



## Workshop program (3 June 2022)

Dates: 27-30 June, 2022

Venue: Malangen Resort

(<https://www.malangenresort.com/>)

The workshop is partially open for online participants.

- Talks are broadcasted and online participants are able to ask questions.
- Online participants are encouraged to submit their posters, which will be printed and presented during the workshop. All posters are presented again in an online follow-up meeting on 10 August as a part of the SCAR Open Science Conference (OSC).
- Discussion-based sessions are not broadcasted, but summaries will be presented for additional discussion at the online meeting during the SCAR OSC.
- Registration for the online participation is open until 25 June (<https://forms.gle/JtNfs2N37ntn36by6>). However, the registration of online poster presenters is open until 1 June.
- All in-person participants are required to arrive at Tromsø by the night of 26 June.
- After the workshop, the earliest possible flight out of Tromsø that the participants can take is SK4417 (scheduled time of departure: 1400) on 30 June.
- **Registration for the in-person participation is kept open for late registration:** (<https://forms.gle/tgDAVKBpPXS1KhGf7>). Email Kenny (kenichi.matsuokanpolar.no) if you want to make a late registration.

## **Monday 27 June**

The venue is about 90 minutes by bus from downtown Tromsø. Group transportation will be arranged leaving the shared cabin (Tromsø camping) at 0840 and Thon Hotel at 0900.

- 1100 – 1130    **Opening remarks**  
                  (1) welcome, Birgit Njåstad  
                  (2) goals of the workshop and agenda, Kenny Matsuoka  
                  (3) house keeping, Kenny Matsuoka
- 1130 – 1230    **Session 1: Keynote address** (40 min + 20 min Q/A, broadcasted)  
                  Chair: Marie Cavitte  
                  “RINGing in a new era of satellite observation”, Alex Gardner
- 1230 – 1330    Lunch (poster setup)
- 1330 – 1530    **Session 2: Pieces for RINGS** (15 min talk + 5 min Q/A for each, broadcasted) Chair: Lu Li  
                  (1) “Mapping subglacial topography using the conservation of mass”, Mathieu Morlighem  
  
                  (2) “Uncertainties and challenges in determining the surface mass budget of Antarctica”, Ruth Mottram  
  
                  (3) “Bed bumps and ice flow: Recent progress and challenges in modeling the Antarctic Ice Sheet”, Felicity McCormack  
  
                  (4) “Potential fields – their role in understanding Antarctic geology, geodynamics and climate change”, Fausto Ferraccioli and Rene Forsberg  
  
                  (5) “Machine learning strategies and considerations for subsurface mapping”, Mickey MacKie  
  
                  (6) “Council of Managers of National Antarctic Programs (COMNAP)”, John Guldahl
- 1530 – 1615    break (check-in to accommodation)
- 1615 – 1715    **Session 3: An interactive wall-map discussion on theme 1 “Articulating the RINGS science questions”** Lead: Kirsty Tinto  
                  (1) seaward ring, lead: Kirsty Tinto and Ryan Venturelli  
                  (2) primary ring, lead: Geir Moholdt and Ines Otosaka  
                  (3) landward ring, lead: Tom Jordan and Thomas Teisberg
- 1715 – 1815    **Session 4: Poster introduction, 1 of 2** (2 min each, broadcasted)  
                  Chair: Calvin Shackleton
- 1815 – 1915    **Session 5: Wrapping up the theme-1 discussion** (report from each ring and overall discussion) Lead: Kirsty Tinto
- 1930 –         Welcome dinner

## **Tuesday 28 June**

0830 – 0950    **Session 6: Looking around Antarctica, ongoing and planned surveys in the coastal regions** (10 min each, no Q/A, broadcasted) Chair: Jonas Liebsch  
(1) Alfred Wegener Institute, Graeme Eagles  
(2) Australian Antarctic Division, Jason Roberts  
(3) Polar Research Institute of China, Sun Bo and Xiangbin Cui  
(4) LDEO – Columbia University, Kirsty Tinto  
(5) Univ. Texas, Duncan Young  
(6) NASA, Joe MacGregor  
(7) Korea Polar Research Institute, Wang Sang Lee  
(8) British Antarctic Survey, Tom Jordan

