

From PhD to RSE: Training the Next Generation of Research Software Engineers

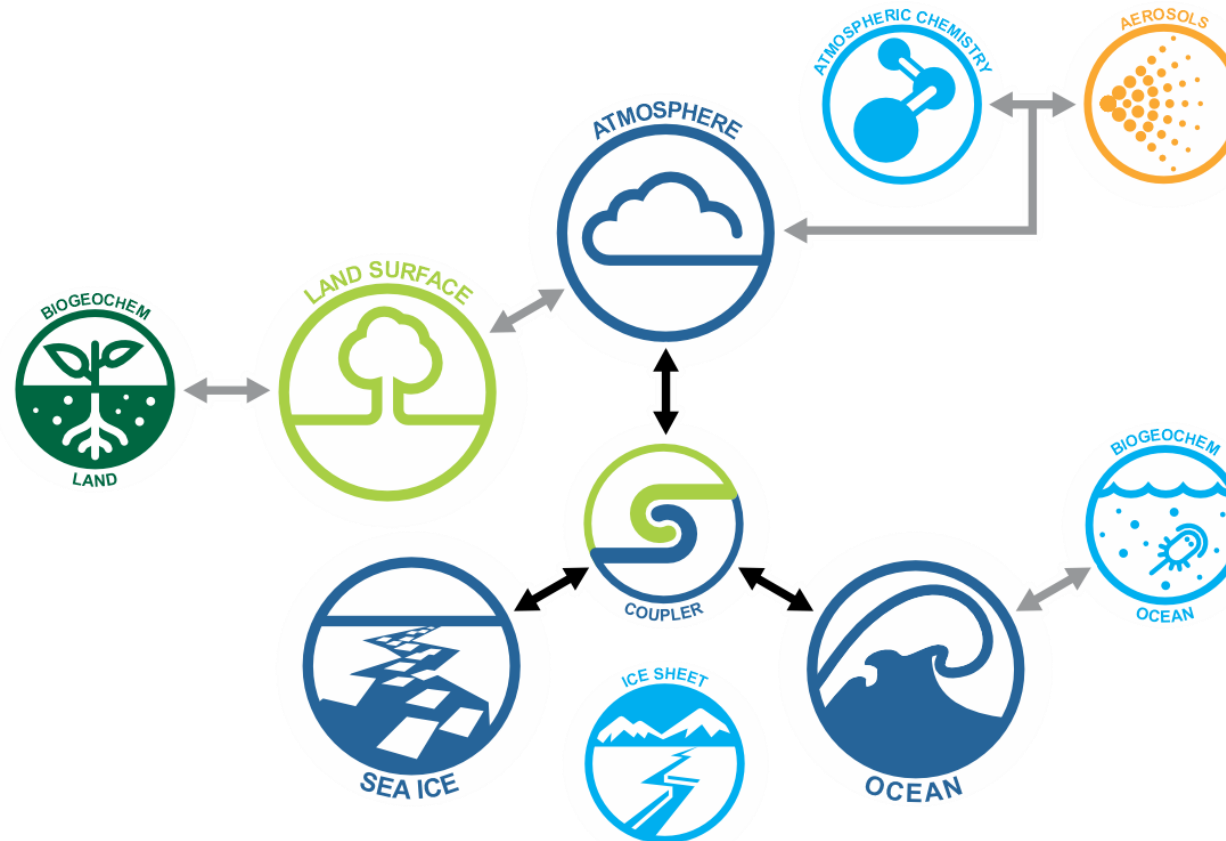
ACCESS-NRI's internship program

Paige E. Martin, **Kelsey Druken**, Heidi Nettelbeck

Australia's Climate Simulator (ACCESS-NRI)

