

# Arctic Workshop 2021 Program Summary

All times are Mountain Time (Denver)

## THURSDAY 15 APRIL

- 9:00 **Welcome & introduction**
- 9:20 **1. Terrestrial paleoenvironments I**
- 10:30 Break
- 10:40 **2. Culture/Policy/Data**
- 11:30 **3. Keynote – Sara Sayedi**
- 12:10 Optional social breakout groups
- 1:00 **4. Terrestrial paleoenvironments II**
- 2:00 Break
- 2:10 **5. Modern environments & proxies I**
- 3:10 End of day

## FRIDAY 16 APRIL

- 9:00 **Announcements**
- 9:10 **6. Modern environments & proxies II**
- 10:30 Break
- 10:40 **7. Ice sheets & glaciers I**
- 11:30 **8. Keynote – Mark Serreze**
- 12:10 Optional social breakout groups
- 1:00 **9. Marine**
- 2:00 Break
- 2:10 **10. Ice sheets & glaciers II**
- 3:00 End of day

## SATURDAY 17 APRIL

- 9:00 **Announcements**
- 9:20 **11. Ice sheets & glaciers III**
- 10:20 **12. Keynote – Andrew Christ**
- 10:50 **Closing comments**
- 11:00 End of science sessions
- 11:00 **John T. Andrews event**
- 1:00 End of Andrews event

## Program Details

**9:00 AM – THURSDAY 15 APRIL 2021**

- 9:00 **Workshop welcome & introduction**  
Gifford Miller, Director of Arctic Workshop  
Merritt Turetsky, Director of INSTAAR

### **1. Terrestrial paleoenvironments I**

Thursday am Chair: Anne Jennings

- 09:20 **Detection of a marine to terrestrial transition in lake sediment from Baffin Island, Arctic Canada, using sedimentary DNA**  
Power, Matthew; Crump, Sarah E; Miller, Gifford H; Bunce, Michael; Allentoft, Morten [pg 102]
- 09:30 **A previously undocumented influence on H isotopes of Arctic mid-chain plant waxes through the Holocene: moss-associated methane oxidation**  
McFarlin, Jamie M; Axford, Yarrow; Kusch, Stephanie; Masterson, Andrew L; Lasher, Everett; Osburn, Magdalena R [pg 85]
- 09:40 **Quantifying Holocene plant contributions to sedimentary leaf waxes in an Arctic lake setting**  
Hollister, Kayla V; Thomas, Elizabeth K; Raberg, Jonathan; Raynolds, Martha K; Gorbey, Devon B; Crump, Sarah E; Miller, Gifford H; Sepúlveda, Julio [pg 51]
- 09:50 **Assessing new temperature and conductivity calibrations on a 24,000-year record of lacustrine branched glycerol dialkyl glycerol tetraethers in the Polar Ural Mountains**  
Lovell, Kathryn; Thomas, Elizabeth K; Cowling, Owen C; Castañeda, Isla S; Svendsen, John Inge [pg 82]
- 10:00 **Extending brGDGT-based paleoclimate proxies to high latitudes**  
Raberg, Jonathan H; Harning, David J; Crump, Sarah E; de Wet, Greg; Blumm, Aria; Kopf, Sebastian; Geirsdóttir, Áslaug; , et al. [pg 104]
- 10:10 **Multi-proxy biomarker records and forward modeling of western Greenland Holocene lake temperatures and dynamics**  
Cluett, Allison A.; Thomas, Elizabeth K.; Cowling, Owen C.; Castañeda, Isla S. [pg 37]
- 10:20 **Human paleo-genomics and Beringian landscapes**  
Hoffecker, John F.; Raff, Jennifer A.; O'Rourke, Dennis H.; Tackney, Justin C.; Potapova, Olga; Elias, Scott A.; Hlusko, Leslea J.; Scott, G. R. [pg 46]
- 10:30 Break

