

Access Antarctica

Gateway Antarctica, Centre for Antarctic Studies and Research

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Antarctic Science Platform - Phase 2

The University of Canterbury will host Tiaki Whenua - land research.

The renewed government investment for the Antarctic Science Platform (ASP) was announced in early May by Minister for Science, Innovation and Technology, Dr Shane Reti, in Christchurch. This is the second 7-year phase of New Zealand's largest investment in Antarctic research worth 49 Million dollars. Preparations started more than one year ago with workshops all around Aotearoa, including the University of Canterbury. The new phase

of the ASP tries to answer the overarching question: What are the critical signposts of catastrophic climate change and how can we effectively observe them to support timely mitigation? UC's Antarctic research network has a lot to offer in answering that fundamental question. The main components of the research program are (1) Tiaki Moana (ocean research), (2) Tiaki Whenua (land research), and (3) Hoe (targeted research themes). Our researchers are involved in all the critical science objectives and took also the leadership in Tiaki Whenua (Co-PI Assoc

Prof [Marwan Katurji](#), Co-PI Dr. [Olivia Truax](#) as early career researcher, and Dr [Shelley MacDonell](#) as key science lead). Because we are featuring prominently in the latter, UC will co-host the ASP with a dedicated program manager. A big thank you to the UC community supporting this. A special Hoe is dedicated to the Ross Sea Marine Protected Area, which will be led by Assoc Prof [Michelle LaRue](#). Congratulations to everyone involved and good luck for spinning up this exciting research program.



Photo by Kal Bohn (K053)

Director's Report

Welcome to the July issue of Access Antarctica and a quarterly update about UC's recent Antarctic activities. Mid-winter is a special occasion for every Antarctic and a good opportunity for a deep breath and a short break. On the evening before the Matariki holiday, I had the opportunity to give a speech at the Antarctic Society Canterbury branch



mid-winter dinner. It was a good occasion to reflect on the significant environmental changes we observe in Antarctica over the past 30 years - starting with the Larsen Ice Shelf collapse on the Peninsula and ending with the recent Parker

Ice Tongue break-off at the Victoria Land Coast. I didn't even touch on the many other challenges, like the dramatic sea ice loss and related impacts on ecosystems. Our research and studies are more important than ever providing the evidence to underpin the protection of Antarctica and global climate, and our continued involvement in the Antarctic Science Platform is testimony to this. It is also great to see how our postgrads continue carrying the torch as exemplified by Alex Aves and Jess MacFarquhar - supported by Gateway Antarctica they were attending an APECS conference in March in Boulder (Colorado) in preparation of the International Polar Year 2032/33. Jess has also a final report about her field work, as has Mia Wege, who returned from her Polarstern voyage in the Weddell Sea in March.

Teaching the ANTA102 & 201 courses kept us engaged with our fantastic Antarctic student

cohort, and included an amazing city walk to sites of historic Antarctic interest in Christchurch. Then there are a number of snippets about great conferences and workshops - a special thanks to our guest from Wuhan University for organising a workshop on the Xuelong II icebreaker in Lyttelton harbour. Other highlights are Prof Daniela Liggett's start of a 3-year term as the Head of School of Earth and Environment - I wish her all the best for this challenge - as well as our new roles in the Antarctic Science Platform plus the new COMNAP/GA kōrerorero. And there is so much more ... the mid-winter polar plunge came therefore just at the right time to cool down a bit - I hope you enjoy the reading of Access Antarctica!

Wolfgang Rack

Professor Wolfgang Rack



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COMNAP Secretariat Update

(Council of Managers of National Antarctic Programs)

The first six months of 2025 have been busy at the COMNAP Secretariat. We welcomed visitors from the Canadian High Commission, the USA Embassy in New Zealand, the Polish Embassy in New Zealand, the New Zealand Ministry of Foreign Affairs, the New Zealand Embassy in the USA, the Korean Polar Research Institute, the Scientific Committee on Antarctic Research (SCAR) and the Antarctic Committee for Environmental Protection (CEP).

On 25 May, we invited senior members of the University of Canterbury and the wider Christchurch Antarctic community to come together for a *Körörorero* marking the 16th anniversary of the COMNAP Secretariat being hosted at the University. Gateway Antarctica was also part of the celebrations with 12 May 2025 being the 25th anniversary of the establishment of the centre. There was plenty of good conversations at the *Körörorero* and plenty of follow-up on the ideas raised. Our next *Körörorero* is planned for late August 2025.



