- Increased numbers of children and rangatahi studying STEM subjects
- Enhanced engagement with, and support for, decision makers

Facts and Figures

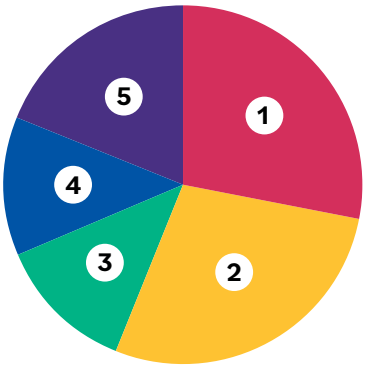
Broad category Value of CoRE funding from TEC ($M)	Detailed category	Y5 (2025) (Jan-Dec)
Funded FTEs by category	Principal Investigators	1.54
	Associate Investigators	0.02
	Postdoctoral Fellows	1.4
	Research Assistants & Technicians	2.1
	Management & Administration	6.05
	Research Students	16.83
	Total	**11.11**
Headcounts by category	Principal Investigators	35
	Associate Investigators	24
	Affiliate Members	11
	Postdoctoral Fellows	27
	Research Assistants & Technicians	22
	Management & Administration	9
	Research Students	135
	Total	**263**
Peer-reviewed research outputs by type	Journal articles	232
	Books	0
	Book chapters	2
	Conference papers	23
	Total	**257**
Value of external research contracts awarded by source ($M)	Vote Science and Innovation contestable funds	$20,873,091
	Other NZ Government	$496,710
	Domestic - private sector funding	$80,000
	Overseas	$30,000
	Host/Partner Support	$200,000
	Total	**$21,679,801**
Commercial activities	Patent applications	5
	Patents granted	0
	Invention disclosures	0
	Total number of spinouts	3
Students studying at CoRE by level	Doctoral degree	101
	Other	34
	Total	**135**
Number of students completing qualifications by level	Doctoral degree	13
	Other	19
	Total	**32**
Immediate post-study graduate destinations	Further study in NZ	8
	Employed in NZ	7
	Employed overseas	4
	Unknown	13
	Total	**32**



Membership Profile

Te Whai Ao — Dodd-Walls Centre has a total of 59 Investigators (including the Director and Deputy Director) and 49 other researchers. PhD students comprise 38% of the total membership of Te Whai Ao, and in addition to research training, many of our strategic activities involve students, including educational outreach activities, Ka Hikitia, industry interface, and R&D.

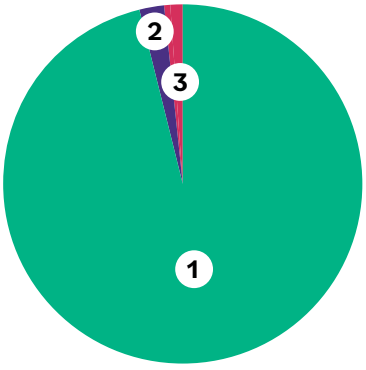
1. Principal Investigators **13%**
2. Associate Investigators **9%**
3. Affiliate Members **4%**
4. Postdoctoral Fellows **10%**
5. Research Assistants & Technicians **8%**
6. Management & Administration **3%**
7. Research Students **51%**



2025 Graduate Destinations

All Te Whai Ao students undertake research, most of them at the highest level in PhD programmes. Most of these students will go on to employment in New Zealand, and some overseas. Graduate destinations include all PhD and other degree students.

1. Further study in New Zealand **28.13%**
2. Employed in New Zealand **28.13%**
3. Employed Overseas **12.50%**
3. Awaiting VIVA **12.50%**
4. Unknown **18.75%**



Income by Source

Te Whai Ao receives funding from sources other than the TEC's CoRE Fund. Some Centre researchers and students are supported by these external research funds, whereas others are supported by CoRE funding. The membership profile includes all members, while the financial report indicates only those directly supported by CoRE funds.

1. Vote Science and Innovation contestable funds **96.3%**
2. Other NZ Government **2.3%**
3. Overseas **0.1%**
   Host/Partner Support **0.9%**
   Domestic - private sector funding **0.4%**

Finances

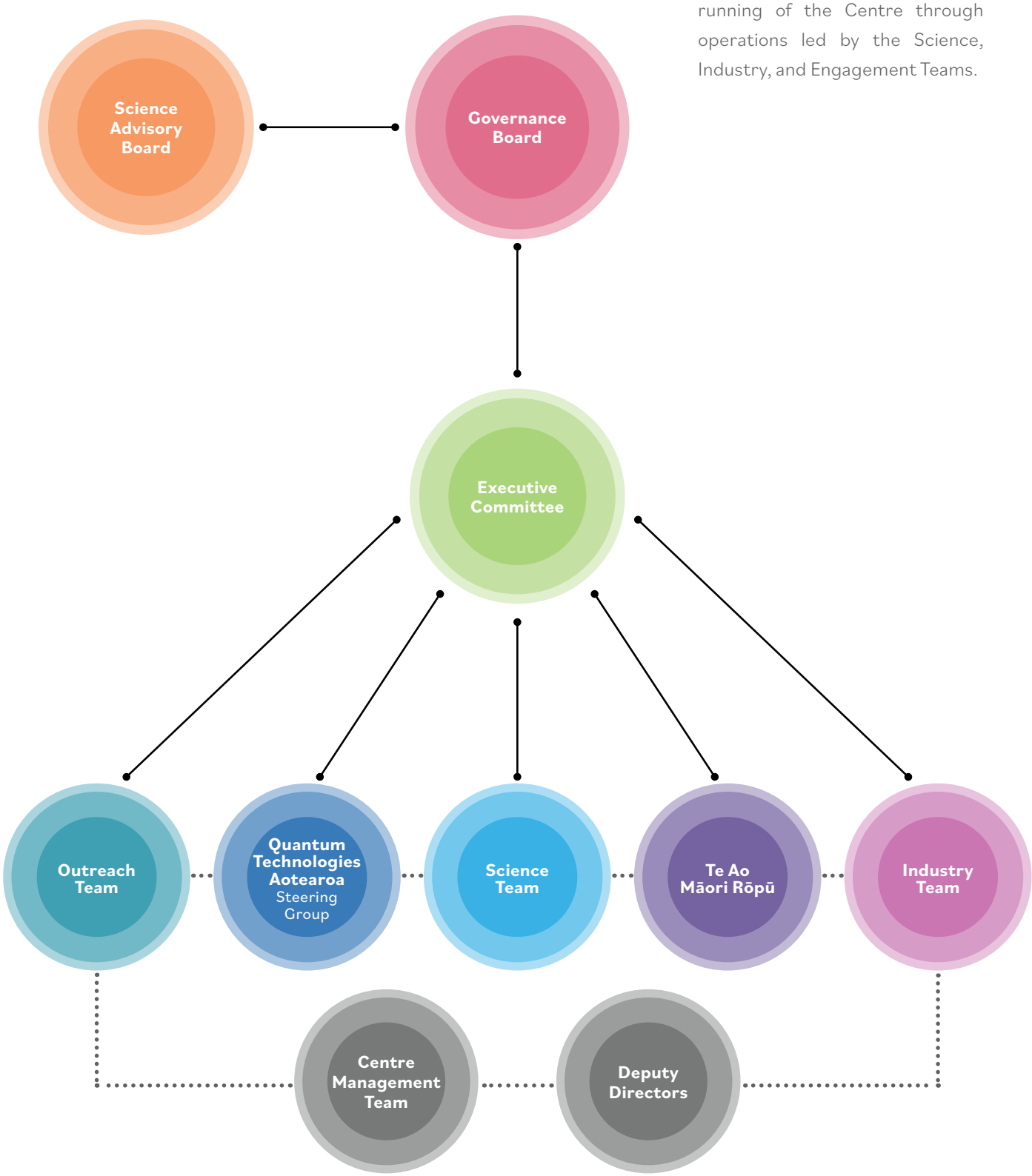
Reported by Programme Manager, period January to December 2025

	Actual	*Budget*
Income	**8,352,000**	**4,900,000**
Salaries and related costs *		
Director and Principal and Associate Investigators	180,000	240,000
Post Doctoral fellows	394,000	617,000
Others - Managers and Salary-related costs	239,000	228,000
Total Salaries & Salary-related costs	**813,000**	**1,086,000**
Overheads	**622,000**	**969,000**
Research operating expenditure and depreciation*		
Agnes Blackie Fellows Research OpEx	16358.63	15000
1. Decoherence and precision measurement (DM)	175,946	66,250
2. Self-organisation (SO)	93,448	52,500
3. Quantum and classical emulation (QCE)	124,856	124,500
4. Health and environment (HE)	273,433	163,750
5. Future technologies for communication systems (FC)	85,796	74,000
Pool opex (New & Emerging Researchers)	797	50,000
Total research operating expenditure	**941,513**	**1,003,670**
Scholarships*	**391,754**	
Scholarships pool		**680,000**
Strategic operating expenditure		
Industry Outreach & consultants	139,657	250,000
Educational Outreach	150,899	208,937
Ka Hikitia	19,231	40,000
Total strategic operating expenditure	**309,787**	**498,937**
Centre operating expenditure		
Travel Pool (Research)	59,000	60,000
Other centre costs	371,585	425,000
Total centre operating expenditure	**430,588**	**485,000**
Total expenditure	**3,509,000**	**4,722,000**
Commitments already approved (salary and research expenses, subcontracts and scholarships)	3,451,697	
Net surplus	1,391,303	178,000

*These amounts reflect actuals, not the commitments already approved. Funding is unchanged across the year, while spending increases with inflation.

Organisation and Committee Structure

Oversight of the Centre is provided by a Governance Board, with input from Industry and Science Advisory Boards. An Executive Committee supports the Director and Management Team in the running of the Centre through operations led by the Science, Industry, and Engagement Teams.



Governance Board

Chair

Charlotte Walshe

Charlotte is an independent director, and advisor to tech companies scaling and exporting. She has spent the last 20 years leading global medtech, fintech, software, and manufacturing businesses. Her governance career has seen roles on the boards of New Zealand Trade & Enterprise and Enable Fibre. Currently she is a trustee on the Contel Trust (majority shareholder of Tait International), and an NZTE Beachheads Advisor.

Professor

Richard Barker

Professor Richard Barker was appointed Pro-Vice-Chancellor of the Division of Sciences at the University of Otago in 2017 and is proud to head the Division at New Zealand's most science intensive university. Richard joined the Department of Mathematics and Statistics at the University of Otago in 1998, was appointed Professor of Statistics in 2007 and was Head of the Department of Mathematics and Statistics from 2008 to 2016. His research speciality is Bayesian hierarchical modelling and statistical ecology.

Professor

Louise Parr-Brownlie *MNZM*

Professor Louise Parr-Brownlie (Ngāti Maniapoto and Te Arawa) draws on Western science and mātauranga Māori research to facilitate positive ageing and equitable treatments for people living in Aotearoa New Zealand with neurodegenerative disorders. Louise is a Professor in the Department of Anatomy at the University of Otago and a Science Advisor to the Ministry of Business, Innovation and Employment, which overseas public research funds in the research, science, and innovation sector. in Aotearoa New Zealand. Internationally she serves as the Secretary of the International Basal Ganglia Society Council.

Professor

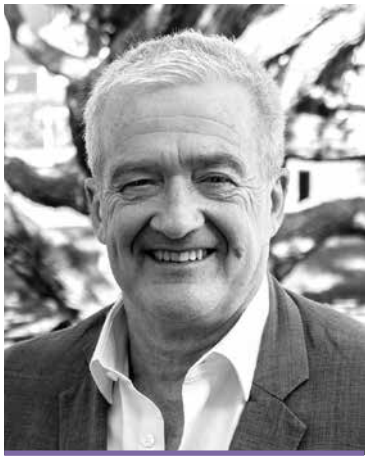
Cather Simpson *FRSNZ*

Cather Simpson is Professor of Physics and Chemical Sciences at The University of Auckland and CEO of Orbis Diagnostics. She sits on the boards of Fisher and Paykel Healthcare, and several startup companies, and serves on the Royal Society Academy Executive. From January 2025, Cather is the Vice President of SPIE – the International Society for Optics and Photonics and Vice-Chair of the International Union of Pure and Applied Physics Laser Physics & Photonics Commission (C17). She has been involved with the Centre for over 15 years and serves as the head of its Industry Strategy Group.

Dr

Martin Gagnon

Dr Martin Gagnon is the Director of Research and Enterprise at the University of Otago, taking up the role in July 2018. Prior to this Dr Gagnon was working as Chief Operating Officer of Exactis Innovation, a pan-Canadian clinical and molecular patient registry. Dr Gagnon has a BSc in Biochemistry from the Université de Sherbrooke as well as a PhD in Pharmacology & Therapeutics from McGill University, Montréal. He has also served as Acting Deputy Vice-Chancellor Research and Enterprise, for the University of Otago, in 2025.



Professor

Simon Holdaway *FRSNZ , FAHA*

Professor Simon Holdaway is the Pro Vice Chancellor (Research Reputation and Performance) for the University of Auckland, taking up the role in August 2025. He is a Professor in Archaeology and was previously elected as a Corresponding Fellow Australian Humanities Academy in 2018 and a Fellow of the Royal Society of New Zealand in 2022.

Governance and Committees

Science Advisory Board	
Professor John Dudley (Chair)	Université Bourgogne Franche-Comté, France
Professor Artur Ekert	Centre for Quantum Technologies, Singapore & University of Oxford, UK
Professor Nergis Mavalvava	Massachusetts Institute of Technology, USA
Professor Bill Phillips	Joint Quantum Institute, USA
Professor Halina Rubinsztein-Dunlop	University of Queensland, Australia
Professor Ian Walmsley	Imperial College London, UK

Governance Board		
Chair	Charlotte Walshe	Independent
Independent Director	Professor Louise Parr-Brownlie	University of Otago
Independent Director	Professor Cather Simpson	The University of Auckland
PVC Sciences Host Institution	Professor Richard Barker	University of Otago
DVC Research Host Institution	Professor Martin Gagnon	University of Otago
DVC Research Partner Institution	Professor Simon Holdaway	The University of Auckland
Director (ex officio)	Professor Frédérique Vanholsbeeck	The University of Auckland
Deputy Director (ex officio)	Keith Gordon	University of Otago
Programme Manager (ex officio)	Emma Juggins	University of Otago

Executive Committee		
Chair	Professor Frédérique Vanholsbeeck	The University of Auckland
Deputy Director	Professor Keith Gordon	University of Otago
Deputy Director Science	Professor Harald Schwefel	University of Otago
Deputy Director Industry	Dr Nathaniel Davis	Victoria University of Wellington
Deputy Director Outreach	Jessa Barder	University of Otago
Deputy Director Māori	Associate Professor Katharina Ruckstuhl	University of Otago
QTA Science Lead	Professor David Hutchinson	University of Otago
The One Beacon Co-leader	Associate Professor Scott Parkins	The University of Auckland
The One Beacon Co-leader	Associate Professor Stuart Murdoch	The University of Auckland
The All Beacon Co-leader	Dr Claude Aguergaray	The University of Auckland
The All Beacon Co-leader	Dr Jami Shepherd	The University of Auckland
The Many Beacon	Professor Ulrich Zuelicke	Victoria University of Wellington
Early Career Research Representative	Dr Fryderyk Lyzwa	The University of Auckland
Programme Manager (ex officio)	Emma Juggins	University of Otago

Science Team		
Chair	Professor Harald Schwefel	University of Otago
Director's Representative	Dr Laura Cobus	University of Canterbury
Deputy Director	Professor Keith Gordon	University of Otago
Deputy Director Industry	Dr Nathaniel Davis	Victoria University of Wellington
The One Beacon Co-leader	Associate Professor Scott Parkins	The University of Auckland
The One Beacon Co-leader	Associate Professor Stuart Murdoch	The University of Auckland
The Many Beacon Co- Leader	Professor Ulrich Zülicke	Victoria University of Wellington
The All Beacon Co-leader	Dr Claude Aguergaray	The University of Auckland
The All Beacon Co-leader	Dr Jami Shepherd	The University of Auckland
Early Career Research Representative	Dr Kai Chen	Victoria University of Wellington
Programme Manager (ex officio)	Emma Juggins	University of Otago

Quantum Technologies Aotearoa Steering Group		
Chair and Acting Science Lead	Professor David Hutchinson	University of Otago
Te Whai Ao Director	Professor Frédérique Vanholsbeeck	The University of Auckland
Deputy Science Lead	Professor Harald Schwefel	University of Otago
	Associate Professor Jevon Longdell	University of Otago
	Professor Nick Long	Victoria University of Wellington
	Associate Professor Scott Parkins	The University of Auckland
	Dr Murray Early	Measurement Standards Laboratory
Programme Manager	Emma Juggins	University of Otago

Community Engagement and Outreach Team		
Chair	Jessa Barder	University of Otago
North Island Outreach Co-ordinator	Andy Wang	The University of Auckland
Agnes Blackie Fellow	Dr Mallika Suresh	University of Otago
Student Representative (Auckland)	Carlie Watt	The University of Auckland
Student Representative (Dunedin)	Jervee Punzalan	University of Otago
Student Representative (Wellington)	Nikita Shumilov	Victoria University of Wellington
Representative	Hanna Scott	MOTAT

Industry Team		
Chair	Dr Nathaniel Davis	Victoria University of Wellington
Director	Professor Frédérique Vanholsbeeck	The University of Auckland
Deputy Director	Professor Keith Gordon	University of Otago
Deputy Director Science	Professor Harald Schwefel	University of Otago
Science Industry Engagement Manager	Dr Zahra Champion	
Communications Manager	Anna Verboeket	
Principal Investigator	Professor Neil Broderick	The University of Auckland
Principal Investigator	Dr Cushla McGoverin	The University of Auckland

Early Career Research Representative	Shahna Muhammad Haneef	Victoria University of Wellington
Student Representative	Matthew Prance	The University of Auckland
Student Representative	Hammad Khalid	University of Otago

Te Ao Māori Rōpū

Chair	Associate Professor Katharina Ruckstuhl	University of Otago
Director	Professor Frédérique Vanholsbeeck	The University of Auckland
Deputy Director Science	Professor Harald Schwefel	University of Otago
Deputy Director Outreach	Jessa Barder	University of Otago
Principal Investigator	Professor Neil Broderick	The University of Auckland
Early Career Research Representative	Dr Jacob Ngaha	The University of Auckland
Student Representative	Anau Lautaha	Auckland University of Technology
Outreach Co-ordinator	Andy Wang	The University of Auckland

Centre Management

Director	Professor Frédérique Vanholsbeeck	The University of Auckland
Deputy Director	Professor Keith Gordon	University of Otago
Programmer Manager	Emma Juggins	University of Otago
Science Industry Engagement Manager	Dr Zahra Champion	
Communications Manager	Anna Verboeket	
Business Support Co-ordinator	Susan Sims	University of Otago
Business Support Co-ordinator	Yashoda Lodhia	University of Otago
Administrator	Rosenna Ratulomai	University of Otago
Administrator	Pauline Grant	The University of Auckland

Investigators by Beacon

All Beacon

Name	Institute	Department	Role
Beacon Leader **Dr Claude Aguergaray**	**University of Auckland**	**Physics**	**Principal Investigator**
Beacon Leader **Dr Jami Shepherd**	**University of Auckland**	**Physics**	**Principal Investigator**
Associate Professor Ludmila Adam	University of Auckland	Earth Science	Associate Investigator
Dr Baptiste Auguié	Victoria University	Physics	Principal Investigator
Dr Marco Bonesi	University of Auckland	Physics	Associate Investigator
Dr Joseph Borbely	Measurement Standards Laboratory		Associate Investigator
Professor Nicola Brasch	Auckland University of Technology	Chemistry	Principal Investigator
Professor Neil Broderick	University of Auckland	Physics	Principal Investigator
Dr Laura Cobus	University of Canterbury	Physics	Principal Investigator
Dr Nathaniel Davis	Victoria University	Chemical and Physical Sciences	Principal Investigator
Associate Professor Vladimir Golovko	University of Canterbury	Physical & Chemical Sciences	Principal Investigator
Professor Keith Gordon	University of Otago	Chemistry	Principal Investigator
Dr Marie Graff	University of Auckland	Mathematics	Associate Investigator
Dr Johan Grand	Measurement Standards Laboratory		Associate Investigator
Dr Paul Hume	Victoria University	Chemical and Physical Sciences	Associate Investigator
Associate Professor Marcus Jones	Auckland University of Technology	Health and Environmental Sciences	Associate Investigator
Professor Bernd Krauskopf	University of Auckland	Mathematics	Principal Investigator
Dr Rainer Kunnemeyer	D&K Technology		Associate Investigator
Dr Freddy Lyzwa	University of Auckland	Physics	Associate Investigator
Professor Brendan McCane	University of Otago	Computer Science	Principal Investigator
Dr Cushla McGoverin	University of Auckland	Physics	Principal Investigator
Dr Francesco Merola	University of Auckland	Physics	Associate Investigator
Dr Michel Nieuwoudt	University of Auckland	Chemical Sciences	Principal Investigator
Professor Hinke Osinga	University of Auckland	Mathematics	Principal Investigator
Professor Michael Reid	University of Canterbury	Physics	Principal Investigator
Dr Michael Taylor	University of Otago	Physics	Associate Investigator
Professor Frédérique Vanholsbeeck	University of Auckland	Physics	Principal Investigator
Associate Professor Kasper van Wijk	University of Auckland	Physics	Principal Investigator

Professor Geoffrey Waterhouse	University of Auckland	Chemical Sciences	Associate Investigator
Professor Jon-Paul Wells	University of Canterbury	Physical & Chemical Sciences	Principal Investigator
Dr Talia Xu	University of Auckland	Computer Science	Associate Investigator

The Many Beacon:

Name	Institute	Department	Role
Beacon Leader **Professor Ulrich Zülicke**	**Victoria University**	**Physics**	**Principal Investigator**
Dr Claude Aguergaray	University of Auckland	Physics	Principal Investigator
Dr Danny Baillie	University of Otago	Physics	Associate Investigator
Professor Blair Blakie	University of Otago	Physics	Principal Investigator
Associate Professor Ashton Bradley	University of Otago	Physics	Principal Investigator
Professor Joachim Brand	Massey Institute of Technology	NZ Institute for Advanced Study	Principal Investigator
Professor Neil Broderick	University of Auckland	Physics	Principal Investigator
Professor Stéphane Coen	University of Auckland	Physics	Principal Investigator
Professor Miro Erkintalo	University of Auckland	Physics	Principal Investigator
Associate Professor Maarten Hoogerland	University of Auckland	Physics	Principal Investigator
Professor David Hutchinson	University of Otago	Physics	Principal Investigator
Professor Niels Kjærgaard	University of Otago	Physics	Principal Investigator
Associate professor Jevon Longdell	University of Otago	Physics	Principal Investigator
Associate Professor Stuart Murdoch	University of Auckland	Physics	Principal Investigator
Associate Professor Scott Parkins	University of Auckland	Physics	Principal Investigator
Dr Ana Rakonjac	Measurement Standards Laboratory	Physics	Principal Investigator
Dr Waltraut Wustmann	University of Otago	Physics	Associate Investigator
Dr Ray Xu	University of Auckland	Physics	Associate Investigator

One Beacon:

