

### Sunday September 10<sup>th</sup>

18:30 - 20:00 **Ice breaker**

Caffè degli Specchi, *Piazza Unità d'Italia - Trieste*

### Monday September 11<sup>th</sup>

#### **SATURNIA ROOM**

8:00 Onsite registration opens

9:00 - 9:30 Welcome and greetings from: OGS President Maria Cristina Pedicchio, PNRA-CSNA president Antonio Meloni, PAIS co-chief officers Laura De Santis and Tim Naish.

#### **THEME 1A** **Advances in Antarctic ice-sheet reconstructions from geological and ice core archives: LGM to Recent**

Chair: *Tim Naish*

#### **SATURNIA ROOM**

9:30 - 10:00 Invited *Louise Sime*  
Advances in Antarctic ice-sheet reconstructions from ice core archives

10:00 - 10:30 Invited *Mike Bentley*  
Advances in Antarctic ice-sheet reconstructions from geological archives: Recent reconstructions (Last Interglacial to present)

10:30 - 10:45 *Nancy Bertler et al.*  
Wind Driven Ocean/Ice Interactions during the Ross Sea Region Deglaciation

10:45 - 11:00 *Barbara Stenni et al.*  
Regional and continental scale Antarctic climate variability over the last 2,000 years

11:00 - 11:15 *Reed Scherer et al.*  
Extensive Holocene grounding line retreat and uplift-driven readvance across Ross and Ronne sectors of the West Antarctica

11:15 - 11:45 **Coffee break**

11:45 - 12:00 *Rob McKay et al.*  
Reassessing the post-Last Glacial Maximum retreat history from the Southwest Ross Sea

# Past Antarctic Ice Sheet Dynamics

## Program

- 12:00 - 12:15 *John Anderson et al.*  
Uncovered anatomy of a subglacial hydrological system coupled to past ice sheet grounding lines
- 12:15 - 12:30 *Philip Bart*  
A modern-day unpinning of the Ross Ice Shelf from Ross Bank
- 12:30 - 12:45 *Claus Hillenbrand et al.*  
Reconstruction of Late Quaternary palaeoenvironmental changes on the West Antarctic continental margin using a multi-proxy approach
- 12:45 - 13:00 *Laura De Santis et al.*  
Exploring past and modern bottom current pathways along the continental margin: the Ross Sea survey 2017
- 13:00 - 14:15 **Lunch**  
Chair: *Laura De Santis*
- 14:15 - 14:30 *Amy Leventer et al.*  
Searching for paleoclimate archives on the East Antarctic margin: Sabrina Seafloor Survey 2017
- 14:30 - 14:45 *Kate Newton et al.*  
Glacial discharge, productivity and oceanic variability from the Antarctic coastal zone: results from a 171 m Holocene sediment core from IODP Expedition 318
- 14:45 - 15:00 *Fausto Ferraccioli et al.*  
New aerogeophysical views of bedrock topography, subglacial geology and englacial layers in the South Pole sector of the East Antarctic Ice Sheet
- 15:00 - 15:15 *Bethan Davies et al.*  
George VI Ice Shelf: Holocene stability and interactions with fluctuating valley glaciers on Alexander Island, Antarctic Peninsula
- 15:15 - 15:30 *James Smith et al.*  
Using sub-ice- shelf sediments to reconstruct glacier history - a case study from Pine Island Glacier
- 15:30 - 15:45 *Dominic Hodgson et al.*  
Deglaciation and future stability of the Coast Land ice margin, Antarctica
- 15:45 - 16:00 **Coffee break**
- 16:00 - 17:00 **Poster session**

17:00 - 18:00 Plenary discussion on theme 1A  
 Chair: *Nancy Bertler*; Panel: *John Anderson, Rob McKay, Louise Sime, Mike Bentley*

18:00 - 20:00

### VULCANIA 1 ROOM

#### Seismic Data Library System (SDLS) business meeting

Chairs: *Frank Nitsche, Chiara Sauli*, **open**

### OCEANIA AB ROOM

#### IODP Exp. 374 pre-cruise meeting

Chairs: *Rob McKay, Laura De Santis, Denise Kulhanek*, **closed**

### SATURNIA ROOM

#### APECS - Social Media and Science Communication

Chair: *Andrea Spolaor, Mathieu Casado, François Burgay, Federico Dallo, Jilda Caccavo, Giulia Massolino*, **open**

WORKSHOP

**Tuesday September 12<sup>th</sup>**

## THEME 1B

### Advances in Antarctic ice-sheet reconstructions from geological and ice core archives - Deep time reconstructions

#### SATURNIA ROOM

8:00 Onsite registration opens

Chair: *Sandra Passchier*

8:30 - 9:00 Invited *Richard Levy et al.*

Antarctic ice sheet sensitivity to orbital forcing, crustal subsidence, and carbon dioxide fluctuations

