



UNIVERSITY of  
TASMANIA



Australian Government

Department of Climate Change, Energy,  
the Environment and Water



# CAST Update December 2024

## A Year in Review

2024 has been a busy year for the Centre for Antarctic and Southern Ocean Technology (CAST), with much to celebrate.

Major highlights include a visit to the AMC to see their capabilities and expertise firsthand, and testing interoperability of equipment between research vessels during commissioning of the RSV *Nuyina*. The success of the commissioning voyage was a tri-party operation that will set us up for success during future voyages.

The CAST Undergraduate Engagement Program entered its second year, providing valuable hands-on experience to the next generation of scientists and engineers. Student opportunities will be open again in 2025.

The inaugural CAST Conference was held at the Hobart waterfront with informative sessions and networking opportunities as well as RSV *Nuyina* tours. It was a great opportunity to engage others in the CAST successes. I invite you to read on to learn more about CAST successes in more detail.

As I pass the Chair's role to UTAS in 2025, I'd like to take the opportunity to thank you for all your ongoing contributions to CAST. I look forward to another great year.

*Phil Boxall*

CAST Chair (2024)



<https://cast-collaboration.org.au>

## AUSTRALIAN MARITIME COLLEGE VISIT

In February, representatives from the CAST partnering organisations of AAD, CSIRO and UTAS visited the Australian Maritime College's (AMC) facilities at the University's Newnham Campus.

AMC staff provided demonstrations of equipment and shared informative talks about the facilities along the way.

Of particular interest, was the Maritime Simulation Centre, the Cavitation Research Laboratory, and the Model Test Basin.

Creating better awareness of technological facilities across organisations is a shared CAST aim to foster future collaborations.



*AMC's Maritime Simulation Centre (Photo: Leesa Borojevic).*

## COMMUNITY ENGAGEMENT

CAST also invited other organisations, such as Antarctic Tasmania (part of the Department of State Growth) and the Integrated Marine Observing Network (IMOS), to share the work their teams are doing and how CAST could further add to Hobart's status as an Antarctic Gateway city.

## UNDERGRADUATE ENGAGEMENT

The CAST Undergraduate Engagement Program is in its second year with another nine students benefiting from the program.

This CSIRO - UTAS led initiative has provided the 2024 students with the opportunity to develop skills in bathymetry, hands-on programming, and improving underwater camera systems, just to name a few.

Applications for the 2025 program have been received, and six new students will start their projects at CSIRO early next year.



*Reuben Dunne's 2024 CAST Undergraduate Engagement Program project involves enhancing underwater camera systems (Photo: Reuben Dunne).*

Read more about the Undergraduate Engagement Program [here](#).

## RSV *NUYINA* COMMISSIONING

A technological CAST highlight for this year was the collaborative effort on RSV *Nuyina* commissioning, especially in sharing equipment and expertise for coring activities.

All three CAST organisations were involved in the operations, which will be vital in readiness for the upcoming Denman Marine voyage.



*RSV Nuyina* (Photo: AAD).

## AUTONOMOUS UNDERWATER GLIDER TRIAL IN STORM BAY



*Preparing for glider trials* (Photo: Pat Lewis).

In October, the AAD workboat was launched on Storm Bay in southern Tasmania to support the deployment of CSIRO's Slocum G3 Glider.

This joint operation was to perform essential tests on the glider prior to a forthcoming CSIRO mission, and to provide AAD staff with an opportunity to learn from CSIRO's significant experience.

## CAST CONFERENCE

In August, CAST hosted the first CAST Conference as a major engagement event.

Over 80 attendees participated in the full day's program of presentations, technical workshops, and tours of the RSV *Nuyina*.

The discussions sparked discussions for future collaborations, particularly in the fields of autonomous monitoring systems such as gliders and Remotely Operated Vehicles (ROV).

Next steps identified from the conference have already led to a joint operation between the Australian Antarctic Division and CSIRO, exploring collaborations with autonomous monitoring systems, and providing a valuable opportunity to share expertise.



*2024 CAST Conference* (Photo: Fiona Taylor).

Read more about the conference [here](#).