

## **Minutes**

### **IPICS Steering Committee Meeting**

Tuesday March 8<sup>th</sup> 2016.

IMAS Waterfront Building, Hobart.

### Agenda

- 1) Welcome, including to new members (since last face to face meeting) Iceland and Chile, alternates and observers
- 2) Matters arising from minutes of last in person SSC meeting (Giens, 2012), and subsequent email SSC decisions
- 3) Update on progress for each priority project.
  - a. Last Interglacial
  - b. IPICS 2K
  - c. Oldest Ice
  - d. IPICS 40K
  - e. Technical challenges
- 4) New activities that may have IPICS endorsement or organisation
  - a. Ice dynamics
  - b. Non-polar ice
  - c. Preserving vulnerable ice
  - d. Other ideas to restructure our priority projects
- 5) New Ice Coring Projects Planned or Beginning Now
  - a. National or multinational projects people would like to discuss
    - i. Canadian Ice Core archive
    - ii. ....
- 6) Future meetings and workshops
  - a. Next OSC
- 7) ICYS update
- 8) The IPICS SC membership and co-chairs.
  - a. Co-chair terms end in August 2017
  - b. SC member terms end April 2018
- 9) IPICS finances, affiliations and future financial support
- 10) AOB

Minutes/Notes

- 1) Representatives from 20 nations in attendance (Austria (E. Schlosser), Estonia (R. Vaikmae) and Netherlands (R. van der Wal) had sent apologies and Iceland was also not represented). See list of attendees at the end of this document.
- 2) Matters arising since last IPICS SC Meeting (Giens, 2012)
  - a. New interglacial white paper was created. White papers on ice dynamics and non-polar cores will be discussed under other agenda items.
  - b. Membership changes – added Iceland and Chile, welcome to both.
  - c. An election had been held, confirming Ed Brook and Eric Wolff as co-chairs for a further 4 years from August 2013. All other national representatives had been confirmed, and a slate of additional experts agreed. SC member changes – since the last meeting in 2012 Thamban Meloth had taken over as national delegate for India, and Kumiko Goto-Azuma had recently taken over as national delegate for Japan. Thorsteinn Thorsteinsson is the national delegate since Iceland became a member and Fabrice Lambert is national delegate for Chile. Among existing SC members, Frank Wilhelms assumed the position of German national delegate from Heinz Miller, Robert Mulvaney as UK delegate from Eric Wolff, and Hubertus Fischer as Swiss delegate from Thomas Stocker. Brad Markle became an SC member as a representative of ICYS. A new slate of additional experts on the SC apart from national delegates was approved by the SC in 2014, consisting of Eric Wolff, Bo Sun, Jeff Severinghaus (oldest ice), Jim White (interglacials), Thomas Stocker (40k), Valerie Masson-Delmotte, Hou Shugui, Barbara Stenni, Margit Schwikowski (2k), Jay Johnson, Nobuhiko Azuma (drilling) and Heinz Miller (logistics).
  - d. The co-chairs had encouraged early career scientists to self-organise and this had resulted in the setting up of ICYS which appears now to be thriving. The SC was very pleased to see the ICYS event before the OSC, and would like to help ICYS in any way it can.
- 3) Brief reviews of each IPICS project
  - a. Last interglacial. The importance of this period is emphasized by its inclusion in CMIP6/PMIP scenarios. It was also pointed out that PAGES has a new project called Quaternary Interglacials (QUIGS) and people are urged to take part. The US is interested in drilling a last interglacial core at Hercules Dome. RAID may go to Hercules Dome for reconnaissance, possibly 18/19; Subglacior could also be a useful tool to prospect for last interglacial ice. Possibly no undisturbed Eemian in Greenland, need to work on deciphering folded ice and dating it.
  - b. IPICS 2K. PAGES Antarctica 2K going strong, led by Barbara Stenni; Greenland data had been included in Arctic2k. Need to bring in historical data. Sea ice reconstructions only back to 150 a, need to be extended. Could develop 2000 year forcing database for modeling. Non polar ice cores could be folded more in to 2K project.
  - c. Oldest Ice. Groups that are working on this:
    - i. Europe+Australia – Dome C area, with some reconnaissance around Dome F. Beyond EPICA – Oldest Ice proposal submitted

to European Union for site exploration. Drilling could be possible starting in 2020/2021, but that phase is not yet funded

- ii. Japan-Dome F. Only survey work at this time, probably 4-5 years away from possibly starting drilling, but interested in a core in this region.
- iii. USA. Planning RAID exploration of possible sites. Possible ice core drilling starting in 22/23.
- iv. Russia-interested in Ridge B region but funding unsure.
- v. China is drilling at Dome A, currently at 654 m.

d. IPICS 40K

- i. This has made good progress, with the WAIS Divide core and a number of useful compilations. Discussed transitioning this to a white paper on millennial events and transitions in general, with a possible working title of “Transitions and seesaws”.