Name	Institute	Department	Role
Beacon Leader **Associate Professor Stuart Murdoch**	**University of Auckland**	**Physics**	**Principal Investigator**
Beacon Leader **Associate Professor Scott Parkins**	**University of Auckland**	**Physics**	**Principal Investigator**

Associate Professor Mikkel Andersen	University of Otago	Physics	Principal Investigator
Dr Joseph Ashby	University of Auckland	Physics	Associate Investigator
Dr Baptiste Auguié	Victoria University	Physics	Principal Investigator
Professor Rod Badcock	Openstar, Victoria University	Paihau—Robinson Research Institute	Principal Investigator
Dr Danny Baillie	University of Otago	Physics	Associate Investigator
Professor Blair Blakie	University of Otago	Physics	Principal Investigator
Professor Joachim Brand	Massey Institute of Technology	NZ Institute for Advanced Study	Principal Investigator
Professor Neil Broderick	University of Auckland	Physics	Principal Investigator
Dr Vladimir Bubanja	Measurement Standards Laboratory	Physics	Associate Investigator
Professor John Cater	Auckland University of Technology	Engineering, Computer and Mathematical Sciences	Associate Investigator
Dr Kai Chen	Victoria University	Paihau—Robinson Research Institute	Associate Investigator
Dr Laura Cobus	University of Canterbury	Physics	Principal Investigator
Professor Keith Gordon	University of Otago	Chemistry	Principal Investigator
Dr Johan Grand	Measurement Standards Laboratory		Associate Investigator
Associate Professor Maarten Hoogerland	University of Auckland	Physics	Principal Investigator
Professor David Hutchinson	University of Otago	Physics	Principal Investigator
Professor Niels Kjærgaard	University of Otago	Physics	Principal Investigator
Professor Bernd Krauskopf	University of Auckland	Mathematics	Principal Investigator
Dr Nicholas Lambert	University of Otago	Physics	Associate Investigator
Associate professor Jevon Longdell	University of Otago	Physics	Principal Investigator
Dr Bart Ludbrook	Victoria University	Paihau—Robinson Research Institute	Associate Investigator
Professor Brendan McCane	University of Otago	Computer Science	Principal Investigator
Professor Miro Erkintalo	University of Auckland	Physics	Principal Investigator
Professor Hinke Osinga	University of Auckland	Mathematics	Principal Investigator
Dr Ana Rakonjac	Measurement Standards Laboratory		Principal Investigator
Associate Professor Nick Rattenbury	University of Auckland	Physics	Principal Investigator
Professor Michael Reid	University of Canterbury	Physics	Principal Investigator
Dr Joseph Schuyt	Victoria University	Paihau—Robinson Research Institute	Associate Investigator
Professor Harald Schwefel	University of Otago	Physics	Principal Investigator
Dr Mallika Suresh	University of Auckland	Physics	Associate Investigator
Professor Jon-Paul Wells	University of Canterbury	Physical & Chemical Sciences	Principal Investigator
Professor Ulrich Zülicke	Victoria University	Physics	Principal Investigator

Postdoctoral and Research Fellows

Name	Fellow Type
The University of Auckland	
Dr. Liam Quinn	Postdoctoral Fellow
Dr. Kyoung Hyun Lee	Postdoctoral Fellow
Dr. Jacob Ngaha	Postdoctoral Fellow
Dr. Rodrigues Bitha	Postdoctoral Fellow
Dr. Max Dooley	Research Fellow
Dr. Hannah Sheridan	Research Fellow
Dr. Sophie Shamailov	Research Fellow
Dr. Wayne Crump	Research Fellow
Dr. Yiqing Xu	Postdoctoral Fellow
Dr. Zongda Li	Research Fellow
Dr. Thomas Haase	Senior Research Fellow
Massey University	
Dr. Alex Kerin	Postdoctoral Fellow

Name	Fellow Type
University of Otago	
Dr. Chengcai Tian	Postdoctoral fellow
Dr. Gavin King	Postdoctoral fellow
Dr. Jeremy Rooney	Postdoctoral fellow
Dr. Masaya Hirashi	Postdoctoral fellow
Dr. Matthew Chilcott	Postdoctoral fellow
Dr. Luke Trainor	Research Fellow
Dr. Marvin Weyland	Research Fellow
Victoria University of Wellington	
Dr. Claude Meffan	Postdoctoral fellow
Dr. Dominic Moseley	Senior Scientist
Dr. Fernando Solis Fernandez	Postdoctoral fellow
Dr. Shahna Mohamad Haneef	Scientist

Research Assistants and Research Technicians

Name	Role
The University of Auckland	
Jordan Hazlehurst	Research Assistant
Dr. Caitlin Smith	Research Assistant
Jiexian Xiao	Research Assistant
Joshua Urgel	Research Assistant
Kane Hill	Research Assistant
Nicholas Russell	Research Assistant
Rebecca Zhang	Research Assistant
Tiernan Phillips	Research Assistant
Zavier Bly	Research Assistant
Chad Scott	Research Assistant
Funk Kira Lee	Research Assistant
Hannah Matthews	Research Assistant
Jugraj Chahlal Singh	Research Assistant

Name	Role
Auckland University of Technology	
Jessica Fredericksen	Research Assistant
Clarence Navalta	Research Assistant
Measurement Standards Laboratory	
Jeruh Kim	Research Assistant
University of Otago	
Dr. Andrew Underwood	Research Assistant
Dr. Au-Chen Lee	Research Assistant
Victoria University of Wellington	
Nicky Vera	Research Assistant
Dr. Fernando Solis Fernandez	Research Assistant
Dr. Aditi Kumar	Research Assistant
Dr. Chao-Yang (Sunny) Lin	Research Assistant

PhD Students

Key:
Completed - Bold
Scholarship - Italic

Auckland University of Technology	
Adrian Owens	Nimra Abdul Haleem
Anau Lautaha	Romina Marie Mathew
Jessica Fredericksen	*Sneha Matthews*
Megha Baburaj Sijarani	

Massey University	
Matija Čufar	*Satyanand Kuwar*

The University of Auckland	
Akid Ornob	*Jordan Wise*
Alexander Elliott	**Josefina Barrera Morelli**
Alfred Kim	Kane Hill
Anagha Thattankandy	Luyang Xi
Benjamin Haenraets	Matthew Macnaugthan
Caitlin Smith	Mohammad Sadeghi
Carlie Watt	Ofri Adiv
Chi Minh Truong	Patrick Hollands
Craig Steed	Raymon Velivolu
Cutfield Samuel	Rory Robertson
Daniel Everett	Sam Cutfield
Darven Tharan	Shengbo Xu
Emily Leedham	Stephen Chung
Hanlin Li	Suyash Mehta
Ira Mautner	Thomas Clarkson
Jason Su	Tillmann Spellauge
Jeffery Low	Wang Liao
Jirapat Charounsawan	Zhang Dan
Joe Steele	

University of Canterbury	
Abigail Moull	*Rezvan Anvari*
Michael Moull	*Roberta Parlavecchia*
Nor Azah Abdul Aziz	Sarah Polson
Pakwan Chanprakhon	Ziru Zhao

University of Otago	
Amir Abbas Saberi	**Matthew Cloutman**
Amir Sohail	Mitchell Chalmers
Anam Zulfiqar	*Nils Krause*
Andrew Underwood	Pablo Paulsen
Ben Ripley	Peter Remoto
Difa Hakim	Rene Rohrs
Elkhansa Elbashier	**Sam Harris**
Fadhillah Rahimi	*Samyajit Gayen*
Gourav Gourav	Sana Maroof
Hammad Khalid	Victor Zhang
Jervee Punzalan	Zakia Chaudhury
Liam Domett-Potts	

Victoria University of Wellington	
Adit Batra	Nimra Bashir
Aditi Kumar	Rong Ma
Alla Gisich	Sanutep Chan
Chase Zemke-Smith	Siyao Zhang
Fatima Bibi	Sofie Claridge
Fernando Solis Fernandez	**Stefania Glukova**
Finnian Smith	Vinay Gudala
Liam McKenna	Xingxing Zhang
Midhuna Sobhana Joy	Yuzhou Xiao
Nikita Shumilov	Zhixuan Hu

Other Research Degree Students

Key:
Completed - Bold
Scholarship - Italic

Name	Institution
Master's Degree	
Alice Yu	University of Auckland
Briana Cate	**University of Otago**
Christina Anne Rajeev	**University of Auckland**
Jugraj Chahlal Singh	**University of Auckland**
Lachlan Cronin	University of Otago
Luc Hackner	University of Otago
Manfred Linton	University of Auckland
Matthew Wong	Victoria University of Wellington
Rebecca Zhang	University of Auckland
Reuben Cook	University of Otago
Rye Chen	University of Auckland
Sam Croot	**University of Auckland**
Sanjana Vinta	University of Auckland
Vanshika Chinchalkar	**University of Auckland**
Honours Degree	
Adam Dobbyn	**University of Auckland**
Aden Porritt	**University of Auckland**
Anna Petersen	**University of Otago**
Atlas Robinson	**University of Auckland**
Ava McClain	*University of Otago*
Bailey Robinson	University of Canterbury
Cassey Olsen	**Auckland University of Technology**
Cynthia Xie	**University of Auckland**

Honours Degree cont	
Eric Zheng	University of Auckland
James Luxon	University of Otago
Kuviraj Sandhu	**University of Auckland**
Leon Sun	**University of Auckland**
Maisie Russell	**University of Auckland**
Megumi Hirose	**University of Canterbury**
Naomi Holland	**University of Canterbury**
Oscar Stone	*University of Otago*
Simran Maharaj	**University of Auckland**
Thomas Swarbrick	**University of Auckland**
Thomas Clark	*University of Otago*
Postgraduate Diploma	
Daneshajeya Jeyavalan	**University of Auckland**

Emeritus Investigators

Name	Name
Professor Rob Ballagh	Professor Cather Simpson
Professor Howard Carmichael	Professor Nancy Longnecker
Dr Amita Deb	Dr Juliette Cheyne
Professor Crispin Gardiner	Dr Dominik Vogt
Professor John Harvey	Professor Richard Blaikie
Associate Professor Rainer Leonhardt	

Affiliate Members

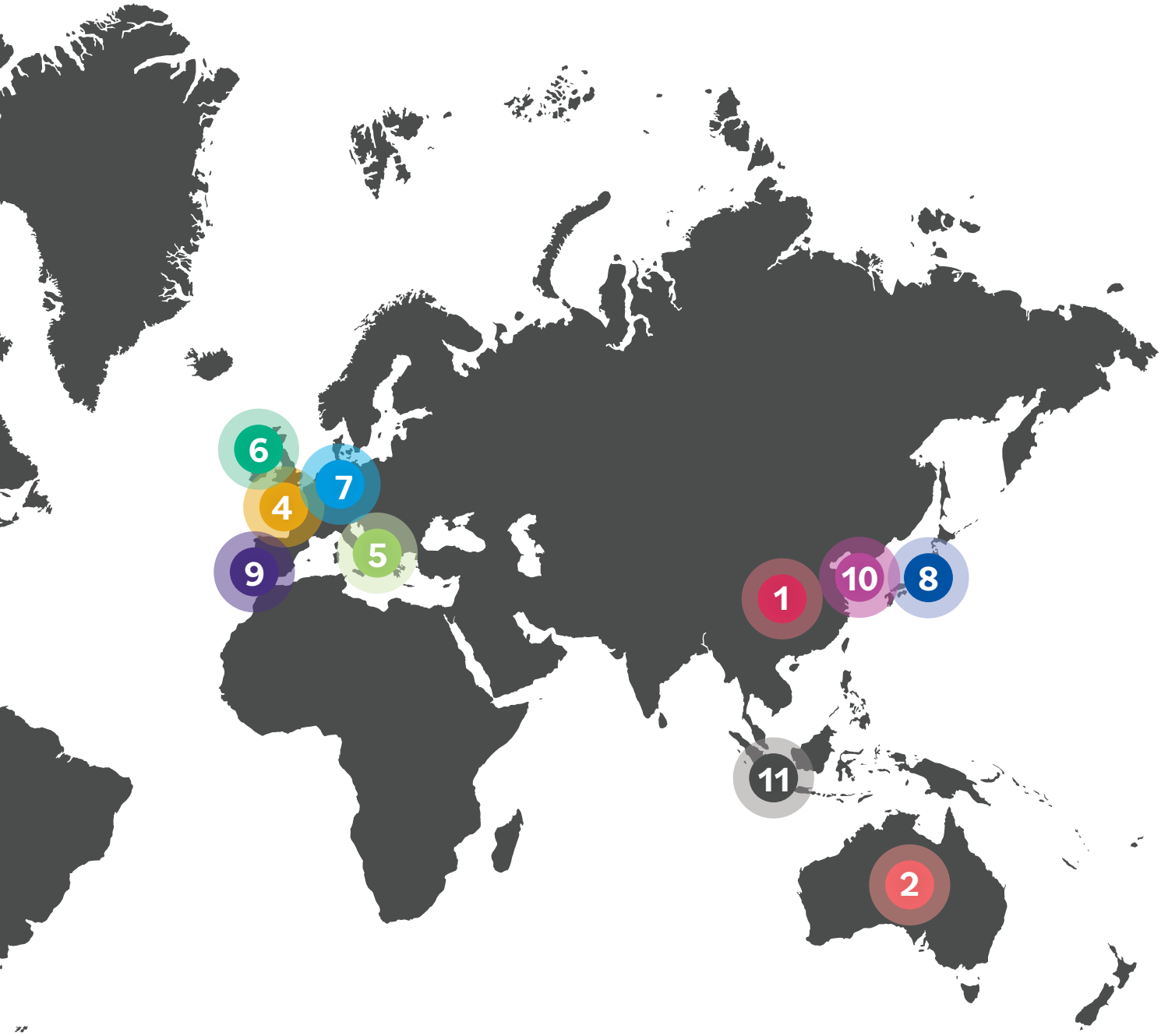
Name	Institution
Professor Jörg Frauendiener	University of Otago
Dr Simon Granville	Victoria University of Wellington
Dr William Holmes-Hewitt	Paihau - Robinson Research institute
Dr Jianyong Jin	University of Auckland
Dr Annette Koo	Measurement Standards Laboratory
Dr Sam Lowrey	University of Otago
Dr Sara Miller	Flinders University
Dr Daniel Schumayer	University of Otago
Associate Professor Annika Seppala	University of Otago
Dr Jason Sun	Plant and Food Research
Professor Peter Xu	University of Auckland

1. 31.2% China - *[96]*
2. 10.1% Australia - *[31]*
3. 9.7% United States - *[30]*
4. 9.4% France - *[29]*
5. 10.4% Other EU - *[32]*
6. 8.8% United Kingdom - *[27]*
7. 5.8% Germany - *[18]*
8. 4.9% Japan - *[15]*
9. 4.5% Spain - *[14]*
10. 4.2% South Korea - *[13]*
11. 1.0% Singapore - *[3]*

The percentage represents the number of publications per country. The number in brackets denotes the number of institutions per country the Centre collaborated with in 2025. New Zealand data excluded. Correct at time of publication.

Publications

Analysis by Country and Institution



New Zealand non-tertiary partner collaborators

- MacDiarmid Institute for Advanced Materials and Nanotechnology
- Earth Sciences New Zealand
- Callaghan Innovation
- Te Whatu Ora
- Riddet Institute
- Fisher & Paykel Healthcare
- Bioeconomy Science Institute
- Fonterra

Peer-Reviewed Publications 2025

Authors	Title	Publication	International Collaborations
Liu, J.| Liu, Y.| Wang, Y.| Zheng, L.| He, W.| Han, M.| Gan, L.| **Waterhouse**, **G.I.N.**| Liu, J.| Li, J.	Atomically Dispersed Amorphous FeCo-SiWA Catalysts Enable Efficient OER via Lattice Oxygen-Mediated Mechanism	Small, (2025), ISSN-16136810, Journal, Article	CAS - Institute of High Energy Physics (**China**), Central South University (**China**), The University of Auckland (**New Zealand**), Chinese Academy of Sciences (**China**)
Cho, H.W.| Jee, M.H.| Elbashier, E.| Kim, J.| Roe, J.| Son, J.| Lee, Y.| Lee, D.C.| Cho, S.| **Gordon, K.C.**| Woo, H.Y.| Kim, J.Y.	Mitigating Photo-Aging of Donor Polymer via Crosslinking for Long-Term Organic Solar Cell Performance	Advanced Functional Materials, (2025), ISSN-1616301X, Journal, Article	University of Ulsan (**South Korea**) Ulsan National Institute of Science and Technology (**South Korea**) Korea University (**South Korea**) University of Otago (**New Zealand**)
Qiao, Y.| Ainslie, M.| Sun, Y.| **Badcock, R.A.**| Strickland, N.M.| Jiang, Z.	3D numerical simulation of magnetization loss in multifilamentary MgB2 wires at 20 K	Superconductor Science and Technology, (2025), **38**, 1, 15024, ISSN-09532048, Journal, Article	King's College London (**United Kingdom**), Victoria University of Wellington (**New Zealand**)
Wang, Z.| Sun, J.| **Künnemeyer, R.**| McGlone, A.	Detection of internal browning in 'Scilate' apples with a high-speed linear-rail dual-laser scanning system	Postharvest Biology and Technology, (2025), **219**, 113200, ISSN-09255214, Journal, Article	Plant and Food Research, New Zealand (New Zealand), University of Otago (**New Zealand**)
Krecke, J.| Kim, O.| Villano, M.| Krieger, G.| Dabboor, M.| **Cater, J.E.**| Austin, A.C.M.	Performance Simulation of SmallSat SAR Persistent Scatterer Interferometry With Deteriorated Images	IEEE Geoscience and Remote Sensing Letters, (2025), **22**, 4004105, ISSN-1545598X, Journal, Article	University of Bristol (**United Kingdom**) Environment and Climate Change Canada (**Canada**) German Aerospace Center (**Germany**) University of Canterbury (**New Zealand**)
Richardson, G.M.| Rajeshkumar, T.| Burke, F.M.| Cameron, S.A.| Nicholls, B.D.| Harvey, J.E.| Keyzers, R.A.| Butler, T.| Granville, S.| Liu, L.| Langley, J.| Lim, L.F.| Cox, N.| Chilton, N.F.| Hicks, J.| **Davis, N.J.L.K.**| Maron, L.| Anker, M.D.	Four-electron reduction of benzene by a samarium(ii)-alkyl without the addition of external reducing agents	Nature Chemistry, (2025), **17**, 1, 20-28, ISSN-17554330, Journal, Article	University of Manchester (**United Kingdom**) Institut national des sciences appliquées de Toulouse (**France**) Université Fédérale Toulouse Midi-Pyrénées (**France**) Université Paul Sabatier Toulouse III (**France**), Victoria University of Wellington (**New Zealand**), Australian National University (**Australia**)
Shandilya, P.| Ou, S.-C.| Stone, J.| Menyuk, C.| **Erkintalo, M.**| Srinivasan, K.| Moille, G.	All-optical azimuthal trapping of dissipative Kerr multi-solitons for relative noise suppression	APL Photonics, (2025), **10**, 1, 16104, ISSN-23780967, Journal, Article	The University of Auckland (**New Zealand**) University of Maryland, College Park (**United States**) National Institute of Standards and Technology (**United States**) University of Maryland, Baltimore County (**United States**)
Nieke, P.| Chopovda, V.| **Rattenbury, N.J.**| **Cater, J.E.**	Analysis and optimisation of titanium alloy sandwich structures for thermal protection	CEAS Space Journal, (2025), 17, 1, 46296, 111507, ISSN-18682502, Journal, Article	The University of Auckland (**New Zealand**) University of Canterbury (**New Zealand**)

Authors	Title	Publication	International Collaborations
Kalsi, S.S.| Storey, J.G.| Lumsden, G.A.| Thrimawithana, D.| **Badcock, R.A.**	Conceptual Design of a 25 MW HTS Wind Power Generator for Offshore Green Hydrogen Production	IEEE Transactions on Applied Superconductivity, (2025), 35, 5, 5200405, ISSN-10518223, Journal, Article	Victoria University of Wellington (**New Zealand**) The University of Auckland (**New Zealand**)
Caldarelli, A.| Andriulli, R.| Ponti, F.| **Cater, J.**| **Rattenbury, N.**	Effect of input power on plasma expansion and ion acceleration in a radio-frequency plasma thruster	Acta Astronautica, (2025), 226, 521-530, ISSN-00945765, Journal, Article	The University of Auckland (**New Zealand**) University of Bologna (**Italy**) University of Canterbury (**New Zealand**)
Ruschel, S.| Barbay, S.| **Broderick, N.G.R.**| **Krauskopf, B.**	Strongly resonant polarization dynamics of pulse trains in a spin-flip model for an excitable microlaser with delayed self-feedback	European Physical Journal: Special Topics, (2025), ISSN-19516355, Journal, Article	CNRS (**France**) The University of Auckland (**New Zealand**) University of Leeds (**United Kingdom**) Université Paris-Saclay (**France**)
Kenny, J.A.| Lindsay, J.M.| Muirhead, J.D.| Eccles, J.D.| Luthfian, A.| Ingold, J.| **van Wijk, K.**| Miller, C.| Howe, T.M.| Kirk, P.	Identifying obscured faults in urban areas: insights from Tāmaki Makaurau Auckland, Aotearoa New Zealand	New Zealand Journal of Geology and Geophysics, (2025), **68**, 4, 897-917, ISSN-00288306, Journal, Article	Institut Teknologi Sepuluh Nopember (**Indonesia**) The University of Auckland (**New Zealand**) GNS Science (**New Zealand**)
You, S.| Sun, Y.| Storey, J.G.| **Badcock, R.A.**| Jiang, Z.	Numerical Study of AC Loss in a Saddle Coil Carrying DC and Experiencing AC Field Utilizing T-A Formulation	IEEE Transactions on Applied Superconductivity, (2025), **35**, 1, 5900109, ISSN-10518223, Journal, Article	University of Edinburgh (**United Kingdom**) Victoria University of Wellington (**New Zealand**)
Kumar, A.| Chen, B.-H.| Lin, C.-Y.| Shumilov, N.A.| **Davis, N.J.L.K.**| Chao, Y.-C.| Chu, L.-K.| Li, C.-F.| Huang, Y.-C.| Yang, S.-D.| Price, M.B.| **Hume, P.A.**| Hodgkiss, J.M.| **Chen, K.**	Ultrafast Transient Electroabsorption Illuminates Additive Effects for Enhancing Non-fullerene Photovoltaic Devices	Journal of Physical Chemistry Letters, (2025), **16**, 10703-10711, ISSN-19487185, Journal, Article	University of Bristol (**United Kingdom**) Victoria University of Wellington (**New Zealand**) National Taiwan Normal University (**Taiwan**) National Tsing Hua University (**Taiwan**) National Taiwan University (**Taiwan**) Ming Chi University of Technology (**Taiwan**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Pan, P.| Rees, S.W.P.| Svirskis, D.| Barker, D.| **Waterhouse, G.I.N.**| Wu, Z.	On-demand photoresponsive liposomes-in-gel to prevent UV light-induced cellular damage	Materials Advances, (2025), ISSN-26335409, Journal, Article	The University of Auckland (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Bandara, R.I.| Giraldo, A.| **Broderick, N.G.R.**| **Krauskopf, B.**	BIFURCATIONS OF PERIODIC ORBITS IN THE GENERALISED NONLINEAR SCHRODINGER EQUATION	Journal of Computational Dynamics, (2025), **12**, 2, 178-211, ISSN-21582505, Journal, Article	University of Peradeniya (**Sri Lanka**) The University of Auckland (**New Zealand**) Korea Institute for Advanced Study (**South Korea**)
Gao, B.| Xia, S.| Zhang, S.| Yu, Y.| Yang, Y.| Chen, C.| **Broderick, N.G.R.**	Exploring chaotic dynamics in cascaded ReLU-type HNN with current stimuli and memristive electromagnetic induction	European Physical Journal: Special Topics, (2025), ISSN-19516355, Journal, Article	Jiangsu University of Technology (**China**) Nanjing University of Information Science & Technology (**China**) The University of Auckland (**New Zealand**)
He, Q.| Morison, S.| Prados-Martin, L.| McAdam, C.J.| Brooks, H.J.L.| **Gordon, K.C.**| Lim, K.S.| Crowley, J.D.	Water-Soluble Cobalt(III)–Polypyridyl Complexes: Synthesis, Structures and Properties	European Journal of Inorganic Chemistry, (2025), ISSN-14341948, Journal, Article	University of Sydney (**Australia**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) University of Otago (**New Zealand**)

