

August 2019 News Notes

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Alumni Change Lives

Allison Chartrand is a graduate student in SES, advised by Ian Howat. Here, she shares how Friends of Orton Hall helped her further her studies.

This summer, Friends of Orton Hall (FOH) supported my carbon-conscious travel to the ICESat-2 Hackweek in Seattle, WA. The Hackweek was a collaborative and interactive workshop designed to help cryospheric scientists get the most out of the newly released ICESat-2 satellite data.

Not only did I learn about how ice surface elevation measurements are made by this satellite, how to download and efficiently store the data, and how to use the data effectively, I also gained experience with collaboration and version control software and networked with dozens of scientists at all career stages.

We also worked on original group projects in which we applied the Hackweek tools to do science, and I am already implementing the tools I learned to use in my own work. I study ice shelf features called basal channels, which are deep grooves that cut up into the bottom of ice shelves due to localized melt. Basal channels can change quickly and possibly de-stabilize ice shelves, so they are important to study as the Antarctic ice sheet becomes increasingly vulnerable to climate change.



I sincerely appreciate that FOH helped make it possible for me to not only attend the Hackweek, but also to travel with a relatively low carbon footprint. Instead of flying, I took a train to Seattle and back, which took ~48 hours each way but which cut my carbon footprint by ~50%. It was a fun way to travel, and I was able to talk to a lot of people about my research while reducing my impact on climate change!

If you are interested in giving to funds that support our student research such as the Friends of Orton Hall fund, please visit our [giving page](#).

Exploring Mars with the Curiosity Rover

**John
Grotzinger**

CALTECH, NASA JET PROPULSION LAB
NATIONAL ACADEMY OF SCIENCES

Evidence for water
on Mars and
potential for past
microbial life

Mars Curiosity
Rover Mission
Chief Scientist

Early environmental
evolution of both
Earth and Mars

Public Lecture

Exploring Mars with the Curiosity Rover

September 26, 2019 | 8 pm
Independence Hall Room 100

Technical Lecture

Fabrics and Interpretation of "Microbialites"
Can Both be Full of Holes

September 27, 2019 | 1:30 pm
Ohio Union US Bank Room

Stigapalooza!

On August 10th, 2019, over 45 SES alumni, faculty, staff and students attended an event to honor the scientific contributions and career of Emeritus Professor Stig Bergström. Some alumni had not seen Stig or their classmates since they graduated from Ohio State 45 years ago! Stigapalooza T-shirts and Buckeye Donuts started things off at 8:30 am in Orton Hall. Three plus hours of scientific talks by former students and postdocs at Ohio State paid tribute to the impact Stig has had on their scientific careers, and the conversations and stories continued throughout the afternoon. The night before the Stigposium, Stig and his wife Birgitta hosted “a simple reception with body-warming liquids” at their Columbus home.



All in all, it was a memorable event and fitting celebration for one of the world's foremost conodont paleontologists, stratigraphers and storytellers. And in case you are all wondering, Stig isn't going anywhere – he is working on another paper. He just published his 607th (includes journals, books, abstracts, etc). His influence of the field grows by the day – his first-authored 2009 Lethaia paper on the Ordovician System has now been cited a remarkable 490 times, almost 50 times per year.



Some of the Stigapalooza! attendees are pictured here, on the front steps of Orton Hall

Notes from the field: Magic in the service of science

By Dr. Michael Bevis

Many of the Bolivians who live in the northern Altiplano are Aymara people. A very striking aspect of this culture is the frequent practice of Amawta, the making of sacrifices or offerings to Pachamama, or Mother Earth.

It is common to engage in Amawta to seek a blessing at the launch of any major project. I recently told our field crew that it seemed likely we will soon start a new phase of our gravity project, and an Aymara team member suggested that we make an offering to Pachamama to conciliate her good will. I agreed.

Amawta nearly always involves offering the dried fetus of a llama. Llamas frequently miscarry, and the fetuses are dried and sold by Maestros de Amawta to individuals who wish to perform this ritual. In our case the sullu or feto was very small, covered in decorative tinsel, and placed in the middle of a circular pad, that looks something like a pizza dough, made of dried herbs mixed with llama fat. A Maestro had sprinkled this base or mesa blanca with incense, and with soil taken from an ants nest (so as to counter jealousy and bad vibrations). The llamita was placed near the center of the mesa and then covered with other offerings: sugar and other sweets, for luck, some cinnamon sticks, six foilcovered chocolate coins for prosperity, rice, and 24 coca leaves. We added an envelope containing fine gold foil and some cigarettes.



