

**CNYAPG
December 2020**



**Central New York Association
of Professional Geologists**

**Dr. Laura Lautz
(National Science
Foundation)**

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16 December 2020 Virtual Meeting– 6:00 PM

Dr. Laura Lautz (National Science Foundation) will present:

Legacy effects of cemeteries on groundwater quality and nitrate loads to headwater streams

Residential development and land use change have increased nutrient loads to streams and groundwater through increased use of fertilizers and discharge of wastewater effluent. Stream degradation in urbanizing areas has simultaneously reduced natural attenuation of nutrients. In this context, cemeteries are an often-overlooked land use that may contribute to nutrient loading in urbanizing watersheds. Although cemeteries provide ecosystem services, such as infiltration of stormwater, micrometeorology control, and greenspace, they also pose a unique threat to groundwater quality due to degradation and leaching of organic material. To assess the potential legacy impact of cemeteries on water quality, we explored the impact of a large cemetery on groundwater nitrate concentrations and stream nitrate loads. We found nitrate concentrations were significantly higher in cemetery groundwater (median = 6.2 mg/L) than in residential groundwater (median = 0.05 mg/L). During summer months (June through September), stream nitrate concentrations increase by 1.4-1.9 mg/L between the upstream edge of the cemetery and the downstream edge. Stream nitrate loads are consistently 20-40 kg NO₃⁻/day higher downstream of the cemetery between June to September. Given that the cemetery handles about 400 to 500 burials per year, it is possible that 25-50% of the increase in nitrate load is attributable to groundwater discharge of burial decay products. Our observations of nitrate concentrations in cemetery groundwater, coupled with the increases in nitrate loads in a stream traversing the cemetery property, suggest cemeteries may be an overlooked source of nutrient loading in developed watersheds.

***This is a FREE virtual event
Please register through the CNYAPG website
Zoom access instructions will be provided via email to registered attendees on the day of
the presentation***

Next virtual meeting - January 2020

*CNYAPG Monthly Newsletter
December 2020*

CNYAPG Newsletter

The CNYAPG Newsletter is a monthly publication of the Central New York Association of Professional Geologists dedicated to sharing upcoming events, delivering regular articles of interest and providing the Membership a forum for discussion.

The newsletter is prepared by the Officers and Board of Directors of CNYAPG (listed below).

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President's Message— December 2020

Welcome to December and the thick of the holiday season. We are all busy this time of year, so I will try to keep this short and to the point. CNYAPG's main goal this year has been to keep our local geosciences community engaged and hopeful for the future. I think our virtual monthly Zoom meetings have been successful so far. In November we hosted Dr. Nick Warner of SUNY Geneseo Geological Sciences department, who gave us an update on the current InSight Mission on the planet Mars. The preliminary geophysical information he presented on the SEIS instrument was fascinating and shows just how much good science is being done at this moment on Mars. I know I am not the only one who is also looking forward to the successful arrival of the Perseverance Lander on Mars on February 18, 2021.

Our December virtual guest presenter will be Dr. Laura Lautz, Program Director for the Hydrologic Sciences Program at the National Science Foundation. She will be giving a presentation on the Legacy effects of cemeteries on groundwater quality, and nitrate loads to headwater streams. I, for one am looking forward to this talk. When I teach environmental geology, I touch on these, sometimes sensitive, issues like cemeteries. I hope you all sign up to join us on December 16th.

On November 11, 2020, Governor Andrew Cuomo signed the New York State Council of Professional Geologists' (NYSCPG) continuing education bill into law (Chapter 260 of the Laws of 2020). The law takes effect on January 1, 2022 and will require all NYS licensed geologists to complete 36 hours of continuing education during each three-year registration period. The law also amended existing continuing education laws that applied to professional engineers and land surveyors, in order to accommodate on-line learning and other advances that have occurred since those laws were first enacted.

Just one more piece of information I want to pass along to all of you. NYSCPG is having a special fundraising event. They have partnered with Lithology Brewing to product a limited run, small batch IPA called "Thin Section". It will be sold in 16-ounce cans in 4-pack units for a reported price of \$20/pack. Proceeds will go to supporting NYSCPG's efforts to further the geosciences in New York State. It should be available for sale soon, so check their website for details and updates (<https://nyscp.org>).

