President’s Column

We do good.

by Callan Bentley
Northern Virginia Community College, Annandale, VA

The air in Kansas this summer was something to behold: it was thick with heat and humidity. The sun felt a lot closer than 1 AU. Walking from my hotel to the Earth Educators’ Rendezvous was astonishingly uncomfortable, and though I sought shade along the route, I invariably showed up drenched in sweat. Once ensconced indoors, it would take my body about half an hour to cool down. The only place I’ve ever experienced super intense heat like that previously was in the jungles of Borneo. I thought Virginia in the summer was hot, but this was just nuts!

In spite of the thermodynamics of the Kansas atmosphere, I had a great time at the Rendezvous. There is nothing else quite like it for bringing together “our people” - the people who have dedicated their careers to enhancing the world’s understanding of geoscience. I really enjoyed getting to connect with colleagues new and old. I’m now far enough along in my career to realize that there’s a special feeling where you get to repeatedly visit with a peer over the years, building a professional relationship that feels more solid with each visit. And
of course there’s a different kind of delight in meeting new people, hearing their motivations, learning from their stories.

In conjunction with our friends in the GER division of NAGT, Geo2YC hosted a happy hour event at the Rendezvous. Many of you were there, which is terrific!

For those who weren’t, here’s a recap: The venue was a great cafe located in the middle of campus, right across the street from the multi-building geology complex. We had a nice crowd turn out for drinks and tasty appetizers.

A lot of convivial conversation commenced. We shared stories, supported one another, strengthened our networks. I look forward to similarly good vibes resulting in November at the annual meeting of GSA in Indianapolis, when we’ll have our division meeting on Sunday afternoon, followed by the Geoscience Education reception. See you there, I hope.

At the time I write this, the Perseid meteor shower just concluded. It’s so wondrous to contemplate those streaks of light in the sky; to recognize what they are and what they mean. The nebular theory for the formation of our solar system is an ongoing process: thanks to gravity, our solar system gets a little cleaner every time the Earth intersects the orbit of one of those space rocks. A streak of light in the night sky, and the Earth gains a few pounds, and the planetary neighborhood has a few less chunks of Comet Swift–Tuttle left rattling around. If I had it all to do over again, I’d be sorely tempted to be an astronomer. The superlative wonders of the larger universe boggle my mind, and I doubt I’ll ever stop being fascinated by them. The only issue with the profession would be the lack of outcrops. The main data that astronomers have to work with is light - light of many varieties. Meteorites are a critical supplement, but I’d miss being able to derive most of my information from solid rocks that I could go and put my hands on.

From Kansas, I flew this summer to Montana, where I teach a one-week field course for teachers about the geology of Glacier National Park. Getting to put their hands on outcrops is a learning experience that can’t be matched. To learn how to think about a rock - you must go to the field for that. Looking at it through a telescope would be insufficient. You must sense it more fully: taste it perhaps, hear it ring when a hammer hits it. You must move around these outcrops, walk closer for details, step back for the bigger picture. They must be experienced in three dimensions. Even better is to crawl up inside them - like a little cavelet hollowed out of this kink band running across a cliff along the park’s Siyeh Pass Trail:
My semester starts next week, and I head into it feeling rejuvenated by these summer experiences: the week of superlative field geology, the robustness of the meeting in Kansas, as well as fun travels with my family. I’m freshly cognizant of what a great job we have: this privilege of knowing our way around an interesting planet, and sharing that understanding with our students. They come to us hooded and blinkered, not able to see how their home works, and then we get to guide them over a semester or a quarter or a trimester or a field course and they leave knowing better their place in the grand sweep of deep time, why the land is shaped the way it is, how they depend on the planet, and perhaps also their role in maintaining a balanced Earth system. Along the way, we nurture a sense of community, of belonging, and we help these students build college skills that they will apply down the line in dozens of classes, not just geoscience classes. We help them in ways subtle and profound.

We do good.

