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SYMPOSIUM

2025 Punnary of Graduate Student Presentations

Here are Dan Sandweiss' punning summaries of all 29 graduate student presentations at the 2025 Borns Symposium (including one that wasn't actually presented):

Wednesday 16 April

Eric Brown spoke on Thermal Windows in the Southern Flying Squirrel and addressed a hot topic. His wide-ranging results might fly in the face of earlier thinking but gives us a window into how the squirrels maintain their balance in the face of stress—temperature stress, that is—we're talking about behavior but not about squirrel psychology.

Tricia Hall Collins spoke on A Glacial Chronology from Lysefjord, Southwestern Norway – Evidence for a Cold Reversal During the Termination of the Last Ice Age. Tricia gave a cool talk on the end days—of the last ice age. Her erratic research overrides prior results and suggests that the cold reversal was a global signal. I'm sure there will be a robust back and forth on this suggestion.

Avery Lamb spoke on Using Paleolimnological Approaches to Disentangle the Long-term Nutrient and Climate Drivers of Harmful Cyanobacterial Blooms. She considered the role of temperature and nutrients in causing these blooms and gave us food for thought about what will happen to cyanobacteria under climate change in Maine lakes. Her use of pigments associated with the two target species of Cynanobacteria colored understanding of the temperature and nutrient effects on these species and gave us a good picture of these relationships.

Maraina Miles spoke on A Cosmogenic Nuclide Record for Katahdin, Maine, USA. Maraina advanced our understanding of the conflict between records of meltwater and temperature during Heinrich events. She suggests things ran hot and cold (seasonally) as a reconciling hypothesis. She took a bold(er) approach to testing this idea by dating moraines at the base of Katahdin, but the results don't quite ice the answer.

Sam Baumgartner spoke on Allan Hills, Antarctica Climatic Shift Indicated by Water Isotopes, Dust, and Iron. Sam spoke about studies on blue ice, which is old and cold but paradoxically, it is happily easy to access the older ice. In several labs, she ironed out the record of dust, water isotopes, and Fe in a core from the blue ice. The results are still hard to determine in terms of cause for a visible shift in the record, so we'll have to wait and see.

Erin Victor spoke on Aligning Circularity and Climate Reduction Goals in Packaging EPR Schemes. Erin offered a new definition of circular reasoning that exemplifies the dictum "waste not, want not"—we can reduce climate change by enhancing the circular economy. Erin notes a consensus in her survey that there needs to be a common signal on appropriate packaging—perhaps it would get to more people if it were discussed on Signal… However, there needs to be more study on which design would be more environmentally appropriate—we can't just recycle the same old ideas.

Ana Trueba spoke on Possible Teleconnection Between the January 2022 Tonga Eruption and Climate Extremes Observed in 2023. Ana tackled an explosive topic relating a volcanic eruption to recent climate change. Her results on the role of the aqueous ejecta are enough to give one vapors. I have to admit that I had a childish interest in seeing La Niña and El Niño implicated.

Renée Clavette spoke on Liquid Water Distribution Within and Beneath Temperate Ice on the Juneau Icefield, Alaska. Renée pooled knowledge on water beneath the Juneau Icefield in a case study that was tempered by factors such as the 3D-2D-3D nature of radar transmission, reception, and interpretation. Nevertheless, the approach wasn't all wet-she probably found water and will test this result with a core next summer. Along the way, though, Renée spaced out and discussed Jupiter. As an aside, I actually see a connection between Juneau (Juno) and Jupiter…

Mathilde Børch spoke on the Transition of Marine-terminating Glaciers to Land under a Warming Climate: Implications for Driving Stress. Mathilde discussed how sea glaciers end up getting beached and how they behave under stress (a new field of ice psych?). We also heard how the transition from marine to land terminating glaciers kills fjords. She also told us how hot films can be explosive, which is not what you are thinking.

Cory Limberger spoke on Spatial Distribution of Trace Metal Chemistry in Saline Surface Water in West Greenland. Cory tackled a salty topic that tested his mettle as a researcher studying what is melting out of the Greenland Ice Sheet. He addressed the seeming paradox that as ice sheet shrinks, toxic pollution grows. One could ask if glaciers are poison pills, but that idea may be all wet.

