

PCPG Newsletter

Communicating Key Information and Concerns
to Geologists and Environmental Professionals

Issue 2 / 2023

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General Information: [PCPG Office](#)

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MESSAGE FROM THE PRESIDENT

Happy Spring PCPG!

As we turn the corner to the second quarter of 2023, I am reflecting with sincere gratitude that our Annual Meeting event in February was such a success. I would like to thank our speakers, our corporate and associate members, and our PCPG community of professionals, academics, students, and geoscience practitioners. Finally, thanks to the PCPG Board of Directors members for their continued commitment to PCPG's initiatives. Without the entire community of PCPG working together, we could not accomplish our goals and objectives.

Thank you to everyone for the wonderful progress with the Barb Dunst Memorial fundraising efforts. In part from PCPG's inaugural bottle auction conducted at this year's Annual Meeting, as of April 2023, Barb's friends, family, and PCPG members and allied organizations have donated a total of \$18,981 toward the fund; bottle auction contributed \$3,500!

In collaboration with the Dunst family, PCPG is developing a program to help eliminate potential financial barriers in achieving Geologist-in-Training licensure. As preliminarily envisioned, one would apply as usual through the Pennsylvania Department of State, Pennsylvania Licensing System (PALS) to take the ASBOG Fundamentals of Geology (FG) exam, and then the applicant could request reimbursement from the Dunst Memorial Fund for test fees after achieving a passing score on the FG exam. Currently the PCPG Board of Directors is working toward finalizing the program details, rules, guidelines, and tools necessary to make the fund sustainable for future Geologists. Later in the year PCPG will share additional information on the program. Please stay tuned for more news about this exciting initiative to honor Barb's legacy.

During the Annual Meeting I discussed the need for PCPG to network and engage with and to educate the community to promote the important work of Professional Geologists and the geosciences to the public, and how PCPG members support public and private endeavors through their professional expertise. I also discussed that PCPG wishes to engage with and support other regional and local geoscience student and professional groups. This spring PCPG has made good on those intentions. In April,



UPCOMING PCPG EVENTS

June 8, 2023

Hydrostructural Methods in Bedrock Aquifer
Characterization and Remedial Decision Making
(435 mins.)

Reading, PA

June 13, 2023

Utilizing underdeveloped limestone resources in
Pennsylvania: the past and future of “natural cement”

Webinar: 1:00-2:00 PM ET

July 25 - August 10, 2023

Six Webinar Package: PG Review Course for the
Practicing Geologist and ASBOG® Exam Candidate
(900 mins.)

Webinars:

Tuesday and Thursday - 6:00 - 8:30 PM ET

PCPG Members \$399; Non-Members \$599

**Or, enroll in any individual session(s) according
to specific topics of interest:**

July 25, 2023 - Part 1

General & Field Geology, and Geomorphology;
Mineralogy and Igneous/Metamorphic Petrology
(150 mins.)

Webinar: 6:00-8:30 PM ET

July 27, 2023 - Part 2

Sedimentology, Stratigraphy & Paleontology;
Seismology, Exploration Geophysics, and Well Logging

Webinar: 6:00-8:30 PM ET

August 1, 2023 - Part 3

Hydrogeology and Geochemistry

Webinar: 6:00-8:30 PM ET

August 3, 2023 - Part 4

Structural Geology and Tectonics

Webinar: 6:00-8:30 PM ET

August 8, 2023 - Part 5

Engineering Geology

Webinar: 6:00-8:30 PM ET

August 10, 2023 - Part 6

Economic and Resources Geology

Webinar: 6:00-8:30 PM ET

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September 12, 2023

Hydrostructural Methods in Bedrock Aquifer
Characterization and Remedial Decision Making
(435 mins.)

Cranberry Township, PA

FOR A COMPLETE LIST OF UPCOMING EVENTS OR TO REGISTER
ONLINE, CHECK OUR [HOME PAGE](#) EVENT CALENDAR, OR VISIT
[PCPG'S COURSES AND EVENTS](#) WEB PAGE.

PRESIDENT'S MESSAGE *Continued from Page 1*

PCPG attended the ASCE Central PA Geotechnical Conference and the Pennsylvania State Association of Township Supervisors (PSATS) Conference - both held in Hershey, PA.