**10:40 AM – THURSDAY 15 APRIL 2021**

## **2. Culture/Policy/Data**

Thursday am Chair: Julie Brigham-Grette

- 10:40 **Northern knowledge for resilience, environmental sustainability and adaptation in coastal communities (NORSEACC)**  
King, Leslie A.; Ogilvie, Astrid E.J.; Lepore, Walter [pg 61]
- 10:50 **The Arctic Rivers Project: A co-produced assessment of the climate sensitivity of Alaskan & Yukon rivers, fish, and Indigenous communities**  
Musselman, Keith N.; Herman-Mercer, Nicole; Newman, Andrew J.; Koch, Joshua C.; Brooks, Cassandra; Gooseff, Michael; Cozzetto, Karen; Mutter, Edda [pg 91]
- 11:00 **Understanding resilience and long-term environmental change in the High Arctic: Narrative-based analyses from Svalbard (SVALUR)**  
Ogilvie, Astrid E.J.; Miles, Martin; van der Wal, René; Löf, Annette [pg 92]
- 11:10 **Arctic Spatial Data Infrastructure: A global information highway to meet the challenges of a fragile Arctic ecosystem**  
Riipel, Simon [pg 112]
- 11:20 **Profile curated collections of data with portals on the Arctic Data Center**  
McLean, Erin L; Jones, Matthew B; Budden, Amber E; Walker, Lauren; Jones, Christopher S [pg 86]

## **3. Keynote - Sara Sayedi**

Thursday am

- 11:30 **Integrating terrestrial and subsea permafrost into climate policy**  
Sayedi, Sayedeh Sara; Abbott, Benjamin W [pg 115]
- 12:00 Break

## **Optional social breakout groups on Zoom**

Thursday am

- 12:10 Choose from the 6 breakout groups by hovering over a group's number and clicking the "Join" button that appears.
- 12:50 End breakout groups

**1:00 PM – THURSDAY 15 APRIL 2021**

#### **4. Terrestrial paleoenvironments II**

Thursday pm Chair: Jason Briner

- 01:00 **Patterns of postglacial vegetation establishment clarified by lacustrine sedaDNA from Baffin Island, Arctic Canada**  
Crump, Sarah E.; Power, Matthew; Fréchette, Bianca; de Wet, Gregory; Raynolds, Martha K.; Raberg, Jonathan H.; Allentoft, Morten; , et al. [pg 38]
- 01:10 **Annually resolved past climate changes from South Sawtooth Lake 2900-year-long varved record**  
Francus, Pierre; Lapointe, François; Bradley, Raymond S.; Abbott, Mark B. [pg 39]
- 01:20 **Exposing the history of volcanism and sea-level changes at the Mount Edgcumbe Volcanic Field in Southeast Alaska using cosmogenic nuclides**  
Lesnek, Alia J; Licciardi, Joseph M.; Briner, Jason P; Baichtal, James F; Walcott, Caleb K [pg 77]
- 01:30 **Disentangling the evolution of Holocene climate, soil erosion and human impact in Iceland**  
Ardenghi, Nicolò; Harning, David J; Raberg, Jonathan; Sepúlveda, Julio; Geirsdóttir, Áslaug; Miller, Gifford H; Þórðarson, Þorvaldur [pg 23]
- 01:40 **Coupled marine and terrestrial climate dynamics revealed by multicentury, annually resolved proxy records from Fennoscandia**  
Mette, Madelyn J.; Wanamaker Jr., Alan D.; Carroll, Michael L.; Ambrose, William G.; Retelle, Michael J.; Andersson, Carin [pg 88]
- 01:50 **The Holocene Thermal Maximum across Greenland: Reconciling differences in the timing and magnitude of peak warmth**  
Axford, Yarrow; de Vernal, Anne; Osterberg, Erich C. [pg 27]
- 2:00 Break