9:00 - 9:15 *Robert Larter et al.*

Development of a large sediment drift near the mouth of Marguerite Trough, Antarctic Peninsula as a record of past ice stream dynamics

9:15 - 9:30 *Karsten Gohl et al.*

MeBo seabed drilling in the Amundsen Sea Embayment: Operational experience and preliminary results

# Past Antarctic Ice Sheet Dynamics

## Program

- 9:30 - 9:45 *Gabriele Uenzelmann-Neben*  
Variations in Ice Sheet Dynamics along the Amundsen Sea and Bellingshausen Sea West Antarctic Ice Sheet margin
- 9:45 - 10:00 *Joseph Prebble et al.*  
Antarctic ice sheet excluded from the western Ross Embayment during the earliest Oligocene
- 10:00 - 10:15 *Guy Paxman et al.*  
Long term landscape and ice sheet evolution of the Wilkes Subglacial Basin, East Antarctica
- 10:15 - 10:30 *Tina van de Flierdt*  
Geological evidence for Late Pleistocene variability of the East Antarctic Ice Sheet?
- 10:30 - 11:00 **Coffee break**
- 11:00 - 11:15 *Francesca Sangiorgi et al.*  
The role of the ocean for Antarctic cryosphere dynamics during mid-Miocene: a view from offshore Wilkes Land
- 11:15 - 11:30 *Yusuke Suganuma et al.*  
Reconstruction of the East Antarctic ice sheet variability during the last 3 Ma in the central & eastern Dronning Maud Land, East Antarctica
- 11:30 - 11:45 *Trevor Williams et al.*  
Using Sediment Provenance to Study Ice Streams in the Weddell Sea Embayment of Antarctica
- 11:45 - 12:30 **Poster session**
- 12:30 - 13:30 **Lunch**

## THEME 2 Advances in understanding the drivers, processes, and rates of past and future Antarctic ice-sheet change from models and data

### SATURNIA ROOM

Chair: *Phil Bart*

- 13:30 - 14:00 Invited *Florence Colleoni*  
Past unknowns for an unknown future
- 14:00 - 14.30 Invited *Paolo Stocchi et al.*  
Relative sea-level changes and sediment deposition: a first step toward a fully coupled system

- 14:30 - 14:45 *Catherine Bradshaw et al.*  
Decoupling of temperatures and ice volume in the Middle Miocene:  
a missing piece of the puzzle?
- 14:45 - 15:00 *Edward Gasson et al.*  
The Antarctic ice sheet during the mid-Miocene and mid-Pliocene
- 15:00 - 15:15 *Gerrit Lohmann et al.*  
Antarctic ice sheet during the Last Interglacial: Thresholds and Feedbacks
- 15:15 - 15:30 *Terry Wilson et al.*  
Antarctic ice mass change since the LGM:  
constraints from geodetic measurements of bedrock crustal motions
- 15:30 - 15:45 *Christine Siddoway et al.*  
New insights into the Ross Ice Shelf region ice, ocean, bathymetry,  
and lithosphere through IcePod airborne geophysical data
- 15:45 - 16:00 *Daniel Lowry et al.*  
Transient ice sheet simulation of the Ross Ice Shelf deglaciation
- 16:00 - 16:30 **Coffee break**
- 16:30 - 16:45 *Enea Montoli et al.*  
Impact of Ocean basal melting formulations:  
Pine Island and Totten glaciers case study
- 16:45 - 17:00 *Favier Vincent et al.*  
How to give accurate SMB forcing to ice dynamic model  
for the 21<sup>st</sup> century projections?
- 17:00 - 18:00 Plenary discussion on Theme 1B and Theme 2  
Chair: *Tina Van de Flierdt*; Panel: *Richard Levy, Florence Colleoni,*  
*Paolo Stocchi, Kasten Gohl*
- 18:30 **DEPARTURE BY BUS**  
**IN FRONT OF THE CONFERENCE VENUE FOR THE SOCIAL DINNER IN AQUILEIA**

## WORKSHOP<sup>day</sup>

Wednesday September 13<sup>rd</sup>

8:00 - 10:00 **SATURNIA ROOM**

**Mid to high latitude climate impacts on EAIS stability since the LGM. Defining knowledge gaps and research priorities.**