PCPG hosted a table at the events where for the ASCE conference, PCPG discussed with leadership potential synergies between PCPG and the geotechnical community. Some in attendance went to our PCPG 2023 Annual Meeting and appreciated the inclusion of geotechnical topics. PCPG welcomes input and collaboration from all facets of the geoscience community.

At the PSATS conference, PCPG discussed with municipal attendees what Professional Geologists do for the good of the public and how we as PCPG members work to inform communities (through school education or for public need) on geoscience-related issues. PCPG technical specialties and our corporate membership that can perform these services were highlighted during the event using handouts and through sharing our corporate sponsorship link at www.pcpg.org/Corporate.

For geoscience undergraduate students, PCPG will be coordinating with the Pennsylvania State System of Higher Education (PASSHE) Geology Field Experience (i.e., summer field camp) program. On June 8th in Shippensburg, PCPG members and PCPG associate member Parratt-Wolff, Inc. will host a live field demonstration on soil characterization, soil logging, and well installation for undergraduates from across the state. We welcome our members to join us in supporting this and future community events.

Last but not least, we aim to promote the quality geoscience work of our members. If you have a technical geoscience related project or academic venture that you would like to promote, discuss, or provide as a case study, please consider highlighting your work in a future PCPG newsletter technical article, audio podcast, or online webinar. If interested, please contact us at info@pcpg.org.



Vincent Carbone, P.G., C.P.G.
PCPG President

Vincent Carbone, P.G. set to open the 2023 Annual Meeting; Inaugural Barb Dunst Memorial Bottle Auction contributions in foreground.



2023 PCPG Board and Executive Committee Members at the 2023 Annual Meeting

L to R: Front row - Vicki Pitman, Michele Cooney, Tiffani Doerr, Vincent Carbone, Jenny Kachel, Chris Kotch, Andrea Wright, David Wilcots. Back row - Greg Rosenzweig, William Camp, Steve Zbur, Jason Floyd.

INAUGURAL DUNST MEMORIAL BOTTLE AUCTION HUGE SUCCESS

Thank you to all attendees who brought bottles and to our bidders—all of whom contributed to the enormous success of the First Annual Barb Dunst Memorial Bottle Auction. The event was held as part of the Continental Drifters reception that followed our 2023 Annual meeting.

If you were present, you experienced the fun and excitement as over 45 bottles were auctioned, many with geology-themed decorations to camouflage the bottle.



Winning bids totaled \$3,490 for the night. Since the auction, PCPG received an additional \$3,000 in contributions bringing the current total fund to \$18,981.



Bottle contribution with a bonus hand lense and blasting caps.



President-Elect Jason Floyd displays the next item for bidding.

PCPG leadership maintains close contact with the Dunst Family in shaping how the funds will be allocated to benefit geoscience students and young professionals within our industry.

Contributions to the fund can be made anytime and are accepted by check payable to PCPG, mailed to 116 Forest Drive, Camp Hill, PA 17011, or via the PCPG online portal.

We look forward to 2024's Bottle Auction and thank everyone for the contributions made in Barb's honor.



Brian Dunst provides attendees with a heart-warming address, which set the mood for the successful outcome of the auction. A photo montage with photos of Barb ran earlier in the day, and ahead of the bidding.



PCPG Past President Tiffani Doerr wins a surprise MD 20/20 bottle. We have it on good authority that later that evening, a new Geologist Sunrise drink recipe was created.

SITTING FOR THE ASBOG® EXAM IN OCTOBER?

READ ON...

PCPG can help you get ready by attending the PG Review Course for the Practicing Geologist and ASBOG® Exam Candidate. We're offering six, 2.5 hour virtual sessions twice a week, over a three-week period beginning July 25, giving exam candidates plenty of time to prepare for the October exam.

If you are already a licensed Professional Geologist, the six virtual sessions offer a total of 18 PDHs for the Pennsylvania biennial license renewal period ending September 30, 2023, or 150 minutes per 2.5 hour webinar.

You have the option of taking only one of the six 2.5 hour sessions, or as many as you want to round-up your Pennsylvania continuing education requirement of 24 PDHs. (To get a head-start on Delaware's 2024 renewal - each 150 min. virtual session earns 2.5 CEUs toward your Delaware renewal).

