THE GEOLOGICAL SOCIETY OF AMERICA®
QUATERNARY GEOLOGY & GEOMORPHOLOGY DIVISION

Quaternary Geologist & Geomorphologist

June 2021

Volume 62, No.1

Newsletter of the GSA Quaternary Geology and Geomorphology Division
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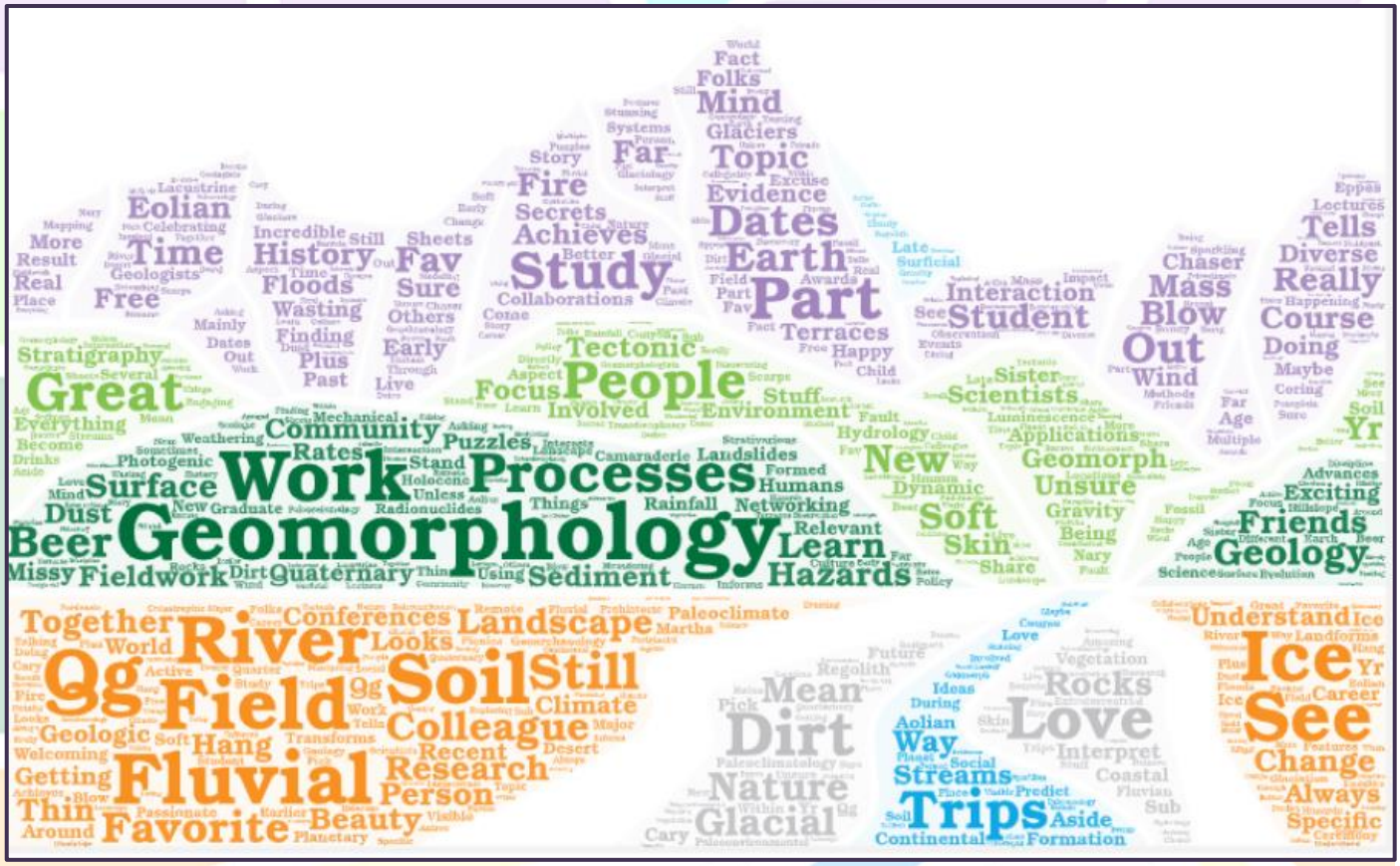

What do you like about QG&G? The above graphic was created from text entered by Division members in response to that very question during the registration for the **first virtual QG&G Awards Ceremony Extravaganza** at the GSA Connects 2020 fall annual meeting.