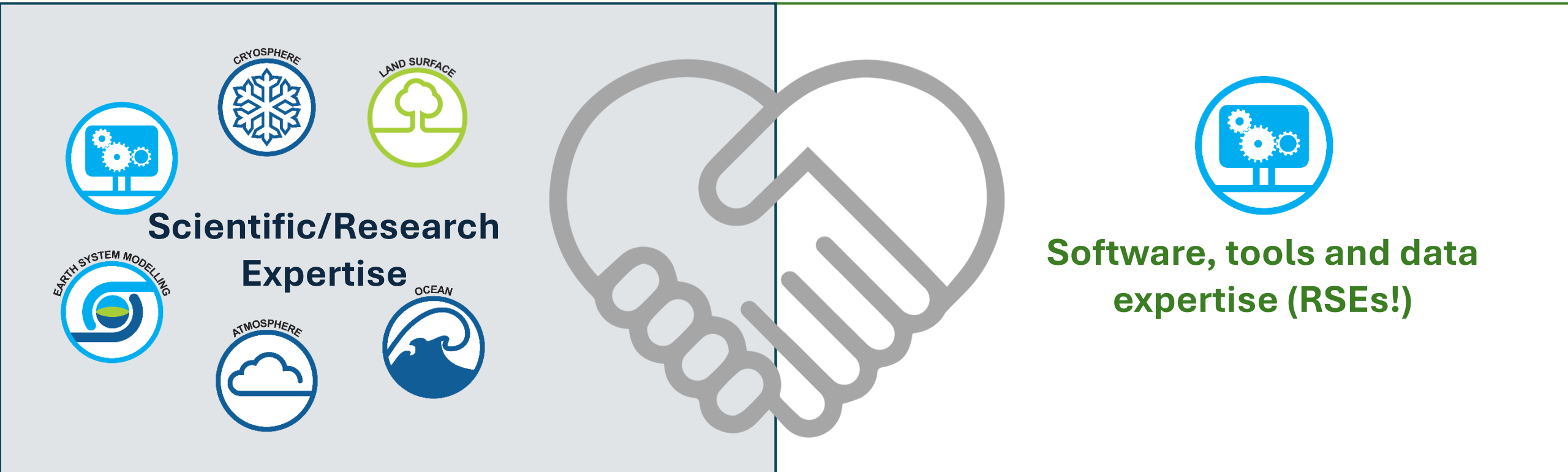
Australia's Climate Simulator (ACCESS-NRI)

- National research infrastructure funded by the Australian government (NCRIS) to support climate modelling (software and data)
- Provides computer simulations for climate, weather and Earth systems, specifically designed for Australia and the Southern Hemisphere.



Australian Community Climate and Earth System Simulator (ACCESS)

Climate modelling requires collaboration between the science and the software



Need for better training for skills specific to research software engineering



From PhD to RSE: ACCESS-NRI's ^{*trial*} internship program

Trial program open to ANU students only

Primary goal: For the interns to learn and have fun! Any output is a bonus.



From PhD to RSE: ACCESS-NRI's ^{trial} internship program

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Program overview

Eligibility: PhD (or Research Masters) students in Australia

University degree extension: This internship is set up in such a way that students can extend their degree timeline and stipend for the duration of the internship.

Scholarship: Scholarship top-up in addition to PhD stipend (if eligible for extension)

Duration: 3 months, full-time preferred

Location: Canberra



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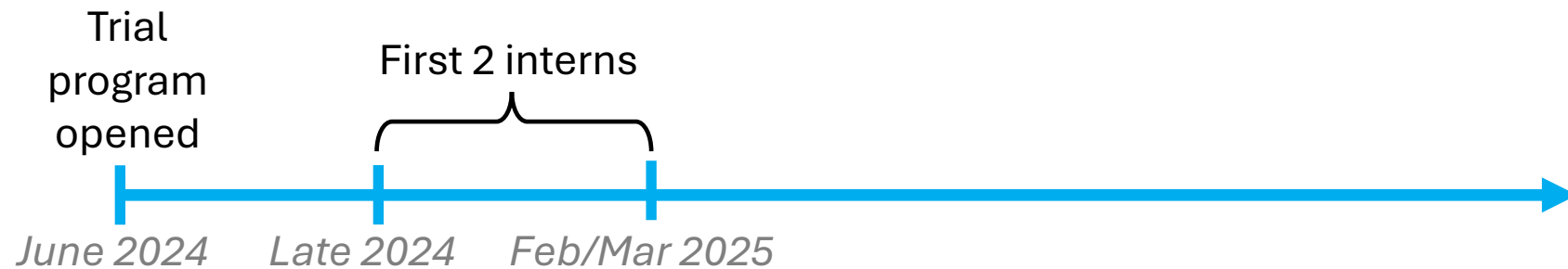
Internship program elements:


| | |
|--------------------------|---|
| Advertisement | Advertise the internship positions and projects |
| Assessment panel | Formed an internal panel of ACCESS-NRI staff review the applications |
| Selection process | Application review and interviews (similar our normal recruitment process). |
| Project matching | Assigned selected interns to teams and mentors (2 mentors, encourage at least one to be a junior staff member) |
| Check-ins | Monthly check-ins to provide a space to chat with internship program lead (Paige). |
| Project outcomes | At least 1 informal presentation at our internal team skill sharing sessions and a brief written summary at end of the project. |
| Feedback | Brief questionnaire and chance to provide confidential feedback. |

From PhD to RSE: ACCESS-NRI's *trial* internship program

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Program timeline





From PhD to RSE: ACCESS-NRI's *trial* internship program

Round 1:

General round
with broad project
description



MAY 22, 2025

Galaxies to GitHub: Paula Boubel's internship journey at ACCESS-NRI

Could you tell me a bit about yourself, about your career so far, why you decided to do a PhD in Australia and an internship...

[READ MORE](#)




MAY 22, 2025

Lindsey Oberhelmen's Internship Journey

Lindsey Oberhelmen's Internship Journey: from simulating the Universe to simulating our planet. Could you tell me a bit about yourself, about your career so far,...

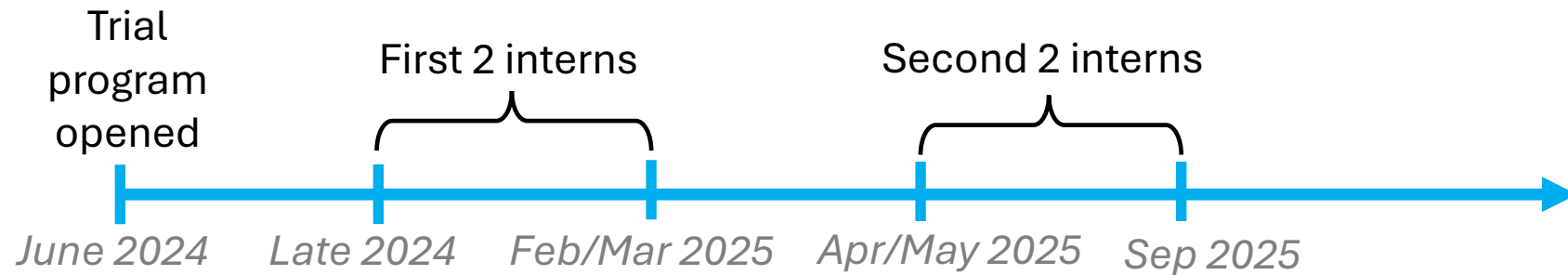
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Program timeline





From PhD to RSE: ACCESS-NRI's ^{trial} internship program

Round 2:

More targeted
climate modelling
project



OCTOBER 3, 2025

Jemma Jeffree's Internship Experience

In this conversation we speak with Jemma Jeffree about her experience doing a PhD internship at ACCESS-NRI, which focused on improving ACCESS-CM3. Tell me a...

[READ MORE](#)



SEPTEMBER 30, 2025

Claire Yung's Internship Experience

In this conversation we speak with Claire Yung about her experience doing a PhD internship at ACCESS-NRI, which focused on modelling ice shelf cavities. Tell...

[READ MORE](#)

Outcomes and lessons learned during the trial program



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Previous intern: Paula Boubel



Galaxies to GitHub: Paula Boubel's internship journey at ACCESS-NRI

“A nice skill I got from this experience is that it allowed me to participate in **collaborative coding**... [I]n astrophysics there is not much collaborative coding going on.”