0950 – 1010    Break

1010 – 1100    **Session 7: Allied projects and emerging tools** (10 min each, no Q/A, broadcasted)  
Chair: Naomi Krauzig  
(1) IMBIE3, Andy Shepherd  
(2) Bedmap3, Peter Fretwell  
(3) OpenPolarRadar, Duncan Young  
(4) Drone radar, Carl Leuschen  
(5) Offshore surveys, Pierre Dutrieux

1100 – 1120    **Session 8: Poster introduction, 2 of 2** (2 min each, broadcasted)  
Chair: Katrin Lindback

**===== END OF BROADCASTED/RECORDED PORTIONS OF THE WORKSHOP =====**

1120 – 1240    **Session 9: poster viewing**

1240 – 1330    Lunch break (lunch start at 1300 at Camp Nikka)

1330 – 1430    **Session 10: Group discussion on theme 2 “Agreeing the RINGS survey and analysis protocols” session 1 of 2** Lead: Tom Jordan  
(1) seaward ring, lead: Kirsty Tinto and Ryan Venturelli  
(2) primary ring, lead: Geir Moholdt and Ines Otsuka  
(3) landward ring, lead: Tom Jordan and Thomas Teisberg

1430 – 1530    **Session 11: Group discussion on theme 2 “Agreeing the RINGS survey and analysis protocols” session 2 of 2**  
3 discussion groups like Session 10 but participants belong to a different group.

1530 –        Outdoor activities with snack (tbd)

1900 –        Buffet dinner

## **Wednesday 29 June**

- 0900 – 1000    **Session 12: Wrapping up the theme-2 discussion and revisiting theme 1** (report from each ring and overall discussion) Lead: Tom Jordan
- 1000 – 1030    **Session 13: Group discussion on theme 3 “Implementing the RINGS protocols: connecting rings in regions” session 1 of 2** Lead: Dustin Schroeder  
(1) East Antarctica, Fausto Ferraccioli and Hannes Eisermann  
(2) Ross and Amundsen Embayment, Paul Winberry and Hannah Verboncoeur  
(3) Antarctic Peninsula and Weddell Embayment, Robert Bingham and Kaian Shahateet  
(4) Pan-Antarctic, Dustin Schroeder and Chad Greene
- 1030 – 1100    Break
- 1100 – 1200    **Session 14: Group discussion on theme 4 “Inquiring the RINGS protocols: tools”**  
Lead: Matt Siegfried  
(1) data management, Micky Emma and Julien Bodart  
(2) logistics and aviation, Sven Lindstrom and Becky Sanderson  
(3) marine and submarine instruments, Pierre Dutrieux and Chen Zhao  
(4) airborne instruments, Joe MacGregor and Mareen Losing  
(5) computer models, Frank Pattyn and Felicity McCormack  
(6) satellites, Matt Siegfried and Byeong-Hoon Kim
- 1200 – 1300    **Session 15: Panel discussion “Lessons from previous projects”**  
Lead: Rene Forsberg and Vikram Goel
- 1300 – 1400    Lunch
- 1400 – 1500    **Session 16: Wrapping up the theme-4 discussion** (report from each tool and overall discussion), Lead: Matt Siegfried
- 1530 – 1600    Break
- 1600 – 1700    **Session 17: Group discussion on theme 3 “Implementing the RINGS protocols: connecting rings in regions” session 2 of 2** Lead: Dustin Schroeder
- 1700 – 1800    **Session 18: Poster viewing**
- 1900 –          Gala dinner at Camp Nikka

## **Thursday 30 June**

0830 – 0930    **Session 19: Wrapping up the theme-3 discussion** (report from each region and overall discussion), Lead: Dustin Schroeder

0930 – 1015    **Session 20: Outreach, capacity building, and equality-diversity-inclusion** Lead: Peter Neff

1015 – 1045    **Session 21: Future of RINGS**, Lead: Kenny Matsuoka

1045 – 1100    Closing remarks

Transportation back to Tromsø (and Tromsø Airport) leaves the hotel at 1130. Lunch will be arranged.