I’m grateful to have my job, and I’m so glad that you are able to do yours. I’m also really grateful to have had the opportunity to helm this organization over the past year. In Indianapolis, I’ll pass the presidential baton to Joy Branlund, and she and VP Jackie Hams will lead us through the next few years. We have a great organization, and the bonds between its members are stronger than ever: we are well positioned to do great things together. What ideas do you have about the future of Geo2YC? We want to hear them; please get in touch, or let’s chat at GSA. Let’s make some awesomeness happen here on the most interesting planet in the solar system. 🌍

### 2018 Paleontological Society Short Course: Pedagogy and Technology in the Modern Paleontology Classroom

**by Rowan Lockwood (College of William and Mary), Phoebe Cohen (Williams College), Lisa Boush (University of Connecticut)**

Do your historical or paleontology classes feel a bit stale? Do you have a tough time keeping up with the latest in educational research? Are you just starting out your teaching career or gearing up for one? Then make sure you join us for the 2018 Paleontological Society Short Course **Pedagogy and Technology in the Modern Paleontology Classroom** on Saturday, November 3rd from 9am-5pm at the Indiana Convention Center, Indianapolis, IN.

Our goal is to get the entire paleontological community excited about education and to help participants brainstorm effective strategies for teaching paleontology and earth history. Participants will leave the short course with new ideas for their classes, including concrete examples of in-class activities, labs, field trips, and more.

The short course is free and open to all paleontologists and educators at any career stage including students. Pre-registration is not required to attend the short course but highly encouraged.

https://wmsas.qualtrics.com/jfe/form/SV_1ANYpn3N2JPpyOV

The program includes a combination of lectures and breakout sessions with a focus on general teaching topics in the morning, and teaching with online databases (including PBDB, Macrostrat, and Neotoma) in the afternoon. Topics to be presented include active learning strategies, flipped

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**Outstanding Adjunct Faculty Award: Call for nominations**

If you have a colleague who inspires you to try new teaching strategies, who shares innovative classroom assignments, who makes a difference in your department, or who simply does an amazing job of encouraging their students and community to engage with geoscience, please nominate them for recognition at:


If you would be interested in serving on the award committee, please contact Karen Layou at klayou@reynolds.edu for more information.
classrooms, incorporating research into teaching, kinesthetic learning, how students learn, diversity and inclusion in the classroom, and confronting prior conceptions. Check out the website for a list of speakers and talk titles.

Sample teaching ideas and activities will be made freely available via the SERC (Science Education Resource Center) website. Short course presentations will be published by Cambridge University Press as an online volume free to all PS members.

We hope that you can join us in Indianapolis! And please let us know if you have any questions…

Summer Outstanding Adjunct Faculty: Meredith Denton-Hedrick
by Bob Blodgett
Austin Community College, Austin, TX

Meredith's initiative, innovation, passion, and skill as a geoscience educator have made her an invaluable colleague, outstanding teacher, and dedicated mentor. She came to the college as an experienced exploration and production geophysicist and rock-mechanics consultant, only to find that she needed paleontology to teach Historical Geology and meteorology to teach Natural Hazards and Disasters. She delved into both with typical fervor – learning local Cretaceous index fossils and becoming a National Weather Service Storm Spotter. With only 3 full-time faculty covering 5 campuses Meredith adopted an entire campus and transformed it – building a teaching collection, creating a rock, mineral and fossil display, and covering the halls with framed maps and charts. She helped students organize the college's first Geology Club and as co-advisor has co-led trips to West Texas, given career talks, and worked with students to build an augmented reality sandbox – all without remuneration. Seeing the need to reach students outside the classroom, Meredith created and maintains our first Department Facebook page.

Constantly seeking to improve her teaching, she has participated in multiple SAGE2YC workshops, the Earth Educators Rendezvous, and The Math You Need When You Need It project. She freely shares her knowledge by conducting faculty training in The Math You Need, two-stage exams, and IF-AT cards. Meredith developed our first distance learning offering of Natural Hazards and Disasters; her course has a waiting list each semester and attracts students from across the country.