Körörorero attendees.

Through the Secretariat, we have established the COMNAP Alternative Fuels Taskforce. Currently with membership from eight national Antarctic programs and one commercial operator, the Taskforce is working with the programs and the Antarctic gateway communities to understand future requirements for sustainable alternative fuels

for inter-continental aircraft and vessel operations. Many of the programs are working to increase efficiency in their operations and reduce reliance on fossil fuels. The Taskforce will assist them to meet their national targets and requirements, and will open up lines of communications between them and the local communities and fuel suppliers. In the next edition of *Access Antarctica*, COMNAP will include the announcement of the successful COMNAP Early-Career Award for 2025. COMNAP has been funding these awards annually since 2011. The awards are competitive and offer up to \$US15,000 to successful applicants to complete a project with an international collaborator. COMNAP opened this year's application round on 3 March 2025. At time of writing, we are reviewing the 78 applications received and expect to announce the COMNAP Early-Career Awardee in early September 2025. Awards are also made by other Antarctic organisations including the SCAR, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), and the International Association of Antarctica Tour Operators (IAATO). Find out more about the COMNAP Awards at <https://www.comnap.ag/early-career-award>. As this *Access Antarctica* goes to press, Andrea Colombo and Michelle Rogan-Finnemore are preparing to travel to Milan, Italy, for the 47th Antarctic Treaty Consultative Meeting (ATCM) and the 27th CEP Meeting. These annual meetings are the principle means to advance Antarctic governance and management of the entire area south of 60S. COMNAP is one of only three organisations to have official standing at these meetings as a "Permanent

Observer". But, being an 'observer' does not mean we just sit there and watch. COMNAP has authored 13 papers that contain our advice to the Consultative countries and will present those to both meetings on a diverse range of topics. Those topics this year, include: avian influenza, equity, diversity and inclusivity, education, ballast water and biofouling management, infrastructures in a changing Antarctica, and, international collaboration and cooperation.



Ceisha Poirat, CEP Chair, Gary Wilson, SCAR President and Michelle Rogan-Finnemore, COMNAP Executive Secretary, at the Körörorero.

www.comnap.ag and now on LinkedIn.

Fieldwork in Antarctica

Exploring the Weddell Sea: Seal-Driven Oceanography

Between December 2024 and March 2025, [Mia Wege](#) participated in a 77-day research expedition aboard the German icebreaker *RV Polarstern* as part of Alfred Wegener Institute for Polar and Marine Research's PS146 voyage. Leading the project, *Seals and Oceanography at the Filchner-Ronne Shelf Ecosystem*, they aimed to enhance oceanographic data collection in the Weddell Sea using satellite-tagged Weddell seals (*Leptonychotes weddellii*).

Mia and her long-time collaborator Dr. Horst Bornemann (AWI) successfully deployed 12 CTD-capable satellite tags on adult Weddell seals throughout the pack-ice and fast

ice of the Weddell Sea. These tags collect conductivity, temperature, and depth (CTD) data, which are important baseline ocean measurements, in regions and seasons inaccessible to traditional instruments like ships, moorings or gliders, especially within dense pack ice during winter. Essentially, they use the seals to sample areas that humans cannot, and they fill an important gap for us in terms of water mass circulation under the ice, which contributes to understanding sea ice melt. Horst and Mia say that they are just the muscle for the oceanographers. But as a biologist, Mia is personally more interested in when, where, why and how long they dive to forage for fish and other prey.

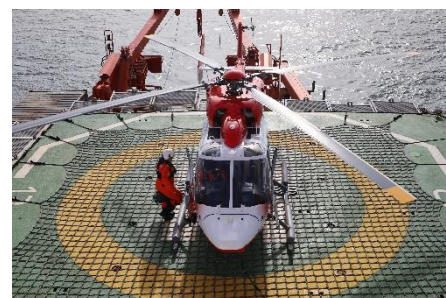
As of early July, 7 of the 12 tags are still working and sending data. They have collected over 3,700 CTD profiles, totalling more than 1,000,000 meters of vertical ocean data.