GSA Quaternary Geology and Geomorphology Division Newsletter

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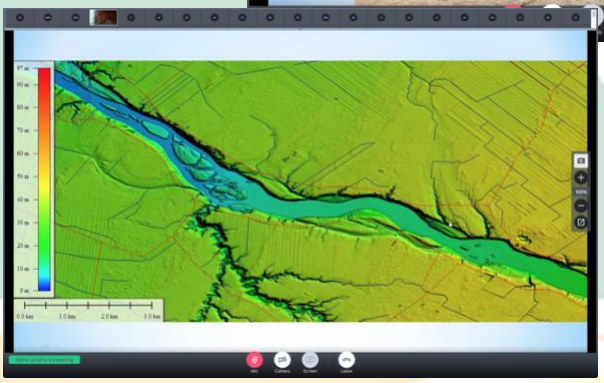
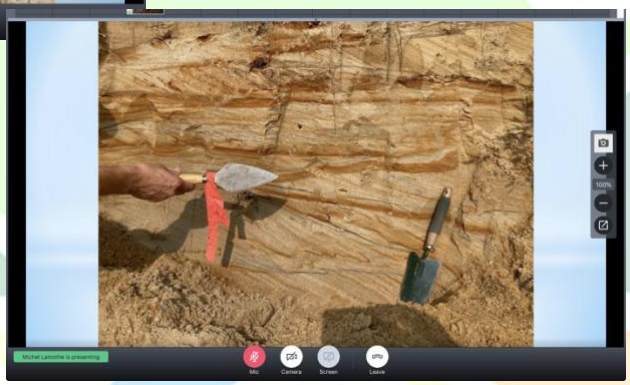
The **first virtual fall meeting at GSA Connects 2020** involved many new experiences including virtual presentations, a virtual QG&G Awards Extravaganza and the first (and very successful) virtual Kirk Bryan Field trip, *Pre-LGM stratigraphic record in the Central St. Lawrence Lowlands: How much ice in southern Québec and adjacent New England during MIS-3?*, led by Michel Parent and Michel Lamothe (depicted in the screen shots here).





Although we learned much from this experience including many advantages and disadvantages to a virtual conference, we missed the personal interaction most. We hope to see many of you in person at GSA Connects 2021 in Portland, Oregon this October 10-13th, but hope that you will join us at the meeting either way. *See page 18 for a sneak peek at the 2021 Kirk Bryan Field Trip!*

THE GEOLOGICAL SOCIETY OF AMERICA®
CONNECTS 2021
10–13 October
Portland, Oregon, USA

--- Message from the Chair ---

The past 12 to 15 months have been nothing but surreal! As Quaternary geologists and geomorphologists, we understand the idea of abrupt change and how catastrophic events can alter a landscape, change the composition of our atmosphere, or slow global ocean circulation. Abrupt change now has new meaning. None of us could have been prepared for the turmoil and anxiety of a global pandemic that forced a complete transformation in how we live, work, teach, and maintain families and friendships. I wish I had a dime for every time I heard, “hey, your muted”. We are now so accustomed to holding meetings with up to 49 faces on a screen with yellow boxes around each. We have peered into each other’s homes and shared funny moments with kids and pets entering the field of view. And simple things like making room for others as you pass by on a sidewalk all the while wondering if they are vaccinated or not. The isolation has taken its toll and, let’s admit it, we have all lost something or even someone. So as we forge ahead though 2021, my hope is that somehow the pandemic as made us realize just how connected we really are on this one planet we love to study, and just how connected and resilient we truly must be.

