

# COSIMA Workshop, ANU, 3-4 Sept 2019

*updated 1 Sept*

Welcome to the fourth annual [COSIMA](#) workshop.

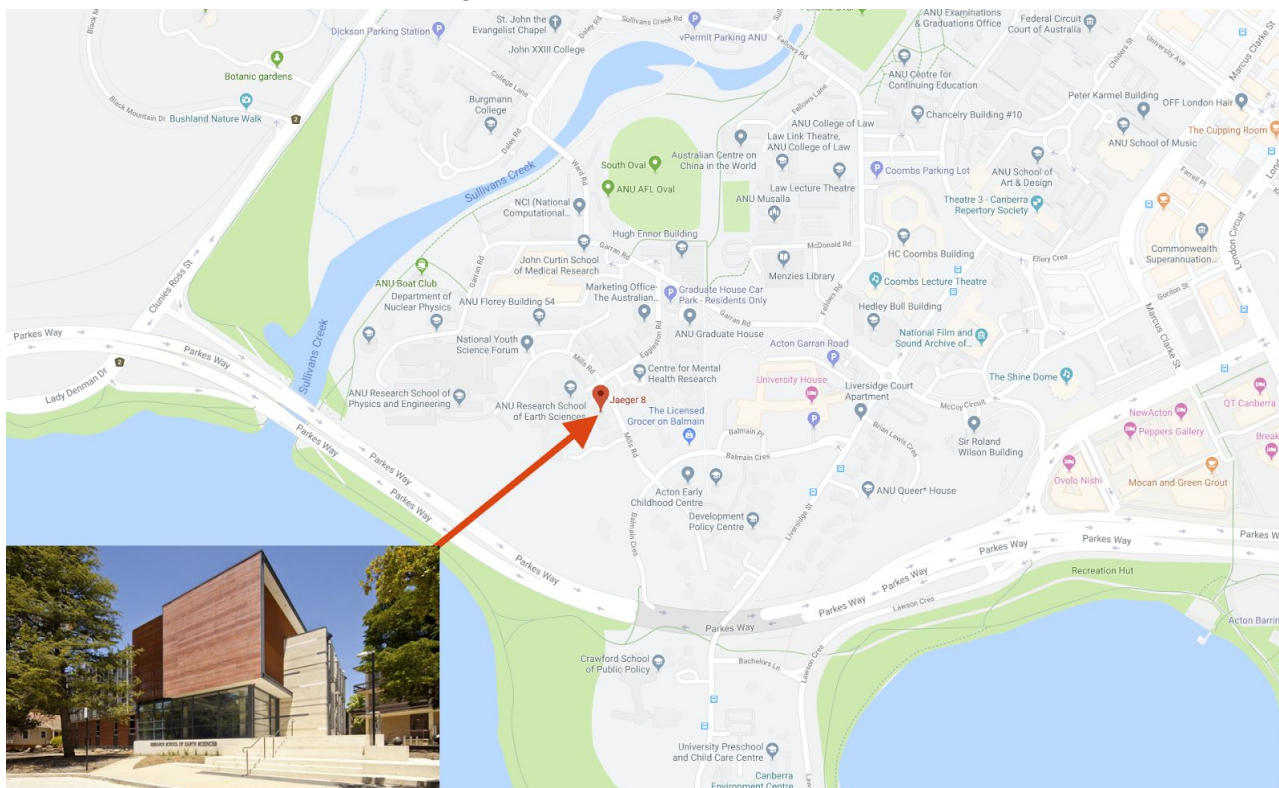
The workshop aims to:

- Maintain and grow the established community around ocean-sea ice modelling in Australia;
- Discuss recent scientific advances in ocean and sea ice research in a forum that is inclusive and model-agnostic, particularly including observational programs;
- Agree on immediate next steps in the COSIMA model development plan; and
- Develop a long-term vision for ocean-sea ice model development to support Australian researchers.

## Venue

This year's workshop will be held in the D. A. Brown Lecture Room 1.11, Jaeger 8 (building 142), 142 Mills Road, the Australian National University; see <https://goo.gl/maps/QocnRhBzugJkmoQZ7> or map below. There will be signage to guide you to the right spot.

Wi-Fi: eduroam, or ANU-Secure (login: COSIMA, Password: RSES0309), or RSES03 or RSES04.



For parking at ANU, our honest recommendation is: don't! If it's unavoidable, then there is some information [here](#).

## Program and catering

The workshop program includes 19 talks, and a discussion/planning session. We will provide lunch, morning tea and afternoon tea at the venue on both days. Dinner on 3rd September will be at 7pm at [Debacle - 24 Lonsdale St Braddon](#). The restaurant is about a 35 minute walk from ANU. We will pay for your dinner (pizza and salads) - but you should buy your own drinks at the bar.

## Tuesday 3rd September

10:00-10.30 Arrival & morning tea

10:30 Session 1 (Chair - Navid Constantinou)

10.30-10.35 Welcome, outline of workshop objectives, housekeeping, etc.