Authors	Title	Publication	International Collaborations
Mao, Y.| Zhou, Y.| Li, M.| Wang, Z.| Shi, R.| Shang, L.| Zhang, T.| **Waterhouse, G.I.N.**	Effect of Metal–Metal Distance on the Performance of Dual-Atom Catalysts for the Oxygen Reduction Reaction: A Density Functional Theory and Micro-kinetics Study	Small, (2025), ISSN-16136810, Journal, Article	The University of Auckland (**New Zealand**) CAS – Technical Institute of Physics and Chemistry (**China**) Chinese Academy of Sciences (**China**)
Kalsi, S.S.| Storey, J.G.| Lumsden, G.A.| **Badcock, R.A.**	Dual Coil Superconducting AC Homopolar Machine for Turbo-Generator Applications	IEEE Transactions on Applied Superconductivity, (2025), **35**, 6, 0b00006493e8a876, ISSN-10518223, Journal, Article	Victoria University of Wellington (**New Zealand**)
Cai, H.| Yu, L.| **Wustmann, W.**| Clarke, R.| Osborn, K.D.	Detection of Low-Energy Fluxons From Discrete Long Josephson Junctions for Ballistic Computing	IEEE Transactions on Applied Superconductivity, (2025), **35**, 8, 1301910, ISSN-10518223, Journal, Article	University of Maryland, College Park (**United States**) University of Otago (**New Zealand**)
Koshy, B.G.| Bouloukakis, K.| Ainslie, M.| Sun, Y.| **Badcock, R.A.**| Mallett, B.P.P.| Jiang, Z.	Magnetization Loss and Its Angular Dependence in a No-Insulation HTS REBCO Double-Pancake Coil	IEEE Transactions on Applied Superconductivity, (2025), **35**, 2, 5201109, ISSN-10518223, Journal, Article	Victoria University of Wellington (**New Zealand**) King's College London (**United Kingdom**)
Giang, N.H.| Van Hoang, V.| **Bubanja, V.**| Nga, N.T.	Melting of Amorphous Germanene: Influences of Heating Rate on Melting	Journal of Electronic Materials, (2025), ISSN-03615235, Journal, Article	Vietnam National University Ho Chi Minh City (**Vietnam**) Callaghan Innovation (**New Zealand**) PetroVietnam University (**Vietnam**) Ho Chi Minh City University of Technology – HCMUT (**Vietnam**) University of Otago (**New Zealand**)
Wong, N.| **Krauskopf, B.**| **Osinga, H.M.**	Cascades of heterodimensional cycles via period doubling	Communications in Nonlinear Science and Numerical Simulation, (2025), 140, 108328, ISSN-10075704, Journal, Article	The University of Auckland (**New Zealand**)
Schuyt, J.J.| Moseley, D.A.| **Ludbrook, B.M.**| Haneef, S.M.| **Badcock, R.A.**	Modeling the Radiation-Induced Attenuation Limits in Optical Fibers During Concurrent Irradiation, Thermal Annealing, and Photobleaching	IEEE Transactions on Nuclear Science, (2025), **72**, 7, 2154-2162, ISSN-00189499, Journal, Article	Victoria University of Wellington (**New Zealand**)
Luthfian, A.| Finizola, A.| Mazot, A.| **Adam, L.**| Gusset, R.| Eccles, J.D.	Thermal remanence of the ~0.6 kya Rangitoto volcano eruption, Auckland Volcanic Field (New Zealand) inferred from self-potential and CO2 flux measurements	Volcanica, (2025), **8**, 1, 241-260, ISSN-26103540, Journal, Article	Institut Teknologi Sepuluh Nopember (**Indonesia**) Université de La Réunion (**France**) CNRS (**France**) The University of Auckland (**New Zealand**) Université Paris Cité (**France**) GNS Science (**New Zealand**)
Jawad, L.A.| **Matthews, H.**| Adams, N.J.| **Nieuwoudt, M.**| Low, J.	An anomalous otolith of Engraulis australis (Clupeiformes, Engraulidae) from the food of the Australasian gannet Morus serrator, New Zealand	New Zealand Journal of Zoology, (2025), **52**, 5, 516-536, ISSN-03014223, Journal, Article	The University of Auckland (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) UNITEC Institute of Technology (**New Zealand**)

Authors	Title	Publication	International Collaborations
Howell, Y.| **Blaikie, R.**| **Lowrey, S.**	Wetting of soap bubbles on topographic surfaces	Journal of Colloid and Interface Science, (2025), **677**, 1014-1021, ISSN-00219797, Journal, Article	MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) University of Otago (**New Zealand**)
Taylor, R.W.| Pantoja, A.E.| Chong, S.V.| Hlásek, T.| Plecháček, J.| Weijers, H.W.| Ainslie, M.D.| **Badcock, R.A.**| Bumby, C.W.	Comparison of Jc measurements obtained by magnetisation and transport methods for a GdBCO-Ag bulk	Superconductor Science and Technology, (2025), **38**, 1, 15014, ISSN-09532048, Journal, Article	Victoria University of Wellington (**New Zealand**) University of Chemistry and Technology, Prague (**Czech Republic**) King's College London (**United Kingdom**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) University of Otago (**New Zealand**)
Fu, H.-G.| Gao, X.| Wang, H.-J.| **Waterhouse, G.I.N.**| Xu, J.	Two-Dimensional Supramolecular Organic Framework with Tunable Morphology and Luminescence Cascade-Enhanced Properties	ACS Materials Letters, (2025), 746-753, ISSN-26394979, Journal, Article	Shandong Agricultural University (**China**) The University of Auckland (**New Zealand**) Liaocheng University (**China**)
Han, Y.| Pan, Y.| Wei, T.| Ma, Y.| Zhang, X.| Jiang, L.| **Chen, K.**| Wu, L.| Cui, J.| Gao, C.	Control upconversion decay dynamics from perspective of collective response	Journal of Rare Earths, (2025), **43**, 1, 57-63, ISSN-10020721, Journal, Article	Victoria University of Wellington (**New Zealand**) Civil Aviation University of China (**China**)
Ludbrook, B.M.| Fernandez, F.S.| Ramesh, M.| Phoenix, B.| Moseley, D.A.| **Schuyt, J.J.**| Fernando, G.| **Badcock, R.A.**	Resilience of Fiber-Bragg Grating Optical Sensors under Neutron Irradiation at 77 K	IEEE Transactions on Applied Superconductivity, (2025), **35**, 5, 9000105, ISSN-10518223, Journal, Article	University of Birmingham (**United Kingdom**) Victoria University of Wellington (**New Zealand**)
Min, F.| Chen, C.| **Broderick, N.G.R.**	Coupled Homogeneous Hopfield Neural Networks: Simplest Model Design, Synchronization, and Multiplierless Circuit Implementation	IEEE Transactions on Neural Networks and Learning Systems, (2025), **36**, 6, 11632-11639, ISSN-2162237X, Journal, Article	Jiangsu University of Technology (**China**) Nanjing Normal University (**China**) The University of Auckland (**New Zealand**)
Hao, M.| Xie, Y.| Chen, Z.| Yang, H.| **Waterhouse, G.I.N.**| Ma, S.| Wang, X.	Promising porous materials for uranium extraction from seawater	Fundamental Research, (2025), ISSN-20969457, Journal, Short Survey	University of North Texas (**United States**) North China Electric Power University (**China**) The University of Auckland (**New Zealand**)
Wu, Y.| Yuan, Q.| Zhao, Y.| Sun, K.| Sun, H.| Wang, K.| Hu, S.| **Waterhouse, G.I.N.**| Wu, J.| Wang, Z.| Jiang, J.| Fan, M.	Hydroxylated Boron Crystal Domain-Modulated Heterostructure Carbon Catalysts for Efficient Hydrogen Peroxide Generation	Journal of the American Chemical Society, (2025), ISSN-00027863, Journal, Article	Nanjing Forestry University (**China**) The University of Auckland (**New Zealand**) University of Cincinnati (**United States**) Chinese Academy of Forestry (**China**)
Torres-Leal, F.| Abbas, N.| **Aguergaray, C.**| **Broderick, N.G.R.**	Observation of widely separated soliton molecules in a mode-locked Yb-doped fiber laser operating with net anomalous dispersion	Optics Communications, (2025), **574**, 131217, ISSN-00304018, Journal, Article	The University of Auckland (**New Zealand**) Instituto Tecnológico de Estudios Superiores de Monterrey (**Mexico**)
Solis Fernandez, F.| **Ludbrook, B.M.**| Phoenix, B.| Ramesh, M.| **Schuyt, J.**| Moseley, D.A.| Conroy, M.| Price, T.| Fernando, G.F.| **Badcock, R.A.**	Photobleaching of Neutron Radiation Induced Attenuation of Optical Fibers at Liquid Nitrogen Temperature	IEEE Transactions on Nuclear Science, (2025), **72**, 7, 2145-2153, ISSN-00189499, Journal, Article	University of Birmingham (**United Kingdom**) National Nuclear Laboratory (**United Kingdom**) Victoria University of Wellington (**New Zealand**)
Fernandez, F.S.| **Schuyt, J.J.**| Haneef, S.M.| Moseley, D.A.| **Ludbrook, B.M.**| **Badcock, R.A.**	Radiation-induced Attenuation in Standard Optical Fibers at Cryogenic Temperatures: Dose Rate, Temperature, and Photobleaching Interdependence	Journal of Lightwave Technology, (2025), ISSN-07338724, Journal, Article	Victoria University of Wellington (**New Zealand**)

Authors	Title	Publication	International Collaborations
Wu, X.| Zhang, K.| Wang, J.| Zhao, R.| Ning, R.| Shang, X.| Zhang, B.| Gao, Y.| Zhang, M.| Jiang, P.| **Waterhouse, G.I.N.**| Xie, J.| Xu, J.	PBAT/PPCP biodegradable mulching films with enhanced weatherability and water barrier properties for increased cotton yields	Advanced Agrochem, (2025), ISSN-27732371, Journal, Article	Shandong Agricultural University (**China**) The University of Auckland (**New Zealand**) Ministry of Agriculture of the People's Republic of China (**China**)
Li, J.| Jin, A.| Ding, Y.| **Broderick, N.G.R.**| Low, J.| Yang, L.| Zhou, M.| Wang, M.| Cui, J.	Femtosecond Laser Processing of Micro Textured CFRP Bonding Interfaces and their Adhesive Properties	International Journal of Precision Engineering and Manufacturing, (2025), ISSN-22347593, Journal, Article	Harbin Institute of Technology (**China**) The University of Auckland (**New Zealand**) Xi'an Jiaotong University (**China**)
Guan, H.| Zhang, W.| Liu, H.| Jiang, Y.| Li, F.| Wang, D.| Liu, Y.| He, F.| Wu, M.| **Ivan Neil Waterhouse, G.**| Sun-Waterhouse, D.| Li, D.	Simultaneous binding of quercetin and catechin to FOXO3 enhances IKKαtranscription inhibition and suppression of oxidative stress-induced acute alcoholic liver injury in rats	Journal of Advanced Research, (2025), **67**, 71-92, ISSN-20901232, Journal, Article	Shandong Agricultural University (**China**) The University of Auckland (**New Zealand**)
Dong, P.| Huang, J.| Wu, S.| Qian, J.| Wang, Y.| Raghavan, V.| **Waterhouse, G.I.N.**| Wang, J.	Photogenerated Radical Amplified D–A–D Metal-Covalent Organic Frameworks for Highly Efficient Photodynamic Tumor Therapy	Angewandte Chemie - International Edition, (2025), ISSN-14337851, Journal, Article	Southeast University, Nanjing (**China**) The University of Auckland (**New Zealand**) McGill University (**Canada**)
Bickerton, S.| Varughese, C.| Mankelow, C.| Katavich-Barton, S.| Dowling, T.| Wijayatunga, M.| Qualtrough, C.| Kirollos, B.| Henry, L.| **Rattenbury, N.**| Morris, A.| Dhopade, P.	Sustainability within Aotearoa New Zealand's aerospace sector: current state and implications for the future	Journal of the Royal Society of New Zealand, (2025), **55**, 6, 1663-1682, ISSN-03036758, Journal, Article	Auckland Council (**New Zealand**) The University of Auckland (**New Zealand**)
Yan, L.| Mao, Y.| Li, Y.| Sha, Q.| Sun, K.| Li, P.| **Waterhouse, G.I.N.**| Wang, Z.| Tian, S.| Sun, X.	Sublimation Transformation Synthesis of Dual-Atom Fe Catalysts for Efficient Oxygen Reduction Reaction	Angewandte Chemie - International Edition, (2025), **64**, 1, e202413179, ISSN-14337851, Journal, Article	Beijing University of Chemical Technology (**China**) The University of Auckland (**New Zealand)**
Tanghe, I.| Lin, C.-Y.| Wagner, I.| Samoli, M.| Ataberk Cayan, S.| Hens, Z.| Hodgkiss, J.| **Chen, K.**| Geiregat, P.	Determination of the carrier temperature in weakly confined semiconductor nanocrystals using time-resolved optical spectroscopy	Nanoscale, (2025), **17**, 8, 4381-4388, ISSN-20403364, Journal, Article	Victoria University of Wellington (**New Zealand**) Ghent University (**Belgium**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) University of Otago (**New Zealand**)
Hasan, M.M.| **Hume, P.A.**| Zhang, L.| Lu, Y.	Excitonic Dark States in Molecular Monolayer Crystals	Nano Letters, (2025), **25**, 1, 383-390, ISSN-15306984, Journal, Article	Nanjing University of Aeronautics and Astronautics (**China**) Victoria University of Wellington (**New Zealand**) Australian National University (**Australia**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Xu, Q.| Li, T.| Ju, Z.| Chen, G.| Ye, D.| **Waterhouse, G.I.N.**| Lu, Y.| Lai, X.| Zhou, G.| Guo, L.| Yan, K.| Tao, X.| Li, H.| Qiu, Y.	Li2ZrF6-based electrolytes for durable lithium metal batteries	Nature, (2025), **637**, 8045, 339-346, ISSN-00280836, Journal, Article	Tsinghua University (**China**) Zhejiang University (**China**) Wenzhou University (**China**) Beihang University (**China**) CAS – Institute of Physics (**China**) The University of Auckland (**New Zealand**) South China University of Technology (**China**), Zhejiang University of Technology (**China**), Chinese Academy of Sciences (**China**)

Authors	Title	Publication	International Collaborations
Blakie, P.B.	Dirac Points and Shear Instability Induced Crystal Transitions in Honeycomb Supersolids	Physical Review Letters, (2025), **134**, 1, 13401, ISSN-00319007, Journal, Article	University of Otago (**New Zealand**)
Gito, D.A.D.| Akbarinejad, A.| Dixon, A.| Loho, T.| **Nieuwoudt, M.**| Chen, Q.| Domigan, L.J.| Malmström, J.	Self-Assembled Piezoelectric Films from Aligned Lysozyme Protein Fibrils	Biomacromolecules, (2025), **26**, 1, 514-527, ISSN-15257797, Journal, Article	The University of Auckland (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Ijaz, M.| Zhang, H.| Wagner, I.| Liu, F.| Samoli, M.| Hens, Z.| Geiregat, P.| Hodgkiss, J.M.| Blaikie, R.J.| Ding, B.| Chen, Y.-H.| **Chen, K.**| Qiu, M.	Realizing zero-threshold population inversion via plasmonic doping	Nanoscale, (2025), **17**, 8, 4776-4782, ISSN-20403364, Journal, Article	Westlake University (**China**) Victoria University of Wellington (**New Zealand**) Beijing Institute of Technology (**China**) Ghent University (**Belgium**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) University of Otago (**New Zealand**)
Capiński, M.J.| **Krauskopf, B.**| **Osinga, H.M.**| Zgliczyński, P.	Characterising blenders via covering relations and cone conditions	Journal of Differential Equations, (2025), **416**, 768-805, ISSN-00220396, Journal, Article	Jagiellonian University in Kraków (**Poland**) AGH University of Krakow (**Poland**) The University of Auckland (**New Zealand**)
Sun, K.| Lu, R.| Liu, Y.| Webb, J.| Hanif, M.| Zhao, Y.| Wang, Z.| **Waterhouse, G.I.N.**	Balancing Activity and Selectivity in Two-Electron Oxygen Reduction through First Coordination Shell Engineering in Cobalt Single Atom Catalysts	Angewandte Chemie - International Edition, (2025), **64**, 5, e202416070, ISSN-14337851, Journal, Article	The University of Auckland (**New Zealand**) Beijing University of Chemical Technology (**China**)
Elbashier, E.| Wagner, P.| Officer, D.L.| **Gordon, K.C.**	Impact of the Acceptor Group on the Properties of Triphenylamine-Donor-Acceptor Dyes: An Experimental and Computational Study	Journal of Physical Chemistry A, (2025), **129**, 4, 1026-1041, ISSN-10895639, Journal, Article	University of Wollongong (**Australia**) University of Otago (**New Zealand**)
Lin, C.-Y.| Jiang, Z.-C.| Chen, B.-H.| Wagner, I.| Lavenu, L.| Zaouter, Y.| Cui, L.-S.| Lu, C.-H.| Hanna, M.| Hodgkiss, J.M.| Yang, S.-D.| **Chen, K.**	Next-Generation Ultrafast Photoluminescence Spectroscopy: Integration of Transient Grating Optical Gate and Advanced Femtosecond Laser Technology	Journal of Physical Chemistry Letters, (2025), **16**, 4, 1081-1087, ISSN-19487185, Journal, Article	University of Science and Technology of China (**China**) Institut d'optique Graduate School (**France**) CNRS (**France**) Victoria University of Wellington (**New Zealand**) National Tsing Hua University (**Taiwan**) Université Paris-Saclay (**France**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Fischer, T.Z.| **Bradley, A.S.**	Regimes of steady-state turbulence in a quantum fluid	Physical Review A, (2025), **111**, 2, 23308, ISSN-24699926, Journal, Article	University of Otago (**New Zealand**)

Authors	Title	Publication	International Collaborations
Han, C.| Bond, I.A.| Jung, Y.K.| Albrow, M.D.| Chung, S.-J.| Gould, A.| Hwang, K.-H.| Lee, C.-U.| Ryu, Y.-H.| Shvartzvald, Y.| Shin, I.-G.| Yee, J.C.| Yang, H.| Zang, W.| Cha, S.-M.| Kim, D.| Kim, D.-J.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Abe, F.| Barry, R.| Bennett, D.P.| Bhattacharya, A.| Fujii, H.| Fukui, A.| Hamada, R.| Hirao, Y.| Silva, S.I.| Itow, Y.| Kirikawa, R.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Tomoyoshi, M.| Tristram, P.J.| Vandorou, A.| Yama, H.| Yamashita, K.	MOA-2022-BLG-033Lb, KMT-2023-BLG-0119Lb, and KMT-2023-BLG-1896Lb: Three low mass-ratio microlensing planets detected through dip signals	Astronomy and Astrophysics, (2025), **694**, A90, ISSN-00046361, Journal, Article	Tsinghua University (**China**), Kyung Hee University (**South Korea**) Harvard University (**United States**), Smithsonian Institution (**United States**), Ohio State University (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Chungbuk National University (**South Korea**), The University of Osaka (Osaka University) (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), National Aeronautics and Space Administration (NASA) (**United States**), Max Planck Institute for Astronomy (**Germany**), Institut d'astrophysique de Paris (**France**), CNRS (**France**), The University of Auckland (**New Zealand**), The University of Tokyo (**Japan**) Nagoya University (**Japan**), Korea Astronomy and Space Science Institute (**South Korea**), NASA Goddard Space Flight Center (**United States**) University of Canterbury (**New Zealand**), University of Maryland, College Park (**United States**)
Saleem, S.U.| Pang, Z.| Liu, Y.| Sui, J.| **Waterhouse, G.I.N.**| Zhang, Z.| Yu, L.	Highly sensitive electrochemical sensor for lead ions based on Bi-MOF/conducting polymer composites	Chemosphere, (2025), **370**, 144019, ISSN-00456535, Journal, Article	Qingdao University of Science and Technology (**China**) Ocean University of China (**China**) The University of Auckland (**New Zealand**)
Pang, X.| **Waterhouse, G.I.N.**| Wang, R.| Qiao, X.| Sun, Y.| Xu, Z.	Bifunctional ZrO2@ZIF-90 nanozyme with high phosphohydrolase activity for sensitive electrochemical detection of methyl parathion	Food Science and Human Wellness, (2025), **14**, 2, 9250095, ISSN-22134530, Journal, Article	Shandong Agricultural University (**China**) The University of Auckland (**New Zealand**)
Nunota, K.| Sumi, T.| Koshimoto, N.| **Rattenbury, N.J.**| Abe, F.| Barry, R.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Hamada, S.| Hamasaki, N.| Hirao, Y.| Silva, S.I.| Itow, Y.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Olmschenk, G.| Ranc, C.| Satoh, Y.K.| Suzuki, D.| Tristram, P.J.| Vandorou, A.| Yama, H.	The Microlensing Event Rate and Optical Depth from MOA-II 9 Yr Survey Toward the Galactic Bulge	Astrophysical Journal, (2025), **979**, 2, 123, ISSN-0004637X, Journal, Article	Catholic University of America (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), The University of Osaka (Osaka University) (**Japan**), Institut d'astrophysique de Paris (**France**) CNRS (**France**), Nagoya University (**Japan**), The University of Tokyo (**Japan**) The University of Auckland (**New Zealand**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**) University of Maryland, College Park (**United States**) JAXA Institute of Space and Astronautical Science (**Japan**) Japan Aerospace Exploration Agency (JAXA) (**Japan**) Kanto Gakuin University (**Japan**)
Sun, Y.| Liu, X.| Tian, J.| Zhang, Z.| Li, Y.| Xie, Y.| Hao, M.| Chen, Z.| Yang, H.| **Waterhouse, G.I.N.**| Ma, S.| Wang, X.	Modulating the Coordination Environment of Atomically Dispersed Nickel for Efficient Electrocatalytic CO2 Reduction at Low Overpotentials and Industrial Current Densities	ACS Nano, (2025), 19, 4, 4528-4540, ISSN-19360851, Journal, Article	North China Electric Power University (**China**) University of North Texas (**United States**) The University of Auckland (**New Zealand**)
Kumar, A.| Hudson, R.J.| Shumilov, N.A.| Lin, C.-Y.| Smith, T.A.| **Davis, N.J.L.K.**| Le Ru, E.C.| Price, M.B.| **Hume, P.A.**| Hodgkiss, J.M.	Morphological Control of Y6 Thin Films Reveals Charge Transfer Is Facilitated by Co-facial Interactions	Journal of Physical Chemistry Letters, (2025), 16, 5, 1367-1375, ISSN-19487185, Journal, Article	University of Bristol (**United Kingdom**) Victoria University of Wellington (**New Zealand**) University of Melbourne (**Australia**) ARC Centre of Excellence in Exciton Science (**Australia**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)