It is not just the pandemic that has changed us, for we have also experienced a social tipping point that provides us with the unprecedented opportunity to become a more diverse and inclusive discipline, a caring society. In the pages of this newsletter, please read about the QG&G Includes Task Force who have taken a leadership role in guiding our Division on how to pivot to action, to create an inclusive, welcoming organization. Just a year ago, No Time for Silence became a movement started by Geoscientists of Color calling for an antiracists science community to take action: to listen, to act and to lead. This call quickly gathered thousands of signatures from individuals, and the endorsement of dozens of organizations, getting the attention of NASA, NOAA, NSF, UCAR, and professional societies. As this movement rightly stated, we are living amid a global outcry for an end to racism, sexisms, ageism of all kinds, including practices of police brutality and a lack of accountability, but also the racism in our health care system exposed by COVID-19. The NSF URGE pods (Unlearning Racism in Geoscience Education; www.urgeoscience.org) this past academic year also provided a rich, nation-wide dialog for change.

Last year the GSA was totally virtual and there were a lot of challenges with the technology but we pulled off a virtual Kirk Bryan field trip and a successful awards night via zoom. I encourage you to get the July 20th abstract deadline on your calendars and check out the list of sessions and field trips listed here in the newsletter. This year will be a hybrid of sorts but we hope many of you will be able to attend in person.

We know that abrupt change can lead to a new normal, a new threshold in the earth’s physical systems. As we look forward to gathering in Portland this fall, let’s celebrate the relevance of Quaternary science to understanding global and environmental change. Celebrate the awards to students and colleagues outlined in this newsletter. But let’s also embrace social change for good. On this point, let’s all unmute!

Julie Brigham-Grette
UMass-Amherst

Quaternary Geology & Geomorphology Division
--- 2020/2021 Officers and Panel Members ---

Officers – 6 Members, three of whom serve one-year terms: Chair, First Vice-Chair, and Second Vice-Chair; and three of whom serve two-year terms: Secretary, Treasurer, and Communications Coordinator.
Management Board – 9 Members: Division officers and the Chair of the preceding year; also includes the Historian and the Student Representative.

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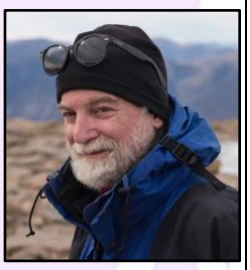

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Brad Johnson
Sarah Schanz

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Alison Anders
Kristen Cook
Eric Leonard

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Julie Brigham-Grette, Karl Wegmann

GSA Councilor Liaison – Wendy A. Bohrson
QG&G Division Liaison – Dominique Olvera
(Both appointed by the GSA President)

Division Awards - 2020

The following awards were given by the QG&G Division at our Annual Awards Ceremony and first Virtual Award Extravaganza on Tuesday, 27th of October 2020, which was previously scheduled for Montréal.

--- The Kirk Bryan Award ---

The Kirk Bryan Award for Research Excellence was established in 1951 and given for a publication of distinction (within the past 5 years) advancing the science of geomorphology or Quaternary geology or a related field. Our 2020 award was presented to **Missy Eppes** and **Russell Keanini**, for their 2017 publication, *Mechanical weathering and rock erosion by climate-dependent subcritical cracking*, Reviews of Geophysics, 55, 470-508. doi: 10.1002/2017RG000557

