

PARCA 2018

Tuesday, January 23

8:30 AM – 5:10 PM

GSFC Building 34, Room W150

Allow approximately 30 minutes to obtain your NASA GSFC visitor badge.

US Citizens: You will need TWO FORMS of identification (e.g., license AND passport).

Green Card Residents: You will need TWO FORMS of identification and Green Card documentation.

Foreign Visitors: You will need your Passport and Visa.

8:30 Opening & Logistics

Brooke Medley, NASA Goddard Space Flight Center

8:35 Welcome to Goddard Space Flight Center

Jim Irons, Deputy Director, Earth Sciences Division, NASA Goddard Space Flight Center

8:40 Update on ICESat-2

Thorsten Markus, Lab Chief, Cryospheric Sciences, NASA Goddard Space Flight Center

8:55 The View from Headquarters

Tom Wagner, NASA Headquarters

Colene Haffke, NASA Headquarters

9:10 Glacier mass balance and evaluation of surface mass balance with laser altimetry and other data

Isabella Velicogna, University of California, Irvine

9:20 Calibrating and validating firn-densification and regional-climate modeling using altimetry and radar data

Ben Smith, University of Washington

9:30 Improved SERAC fusion for seamless extraction of elevation time-series from altimetry and DEM data in preparation for ICESat-2

Bea Csatho, University at Buffalo

9:40 Ice-sheet discharge from PROMICE airborne surveys

Liam Colgan, Geological Survey of Denmark and Greenland

9:50 The Effects of Low-Permeability Ice Slabs on Altimetry-Based Mass Balance Estimates of the Greenland Ice Sheet

Mike MacFerrin, University of Colorado, Boulder

10:00 A surface energy and mass balance model for the Ice Sheet System Model assimilation framework: integration and validation

Nicole-Jeanne Schlegel, Jet Propulsion Laboratory

10:10 Greenland ice sheet surface mass balance simulated by the NASA GISS ModelE2 GCM

Patrick Alexander, Lamont-Doherty & NASA Goddard Institute for Space Studies

10:20 Discussion

Led by Sophie Nowicki and Brooke Medley

10:40 BREAK

COFFEE/TEA FOR PURCHASE AT THE BUILDING 34 CAFÉ

11:00 Greenland GPS Network

Marc Stieglitz, Arctic Natural Sciences Program, Office of Polar Programs, NSF

11:10 Changes in Greenland and Alaska Ice Surface Roughness and Relationships to Glacial Acceleration — Analyses Using Altimeter Data from ICESat, CryoSat-2 and ICESat-2 Simulator Instruments

Ute Herzfeld, University of Colorado, Boulder

11:20 Greenland Ice Mapping Project: Measuring rapid ice flow

Ian Joughin, University of Washington

11:30 Glacier bed knickpoints limit inland thinning around the Greenland Ice Sheet

Denis Felikson, University of Texas at Austin

11:40 Only skin deep? Evaluating the utility of Landsat sea surface temperatures in Sermilik Fjord

Tasha Snow, University of Colorado, Boulder

11:50 Retreat of Southeast Greenland glaciers explained by Operation Icebridge and Ocean Melting Greenland data

Romain Millan, University of California, Irvine

12:00 On the ocean-induced retreat of northwest Greenland glaciers: insights from Oceans Melting Greenland (OMG) bathymetric mapping in 2017

Michael Wood, University of California, Irvine

12:10 Discussion

Led by Joe MacGregor and Brooke Medley

12:30 LUNCH 🍽️

LUNCH FOR PURCHASE AT THE BUILDING 34 OR BUILDING 1, 33 CAFÉS

1:30 Direct measurements of meltwater runoff on the Greenland Ice Sheet

Laurence C. Smith, University of California, Los Angeles

1:40 Meltwater storage in near-surface low-density bare ice in the Greenland Ice Sheet ablation zone

Matthew Cooper, University of California, Los Angeles

1:50 Airborne radar observations of Greenland firn aquifers

Rick Forster, University of Utah

2:00 18 Year Record of Surface Melt Impact on the Greenland Ice Sheet from MODIS - where and when firn was modified by melt

Mark Fahnestock, University of Alaska, Fairbanks

2:10 Discussion

Led by Luke Trusel and Brooke Medley

2:30 BREAK

COFFEE/TEA FOR PURCHASE AT THE BUILDING 34 CAFÉ

3:00 Decoding the Impacts of Hydrologic Shear Weakening on Jakobshavn Isbræ Regional Ice Flow: Insights from Measurements and Modeling

Derrick Lampkin, University of Maryland

3:10 Transient subglacial water storage and movement inferred at Helheim Glacier

Carolyn Roberts, University at Buffalo

3:20 Quantifying Water Retention Within the Greenland Ice Sheet using Airborne Radar Sounder