Chairs: *Vincent Favier, Tessa Vance, Tas van Ommen*, **open**

8:00 - 10:00 **OCEANIA AB ROOM**

**Subcommittee on paleobathymetry and paleotopography.**

Chairs: *Karsten Gohl, Stewart Jamieson*, **open**

10:00 - 10:30 *Coffee break*

10:30 - 12:30 **SATURNIA ROOM**

**Can we constrain and reconstruct the extent of the past and future ice shelves? Models and observations, Antarctica future tipping point.**

Chairs: *Florence Colleoni, Laura De Santis, Fabio Florindo, Paolo Stocchi*, **open**

10:30 - 12:00 **OCEANIA AB ROOM**

**Terrestrial-Marine Regional Glacial History, Terra Nova Bay area.**

Chair: *Jamey Stutz*, **open**

13:30 - 15:00 **SATURNIA**

**PRAMSO - Palaeoclimate Records from the Antarctic Margin and Southern Ocean.**

Chair: *Tim Naish*, **open**

15:30 - 16:00 *Coffee break*

16:00 - 18:00 **SATURNIA ROOM**

**IODP mission-specific platform Expedition 373, Antarctic Cenozoic Climate.**

Chairs: *Trevor Williams, Carlota Escutia*, **open**

16:00 - 18:00 **OCEANIA AB ROOM**

**Southern Ocean Climate Evolution (IODP 918-pre).**

Chairs: *Minoru Ikehara, Xavier Crosta*

18:00 - 20:00 **OCEANIA AB ROOM**

**Internal post-cruise meeting of the PS104/MeBo Science Team.**

Chair: *Karsten Gohl*, **closed**

18:00 - 20:00 **VULCANIA 1 ROOM**

**Internal post-cruise meeting of the OGS Explora 2017 cruise science team**

Chairs: *Laura De Santis, Michele Rebesco*, **closed**

18:00 - 20:00 **SATURNIA ROOM**

**Film "Ice and the Sky" (Language: English)**

**Thursday September 14<sup>th</sup>**

## **THEME 3** Bipolar connections and far-field responses to Antarctic ice sheet change

### **SATURNIA ROOM**

- 8:00 Onsite registration opens  
**Chair: Angelo Camerlenghi**
- 8:30 - 9:00 Invited *Andrea Dutton*  
Inferring Antarctic ice sheet contributions to past interglacial sea level highstands from far-field sea level reconstructions.
- 9:00 - 9:30 Invited *Julie Brigham-Grette et al.*  
Plio-Pleistocene Teleconnections between the Two Poles: emerging Questions to address Earth's future.
- 9:30 - 10:00 Invited *Rob DeConto et al.*  
Using past Ice sheet dynamics to improve models and predictions of future sea level
- 10:00 - 10:15 *Renata Giulia Lucchi et al.*  
Laminated sediments as proxy of extreme meltwater events: the NW Barents Sea marine record of MWP-1°.
- 10:15 - 10:30 *Michele Petrini et al.*  
Grounding Line migration and ocean basal melting: competing effects in the simulated retreat of the Storfjorden (Svalbard) ice stream during the last deglaciation.
- 10:30 - 11:00 **Coffee break**
- 11:00 - 11:15 *Georgia Grant et al.*  
Amplitude and frequency of Pliocene (~3.2-2.6 Ma) glacio-eustatic, sea-level fluctuations from a new shallow-marine sediment record, Whanganui Basin, New Zealand.
- 11:15 - 11:30 *Gavin Dunbar et al.*  
The relative influence of precession and obliquity on Late Pliocene (3.3 - 2.4 Ma) polar ice sheet dynamics and global sea-level change.
- 11:30 - 11:45 *Bas de Boer et al.*  
Orbital driven Late Pliocene climate changes and their relation to ice volume and relative sea-level change.
- 11:45 - 12:00 *Michael Weber et al.*  
Reconstructing and understanding deglacial Antarctic Ice Sheet dynamics - novel insights and implications for future sea-level rise.

# Past Antarctic Ice Sheet Dynamics

## Program

- 12:00 - 12:15 *Xavier Crosta et al.*  
Late Holocene sea ice dynamics and potential forcing mechanisms in the Indian sector of the Southern Ocean.
- 12:15 - 12:30 *Frank Lamy et al.*  
Atmosphere-ocean changes in the Pacific Southern Ocean over the past Million years and implications for global climate.
- 12:30 - 12.45 *Alastair Graham et al.*  
Major advance of South Georgia glaciers during the Antarctic Cold Reversal following extensive sub-Antarctic glaciation.
- 12:45 - 13:30 **Poster session**
- 13:30 - 14:30 **Lunch**