Citation by Frank Pazzaglia

On behalf of co-nominator Ellen Wohl and ten supporting letter writers, it is an honor to present the 2020 Kirk Bryan Award to my friend and colleague Martha Cary Eppes and co-author Russell Keanini for ***Mechanical weathering and rock erosion by climate-dependent subcritical cracking*** published in Reviews of Geophysics in 2017. In summary, the research presented in this paper is transformative. As geomorphologists we have a general understanding of mechanical weathering processes, and we tend to hold these separate from other processes that chemically alter rocks and minerals. Now because of Eppes and Keanini, our understanding of weathering is at best dated, and at worst, wrong. Here's why. Eppes and Keanini convincingly demonstrate, using field and numerical modeling results, that extraordinary or extreme temperature ranges are not necessary to fracture rocks. Nor is water expansion in pre-existing cracks necessary and sufficient. It turns out that when you rigorously apply fracture mechanics to the problem, you learn that weathering in virtually all rock types progresses by moisture-, that is climate-dependent, sub-critical fracturing under virtually all Earth surface and near-surface environmental conditions. Eppes and Keanini provide a framework for unifying chemophysical weathering processes and like all good science, it is testable and will inspire a new generation of research. Given that rock fragments are found everywhere on the planet, why did it take so long for the Eppes and Keanini discoveries? I feel that the answer lies in the unusual courage that Eppes and Keanini demonstrated in tackling the seemingly mundane problem of why rocks crack, in stepping outside of their normal research comfort zones, and in forging a collaboration that reaches across disciplines. It is a lesson for all of us in how excellent science needs to be done, and how process geomorphology can help us understand and manage the environmental consequences of a rapidly changing world.

Response by Martha Cary (Missy) Eppes

To receive the Kirk Bryan Award in the year 2020, with its extreme duress, elicits a cascade of conflicting emotions and thoughts. My overwhelming feelings of honor and gratification reside side-by-side with my profound sadness in not receiving this recognition under the same roof as the very friends and colleagues who put me here. By that, I refer not just to Ellen and Frank for their nomination – for which I am deeply grateful, but also to all of you – too many to name - who generously gave the critiques, hard questions, skepticism, encouragement, long talks, and yes, even the crack jokes that led to this paper and its ideas. 2020 is the first year since 1995 that I am not

physically present with you at GSA, receiving these annual gifts that ultimately made this paper possible.

Another irony is that Eppes and Keanini (2017) contains no field data when, for my entire career, I have unambiguously and wholeheartedly operated as a field scientist. With this work I departed my comfortable realm of field-based soil geomorphology for an enthralling, and sometimes intimidating, world of fracture mechanics and modeling. But, field observations *do* make an important appearance in the paper, as support of the brilliant simplifications and assumptions that Russ intuitively built into his physical models. As such, our work together was an enormously satisfying marriage of my – and my students' - decades of unexplained field observations, and Russ's modeling - with his dexterity for harnessing the power of basic physical theory and principles. This work was, and continues to be, so much fun.

2020 Kirk Bryan award winners Missy Eppes (left) and Keanini (right).

I want to acknowledge, though, the extent to which this award also arose from luck and privilege; particularly being born to a larger-than-life Judge and to an oh-so-gracious, hard-as-nails Mamma. They had no idea what being a geologist entailed, but they were nevertheless role models who gave me the freedom, inspiration, and tools necessary to pursue my passions – and to acquire supportive mentors. My advisors Les McFadden and Bruce Harrison were especially so. It was Bruce who taught me how physical labor, and tediously acquired data, can reap amazing intellectual profit. And it was Les - with his dazzling knack for solving mechanism-based, desert process problems - that instilled my, possibly preternatural, obsession with cracks in the first place. My luck continues to this day in many forms, but most especially in my fiercely independent husband Jake, and my children Lawson and Oakley. They are always there for me when I need them most.

And finally, I offer up one last seemingly conflicting origin of this paper. After my kids were born, I was forced, for both my sake and theirs, to harshly limit 'doing my best' to a single activity in my career - turning my crack ideas into crack papers. In doing so, I found I could focus on research like I never had before. We are all exhausted right now working, schooling and parenting at home, but this award, given for this particular paper that was written on the heels of some very hard years, should bring us all hope. My most sincere thanks to GSA, to QG&G, to Ellen and Frank, to my family and to all of you for this honor.

*WATCH the 2020 KIRK BRYAN AWARD ACCEPTANCE VIDEO with Missy Eppes HERE and a separate video response by Russell Keanini HERE.

--- The Distinguished Career Award ---

The Distinguished Career Award was established in 1985. It is presented to Quaternary Geologists and Geomorphologists who have demonstrated excellence in their contributions to science. We presented the 2020 award to **Marith C. Reheis**, retired USGS Geologist.