Authors	Title	Publication	International Collaborations
Fiedler, H.| Hardy, J.| Halpert, J.E.| **Davis, N.J.L.K.**| Kennedy, J.	Shallow defects and optical properties of CsPbBr3 thin films through noble gas ion beam defect engineering	Nanotechnology, (2025), **36**, 6, 65202, ISSN-09574484, Journal, Article	Victoria University of Wellington (**New Zealand**) GNS Science (**New Zealand**) Hong Kong University of Science and Technology (**Hong Kong**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**) University of Otago (**New Zealand**)
Xu, Y.| Coen, S.| Erkintalo, M.| Murdoch, S.G.	Toward visible ultrafast imaging with a synchronously pumped switching wave Kerr frequency comb	Optics Express, (2025), **33**, 3, 4714-4724, ISSN-10944087, Journal, Article	The University of Auckland (**New Zealand**)
Malone, N.| Markwitz, M.| Smillie, L.A.| **Waterhouse, G.I.N.**| Kennedy, J.V.| Gupta, P.	Carbon Implantation into Nickel and Gold Thin Films: A Comparative Study Exploring the Experimental Limits of Metal Carbide Formation	Journal of Physical Chemistry C, (2025), **129**, 7, 3483-3492, ISSN-19327447, Journal, Article	Victoria University of Wellington (**New Zealand**) University of Wollongong (**Australia**) The University of Auckland (**New Zealand**) GNS Science (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Brooks, J.M.| Mataira, R.| Simpson, T.| **Badcock, R.A.**| Bumby, C.W.	A high-Tc superconducting diode with large current carrying capacity	Applied Physics Letters, (2025), **126**, 8, 82601, ISSN-00036951, Journal, Article	Victoria University of Wellington (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Duan, C.| Liu, J.| Li, Z.| Shi, R.| Zhao, J.| **Waterhouse, G.I.N.**| Wen, X.-D.| Zhang, L.-P.| Wu, L.-Z.| Zhang, T.	Efficient Photocatalytic Propane Direct Dehydrogenation to Propylene Over PtO2 Clusters	Advanced Materials, (2025), **37**, 8, 2411648, ISSN-09359648, Journal, Article	CAS - Institute of Coal Chemistry (**China**) Synfuels China Co., Ltd. (**China**) University of Chinese Academy of Sciences (**China**) The University of Auckland (**New Zealand**) CAS - Technical Institute of Physics and Chemistry (**China**) Chinese Academy of Sciences (**China**)
Qu, Q.| Mao, Y.| Ji, S.| Liao, J.| Dong, J.| Wang, L.| Wang, Q.| Liang, X.| Zhang, Z.| Yang, J.| Li, H.| Zhou, Y.| Wang, Z.| **Waterhouse, G.I.N.**| Wang, D.| Li, Y.	Engineering the Lewis Acidity of Fe Single-Atom Sites via Atomic-Level Tuning of Spatial Coordination Configuration for Enhanced Oxygen Reduction	Journal of the American Chemical Society, (2025), **147**, 8, 6914-6924, ISSN-00027863, Journal, Article	Tsinghua University (**China**) Tianjin University (**China**) CAS - Institute of High Energy Physics (**China**) Northwestern Polytechnical University, Xi'an (**China**) The University of Auckland (**New Zealand**) Chinese Academy of Sciences (**China**)
Hao, X.| Hou, J.| Xu, J.| **Waterhouse, G.I.N.**| Zhang, Z.| Yu, L.	Amphiphilic acrylic copolymers containing zwitterions: Modulation of hydrophilic unit and hydrophobic unit for antifouling	Progress in Organic Coatings, (2025), **200**, 108964, ISSN-03009440, Journal, Article	Ocean University of China (**China**) The University of Auckland (**New Zealand**)
Fu, Q.| Sun, X.| Liu, L.| Jiang, H.| **Waterhouse, G.I.N.**| Ai, S.| Zhao, R.	Facile synthesis of magnetic covalent organic framework nanocomposites for the enrichment and quantification of trace organophosphorus pesticides in fruit juice	Food Science and Human Wellness, (2025), **14**, 3, 9250072, ISSN-22134530, Journal, Article	Shandong Agricultural University (**China**) Qilu University of Technology (**China**) The University of Auckland (**New Zealand**)
Brooks, J.| Porteous, L.| Storey, J.G.| **Badcock, R.**	Identifying the current penetration depth in high-Tc superconducting bulks through levitation force measurements	Superconductor Science and Technology, (2025), **38**, 3, 35002, ISSN-09532048, Journal, Article	Victoria University of Wellington (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)

Authors	Title	Publication	International Collaborations
Asadova, N.| Achouri, K.| Arjas, K.| **Auguié, B.**| Aydin, R.| Baron, A.| Beutel, D.| Bodermann, B.| Boussaoud, K.| Burger, S.| Choi, M.| Czajkowski, K.M.| Evlyukhin, A.B.| Fazel-Najafabadi, A.| Fernandez-Corbaton, I.| Garg, P.| Globosits, D.| Hohenester, U.| Kim, H.| Kim, S.| Lalanne, P.| Le Ru, E.C.| Meyer, J.| Mun, J.| Pattelli, L.| Pflug, L.| Rockstuhl, C.| Rho, J.| Rotter, S.| Stout, B.| Törmä, P.| Trigo, J.O.| Tristram, F.| Tsitsas, N.L.| Vallée, R.| Vynck, K.| Weiss, T.| Wiecha, P.| Wriedt, T.| Yannopapas, V.| Yurkin, M.A.| Zouros, G.P.	T-matrix representation of optical scattering response: Suggestion for a data format	Journal of Quantitative Spectroscopy and Radiative Transfer, (2025), **333**, 109310, ISSN-00224073, Journal, Article	Victoria University of Wellington (**New Zealand**), TU Wien (**Austria**) Laboratoire d'analyse et d'architectures des systèmes (**France**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), Université de Bordeaux (**France**), Aalto University (**Finland**), Pohang University of Science and Technology (**South Korea**), Université Fédérale Toulouse Midi-Pyrénées (**France**) Université Claude Bernard Lyon 1 (**France**), Centre de recherche Paul Pascal (**France**), Friedrich-Alexander University Erlangen-Nürnberg (**Germany**), Normandie Université (**France**), Purdue University (**United States**), Université de Rouen (**France**), Istituto Nazionale di Ricerca Metrologica (**Italy**), University of Graz (**Austria**), Physikalisch-Technische Bundesanstalt (**Germany**), Swiss Federal Institute of Technology Lausanne (EPFL) (**Switzerland**), University of Bremen (**Germany**), Hamburg University of Technology (**Germany**), National Technical University of Athens (**Greece**), Aix-Marseille Université (**France**), CNRS (**France**), Leibniz University Hannover (**Germany**), Karlsruhe Institute of Technology (**Germany**), University of La Laguna (**Spain**), University of Warsaw (**Poland**), Université Paul Sabatier Toulouse III (**France**), Zuse Institute Berlin (**Germany**), Institut national des sciences appliquées de Rouen Normandie (**France**), Aristotle University of Thessaloniki (**Greece**)
Van Hoang, V.| Giang, N.H.| **Bubanja, V.**	Compression-induced phase transitions in supercooled liquid and glassy confined germanene	Journal of Nanoparticle Research, (2025), **27**, 3, 73, ISSN-13880764, Journal, Article	Vietnam National University Ho Chi Minh City (**Vietnam**) Ho Chi Minh City University of Technology – HCMUT (**Vietnam**) University of Otago (**New Zealand**)
Wang, Y.| Han, J.| **Waterhouse, G.I.N.**| Gu, H.| Wang, R.| Wu, S.| Dong, P.| Raghavan, V.| Wang, J.	Stable Hydrogen-Bonded Cobalt-porphyrin Framework for High-Performance Electrochemical Detection of Carcinoembryonic Antigen	Aggregate, (2025), **6**, 3, e702, ISSN-27668541, Journal, Article	Southeast University, Nanjing (**China**) The University of Auckland (**New Zealand**) McGill University (**Canada**)
Ren, J.| Xiang, Q.| Yang, C.| Yang, S.| Liang, Y.| Liu, J.| Li, J.| Qian, D.| **Waterhouse, G.I.N.**	Two Birds with One Stone: Self-Supporting Anodes and Cathodes for Quasi-Solid-State Asymmetric Supercapacitors via Reactions of 2-Thiobarbituric Acid with Fe and Co Foams	Advanced Functional Materials, (2025), **35**, 10, 2416506, ISSN-1616301X, Journal, Article	Central South University (**China**) Hunan Normal University (**China**) The University of Auckland (**New Zealand**) Hengyang Normal University (**China**)
Hou, J.| Chen, G.| Hao, X.| Xu, J.| **Waterhouse, G.I.N.**| Zhang, Z.| Yu, L.	Coral-Inspired Zinc Acrylate Polymer Utilizing Coumarin as the Fluorescent Unit for Marine Antifouling	Biomacromolecules, (2025), **26**, 3, 1799-1815, ISSN-15257797, Journal, Article	Ocean University of China (**China**) The University of Auckland (**New Zealand**)
Suresh, M.I.| **Sedlmeir, F.**| Vogt, D.W.| Botello, G.S.| Strekalov, D.V.| **Schwefel, H.G.L.**	Multichannel upconversion of terahertz radiation in an optical disk resonator	Optics Express, (2025), **33**, 5, 10302-10311, ISSN-10944087, Journal, Article	Colorado School of Mines (**United States**) The University of Auckland (**New Zealand**) University of Otago (**New Zealand**)

Authors	Title	Publication	International Collaborations
Li, X.| Zhang, T.| Zhao, Y.| Zhu, X.| Ge, A.| **Gordon, K.C.**| Wang, F.| Xu, G.| Zhu, M.	Enhancing Robustness and Charge Transfer Kinetics of Sodium-Ion Batteries through Introduction of Anionic Anchoring Separators	Journal of the American Chemical Society, (2025), **147**, 10, 8488-8499, ISSN-00027863, Journal, Article	Fudan University (**China**) Donghua University (**China**) University of Otago (**New Zealand**)
Wang, J.| Ran, G.| Gao, J.| Li, D.| **Waterhouse, G.I.N.**| Shi, R.| Zhang, W.| Tang, J.| Wu, L.-Z.| Zhao, Y.| Zhang, T.	Solar-Driven Conversion of Nitrogen and Water to Solid Fertilizer in an Outdoor 1 m2 Panel Reactor	Advanced Materials, (2025), **37**, 10, 2420199, ISSN-09359648, Journal, Article	Tsinghua University (**China**) University of Chinese Academy of Sciences (**China**) University College London (**United Kingdom**) The University of Auckland (**New Zealand**) CAS – Technical Institute of Physics and Chemistry (**China**) Beijing Normal University (**China**) Chinese Academy of Sciences (**China**)
Wu, J.-X.| Mao, Y.| Zhou, Y.| Wang, Z.| Wei, S.| Cowie, B.C.C.| Marshall, A.T.| Wang, Z.| **Waterhouse, G.I.N.**	Divalent site doping of NiFe-layered double hydroxide anode catalysts for enhanced anion-exchange membrane water electrolysis	Chemical Engineering Journal, (2025), **508**, 160753, ISSN-13858947, Journal, Article	The University of Auckland (**New Zealand**) Australian Nuclear Science and Technology Organisation (**Australia**) University of Canterbury (**New Zealand**)
Cornelio, J.| Wagner, I.| Otter, S.| **Chen, K.**| Hodgkiss, J.M.| Telfer, S.G.	Unraveling Energy Transfer Dynamics and Exciton Diffusion in Multicomponent Metal-Organic Frameworks	ACS Applied Energy Materials, (2025), **8**, 6, 3951-3962, ISSN-25740962, Journal, Article	Victoria University of Wellington (**New Zealand**) Massey University (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Barrera Morelli, J.| **McGoverin, C.**| **Nieuwoudt, M.**| Holroyd, S.E.| Pilkington, L.I.	Chemometric techniques for the prediction of milk composition from MIR spectral data: A review	Food Chemistry, (2025), **469**, 142465, ISSN-03088146, Journal, Review	The University of Auckland (**New Zealand**) Fonterra Co-operative Group (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Geng, J.| Lin, Y.| Bumby, C.W.| **Badcock, R.A.**	High-Tc superconducting transformer-rectifiers: principle, realization, and applications	Superconductor Science and Technology, (2025), **38**, 4, 43001, ISSN-09532048, Journal, Review	Victoria University of Wellington (**New Zealand**) Huazhong University of Science and Technology (**China**)
Koshy, B.G.| Bouloukakis, K.| Ainslie, M.D.| Sun, Y.| **Badcock, R.A.**| Mallett, B.P.P.| Jiang, Z.	Magnetisation loss behaviour in insulated and non-insulated HTS REBCO double-pancake and racetrack coils at 77 K	Superconductor Science and Technology, (2025), **38**, 4, 45004, ISSN-09532048, Journal, Article	Victoria University of Wellington (**New Zealand**) King's College London (**United Kingdom**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Zhou, L.| Zhong, Y.| Sun, K.| Tian, B.| Wu, H.| Liu, W.| Wan, T.| Xin, H.| Deng, C.| Li, X.| Fang, J.| **Waterhouse, G.I.N.**| Kuang, Y.| Zhou, D.| Sun, X.	Selective C–C coupling via copper atom reconfiguration in CO2 electroreduction	Frontiers of Chemical Science and Engineering, (2025), **19**, 4, 26, ISSN-20950179, Journal, Article	The University of Auckland (**New Zealand**) Beijing University of Chemical Technology (**China**) Research Institute of Tsinghua University in Shenzhen (**China**) Weichai Holding Group Co., Ltd. (**China**)

Authors	Title	Publication	International Collaborations
Han, C.| Zang, W.| Udalski, A.| Lee, C.-U.| Bond, I.A.| Wen, Y.| Ma, B.| Albrow, M.D.| Chung, S.-J.| Gould, A.| Hwang, K.-H.| Jung, Y.K.| Ryu, Y.-H.| Shvartzvald, Y.| Shin, I.-G.| Yang, H.| Yee, J.C.| Kim, D.| Kim, D.-J.| Cha, S.-M.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Mróz, P.| Szymański, M.K.| Skowron, J.| Poleski, R.| Soszyński, I.| Pietrukowicz, P.| Kozłowski, S.| Rybicki, K.A.| Iwanek, P.| Ulaczyk, K.| Wrona, M.| Gromadzki, M.| Mróz, M.J.| Abe, F.| Bando, K.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Hamada, S.| Hamasaki, N.| Hirao, Y.| Ishitani Silva, S.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.	Analyses of anomalous lensing events detected from the UKIRT microlensing survey	Astronomy and Astrophysics, (2025), **696**, A126, ISSN-00046361, Journal, Article	Tsinghua University (**China**), Kyung Hee University (**South Korea**), Harvard University (**United States**) Smithsonian Institution (**United States**) Ohio State University (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Chungbuk National University (**South Korea**), The University of Osaka (Osaka University) (**Japan**) Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**) Institut d'astrophysique de Paris (**France**), Sun Yat-Sen University (**China**) CNRS (**France**), Villanova University (**United States**), Nagoya University (**Japan**), Korea Astronomy and Space Science Institute (**South Korea**) The University of Auckland (**New Zealand**), The University of Tokyo (**Japan**) JAXA Institute of Space and Astronautical Science (**Japan**) University of Warwick (**United Kingdom**), NASA Goddard Space Flight Center (**United States**), University of Warsaw (**Poland**), University of Maryland, College Park (**United States**), University of Canterbury (**New Zealand**), Japan Aerospace Exploration Agency (JAXA) (**Japan**)
Nieuwboer, H.| Baskcomb, C.| **Bonesi, M.**| Goodwin, M.| Thampi, A.| **Vanholsbeeck, F.**	Analysis on optical coherence tomography images to detect irregularities and restoration on paper-based artwork	Optics Express, (2025), **33**, 7, 16584-16596, ISSN-10944087, Journal, Article	The University of Auckland (**New Zealand**)
Lee, K.H.| **Broderick, N.G.R.| Krauskopf, B.**| **Osinga, H.M.**	GENERIC PLANAR PHASE RESETTING NEAR A PHASELESS POINT	ANZIAM Journal, (2025), **67**, e18, ISSN-14461811, Journal, Article	The University of Auckland (**New Zealand**)
Ruschel, S.| Pammi, V.A.| Braive, R.| Sagnes, I.| Beaudoin, G.| **Broderick, N.G.R.**| **Krauskopf, B.**| Barbay, S.	Regenerative vectorial breathers in a delay-coupled excitable microlaser with integrated saturable absorber	Optics Letters, (2025), **50**, 8, 2618-2621, ISSN-01469592, Journal, Article	CNRS (**France**) The University of Auckland (**New Zealand**) Université Paris Cité (**France**) University of Leeds (**United Kingdom**) Université Paris-Saclay (**France**) Institut universitaire de France (**France**)
Schüler, L.| Sievers, Y.| Roddatis, V.| Ross, U.| Moshnyaga, V.| **Lyzwa, F.**	Nanoscale engineering of electronic and magnetic modulations in gradient functional oxide heterostructures	Nanoscale, (2025), **17**, 19, 12260-12269, ISSN-20403364, Journal, Article	Helmholtz Centre Potsdam – German Research Centre for Geosciences (**Germany**) University of Göttingen (**Germany**) The University of Auckland (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Gao, C.| Yang, Y.| Chen, H.| Gao, X.| Zhang, X.| Song, Z.| Zhang, T.| **Chen, K.**| Wang, X.| Han, Y.	3D Hollow MoS2 Architecture Enabled Highly Sensitive SERS Detection	Advanced Materials Interfaces, (2025), **12**, 8, 2400734, ISSN-21967350, Journal, Article	Victoria University of Wellington (**New Zealand**) Civil Aviation University of China (**China**)

Authors	Title	Publication	International Collaborations
Zang, W.| Jung, Y.K.| Yee, J.C.| Hwang, K.-H.| Yang, H.| Udalski, A.| Sumi, T.| Gould, A.| Mao, S.| Albrow, M.D.| Chung, S.-J.| Han, C.| Ryu, Y.-H.| Shin, I.-G.| Shvartzvald, Y.| Cha, S.-M.| Kim, D.-J.| Kim, H.-W.| Kim, S.-L.| Lee, C.-U.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Zhang, X.| Kuang, R.| Wang, H.| Zhang, J.| Hu, Z.| Zhu, W.| Mróz, P.| Skowron, J.| Poleski, R.| Szymański, M.K.| Soszyński, I.| Pietrukowicz, P.| Kozłowski, S.| Ulaczyk, K.| Rybicki, K.A.| Iwanek, P.| Wrona, M.| Gromadzki, M.| Abe, F.| Barry, R.| Bennett, D.P.| Bhattacharya, A.| Bond, I.A.| Fujii, H.| Fukui, A.| Hamada, R.| Hirao, Y.| Silva, S.I.| Itow, Y.| Kirikawa, R.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Suzuki, D.| Tomoyoshi, M.| Tristram, P.J.| Vandorou, A.| Yama, H.| Yamashita, K.	Microlensing events indicate that super-Earth exoplanets are common in Jupiter-like orbits	Science, (2025), **388**, 6745, 400-404, ISSN-00368075, Journal, Article	Tsinghua University (**China**), Harvard University (**United States**) Ohio State University (**United States**), Chungbuk National University (**South Korea**), The University of Osaka (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), Westlake University (**China**), University of Science and Technology UST (**South Korea**), Nagoya University (**Japan**), JAXA Institute of Space and Astronautical Science (**Japan**), University of Warwick (**United Kingdom**) University of Maryland, College Park (**United States**), Japan Aerospace Exploration Agency (JAXA) (**Japan**), Kanto Gakuin University (**Japan**), Kyung Hee University (**South Korea**), Smithsonian Institution (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Max Planck Institute for Astronomy (**Germany**), Institut d'astrophysique de Paris (**France**), CNRS (**France**), Villanova University (**United States**), The University of Auckland (**New Zealand**) The University of Tokyo (**Japan**), Korea Astronomy and Space Science Institute (**South Korea**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**), University of Warsaw (**Poland**)
Chen, Y.| Li, S.| Gao, R.| Shi, Y.| Sun, Y.| **Waterhouse, G.I.N.**| Xu, Z.	Design of an injectable magnetic hydrogel with porous structure and electrocatalytic activity for the sensitive electrochemical detection of nitrite in foods	Food Chemistry, (2025), **473**, 143030, ISSN-03088146, Journal, Article	Shandong Agricultural University (**China**) The University of Auckland (**New Zealand**)
Lei, M.| Hao, M.| Chen, Z.| Yang, H.| **Waterhouse, G.I.N.**| Ma, S.| Wang, X.	Designing metal-organic frameworks for the selective removal of 99TcO4– from nuclear wastewater	Science China Chemistry, (2025), **68**, 5, 1639-1641, ISSN-16747291, Journal, Article	North China Electric Power University (**China**) University of North Texas (**United States**) The University of Auckland (**New Zealand**)
Zheng, Z.| Liu, Y.| Li, M.| Chen, H.| Chen, S.| Lin, C.| Jiang, X.| Lin, H.| Hong, S.| **Broderick, N.G.R.**| Xu, B.| Kang, J.| Zhao, C.| Wang, Y.	A SERS-Fluorescence dual-mode fiber sensor for monitoring in FRET system	Microchemical Journal, (2025), **212**, 113259, ISSN-0026265X, Journal, Article	Zhejiang University (**China**) The University of Auckland (**New Zealand**) China Jiliang University (**China**)
Zhang, B.| Zhang, K.| Jia, X.| Liu, Y.| Zhang, X.| Yu, H.| Liu, J.| Wang, Q.| **Waterhouse, G.I.N.**| Xie, J.| Xu, J.	Biodegradable poly (butylene adipate-co-terephthalate)/ polylactic acid mulching films containing glufosinate ammonium-loaded layered double hydroxide: Enhanced performance, herbicidal performance and extended functional life	International Journal of Biological Macromolecules, (2025), **307**, 141519, ISSN-01418130, Journal, Article	Shandong Agricultural University (**China**) The University of Auckland (**New Zealand**) Ministry of Agriculture of the People's Republic of China (**China**)
Qiao, Y.| Ainslie, M.| Sun, Y.| Rindfleisch, M.| **Badcock, R.A.**| Strickland, N.M.| Jiang, Z.	3D simulations of total AC loss in a twisted multifilamentary MgB2 wire carrying AC currents under AC magnetic fields at 20 K	Superconductor Science and Technology, (2025), **38**, 5, 55027, ISSN-09532048, Journal, Article	Hyper Tech Research (**United States**) Victoria University of Wellington (**New Zealand**) King's College London (**United Kingdom**)