Now works in an RSE position at Caltech working with data from NASA satellites

“I’ve already built up the skills that I gained at ACCESS-NRI. I used them even for the interview for this position, ... so **this [internship] experience helped me a lot to get [this position]**.”

Outcomes and lessons learned during the trial program

Previous intern: Claire Yung

*“I had a pretty good idea going into **the internship that it would be quite different from my normal research group** in that there is such a diverse range of work that people do at ACCESS-NRI to support all the models and community.”*

*“The other difference **was the focus on reproducibility. The reproducibility aspect of models isn’t something that is hugely stressed in academia.** It’s important, but it’s not people’s main worry. So it was interesting to learn about all the infrastructure that goes into that at ACCESS-NRI.”*

*“I would recommend the ACCESS-NRI internship for people who don’t do anything related to climate and ocean modelling because you can learn about the field and how the models work. But I’d also recommend it for people who already do ocean modelling: **it was a really good experience to get into the weeds, develop more understanding about how all the complicated model parts work, and have a hands-on experience.**”*



Recent ACCESS-NRI PhD intern,
Claire Yung

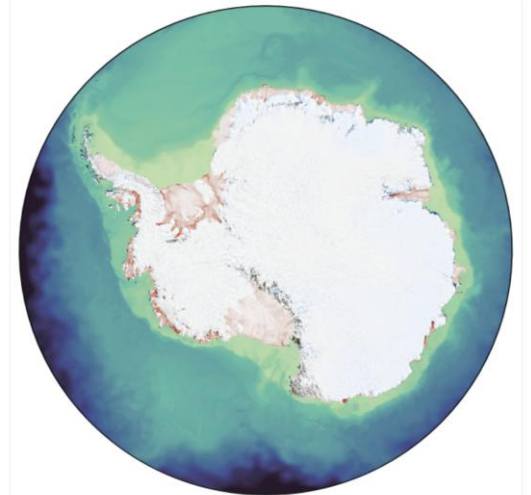


Image produced by Claire Yung
using the model output of the new
pan-Antarctic model with ice shelves



Outcomes and lessons learned during the trial program

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***So much interest** – we've had many enquiries, particularly those who have finished their degrees. Clear need and gap for students.*

Skills development takes dedicated resourcing

(and we must also make sure that matches available capacity!)

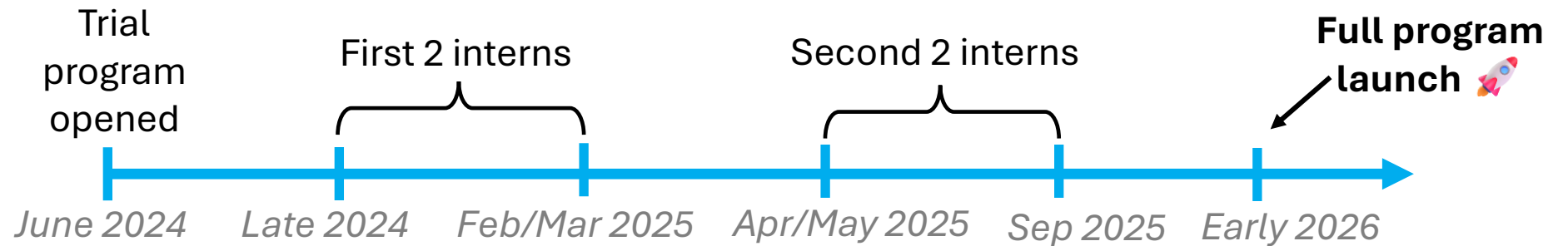
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- **Non-academic experiences:** Embedding into the program as well as in our public materials (so anyone across our community can utilise):
 - Preparing non-academic CVs.
 - Responding to selection criteria.
 - Career paths.
 - Work practices within team environment.

Thanks, and we would love to hear about other internship programs!



Paige Martin, User Training Team Lead
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