Citation by Daniel R. Muhs

It is my distinct honor to present this year's QG&G Distinguished Career Award to Marith C. Reheis, retired USGS geologist. Marith has indeed had a distinguished career and it is my privilege here to give you an overview of this remarkable woman's accomplishments.

Marith started out at the University of Georgia, where she studied geology and graduated with honors in 1972. She then migrated west, to the University of Colorado at Boulder. There, she worked on an M.S. degree with John T. Andrews and Peter W. Birkeland, studying the Arapaho Glacier in the Colorado Front Range. Her M.S. thesis work appeared in a fine article in the *Journal of Glaciology* in 1975, the first of many publications to come.

After completing her M.S. degree, she went to work for the U.S. Geological Survey, where she was to spend the rest of her career. Her first project with the USGS was geologic mapping for what was then the Conservation Division of the agency, in the Danforth Hills Coal Field in Colorado. She published geologic maps of three quadrangles in support of this project over the next five years. From this project, she migrated into the former Engineering Geology Branch of the USGS and began what would become her career's focus: surficial geology, or in other words, Quaternary geology and geomorphology! Here she worked in the Powder River Basin of Wyoming and completed mapping of yet another three quadrangles.

It was about at this point, in the early 1980s, that Marith decided to go back to school and pursue a Ph.D. in geology, while maintaining her position at the USGS. She returned to the University of Colorado at Boulder and began work with Pete Birkeland on soil chronosequences in the Bighorn Basin of Wyoming and Montana. Her Ph.D. thesis work led to a series of superb publications in journals as well as a pair of USGS Bulletins. She was on her way!

Over the coming years, Marith's "study area" became the much of the intermountain west of the United States, stretching from Montana to New Mexico and from Colorado to California, following in many of the footsteps of John Wesley Powell, the second Director of the USGS. The breadth of her work is nothing short of amazing: she studied tectonics in the Bighorn Basin of Wyoming, Fish Lake Valley area in Nevada and California, and around Yucca Mountain, Nevada, but also continued her studies of soil genesis in Nevada and California. The soils work in the Southwest led her to the realization that dust was a far more important component in soils than had been suspected. That in turn brought about a major project to ascertain the sources, fluxes, composition, and seasonality of dust transport and deposition over much of the southwestern USA. She set up a series of dust traps throughout the region that brought about regular collections of sediment in all seasons, over many years. Data from these dust collections yielded a series of highly cited papers and led to a new understanding of the importance of dust in desert regions.

But Marith's interests are not limited to soils and dust. One of her continuing passions has been the history of the great pluvial lake systems of the Great Basin. She studied the enormous Lake Lahontan system in its largest extent, as well as doing detailed studies in the Tecopa Basin, Lake Manix basin, and Fish Lake Valley. Her careful mapping and geomorphic and stratigraphic work documented the complex history of these lake systems, extending from the Pliocene into the late Pleistocene. Her outstanding summation of much of this work, published by the Smithsonian Institution, was honored with the Kirk Bryan Award of the Geological Society of America in 2007.

2020 QG&G Distinguished Career Award recipient, Marith Reheis

Marith continued her desert work in the intermountain west up to her retirement in 2010 and on past it to this day. She did a superb job editing the USGS Professional Paper that presented the results of the long-term "Desert Winds" project of the Southwest, and has continued her mapping and stratigraphic studies, resulting in a fine USGS map and paper on Pleistocene Lake Manix. She is, without a doubt, the "Queen of the Desert" for us! In 2015, the QG&G recognized her accomplishments in arid land geomorphology by honoring her with the Farouk El-Baz Award for Desert Research.

Throughout her career, Marith has demonstrated an unselfish nature. She has taken the time to present her work to other scientists and the public at large, and she has been a mentor to young scientists. She has led numerous field trips through the desert for the Geological Society of America, the Friends of the Pleistocene, the American Quaternary Association, and the International Quaternary Association. Marith is a frequent invited speaker at universities throughout the west, where she has lectured on everything from tectonics to dust. She has served as a committee member and mentor to many graduate students in Quaternary geology and geomorphology M.S. and Ph.D. degree programs. Over the years, Marith has given freely of her time in service to the Geological Society of America as a member of the QG&G board, chair of the QG&G Division, and as Associate Editor of the *Geological Society of America Bulletin*.