**2:10 PM – THURSDAY 15 APRIL 2021**

## **5. Modern environments & proxies I**

Thursday pm Chair: Kathy Licht

- 02:10 **Sedimentary lipid biomarkers combined with novel hyperspectral imaging techniques: A multiproxy Holocene-length sedimentary reconstruction from Lake 578, S Greenland**  
Schneider, Tobias; Castañeda, Isla S.; Zhao, Boyang; Salacup, Jeffrey M.; Makri, Stamatina; Bradley, Raymond S. [pg 120]
- 02:20 **Late Holocene temperature and hydroclimate reconstruction from southern Greenland: evidence from biomarkers in lake sediments**  
Zhao, Boyang; Castañeda, Isla S.; Bradley, Raymond S.; Salacup, Jeff M.; Schneider, Tobias [pg 151]
- 02:30 **An investigation of modern eastern North American Arctic lakes reveals latitudinal patterns in lake water isotope seasonality**  
Gorbey, Devon B; Thomas, Elizabeth K; Raynolds, Martha K; Miller, Gifford H [pg 44]
- 02:40 **Biomarker characterization of the North Water Polynya, Baffin Bay: Implications for local sea ice and temperature proxies**  
Harning, David; Holman, Brooke; Woelders, Lineke; Jennings, Anne; Sepúlveda, Julio [pg 45]
- 02:50 **Torrent or trickle?: Tracking glacial lake evolution and flood events using composite lake records**  
Pendleton, Simon; Donnelly, Jeffrey; Kurz, Mark D; Condrón, Alan [pg 96]
- 03:00 **Arctic seabed: New detailed mappings of compositions and physical properties**  
Jenkins, Chris [pg 52]
- 03:10 End of day

## 9:00 AM – FRIDAY 16 APRIL 2021

### 9:00 **Announcements**

Gifford Miller, Director of Arctic Workshop

## 6. Modern environments & proxies II

Friday am Chair: David Harning

- 09:10 **Navigating NNA -- from planning and vulnerability to research action**  
Brigham-Grette, Julie; Kumpel, Emily; Bulter, Caitlyn; Temte, James; Weston, Bessie; Lewis, Tracy; Paul, Paul [pg 33]
- 09:20 **The M'Clintock Ice Shelf: last gasp of the NW Laurentide Ice Sheet**  
Furze, Mark F.A.; Pienkowski, Anna J.; Corlett, Hilary; Troyer-Riel, Robert; Thiessen, Rebecca; Szidat, Sönke [pg 43]
- 09:30 **Comparison of early twentieth century Arctic warming and contemporary Arctic warming in the light of daily and sub-daily data**  
Przybylak, Rajmund; Wyszynski, Przemyslaw; Arazny, Andrzej [pg 103]
- 09:40 **Creating a database of mountain soil temperature on the subarctic Kola Peninsula**  
Shtabrovskaya, Irina; Zenkova, Irina [pg 124]
- 09:50 **On the interannual variability of spring Bering Strait water temperatures**  
Lenetsky, Jed E; Serreze, Mark C [pg 76]
- 10:00 **Investigating climatic and ecologic controls on modern plant leaf wax production along a latitudinal transect of Baffin Island**  
Lindberg, Kurt R; Thomas, Elizabeth K; Raynolds, Martha K; Hollister, Kayla V [pg 81]
- 10:10 **Impact of lake basin morphometry and mixing on Arctic lake water isotope composition**  
Mahar, Isabelle F; Cluett, Allison; Thomas, Elizabeth [pg 83]
- 10:20 **Vegetation around six lakes along a climate gradient in Baffin Island**  
Raynolds, Martha K; Bültmann, Helga; Kasanke, Shawnee; Raberg, Jonathan; Miller, Gifford [pg 106]
- 10:30 Break

