

**CNYAPG**  
**March 2024**



**Central New York Association  
of Professional Geologists**

**Bill Kappel & Mark Williams**  
**USGS**

**In this Issue:**

- March Meeting Announcement
- CNYAPG Field Day!
- President's Message
- Geologic Knowledge Quiz
- Sponsor Recognition
- Upcoming Events

**6 March 2024– 7:00 PM - In-Person & Virtual Options Available**

Bill Kappel and Mark Williams (USGS) will present:

## **Hydrogeology and Geothermal-Project Development in New York**

Bill Kappel and John Williams will present information pertaining to the USGS New York Water Science Center's development of a Geothermal Drilling Fact Sheet for central and western New York. The State is planning to allow deeper than 500 ft deep geothermal boreholes with no permit and the concern is that going deeper is fraught with geologic and hydrologic hazards that planners and approving officials may not be aware of. Bill and John's presentation will provide an overview of the various types of geothermal project configurations. They will also discuss selected geothermal projects that have been completed in New York State. Information critical to the development of geothermal projects including hydrogeology, thermal conductivity testing, and geospatial coverage will be presented.

**An application has been submitted to NYSCPG for this presentation to count for 1 NY PDH**

***BOTH IN-PERSON and VIRTUAL options are available!- Zoom link will be sent the morning of 3/6/24***

**Location:** Spaghetti Warehouse, 689 North Clinton Street, Syracuse, New York or ZOOM

**Time:** 5:00—6:00p.m. social hour: 6:00-7:00 p.m. dinner; 7:00 p.m. technical presentation

**RSVP:** <https://cnyapg.org/>

**Next dinner meeting - April 2024**



Central New York Association  
of Professional Geologists

## GEOLOGY FIELD DAY!!!

April 26, 2024

Register Now!



The Central New York Association of Professional Geologists and the American Institute of Professional Geologists will be hosting a Geology Field day for Professionals and Students. This all day event will have presentations ranging from environmental drilling technology to aerial drone applications in the geosciences to environmental field sampling, and more!



For students there will be the opportunity to meet local geoscience professionals from area employers, and talk to them about career and employment opportunities.

Professional Geologists, Engineers and Land Surveyors, there will be presentations offering 5 or more PDH credits.

### CNYAPG Field Day (Fall 2017)

#### Early Registration ends March 29th

CNYAPG/AIPG Members - \$100

Non-members - \$130

Students - \$20

#### Late Registration ends April 19th

CNYAPG/AIPG Members - \$120

Non-members - \$150

Students - \$25

\* PDH certificate for 5 hours - \$50

\* **Morning snacks** (bagels, coffee/tea, and juice), **lunch, and afternoon snacks** will be provided.

#### Location: Parratt-Wolff

5879 Fisher Road

East Syracuse, New York

For general questions, please contact us at: [info@cnyapg.org](mailto:info@cnyapg.org)

And visit us at  
[WWW.CNYAPG.Org](http://WWW.CNYAPG.Org) and join us on  
Facebook and LinkedIn

#### Scheduled Topics & Presenters:

- MIP drilling technology [Parratt-Wolff & S2C2]
- Slug testing [Yuri Veliz, & Gould Groundwater]
- Low flow, PDBs, PFAS groundwater sampling [ERM]
- Borehole geophysics [Hager-Richter]
- Health & Safety [Ramboll]

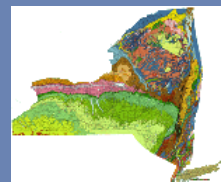
#### Other presentations will include:

- Soil logging, classification & grain size analyses
- Well design
- Aerial drone use in field investigations and monitoring
- GeoTech demo
- And MORE!