Now that she is retired, we expect that Marith will spend more time with another of her passions, river rafting. But she will undoubtedly keep studying those desert basins that she loves so much. We think she will also continue to entertain us with her banjo playing! Marith, congratulations on a brilliant career, and thanks for all you've taught us.

Response by Marith Reheis

Thank you, Dan, for your kind words (and excellent PowerPoint presentation), for nominating me for this prestigious award, and for assembling all those who wrote in support. I was shocked when I

opened a congratulatory email from Kiki Amit that arrived in a landslide of 200 or so messages when I emerged to the electronic world after 6 days in a raft on the Green River. After I burrowed down to the original note from Dan Muhs, I was overwhelmed. What?! Me distinguished?! No, that describes so many of the previous recipients, such as three of my graduate advisors—Pete Birkeland, Bill Bradley, and John Andrews—and several mentors and major influences, including Ken Pierce, Rich Madole, John Hawley, and Bill Bull.

Serendipity has played a huge role in my career, and I suspect for many others as well. I was lucky that Big Oil wouldn't hire females back in 1971, and because of that and a couple of cancellations, I spent a fabulous summer (for a Georgia girl) as an intern to Jim Johnson at INSTAAR and the Mountain Research Station, measuring the mass balance of cirque glaciers—instead of becoming a naval officer. That Colorado summer in turn led to an MS with John Andrews at CU, a research assistantship with Rich Madole, and a class in Quaternary Stratigraphy with Birkeland. The students in that and other classes formed deep supportive bonds and friendships that have carried us through our lives and work, not to mention generating a hell of a lot of fun and mayhem while never missing a beat on field trips. Soil Circles! FOP! GSA! At last count, I have been on 41 Friends of the Pleistocene field trips and have led and organized five of them.

I learned field work and geologic map compilation during a stint in the USGS mapping coal, then returned to CU to work on soils under Pete. Because the soils in one of the chronosequences had gypsum, for no apparent reason, that led to dust traps: another example of serendipity, because that experience led to 30 years of research for the USGS on dust compositions, inputs to soils, dust sources, and climate control on wind erosion. One of those dust trap sites was in Fish Lake Valley, CA-NV, a geo-wonderland that I seized and parlayed into 7 years of mapping to sort out the fault history and paleoclimate record. I learned a great deal about tectonics and paleoseismicity from colleagues far more knowledgeable than I. It was finding the record of an ancient lake in that valley that led to the next great adventure: unraveling the pre-late Pleistocene records of pluvial lakes in Nevada, and ultimately of lakes farther south in the Mojave Desert.

I could not have done what I did—and still do, as a volunteer--without the invaluable help of numerous field assistants, the generosity of colleagues, the support of several good USGS chiefs and programs, and the patience of my family with long absences in the field. I flooded Andrei Sarna-Wojcicki's tephra lab with nearly 400 samples over the years. With Rich Reynolds and Jayne Belnap, I and several others had excellent years studying playa dust and the relation of dust to the biological crusts in Canyon country. Doug Burbank and Rich Reynolds analyzed paleomagnetic samples from many locations, and Steve Lund at USC produced a beautiful paleomagnetic record from the Manix basin—all at no charge. Rick Forester and Jordon Bright taught me about water chemistry and ostracodes. So many friends and colleagues shared long days and many camp nights with me. For those just starting their careers, my advice is to follow your gut. Take every opportunity you can get to try new approaches and to reach out to colleagues and even total strangers to collaborate on things you might consider part of your research. Serendipity plays a surprisingly big role in a long research career. Be open to opportunities and inspirations that might lead you to new directions that will change your path. Have fun! And stay grounded in field work.

Watch a video of the response by Marith Reheis HERE.