## 7. Ice sheets & glaciers I

Friday am Chair: Giff Miller

- 10:40 **Revisiting the Nutrient Recovery Hypothesis: can contemporary population cycles influence ecosystem function?**  
Roy, Austin; McLaren, Jennie [pg 114]
- 10:50 **Thermokarst pond plant communities of Prudhoe Bay, Alaska: Environmental gradients and temperature feedbacks**  
Watson-Cook, Emily; Walker, Donald A.; Reynolds, Martha K.; Breen, Amy L. [pg 147]
- 11:00 **Mapping ice flow velocity using an interactive, cloud-based feature tracking workflow**  
Zheng, Whyjay; Grigsby, Shane; Sapienza, Facundo; Taylor, Jonathan; Snow, Tasha; Pérez, Fernando; Siegfried, Matthew R [pg 153]
- 11:10 **Quantifying layers of refrozen melt in ice cores using bubble density**  
Kindstedt, Ingalise; Winski, Dominic; Kreutz, Karl; Osterberg, Erich; Campbell, Seth; Wake, Cameron; Schild, Kristin [pg 58]
- 11:20 **Unprecedented recent warmth in the context of the last 2000 years in Svalbard and the imminent disappearance of the west coast valley glacier Linnébreen**  
Retelle, Mike; Lapointe, Francois; Bradley, Ray; Wagner, Katrin; Farnsworth, Wes [pg 109]

## 8. Keynote - Mark Serreze

Friday am

- 11:30 **From questions of what and why to why it all matters: Evolving thoughts on the changing Arctic**  
Serreze, Mark C [pg 123]

## Optional social breakout groups on Zoom

Thursday am

- 12:10 Choose from the 6 breakout groups by hovering over a group's number and clicking the "Join" button that appears.
- 12:50 End breakout groups

## 9. Marine

Friday pm Chair: Sarah Crump

- 01:00 **Honoring John T Andrews: The sediment fill of fjords**  
Syvitski, Jaia [pg 134]
- 01:10 **Changes in sediment sources in the Labrador Sea during the Late Quaternary**  
Andrews, John T; Piper, David [pg 15]
- 01:20 **Icebergs and tropical rainfall**  
Bradley, Raymond S; Diaz, Henry F [pg 30]
- 01:30 **Foraminiferal stratigraphy and lithofacies reveal the timing and environments of deglaciation and onset of Arctic/Atlantic throughflow in the Arctic Island Channels**  
Kelleher, Robert V; Jennings, Anne; Brooks, Nicole; Feng, Cici; Andrews, John T; Brookins, Sarah; Woelders, Lineke; , et al [pg 55]
- 01:40 **Little Ice Age triggered by intrusion of Atlantic waters into the Nordic Seas**  
Lapointe, Francois; Bradley, Raymond S; Retelle, Michael [pg 65]
- 01:50 **Abrupt mid-20th century onset of post Little Ice Age hydrographic instability in the Northern North Atlantic**  
Lehman, Scott J; Sejrup, Hans Petter; Hjelstuen, Berit Oline; Becker, Lukas; Runarsdottir, Rebekka Hlin; Ionita-Scholz, Monica [pg 73]
- 2:00 Break

## 10. Ice sheets & glaciers II

Friday pm Chair: Mike Retelle

- 02:10 **Cyclic patterns in Quaternary deposits on the Northwind Ridge, western Arctic Ocean: glacial vs. marine signature**  
Polyak, Leonid; Dipre, Geoffrey; Wang, Rong [pg 98]
- 02:20 **Changes in South Greenland's peripheral glaciers since the Little Ice Age**  
Larocca, Laura J; Axford, Yarrow; Bjørk, Anders A; Brooks, Jeremy P [pg 70]
- 02:30 **Evidence for a more extensive Greenland Ice Sheet in southwestern Greenland during the Last Glacial Maximum**  
Sbarra, Christopher; **Briner**, Jason P.; Graham, Brandon; Thomas, Elizabeth; Poinar, Kristin; Young, Nicolás [pg 117]  
(**Briner** is presenter)
- 02:40 **Does Northeastern Cumberland Peninsula preserve a dateable pre-MIS2 moraine record – or NOT?**  
Kaplan, Michael R; Miller, Gifford H; Briner, Jason P; Young, Nicolás E [pg 54]
- 02:50 **A revised glacial history of the Smoking Hills region, northwestern arctic Canada: evidence for late Pliocene and Quaternary continental Laurentide glaciations and the preservation of old buried glacial ice**  
Smith, I. Rod; Evans, David J.A.; Gosse, John C.; Galloway, Jennifer M. [pg 128]
- 03:00 End of day