Authors	Title	Publication	International Collaborations
Wang, Q.| Wang, S.| Cui, L.| Zhang, Y.| **Waterhouse, G.I.N.**| Sun-Waterhouse, D.| Ma, C.| Kang, W.	Flammulina velutipes polysaccharide exerts immunomodulatory function involving RSAD2 to regulate the NF-αB/MAPK signaling pathway in RAW264.7 macrophage cells and in mouse spleen cells	International Journal of Biological Macromolecules, (2025), **309**, 142985, ISSN-01418130, Journal, Article	The University of Auckland (**New Zealand**) Henan University (**China**)
Sharma, S.K.| Ahangari, H.T.| Johannessen, B.| **Golovko, V.B.**| Marshall, A.T.	Correction to: Au Cluster-derived Electrocatalysts for CO2 Reduction (Electrocatalysis, (2023), 14, 4, (611-623), 10.1007/s12678-023-00821-2)	Electrocatalysis, (2025), **16**, 3, ISSN-18682529, Journal, Erratum	Australian Nuclear Science and Technology Organisation (**Australia**) University of Canterbury (**New Zealand**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Platt, L.M.| **Baillie, D.**| **Blakie, P.B.**	Supersolid spectroscopy	Physical Review A, (2025), **111**, 5, 53305, ISSN-24699926, Journal, Article	University of Otago (**New Zealand**)
Punzalan, J.M.| Hartono, P.| Fraser-Miller, S.J.| Leong, S.Y.| Sutton, K.| Moggre, G.-J.| **Gordon, K.C.**| Oey, I.	MicroNIR spectroscopy with chemometric analysis provides rapid protein content evaluation and prediction of semi-refined flaxseed protein extract produced via pulsed electric field (PEF)-assisted extraction	Food Chemistry, (2025), **473**, 143062, ISSN-03088146, Journal, Article	University of the Philippines (**Philippines**), Plant and Food Research, New Zealand (**New Zealand**), Flinders University (**Australia**) Riddet Institute (**New Zealand**), University of Otago (**New Zealand**)
Yusuf, A.H.| **Golovko, V.B.**| Masters, S.L.	Tuning the Energy Levels of Adamantane by Boron Substitution	Molecules, (2025), **30**, 9, 1976, ISSN-14203049, Journal, Article	University of Canterbury (**New Zealand**)
Li, C.| Qin, P.| Peng, G.| **Waterhouse, G.I.N.**| Shang, L.| Zhang, T.	Ultrafine Pt-based high-entropy alloy nanooctahedra deliver enhanced methanol oxidation reaction activity and durability	Matter, (2025), **8**, 5, 102096, ISSN-25902393, Journal, Article	University of Chinese Academy of Sciences (**China**) The University of Auckland (**New Zealand**) CAS - Technical Institute of Physics and Chemistry (**China**) Chinese Academy of Sciences (**China**)
Wagner, I.| Van Gompel, W.T.M.| Erkens, R.| Ruttens, B.| D'Haen, J.| Lutsen, L.| Vanderzande, D.| Chuang, C.| Chang, S.H.| **Hume, P.A.**| Price, M.B.| Geiregat, P.| Hodgkiss, J.M.| **Chen, K.**	Critical Roles of Ultrafast Energy Funnelling and Ultrafast Singlet-Triplet Annihilation in Quasi-2D Perovskite Optical Gain Mechanisms	Advanced Materials, (2025), 37, 19, 2419674, ISSN-09359648, Journal, Article	University of Bristol (**United Kingdom**) University of Nevada, Las Vegas (**United States**) Victoria University of Wellington (**New Zealand**) Chung Yuan Christian University (**Taiwan**) Ghent University (**Belgium**) Hasselt University (**Belgium**) MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Harju, E.A.| Tomberg, T.| Wurr, L.| van Rijckeghem, A.| Arbiol Enguita, A.M.| Dordovic, V.| Johansson, N.G.| Räikkönen, H.| Isomäki, A.| Saarinen, J.K.S.| **Gordon, K.C.**| van Veen, B.| Strachan, C.J.	Characterization of Solid-State Complexities in Pharmaceutical Materials via Stimulated Raman Scattering Microscopy	Analytical Chemistry, (2025), **97**, 18, 9627-9637, ISSN-00032700, Journal, Article	Orion Corporation (**Finland**), Zentiva Group, a.s (**Czech Republic**), Biomedicum Helsinki (**Finland**), University of Helsinki (**Finland**), University of Otago (**New Zealand**)
Lee, J.| **Waterhouse, G.I.N.**| Mao, Y.| Wang, Z.| Zhu, E.| Low, J.| Chai, S.-P.| Tan, L.-L.	Lead-free halide perovskites and Bi-BTC frameworks: Engineering S-scheme heterojunctions for photocatalytic CO2 conversion	Applied Catalysis B: Environmental, (2025), **365**, 124942, ISSN-09263373, Journal, Article	University of Science and Technology of China (**China**), Monash University Malaysia (**Malaysia**), The University of Auckland (**New Zealand**)

Authors	Title	Publication	International Collaborations
Moille, G.| Shandilya, P.| **Erkintalo, M.**| Menyuk, C.R.| Srinivasan, K.	On-Chip Parametric Synchronization of a Dissipative Kerr Soliton Microcomb	Physical Review Letters, (2025), **134**, 19, 193802, ISSN-00319007, Journal, Article	The University of Auckland (**New Zealand**), University of Maryland, College Park (**United States**), National Institute of Standards and Technology (**United States**), University of Maryland, Baltimore County (**United States**)
Schuyt, J.J.| Williams, G.V.M.| Chong, S.V.	Cryogenic Charging and Discharging Kinetics of a Photostimulable Phosphor: Low Charge Rates at Low Temperatures	Journal of Physical Chemistry Letters, (2025), **16**, 20, 4828-4834, ISSN-19487185, Journal, Article	Victoria University of Wellington (**New Zealand**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Laing, C.R.| **Krauskopf, B.**	Periodic solutions for a pair of delay-coupled excitable theta neurons	Proceedings of the Royal Society A: Mathematical, (Physical and Engineering Sciences) (2025), **481**, 2314, 20240897, ISSN-13645021, Journal, Article	The University of Auckland (**New Zealand**), Massey University (**New Zealand**)
Davis, J.J.J.| Jackman, C.L.| Leonhardt, R.| Werbos, P.J.| **Hoogerland, M.D.**	Phase-shifted Bell states	Journal of the Optical Society of America B: Optical Physics, (2025), **42**, 6, 1227-1235, ISSN-07403224, Journal, Article	Missouri University of Science and Technology (**United States**), The University of Auckland (**New Zealand**)
Saleem, S.U.| Liu, Y.| Sui, J.| **Waterhouse, G.I.N.**| Zhang, Z.| Yu, L.	Ferrocene-modified bismuth metal-organic framework for ratiometric electrochemical detection of Pb2+ and Cu2+	Microchemical Journal, (2025), **213**, 113692, ISSN-0026265X, Journal, Article	Qingdao University of Science and Technology (**China**), Ocean University of China (**China**), The University of Auckland (**New Zealand**)
Chanprakhon, P.| Reid, M.F.| **Wells, J.-P.R.**	Infrared absorption and laser spectroscopy of Ho3+ doped K2YF5 microparticles	Optical Materials, (2025), **163**, 116938, ISSN-09253467, Journal, Article	University of Canterbury (**New Zealand**)
Lee, K.H.| **Broderick, N.G.R.**| **Krauskopf, B.**| **Osinga, H.M.**	PHASE RESPONSE TO ARBITRARY PERTURBATIONS: GEOMETRIC INSIGHTS AND RESETTING SURFACES	Discrete and Continuous Dynamical Systems - Series B, (2025), **30**, 6, 2094-2134, ISSN-15313492, Journal, Article	The University of Auckland (**New Zealand**)
Wang, Z.| Hawkes, N.A.| MacDonald, M.| **Cater, J.E.**| Flay, R.G.J.	Experimental investigation on the near-ground flow structure of buoyancy-induced vortices with application to energy harvesting	Experiments in Fluids, (2025), **66**, 6, 119, ISSN-07234864, Journal, Article	The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**)
Wu, S.| Zhao, J.| Wang, Y.| Raghavan, V.| Dong, P.| Zhang, X.| Han, J.| Wang, R.| Tang, Y.| **Waterhouse, G.I.N.**| Wang, J.	Enzyme- and nanozyme-based food allergen detections: from natural biocatalysts to rational engineering approaches	Trends in Food Science and Technology, (2025), **160**, 105016, ISSN-09242244, Journal, Review	Anhui Science and Technology University (**China**), Southeast University, Nanjing (**China**), The University of Auckland (**New Zealand**), McGill University (**Canada**)
Liu, X.| Xiao, M.| Chen, P.| Zhou, Y.| Xie, Y.| Hao, M.| Mao, L.| Yang, H.| **Waterhouse, G.I.N.**| Ma, S.| Wang, X.	In-situ synthesis of layered double hydroxides with tunable basal spacing for efficient iodide over iodate adsorption selectivity	Science China Chemistry, (2025), **68**, 6, 2424-2432, ISSN-16747291, Journal, Article	North China Electric Power University (**China**), University of North Texas (**United States**), Nanjing University (**China**), The University of Auckland (**New Zealand**)

Authors	Title	Publication	International Collaborations
Mróz, M.J.| Poleski, R.| Udalski, A.| Sumi, T.| Tsapras, Y.| Hundertmark, M.| Pietrukowicz, P.| Szymanski, M.K.| Skowron, J.| Mróz, P.| Gromadzki, M.| Iwanek, P.| Kozlowski, S.| Ratajczak, M.| Rybicki, K.A.| Skowron, D.M.| Soszynski, I.| Ulaczyk, K.| Wrona, M.| Abe, F.| Bando, K.| Bennett, D.P.| Bhattacharya, A.| Bond, I.A.| Fukui, A.| Hamada, R.| Hamada, S.| Hamasaki, N.| Hirao, Y.| Ishitani Silva, S.| Itow, Y.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.| Street, R.A.| Bachelet, E.| Dominik, M.| Cassan, A.| Figuera Jaimes, R.| Horne, K.| Schmidt, R.| Snodgrass, C.| Wambsganss, J.| Steele, I.A.| Menzies, J.| Jørgensen, U.G.| Longa-Peña, P.| Peixinho, N.| Skottfelt, J.| Southworth, J.| Andersen, M.I.| Bozza, V.| Burgdorf, M.J.| D'Ago, G.| Hinse, T.C.| Kerins, E.| Korhonen, H.| Kuffmeier, M.| Mancini, L.| Rabus, M.| Rahvar, S.	OGLE-2015-BLG-1609Lb: A sub-Jovian planet orbiting a low-mass stellar or brown dwarf host	Astronomy and Astrophysics, (2025), **698**, A126, ISSN-00046361, Journal, Article	University of Manchester (**United Kingdom**), Ministerio de Planificación, Chile (**Chile**), The University of Osaka (Osaka University) (**Japan**), Pontificia Universidad Católica de Chile (**Chile**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), California Institute of Technology (**United States**), South African Astronomical Observatory (**South Africa**), University of Copenhagen (**Denmark**), University of Hamburg (**Germany**), Heidelberg University (**Germany**), Nagoya University (**Japan**), JAXA Institute of Space and Astronautical Science (**Japan**), University of Warwick (**United Kingdom**), University of Maryland, College Park (**United States**), Liverpool John Moores University (**United Kingdom**), Japan Aerospace Exploration Agency (**Japan**), Universidad de Antofagasta (**Chile**), University of Edinburgh (**United Kingdom**), University of Rome Tor Vergata (**Italy**), University of Coimbra (**Portugal**), University of Southern Denmark (**Denmark**), Instituto Milenio de Astrofísica (**Chile**), National Institute for Nuclear Physics (INFN) (**Italy**), Las Cumbres Observatory Global Telescope Network, Inc. (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Keele University (**United Kingdom**), Sorbonne Université (**France**), University of St Andrews (**United Kingdom**), Sharif University of Technology (**Iran**), Max Planck Institute for Astronomy (**Germany**), National Institute for Astrophysics (INAF) (Italy), Institut d'astrophysique de Paris (France), CNRS (France), University of Salerno (Italy), Villanova University (United States), Universidad Católica de la Santísima Concepción (Chile), The University of Auckland (New Zealand), Royal Observatory (United Kingdom), The University of Tokyo (Japan), Open University (Milton Keynes) (United Kingdom), NASA Goddard Space Flight Center (United States), University of Canterbury (New Zealand), University of Warsaw (Poland)
Titheridge, L.J.| Wu, C.| Sharma, S.K.| Tiffin, C.| Holland, D.| Mao, Y.| Wang, Z.| **Waterhouse, G.I.N.**| Li, J.| Marshall, A.T.	Achieving optimised oxygen evolution reaction performance by tailoring NiFeMn layer double hydroxide composites	Chemical Engineering Journal, (2025), **513**, 162322, ISSN-13858947, Journal, Article	University of Wollongong (**Australia**)

Authors	Title	Publication	International Collaborations
Yang, H.| Yee, J.C.| Zhang, J.| Lee, C.-U.| Kim, D.-J.| Bond, I.A.| Udalski, A.| Hwang, K.-H.| Zang, W.| Qian, Q.| Gould, A.| Mao, S.| Albrow, M.D.| Chung, S.-J.| Han, C.| Jung, Y.K.| Ryu, Y.-H.| Shin, I.-G.| Shvartzvald, Y.| Cha, S.-M.| Kim, H.-W.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Abe, F.| Bando, K.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Hamada, S.| Hamasaki, N.| Hirao, Y.| Silva, S.I.| Itow, Y.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.| Mróz, P.| Skowron, J.| Poleski, R.| Szymański, M.K.| Soszyński, I.| Pietrukowicz, P.| Kozłowski, S.| Ulaczyk, K.| Rybicki, K.A.| Iwanek, P.| Wrona, M.	Systematic Reanalysis of KMTNet Microlensing Events. II. Two New Planets in Giant-source Events	Astronomical Journal, (2025), **169**, 6, 295, ISSN-00046256, Journal, Article	Tsinghua University (**China**), Catholic University of America (**United States**), Harvard University (**United States**), Ohio State University (**United States**), Chungbuk National University (**South Korea**), The University of Osaka (Osaka University) (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), California Institute of Technology (**United States**), Westlake University (**China**), University of Science and Technology UST (**South Korea**), Nagoya University (**Japan**), JAXA Institute of Space and Astronautical Science (**Japan**), University of Maryland, College Park (**United States**), University of Warwick (**United Kingdom**), Japan Aerospace Exploration Agency (**Japan**), Kyung Hee University (**South Korea**), Smithsonian Institution (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Max Planck Institute for Astronomy (**Germany**), Institut d'astrophysique de Paris (**France**), CNRS (**France**), The University of Auckland (**New Zealand**), Korea Astronomy and Space Science Institute (**South Korea**), The University of Tokyo (**Japan**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**), University of Warsaw (**Poland**)
Muetzel, L.K.| Michailov, A.| Garagoda Arachchige, P.S.| **Gordon, K.C.**| Laslett, L.| Fraser-Miller, S.J.	Correlating the Vibrational Spectroscopic Fingerprints of Laundry Detergents Against Consumer Experience-A Collaborative Investigation with the Clean Cloth Nappies Community	Chemistry - An Asian Journal, (2025), **20**, 11, e202401457, ISSN-18614728, Journal, Article	Flinders University (**Australia**), University of Otago (**New Zealand**)
Liu, Y.| Saleem, S.U.| Li, Y.| **Waterhouse, G.I.N.**| Liu, C.| Zhang, Z.| Yu, L.	Visible Light-triggered Smart P(NIPAM-NVK)/PANI Antifouling Coating with Flexible Switching Between Photothermal-Photocatalytic Synergistic Antifouling Mechanisms and Fouling Release	Small, (2025), **21**, 22, 2500595, ISSN-16136810, Journal, Article	Ocean University of China (**China**), The University of Auckland (**New Zealand**)
Yuan, L.| Xue, Q.| Wang, F.| Li, N.| **Waterhouse, G.I.N.**| Brabec, C.J.| Gao, F.| Yan, K.	Perovskite Solar Cells and Light Emitting Diodes: Materials Chemistry, Device Physics and Relationship	Chemical Reviews, (2025), **125**, 11, 5057-5162, ISSN-00092665, Journal, Review	Nanchang Hangkong University (**China**), Jülich Research Centre (**Germany**), Linköping University (**Sweden**), The University of Auckland (**New Zealand**), South China University of Technology (**China**), Friedrich-Alexander University Erlangen-Nürnberg (**Germany**)
Baker-Rasooli, M.| Aladjidi, T.| Krause, N.A.| **Bradley, A.S.**| Glorieux, Q.	Observation of Jones-Roberts Solitons in a Paraxial Quantum Fluid of Light	Physical Review Letters, (2025), **134**, 23, 233401, ISSN-00319007, Journal, Article	École normale supérieure (**France**), Université PSL (**France**), CNRS (**France**), Collège de France (**France**), Sorbonne Université (**France**), University of Otago (**New Zealand**)
Yu, J.| **Waterhouse, G.I.N.**| Peng, L.	Spin regulation in M-N-C single-atom catalysts for enhanced oxygen reduction reaction performance: a perspective	Science Bulletin, (2025), **70**, 11, 1727-1731, ISSN-20959273, Journal, Short Survey	University of Science and Technology of China (**China**), The University of Auckland (**New Zealand**), Chinese Academy of Sciences (**China**)
Rong, Q.| Hao, M.| Chen, Z.| Yang, H.| **Waterhouse, G.I.N.**| Ma, S.| Wang, X.	Advancing porous materials for radioiodine capture	Nanotechnology, (2025), **36**, 25, 252501, ISSN-09574484, Journal, Article	University of North Texas (**United States**), North China Electric Power University (**China**), The University of Auckland (**New Zealand**)

Authors	Title	Publication	International Collaborations
Wieczorek, S.| **Osinga, H.M.**| Knowles, J.| Giraldo, A.| Barton, D.A.W.	EDITORIAL: AT THE FRONTIER OF APPLIED DYNAMICAL SYSTEMS SPECIAL ISSUE IN HONOUR OF PROFESSOR BERND KRAUSKOPF (On the occasion of his 60th birthday)	ANZIAM Journal, (2025), **67**, e23, ISSN-14461811, Journal, Editorial	University of Bristol (**United Kingdom**), Loughborough University (**United Kingdom**), The University of Auckland (**New Zealand**), University College Cork (**Ireland**), Korea Institute for Advanced Study (**South Korea**)
Dong, H.| Han, S.| Mi, K.| Hao, Y.| **Waterhouse, G.I.N.**| Tong, L.| Hou, S.	Asymmetric Janus composite films with superior humidity regulation capabilities for the efficient preservation of strawberry fruit	Food Chemistry, (2025), **478**, 143646, ISSN-03088146, Journal, Article	Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**), Ministry of Agriculture of the People's Republic of China (**China**)
Liu, D.| **Cater, J.**| Dunker, C.| MacDonald, M.	Direct Numerical Simulation of Fog Formation with Turbulence and Longwave Radiation	Boundary-Layer Meteorology, (2025), **191**, 7, 25, ISSN-00068314, Journal, Article	The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**)
Han, C.| Lee, C.-U.| Udalski, A.| Bond, I.A.| Yang, H.| Albrow, M.D.| Chung, S.-J.| Gould, A.| Jung, Y.K.| Hwang, K.-H.| Ryu, Y.-H.| Shvartzvald, Y.| Shin, I.-G.| Yee, J.C.| Zang, W.| Inyanya, T.| Cha, S.-M.| Kim, D.| Kim, D.-J.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Mróz, P.| Szymański, M.K.| Skowron, J.| Poleski, R.| Soszyński, I.| Pietrukowicz, P.| Kozłowski, S.| Rybicki, K.A.| Iwanek, P.| Ulaczyk, K.| Wrona, M.| Gromadzki, M.| Mróz, M.J.| Jaroszyński, M.| Kiraga, M.| Abe, F.| Bando, K.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Hamada, S.| Hamasaki, N.| Hirao, Y.| Ishitani Silva, S.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.| Tang, Y.| Mao, S.| Maoz, D.| Zhu, W.	MOA-2022-BLG-091Lb and KMT-2024-BLG-1209Lb: Microlensing planets detected through weak caustic-crossing signals	Astronomy and Astrophysics, (2025), **699**, A91, ISSN-00046361, Journal, Article	Tsinghua University (**China**), Kyung Hee University (**South Korea**), Tel Aviv University (**Israel**), Harvard University (**United States**), Smithsonian Institution (**United States**), Ohio State University (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Chungbuk National University (**South Korea**), The University of Osaka (Osaka University) (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), Institut d'astrophysique de Paris (**France**), University of Science and Technology UST (**South Korea**), CNRS (**France**), Villanova University (**United States**), Nagoya University (**Japan**), Korea Astronomy and Space Science Institute (**South Korea**), The University of Tokyo (**Japan**), The University of Auckland (**New Zealand**), JAXA Institute of Space and Astronautical Science (**Japan**), University of Canterbury (**New Zealand**), University of Warwick (**United Kingdom**), University of Warsaw (**Poland**), NASA Goddard Space Flight Center (**United States**), University of Maryland, College Park (**United States**), Japan Aerospace Exploration Agency (**Japan**)
Alhyder, R.| Colussi, V.E.| Čufar, M.| **Brand, J.**| Recati, A.| Bruun, G.M.	Lattice Bose polarons at strong coupling and quantum criticality	SciPost Physics, (2025), **19**, 1, 2, ISSN-25424653, Journal, Article	Institute of Science and Technology Austria (**Austria**), National Research Council of Italy (**Italy**), University of Trento (**Italy**), Aarhus University (**Denmark**), Massey University (**New Zealand**)
Silvestri, C.| Qiang, Y.L.| Panda, K.| Widjaja, J.| **Coen, S.**| de Sterke, C.M.| Runge, A.F.J.	Pure high-order dispersion dissipative Kerr solitons in optical cavities	Optics Letters, (2025), **50**, 13, 4262-4265, ISSN-01469592, Journal, Article	Institut national des sciences appliquées Lyon (**France**), University of Sydney (**Australia**), École supérieure de chimie physique électronique de Lyon (CPE Lyon) (**France**), CNRS (**France**), The University of Auckland (**New Zealand**), École centrale de Lyon (**France**), Université Claude Bernard Lyon 1 (**France**)
Solis Fernandez, F.| **Ludbrook, B.M.**| **Schuyt, J.J.**| Trompetter, B.| Moseley, D.A.| Muhammad Haneef, S.| **Badcock, R.A.**	Mitigation of high X-ray dose radiation-induced attenuation in optical fibers at 15 K: effect of cumulative dose	Optical Engineering, (2025), **64**, 7, 76101, ISSN-00913286, Journal, Article	Victoria University of Wellington (**New Zealand**), GNS Science (**New Zealand**)