Students and colleagues have nominated Meredith four times for the college's Teaching Excellence Award and she recently received a NISOD Teaching Excellence Award. Meredith is especially passionate in helping women excel and is a volunteer for the Roy J. Shlemon Mentors in Geology Program. With her encouragement and guidance, our students have participated in the On To the Future program, given GSA poster sessions, and received internships with state agencies and UNAVCO. The ultimate testimony to Meredith's outstanding work are comments from her student evaluations: "she is literally the best professor ever"; "really passionate and amazing"; "awesome"; "genuinely cares about students"; "very helpful in working around my disability"; and "I look forward to attending her class every day".

You can now follow us on Twitter: @geo2yc

Meredith Denton-Hedrick at Big Bend National Park.
Fall Outstanding Adjunct Faculty: Mariah Tilman

*Geology Department*
*Chemekeeta Community College, Hayseville, OR*

Mariah is an incredible adjunct who has been an active part of our department. She is both a valued colleague and a dear friend. She works as hard as each of the full-time faculty and also is incredible at picking up classes when full time people are absent. She is very involved with the department and creating, commenting on, and sharing curriculum. She has contributed a great deal of her own material to the 3 Pacific Northwest Geology lab manuals that have been published through Chemeketa Press. She is always of the mindset that old material can be improved upon and new material should be created. She is helping us developing them further and has shown interest in continuing the effort to reduce textbook costs for our students. She also has a knack for developing meaningful field trips for a variety of geology classes. I have had the pleasure of doing field trip reconnaissance with her in areas that have ranged from the Oregon Coast to Mt. St. Helens to the local Santiam River.

Mariah in her favorite environment.

Beyond her kindness and ability to collaborate professionally, perhaps her most important qualification as a community college professor is her talent as an instructor. Working alongside her these past two and a half years, I observed many of her interactions with students. In class, she is fun, funny, and engaging. She is able to captivate her audience with her impressive knowledge of Pacific Northwest geology as well as her fascinating background in Volcanology. Out of class, she is patient and determined. When a student seeks help from her, she does not give up until he or she understands. This was further illustrated to me when I had the honor of sitting in on one of her prison classes last winter. Her very special ability to respectfully instruct and engage a room full of male inmates in a non-traditional classroom was truly an inspiration. Mariah has instilled in me a revitalized sense of what it means to be an effective community college instructor.

She has filled multiple roles in our school, including the College Inside program. She also works on outside interests that directly, positively impact the geology department. She is truly a wonderful teacher and her students love her. I don't know where we would be without her.

The Supporting and Advancing Geoscience Education at Two-Year Colleges (SAGE 2YC)

*By Eric Baer*
*Highline Community College, Kent, WA*

The Supporting and Advancing Geoscience Education at Two-Year Colleges (SAGE 2YC) project is offering several workshops at upcoming professional meetings.

**GSA Meeting, November 3-7, Indianapolis**

In conjunction with the 2018 annual meeting of the Geologic Society of America in Indianapolis, there will be a short course “Supporting Diversity in Two-Year College Geoscience Programs: Broadening Participation of Underrepresented Groups” on Saturday, November 3rd. This short course will offer strategies for attracting students to geosciences and
for helping them thrive, particularly those from groups underrepresented in the geosciences. There will be demonstrations of using course outcomes data on participation and success to investigate questions related to student population demographics. Participants will leave with specific practical strategies to implement in their classes and programs, as well as examples of discussion points to take back to their programs. Registration and more information is available at https://serc.carleton.edu/sage2yc/workshops/GSA18_diversity/index.html

Also at the GSA meeting SAGE 2YC will offer a mini-workshop “Funding Opportunities to Support Two-Year College Students, Faculty, Programs, and Collaborations” on Monday November 5 at 5:30 pm. Join Program Officers from NSF and successful proposal writers for a session to explore options for external funding and strategies to help make your proposal a successful one! No need to pre-register, just show up at the Marriot Hotel in room 102.