CNYAPG Field Day (Fall 2017)

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



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# 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).*

## **Officers:**

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c.k.prothro@gmail.com  
Term: 2022-2024

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Term: 2022-2024

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Term: 2022-2024

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Term: 2023-2025

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**Guy Swenson**  
Guy.Swenson@ramboll.com  
Term: 2022-2024

## **President's Message— March 2024**

Welcome my fellow geologists and geoscientists to the beginning of March! Things are already taking off. The weather has been very mild, with regional snowfall totals well below average. With spring in the Northern Hemisphere beginning on March 19th, it is hoped that the weather will only get better, with no spring blizzards. Let us all hope for March showers and April flowers. Before I jump into the news for March, I want to first thank Dr. Mark Holland from St. Lawrence University for his February presentation, which was a geologic tour of the Grand Canyon, "Two Billion Years in 2 Weeks." It was a great introduction and refresher to the scenic geology of the Grand Canyon. Thanks again, Mark. This month, we are happy to announce that Bill Kappel (Retired USGS) and John Williams (USGS) will be making a tag-team presentation entitled: "Challenges of Geothermal Drilling and Installation across Central and Western New York." I anticipate this March 6th presentation will be well attended and spark an excellent discussion. I hope all of you can attend in-person or via Zoom. Please remember that you can register online at: [www.cnyapg.org](http://www.cnyapg.org).

Next, I want to let you know that registration for our Geology Field Day event is now open. It is scheduled for April 26th (See Event Flyer in this Newsletter), and it will host presentations on MIP drilling technology, aerial drone usage, slug testing, soil logging, low-flow groundwater sampling techniques, borehole geophysics, site health and safety, and much more. PDH credits will be available for those in the design professions. For those of you who are educators, this is a fantastic opportunity for your students to see what environmental professionals do in the real world and the kinds of tools and techniques they employ. It is also a wonderful way for them to meet possible future employers and for prospective employers to meet them. Please stay tuned, and if you want to get involved, contact me or anyone on the CNYAPG board of directors.

In other student-related news, on Saturday, April 20th, Syracuse University will be hosting the Central New York Earth Sciences Student Symposium and Job fair. This event will feature Dr. Patrick Fulton of Cornell University as its keynote speaker. It will take place at Heroy Hall on the Syracuse University campus from 8 am to 5 pm. CNYAPG will again offer a \$200 prize for the best student poster presentation during the symposium. To register for the event, please see the link ([https://docs.google.com/forms/d/e/1FAIpQLSe8xjhsKvsgF7KN7ZtjA\\_vC9ttJ4Dq2kZwrKn3Rs047vCNGVw/viewform](https://docs.google.com/forms/d/e/1FAIpQLSe8xjhsKvsgF7KN7ZtjA_vC9ttJ4Dq2kZwrKn3Rs047vCNGVw/viewform)) or the event flyer in this newsletter that has a QR code. Breakfast and Lunch will be provided for all attendees, including company representatives. Company representatives are also invited to attend the presentations given by researchers before and after the career fair portion. If you have further questions or would like a table to support the job fair, don't hesitate to contact Madison Woodley at Syracuse University ([mwoodley@sy.edu](mailto:mwoodley@sy.edu)) or email me. Maybe there will even be a lava pour, as in years past.

The American Institute of Professional Geologists (AIPG) will host its monthly webinar series for students and early career professionals on March 5th. Northeast-AIPG will also be hosting its annual section meeting in Manchester, New Hampshire, from March 17th through the 19th. Lastly, the National



Stone, Sand, and Gravel Association (NSSGA) will host their annual meeting on March 23rd in Nashville, Tennessee. Please check the AIPG.org webpage for more information.

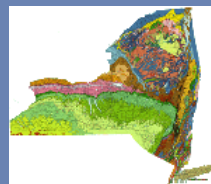
As you know, CNYAPG will be holding elections for its board of directors, including for our next president. The board is currently developing a slate of candidates. If you would be interested in serving our local geosciences community and being on the Board of Directors or as an officer of CNYAPG, please submit a short bio for the webpage. Remember, the CNYAPG board members volunteer their time and energy to see that CNYAPG continues to be a valuable resource for our professional geoscience community. Active Members and Honorary Life Members of CNYAPG in good standing are eligible to vote. The ballot will also allow writing-in candidates for any vacant positions. If you want to get involved, contact me or any of the others on the CNYAPG board of directors, and please remember to vote!