## 9:00 AM – SATURDAY 17 APRIL 2021

- 9:00 **Announcements**  
Gifford Miller, Director of Arctic Workshop

### 11. Ice sheets & glaciers III

Saturday am Chair: Ray Bradley

- 09:20 **Evidence of palaeo-ice streaming in NE-Iceland**  
Aradóttir, Nína; Benediktsson, Ívar Örn; Ingólfsson, Ólafur; Brynjólfsson, Skafti  
[pg 22]
- 09:30 **A database for submarine glacial landforms and glacial marine sediments in the High-Arctic**  
Streuff, Katharina T.; Ó Cofaigh, Colm [pg 132]
- 09:40 **The culmination of the last glaciation in the Kenai Peninsula, Alaska based on <sup>10</sup>Be ages from Alaska's biggest moraine boulders**  
Tulenko, Joseph P.; Ash, Brendan J.; Briner, Jason P.; Reger, Richard D. [pg 136]
- 09:50 **The hunt for ice-free areas along the coastal Cordilleran Ice Sheet margin during the LGM continues: No dice in the northern Alexander Archipelago**  
Walcott, Caleb K.; Briner, Jason P.; Baichtal, James F. [pg 139]
- 10:00 **The multidisciplinary story of Antarctica's history as told from blue ice moraines**  
Licht, Kathy; Kaplan, Mike; Bader, Nicole; Graly, Joseph; Kassab, Christine [pg 79]
- 10:10 **Episodic cryosphere expansion in Arctic Canada during the Common Era reinforced by repeat dating of entombed plants and supported by climate model simulations**  
Miller, Gifford; Pendleton, Simon; Lehman, Scott; Jahn, Alexandra; Zhong, Yafang; Geirsdóttir, Áslaug [pg 89]

### 12. Keynote - Andrew Christ

Saturday am

- 10:20 **Camp Century revisited: an ecosystem under the ice reveals Greenland's warmer past**  
Christ, Andrew J [pg 35]
- 10:50 **Closing Comments from the Arctic Workshop**
- 11:00 End of science sessions

## 11:00 AM – SATURDAY 17 APRIL 2021 ANDREWS EVENT

- 11:00am **Celebration of John T. Andrews**  
Subsequent time stamps are for the video recording of the event
- 0min **Start of video - Introduction**  
Giff Miller
- 3.5min **Science life before CU Boulder**  
John Andrews [pg 19]
- 29min **Memories and poems for John & Martha**  
Slides from Pat & Mukta Webber
- 43min **Early days of John Andrews, Canadian roots**  
Video memories from John England
- 1hr 8min **The Andrews legacy of promoting/mentoring women**  
Julie Brigham-Grette
- 1hr 7min **John's encounters and research around Iceland**  
Video memories from his Icelandic colleagues Áslaug Geirsdóttir, Gudrún Helgadóttir, Árný Sveinbjörnsdóttir, Gréta Kristjánsdóttir, Saedís Ólafsdóttir, and others. Voiceover by Helgi Atlason.
- 1hr 16min **Open microphone comments**
- 1hr 16min Anne Jennings
- 1hr 17min Astrid Ogilvie
- 1hr 19min Scott Lehman
- 1hr 22.5min Scott Elias
- 1hr 23.5min Ray Bradley
- 1hr 28.5min Peter Clark
- 1hr 35min Áslaug Geirsdóttir & Gudrún Helgadóttir
- 1hr 38min Michael Kaplan
- 1hr 42min Kathy Licht & Wendy Roth
- 1hr 43.5min Val Sloan
- 1hr 46.5min Christoph Vogt

## PM – SATURDAY 17 APRIL 2021 ANDREWS EVENT

1hr 48min **Memories of John**  
Giff Miller

2hr 6min **Presentation of engraved granite tribute to John**  
The ~4 ft tall granite slab includes an engraved map and two plaques stating *John T. Andrews. Arctic Pioneer – 50 years, Baffin Island, Greenland, Iceland, and the seas between.*  
Chance Anderson & Giff Miller

2hr 10min **End of video**

01:00pm **End of Andrews event**