AGU Meeting, December 9-14, Washington DC

At the 2018 Fall American Geophysical Union meeting in Washington D.C., SAGE 2YC will be offering a workshop entitled “Building Strong Geoscience Programs at Two-Year Colleges” on Monday, December 10 from 1:00 to 4:00 pm. The workshop will provide an opportunity for participants to analyze strengths and opportunities of their program, discuss alignment of program goals with institutional goals, and explore approaches for investigating program initiatives using student success and completion data. The workshop will also present strategies to help programs develop a thriving community of students and faculty. Workshop participants will leave with specific practical strategies for their courses and programs and will develop and receive feedback on an action plan to strengthen their geoscience program. Information about the workshop is available at https://serc.carleton.edu/sage2yc/workshops/strong_programs18/index.html.

Also in association with the AGU meeting, SAGE 2YC is partnering with COACH to offer a workshop “COAChing Strong Two-Year College Educators in Strategic Negotiations” on Sunday, December 9 before the meeting. You do not need to attend the AGU meeting to participate in this workshop, and this is open to chemistry and other STEM faculty, so be sure to let others know about this. Apply for this workshop at https://serc.carleton.edu/sage2yc/workshops/AGU18_coach/index.html.

Finally, there are many SAGE 2YC regional workshops led by SAGE 2YC Change Agents taking place across the United States over the next several months. To find if there is one being offered in your region, peruse the Workshops and Events page on the SAGE 2YC website: https://serc.carleton.edu/sage2yc/workshops/index.html.

Creating a Merit Badge University
By Beth A. Johnson
University of Wisconsin-Fox Valley, Menasha, WI

On many Saturdays at the University of Wisconsin-Fox Valley, the hallways are filled with varying levels of students. However, unlike a regular weekday when those students are college-aged adults, these weekend students are eager scouts working toward earning the next merit badge, the next rank, or the next level up in their scouting careers. Thanks to many dedicated faculty, staff, and college students, UW-Fox Valley has a vibrant, thriving scouting program that not only benefits the scouts, but the campus and students, too.

This badge program owes its existence to one dedicated staff member at UW-Fox Valley: Rose Marie Lewis, a laboratory technician for the Science Wing. After spending years working with the local council of the Boy Scouts of America while her son was involved in scouting, she approached the Chemistry Club on campus about running a Chemistry Merit Badge workshop for the local
scouts to earn a badge that was hard for them to get. The small fee they charged would cover the cost of supplies and whatever was left over was intended to help the club attend a local section meeting of the American Chemical Society. They had over sixty scouts sign up for the “small” workshop, which then had to be divided into two workshops and co-taught with a chemistry instructor. These workshops have since branched out to help benefit several other campus clubs. Six student clubs on campus now offer workshops for over twenty merit badges, including geology, soil and water conservation, Citizenship of the Community/Nation/World, electronics, nuclear science, public health, and sustainability, to mention a few. For some merit badges, the workshops hosted by these clubs are the only opportunity for scouts to earn these badges in the entire state. Scouts come from hours away, including some troops in Michigan’s Upper Peninsula, to have a chance to earn these badges, and many troops will make the event a weekend camping trip to give their scouts more experience with wilderness skills.

This program also benefits from the support and occasional participation of Dr. Martin Rudd, UW-Fox Valley’s former campus dean and new Assistant Chancellor. Dr. Rudd participated in the Boy Scouts growing up in the United Kingdom and made it all the way to the rank of Queen’s Scout (the equivalent of Eagle Scout in the United States). As a result, he is a big supporter of scouting programs and has paved the way not only for the expansion of the number of workshops, but to ensure that the clubs sponsoring them receive all the proceeds. He also serves on the Executive Board for the local Boy Scouts of America council and advocates this program with its members.

A typical merit badge workshop will be sponsored by one of the student clubs on campus. This club supplies the expertise needed for the badge (i.e. a requirement for the geology merit badge is that the scouts have to talk to a geologist, so the campus geology professor runs the workshop) as well as club members to help out with the activities. As excited as some scouts are to meet the professors in these fields, they are even more excited about working with the college students. (Trust me, we “old folks” don’t even rate in the scouts’ eyes at that point!) The clubs also collaborate with other institutions such as the Weis Earth Science Museum on the UW-Fox Valley campus to offer more opportunities for the scouts to learn. Workshops are usually held on Saturdays and last for four to six hours, merit badge depending, and alternate between lecturing, group work, and hands-on activities to keep the scouts engaged (Figures 1 and 2). Activities include visiting the Weis Museum, playing Constitutional Jeopardy, and making their own weather equipment. Programs such as those for the Chemistry and Geology merit badges often give scouts the opportunity to create a little mayhem and include demonstrations with a liquid nitrogen volcano or elemental sodium in water, videos of which occasionally end up on social media. By the end of the workshop, all the badge requirements have been met and the scouts walk away with their badges or badge applications in hand and certified.

