

Ice2ice MIS3/Southern Ocean and bipolar seesaw workshop

Bergen, 02 to 03 February 2015

<http://ice2ice.b.uib.no/2015/01/10/mis3antarctica/>

PROGRAM

Monday 02 February

10:00 - 10:30 Coffee/pastries and presentation of each participant (GFI: location 5 on [this map](#))

10:30 - 11:00 Pedro, Nisancioglu: Workshop overview (GFI)

11:15 - 12:00 (P1) Bjerknes colloquium at GFI. Steig: *'The new WAIS Divide (Antarctic) ice core: new constraints on the physics of the "bipolar seesaw"'*

12:30 - 13:30 Lunch at Knut Fægri's hus (Villaveien 9, location 12 on [this map](#))

13:30 - 17:30 Workshop at Knut Fægri

13:30 (P2): Martin, Pedro: *'Southern Ocean deep convection as a heat source for AIM events'*.

14:00 (P3) NBI TeamOcean (Rheinländer, Jochum & Kleppin): *'Southern Hemisphere climate variability in an unforced climate model through atmospheric teleconnections'*

14:30 Discussion (chaired by Jochum & Pedro)

15:30 – 16:00 Coffee/tea/fruit

16:00 (P4) Kleiven: *'Climate and Antarctic Intermediate Water Covariations on Centennial-Millennial Timescales during MIS 3—Constraining the Role of the "Oceanic Tunnel" in Abrupt Climate Change'*.

16:30 Discussion (chaired by Ninnemann)

18:00 - 20:00 Dinner at Knut Fægri's hus

Tuesday 03 February

09:00 - 18:00 Workshop at Knut Fægri (Villaveien 9, location 12 on [this map](#))

09:00 – 09:30 Coffee/pastries

09:30 (P5) Alvarez-Solas: *'Iceberg discharges and oceanic circulation changes during glacial abrupt climate changes'*.

10:00 (P6) Banderas: *'An interhemispheric mechanism for glacial abrupt climate change'*

10:30 – 11:00 Discussion with Coffee

11:00 (P7) Nisancioglu/Dokken *'A mechanism for abrupt changes in Nordic seas sea ice and possible interhemispheric linkages'*

11:30 (P8) Roberts *'Role of ice-sheet topography in MIS3 climate variability'*.

12:00 Discussion (chaired by Li)

12:30 - 13:30 Lunch at Knut Fægri

13:30 – 15:30 Open discussion and outline for a MIS3/Southern Ocean and bipolar seesaw review paper.

15:30 CIC and other international participants depart workshop.

PRELIMINARY LIST OF DISCUSSION TOPICS

- What drives warming and cooling of Antarctica and Southern Ocean surface during AIM events
 - Changes in meridional ocean heat transport [e.g. Crowley, 1992]?
 - Changes in Southern Ocean deep convection [e.g. Broecker et al., 1998]?
 - Atmospheric teleconnections from lower latitudes modulating wind fields, sea ice, atmospheric circulation and/or acting as a trigger for a), b)?
- What mechanisms (if any) can propagate temperature or density anomalies across the ACC?
- What is the response of Antarctic surface temperatures to a change in the Southern Annular Mode or wind stress over the Southern Ocean.
- What is the Antarctic and Southern Ocean signal in models showing unforced DO-like variations in Nordic seas.
- What new observations are needed to critically test hypotheses on the forcings driving the MIS3 Southern Ocean and Antarctic climate variations?

PARTICIPANTS

1. Alexander Robinson, robinson@fis.ucm.es, Uni. Complutense de Madrid
2. Amandine Tisserand, amandine.tisserand@uni.no, UNI Research
3. Camille Li, camille@uib.no, UiB/GFI/Bjerknes Centre
4. Elizabeth Farmer, elizabeth.farmer@geo.uib.no, UiB/GEO
5. Eric Steig, steig@uw.edu, University of Washington
6. Eystein Jansen, eystein.jansen@bjerknes.uib.no, UiB/GEO/Bjerknes Centre
7. Hannah Kleppin, kleppin@nbi.ku.dk, NBI, University of Copenhagen
8. Joel Pedro, jpedro@nbi.ku.dk, CIC, University of Copenhagen
9. Jonathan Rheinländer jonathan.winf@gmail.com, NBI, University of Copenhagen
10. Jorge Alvarez-Solas, jorge.alvarez.solas@fis.ucm.es, Uni. Complutense de Madrid
11. Kerim Hestnes Nisancioglu, kerim@uib.no, UiB/GEO/UNI/Bjerknes Centre
12. Lars H.Smedsrud, larsh@gfi.uib.no, UiB/GFI/Bjerknes Centre
13. Laura Herraiz, lherraiz@nbi.ku.dk, CIC, University of Copenhagen
14. Mari F. Jensen, mari.f.jensen@geo.uib.no, UiB/GEO/Bjerknes Centre
15. Marisa Montoya, mmontoya@ucm.es, Universidad Complutense de Madrid
16. Markus Jochum, mjochum@nbi.dk, NBI, University of Copenhagen
17. Nora Loose, nora.loose@geo.uib.no, UiB/GEO/Bjerknes Centre
18. Paul Vallelonga, vallelonga@nbi.ku.dk, CIC, University of Copenhagen
19. Peter Ditlevsen, pditlev@nbi.ku.dk, CIC, University of Copenhagen
20. Rubén Banderas, banderas.ruben@fis.ucm.es, Uni. Complutense de Madrid
21. Sune O. Rasmussen, olander@gfy.ku.dk, CIC, University of Copenhagen
22. Torge Martin, torge.martin@gmail.com, GEOMAR Kiel
23. Ulysses Ninnemann, Ulysses.Ninnemann@geo.uib.no, UiB/GEO/Bjerknes
24. William Roberts, william.roberts@bristol.ac.uk, University of Bristol