

## Australian National Geodesy Workshop – 24-25 June 2025

The workshop will be a hybrid meeting, with participants and presenters in-person and online via zoom

### Zoom Details:

Meeting number: 8352 0319 216

Password: AusGeod25

<https://anu.zoom.us/j/83520319216?pwd=nb1pCHzxxqbeOpLja2JCz6yUJPwpbO.1>

Speakers have been allocated 20 minutes for each presentation. Please aim to finish your talk at 15 minutes to leave 5 minutes for questions.

### Session Program:

#### Day 1

<i>Date</i>	<i>Time</i>	<i>Session</i>	<i>Speakers</i>
24 June	09:30-9:40	Welcome	Tregoning
	9:40-10:20	Interesting applications	Townsend, Stanaway
	10:20-11:00	Morning tea	
	11:00-12:40	All things “gravity”	Darbeheshti, Tang, Papanikolaou, Leong, Tregoning
	12:40-1:40	Lunch	
	1:40-3:20	Positioning Australia	Riddell/Hall, Ruddick, Hu, Thomas
	3:00-3:30	Afternoon Tea	
	3:30-4:30	Positioning Australia	Harrison, Zannat, Cook
	4:30	Close of day 2	
		Drinks/dinner at Badger & Co	

#### Day 2

<i>Date</i>	<i>Time</i>	<i>Session</i>	<i>Speakers</i>
25 June	09:30-10:30	VLBI	Willcocks, McCallum, Titov
	10:30-11:00	Morning tea	
	11:00-11:40	All things “Antarctic”	Coleman, Rajavarathan
	11:40-12:30	Shield CRC	Kealy, oepn discussion
	12:30-1:30	Lunch	
	1:30-2:50	All things “SWOT”	Watson, Dodd, Taib, Salajegheh
	2:50-3:10	Peter Morgan	Morgan
	3:10	Close of day 2	

## Detailed Program

### Day 1: Tuesday 24<sup>th</sup> June 2025

<i>Time</i>	<i>Title</i>	<i>Speaker</i>	<i>Institution</i>
<b><i>Interesting Applications</i></b>			
09:30	Welcome	Paul Tregoning	
09:40	Development and Field Deployment of a Solar Powered GNSS-IR Based Soil Moisture Monitoring System	George Townsend	University of Newcastle
10:00	PNG2020, a new geodetic datum for PNG	Richard Stanaway	PNG University of Technology
10:20-11:00	Morning tea		
<b><i>All things “gravity”</i></b>			
11:00	Enhancing the Australian Gravimetric Quasi Geoid with Airborne Gravity Data	Neda Darbeheshti	Geoscience Australia
11:20	Insights into Hydrological Extremes at a Sub-Monthly Scale from Satellite Gravity Measurements	Miao Tang	University of Newcastle
11:40	Precise orbit determination and gravity recovery for GRACE-FO and future gravity missions	Thomas Loudis Papanikolaou	University of Newcastle
12:00	Assess the performance of GRACE-FO and ICESat-2 combined inversion through simulation	Kit Leong	Australian National University
12:20	A smorgasboard of things GRACE/GRACE-FO	Paul Tregoning	Australian National University
12:40-1:40	Lunch		
<b><i>Positioning Australia – Chaired by Ronald Maj</i></b>			
1:40	Australian inputs into the Global Geodetic Observing System and Supply Chain	Anna Riddell/Lisa Hall	Geoscience Australia
2:00	Improving Access to GA’s Geodetic Data and Positioning Services	Ryan Ruddick	Geoscience Australia
2:20	Initial results of IGS ring antenna calibration campaign	Guorong Hu	Geoscience Australia
2:40	Australian Co-Located Geodetic Observatory Local Tie Surveys	Bart Thomas	Geoscience Australia
3:00-3:30	Afternoon tea		
3:30	Two-frame approach for height in Australia	Craig Harrison	Geoscience Australia
3:50	AGRS modernisation program	Umma Zannat	Geoscience Australia
4:10	Using machine learning to detect recent flex events in GPS signals	Kyran Cook	Geoscience Australia
4:30	Close of day 1		

## Day 2: Wednesday 25<sup>th</sup> June 2025

<i>Time</i>	<i>Title</i>	<i>Speaker</i>	<i>Institution</i>
<b><i>VLBI</i></b>			
09:30	The Impact of Australian Radio Stations on VLBI Formal Error	Simon Willcocks	Geoscience Australia
9:50	Linking VLBI and satellite techniques – preparing for the Genesis mission.	Lucie McCallum	University of Tasmania
10:10	A novel approach for direct estimation of the instantaneous Earth rotation velocity	Oleg Titov	Geoscience Australia
10:30-11:00	Morning tea		
<b><i>All things “Antarctic”</i></b>			
11:00	Pseudo-Geodesy: From Seals to Satellites to improve polar bathymetry	Richard Coleman	University of Tasmania
11:20	Sensitivity of GPS-derived deformation estimates to different Surface Mass Balance models of Antarctica	Jenan Rajavarathan	University of Tasmania
<b><i>SHIELD CRC</i></b>			
11:40	SHIELD CRC – Securing Australia’s Critical Infrastructure	Alison Kealy	Swinburne University
12:00	SHIELD CRC – Securing Australia’s Critical Infrastructure	discussion	
12:30-1:30	Lunch		
<b><i>All things “SWOT”</i></b>			
1:30	SWOT validation in Bass Strait and the Southern Ocean	Christopher Watson	University of Tasmania
1:50	Quantifying overland flow depths in the recent SW Queensland floods	Lachlan Dodd	Australian National University
2:10	Monitoring water levels in wetlands in Australia using SWOT data	Maya Taib	Australian National University
2:30	SWOT Bathymetry Modelling Using Deep Neural Networks	Farshad Salajegheh	University of Newcastle
<b><i>Peter Morgan’s session</i></b>			
2:50	Archiving and accessing two personal archives	Peter Morgan	University of Canberra
3:10	Close of day 2		



**Australian  
National  
University**



**Australian Government**  
**Geoscience Australia**

**Positioning  
Australia**