College students and the campus also benefit from these programs. The college students that participate have the opportunity to volunteer with the community, satisfying personal needs to help as well as volunteering requirements for classes/churches. The proceeds earned are then used to fund activities and scholarships. The Geo-Adventurers Club alone has been able to award over two thousand dollars in club scholarships over the last four years, helping a total of eleven students continue their studies. International students and faculty members are often invited to speak to the scouts in workshops for Citizenship in the World, where they get to talk about their home countries, cultures, languages, and cuisine, sometimes including samples of that cuisine to try. Through these workshops, scouts have had the
opportunity to speak with individuals from the UK, Dominican Republic, Germany, Nigeria, and Pakistan, to name a few. In one memorable instance, a young Boy Scout asked a speaker from Pakistan why Muslims “hate us so much they want to kill us.” Every adult in the room held their breath at that point, but the speaker’s words were so thoughtful and heartfelt about the true meaning of Islam and its message of respect for life and kindness that we were all in tears. So, it’s not just the scouts who learn something.

Even more important than helping scouts learn is inspiring future career paths. These merit badge workshops have been hosted on this campus for nearly a decade now, long enough that the young scouts we once taught have grown up and are attending college. Some of those students made the decision to study at UW-Fox Valley because of the subjects they learned and the faculty and staff they met while in these workshops.

Looking back at this article, one can correctly deduce that the majority of this work has been undertaken with various Boy Scout troops in the region. This is not because of preference, but circumstance. Those faculty and staff who participate in these workshops have tried reaching out to local Girl Scout troops several times over the years to give them the same opportunities, but met with little success. It wasn’t until this year, interestingly after the heavily-publicized announcement from the Boy Scouts of America that they would begin allowing girls to participate in BSA troops, that the local Girl Scout council finally reached out to UW-Fox Valley and asked to be included in the badge program. Several faculty members have been working together to develop options for workshops devoted solely to Girl Scouts as well as workshops for mixed groups of scouts. The latter is getting some attention from families accustomed to past single-gender workshops. However, as the author stated when speaking with one such parent, “I teach all genders that come through my classroom door. Period.”

But this program is not done yet. Demand for these workshops continues to increase, both in the academic year and in the summer. UW-Fox Valley is working toward establishing a “Merit Badge University,” a multi-day series of workshops that scouts can choose from. Scouts could also potentially be able to earn some of their required camping hours by camping at one of the nearby state or county parks, helping scouts make significant progress in their goals while learning a number of important skills. For those who are considering establishing their own scouting badge programs, here are a few things to keep in mind:

At any point, a visitor to the UW-Fox Valley campus can walk through the halls and see evidence of community involvement from the scouts. Over the last several years, a number of Eagle Scout projects have been completed for the campus that enhance the campus’ appearance and functionality. Eagle Scout projects have included protective display cases for awards and trophies, museum educational displays for fossils, and a unique conservation and restoration project of a one-of-a-kind topographic model of the region surrounding the campus. Planned projects for the future include a campus prairie restoration and the construction of an augmented reality sandbox.