## THEME 4 Co-evolution of climate and life in the Antarctic & Southern Ocean

### SATURNIA ROOM

Chair: *Steven Chown*

- 14:30 - 15:00 Invited *Jan Strugnell*  
Dating Antarctic ice sheet collapse: A molecular approach.
- 15:00 - 15:30 Invited *Pete Covey*  
Today's Antarctic terrestrial biodiversity - multiple signals of long-term presence and habitat persistence.
- 15:30 - 16:00 Invited *Jane Francis*  
Use in paleobiology to reconstruct the evolution of Antarctic geography climate and ice sheets.
- 16:00 - 16:30 **Coffee break**
- 16:30 - 16:45 *Bridget Lee et al.*  
Bioavailable iron in the Southern Ocean.
- 16:45 - 17:00 *James Crampton et al.*  
Pulsed phytoplankton turnover in the Southern Ocean forced by stepwise Antarctic cooling.
- 17:00 - 17:15 *Ulrich Salzmann et al.*  
Cenozoic terrestrial climate change and the demise of forests on Wilkes Land, East Antarctica.



- 17:15 - 17:30 *Osamu Seki et al.*  
Coupling of Southern Ocean climate, dust and CO<sub>2</sub> over the past 10 million years.
- 17:30 - 17:45 *Elie Verleyen et al.*  
The imprint of Neogene and Quaternary climate filtering on contemporary biogeographic patterns in the Antarctic lacustrine diatom biome.
- 17:45 - 18:15 *Anna Wåhlin* (SCAR 2013 visiting professor), *Bethan Davis* (SCAR fellow 2012)  
SCAR opportunities for senior and junior scientists

### SATURNIA ROOM

18:30 - 19:30 **FILM** (20 min)

**“Past Antarctic Ice Sheet dynamics: the sound of a community effort”**

Introduction by *Giulia Massolino* (OGS, film editor), live music performed by *Marco Battigelli* (Conservatorio Tartini, Trieste)

Invited presentation *Peter Barrett* “Role of film in science communication” (Language: English)



# Past Antarctic Ice Sheet Dynamics

Program

**Friday September 15<sup>th</sup>**

8:00 Onsite registration opens

8:30 - 10:30 **Poster Session**

10:30 - 11:00 **Coffee Break**

11:00 - 12:00 **SATURNIA ROOM**

Plenary discussion on theme 3 and 4

Chair: *Steven Chown*; Panel: *Jane Francis, Andrea Dutton, Julie Brigham-Grette, Peter Convey, Jan Strugnell, Rob DeConto*

12:00 - 13:30 **Lunch**

## **THEME 5** Emerging research priorities of societal relevance

### **SATURNIA ROOM**

Chair: *Carlota Escutia*

13:30 - 14:00 Invited *Tim Naish et al.*

*Antarctica and the Southern Ocean in 2067: what future will we choose?*

14:00 - 14:30 Invited *Anna Whålin*

*Bounds on marine melting of the Antarctic ice sheet - lessons learned and knowledge gaps.*

14:30 - 15:00 Invited *Valerie Masson-Delmotte*

*IPCC AR6 cycle, and how to contribute*

15:00 - 15:30 Invited *Chuck Kennicutt*

*Reaching for the Horizon: Advancing Ice Sheet Dynamics Science*

15:30 - 16:00 Invited *Yeadong Kim*

*The importance of building international partnerships*

16:00 - 16:30 Invited *Steven Chown*

*Antarctic Engagement to avoid an Order from Strength world*

16:30 - 17:00 **Coffee break**

17:00 - 18:00 Plenary discussion on future directions and priorities for PAIS

Chairs: *Tim Naish, Laura De Santis*; Panel: *Anna Wahlin, Valerie Masson-Delmotte, Chuck Kennicutt, Yeadong Kim, Steven Chown, Rob DeConto, Carlota Escutia*

Wrap up, best poster presentation student prizes  
Closing ceremony

## OCEANIA AB ROOM

18:00 - 19:00 **Sabrina Seafloor Survey Post-Cruise Meeting, N°1**  
Chair: *Leanne Armand*, **closed**

**WORKSHOP**

**Saturday September 16<sup>th</sup>**



**SISSA - OGS (Via Beirut - Trieste)**

### ROOM A

8:00 - 13:00 **Drilling beneath Antarctica's Ice Shelves.**

**A workshop to discuss science objectives and future drill sites to recover records of past climate and environmental change. Sites that test model-driven hypotheses of ice sheet dynamics will be a focus**

Chairs: *Richard Levy, Gerhard Kuhn, Tim Naish*, **open**

### ROOM B

8:00 - 13:00 **Holocene climate variability off Wilkes Land, East Antarctica and Integrating coastal ice cores with high resolution sediment records**

Chairs: *Johan Etourneau, Carlota Escutia, Rob McKay, Nancy Bertler*, **closed**

**WORKSHOP**

