

June 2016 News Notes

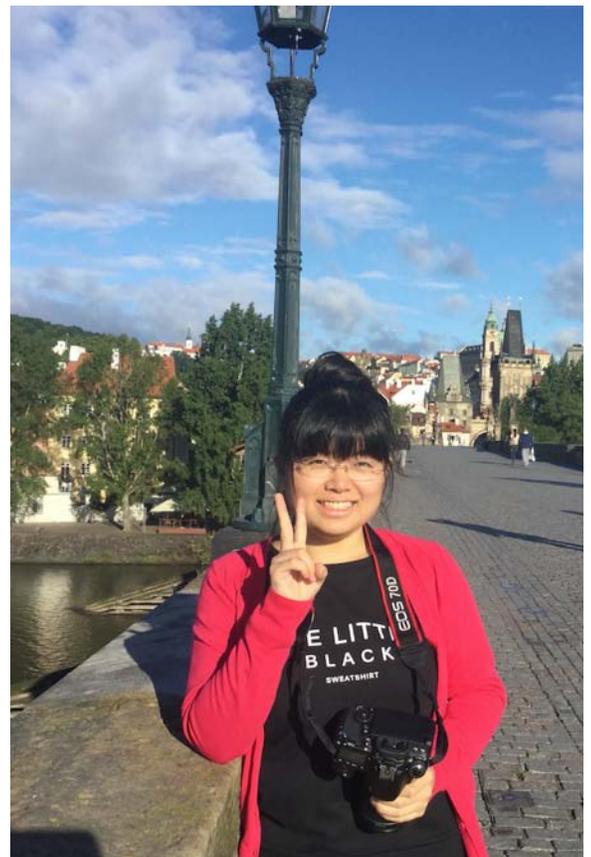
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Alumni Change Lives

Yuanyuan Jia is a graduate student under Prof CK Shum. Here, Yuanyuan describes how Friends of Orton Hall helped further her studies. If you are interested in giving to support the Friends of Orton Hall or other funds, please visit our giving page ([link](#)).

Thanks to support from the Friends of Orton Hall, I was able to attend the 26th IUGG General Assembly 2015 Prague, Czech Republic, June 22-July 2, 2015. I presented my research about vulnerability in Bangladesh coastal regions. We presented measurements of mangrove forest estuary dynamics in the Sundarbans region, as well as the subsidence of coastal embankments known as “polders”. We used Synthetic Aperture Radar (SAR) and SAR Interferometry, as well as SAR scatterometry (i.e. radar brightness) from fourteen radar images acquired from the ALOS-1 PALSAR satellite; we also used water elevation measurements from the ENVISAT satellite. We found that there is a close relationship between water level and L-band SAR backscatter coefficients in the mangrove forest. Furthermore, we found that it is possible to use SAR backscatter coefficients inferred high-resolution water-level changes to study wetland dynamics in the Sundarbans estuary. In addition, we used a technique known as “Persistent Scatterer InSAR (PSInSAR)” to get around decorrelation issues with the InSAR measurements. We used twenty-eight PSInSAR interferograms to show that the average subsidence rate for coastal embankments can be as high as twenty-five mm/year. We also found that the patterns of land subsidence or uplift exhibit significant spatial variability.

This was my first time at the IUGG meeting, and I believe this experience will benefit my future research career. Besides representing my research, I also took the opportunity to exchange research ideas with other scientists and to propose future collaborations. I am very grateful to the Friends of Orton Hall for helping to fund this exciting trip.



Wish you were at Field Camp?



If your answer is yes, go to field camp virtually by following the 2016 student bloggers, Brandi Lenz and Taylor Hollis. Pictured above are all the field campers at Capitol Reef in mid-June. You can read Taylor's and Brandi's blog here ([link](#)). From the most recent entry (on June 28th):

Temple hill, our first solo mapping area, was an interesting one, including a plunging fold and a fault cutting the Paleogene units including the Green River, which we previously saw in Salina Canyon. The challenge of Temple Hill was not in the elevation changes but in the overlapping and repeating which was the clue towards a thrust fault. We also made our very first stratigraphic column. Learning to measure true thickness of a unit with a Jacob's staff and our trusty Brunton's gave new reinforcement to the ability to observe bedding thicknesses.

Prof Thompson featured in Scientific American

Prof Lonnie Thompson was featured in *Scientific American* on June 2 ([link](#)) in a piece entitled "Investigating Climate Change the Hard Way at Earth's Icy 'Third Pole'". The photo at right (from the article, credit: Jane Qiu) shows Prof Thompson on a recent expedition to the Guliya ice cap in western Tibet.



Eastern Snow Conference hosted at Byrd Polar



Prof Michael Durand and Prof Bryan Mark (Geography) coordinated the local arrangements and organized the scientific program for the 73rd Eastern Snow Conference ([link](#)), which took place June 14 - 16. The ESC is concerned with the “origin, precipitation, accumulation, character, melt, and runoff of snow.” The meeting was generously hosted by Byrd Polar and Climate Research Center (see group photo above), and oral sessions took place at Byrd. The poster session was in the Mershon auditorium, and the ESC banquet took place in the Faculty Club; our banquet speaker was Prof Lonnie Thompson of SES. In addition to the traditional student poster and paper winners, we had five students participate in a so-called 3-minutes thesis (3MT) competition ([link](#)). Oral presentations were streamed live via Zoom. The final meal was catered by Ray Ray’s Hog Pit, a favorite local food truck; we had our BBQ after a tour of Byrd Polar. All in all, the meeting was a great success!

Brevia

A paper by Prof Yo Chin, Prof Emeritus Bill Ausich, and alumna Chrissy O’Malley (lead author) made the cover of *Geology*. The paper is entitled “Deep echinoderm phylogeny preserved in organic molecules from Paleozoic fossils” ([link](#)). Congratulations all!

Alumnus Jeff Pigott, PhD 2015, was just awarded the AGU Mineral and Rock Physics focus group Graduate Research Award “in recognition of outstanding contributions achieved during their PhD research.” Congratulations, Jeff!