Amanda Gavin did not speak on Multi-scalar Approach Towards a Holistic Understanding of Lake Level in an Agricultural, Drought-Prone Sub-Arctic Landscape, but I'm sure she would have done her level best to grow our knowledge of lake behavior in an agricultural sub-arctic landscape had she spoken.

Kailey Mannello spoke on Spatial and Temporal Variability in Density and Liquid Water Content in Wet Firn on Juneau Icefield, Alaska. Kailey talked about ice water, or how water damps down the firn on the Juneau Icefield. She saturated her talk with discussion of GPR

techniques for studying water content of firn. She raised our hopes by suggesting that firn water might mitigate the impact of glacial melting on sea level.

Pratima Pahadi spoke on Impact of Temperature and Precipitation on Growth and Survival of Tree Seedlings: A Comparative Analysis of Conifer and Deciduous Species. Pratima took our understanding of climate impacts on tree seedlings a fir piece. She branched out to discuss assisted migration, another hot topic as climate changes faster than plants can adapt or migrate. Pratima's experimental tree-ment of seedling growth shed light on the relation of temperature and precipitation to tree survival; she found that for most species, rising temperatures' bite is worse than their bark.

Thursday 17 April

Emily Blackwood spoke on "Site-seeing" Archaeological Features on the North Coast of Peru. Emily discussed new dimensions in archaeological research--she has been turning the Ostra Collecting Station into a site for sore eyes. Emily also explained about the slingstone piles, which might be the earliest evidence in the Americas of people getting stoned, among other pearls of wisdom.

Thomas Grindle spoke on How do Lakes in West Greenland Recover from Abrupt Lake Browning Following a Compound Climate Extreme Event? Thomas's interest in compound climate events led to hypotheses about lakes that suffer brown-outs. Given that this was the result of heat extremes, it's rather like New York City's brown-outs. Thomas also explained that surface flow across the lie of the land helped give the lie to the term permafrost, which is not a cool finding. He still has some issues to iron out in understanding how the browning will progress in the future.

Sera Thomas spoke on Geochronologic Record of Ice Extent During the Antarctic Cold Reversal at Bahía Penhoat, Chile. Sera covered the Big Chill in Chile, doggedly pursuing the timing of ice advance during the Antarctic Cold Reversal to assess the causes for this event. Like online courses, the ACR may have been either synchronous or asynchronous. She concludes that it was former, which is a switch from prior ideas. Given the focus on ice behavior, I have to return to the concept of ice psych, particularly considering that one hypothesis is about the bipolar seesaw.

Kelly Hoover spoke on Using Geophysical Survey to Reveal Patterns in Monumental Construction at Los Morteros, Peru, aka The Mortars. In her work at the Mortars site, Kelly is grinding away on her analysis of monumental anthropogenic construction. She facies and overcomes the difficulties on seeing through sand with GPR and comes up with several grains of wisdom about the nature and extent of sand-mantled architecture. Unlike the Ostra Collecting Station reported by Emily Blackwood, with preparations to repel an invasion, Kelly's work is non-invasive.

Meghan Spoth spoke on Cordillera Darwin Icefield Extent During the Last Termination. Megan's work in the Cordillera Darwin is evolving nicely. She is trying to explain the End Times of the Last Termination, a term that on the face of it seems both bit redundant and rather chilling. Like other dedicated CCI students, Meghan is doggedly pursuing her research, in this case at multiple sites along the (wait for it) Beagle Channel.

Katherine Westbrook spoke on Interhemispheric Comparison of the Late Glacial Climate Reversal. Katherine has studied the LG Climate Reversal backward and forward. Despite using dates on erratics, her chronology is actually quite coherent. Her camel plot, which appropriately has two humps, shows that New Zealand and Norway operated synchronously through the Reversal.

Alexzander Roman spoke on Little Ice Age Glacial Advances Found in the Southern Alps of New Zealand at 43°S Suggesting a Global Extent. Zander's reconstruction of Little Ice Age ice advances is no small feat. He worked on dating moraines in New Zealand, where he had an intents experience. Zander asks if the LIA was a global event and his world-shattering conclusion is that it was coincidental but not a mere coincidence.