The photo shows the mesa sitting on a sheet of grease-proof paper, ready to go. While some participants arrange the mesa or offering, others build a platform from wooden sticks or planks. This wood is splashed with alcohol to help it catch fire. The platform must provide a clear view of an important mountain, thus inter-visibility with Pachamama, who is believed to reside in great mountains. We set up our platform facing Illimani, the favorite mountain of the residents of La Paz. The stack of wood was lit, and the mesa was quickly transferred to the top of that burning platform. The participants then made additional conventional offerings, by splashing the ground with wine, at each of the four corners of the platform.



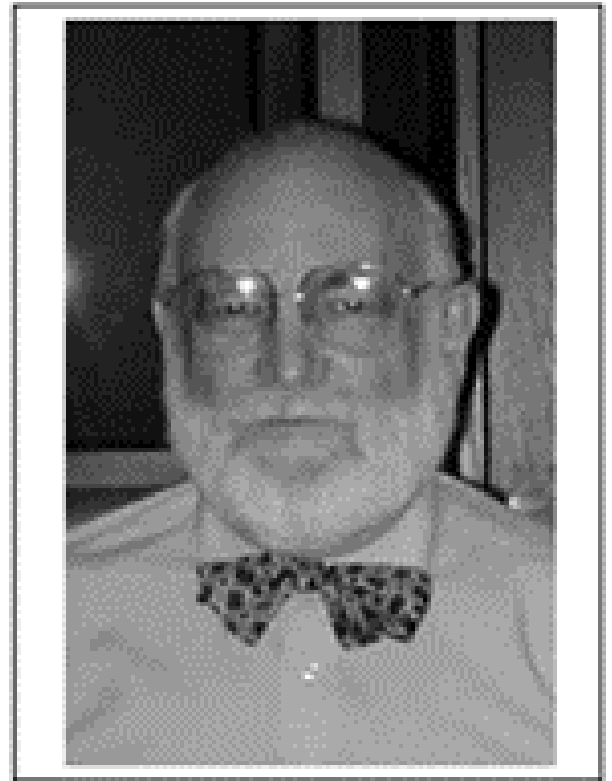
The petitioners of Pachama must wait for the offering to burn down, almost to ashes, before leaving, and this can take quite a long time. It was dark before we could leave our site and return to La Paz. During our wait, something rather unusual happened. The flames burned two round holes and a long curved hole through the now blackened base of the mesa. The two round holes were lit by yellow flames, and the gash below glowed bright red due to the underlying embers. One of the Bolivians declared this is was the head of a black panther. Once it was pointed out, we could all see the panther very clearly. For several minutes, the panther seemed to project a knowing smile.

The appearance of the pantera negra was declared highly auspicious—a sign that Pachamama had accepted our offering—causing considerable satisfaction to everyone involved—even to the scientist in the party. The soft afterglow of a successful ritual persisted throughout our descent into La Paz.

Remembering Richard Cameron

Dr. Richard “Dick” Cameron was among the first doctoral students and former Assistant Director of the Institute of Polar Studies. Dick was also Program Manager of the National Science Foundation Division of International Programs and Program Manager for Antarctic Glaciology. He passed away on Monday, July 22, 2019.

Dr. Cameron received his PhD in Geology in 1961 after serving as Chief Glaciologist at Wilkes Station and conducting research in Antarctica from 1957-1958, during the International Geophysical Year. He went on to serve in a number of positions at Ohio State, including Assistant Director for the Institute of Polar Studies, and Program Manager for Antarctic Glaciology with the National Science Foundation. Dick also acted as NSF Representative at the South Pole Station from 1975 to 1985, taking the first flight to the South Pole, usually on November 1st. In more recent years, Dr. Cameron conducted several study tour programs for Webster University, including Glacier Studies in Austria, Physical Geography of the Netherlands, and Fire and Ice (glaciology and volcanology) in the Pacific Northwest.



His [obituary and condolence book are here](#), and a fascinating PowerPoint, along with a more detailed biography from a presentation Dick gave to NASA in 2012 [can be found here](#). Our thoughts are with Dick's family and friends in this difficult time.

Brevium

Drastic ice loss in the Arctic is being driven by “the 1-2 punch” of global warming and negative atmospheric conditions, explains Michael Bevis, professor and Ohio Eminent Scholar in the School of Earth Sciences.

Read more about this phenomenon [here](#).