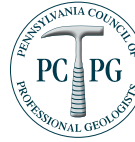
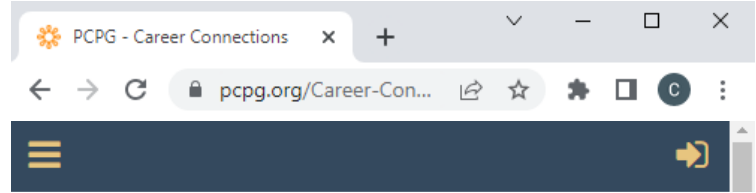
The six virtual events are scheduled 6:00 p.m. to 8:30 p.m. on Tuesdays and Thursdays beginning July 25 through August 10. Additional details will be announced in our bi-weekly eBlasts, and will appear on our [home page](#) event calendar.



Emotional Intelligence Student Session regarding email vs text vs phone calls during the 2023 Annual Meeting.
Photo credit: Jenny Kachel, P.G.

"The emphasis on how to communicate was very helpful. You often hear that you should be communicating, but not how you should be doing it."

— Noah Workman of Kutztown University



CAREER CONNECTIONS ►

BE SURE TO VISIT PCPG'S CAREER CONNECTIONS

You asked for it and we created it!

Corporate Members are now able to sponsor open positions in the firm under our Corporate Member Open Positions page.

CORPORATE MEMBER OPEN POSITIONS

The sponsorship fee is \$100 for a two-month listing.
Sponsorships do not auto-renew.

✉ For more details: ☎

Rose Jeffries (717) 730-9745



Looking for a position or an internship?

We now have a Resume Board, too. Submit your resume in PDF format via email to [Rose Jeffries](#) for posting on [this page](#). Be sure you request that the resume be added to the PCPG resume board where your resume will be posted as a PDF download link, at no charge, for 60 days. After 60 days, the posting will be removed but you are invited to resubmit. If looking for an internship, we'll create a special category on the page. Just have the word internship appear in your PDF title along with your name, or mention it in the email.

Both features are relatively new.

We hope to build-out content in the near future.

PROCESS FOR EARNING THE GEOLOGIST IN TRAINING CERTIFICATE AND PROFESSIONAL GEOLOGIST LICENSE IN PENNSYLVANIA

Martin F. Helmke, PhD, P.G., Professor of Geology, West Chester University of Pennsylvania

Professional geologist licensure in Pennsylvania protects the public, establishes clear professional standards, and supports the careers of working geologists across the Commonwealth. Candidates first earn the Geologist in Training (GIT) certificate by meeting educational requirements and passing the Fundamentals of Geology (FG) exam. After 5 years of professional experience working under the direction of a licensed geologist and passing the Practice of Geology (PG) exam, candidates may earn the Professional Geologist (PG) license. Exams are proctored twice each year in March and October.

Several organizations and agencies are involved in the licensing process, including the following:

- The *State Registration Board for Engineers, Land Surveyors, and Geologists* is a regulatory board under the Pennsylvania Department of State Bureau of Licensing and Professional Affairs. The Board reviews applications, manages licenses, hears disciplinary actions, and discusses issues affecting professional practice. Candidates and licensed PGs should communicate with the Board staff through the [Board website](#), online [PALs portal](#), or by e-mailing st-engineer@pa.gov.
- The *Association of State Boards of Geology (ASBOG®)* develops and grades the FG and PG exams nationwide. Specific information on the exams is provided on the [ASBOG® website](#) and in the [Professional Geologists Examinee Candidate Handbook](#).
- *Prometric* is the company that proctors the exams at computer-based testing (CBT) centers across the country. Once approved to sit for the exam(s), the Board will send candidates instructions for registering at a nearby Prometric testing center.
- The *Pennsylvania Council for Professional Geologists (PCPG)* is a professional organization for working Pennsylvania geologists providing advocacy, networking, outreach, and educational support. PCPG was instrumental in establishing licensure for geologists in Pennsylvania and offers short-courses, training, and continuing education opportunities.