Tahi Wiggins spoke on Surface Water Dynamics at Echo Glacier, Echo Glacier, Echo Glacier, Lingít Aaní. Tahi used her Borns talk to bounce some ideas off CCI members about how surface water behaves at Echo Glacier and the role of liquid water in ice dynamics. She used surface water to get more insight into water throughout the glaciers—this is not a superficial study. Peeking at peak lake size, she found that it is a result of drainage date rather than environmental variability. I note that in her image of radar data of water in the snow pack, she was careful to label the lower margin as WT Bottom instead of WT Foundation (I'll give you a second to think about it).

Olivia Olson spoke on Birdsong: Multivocality in Human-Bird Relationships during the Ceramic Period in Wabanaki Homeland: A Case Study at Frazer Point (ME 44-49, ACAD 00110), Schoodic Peninsula, Maine. Olivia gave a notable talk in which she makes no bones about her interest in using an indigenous archaeology approach to faunal remains at Frazer Point. Although the site is too recent to have fluted points (that's an archaeology reference), it does have a bone flute that has led Olivia to sound out other flutes from the Northeast in a comparative study that could be instrumental in improving our understanding of the meaning of birds and music among Wabanaki people.

Mari Fromstein spoke on Comparing Measured and Modeled Glacier Ice Thicknesses Using In-Situ Ground Penetrating Radar Measurements on Jarvis Glacier, Eastern Alaska. Mari presented a penetrating analysis of eastern Alaskan ice comparing modeling with radar results. Given the uncertainties in the modeling, the radar data can't be waved off. Her deep dive into ice depth is reminiscent of what anthropologists call "thick description". Mari made a significant find about model v. measured by profile type—along with other indications that we need a field of ice psych, it turns out we need to do behavioral profiling.

Bailey McLaughlin spoke on Through the (St)ages: The Realized Climatic Niche of U.S. Trees is Conserved Across Life History. By analyzing life history in climatic context, Bailey sees the forest and the trees, which would be in a jam if they couldn't conserve their realized climate niche. She asked what happens when climatic parameters change during a tree's lifespan and found that juveniles have more limited tolerances than adults (this sounds familiar to parents and also raises the question of whether a climate change during early growth would create arboreal juvenile delinquents. Despite being a niche study, Bailey's results have broad implications.

Roisin Rumsey spoke on Analyzing Bubbles in Hyperspectral Images of Ice Cores. Roisin uncorked a stream of data in her analysis of bubbles in ice core imagery. Her hyperspectral system gathers so much information that it is possible to do brut force analyses of the data. She even the bubbles pop out in the images, so multiple dimensions of bubbles could be interpreted.

Allie Berry spoke on The Influence of Fjord Dynamics on Iceberg Distributions in NW Greenland. Allie explained how icebergs behave when under the influence—of fjord dynamics, that is. She floated some thoughts on the unmodeled importance of icebergs in the climate system, with a focus on what happens in northwest Greenland. The effects of icebergs on fresh water input into the ocean is likely much bigger than recognized, perhaps even titanic. The problem is mainly driven by big bergs, which may sound like Sesame Street but is really a matter of great concern.

Leonardo Villacís spoke on Capturing Temporal and Spatial Dynamics of Diatoms in Crawford Pond, Northern Maine, for Ground-Truthing Stratigraphic Records Involving Aulacoseira. Leo is working out the bugs in diatom dynamics in Northern Maine. Aulacoseira comes in large and small versions and Leo found that size matters--in the response to ecological conditions. His work on the small bugs to understand changing climate offered food for thought (literally).

Andrea Tirrell spoke on A Natural Experiment from the Alpine to the Arctic: Evaluating Local Adaptation in Herbarium Specimens Using Spectroscopy. Andrea discussed what happens when plants get high--latitudinally or altitudinally but not attitudinally, that would be a different kind of high. She planted the idea that herbaria collections leave open the possibility of long-term data to assess local adaptation; Andrea is pressing them into service in her project. She uses a non-destructive measurement system, but there are mitigating factors in this work, such as whether some specimens have aged out of utility (perish the thought…).

Elizabeth Rodgers spoke on Research as Heritage Work: A Participatory Action Case Study of Wabanaki Pottery Traditions. Elizabeth offered a novel, engaging perspective on Wabanaki ceramic traditions—this was no potted talk. She argued that archaeologists and other heritage specialists need to temper their research approach by privileging indigenous

participation and perspectives at every stage. Elizabeth is clearly and appropriately fired up about doing this work.