

**SUBGLACIAL ACCESS WORKING GROUP
SCIENCE PLANNING WORKSHOP**

May 21-23, 2016
Herndon, Virginia, USA

AGENDA

Sponsor and IDPO Lead:

Mary Albert, IDPO, Dartmouth

IDPO Subglacial Access Working Group Conveners:

Jill Mikucki, University of Tennessee/Middlebury College

John Goodge, University of Minnesota-Duluth

Ross Powell, Northern Illinois University

SATURDAY, MAY 21

Arrival and hotel check-in; Marriott Washington Dulles Suites

1900 No-host bar for informal discussions

SUNDAY, MAY 22

Breakfast on your own

0800 Meeting check-in and pre-load presentations with Mary Albert

0830 Workshop welcome; Mary Albert, IDPO facilitator

0835 NSF remarks; Mike Jackson

0845 Workshop goals, game-plan & charge; Jill Mikucki, John Goodge, Ross Powell

0900 *Overview Presentations.* [10 min + time for questions] *What are the critical and exciting scientific problems to address with subglacial access drilling?*

0900 Sridhar Anandakrishnan West Antarctic Instability - Bed properties are key

0915 Slawek Tulaczyk Shear margins, grounding zones, and salty subglacial lakes

0930 John Goodge Exploring Antarctica with a Rapid Access Ice Drill

0945 Duncan Young Subglacial access and old ice in the deep interior

1000 Coffee break

1015 Leigh Stearns Learning about glacier dynamics from subglacial drilling

1030 Reed Scherer Past ice sheet retreat from subglacial sediments

1045 Matt Siegfried Observations of dynamic subglacial hydrology in Antarctica

1100 Jill Mikucki Big dead place no more – continental biology

1115 Krissy Slawny Subglacial Access: IDDO Technology Development

1130 Frank Rack Subglacial Access by Hot Water Drilling: An Overview

1145 Brent Christner Clean access drilling

- 1200 Lunch (provided)
- 1300 Short Topical Presentations. [5 min limit; 5 slides max] *Speed research! Future subglacial drilling projects – what are your aims and goals?*
- 1300 Beata Csatho Subglacial heatflux & englacial temperature in north Greenland
- 1305 Matt Charette Subglacial water sampling in Greenland terminations
- 1310 John Stone Cosmogenic nuclide studies of subglacial bedrock in W. Antarctica
- 1315 Nathaniel Lifton In situ cosmogenic nuclides in subglacial bedrock
- 1320 Greg Balco Subglacial bedrock recovery, Wilkes Subglacial Basin
- 1325 Knut Christianson Drilling at Hercules Dome
- 1330 Rolf Sinclair Studies of Subglacial Lake CECs, West Antarctica
- 1335 Mark Skidmore SALSA project overview
- 1340 Britney Schmidt Polar and Planetary Science with the Icefin AUV/ROV vehicle
- 1345 Ken Mankoff Combining subglacial caving with drilling at the glacier bed
- 1350 Julia Wellner Proximal Records of Recent Interglacials
- 1355 Molly Patterson Neogene marine sediments beneath Ross Embayment ice rises
- 1400 Priority Wall. For the following set of subglacial realms, participants will post 5 key questions on the Priority Wall pertaining to future subglacial access drilling. Colored post-its will be provided, keyed to different research disciplines or research themes. As a beginning point, realms are defined as:
1. Continental interior (geology & tectonics, landscape evolution, heat flow, sedimentary basins, basal interface, extremophiles...)
 2. Aquatic environments (hydrology, water chemistry, biology, lakes, aquatic ecosystem, aquifers, saturated sediments...)
 3. Ice shelves (grounding zones, groundwater seepage, sediment, ice-sheet records, base of ice shelves, hydrographic circulation...)
 4. Ice streams (fast-moving ice, Amundsen Sea...)
- 1445 Group Discussion led by John, Jill, Sridhar and Leigh – What are the key priorities for subglacial research? What themes or common geographic footprints can we identify? Divide whole group into break-outs defined by realm or environment.
- 1500 Coffee break
- 1515 Break-out Groups – discuss key questions in each realm on the Priority Wall. Groups will elect a spokesperson and scribe. Goals for each group are to:
1. articulate the **critical science questions** (make a prioritized list!)
 2. look for interdisciplinary opportunities
 3. identify technologies needed to address these questions (existing or wish-list)
 4. propose a tractable timeline (when, and for how long) and likely targets (geographic or conceptual) in order of science priority (see #1)
- 1630 Reports from break-out groups summarizing major goals (1-4 above), technologies required, timelines, and geographic areas of interest [10 min highlights & questions;

deliverable for each is an outline of the topics listed above, 1-4; list these in text-editor or presentation for projection]

- 1715 Round-table Discussion of goals, priorities and compatibilities – Common ground? Shared footprint or resources?
- 1750 Summary-of-the-day and action items for tomorrow; Mary Albert, facilitator
- 1800 Meeting adjourned for the day

MONDAY, MAY 23

Breakfast on your own

- 0800 Meeting convenes
- 0815 Recap and goals for the day; Jill Mikucki and John Goodge
- 0830 Group discussion – questions and comments
- 0900 Break-out Group Work – Coffee and writing time for break-out groups
- 1000 Break-out Group Summaries – report on major findings (15 min each)
- 1100 Final Round-Table Discussion – open mic
- 1145 Submit final reports to conveners (electronically)
- 1145 Summary and identification of next steps; Mary Albert, IDPO facilitator

- 1200 Meeting adjourned

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PARTICIPANTS

Mary Albert	Dartmouth --- IDPO
Sridhar Anandakrishnan	Penn State Univ
Greg Balco	Berkeley Geochronology Center
Terry Benson	IDDO/PSL
Matt Charette	WHOI
Knut Christianson	University of Washington
Beata Csatho	University at Buffalo
Chris Fritsen	NSF
John Goodge	UMD
Bart Hogan	Stone Aerospace Inc.
Alexandra Isern	NSF
Mike Jackson	NSF
Rongsong JIH	DOS
Nathaniel Lifton	Purdue University
Brad Lipovsky	Harvard
W. Berry Lyons	Ohio State University
Ken Mankoff	PSU
Jill Mikucki	University of Tennessee - Knoxville
Anders Noren	CSDCO / LacCore --- Univ. of Minnesota
Frank Rack	University of Nebraska---Lincoln
Reed Scherer	Northern Illinois University
Britney Schmidt	Georgia Institute of Technology
Judy Shiple	ASC
Vickie Siegel	Stone Aerospace
Matthew Siegfried	Scripps Institution of Oceanography
Rolf Sinclair	Centro de Estudios Cientificos, Valdivia, Chile
Mark Skidmore	Montana State University
Kristina Slawny	IDDO
Perry Spector	University of Washington
Leigh Stearns	University of Kansas
William Stone	Stone Aerospace
John Stone	University of Washington
Slawek Tulaczyk	EPS/UCSC
Donald Voigt	Penn State University
Julia Wellner	University of Houston
Thom Wilch	NSF
Dale Winebrenner	University of Washington
Duncan Young	University of Texas Institute for Geophysics