The New York State seismic update for February (as of this writing): The state has been quiet, unlike some states, including Kentucky, West Virginia, Texas, and South Carolina. There was even a 4.0 magnitude event located approximately 100 miles east of Cape Canaveral, Florida. New York experienced only one tremor in western New York on February 7th. It occurred in Greece, New York and had a magnitude of 1.7. It had a hypocenter of less than a mile.

A few comments on the Odysseus mission. In case you have not yet heard Intuitive Machines, a space exploration company based in Houston, Texas, has become the first private American company to land a robotic probe on the lunar surface. Last September, the Tomy Company successfully put a rover on the lunar surface in partnership with Doshisha University and the Japan Aerospace Exploration Agency (JAXA). It joins an Indian Rover that arrived last August. Over the previous five decades, we have had numerous uncrewed flyby and orbital missions. The last time an American spacecraft of any kind landed on the lunar surface was in 1972. Odysseus is a pathfinder mission for the planned Artemis III mission, which will return humans to the lunar surface in 2026 or 2027. Artemis I was a successful, uncrewed flyby around the Moon in November of 2022, and Artemis II will be a crewed ten-day lunar flyby mission planned for later this year or early next year. Artemis II will basically be following in the footsteps of Apollo 8 on its 1968 mission. I personally will not be interested in any lunar mission until Artemis III (the first humans on the lunar surface since 1972) and the following two or three missions when we start to build the infrastructure that will allow us to remain on the lunar surface for extended stays, and polar lunar rock and soil samples will be returned. Those missions will also see the first hydrogeologist (Joseph Acaba) and the second geologist (Jessica Watkins) to set foot on the lunar surface. Not that I would have qualified to go to the Moon, but the children of the '60s and '70s (for the most part) missed their chance to go (of the 18 Artemis crewmembers, four were born in the '60s and four were born in the 70s, and the remainder are children of the 80s). As a child of the 60s, I only got to see my peers hang around in low earth orbit. I only hope the children of the 80s and 90s get to see the wonders of the lunar surface in-person and touch that all-seeing eye that taunts and teases us and drives our desire to explore space.

Oh, remember, on Monday, April 8th, a total solar eclipse will occur in North

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America and will cross the area of central New York. The event will begin at approximately 2:15 EST and last until approximately 4:30 EST. The Syracuse area should expect approximately 98 to 99% totality at approximately 3:25 EST. It should last for approximately two minutes. Several local schools and universities are canceling classes and hosting eclipse events with safe viewing opportunities. If any of you are planning to take eclipse photos, remember to submit them for our newsletter.

Last month, we introduced the first monthly “Test Your Geologic Knowledge.” I hope you all enjoyed it and it was not too easy for you. Email us a geologic question (with the answer), and then we all can see how much geology we remember, and yes, it will be fun. I encourage all of you to try to get out and enjoy a hike or stroll through one of the local state parks. The spring foliage has not yet obscured the beautiful scenery and great exposures of the local stratigraphy. If you take photos, please submit some of them for next month’s newsletter.

Finally, the quote for this newsletter: “Remember to look up at the stars and not down at your feet. Try to make sense of what you see and wonder about what makes the universe exist. Be curious! And, however difficult life may seem, there is always something you can do and succeed at. It matters that you don’t just give up.” – Professor Stephen Hawking (1942 – 2018), British Physicist and Cosmologist.

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

2024 CNY EARTH SCIENCE STUDENT SYMPOSIUM

HOSTED BY THE SYRACUSE UNIVERSITY GEOLOGY GRADUATE ORGANIZATION

SAT. APR 20, 2024  
9 AM - 5 PM

KEYNOTE SPEAKER:  
DR. PATRICK FULTON  
CORNELL UNIVERSITY

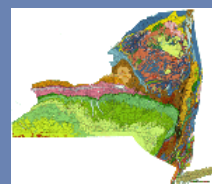
Heroy Geology Laboratory  
Syracuse University  
141 Crouse Dr.