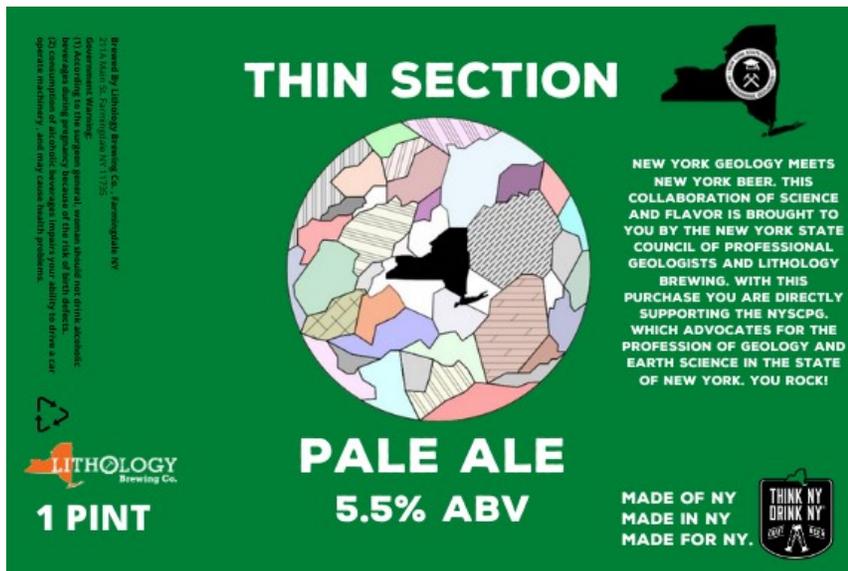
Lastly, let us all take a few deep breaths, and count slowly to ten. We are over the election and yes, Covid is still with us. For the last nine months we have

all tried to keep our spirits up in the face of the Covid-19 pandemic, which has rolled through us like a dump truck through a China shop, but hope is around the corner. Not one, not two, but three vaccines are almost ready for distribution. Remember our fellow Americans who are hurting this holiday season. A smile, a "Thank You", a few dollars more in a tip, a wave and a "Happy Holidays!" shouted at a neighbor you barely know. It all does more good than you will ever know.

Words and ideas alone can't change the world. It takes deeds and the courage to perform them.

Happy Holidays

Calvin K. Prothro, P.G.
President of CNYAPG



Coming Soon!

CNYAPG Governance

Membership Renewal

CNYAPG's membership period follows the CNYAPG meeting year from September through August. Renewals are due in September. To renew or become a new member, simply complete the membership form, available on our website at www.cnyapg.org. Membership is only \$25 per year and all money received is used in support of our organization.

Join CNYAPG at our social networking groups on [Facebook](#) and [LinkedIn](#). These sites (always under development) will provide online forums for discussion, as well as another way to inform our members and networking opportunities. For more information about our social media sites e-mail us at admin@cnyapg.org.

The CNYAPG was founded in 1993 to strengthen and advance the geological sciences. CNYAPG conducts regular meetings on the third Wednesday of each month from September to May. Meetings feature dinner and distinguished speakers whose presentations invite comment and discussion.



www.cnyapg.org
www.twitter.com/cnyapg

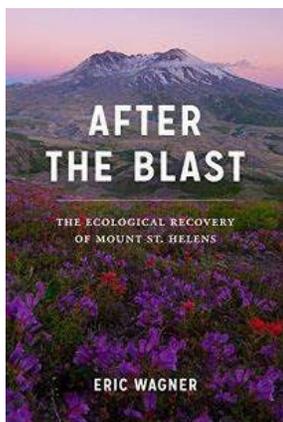
Programming Note & Upcoming Events

As noted previously, CNYAPG has temporarily transitioned to a virtual Zoom platform beginning with the October 2020 meeting.

December 3, 2020 – Pacific Northwest Historians Guild- *After the Blast, The Ecological Recovery of Mount St. Helens*

Dr. Eric Wagner

Virtual Meeting– [Registration Form](#)



December 16, 2020 6:00 PM– CNYAPG- *Legacy effects of cemeteries on groundwater quality and nitrate loads to headwater streams*

Dr. Laura Lautz- National Science Foundation

Virtual Meeting– www.cnyapg.org

January 20, 2021 6:00 PM– CNYAPG– *Topic TBD*

John Gartner– Norwich University

Virtual Meeting– www.cnyapg.org

We Need Your Input!

Do you have ideas of creative ways to engage members during this unprecedented time?

Interesting experiences to share? Email thoughts and ideas to prothro@sunyocc.edu



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