## **Poster presentation (in person)**

Anirudha Vijay Mahagaonkar	Status of meltwater systems on Dronning Maud Land between 2014 and 2021
Arjen Stroeve	Antarctic sea level contribution in 2300: Integrated Queen Maud Margin Science (iQ)
Becky Sanderson	The relationship between ice discharge and internal layers for Lambert Glacier.
Calvin Shackleton	Subglacial topography, water routing, and geothermal heat flux investigations beneath thick glacial ice
Chad Greene	Airborne opportunities in Antarctica
Chen Zhao	Evolution of the Denman Glacier, East Antarctica in numerical models
Geir Moholdt	ALtimetry for BAthymetry and Tide Retrievals for the Southern Ocean, Sea ice and ice Shelves (ALBATROSS)
Hannah Verboncoeur	Leveraging remote sensing data to characterize the evolution of the Crary Ice Rise, Ross Ice Shelf, Antarctica
Hannes Eisermann	Subglacial bathymetry beneath the Filchner-Ronne Ice Shelf (tentative)
Inès Ootosaka	Results from the Ice Sheet Mass Balance Inter-comparison Exercise (IMBIE)
Joe MacGregor	Surface expression of bed topography in Greenland and Antarctica
Johanna Brehmer-Moltmann	Radar analysis of ice sheet englacial stratigraphy
Jonas Liebsch	A New Constrained Gravity Inversion Tool to Obtain Sub-Ice-Bathymetry
Josephine Maton	Monitoring Antarctic calving front locations and annual iceberg calving flux
Julien Bodart	BAS Aerogeophysics Data: Releasing 25 Years of Airborne Gravity, Magnetism, and Radar Data over Antarctica
Jörg Ebbing	Enhancing sub-glacial geology with geophysical joint inversion
Kaia Shahateet	Ice-thickness inversion model of the Antarctic Peninsula
Katrin Lindback	Basal melting and oceanic observations at Fimbulisen ice shelf, East Antarctica
Lu Li	Heterogeneous crustal structure of Antarctica or Insight of crustal structure uncertainty based on current generation of geophysical data
Mareen Lösing	Using Joint Inversion with a Variation of Information Constraint to Infer the Crustal Structure in Wilkes Land, Antarctica
Marie Cavitte	Characterizing the spatial footprint of ice cores using radar-derived surface mass balance

Naomi Krauzig	Understanding the physical forcings in the marginal ice zone of the Ross Sea
Paco Navarro	Ice thickness and ice discharge from the South Shetland Islands
Peter Neff	West Antarctic coastal ice rises: future ice core sites to reconstruct recent Pacific climate
Pierre Dutrieux	The West Antarctic Ice Sheet Response to Tropical Forcing
Rene Forsberg	4D Antarctica: new compilation of Antarctic gravity field
Robert Bingham	Plans for ITGC GHOST
Rune Storvold	Drone platform for ice shelf measurements
Ruth Mottram	Assessing internal climate variability on Antarctic mass budget
Ryan Venturelli	What lies beneath: Using sub-ice archives to assess the Holocene (in)stability of the West Antarctic Ice Sheet
Thomas Teisberg	Sampling strategies for a prototype UAV-borne frequency-modulated ice-penetrating radar
Vikram Goel	Geophysical survey to determine an optimal ice coring site in coastal Dronning Maud Land

### **Poster presentation (remote, as of 25 May)**

Gunter Leguy	Observation impact on ice sheet model spinup
Gobishankar Sathiyamohanan	Sea level rise in Sri Lanka
Junjun Yang	Bathymetry beneath the Amery ice shelf, East Antarctica, revealed by airborne gravity