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Pan, J.| Liu, X.| Yang, H.| **Xu, X.**| Tian, F.| **Gordon, K.C.**| **McGoverin, C.M.**| Huang, X.	Recent advancements of Raman spectroscopy application in topical products	European Journal of Pharmaceutics and Biopharmaceutics, (2025), **212**, 114738, ISSN-09396411, Journal, Review	University of Otago (**New Zealand**)
Bailie, J.| Dijkstra, H.A.| **Krauskopf, B.**	A detailed analysis of deep-decoupling/deep-coupling oscillations in the Welander model	Chaos, (2025), **35**, 7, 73126, ISSN-10541500, Journal, Article	The University of Auckland (**New Zealand**), Utrecht University (**Netherlands**)
Hiraishi, M.| Roberts, Z.H.| King, G.G.G.| **Trainor, L.S.**| **Longdell, J.J.**	Long optical coherence times in a rare-earth-doped antiferromagnet	Nature Physics, (2025), **21**, 7, 1112-1117, ISSN-17452473, Journal, Article	University of Western Australia (**Australia**), University of Otago (**New Zealand**)
Sun, Y.| Chen, Y.| Pang, X.| **Waterhouse, G.I.N.**| Qiao, X.| Xu, Z.	Covalent organic framework/carbon black/molecularly imprinted polydopamine composites for the selective recognition and electrochemical detection of ciprofloxacin	Food Science and Human Wellness, (2025), **14**, 7, 9250170, ISSN-22134530, Journal, Article	Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**)
Cao, Y.| **Waterhouse, G.I.N.**| Li, Y.	NiAl-LDH-Derived Catalyst with Excellent Selectivity for the Selective Oxidation of 5-Hydroxymethylfurfural to Furandicarboxylic Acid	Journal of Physical Chemistry C, (2025), **129**, 26, 11967-11977, ISSN-19327447, Journal, Article	Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**)
Gito, D.A.D.| Akbarinejad, A.| Dixon, A.| Loho, T.| **Nieuwoudt, M.**| Chen, Q.| Domigan, L.J.| Malmström, J.	Correction to: Self-Assembled Piezoelectric Films from Aligned Lysozyme Protein Fibrils (Biomacromolecules (2025) 26:1 (514−527) DOI: 10.1021/acs.biomac.4c01305)	Biomacromolecules, (2025), **26**, 7, ISSN-15257797, Journal, Erratum	-
Weal, G.R.| Nurhuda, M.| Hodgkiss, J.M.| **Hume, P.A.**| Packwood, D.M.	Graph neural networks to predict atomic transition charges and exciton couplings in organic semiconductors	Journal of Chemical Physics, (2025), **163**, 2, 24125, ISSN-00219606, Journal, Article	Kyoto University (**Japan**), Victoria University of Wellington (**New Zealand**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Zhou, Y.| Mao, Y.| Ye, C.| Wang, Z.| Wei, S.| Kennedy, J.V.| Zhao, Y.| Yang, H.| Cowie, B.C.C.| **Waterhouse, G.I.N.**	Ru Single Atoms Anchored on Co3O4 Nanorods for Efficient Overall Water Splitting under pH-Universal Conditions	Advanced Energy Materials, (2025), **15**, 27, 2500700, ISSN-16146832, Journal, Article	North China Electric Power University (**China**), The University of Auckland (**New Zealand**), Beijing University of Chemical Technology (**China**), GNS Science (**New Zealand**), Australian Nuclear Science and Technology Organisation (**Australia**), South China University of Technology (**China**)
Liao, H.| Li, J.| Wang, F.| Chen, Y.| Deng, W.| Li, B.| Liu, J.| Qian, D.| **Waterhouse, G.I.N.**	Ion-imprinting strategy towards a novel two-in-one copper-based nanozyme for sensitive electrochemical-colorimetric dual-mode detection of paracetamol	Biosensors and Bioelectronics, (2025), **280**, 117454, ISSN-09565663, Journal, Article	Central South University (**China**), The University of Auckland (**New Zealand**), Hengyang Normal University (**China**)
Liu, Y.| Li, Y.| **Waterhouse, G.I.N.**| Liu, C.| Jiang, X.| Zhang, Z.| Yu, L.	Smart photo-driven composite system containing thermosensitive P(NIPAM-NVK) and photoactive PANI for the rapid removal of anionic dyes	Journal of Colloid and Interface Science, (2025), **690**, 137310, ISSN-00219797, Journal, Article	Ocean University of China (**China**), The University of Auckland (**New Zealand**)
Wang, F.| Li, J.| Liao, H.| Liu, X.| Chen, Y.| Liu, J.| Qian, D.| **Waterhouse, G.I.N.**	Synthesis, Characterization, and DFT Calculations of a Novel Craft Axially Coordinated Fe-Fe Dual-Atom Oxidase-like Nanozyme for Colorimetric Sensing	Journal of Physical Chemistry Letters, (2025), **16**, 28, 7249-7261, ISSN-19487185, Journal, Article	Central South University (**China**), The University of Auckland (**New Zealand**), Hengyang Normal University (**China**)
Weyland, M.| Sanchez, L.| Ruksasakchai, P.| **Andersen, M.F.**	Applications of maximum likelihood estimations for analyzing photon counts in few-atom experiments	Physical Review A, (2025), **112**, 1, 12817, ISSN-24699926, Journal, Article	University of Otago (**New Zealand**)

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Backert, T.G.| Brauneis, F.| Čufar, M.| **Brand, J.**| Hammer, H.-W.| Volosniev, A.G.	Effective Theory for Strongly Attractive One-Dimensional Fermions	Physical Review Letters, (2025), **135**, 4, 40401, ISSN-00319007, Journal, Article	GSI Helmholtz Centre for Heavy Ion Research (**Germany**), Aarhus University (**Denmark**), Massey University (**New Zealand**), Technische Universität Darmstadt (**Germany**)
Charoensawan, J.| **Adam, L.**| **van Wijk, K.**| Margerin, L.| Miljkovic, K.| Nunn, C.	The Effect of Mars Impact Crater Topography on Seismic Signals	Journal of Geophysical Research: Planets, (2025), **130**, 8, e2024JE008440, ISSN-21699097, Journal, Article	California Institute of Technology (**United States**), Curtin University (**Australia**), CNRS (**France**), Météo-France (**France**), Jet Propulsion Laboratory, California Institute of Technology (**United States**), Institut de recherche pour le développement (IRD) (**France**), The University of Auckland (**New Zealand**), Université Fédérale Toulouse Midi-Pyrénées (**France**), Centre national d'études spatiales (CNES) (**France**), Université Paul Sabatier Toulouse III (**France**)
Li, M.| Chen, L.| Sui, J.| **Waterhouse, G.I.N.**| Zhang, Z.| Yu, L.	Kelp-derived Cu-Fe3C@KC nanoclusters for microwave-assisted catalytic dye degradation	Inorganic Chemistry Communications, (2025), **178**, 114490, ISSN-13877003, Journal, Article	Qingdao University of Science and Technology (**China**), Ocean University of China (**China**), The University of Auckland (**New Zealand**), Yangzhou University (**China**)
Haneef, S.M.| **Ludbrook, B.M.**| Davies, M.| Siamaki, M.| Gonzalas, J.| Huang, X.| Moseley, D.A.| **Badcock, R.A.**	Cryogenic optical fiber sensors for superconducting system protection in cryo-electric aircraft	Superconductor Science and Technology, (2025), **38**, 8, 85008, ISSN-09532048, Journal, Article	Victoria University of Wellington (**New Zealand**)
Chen, Y.| Gao, R.| Sun, Y.| Wang, R.| **Waterhouse, G.I.N.**| Qiao, X.| Xu, Z.	A highly sensitive electrochemical sensing platform based on Zn-CuGaO2@CMK-3 signal amplification for simultaneous detection of the sunset yellow and tartrazine in foods	Food Science and Human Wellness, (2025), **14**, 8, 9250188, ISSN-22134530, Journal, Article	Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**)
Misiiuk, K.| Nowak, S.| **Blaikie, R.**| Sommers, A.| **Lowrey, S.**	Transport of water droplets on metallic topographic gradients under forced vibration	Physics of Fluids, (2025), **37**, 8, 87142, ISSN-10706631, Journal, Article	Miami University (**United States**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), University of Otago (**New Zealand**)
Tian, C.| **Punzalan, J.**| Becker, P.| Bohatý, L.| **Gordon, K.C.**| **Blaikie, R.**| **Schwefel, H.G.L.**| **Sedlmeir, F.**	Cascaded Raman lasing in a lithium tetraborate whispering gallery mode resonator	Photonics Research, (2025), **13**, 8, 2232-2239, ISSN-23279125, Journal, Article	MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), University of Otago (**New Zealand**)
Han, J.| Wang, Y.| **Waterhouse, G.I.N.**| Wang, Y.| Wu, S.| Wang, R.| Zhang, X.| Tang, Y.| Raghavan, V.| Wang, J.	Hydrogen-bonded organic framework-based signal amplification strategy combined with high-specificity sandwich immune response system for dual-mode ultrasensitive detection of gliadin allergen	Chemical Engineering Journal, (2025), **517**, 164317, ISSN-13858947, Journal, Article	Southeast University, Nanjing (**China**), The University of Auckland (**New Zealand**), McGill University (**Canada**)

Authors	Title	Publication	International Collaborations
Chung, S.-J.| Hwang, K.-H.| Yee, J.C.| Gould, A.| Bond, I.A.| Yang, H.| Albrow, M.D.| Jung, Y.K.| Han, C.| Ryu, Y.-H.| Shin, I.-G.| Shvartzvald, Y.| Zang, W.| Cha, S.-M.| Kim, D.-J.| Kim, S.-L.| Lee, C.-U.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Abe, F.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Hirao, Y.| Silva, S.I.| Koshimoto, N.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.	KMT-2022-BLG-0086: Another Binary-lens Binary-source Microlensing Event	Astronomical Journal, (2025), **170**, 2, 75, ISSN-00046256, Journal, Article	Tsinghua University (**China**), Catholic University of America (**United States**), Kyung Hee University (**South Korea**), Harvard University (**United States**), Smithsonian Institution (**United States**), Ohio State University (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Chungbuk National University (**South Korea**), The University of Osaka (Osaka University) (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), Institut d'astrophysique de Paris (**France**), University of Science and Technology UST (**South Korea**), CNRS (**France**), Nagoya University (**Japan**), The University of Tokyo (**Japan**), The University of Auckland (**New Zealand**), Korea Astronomy and Space Science Institute (**South Korea**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**), University of Maryland, College Park (**United States**), JAXA Institute of Space and Astronautical Science (**Japan**), Japan Aerospace Exploration Agency (**Japan**)
Martinez, V.A.| Gao, Y.| Yang, J.| **Lyzwa, F.**| Liu, Z.| Won, C.J.| Du, K.| Kiryukhin, V.| Cheong, S.W.| Sirenko, A.A.	Ferroaxial phonons in chiral and polar NiCo2TeO6	Physical Review B, (2025), **112**, 6, 46174, 64411, ISSN-24699950, Journal, Article	United States Department of Energy (**United States**), University of Illinois at Chicago (**United States**), Rutgers - The State University of New Jersey, New Brunswick (**United States**), Pohang University of Science and Technology (**South Korea**), New Jersey Institute of Technology (**United States**), Brookhaven National Laboratory (**United States**)
Lucas, E.| Xu, G.| Wang, P.| Oppo, G.-L.| Hill, L.| Del'haye, P.| Kibler, B.| **Xu, Y.**| **Murdoch, S.G.**| **Erkintalo, M.**| **Coen, S.**| Fatome, J.	Polarization Faticons: Chiral Localized Structures in Self-Defocusing Kerr Resonators	Physical Review Letters, (2025), **135**, 6, 63803, ISSN-00319007, Journal, Article	Université de technologie de Belfort Montbéliard (**France**), University of Strathclyde (**United Kingdom**), Max Planck Institute for the Science of Light (**Germany**), CNRS (**France**), The University of Auckland (**New Zealand**), Université de Bourgogne (**France**), Huazhong University of Science and Technology (**China**)
Underwood, A.P.C.| **Blakie, P.B.**	Stochastic Gross-Pitaevskii theory for a spin-1 Bose gas: Application to superfluidity in two dimensions	Physical Review A, (2025), **112**, 2, 23315, ISSN-24699926, Journal, Article	University of Otago (**New Zealand**)
Hardy, J.| Batra, A.| Foucher, A.| Chan, S.V.| Blaauw-Smith, F.| Shumilov, N.A.| **Davis, N.J.L.K.**	Fabrication and Characterization of Diphenylhexatriene-Based Quasi-Two-Dimensional Perovskites for Potential Singlet Fission Capable Photovoltaics	Journal of Physical Chemistry Letters, (2025), **16**, 8092-8104, ISSN-19487185, Journal, Article	Victoria University of Wellington (**New Zealand**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), University of Otago (**New Zealand**)
Elbashier, E.| Wagner, P.| Officer, D.L.| **Gordon, K.C.**	Impact of Tuning the Structure of Dibromo-9H-fluorene-9-ylidene Acceptor-Based Dyes on the Optical and Electronic Properties for Photonic Applications	Journal of Physical Chemistry A, (2025), **129**, 34, 7832-7841, ISSN-10895639, Journal, Article	University of Wollongong (**Australia**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), University of Otago (**New Zealand**)
Liu, J.| Lv, Z.| Zhao, Y.| Li, G.| Zhang, Z.| Song, X.| **Waterhouse, G.I.N.**	2-Mercaptobenzimidazole@carbon nanocages enable self-healing anticorrosion coatings	Journal of Coatings Technology and Research, (2025), **22**, 5, 1725-1739, ISSN-19459645, Journal, Article	Qingdao University of Science and Technology (**China**), The University of Auckland (**New Zealand**)

Authors	Title	Publication	International Collaborations
Tian, C.| Becker, P.| Bohatý, L.| **Blaikie, R.**| **Schwefel, H.G.L.**| **Sedlmeir, F.**	Broadband second-harmonic generation in an x-cut lithium tetraborate whispering gallery mode resonator	Optics Letters, (2025), **50**, 17, 5246-5249, ISSN-01469592, Journal, Article	MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), University of Otago (**New Zealand**)
Knapmeyer-Endrun, B.| **Adam, L.**| Carrasco, S.| Golombek, M.P.| Kim, D.| Knapmeyer, M.| Miljković, K.| Plesa, A.-C.| Warner, N.H.| Wieczorek, M.	Porosity and hydrous alteration of the Martian crust from InSight seismic data	Physics of the Earth and Planetary Interiors, (2025), **366**, 107383, ISSN-00319201, Journal, Article	California Institute of Technology (**United States**), University of Cologne (**Germany**), Curtin University (**Australia**), CNRS (**France**), Imperial College London (**United Kingdom**), Jet Propulsion Laboratory, California Institute of Technology (**United States**), SUNY Geneseo (**United States**), The University of Auckland (**New Zealand**), Université Paris Cité (**France**), German Aerospace Center (**Germany**)
Mu, Y.| Kang, H.| Song, X.| Cao, C.| Sun-Waterhouse, D.| **Waterhouse, G.I.N.**| Zhao, M.| Su, G.	Soybean protein isolate hydrolysate addition during fermentation of soybean meal with Aspergillus oryzae enhances the release of umami components in subsequent hydrolysis process	Food Bioscience, (2025), **71**, 107105, ISSN-22124292, Journal, Article	The University of Auckland (**New Zealand**), South China University of Technology (**China**)
Punzalan, J.| Hartono, P.| Fraser-Miller, S.| Leong, S.| Sutton, K.| Moggre, G.-J.| Oey, I.| **Gordon, K.**	Fingerprinting of Semi-Refined Flaxseed Protein Using Raman Spectroscopy and Multivariate Analysis: Pulsed Electric Field (PEF)-Assisted Alkali and Aqueous Extraction Methods Alter Composition and Protein Conformation	Journal of Raman Spectroscopy, (2025), **56**, 9, 788-800, ISSN-03770486, Journal, Article	University of the Philippines (**Philippines**), Plant and Food Research, New Zealand (**New Zealand**), Flinders University (**Australia**), Riddet Institute (**New Zealand**), University of Otago (**New Zealand**)
Sharma, P.| Sharma, N.K.| Sharma, H.| Jindal, V.K.| Mudahar, I.| **Bubanja, V.**	Influence of selenium doping and vacancy defects on properties of FeTiVNi high entropy alloy	Computational Materials Science, (2025), **259**, 114179, ISSN-09270256, Journal, Article	Punjab Technical University (**India**), Punjabi University (**India**), Callaghan Innovation (**New Zealand**), Panjab University (**India**), University of Otago (**New Zealand**)
Barter, S.| Boom, G.| Low, J.| **Merola, F.**| **Aguergaray, C.**| Chamley, L.| Cree, L.| **Broderick, N.G.R.**	Optimization of laser induced periodic surface structures for surface enhanced Raman spectroscopy of extracellular vesicles	Optics Communications, (2025), **589**, 131952, ISSN-00304018, Journal, Article	The University of Auckland (**New Zealand**)
McCullough, S.E.| **Gordon, K.C.**| Remoto, P.J.G.| Barnsley, J.E.	Characterization of New Zealand drinking water source variation over time and between sources using fluorescence spectroscopy	Journal of Water Process Engineering, (2025), **77**, 108474, ISSN-22147144, Journal, Article	University of Otago (**New Zealand**)
Schreiber, K.U.| Hugentobler, U.| Kodet, J.| Stellmer, S.| Klügel, T.| **Wells, J.-P.R.**	Gyroscope measurements of the precession and nutation of Earth's axis	Science Advances , (2025), **11**, 36, 46235, ISSN-23752548, Journal, Article	Technical University of Munich (**Germany**), University of Bonn (**Germany**), University of Canterbury (**New Zealand**)
Krause, N.A.| **Bradley, A.S.**	Equilibrium, relaxation, and fluctuations in homogeneous Bose-Einstein condensates: Linearized classical field analysis	Physical Review A, (2025), **112**, 3, 33308, ISSN-24699926, Journal, Article	University of Otago (**New Zealand**)
Sohail, A.| Wagner, P.| Mapley, J.I.| **Gordon, K.C.**	A Spectroscopic and Computational Study of Dyes Based on Carbazole and TPA Donors, and Indane-Based Acceptors	Journal of Physical Chemistry A, (2025), **129**, 36, 8346-8356, ISSN-10895639, Journal, Article	University of Wollongong (**Australia**), University of Otago (**New Zealand**)
Bradley, A.S.| Krause, N.A.	Velocity correlations of vortices and rarefaction pulses in compressible planar quantum fluids	Physical Review A, (2025), **112**, 3, 33316, ISSN-24699926, Journal, Article	University of Otago (**New Zealand**)

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Maekawa, T.| Tateishi, N.| Ikeda, Y.| Maekawa, H.| **Waterhouse, G.I.N.**| Murai, K.-I.| Moriga, T.	Enhancing the Photocatalytic Activity of LaTiO 2 N Inverse Opal Photonic Crystals by La/Ti Stoichiometry Optimization to Suppress Ti 3+ Defects	Chemistry of Materials, (2025), **37**, 18, 7439-7449, ISSN-08974756, Journal, Article	Tokushima University (**Japan**), Yokohama National University (**Japan**), The University of Auckland (**New Zealand**)
Ma, X.| Wang, B.| Yang, N.| Li, J.| **McCane, B.**| Sun, M.| Wu, J.| Zhang, M.| Meng, Y.	Identification of stochastic gravitational wave backgrounds from cosmic strings using machine learning	Physical Review D, (2025), **112**, 6, 42005, 64081, ISSN-24700010, Journal, Article	Xingtai University (**China**), Chongqing University (**China**), Southern University of Science and Technology (**China**), University of Otago (**New Zealand**)
Tani, T.| **Zülicke, U.**	Multipole order in two-dimensional altermagnets	Physical Review Research, (2025), **7**, 4, 43149, ISSN-26431564, Journal, Article	Victoria University of Wellington (**New Zealand**), The University of Osaka (Osaka University) (**Japan**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Han, C.| Lee, C.-U.| Udalski, A.| Bond, I.A.| Albrow, M.D.| Chung, S.-J.| Gould, A.| Jung, Y.K.| Hwang, K.-H.| Ryu, Y.-H.| Shvartzvald, Y.| Shin, I.-G.| Yee, J.C.| Zang, W.| Yang, H.| Cha, S.-M.| Kim, D.| Kim, D.-J.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Mróz, P.| Szymański, M.K.| Skowron, J.| Poleski, R.| Soszyński, I.| Pietrukowicz, P.| Kozłowski, S.| Rybicki, K.A.| Iwanek, P.| Ulaczyk, K.| Wrona, M.| Gromadzki, M.| Mróz, M.J.| Jaroszyński, M.| Kiraga, M.| Abe, F.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Silva, S.I.| Hirao, Y.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.	Six microlensing planets detected via sub-day signals during the 2023–2024 season	Astronomy and Astrophysics, (2025), **702**, A152, ISSN-00046361, Journal, Article	Tsinghua University (**China**), Catholic University of America (**United States**), Kyung Hee University (**South Korea**), Harvard University (**United States**), Smithsonian Institution (**United States**), Ohio State University (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Chungbuk National University (**South Korea**), The University of Osaka (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), Institut d'astrophysique de Paris (**France**), University of Science and Technology UST (**South Korea**), CNRS (**France**), Villanova University (**United States**), The University of Auckland (**New Zealand**), The University of Tokyo (**Japan**), Korea Astronomy and Space Science Institute (**South Korea**), Nagoya University (**Japan**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**), University of Warwick (**United Kingdom**), University of Maryland, College Park (**United States**), University of Warsaw (**Poland**)
Sayat, M.T.| Kish, S.P.| Lam, P.K.| **Rattenbury, N.J.**| **Cater, J.E.**	Dynamic Continuous Variable Quantum Key Distribution for Securing a Future Global Quantum Network	Advanced Quantum Technologies, (2025), **8**, 10, e2500135, ISSN-25119044, Journal, Article	Agency for Science, Technology and Research, Singapore (**Singapore**), ARC Centre of Excellence for Quantum Computation and Communication Technology (**Australia**), The University of Auckland (**New Zealand**), CSIRO (**Australia**), University of Canterbury (**New Zealand**), Australian National University (**Australia**)
Cai, M.| Liu, J.| Zhang, X.| Ma, Q.| Wang, D.| **Waterhouse, G.I.N.**| Sun, B.	Mechanical Stability of Carbon/Ramie Fiber Hybrid Composites Under Hygrothermal Aging	Applied Composite Materials, (2025), **32**, 5, 1929-1948, ISSN-0929189X, Journal, Article	Nanyang Technological University (**Singapore**), The University of Auckland (**New Zealand**), Shanghai University of Engineering Science (**China**), Donghua University (**China**)
Griffey, E.| **Nieuwoudt, M.**	Beautiful Experiments: Reading and Reconstructing Early Modern European Cosmetic Recipes	Embodied Experiences of Making in Early Modern Europe: Bodies, (Gender), and Material Culture, (2025), **135-161**, Book, Chapter	The University of Auckland (**New Zealand**)
Macnaughtan, M.| Li, Z.| **Xu, Y.**| Wei, X.| Yang, Z.| **Coen, S.**| **Erkintalo, M.**| **Murdoch, S.G.**	Soliton self-excitation under pulsed driving in a Kerr resonator	Physical Review Research, (2025), **7**, 4, 43250, ISSN-26431564, Journal, Article	The University of Auckland (**New Zealand**), South China University of Technology (**China**)