The steps required to earn the PG are summarized below:

1. Register for/log in to PALS (the Pennsylvania Licensing System) through the Department of State website.
2. Complete the application form (all records must be submitted to the Board by the deadline; generally January 1 for the March exam or July 1 for October exam).
3. Pay the \$50 application fee.
4. Request formal academic transcripts to be sent directly to the Board demonstrating that all educational requirements are met. In Pennsylvania, exam candidates must have completed courses in structural and field geology.
5. **PG only:** Request five professional reference forms to be sent directly to the Board. Referees must include three PGs and attest to the candidate's good moral character and have either directly supervised the candidate or can otherwise verify the candidate's experience.
6. **PG only:** Complete the PG amplified record form and upload to PALS. Document at least five years of professional experience (One year each may be granted for earning masters and/or PhD degrees). The amplified record should include at least one page for each year of experience and provide detailed evidence of *utilization, application, and interpretation of fundamental and practical principles of the geological science*, NOT routine sampling, laboratory work or geological drafting. Each year should show a progression of experience and responsibilities and not simply be a restatement of work completed in a previous year. Experience may also include teaching upper-level college courses.
7. Criminal history for Pennsylvania residents is checked automatically through PATCH/State Police for a fee of \$22.
8. Await approval to sit for the exam(s) by the Board or Prometric.
9. Register for the Prometric CBT exam, pay the FG/PG registration fees (currently \$200 for the FG exam, \$250 for the PG exam, and \$75 proctoring fee for each exam taken).
10. Take the exam(s). The exams are challenging and comprehensive. Many successful candidates study for six months or more to prepare for the exams. See the ASBOG Candidate Handbook for example practice exams.
11. The Board will send exam scores to candidates after a period of approximately 70 days and notify them of their certificate or license status.

Earning the GIT certificate or PG license in Pennsylvania is a career accomplishment to be proud of! For detailed information on licensing procedures and legal requirements, please visit the [Pennsylvania State Registration Board for Engineers, Land Surveyors, and Geologists website](#).

Dr. Helmke is a former PCPG Past President and current member of the Pennsylvania State Registration Board for Engineers, Land Surveyors, and Geologists. Expressed views are his own and do not necessarily reflect the position of the Registration Board. He may be contacted by e-mail at mhelmke@wcupa.edu.

HARNESSING THE POTENTIAL OF AI: GEOLOGISTS EMBRACE MACHINE LEARNING AND DATA ANALYTICS - “YOUR RESISTANCE WILL BE FUTILE”

Jason Floyd, P.G., PCPG 2024 President-Elect and President/Chief Hydrogeologist of Mountain Research, LLC

In today’s digital age, Artificial Intelligence (AI) is rapidly transforming the way we work and communicate – including geologists. Publicly available AI platforms, such as OpenAI ChatGPT and Google Bard appear here to stay. ChatGPT and Bard are examples of powerful AI Chatbot tools that could help streamline operations and enhance productivity. However, for some, the mere mention of AI conjures images of classic sci-fi flick storylines. This is not the type of AI relevant to geologic business operations – at least not yet anyway!

AI is the ability of computer systems to perform tasks that typically require human intelligence such as visual perception, speech recognition, decision-making, and problem solving by using algorithms and computer programs. These systems can then evaluate and improve data outputs over time using on mathematical models that simulate the behavior or neurons in the human brain, allowing the computers to “learn” from examples and make predictions or decisions based on that learning.

A few weeks ago, I was introduced to ChatGPT while at lunch with local business leaders who shared that ChatGPT knows so much detail about different business industries, and that it even passed the bar exam and a medical licensing exam. I nodded, but mentally rolled my eyes thinking there is NO way ChatGPT will know details about geology, hydrogeology, and remediation – my professional bubble is safe from a geosciborg takeover! Celia - Can the cartoon be inserted either here or at the second spot geosciborg was mentioned? I think the second spot might be better.

Later that week, while working on a complex vapor mitigation design plan involving calculation of air exchange rates in a building and in the sub-slab zone, I decided to give ChatGPT a whirl. I asked: “What are the vapor intrusion formulas to calculate air exchange rates? What are the appropriate air exchange rates in a building and beneath the floor slab to prevent volatile organic compounds from penetrating the building?” To my surprise, ChatGPT knew the calculations, provided examples, and cited references. I became curious if the geological fields have tapped the AI market, and the answer is most definitely! (Note to self: re-evaluate 2024 entry-level hiring plan).