Winnie Chu, Stanford University

3:30 A constraint upon the basal water distribution and thermal state of the Greenland Ice Sheet from radar bed-echoes

Thomas Jordan, University of Bristol and Stanford University

3:40 A new high resolution geothermal heat flux distribution for Greenland derived from magnetic anomalies

Yasmina Martos, NASA Goddard Space Flight Center and University of Maryland

3:50 Update on activities and plans at Summit Station and plans for the International Research Hub being developed by Denmark and Greenland

Jennifer Mercer, National Science Foundation

4:00 Discussion

Led by Lauren Andrews and Brooke Medley

4:20 Small group breakouts

4:40 Groups reconvene for final discussion

5:30 POSTER SESSION & COCKTAIL HOUR 🍷

6:30 DINNER 🍷

GSFC RECREATIONAL CENTER

\$25 DUE AT THE DOOR

PARCA POSTERS

Tuesday, January 23

5:30 PM

GSFC Recreation Center, Building 92

Visco-Elastic Response of Shear Weakening Due to Periodic Drainage of Water-Filled Crevasses

John P. Cavanagh, University of Maryland, College Park

Subglacial roughness of the Greenland Ice Sheet: relationship with contemporary ice velocity and geology

Michael Cooper, University of Bristol (presented by Thomas Jordan)

Recent (2015-2017) melt patterns over the Larsen C ice shelf from models and observations

Rajashree (Tri) Datta, City University of New York

Robot Towed SWIR Camera for Specific Surface Area Retrieval

Joshua Elliott, Dartmouth College

Cloud and boundary layer variability over Greenland observed from remote sensing and in-situ observations

Manisha Ganeshan, NASA Goddard Space Flight Center

Development of automated methods for terminus picking of the Greenland ice sheet from Landsat imagery

Sophie A. Goliber, The University of Texas at Austin

Greenland ice sheet facies identification using Landsat spectra with airborne multi-channel, photon counting lidar and VSWIR spectroscopy

David Harding, NASA Goddard Space Flight Center

The Ultra-Wideband Software-Defined Radiometer (UWBRAD) for Ice Sheet Internal Temperature Sensing: Results from the September 2017 Campaign

Joel Johnson, The Ohio State University

Changes in OLR over Arctic as Depicted by AIRS, CERES, MERRA-2, and TOVS

Jae N. Lee, University of Maryland, Baltimore County

Spatial Heterogeneity of Bed Processes in Supraglacial Streams

Sasha Leidman, Rutgers, The State University of New Jersey

Preliminary assessment of the Modèle Atmosphérique Régionale (MAR) regional climate model over High Mountain Asia

Melissa Linares, Lamont-Doherty Earth Observatory of Columbia University

Local Variability in Firn Layering and Compaction Rates Using GPR Data, Depth-Density Profiles, and In-Situ Reflectors in the Dry Snow Zone Near Summit Station, Greenland

Austin Lines, Dartmouth College

Regionally Optimized GRACE Processing and Inter-comparison on the Antarctic Ice Sheet

Yara Mohajerani, University of California, Irvine

Constraining components of surface height change in Southeast Greenland

Lynn Montgomery, University of Colorado, Boulder

Monitoring supraglacial streams for three months in southwest Greenland

Rohi Muthyala, Rutgers, The State University of New Jersey

Powering Science at High Latitudes- UNAVCO

Spencer Niebuhr, UNAVCO

Role of bare ice extent for Greenland Ice Sheet albedo and melt variability

Jonathan Ryan, University of California-Los Angeles and Brown University

Advances in time-series observations from ice penetrating radar sounding

Dustin M. Schroeder, Stanford University

Pine Island Glacier Under the Midnight Sun

Christopher A. Shuman, University of Maryland, Baltimore County & NASA Goddard Space Flight Center

Subglacial Hydrology as Kinetic Transient Interplay in the Ice Sheet System Model

Aleah Sommers, University of Colorado, Boulder

Self-Consistent Ice Mass Balance and Regional Sea Level from GRACE

Tyler Sutterley, NASA Goddard Space Flight Center

Understanding and quantifying spatio-temporal variability of refreezing in southwest Greenland through fieldwork, regional climate model outputs and remote sensing tools

*Marco Tedesco, Lamont-Doherty Earth Observatory, Columbia University and NASA GISS
(presented by Patrick Alexander)*

Advances in Aerogravity - Data and Instrumentation

Kirsty Tinto, Lamont-Doherty Earth Observatory, Columbia University

Interannual Oscillations of Summer Arctic TOA Radiation Fluxes

Dong Wu, NASA Goddard Space Flight Center