Authors	Title	Publication	International Collaborations
Han, C.| **Cater, J.**| Sinnen, O.	An mTSP model for multiple telescope short-term scheduling	Experimental Astronomy, (2025), **60**, 2, 11, ISSN-09226435, Journal, Article	The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**)
Maekawa, T.| Ikeda, Y.| Fukuma, H.| Horikawa, T.| **Waterhouse, G.I.N.**| Murai, K.-I.| Moriga, T.	Optical properties of photonic crystal balls of different sizes synthesized using a microfluidic device	Materials Science in Semiconductor Processing, (2025), **197**, 109716, ISSN-13698001, Journal, Article	Tokushima University (**Japan**), The University of Auckland (**New Zealand**)
Cai, M.| Guo, Y.| Wang, L.| Ma, Q.| Sun, B.| **Waterhouse, G.I.N.**	Recent Advances in Hygrothermal Aging of Plant Fiber Reinforced Composites	Applied Composite Materials, (2025), **32**, 5, 1949-1974, ISSN-0929189X, Journal, Review	Nanyang Technological University (**Singapore**), The University of Auckland (**New Zealand**), Shanghai University of Engineering Science (**China**), Donghua University (**China**)
Han, C.| Udalski, A.| Lee, C.-U.| Bond, I.A.| Albrow, M.D.| Chung, S.-J.| Gould, A.| Jung, Y.K.| Hwang, K.-H.| Ryu, Y.-H.| Shvartzvald, Y.| Shin, I.-G.| Yee, J.C.| Zang, W.| Yang, H.| Cha, S.-M.| Kim, D.| Kim, D.-J.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Mróz, P.| Szymański, M.K.| Skowron, J.| Poleski, R.| Soszyński, I.| Pietrukowicz, P.| Kozłowski, S.| Rybicki, K.A.| Iwanek, P.| Ulaczyk, K.| Wrona, M.| Gromadzki, M.| Mróz, M.J.| Jaroszyński, M.| Kiraga, M.| Abe, F.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Silva, S.I.| Hirao, Y.| Koshimoto, N.| Matsubara, Y.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.	Four binary microlenses with directly measured masses	Astronomy and Astrophysics, (2025), **702**, A53, ISSN-00046361, Journal, Article	Tsinghua University (**China**), Catholic University of America (**United States**), Kyung Hee University (**South Korea**), Harvard University (**United States**), Smithsonian Institution (**United States**), Ohio State University (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Chungbuk National University (**South Korea**), The University of Osaka (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), Institut d'astrophysique de Paris (**France**), University of Science and Technology UST (**South Korea**), CNRS (**France**), Villanova University (**United States**), The University of Auckland (**New Zealand**), Korea Astronomy and Space Science Institute (**South Korea**), Nagoya University (**Japan**), The University of Tokyo (**Japan**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**), University of Warwick (**United Kingdom**), University of Maryland, College Park (**United States**), University of Warsaw (**Poland**)
Andriulli, R.| Caldarelli, A.| Charles, C.| Boswell, R.W.| Ponti, F.| **Rattenbury, N.**	Plasma coupling mode transition in a low-power decoupled magnetic nozzle device	Plasma Sources Science and Technology, (2025), **34**, 10, 105007, ISSN-09630252, Journal, Article	The University of Auckland (**New Zealand**), University of Bologna (**Italy**), Australian National University (**Australia**)
Li, P.| Mao, Y.| Shin, H.| Yang, Q.| Cheng, X.| Li, Y.| Li, K.| Yu, H.| Mulder, R.| Pang, W.K.| Jin, H.| Zhao, Y.| Zheng, Z.| Finch, E.| Hearn, K.| Jia, B.| **Waterhouse, G.I.N.**| Wang, Z.| Ma, T.	Tandem amine scrubbing and CO2 electrolysis via direct piperazine carbamate reduction	Nature Energy, (2025), **10**, 10, 1262-1273, ISSN-20587546, Journal, Article	University of Wollongong (**Australia**), Peking University (**China**), Shenzhen Institute of Advanced Technology (**China**), Sogang University (**South Korea**), CSIRO (**Australia**), The University of Auckland (**New Zealand**), Australian Nuclear Science and Technology Organisation (**Australia**), Royal Melbourne Institute of Technology University (**Australia**), Chinese Academy of Sciences (**China**)
Lambert, N.J.| Schumer, A.| **Longdell, J.J.**| Rotter, S.| **Schwefel, H.G.L.**	Coherent control of magnon–polaritons using an exceptional point	Nature Physics, (2025), **21**, 10, 1570-1577, ISSN-17452473, Journal, Article	TU Wien (**Austria**), University of Otago (**New Zealand**)
Mao, Y.| Wang, Z.| **Waterhouse, G.I.N.**	Understanding light olefin selectivity during Fischer-Tropsch syntheses over zeolites: A DFT exploration of the key role of ketene intermediates	Journal of Environmental Chemical Engineering, (2025), **13**, 5, 118822, ISSN-22133437, Journal, Article	The University of Auckland (**New Zealand**)

Authors	Title	Publication	International Collaborations
Badri, Y.| Dodd, G.| Hall, A.| **Cater, J.E.**| Schmid, G.| Emms, G.	Damping loss factor of granular material mixtures using a coupled finite element-discrete element method	Powder Technology, (2025), **464**, 121269, ISSN-00325910, Journal, Article	The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**)
Zheng, X.| Lin, C.Y.| Zhou, J.| Li, M.| Wu, B.| Bi, Z.| Li, N.| Shi, J.| **Hume, P.**| Xie, Z.| Tang, Z.| Ma, W.| Meng, Q.| Hodgkiss, J.M.| **Chen, K.**| Zhan, X.	Reducing energy loss of fused-ring electron acceptors by pyrrole extension	Journal of Materials Chemistry A, (2025), **13**, 39, 33505-33514, ISSN-20507488, Journal, Article	Victoria University of Wellington (**New Zealand**), Peking University (**China**), CAS - Institute of Physics (**China**), Donghua University (**China**), Chinese Academy of Sciences (**China**), Xi'an Jiaotong University (**China**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), South China University of Technology (**China**)
Sun, M.| Wu, J.| Li, J.| **Mccane, B.**| Yang, N.| Ma, X.| Wang, B.| Zhang, M.	Conditional autoencoder for generating binary neutron star waveforms with tidal and precession effects	Physical Review D, (2025), **112**, 8, 0840161-08401618, ISSN-24700010, Journal, Article	Xingtai University (**China**), Chongqing University (**China**), Southern University of Science and Technology (**China**), University of Otago (**New Zealand**)
Chen, H.H.| **Osinga, H.M.**	CLASSIFICATION OF PERIODIC ORBITS FOR SQUARE AND RECTANGULAR BILLIARDS	ANZIAM Journal, (2025), **67**, e33, ISSN-14461811, Journal, Article	The University of Auckland (**New Zealand**)
Zhang, C.| Ge, X.| Jiao, Z.| Chang, M.| Zhao, C.| Hua, Q.| Li, Z.| **Waterhouse, G.I.N.**| Li, Y.C.| Wang, Z.	Graph Neural Network Driven Exploration of Non-Precious Metal Catalysts for Air-to-Ammonia Conversion	Advanced Materials, (2025), **37**, 42, e09915, ISSN-09359648, Journal, Article	The University of Auckland (**New Zealand**), SUNY Buffalo (**United States**), Beijing Normal University (**China**)
Winkler, R.| **Zülicke, U.**	Time inversion symmetry in the Dirac and Schrödinger-Pauli theories	Physics Letters, (Section A: General), Atomic and Solid State Physics, (2025), **558**, 130873, ISSN-03759601, Journal, Article	Northern Illinois University (**United States**), United States Department of Energy (**United States**), Victoria University of Wellington (**New Zealand**), Argonne National Laboratory (**United States**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**)
Ramesh, M.| Shao, S.| Hlatky, M.| Phoenix, B.| **Ludbrook, B.M.**| Moseley, D.A.| **Badcock, R.A.**| Chiu, Y.-L.| Fernando, G.F.	Fabrication of intrinsic Fabry-Pérot sensors through proton irradiation	Journal of Applied Physics, (2025), **138**, 16, 163113, ISSN-00218979, Journal, Article	University of Birmingham (**United Kingdom**), Victoria University of Wellington (**New Zealand**)
Sun, W.| Tkalčić, H.| Malusà, M.G.| **Adam, L.**| Tang, Q.| Wang, S.| Wei, Z.| Pan, Y.	Geophysical evidence of progressive Noachian crustal thickening on Mars revealed by meteorite impacts	Earth and Planetary Science Letters, (2025), **669**, 119598, ISSN-0012821X, Journal, Article	University of Milan - Bicocca (**Italy**), The University of Auckland (**New Zealand**), Australian National University (**Australia**), CAS - Institute of Geology and Geophysics (**China**), Chinese Academy of Sciences (**China**)
Zhang, T.| Xia, Z.| Zheng, B.| Zhang, H.| Ouyang, J.| **Rattenbury, N.**	Effect of mode transition on discharge features and power coupling in the source of a helicon plasma thruster	Acta Astronautica, (2025), **236**, 228-238, ISSN-00945765, Journal, Article	Beijing Institute of Graphic Communication (**China**), Beijing Institute of Technology (**China**), The University of Auckland (**New Zealand**)
Liao, H.| Feng, H.| Li, J.| Wang, F.| Long, R.| Zhan, H.| Zhu, J.| Wang, Y.| Liu, J.| Qian, D.| **Waterhouse, G.I.N.**	Four birds with one stone: A novel Mn3Fe2.7C@C nanozyme for dual-mode colorimetric and electrochemical sensing of dopamine and H2O2	Sensors and Actuators B: Chemical, (2025), **442**, 138164, ISSN-09254005, Journal, Article	Central South University (**China**), The University of Auckland (**New Zealand**), Hengyang Normal University (**China**)
Abbas, N.| **Aguergaray, C.**| **Broderick, N.G.R.**	Dispersion-managed self-phase modulation for efficient compression of low-energy pulses in single-mode fibre	Optics Communications, (2025), **592**, 132179, ISSN-00304018, Journal, Article	The University of Auckland (**New Zealand**)

Authors	Title	Publication	International Collaborations
Bitha, R.D.D.| Giraldo, A.| **Broderick, N.G.R.**| **Krauskopf, B.**	A kneading diagram of chaotic switching oscillations in a Kerr cavity with two interacting light fields	Physica D: Nonlinear Phenomena, (2025), **481**, 134814, ISSN-01672789, Journal, Article	The University of Auckland (**New Zealand**), Korea Institute for Advanced Study (**South Korea**)
Hu, Z.| Wu, H.| Yong, X.| **Waterhouse, G.I.N.**| Tang, Z.| Chang, J.| Chang, J.| Lu, S.	Advances in dual-site mechanisms for designing high-performance oxygen evolution electrocatalysts	eScience, (2025), **5**, 6, 100403, ISSN-26671417, Journal, Review	Zhengzhou University (**China**), University of Liverpool (**United Kingdom**), The University of Auckland (**New Zealand**), Chinese Academy of Sciences (**China**), National Center for Nanoscience and Technology (**China**)
An, S.| **Xu, Y.**| Li, Y.| Li, D.| Zhang, B.| **Waterhouse, G.I.N.**| Ai, S.| Wang, C.| Li, H.	Light-responsive Cu2O–tannic acid nanoparticles enhance the fruit preservation performance of pectin films	International Journal of Biological Macromolecules, (2025), **329**, 147769, ISSN-01418130, Journal, Article	Qingdao University (**China**), Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**), Ministry of Agriculture of the People's Republic of China (**China**)
Lastovka, M.| Gaudi, B.S.| Johnson, S.A.| Penny, M.T.| Kerins, E.| **Rattenbury, N.J.**	Predictions of the Nancy Grace Roman Space Telescope Galactic Exoplanet Survey. III. Detectability of Giant Exomoons of Wide-separation Giant Planets	Astronomical Journal, (2025), **170**, 5, 258, ISSN-00046256, Journal, Article	University of Manchester (**United Kingdom**), Louisiana State University (**United States**), Ohio State University (**United States**), The University of Auckland (**New Zealand**), University of Maryland, College Park (**United States**)
Zhao, Y.| **Waterhouse, G.I.N.**| Liu, F.| Cheng, M.| Xu, J.	Recent advances in carbon assisted pyroelectric composites for energy conversion	Journal of Materials Chemistry C, (2025), **13**, 46, 22899-22920, ISSN-20507526, Journal, Review	Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**), Ministry of Agriculture of the People's Republic of China (**China**)
Qiu, Y.| Xu, H.| Wang, Z.| Xu, G.| **Xu, Y.**| Du, S.	Incoherently pumped polarization modulation instability in optical fibers	Optics Express, (2025), **33**, 23, 47578-47586, ISSN-10944087, Journal, Article	Huzhou University (**China**), The University of Auckland (**New Zealand**), Huazhong University of Science and Technology (**China**), Jingdezhen Ceramic Institute (**China**)
Petersen, A.R.| Paulsen, P.| **Sedlmeir, F.**| **Lambert, N.J.**| **Schwefel, H.G.L.**| **Suresh, M.I.**	Visualization and selective manipulation of sub-terahertz whispering gallery modes	Applied Physics Letters, (2025), **127**, 21, 211102, ISSN-00036951, Journal, Article	University of Otago (**New Zealand**)
Wang, Y.| Wu, Y.| Xiang, H.| Sun-Waterhouse, D.| Chen, S.| Zhao, Y.| Wu, Y.| **Waterhouse, G.I.N.**	From molecular interactions to macroscopic stability: How ionic strength modulates fish myofibrillar protein adsorption via structural plasticity as revealed by multiscale dynamics	Food Chemistry, (2025), **493**, 145819, ISSN-03088146, Journal, Article	Chinese Academy of Fishery Sciences (**China**), Ocean University of China (**China**), The University of Auckland (**New Zealand**)
Horlacher, N.| Punzalan, J.M.| King, J.| Leong, S.Y.| Agyei, D.| **Gordon, K.C.**| Moggré, G.-J.| Sutton, K.| Oey, I.	Pulsed Electric Field Processing Modifies Protein and Nonprotein Components in a Blended Oat-Pea Model Milk and Yoghurt Alternative: Molecular Insights and Impacts on Key Functionalities	Food and Bioprocess Technology, (2025), **18**, 12, 10930-10947, ISSN-19355130, Journal, Article	Monash University (**Australia**), Plant and Food Research, New Zealand (**New Zealand**), Riddet Institute (**New Zealand**), University of Otago (**New Zealand**)
Revell, L.E.| Bannister, M.T.| Brown, T.F.M.| Sukhodolov, T.| Vattioni, S.| Dykema, J.| Frame, D.J.| **Cater, J.**| Chiodo, G.| Rozanov, E.	Near-future rocket launches could slow ozone recovery	npj Climate and Atmospheric Science, (2025), **8**, 1, 212, ISSN-23973722, Journal, Article	CSIC (**Spain**), Harvard University (**United States**), St. Petersburg State University (**Russia**), Complutense University (**Spain**), Swiss Federal Institute of Technology Zurich (**Switzerland**), CSIC-UCM - Geosciences Institute (**Spain**), University of Canterbury (**New Zealand**)
Najafabadi, H.H.| Woo, M.W.| Suresh, V.| Spence, C.J.T.| Teh, E.-L.| **Cater, J.E.**	A numerical and experimental study of light obscuration in laparoscopy	BMC Surgery, (2025), **25**, 1, 573, ISSN-14712482, Journal, Article	Fisher & Paykel Healthcare (**New Zealand**), The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**)

Authors	Title	Publication	International Collaborations
Doyle, A.J.| **Nieuwoudt, M.K.**| Woon, J.| **Matthews, H.M.**| Dalbeth, N.	Costal cartilage mimics urate on DECT	Skeletal Radiology, (2025), **54**, 12, 2787-2793, ISSN-03642348, Journal, Article	The University of Auckland (**New Zealand**), Auckland District Health Board (**New Zealand**)
Zhang, T.| Zhu, X.| Xiong, J.| Xue, Z.| Cao, Y.| **Gordon, K.C.**| Xu, G.| Zhu, M.	Electron displacement polarization of high-dielectric constant fiber separators enhances interface stability	Nature Communications , (2025), **16**, 1, 4867, ISSN-20411723, Journal, Article	Massachusetts Institute of Technology (**United States**), Donghua University (**China**), University of Otago (**New Zealand**)
Christensen, J.T.| **Trainor, L.S.**| Azeem, F.| **Sedlmeir, F.**| Strekalov, D.V.| **Schwefel, H.G.L.**	Newton's rings for absolute distance measurement	Optics letters, (2025), **50**, 23, 7215-7218, ISSN-15394794, Journal, Article	
Langfield, P.| **Krauskopf, B.**| Lee, K.H.| **Osinga, H.M.**	The global geometry of phase-resetting surfaces: The role of critical level sets and isochrons	Communications in Nonlinear Science and Numerical Simulation, (2025), **151**, 109043, ISSN-10075704, Journal, Article	The University of Auckland (**New Zealand**), Institut national de recherche en informatique et en automatique (**France**), Université de Bordeaux (**France**)
Wu, H.| Fu, Z.| Chang, J.| Hu, Z.| Li, J.| Wang, S.| Yu, J.| Yong, X.| **Waterhouse, G.I.N.**| Tang, Z.| Chang, J.| Lu, S.	Engineering high-density microcrystalline boundary with V-doped RuO2 for high-performance oxygen evolution in acid	Nature Communications , (2025), **16**, 1, 4482, ISSN-20411723, Journal, Article	Zhengzhou University (**China**), University of Liverpool (**United Kingdom**), Zhejiang University (**China**), The University of Auckland (**New Zealand**), National Center for Nanoscience and Technology (**China**)
Han, C.| Lee, C.-U.| Bond, I.A.| Udalski, A.| Albrow, M.D.| Chung, S.-J.| Gould, A.| Jung, Y.K.| Hwang, K.-H.| Ryu, Y.-H.| Shvartzvald, Y.| Shin, I.-G.| Yee, J.C.| Zang, W.| Yang, H.| Cha, S.-M.| Kim, D.| Kim, D.-J.| Kim, S.-L.| Lee, D.-J.| Lee, Y.| Park, B.-G.| Pogge, R.W.| Mróz, P.| Szymański, M.K.| Skowron, J.| Poleski, R.| Soszyański, I.| Pietrukowicz, P.| Kozałowski, S.| Rybicki, K.A.| Iwanek, P.| Ulaczyk, K.| Wrona, M.| Gromadzki, M.| Mróz, M.J.| Jaroszyański, M.| Kiraga, M.| Abe, F.| Bennett, D.P.| Bhattacharya, A.| Fukui, A.| Hamada, R.| Silva, S.I.| Hirao, Y.| Idei, A.| Miyazaki, S.| Muraki, Y.| Nagai, T.| Nunota, K.| Olmschenk, G.| Ranc, C.| **Rattenbury, N.J.**| Satoh, Y.| Sumi, T.| Suzuki, D.| Tamaoki, T.| Terry, S.K.| Tristram, P.J.| Vandorou, A.| Yama, H.	Six binary brown dwarf candidates identified by microlensing	Astronomy and Astrophysics, (2025), **704**, A236, ISSN-00046361, Journal, Article	Tsinghua University (**China**), Catholic University of America (**United States**), Harvard University (**United States**), Ohio State University (**United States**), Chungbuk National University (**South Korea**), The University of Osaka (**Japan**), Massey University (**New Zealand**), Weizmann Institute of Science (**Israel**), University of Science and Technology UST (**South Korea**), Nagoya University (**Japan**), JAXA Institute of Space and Astronautical Science (**Japan**), University of Maryland, College Park (**United States**), University of Warwick (**United Kingdom**), Japan Aerospace Exploration Agency (**Japan**), Kanto Gakuin University (**Japan**), Kyung Hee University (**South Korea**), Smithsonian Institution (**United States**), Instituto de Astrofísica de Canarias (**Spain**), Sorbonne Université (**France**), Institut d'astrophysique de Paris (**France**), CNRS (**France**), Villanova University (**United States**), The University of Auckland (**New Zealand**), The University of Tokyo (**Japan**), Korea Astronomy and Space Science Institute (**South Korea**), NASA Goddard Space Flight Center (**United States**), University of Canterbury (**New Zealand**), University of Warsaw (**Poland**)
Chalmers, M.| **Gordon, K.**| **McCane, B.**| Fraser-Miller, S.	Probing the Stability of Convolution Neural Networks and Support Vector Machines With Transmission Low Wavenumber Raman Spectroscopic Data	Journal of Raman Spectroscopy, (2025), **56**, 12, 1519-1528, ISSN-03770486, Journal, Article	Flinders University (**Australia**), University of Otago (**New Zealand**)
Palmada, N.| **Cater, J.E.**| Cheng, L.K.| Suresh, V.	Quantifying the Role of Duodenal Shape in Flow and Mixing: A Computational Fluid Dynamics Study on Anatomically Diverse Models	IEEE Transactions on Biomedical Engineering, (2025), **72**, 12, 3464-3473, ISSN-00189294, Journal, Article	The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**), Massey University (**New Zealand**), Riddet Institute (**New Zealand**)

Authors	Title	Publication	International Collaborations
Liu, X.| Xiao, M.| Yang, X.| Wang, L.| Gu, H.| Xie, Y.| Hao, M.| **Waterhouse, G.I.N.**| Tai, X.| Yang, H.	Construction of nanospace-confined adsorption electrocatalyst for efficient uranium extraction from fluoride-containing wastewater	Science China Chemistry, (2025), **68**, 12, 6503-6512, ISSN-16747291, Journal, Article	North China Electric Power University (**China**), The University of Auckland (**New Zealand**), Weifang University (**China**)
Wu, S.| Wang, Y.| Zhang, X.| Han, J.| Tang, Y.| Dong, P.| **Waterhouse, G.I.N.**| Raghavan, V.| Wang, J.	Dual-signal-ratiometric conductive covalent organic frameworks enabling ultrasensitive electrochemical sesame allergen Ses i 2 biosensing	Chemical Engineering Journal, (2025), **525**, 170099, ISSN-13858947, Journal, Article	Southeast University, Nanjing (**China**), The University of Auckland (**New Zealand**), McGill University (**Canada**)
Hayashi, S.| Cameron, C.| Gutschmidt, S.| Murray, R.| **Krauskopf, B.**	Experimentally characterising the dynamical landscape of an active MEMS cantilever	Communications Engineering, (2025), **4**, 1, 211, ISSN-27313395, Journal, Article	The University of Auckland (**New Zealand**), University of Canterbury (**New Zealand**)
Zhou, H.| Zhao, X.| Dong, J.| Liu, S.| Lei, C.| Wang, C.| Wang, G.| Lv, X.| **Waterhouse, G.**| Xu, J.	One-step in situ construction of sub-nanometer FeP anchored to biomass-based carbon defects for electrochemical nitrite reduction to ammonia over a wide concentration range with long duration	Applied Surface Science, (2025), **713**, 164265, ISSN-01694332, Journal, Article	Shandong Agricultural University (**China**), The University of Auckland (**New Zealand**), Ministry of Agriculture of the People's Republic of China (**China**)
Xu, Y.| Chen, X.| Macnaughtan, M.| Li, Z.| Wei, X.| Yang, Z.| **Erkintalo, M.**| **Coen, S.**| **Murdoch, S.G.**	Generation of frequency-offset cavity solitons in a pulse-driven optical fiber resonator	Optics letters, (2025), **50**, 24, 7524-7527, ISSN-15394794, Journal, Article	
Mu, Y.| Song, X.| Wu, S.| Sun-Waterhouse, D.| **Waterhouse, G.I.N.**| Zhao, M.| Su, G.	Comparison of compositional, structural, and functional characteristics in walnut (Juglans regia L.) proteins prepared from walnut meal: Effects of extraction and isolation methods	Food Chemistry, (2025), **496**, 146753, ISSN-03088146, Journal, Article	The University of Auckland (**New Zealand**), South China University of Technology (**China**)
Choudhury Z.Z.; Dey S.; Wang H.; Coffey S.; Chakraborti T.; **McCane B.**	Cross-modal image generation with uncertainty quantification from echocardiogram to MRI	MethodsOpen source preview, (2026), **247**, pp. 1–11	University of Otago,(**New Zealand**); Indian Association for the Cultivation of Science, (**India**); University College London, (**United Kingdom**); The Alan Turing Institute, (**United Kingdom**)
Nancy, **Bubanja, V.**, Jindal, V.K., Rani, B.	Modulation of adsorption and diffusion of alkali atoms on armchair graphene nanoribbons by edge passivation	Journal of Physics and Chemistry of Solids , 208, 113115 (2026)	Punjabi University, (**India**) Measurement Standards Laboratory of New Zealand, (**New Zealand**), University of Otago, (**New Zealand**)
Vladimir Bubanja	Coulomb blockade of transport in topological superconductor nanowires	PHYSICAL REVIEW B 111, 245426 (2025)	Measurement Standards Laboratory of New Zealand, (**New Zealand**), University of Otago (**New Zealand**)
Murali, S. S. | Kumar, A. | de Clercq, D. M. | Janiseck, C. | Weal, G. R. | Wagner, I. | **Chen, K.** | Nielsen, M. P. | Schmidt, T. W. | Hodgkiss, J. M. | **Hume, P. A.**	Visible light photo-switching in a conformationally-strained electron acceptor via a dual singlet–triplet mechanism	Chemical Science (2025), **16** (45), 21489-21497.	Cambridge University (**United Kingdom**), University of New South Wales (**Australia**), Victoria University of Wellington (**New Zealand**)
M Yarmohammadi, **U Zülicke**, J Berakdar, J Linder, JK Freericks	Anisotropic light-tailored RKKY interaction in two-dimensional d-wave altermagnets	Physical Review B 111 (22), 224412 (2025) https://journals.aps.org/prb/abstract/10.1103/k3xb-8pts	Victoria University of Wellington (**New Zealand**)
Rossetto, P.H.B.| **Frauendiener, J.**| Melatos, A.	Quadrupole Moment of a Magnetically Confined Mountain on an Accreting Neutron Star in General Relativity	Astrophysical Journal, (2025), **979**, 1, 10, ISSN-0004637X, Journal, Article	ARC Centre of Excellence for Gravitational Wave Discovery (**Australia**) University of Melbourne (**Australia**) University of Otago (**New Zealand**)