As geologists, our work generates volumes of data that may require graduate students, data managers, or interns to organize, tabulate and filter the data. Professors, scientists, engineers, and geologists then interpret the results to develop hypotheses, design resource explorations or remediation plans, etc. Below are examples of how AI is being used in mineral exploration, oil and gas exploration, prediction of geologic hazards, water resource planning, and geotechnical work.

Mineral exploration is a crucial field that supports finding untapped resources such as those required for electrical vehicle batteries. For example, in western Australia, AI systems are being used to process complex remote sensing data, drilling data and mineral composition data to identify patterns and anomalies that could indicate the presence of mineral deposits, by increasing accuracy and efficiency in field exploration.

Within oil and gas private industry, AI is increasingly utilized to improve data interpretation quality. Some leading US petroleum companies currently use AI to analyze seismic data obtained from geophysical surveys and create high-resolution subsurface geologic images. In turn this tool aids geologists to locate potential oil and gas deposits, evaluate production rates, reservoir conditions, pressures and other factors that leads to improved production and reduced costs.

Within the USGS an experimental AI system called “Shake Alert” can analyze seismic data to attempt to provide early earthquakes warnings. The system is currently being tested in California in hopes that lives can be saved in the event of a major earthquake. Beyond the US, the Google Earth Engine has successfully identified areas with landslide risks in Nepal by analyzing satellite images.

AI is the ability of computer systems to perform tasks that typically require human intelligence...



Continued on Page 8

ChatGPT *Continued from Page 7*

Further, groundwater supply projects from the Indian Institute of Technology Madras, USGS, Australia's Commonwealth Scientific and Industrial Research Organization, and University of Waterloo incorporate dissimilar datasets including satellite images, geologic maps, hydrogeologic models, meteorological data, and aerial electromagnetic surveys to identify areas of groundwater recharge and potential untapped groundwater aquifers, particularly in remote and difficult to access areas. Data from sensors, monitoring systems and locations with known contamination are incorporated to assess potential groundwater impacts.

In the geotechnical industry, researchers at ETH Zurich utilized AI to detect and classify rockfall hazards from high-resolution images of mountainous terrain and apply the result to the development of more effective mitigation strategies. In addition, Cognitech developed AI that can analyze geological surveys, soil and rock samples, and geotechnical lab data to find ideal sites thereby reducing the risk of foundation failure and other construction-related problems.

The soon-to-arrive Microsoft Copilot aims to help perform research, interpret technical data, provide updates on environmental regulations and policies, and assist with drafting technical reports and correspondence.

This is an exciting time to embrace AI for insight into Earth systems. There remains a need to understand the legal and ethical considerations of using AI in our industry, but that's for another article.

By the way, ChatGPT developed approximately 90% of the content of this article and wrote 75% of the article itself. (Except then Vicki spent five-plus hours editing it to be newsletter-worthy and not so... robotic in prose!) So, seems we're safe from a full-fledged geosciborg takeover for at least the next few months. Cheers!



Caption for the two pictures above

PCPG is now on Instagram!

PCPG is excited for the opportunity to connect with as many people as possible on social media.

While signed into your Instagram account, check out [pcpg_rocks](#) or search for [@pcpg_rocks](#).

Be sure to FOLLOW us to see how easy it is to keep up to date with [PCPG](#) to see updates on educational programming, announcements, and more.

DISCOVERING THERMAL INFLUENCES THROUGH DRONE FLIGHTS

By Mark Dhruv, Scientist, GISP, EA Engineering, Science, and Technology, Inc., PBC