This dataset will continue to grow over the coming year, offering valuable insights into both ocean conditions and seal foraging behaviour. Although, this morning when Mia had a look online, two tags haven't had any uplinks in the last two days...have they stopped working or are the seals just spending more time underwater diving (which can happen). By the end of the year, Mia will also be greyer as she anxiously logs on to the data portal every morning to see how many seals are still swimming deep within the pack-ice collecting data.

This interdisciplinary, collaborative effort contributes to a broader understanding of polar marine ecosystems and supports ongoing international research into climate-sensitive regions of the Southern Ocean.



Mia Wege



Fieldwork

Snow radar test in Germany

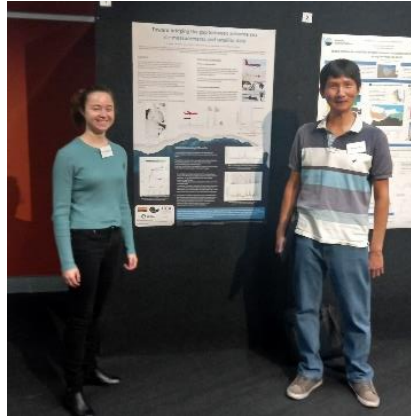
In preparation for the 2026 RV Polarstern voyage in the Weddell Sea, [Wolfgang Rack](#) and Adrian Tan spent two weeks at the Alfred Wegener Institute in Bremerhaven. The UC/Lincoln Agritech snow radar was first tested in the new AWI Technikum building with the EM-bird. The helicopter flights over the North Sea were also successful.



Antarctic Science Platform

Many from the University of Canterbury attended the Antarctic Science Platform (ASP) hui in Te Papa (1-3 April 2025, Wellington): oral presenters were **Dan Price**, **Michelle LaRue**, **Natasha Gardiner** (session chair), **Shelley McDonell**, and **Wolfgang Rack**, and some posters were presented by **Gabrielle Koerich**, **Lizzy Skelton**, **Olivia Truax**, **Pauline Barras**, and **Tamara Pletzer**.

The high-level plan for the second 7-year phase of the Platform has been submitted to MBIE. Well done to the Tiaki Whenua team (land research led by **Marwan Katurji**, **Shelley McDonell**, and **Olivia Truax**), and the Ross Sea MPA team led by **Michelle La Rue**. This lays the foundation for our continued study of Antarctica's critical systems.



Pauline Barras & Adrian Tan

Media

Voices of the sea ice – RNZ exclusive podcasts!

Voices of the Sea Ice Podcast from Radio New Zealand featured several of Gateway Antarctica scientists. They were interviewed by Dr. Claire Concannon while at Scott Base in November 2024.

PhD candidate **Arek Aspinwall**, and Assoc

Professor **Michelle LaRue's** interview:

<https://www.rnz.co.nz/news/ourchangingworld/556299/voice-of-the-sea-ice-more-life>

MSc student **Lizzy Skelton** was part of a research team in a sea ice camp. The online story is here:

<https://www.rnz.co.nz/podcast/voice-of-the-sea-ice?share=6f2b2455-ad90-40b8-93d7-8e6140c943dd>

Dan Price and **Wolfgang Rack** featured in this podcast:

<https://www.rnz.co.nz/podcast/voice-of-the-sea-ice?share=b82750fd-8ddd-4214-adeb-319b4e67a0ea>

Ross Ice Shelf Basal Melting

Joe Snodgrass produced this 2 minute science video on Basal Melting on the Ross Ice Shelf.

<https://www.youtube.com/watch?list=TLGGcGOI4GOBPKQwNzA3MjAyNQ&v=Eyt1fr1cyYI>



Gateway Antarctica banner in front of the Municipal Building

A new Antarctic Research Library will house about 2200 books in the freshly renovated Old Municipal Chambers building on corner Worcester and Oxford Streets. Supported by the US Admiral Byrd Scholarship Trust, Gateway Antarctica was involved in the selection process for a UC student helping to get the books organised. Bill Nye's Adventure Bookshop has also just opened in this building. In front of the building is a new Gateway Antarctica banner, which has already attracted students to UC. Thanks to Bill Nye for supporting this new display opposite of the Scott statue!