Authors	Title	Publication	International Collaborations
Camden, B.| **Frauendiener, J.**| Galinski, J.| Pillay, K.| Stevens, C.| Thwala, S.	A numerical framework for studying asymptotic quantities	General Relativity and Gravitation, (2025), **57**, 4, 64, ISSN-00017701, Journal, Article	University of Canterbury (**New Zealand**) University of Otago (**New Zealand**)
Frauendiener, J.| Stevens, C.| Thwala, S.	Fully Nonlinear Gravitational Wave Simulations from Past to Future Null Infinity	Physical Review Letters, (2025), 134, 16, 161401, ISSN-00319007, Journal, Article	University of Canterbury (**New Zealand**) University of Otago (**New Zealand**)
T. Spellauge, E. Leedham, L. Chapuis, **J. Shepherd**, C. Radford, and **F. Vanholsbeeck**	Optical coherence tomography: a valuable tool for the study of sound-sensitive organs in aquatic animals	Chap 132 of The effect of noise on aquatic life IV, Springer (2025) [doi: https://doi.org/10.1007/978-3-031-94229-7]	La Trobe University (**Australia**), University of Auckland (**New Zealand**)
E. Leedham, L. Chapuis, **J. Shepherd**, **F. Vanholsbeeck** and C. Radford	Characterising the directional response to particle acceleration in snapping shrimp	Chap 192 of The effect of noise on aquatic life IV, Springer (2025) [doi: https://doi.org/10.1007/978-3-031-94229-7]	La Trobe University (**Australia**), University of Auckland (**New Zealand**)

Peer-Reviewed Conference Papers 2025

Authors	Title	Publication	International Collaborations
Hill, L.| Lucas, E.| Ghosh, A.| Mazo Vásquez, J.D.| Gohsrich, J.T.| Pal, A.| Yan, H.| Del'Haye, P.| Oppo, G.-L.| **Coen, S.**| Kunst, F.K.| Fatome, J.	Controlling Frequency Comb Line Spacing Via Symmetry Broken Faticons	2025 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference CLEO/ Europe-EQEC, (2025), Conference Proceeding, Conference Paper	Université de technologie de Belfort Montbéliard (**France**), University of Strathclyde (**United Kingdom**), Max Planck Institute for the Science of Light (**Germany**), CNRS (**France**) The University of Auckland (**New Zealand**) Université de Bourgogne (**France**) Friedrich-Alexander University Erlangen-Nürnberg (**Germany**)
Zhou, Y.| Chen, G.| Xue, B.| Zhang, M.| Rooney, J.S.| Lagutin, K.| MacKenzie, A.| **Gordon, K.C.**| Killeen, D.P.	Machine Learning for Raman Spectroscopy-Based Cyber-Marine Fish Biochemical Composition Analysis	Lecture Notes in Computer Science, (2025), **15289**, 29-43, ISSN-03029743, Book Series, Conference Paper	Victoria University of Wellington (**New Zealand**) Callaghan Innovation (**New Zealand**) Plant and Food Research, New Zealand (**New Zealand**)
Barter, S.A.| **Broderick, N.G.R.**| **Merola, F.**	Optimization of laser induced periodic surface structures for surface enhanced Raman spectroscopy of extracellular vesicles	2025 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference CLEO/ Europe-EQEC, (2025), Conference Proceeding, Conference Paper	The University of Auckland (**New Zealand**)
Zhou, Y.| Chen, G.| Xue, B.| Zhang, M.| Rooney, J.S.| **Gordon, K.C.**| Killeen, D.P.	Genetic Programming for High-Level Multi-Spectral Data Fusion in Fish Biochemical Analysis	2025 IEEE Congress on Evolutionary Computation CEC, (2025), Conference Proceeding, Conference Paper	Victoria University of Wellington (**New Zealand**) Plant and Food Research, New Zealand (**New Zealand**) University of Otago (**New Zealand**)
Fernandez, F.S.| **Ludbrook, B.M.**| **Schuyt, J.**| Trompetter, B.| Moseley, D.A.| Haneef, S.M.| **Badcock, R.A.**	Mitigation of high x-ray dose radiation-induced attenuation in optical fibers at 15 K: Effect of cumulative dose	Progress in Biomedical Optics and Imaging - Proceedings of SPIE, (2025), 13310, 133100V, ISSN-16057422, Conference Proceeding, Conference Paper	Victoria University of Wellington (**New Zealand**) GNS Science (**New Zealand**)
Tharan, D.M.| **Bonesi, M.**| Everett, D.| Goodwin, M.| **McGoverin, C.**| McGlashan, S.| Thambyah, A.| **Vanholsbeeck, F.**	Towards improved visualisation of polarisation-sensitive optical coherence tomography optical axis fields	Progress in Biomedical Optics and Imaging - Proceedings of SPIE, (2025), 13322, 1332203, ISSN-16057422, Conference Proceeding, Conference Paper	The University of Auckland (**New Zealand**)
Moille, G.| Shandilyar, P.| Menyuk, C.R.| **Erkintalo, M.**| Srinivasan, K.	Parametric Kerr-Induced Synchronization of an Integrated Microcomb via Continuous Wave-Soliton Interaction	2025 Conference on Lasers and Electro-Optics CLEO, (2025), Conference Proceeding, Conference Paper	The University of Auckland (**New Zealand**) University of Maryland, College Park (**United States**) National Institute of Standards and Technology (**United States**) University of Maryland, Baltimore County (**United States**)

Authors	Title	Publication	International Collaborations
Terrien, S.| **Krauskopf, B.**| **Broderick, N.G.R.**| Barbay, S.	Emergence of complex pulsing patterns in an excitable microlaser with delayed optical feedback: the role of resonance tongues	LEOS Summer Topical Meeting, (2025), ISSN-10994742, Conference Proceeding, Conference Paper	CNRS (**France**) Le Mans Université (**France**) The University of Auckland (**New Zealand**) Université Paris-Saclay (**France**)
Haneef, S.M.| Booth, T.| **Ludbrook, B.**| Fernandez, F.S.| Davies, M.| Moseley, D.| **Badcock, R.**	Effect of adhesives on the spectral response of Bragg gratings embedded on sapphire wafer in extreme cryogenic temperatures	Proceedings of SPIE - The International Society for Optical Engineering, (2025), 13639, 13639AQ, ISSN-0277786X, Conference Proceeding, Conference Paper	Victoria University of Wellington (**New Zealand)**
Terrasson, A.| Mauranyapin, N.P.| Casacio, C.A.| Grim, J.Q.| Barnscheidt, K.| Hage, B.| **Taylor, M.A.**| Bowen, W.P.	Nonlinear quantum bioimaging with bright squeezed light	Progress in Biomedical Optics and Imaging - Proceedings of SPIE, (2025), 13340, 133400C, ISSN-16057422, Conference Proceeding, Conference Paper	University of Rostock (**Germany**) Naval Research Laboratory (**United States**) University of Queensland (**Australia**) University of Surrey (**United Kingdom**) University of Otago (**New Zealand**)
Huang, C.-C.| Hsieh, C.-Y.| Chen, B.-H.| **Chen, K.**| Yang, S.-D.	Sub-80 fs High-Repetition Rate Transient Grating Photoluminescence Spectroscopy Using Two Types of Nonlinear Pulse Compressors	2025 Conference on Lasers and Electro-Optics CLEO, (2025), Conference Proceeding, Conference Paper	Victoria University of Wellington (**New Zealand**) National Tsing Hua University (**Taiwan**)
Sanvert, Y.| Alabbadi, A.| Hill, L.| Oppo, G.-L.| **Coen, S.**| Lucas, E.| Del'Haye, P.| Fatome, J.	Symmetry broken localized structures in a coherently-driven Fabry-Pérot Kerr resonator	2025 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference CLEO/Europe-EQEC , (2025), Conference Proceeding, Conference Paper	Université de technologie de Belfort Montbéliard (**France**) University of Strathclyde (**United Kingdom**) Max Planck Institute for the Science of Light (**Germany**) CNRS (**France**) The University of Auckland (**New Zealand**) Université de Bourgogne (**France**)
Quinn, L.| **Xu, Y.**| Fatome, J.| Oppo, G.-L.| **Murdoch, S.G.**| **Erkintalo, M.**| **Coen, S.**	Experimental Demonstration of an Intensity-resolved Coherent Ising Machine based on Polarization Symmetry Breaking	2025 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference CLEO/ Europe-EQEC, (2025), Conference Proceeding, Conference Paper	Université de technologie de Belfort Montbéliard (**France**) University of Strathclyde (**United Kingdom**) CNRS (**France**) The University of Auckland (**New Zealand**) Université de Bourgogne (**France**)
Macnaughtan, M.| Li, Z.| **Xu, Y.**| Wei, X.| Yang, Z.| **Coen, S.**| **Erkintalo, M.**| **Murdoch, S.G.**	Soliton auto-generation within Kerr resonators under pulsed-driving	2025 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference CLEO/ Europe-EQEC, (2025), Conference Proceeding, Conference Paper	The University of Auckland (**New Zealand**) South China University of Technology (**China**)
Ede, N.| Dietrich, J.| **Zülicke, U.**	Popularity and Innovation in Maven Central	Proceedings - 2025 IEEE/ ACM 22nd International Conference on Mining Software Repositories MSR 2025, (2025), 334-338, Conference Proceeding, Conference Paper	Victoria University of Wellington (**New Zealand**)

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Rattenbury, N.| Ashby, J.| Bennet, F.| Birch, M.| **Cater, J.**| Ferguson, K.| Giggenbach, D.| Grant, K.| Knopp, A.| Knopp, M.| Kruzins, E.| Lambert, A.| Mudge, K.| Qualtrough, C.| Raffa, S.| Rittershofer, J.| Sayat, M.| Schediwy, S.| Schwarz, R.| Sellars, M.| Thearle, O.| Travouillon, T.| Walker, K.| Walsh, S.| Weddell, S.	Update on the German and Australasian Optical Ground Station Networks	International Journal of Satellite Communications and Networking, (2025), **43**, 3, 147-163, ISSN-15420973, Journal, Conference Paper	University of Western Australia (**Australia**), Curtin University (**Australia**), Defence Science & Technology Group (**Australia**), CSIRO (**Australia**), The University of Auckland (**New Zealand**), Universität der Bundeswehr München (**Germany**), University of New South Wales (**Australia**), German Aerospace Center (DLR) (**Germany**), University of Canterbury (**New Zealand**), Australian National University (**Australia**)
Huang, Z.| Xue, B.| Zhang, M.| Rooney, J.S.| **Gordon, K.C.**| Killeen, D.P.	Designing New Data Augmentation Functions for Fish Spectral Data by Genetic Programming	GECCO 2025 Companion - Proceedings of the 2025 Genetic and Evolutionary Computation Conference Companion, (2025), **939-942**, Conference Proceeding, Conference Paper	Victoria University of Wellington (**New Zealand**), Plant and Food Research, New Zealand (**New Zealand**), MacDiarmid Institute for Advanced Materials and Nanotechnology (**New Zealand**), University of Otago (**New Zealand**)
Niels Kjaergaard	There are no four-level atoms (and rubidium is not one of them)	7th International Workshop on Rydberg Atoms and Molecules 11-15th April 2025	University of Otago (**New Zealand**), Wuhan (**China**)
Keith Gordon	Using vibrational spectroscopy and computational chemistry to understand polymorph transformation in pharmaceuticals	13th International Conference on Advanced Vibrational Spectroscopy (https://icavs.xmu.edu.cn/) November 30 to December 5, 2025	Xiamen, (**China**), University of Otago (**New Zealand**)
Keith Gordon	Crafting long-lived excited states; potential in photocatalysis of hydrogen.	PCCP Symposium on Physics for Sustainability: Health, Energy, and Environment - SPHERE 16 October 2025 18 October 2025	Bangalore, Karnataka, (**India**), University of Otago (**New Zealand**)
Keith Gordon	Coupling Raman microscopy and chemometrics in the study of complex materials.	The 21st Raman Imaging Symposium September 29 to October 1st, 2025	Ulm, (**Germany**), University of Otago (**New Zealand**)
Keith Gordon	Low Frequency Raman Spectroscopy as a Method of Investigating Pharmaceutical Polymorphs	10th International Discussion Meeting on Relaxations in Complex Systems (10thIDMRCS, https://10idmrcs.com/detailed-program/) July 20-25, 2025	Campus Diagonal-Besòs of the Universitat Politècnica de Catalunya-Barcelona Tech, Barcelona (**Spain**), University of Otago (**New Zealand**)
Keith Gordon	Using metal complexes to open the door to long-lived excited states.	26th International Symposium on Photochemistry and Photophysics of Coordination Compounds (https://isppcc2025.unime.it/) July 8 - July 12 2025	Milazzo (**Italy**), University of Otago (**New Zealand**)
Keith Gordon	Resonance Raman studies of donor-acceptor systems.	Fpi-16 (https://www.fpi16.org/html/) June 29 - July 3 2025	Jeju Shinhwa World, Jeju, (**Korea**), University of Otago (**New Zealand**)

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Keith Gordon	Computational and Resonance Raman Studies of Porphyrins with Substituents at the α-Pyrrolic Position	247th Electrochemcial Society (ECS) Meeting May 18-22, 2025	Montréal, (**Canada**) , University of Otago (**New Zealand**)
Keith Gordon	Hydrogen generation with sustainable resources – a combined molecular, computational and engineering approach.	AMN-11 (https://www.macdiarmid.ac.nz/news-and-events/events/amn11-otautahi-christchurch-9-13-february-2025/) Feb 2025.	MacDiarmid Institute (**New Zealand**), University of Otago (**New Zealand**)
Marie Graff	From Roars to Coordinates: Applying Inverse Problems to Track Jurassic Park's Island	NZMS Colloquium 2025 (Butcher-Kalman lecturer), 27 November 2025	Hamilton (**New Zealand**), University of Auckland, (**New Zealand**)
Brendan McCane	Big data, little data, augmented data and deep learning	International Symposium on Big Data and Interdisciplinary Sciences. June 2025	Jilin University of Finance and Economics, (**China**), University of Otago (**New Zealand**)
Frederique Vanholsbeeck	Quantum technology Research and Innovation in Aotearoa	Korean Physical Society APEC Quantum science and technology forum, 21-23 October 2025	Gwangju (**Republic of Korea**), University of Auckland (**New Zealand**)
F. Vanholsbeeck, D. Murali Tharan, D. Everett, **M. Bonesi**, M. Goodwin, S. McGlashan, **C. McGoverin**, and A. Thambyah	A novel multimodal platform incorporating polarization sensitive optical coherence tomography, Raman spectroscopy and mechanical testing for studying cartilage.	Carpathian Biophotonics Meeting 2025, 8-12 September 2025	Sinaia (**Romania**), University of Auckland (**New Zealand**)
F. Vanholsbeeck, D. Murali Tharan, **M. Bonesi**, D. Everett, M. Goodwin, **C. McGoverin**, S. McGlashan, A. Thambyah	Multimodal imaging platform to study cartilage degeneration using compression-based depth-resolved polarisation-sensitive optical coherence tomography and vibrational spectroscopy	Advanced Materials and Nanotechnology (AMN11) 9-13 February 2025	Ōtautahi Christchurch (**New Zealand**), University of Auckland (**New Zealand**)
V. Bubanja	Coulomb blockade of transport in topological superconductor nanowires	16th Asia Pacific Physics Conference 19-24 October 2025	Haikou, (**China**), Measurement Standards Laboratory (**New Zealand**)
M.K. Nieuwoudt, P.Jarrett, M. Locke, **H. Matthews**, **H. Sheridan**, J. Singh, **C. Scott**, **M. Bonesi**, B. Burnett, H. Holtkamp, **C. Aguergaray**, T. Minnee, C.M.Simpson	Differentiation of skin cancers, benign skin lesions and inflammatory dermatoses using portable Raman spectroscopy	Australian and New Zealand Conference on Optics and Photonics 2025 (ANZCOP) 8 -11 December 2025	University of Auckland (**New Zealand**)
Choudhury, Zakia Zinat; **McCane, Brendan**; Coffey, Sean	Echocardiogram to CMR Image Synthesis using Generative Models	2025 40th International Conference on Image and Vision Computing New Zealand (IVCNZ)-Proceedings,2025,IEEE	University of Otago (**New Zealand**)
de Leon, E.B.| **Frauendiener, J.**| Klein, C.	Computational approach to the Schottky problem	Contemporary Mathematics, (2025), 823, 189-212, ISSN-02714132, Book Series, Conference Paper	Technical University of Munich (**Germany**) CNRS (**France**) Université de Bourgogne (**France**) Institut universitaire de France (**France**) University of Otago (**New Zealand**)
T. Spellauge, B. Elsmore, **D. Murali Tharan**, **M. Bonesi**, **J. Shepherd**, C. Radford, **F. Vanholsbeeck**	Ultra-Fast Two-Dimensional Vibration Vector Measurements Based on Optical Coherence Tomography	Oral European Conferences on Biomedical Optics (ECBO), Munich, Germany, 22–26 June (2025)	University of Auckland (**New Zealand**)

Te Whai Ao Dodd-Walls Centre

for Photonic and Quantum Technologies

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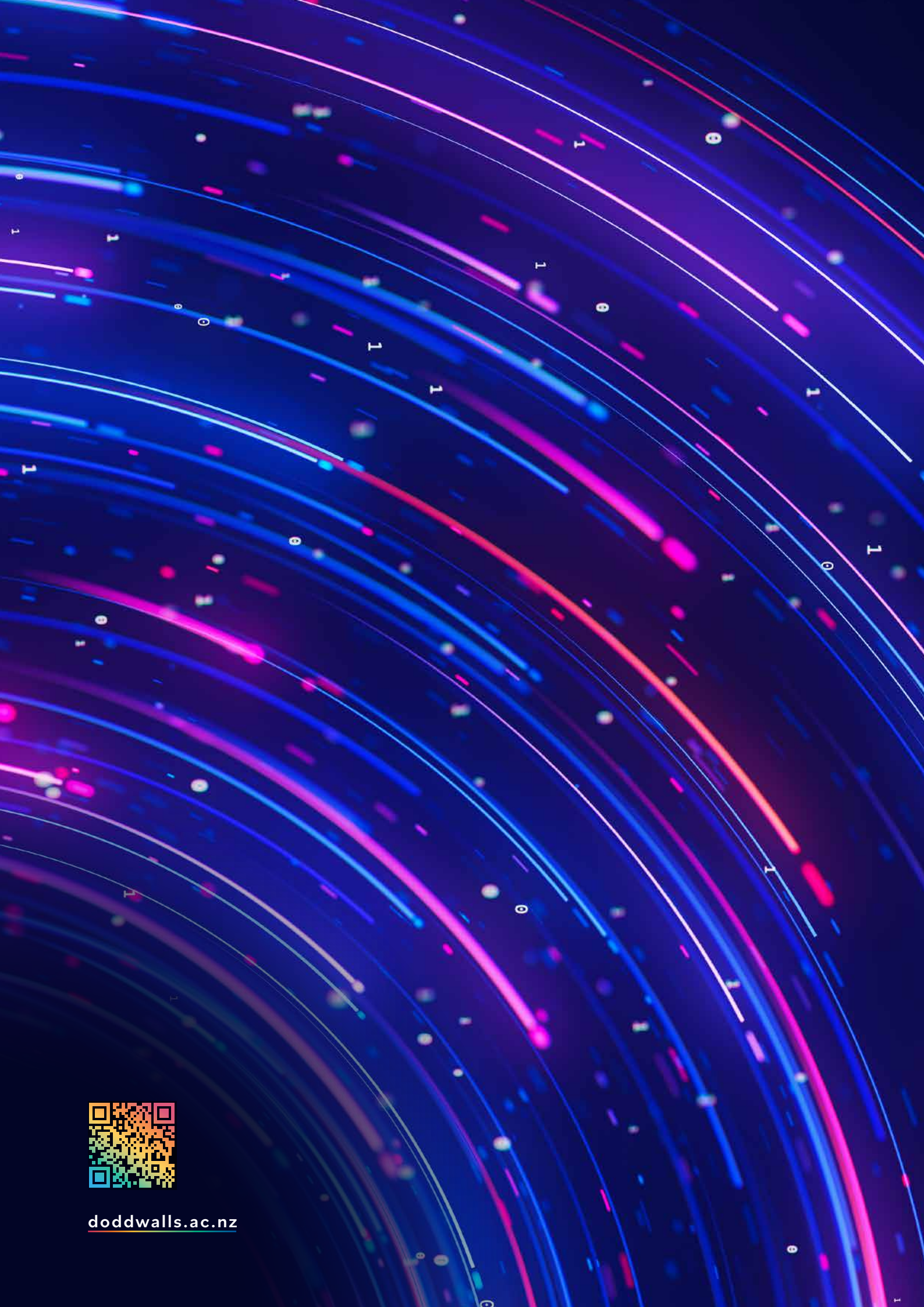

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