Join us for a day-long public event featuring:

- Student research presentations
- Public lecture from keynote speaker

Graduate, undergraduate, and high school students involved in Earth Science and related disciplines are invited to present a poster or 15-minute talk

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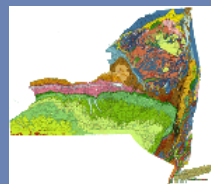


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## Test Your Geologic Knowledge

- 1) A negative Bouguer gravity anomaly over a mountain range is commonly interpreted as an indication that the \_\_\_\_\_
  - a) lower and denser part of the crust is missing
  - b) near-surface rocks in the mountains are less dense than normal
  - c) upper mantle is denser than normal
  - d) lower crust is denser than normal
  - e) crustal rocks are thicker than normal below the mountains
- 2) What is the correct order of the stages in coal formation:
  - a) Plant material, Lignite, Bituminous, Peat, Anthracite
  - b) Plant material, Bituminous, Peat, Lignite, Anthracite
  - c) Plant material, Peat, Lignite, Bituminous, Anthracite
  - d) Plant material, Anthracite, Lignite, Bituminous, Peat
  - e) Plant material, Bituminous, Lignite, Anthracite, Peat
- 3) Given the following four isotopes:  $U^{238}$ ,  $Ar^{40}$ ,  $Pb^{206}$ , and  $K^{40}$  identify the parent and end daughter correctly.
  - a) parent  $Pb^{206}$ , daughter  $U^{238}$ ; parent  $^{40}K$ , daughter  $Pb^{40}$ .
  - b) parent  $U^{238}$ , daughter  $Pb^{206}$ ; parent  $Ar^{40}$ , daughter  $K^{40}$ .
  - c) parent  $Pb^{206}$ , daughter  $U^{238}$ ; parent  $Ar^{40}$ , daughter  $K^{40}$ .
  - d) parent  $U^{238}$ , daughter  $Pb^{206}$ ; parent  $K^{40}$ , daughter  $Ar^{40}$ .
  - e) none of the above
- 4) The common name for a Pocket Alidade is what?
  - a) Brunton Compass
  - b) Hand Len
  - c) Sun Dial
  - d) Penetrometer
  - e) Gravimeter
- 5) Crystalline (i.e. Igneous or Metamorphic) rocks in contact with horizontal sedimentary strata, forms what type of contact.
  - a) Nonconformity
  - b) Unconformity
  - c) Paraconformity
  - d) Angular unconformity
  - e) Disconformity
- 6) Where does the word "Sedimentary" come from?
  - a) the Polish word which means "dirty"
  - b) the Greek word which means "of the Earth"
  - c) the Latin word which means "settling"
  - d) the Hebrew word which means "flat"
  - e) the Roman word which means "layered"

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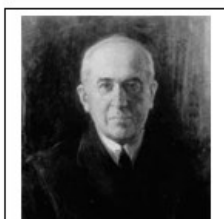
) Which is the correct order of resistance (from high to low) on the Goldich's Weathering Series for the minerals list below?

- a) Amphibole, Pyroxene, Olivine, Biotite, K-feldspar, Muscovite, Quartz
- b) Olivine, Pyroxene, Amphibole, Biotite, K-feldspar, Muscovite, Quartz
- c) Quartz, Muscovite, K-feldspar, Biotite, Amphibole, Pyroxene, Olivine
- d) Olivine, Quartz, Amphibole, Muscovite, Pyroxene, K-feldspar, Biotite
- e) None of these are the correct order

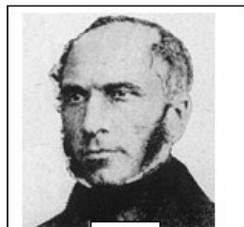
) Studying groundwater flow, I discovered a simple proportional relationship between the instantaneous discharge rate through a porous medium, the viscosity of the fluid and the pressure drop over a given distance. Who am I?



a)



b)



c)



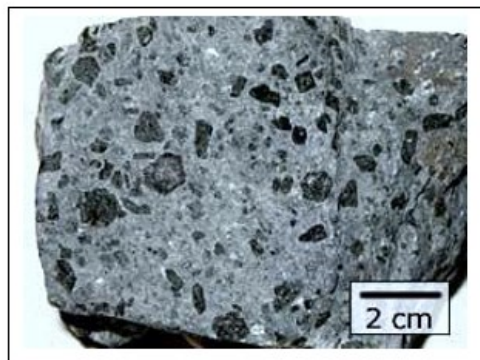
d)



e)