Conferences

Polar Early Career World Summit (PECWS)

Alex Aves and **Jessica MacFarquhar** have recently attended PECWS, which was held alongside the International Conference on Arctic Research Planning in Boulder, Colorado. Co-organised by the Association of Polar Early Career Scientists, it was bringing together early career researchers, professionals, Indigenous scholars and knowledge holders connected to the Arctic, Antarctica and the wider cryosphere from around the world. The main aims of the Summit were to strengthen polar early career networks and connections, amplify the voices of the polar early career community, and begin shaping polar research priorities for the fifth International Polar Year (IPY), which is being held in 2032-2033. The summit was held over three full days, where 120 early career researchers worked together in



twelve breakout groups to develop key priority areas for polar research.

2025 Snow & Ice Research Group (SIRG) Annual Workshop

A group of UC researchers recently attended the annual snow and ice workshop. SIRG is the NZ branch of the International Glaciological Society. Organisation of the annual workshop rotates between institutions, and this year Victoria University of Wellington hosted the event at Lyall Bay, Wellington. This year the SIRG workshop was joint with the bi-annual Sea Ice Symposium. The Canterbury contingent included Postgraduate students and staff, **Pauline Barras** (PhD), **Kal Bohn** (PhD), **Lizzy Skelton** (MSc), **Dona Banerjee**, **Wolfgang Rack** and **Heather Purdie**. **Alena Malyarenko** was also a main organiser. There was a great diversity of talks including some experiences from the 'ice-front' by Franz Josef Glacier Guiding. Lizzy brought home a student prize, sponsored by the Antarctic Science Platform, for her talk on 'Measuring the thickness of the platelet layer in McMurdo Sound, Antarctica, using non-destructive geophysical methods'. Overall, a great few days in the capital.



Mia Wege is an International Investigator for SAEF (Securing Antarctica's Environmental Futures), an Australian Research Council Special Research Initiative. From 3–6 June, she attended the annual SAEF Conference at Monash University in Melbourne. SAEF members from across the world gathered to share their diverse, interdisciplinary research, all aimed at securing Antarctica's environmental future. Mia presented her research on marine heatwaves, and how they affect the diving behaviour of Antarctic and Subantarctic fur seals. She also highlighted the importance of animal borne sensors, which offer a valuable way to sample temperatures of remote ocean areas.

Unlike a traditional scientific conference, the SAEF meeting adopted a Gordon Research Conference style, which is known for its informal and discussion-based environment. This encouraged meaningful interaction instead of the typical sit and listen passively conference. Participants engaged in dynamic sessions that focused on combining the diverse expertise of all the scientists in the room to tackle major climate challenges in new and creative ways, as well as sessions on translating science into the policy interface. The event fostered meaningful connections and collaborations, inspiring new ideas and opening doors to future joint projects. Bringing so many different perspectives together really showed how important it is to work as a team when tackling the big environmental challenges in Antarctica.

Alumni Corner



Ceisha Poirot first went to Antarctica as a student on the Post Graduate Certificate in Antarctica Studies in the 2001/02 season – the third year of the programme. Following completion of her studies at Canterbury University, Ceisha joined Antarctica New Zealand in 2008. She worked in both the Science and Environment teams and is now the General Manager of Policy, Environment and Safety. During her time at Antarctica New Zealand, Ceisha has led the development and implementation of the organizations Environmental Management System, supported the Ministry of Foreign Affairs and Trade as New Zealand's Representative to the Committee for Environmental Protection (CEP) meetings since 2015 and led the COMNAP Environmental Protection Expert Group. In 2024, Ceisha was elected as the Chair of the CEP at will Chair her first meeting in Italy in June 2025.

Scholarships

It is a pleasure to announce the recipients of this year's Christchurch City Council (CCC) (\$10K) and NZ Ministry of Foreign Affairs and Trade (MFAT) (\$5K) Antarctic scholarships. **CCC: Kasuni Koswatthage** PhD candidate "The role of Antarctic tourism in Christchurch as a gateway city".

MFAT: Elizabeth Skelton MSc student "Later, Thinner, Less Stable: Measuring Sea Ice and Sub-Ice Platelet Layer Changes in McMurdo Sound".



Alexandra Strang

Alexandra Strang received the Ella Yelich-O'Connor (Lorde) Antarctic Doctoral Scholarship of \$20,000 from Antarctica New Zealand. This will go towards her studies on

Assessing population trends in an important Ross Sea sentinel, the Adélie penguin.