For all of them, Ms. Lewis serves as a point of contact for the scout and helps raise funds to purchase the supplies for the project, helping to take some of the financial burden from the scout.
- Make sure to consult with your local scouting councils to learn about rules for group events as well as to get the event advertised on their webpage.
- For Boy Scout workshops, check into the requirements for becoming a counselor for the merit badge you wish to offer.
- Keep your own mailing list for troop leaders and organizations that sponsor scouting troops. One of our personal complaints is when our events do not get posted on the council’s website.
- If planning on using student volunteers for these workshops, avoid scheduling them around final exams or at the start of major breaks from classes (i.e. spring break). Faculty participation in these workshops can provide insight on the best – and worst – times in the semester to schedule them.
- If you are charging a fee for workshop participation, be upfront about what the money is used for (supplies, scholarships, club activities, etc.). Most of our workshops have a fee of $10-15. The faculty members donate their time.
- Make sure to establish protocols for scout supervision while on campus, whether they are in the classroom, going to the restroom, or looking for vending machines.
- If a workshop is sponsored by a student club, encourage the students to participate. At UW-Fox Valley, the rule is that if a club wants the funds for their activities, then at least one club member must participate in the workshop. Otherwise, the funds are used for other purposes.

It’s hard work, but a great experience. Good luck!

**Readers’ Geo2YC Pencil Photographs**

If you have taken your Geo2YC pencil anywhere this past year, or even have a cool rock formation where you live or work that you can grab a photo of using the pencil as scale, please consider submitting it to the newsletter for publication. Please send a jpeg to the editor suki.smaglik@gmail.com. Please also include a caption for your image. All we need is an approximate location. You are welcome to give coordinates if appropriate to do so. If you do not yet have a pencil, look out for an NAGT booth at GSA.

*Moon jelly fish at Cabrillo Aquarium, CA. Photo by Elizabeth Nagy-Shadman, Pasadena, CA.*

*Here's a picture from the Chesapeake Bay! We have a new research vessel here at Thomas Nelson CC to use with our oceanography and geology classes. Photo by Pete Berquist, Williamsburg, VA.*
**Rocky Reflections**

*By Mike Phillips*

*Illinois Valley Community College*

I was led to this outcrop, on Chuckanut Drive a few miles south of Bellingham, WA (see photos below), by Dave Braun, who introduced me to the earth sciences when I was high school freshman in 1978. Dave was one of my favorite high school teachers, and we kept in touch. Before I went to field camp as an undergraduate, Dave reassured me and provided much-valued guidance. As a graduate student and working geologist, I returned to Dave's classroom to talk to Dave and his students. In the 1990's, Dave moved to Bellingham, WA, to teach science at the K-12 school on the Lummi Reservation. He helped his students paint murals on the school walls that included themes of earth and space science. In the summer, Dave painted murals at a paleontology museum in Montana. When my travels took me to Washington State, I would call Dave and we would spend a day or two roaming the Cascades and coast looking for rocks, fossils, volcanoes, and whatever else struck us as interesting. We had fun showing each other interesting things.

After the 2017 GSA meeting in Seattle, my wife and I drove up to Bellingham and spent a day with Dave. We got to see his classrooms (including a project where his students were sifting shale samples from Montana looking for fossils). It was an early dismissal day, so we had lunch on the waterfront in Bellingham, and explored Chuckanut Drive where we saw these fossils as well as a fossilized log, and some eroded beach terraces. As the day ended, Dave recommended a few places to visit on our return drive to Seattle that were, of course, unusual, interesting, and beautiful. In mid-January of this year, I received the sad news that Dave had died suddenly, of natural causes, after feeling ill at school.

When I reflect back on the impact this high school earth science teacher had on my life, it is truly remarkable. I took general earth science as a college freshman because I enjoyed Dave's class in high school. Within a year, I had changed my major to geology and embarked on a passion and a career. Dave was always available to discuss my endeavors. I hope that I can have the same impact on students that Dave had on me. Because of Dave, I take that responsibility seriously and happily. What could be better than spending a day poking around the earth with a good friend?

*(photos on next page)*
Alder leaf and palm frond fossils in the Chuckanut Fm (Eocene) at an outcrop on Chuckanut Drive a few miles south of Bellingham, WA. Photos taken in October 2017 by Mike Phillips.

Deadlines for future *Foundations* issues. Submit your stories, experiences, experiments, photos, awards, etc. to the editor [sukismaglik@gmail.com](mailto:sukismaglik@gmail.com) any time prior to each deadline.

- Friday, December 7
- Friday, March 2
- Friday, June 1

*Yakima Valley College, Yakima, WA*