10.35-11:00 Andrew Kiss (ANU)  
ACCESS-OM2 update, and new repeat-year spinup

11.00-11.25 Simon Marsland (CSIRO)  
ACCESS and CMIP6

11.25-11.50 Hakase Hayashida (IMAS, UTAS)  
Preliminary results of biogeochemistry simulation with ACCESS-OM2 and plans for OMIP-BGC and IAMIP

11.50-12.15 Ben Evans (NCI)  
Addressing the next HPC challenges for Climate and Weather

12.15-12.30 Discussion regarding all talks in session

12:30-13.30 Lunch

13:30 Session 2 (Chair - Andreas Klockner)

13.30-13.55 Veronica Tamsitt (UNSW)  
Lagrangian pathways and residence time of Circumpolar Deep Water on the Antarctic continental shelf in a 1/10 degree ocean-sea ice model

13.55-14.20 Ruth Moorman (ANU)  
Response of Antarctic ocean circulation to increased glacial meltwater (in ACCESS-OM2-01)

14.20-14.45 Kewei Lyu (CSIRO)  
Understanding the Southern Ocean heat uptake and redistribution in theoretical framework and model perturbation experiments

14.45-15.10 Fabio Boeira Dias (UTAS/CSIRO)  
High-latitude Southern Ocean response to surface forcing changes under 2xCO<sub>2</sub>

15.10-15.30 Discussion regarding all talks in session

15:30-16:00 Afternoon tea

16:00 Session 3 (Chair - Simon Marsland)

16.00-16.25 Xuebin Zhang (CSIRO)  
What we learned from CSIRO downscaling experiments with OFAM3, focusing on the aspect of future forcing preparation

16.25-16.50 Matt Chamberlain (CSIRO)  
Multiscale data assimilation in Bluelink Reanalysis

16.50-17.15 Paul Sandery (CSIRO)  
A data assimilation framework for ocean-sea-ice prediction

17.15-17.40 Prasanth Divakaran (Bureau of Meteorology)  
OceanMAPS 3.3 Developments

17:40 Close for the day - time to relax and head over to dinner

19:00 Workshop dinner ([Debacle](#) - [24 Lonsdale St Braddon](#)) - see previous page

## Wednesday 4th September

8:45-9:00	Arrival and coffee
9:00	Session 4 (Chair - Veronica Tamsitt)
9.00-9.25	Ryan Holmes (UNSW) Diabatic contributions to the ocean's meridional heat transport and its variability
9.25-9.50	Eric Mortenson (CSIRO) Projected global ocean heat and carbon budgets over the 21st century
9.50-10.15	Christopher Bladwell (UNSW) Dialine transport in global ocean models
10.15-10.40	Abhishek Savita (UTAS, IMAS, CSIRO) Uncertainty in the estimation of global and regional ocean heat content since 1970
10.40-11.00	Discussion regarding all talks in session
11:00-11:30	Morning tea
11:30	Session 5 (Chair - Qian Li)
11.30-11.55	Xihan Zhang (ANU) Gulf Stream separation in ACCESS-OM2
11.55-12.20	Alberto Alberello (U Adelaide) Impacts of winter cyclones on sea ice dynamics
12.20-12.45	Petra Heil (AAD) Sea ice in the ACCESS-OM2 suite
12:45-13.45	Lunch
13.45	COSIMA Discussion (Chair - Paul Spence) - see next page
13.45-15.00	Future perturbation experiments / other experiments? Ensemble simulations? Computational resources? Should we do OMIP contribution to CMIP6? Future scientific/technical ambitions for COSIMA?
15:00-15:20	Afternoon tea
15:20-16.00	Strategy and planning summary Funding opportunities?
16:00	Meeting closes

## Discussion and Planning Session

One of the goals of the workshop is to plan how we can best utilise COSIMA models to address the biggest scientific questions. In particular, we are motivated to leverage our high resolution model simulations for the use of the whole community — but this requires careful mapping of our objectives. To assist with this:

- Please give some thought in advance to what may be possible in your research area;
- There will be space to post provocative questions around the room on the first day of the workshop. For this exercise, we suggest that you dream big — forget constraints, and think about what could be achieved;
- On the second day we will discuss the ideas that emerge;
- We will then try to address synergies, constraints, timelines & resources.

We look forward to a productive and open discussion.

## Streaming via Zoom

The workshop will be streamed via Zoom. When joining via zoom, **please mute your mic and hide your video**. Unfortunately we probably won't have an ability to take questions from remote participants.

Zoom meeting details:

Join from a PC, Mac, iPad, iPhone or Android device: <https://anu.zoom.us/j/8232211676>

Join from a H.323/SIP room system:

Dial: +61 2 6222 7588

or SIP:7588@aarnet.edu.au

or H323:8232211676@182.255.112.21 (From Cisco)

or H323:182.255.112.21##8232211676 (From Huawei, LifeSize, Polycom)

or 162.255.36.11 or 162.255.37.11 (U.S.)

Meeting ID: 8232211676

## Information for presenters

If you are giving a talk, please ensure it is **20 minutes or less** (+5min for questions). This will allow for question time and some discussion time at the end of each session. Our projector has a **16:9 aspect ratio**. Presentations should be either in **PDF or Powerpoint** (a Windows machine will be used; no presentations via personal laptops). **Please upload your presentation via [this Dropbox link](#) by 4pm Mon 2nd September.**