ACTION: Eric Wolff, Nancy Bertler, Brad Markle and Valerie Masson-Delmotte agreed to pursue this.

- e. Technical challenges. This supporting activity is still necessary.

f. Other discussion in this section of meeting:

- i. IPICS should sponsor special sessions at EGU/AGU and other meetings (SCAR/IASC in Davos, PAGES in Zaragoza, would be two options) related to priority projects. This might be a particularly good way to get a non-polar initiative off the ground.
- ii. Data and data center issues were discussed. IPICS could produce a document on best practices for ice core and other data, catalogues of available cores, etc. However this would take some resource and it was not currently obvious how to proceed. New organization of earth science data archive in the US (IEDA, <http://www.iedadata.org/>) might be an option to pursue.

4) New activities that may have IPICS endorsement or organisation

- a. Ice Dynamics White Paper.

ACTION: Dorthe Dahl-Jensen and Frank Wilhelms will complete ASAP.

- b. Non polar ice cores. It was agreed that more coordination was needed in this area. This could involve a white paper, but at least some kind of attempt to share ideas and best practice, for example by organizing sessions at EGU/AGU.

ACTION: Margit Schwikowski would take a lead, consulting with Jefferson Simoes, Hou Shugui and Thamban Meloth.

- c. IPICS will endorse Ice Core Heritage initiative in some way. The proposal was that we should not create a white paper (we want to limit those) but a new style of document called something like “Support action” consisting basically of a letter of support on the web site.

ACTION: when web site is active, new type of action to be implemented (by co-chairs) with support letter as first of these.

5) New Projects

- a. Canadian Program update – archive facility planned and funded, Martin Sharp, University of Alberta.

- b. Coastal Domes – Nancy Bertler held a workshop in Colorado (Amundsen / Bellingshausen Coastal Dome Project) in September of 2015. US has new ASIG drill that can sample bedrock beneath a few hundred meters of ice. Testing of the drill underway – it may be useful for cosmogenic isotope studies related to coastal domes.
  - c. India-Norway collaboration on ice shelves and ice rises in DML
  - d. Italy/France/US traverse (SP-Concordia) planned for 18/19.
- 6) Next OSM. The SSC agreed they prefer to keep a 4-year spacing, so the next meeting will be in 2020.  
ACTION: co-chairs to set up call for bids in late 2017
- 7) ICYS Update. Brad Markle. Meeting was successful. Large attendance (80?). ICYS will continue to organize events at meetings.
- 8) The IPICS SC membership and co-chairs.
  - a. Co-chair terms end in August 2017
  - b. SC member terms end April 2018ACTION: co-chairs to ask neutral person to organise election in 2017.
- 9) IPICS finances, affiliations and future financial support
  - a. Nothing to report: IPICS has no funds and there is not yet any appetite to change the nature of the organization.
- 10) AOB. The meeting warmly thanked Tas van Ommen for maintaining the very high standards of organization of our OSCs.

**Attendees:** (20 member nations represented; Austria, Estonia, Iceland and Netherlands were not represented)

Ed Brook	USA (co-chair)
Eric Wolff	UK (co-chair)
Tas van Ommen	Australia
Mark Curran	Australia (observer)
Frank Pattyn	Belgium (alternate for Jean-Louis Tison))
Jefferson Simoes	Brazil
Alison Criscitiello	Canada (alternate for Martin Sharp)
Shugui Hou	China
Yuansheng Li	China
Fabrice Lambert	Chile
Dorthe Dahl-Jensen	Denmark
Jérôme Chappellaz	France
Valérie Masson-Delmotte	France
Frank Wilhelms	Germany
Thamban Meloth	India
Barbara Stenni	Italy
Massimo Frezzotti	Italy
Kumiko Goto-Azuma	Japan
Shuji Fujita	Japan (observer)
Soon Du Hur	Korea
Nancy Bertler	New Zealand
Elisabeth Isaksson	Norway
Vladimir Lipenkov	Russia
Margareta Hansson	Sweden
Hubertus Fischer	Switzerland
Margit Schwikowski	Switzerland
Robert Mulvaney	UK
Jay Johnson	USA
Brad Markle	USA, ICYS
Jeff Severinghaus	USA
Jim White	USA