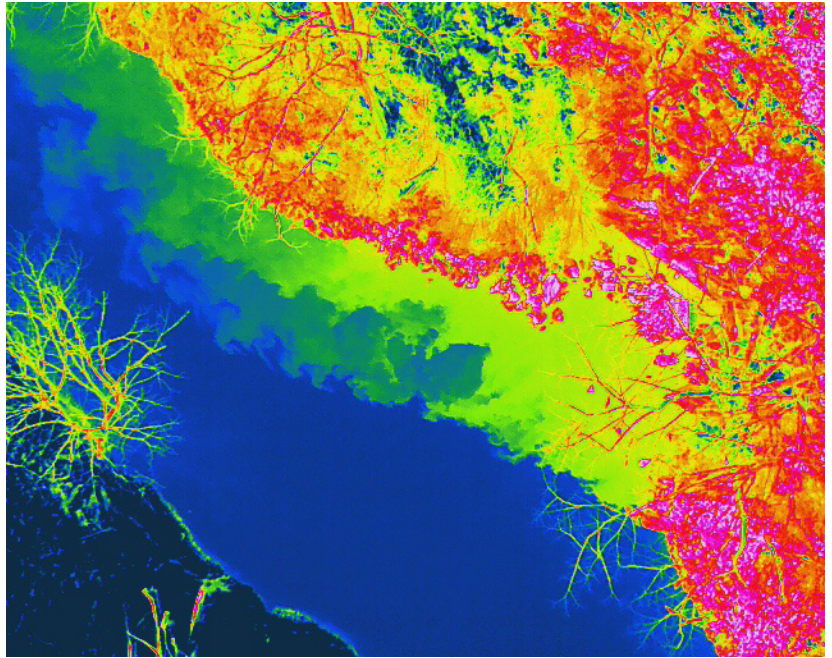
The search for seeps from a capped landfill or groundwater discharges into a trout stream is often difficult to accomplish if one is relegated to simply what can be visually observed. A hike across the fields atop a capped landfill looking for wet ground or spotting anomalous currents in a slow-moving stream can be hit or miss and often requires more personnel hours than a budget may allow, but applying drone technology can be a valuable addition to field expertise.

On a recent seep survey at a capped landfill, an EA Geologist utilized a DJI Mavic 3 Pro drone equipped with a thermal sensor, flying it across the open ground and streaming live video back to the drone's handheld controller. The geologist watched in real-time as the blue-to-red color patterns morphed into various shapes on the controller's video screen. The stark changes in color identified spots on the ground where a potential seep might be present. Using the GPS function on the drone, the geologist pinpointed locations she would target for field-verification, eliminating labor hours that would otherwise be required for hiking across the expanse of the former landfill.

This particular DJI Mavic 3 Pro drone was about the size of a football when folded up and came equipped with a thermal sensor capable of picking up temperature changes as slight as a tenth of a degree. The sensor was capable of live streaming the temperature data to a handheld controller where the geologist could view and record the results in real time. At any point, she could hover the drone over an area of interest, capture a spatially accurate photograph of the thermal anomaly and bring that image into an application for further analysis.

Much like flying over terrain to identify thermal changes, using the thermal sensor for capturing stream temperatures can turn a seemingly homogenous stream into a mosaic of varying temperatures, swirling with the currents. A survey conducted on Pine Creek in western Pennsylvania for the identification of groundwater upwelling locations as part of a habitat mitigation project, allowed EA fishery biologists to make real-time decisions on the placement of refugia to maximize the effectiveness of habitat improvements.

These are just two examples of how drones, and the variety of sensors available to capture different types of data, can be an additional tool in a professional geologist's toolbox to enhance project deliverables and reduce costs.



Thermal anomaly from groundwater upwelling in a Pennsylvania trout stream.

NEW PCPG **CORPORATE MEMBER**

Please join us in welcoming our newest
PCPG Corporate Member:

MEISER & EARL, INC. / Hydrogeologists

2730 Carolean Industrial Dr., Suite 100
State College, PA 16801
(814) 234-0813



Interested in becoming a PCPG Corporate Member? Visit our [Join PCPG](#) page, then [download](#) the Corporate Membership application. Bundling multiple Individual Memberships into a single Corporate Membership provides up to 25% discount for each professional enrolled. Telephone PCPG by dialing (717) 730-9745 for more information.

SUMMERTIME SAND SLIME

By Leslie Tintle, Senior Project Scientist, Sanborn, Head, and Associates, Inc.

It is finally summer vacation! While you wait in anticipation for your next summer beach trip, here is a fun craft to “tide” you over.