) You are on a field trip with Mr. Prothro when he hands you an igneous rock and asks you what is its texture? You reply \_\_\_\_\_

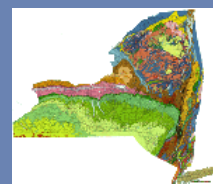
- a) Aphanitic
- b) Phaneritic
- c) Pegmatitic
- d) Porphyritic
- e) None of the above



10) What is the Torino Scale? \_\_\_\_\_

- a) A system used to rate the hazard level of an Earthquake in California
- b) A system used to rate the hazard level of an object moving towards the Earth
- c) A system used to rate the probability of a Sinkhole forming in a given area
- d) The height of a Tsunami wave above the land surface
- e) None of the Above

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#### Petrography

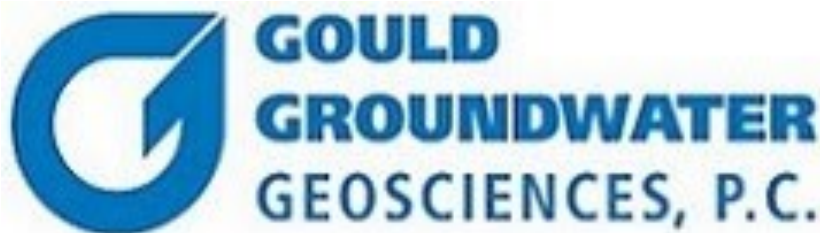
- Thin Sections/Optical Microscopy
- X-Ray Powder Diffraction and Scanning Electron Microscopy

#### Hydrogeology and Geochemistry

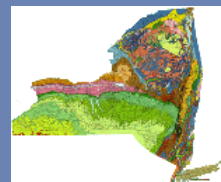
- Chemical and Physical Properties
- Water Types and Geochemical Calculations

#### Environmental Geology

- Geologic and Water Resources
- Geologic Hazards
- Contamination



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NEW YORK STATE COUNCIL OF PROFESSIONAL GEOLOGISTS

**SAVE THE DATE**

**Thursday, April 18th 2024**

**Doors open at 6:30 pm**

NYSCPG Presents

**GEOLOGY  
ROCKS 2024**

Following the continued success of our 2023 Geology Rocks event, NYSCPG will host its fourth music-themed fundraiser event featuring the music of the bands Led Zeppelin and The Rolling Stones.

**Ticket Cost: \$150 (Includes food and beverages)**

**Companies that purchase 10 or more tickets will be listed as a Song Sponsor**

**Other Sponsorship Opportunities Available**

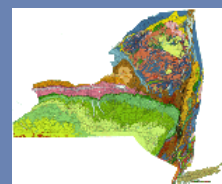
For more information please contact  
Michael Burke at [mburke@langan.com](mailto:mburke@langan.com) or  
John Nadeau at [jnadeau@nyscpge.org](mailto:jnadeau@nyscpge.org)

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**ANSWERS:**

- 1) e
- 2) c
- 3) d
- 4) a
- 5) a
- 6) c
- 7) b
- 8) c
- 9) d
- 10) b

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## Upcoming Events

**March 6 2024 7:00 PM**– CNYAPG– Bill Kappel & John Williams — (USGS) —Dinner Meeting—[www.cnyapg.org](http://www.cnyapg.org)

**April 3 2024 7:00 PM**– CNYAPG– Scott Maguffin —(SUNY Oneonta) — Dinner Meeting—[www.cnyapg.org](http://www.cnyapg.org)



***Thank you to David Eckhardt for your donation!***

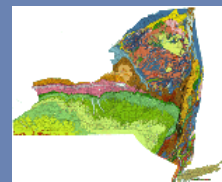
## CNYAPG Governance

### 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](http://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](mailto:admin@cnyapg.org).

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