

Media Release

Chiefs of Staff, News Directors

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\$24 million and a scientific partnership boosts Tasmania's reputation for Antarctic research

Tasmania's place as a global leader in Antarctic and Southern Ocean science will be further solidified tomorrow when the \$24 million Antarctic Gateway Partnership, funded by the Federal Government, is officially launched.

The Antarctic Gateway Partnership is a collaboration between the University of Tasmania, the Australian Antarctic Division (AAD) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Its aim is to consolidate Tasmania's place as a global leader in Antarctic and Southern Ocean science and to get more scientists down to the ice to conduct their research.

Senator Stephen Parry, on behalf of Federal Environment Minister Greg Hunt, will announce the Partnership tomorrow, resulting in the University of Tasmania's Institute for Marine and Antarctic Studies and Australian Maritime College, CSIRO Oceans and Atmosphere and the AAD working together across four main themes over the next three years.

The themes are: 1. Cryosphere - ocean interaction. 2. Open water and under ice foodwebs. 3. Solid earth - cryosphere interaction. 4. Marine technology and polar environments.

University of Tasmania scientists including ice sheet modeller Dr Felicity Graham, mesopelagic ecologist Dr Andrea Walters and geochemist Dr Jacqui Halpin will give first-hand examples of the research being undertaken through the project when they speak at the launch.

Australian Maritime College ocean engineer Dr Alex Forrest will have the Launceston-based University of British Columbia's *Gavia* on site as an example of the current generation of autonomous underwater vehicle and talk about the plans to design and commission the next generation — a \$5 million polar-capable hybrid robot to explore under the ice.

University Acting Vice-Chancellor Professor Mike Calford said the historic partnership enables the University to create world-class research in an area close to Tasmania's heart.

"Tasmania has a long tradition in marine, maritime and Antarctic exploration and it's an ideal laboratory for studying the Southern Ocean's climates and climate variability, marine biodiversity and ecosystems," he said.

"Hobart is the natural gateway to East Antarctica with access to the Australian Antarctic Territory and the strong collaboration with our scientific partners has been recognised by the Australian Research Council in its assessment of the quality of research under the Excellence in Research for Australia (ERA) program which puts the University of Tasmania well above international standards in this field."

From the ramifications of melting ice shelves and ocean acidification to the understanding of environmental controls on marine life, the Australian Research Council-funded initiative – on the back of the re-funding of the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC) – brings investment in Tasmanian Antarctic research to close to \$50 million since 2010.

The Antarctic Gateway Partnership builds on the growing reputation of Tasmania as a global leader in Antarctic and Southern Ocean science, said Gateway Partnership director and IMAS executive director Professor Richard Coleman.

“We are pleased that the Federal Government has identified the capability of research within this State for Antarctic and Southern Ocean science and has made this vital investment,” Professor Coleman said.

“Already we are on the way to employing 16 early-career researchers and 24 PhD scholarship researchers who will ensure this project drives Antarctic science for the next three years.

“Our focus is also on the research training and innovation space – we will ensure the benefits from this project are obvious well into the future.”

Joining the Antarctic Gateway Partnership project team in the past month are: Dr Laura Davies from the University of Melbourne, a seasonal sea ice forecasting researcher; geophysicist Dr Leo Peters from Canberra; former IMAS/ACE CRC PhD candidate David Gwyther who takes up the position of Antarctic ocean modeller; and Dr Taryn Noble, a marine geochemist with a PhD from the University of Cambridge.

The work of the Antarctic Gateway will continue apace during the Antarctic summer 2015-16 season with a major marine science voyage planned during January-March 2016, called the K-axis voyage (Kerguelen Axis voyage), led by Dr Andrew Constable from the Australian Antarctic Division and the ACE CRC.

The aim of the voyage is to investigate the potential tipping points for ecosystems in the Southern Ocean. This includes determining which key species will be more sensitive to change, which species may contribute to change and how change will vary from region to region.

These new scientific insights will have important implications for management of fish stocks and high conservation value species throughout the region.

Other field campaigns being planned with logistics support from AAD include:

- A pilot project to understand ice shelf-ocean interaction of the Sorsdal glacier using in-situ measurements, remote sensing imagery and possible airborne radar measurements from aircraft flights, undertaken in collaboration with USA collaborators.
- Two other Antarctic field programs will look at solid earth/ice sheet interactions spanning the entire length of the continent, using GPS (global positioning systems).

The cold, hard facts . . .

- More than forty percent of Australia’s marine and Antarctic scientists are based in Tasmania.
- Tasmania has connections to Antarctic exploration dating back to 1773, when the English mariner, Tobias Furneaux, sailed the *Adventure* into a bay on Bruny Island.
- The greatest uncertainty in estimates of future sea level rise is the response of the Antarctic ice shelves to the warming of the surrounding oceans.
- Last summer an Antarctic Gateway Partnership expedition to the Totten and Mertz glaciers saw the first-ever deployment of an acoustically-navigated glider in the East Antarctic. ([Warm ocean water melts largest glacier in East Antarctica](#))
- Australian homes, roads, rail, ports, airports, water and wastewater services, energy and communications infrastructure, public assets and commercial assets are vulnerable to sea level.

- Other sectors at risk of sea level and sea temperature rises include aquaculture and fisheries industries, worth about \$2.23 billion, and the Great Barrier Reef, which contributes \$5.7 billion to the Australian economy each year.

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