Supplies

1. ½ cup of white PVA school glue
2. ¼ cup of liquid starch
3. ½ cup of water
4. Sand - Collected from your favorite beach, or play/craft sand you can purchase at a store or online.
5. Paper towels
6. One glass bowl
7. Measuring cups
8. Small plastic shovel and sea shells to play with your Sand Slime

How to make your Sand Slime

1. Measure and add ½ cup of clear glue to your glass bowl.
2. Add ½ cup of water to the bowl with the glue and mix both together well.
3. Add several teaspoons of your sand into the glue/water mix, and mix well.
4. Measure and add ¼ cup of liquid starch to your bowl and stir.
5. Your sand slime will begin to form immediately. Keep stirring until the slime pulls away nicely from the bottom and sides of the bowl.
6. Begin kneading the slime with your hands until it is the consistency you want (generally knead for a few minutes)
7. Your sand slime is now ready for you to play with and enjoy!



Image sourced from:
<https://littlebinsforlittlehands.com/homemade-sand-slime-recipe>

Slime fun fact:

Is slime a liquid or a solid?

It is called a non-Newtonian fluid because it is actually both a solid and a liquid!

To store your Slime:

Keep it in a reusable container, either plastic or glass will work.

The majority of the sand we walk on and play with at beaches is made up of silicate minerals or silicate rock fragments, the most common being quartz (SiO₂). Often starting thousands of miles from the ocean, rocks slowly travel down rivers and streams as they are swept to the ocean, breaking down along the way. When the rocks reach the oceans, waves and tides bombard them and turn them into small particles covering the beaches.

DEADLINE FOR OUR NEXT NEWSLETTER IS JULY 31, 2023

- **Are you a geologist/artist?** Send us a geo-cartoon, picture of a rock/mineral painting of yours, other creative elements we can include!
- **Are you a geologist/photographer?** Send us your cool rock/rocky landscape pics!
- **Are you a geologist/academic researcher?** Send us a summary of your latest research!
- **Are you a geologist/project manager?** Send us a summary of your latest really awesome project!
- **Are you a geology student/recent grad?** Send us a summary of a class project, technical paper, field camp experience, senior thesis, etc.!
- **Are you a geologist/lawyer?** Send us a summary of the latest geology-related legal news!
- **Are you a geologist/site safety officer?** Send us reminders of how to stay safe on the job site!

Articles are suggested to be about 700 words maximum. For more information, contact our PCPG Newsletter Editor and Communications Committee Co-Chair - Vicki Pitman, P.G., by [email](#).

PCPG ASSOCIATE AND CORPORATE MEMBER SPONSORSHIP RATE

(Rates are listed as amount per issue)

Size	Commitment:	1x	4x
1/2 Page Horizontal (8" x 4.7")		\$225	\$150
1/2 Page Vertical (3.875" x 9.375")		\$225	\$150
1/4 Page Horizontal (4.7" x 3.875")		\$140	\$95
1/4 Page Vertical (3.875" x 4.7")		\$140	\$95
Business Card (H or V)		\$75	\$50

OTHER SPONSORSHIP RATES

(Rates are listed as amount per issue)

Size	Commitment:	1x	4x
1/2 Page Horizontal (8" x 4.7")		\$300	\$240
1/2 Page Vertical (3.875" x 9.375")		\$300	\$240
1/4 Page Horizontal (4.7" x 3.875")		\$185	\$150
1/4 Page Vertical (3.875" x 4.7")		\$185	\$150
Business Card (H or V)		\$100	\$80

ADS MUST BE SUBMITTED AT CORRECT SIZE AS STATED ABOVE AND MUST BE PRINT-READY, 300 DPI

FILE FORMATS ACCEPTED: .PDF, .TIF, .JPG, OR .PNG

SPONSORS: Please remit payment to PCPG, 116 Forest Drive, Camp Hill, PA 17011

PCPG ASSOCIATE MEMBERS



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Elk Environmental

Contact: Jestyn Newswanger (610) 372-4760



Eurofins Lancaster Labs Environmental

Contact: Andrea DeCola (908) 809-9243



MOUNTAIN RESEARCH, LLC
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Mountain Research LLC

Contact: Pat Replogle (814) 949-2034



Parratt Wolff, Inc.

Contact: Josh Ellingworth (570) 523-8913



SUBURBAN TESTING LABS

Suburban Testing Labs

Contact: John Weisman (610) 207-8154