[Link to donate to support Gateway Antarctica research!](#)

Celebrations

Happy 25th Anniversary



12 May 2025 marks the 25th anniversary of the official opening of Gateway Antarctica. A bronze plaque, hanging on the 4th floor of Beatrice Tinsley marks the occasion. The plaque notes that **Dame Catherine Tizard** ONZ GCMG GCMG DBE QSO DStJ, officially opened the research centre at an event held in the original offices of Gateway Antarctica, the ground floor of the then Geography Building (now, the Jane Soons Building). At the opening, the inaugural Director of Gateway Antarctica **Professor Bryan Storey** and the then Chair of the Gateway Antarctica Board, **Professor Steve Weaver**, each gave speeches-noting the long connection to Antarctic research at the University of Canterbury and setting out a future strategy for interdisciplinary collaboration through Gateway Antarctica into the future.

Happy Anniversary Gateway Antarctica, with leadership after Bryan from **Professor Adrian McDonald**, now under the leadership of **Professor Wolfgang Rack**, and with a cohort of thousands of fantastic students, staff, alumni, and collaborators that have walked through the Gateway Antarctica doors.



Natasha Gardiner & Rose Foster-Dryer.

Congratulations to **Natasha Gardiner** and **Rose Foster-Dryer**, they both celebrated graduating with their PhDs in Antarctic Studies. Rose will be continuing at UC as a postdoc working with Michelle LaRue and Wolfgang Rack to investigate wintertime population dynamics of emperor penguins using satellite imagery. Natasha is continuing her position as a Senior

Environmental Advisor at Antarctica New Zealand and will be the New Zealand representative at the Committee for Environmental Protection this year in Milan.

Congratulations to **Georgia Gwatkin** on the successful examination of her master's thesis, "Interactions between kororā/little penguins (*Eudyptula minor*) and their terrestrial environment at Pōhatu/Flea Bay, Banks Peninsula", where she collaborated with our community partners at Helps Pōhatu Conservation Trust to learn about the breeding ecology and habitat of little penguins at the largest colony in Aotearoa New Zealand. Her co-supervisors were Sarah Flanagan (SBS) and Rachel Hickcox (HPCT), and she worked closely with Chris Niebuhr at Manaaki Whenua Landcare Research.

Congratulations to **Kiera Clements-Ponting** on the successful examination of her Master's in Antarctic Studies thesis, "A citizen science approach to counting Adelie penguins (*Pygoscelis adeliae*) on Ross Island, Antarctica." Her co-supervisors were Vanessa Bastos and Michelle LaRue.

Visitors & Visits

Research seminar onboard the Chinese research icebreaker in Lyttelton harbour

Gateway Antarctica's academic visitor from the Chinese Antarctic Centre for Surveying and Mapping at Wuhan University, Assoc. Prof. Jiachun An, organised a research seminar onboard the *Xue Long 2* icebreaker on 18 March. Presenters on behalf of the UC Antarctic community were Wolfgang Rack (UC Antarctic research and sea ice), Michelle Rogan-Finnemore (COMNAP and international Antarctic research collaborations), and Rodrigo Gomez Fell (satellite remote sensing and ice tongues). Five presentations were given by Chinese researchers around marine ecology, glaciology, and geology. At the same time, a UC delegation of 20 had the opportunity to visit the impressive Icebreaker.

Oldest Ice- 1.2 million years!

Boxes containing the world's oldest ice arrived in Lyttelton harbour in early March on the Italian Laura Bassi icebreaker. Before heading back to Italy, a delegation of the Christchurch Antarctic Office had a chance to visit the ship getting a 5 second (!) glimpse of some of the ice boxes. In its last season, the "Beyond EPICA – Oldest Ice" team was able to drill at Dome-C down to 2,800 meters reaching bedrock. This ice covers the middle Pleistocene transition, when an alteration of warm and cold periods occurred. It marks a historic milestone for climate research.

New to Gateway

We welcome two PhD students **Khush Bakht Rauf** from Pakistan and **Wei Xing** from China. Both are under the supervision of Professor Daniela Liggett. Also, Dr **Rifat Afroz** recently joined Gateway Antarctica as an Assistant Lecturer. She will teach remote sensing while building her career in radar technology and satellite analysis.