--- The Farouk El-Baz Award for Desert Research ---

The Farouk El-Baz Research Award was established in 1999 and given for outstanding work in the field of warm desert research. The award is intended to encourage and reward arid-land studies. The 2020 award was presented to **Ari Matmon,** of Hebrew University of Jerusalem

Citation by Jay Quade

Let me start briefly with my personal view of Ari and why he deserves this award. I have known and worked with Ari Matmon for about twenty years and I am nominating him based this first-hand knowledge of Ari as a scientist and a person. In my experience, there are very few geologists as creative, smart and engaged with their topic as Ari. His non-stop enthusiasm for his topic is contagious, and that brings out the same in students and colleagues who are lucky enough to work with him. I know a lot of good field geologists, and I know even more that are excellent in the laboratory and analytically, but I know of very few, like Ari, who are both. He has a real gift for combining the old with the new, by tackling old problems and ideas about surface processes, and skillfully testing them using various permutations and combinations of cosmogenic isotopes. Ari is also a genuinely fine person, and a great colleague and mentor. When I passed around the hat for letters of support, eight out of nine responded immediately and enthusiastically, so I stopped there. Ari never self-advertises and is quite understated personally (and this comes through in many of the letters), part of the reason he is under-recognized in his field. And finally, Ari works extensively on deserts, which is a stipulation of this award.

Ari has is prolific writer, with ~80 published papers since 1999, about half of them as first author. It was a challenge to pick the top five. I know nothing about Ari's citation indices nor his most cited papers, and so my selection is just based on what seems interesting and significant to me. The main theme running through most, but certainly not all, of Ari's papers is surface processes in deserts as quantified by various cosmogenic isotopes. Kyle Nichols and Alan Gillespie in their support letters did a nice job of further subdividing Ari's research on deserts. Let me describe a few highlights of that research, centered around the five papers submitted with this package.

Ari's paper (Quaternary Research 2006) on smoothing of desert landscapes is a Matmon classic, although, like Ari himself, it deserves wider citation. In this paper Ari comes back to old questions of how fast desert landscape erode, but he takes on the question at both a small and landscape scale. The rate question has been around forever, but it took someone with Ari's skill set to come along and quantify desert erosion rates at multiple spatial scales using cosmogenic 10Be and 26Al. This paper focused on the Mohave Desert, and other studies have been conducted on related issues in the Negev Desert (Geological Society of America Bulletin 2009) and Atacama Desert (Placzek Matmon et al., 2010).

Ari's study of coastal escarpment erosion (Matmon, Geology, 2002) is another significant paper. Here Ari looked at great escarpment erosion globally and found that (to my surprise anyway) they don't retreat with time, but their erosional embayments deepen where incised by antecedent rivers. This overturns the conventional view that these giant escarpments undergo parallel retreat from their original rift-bounding faults.

Among Ari's most widely recognized research is his landscape evolution studies presented in a pair of papers (Matmon et al., 2003a,b) with Paul Bierman in Appalachia. These were ground-breaking

studies at the time because of their comparison of estimates of erosion rates using a variety of methods (Matmon, Geology, 2003). They also showed that erosion rates on old orogens like Appalachia are very slow, and rather uniform across lithology, confirming some of Hack's classic ideas about attainment of erosional steady state and dynamic equilibrium across diverse lithologies on long time scales.

Other studies by Ari outside of deserts include dating of glacial moraines in Alaska and of hominid-bearing cave deposits at Wonderwerk cave in South Africa. The latter is described in the support letter by Michael Chazan, who goes on to talk about the development of Ari's interest in the Namib Desert. Here Ari has taken up the question of the age of the Namib Desert, which is thought by many to be a very old Cenozoic feature. Air described to me how, in order to conduct his study, he lucked into the exposures at the Mamatwan Mine and gained access to drill core cuttings from all over the country. This led to his publication in Quaternary Research in 2015 and more recently by his student Schlomy Vainer in which they report on surprisingly young ages on the eolian and calcrete deposits capping much older basement. Ari approached the problem of dating these deposits from many directions, using 10Be, 238U-234U-230Th, and OSL, and concluded that the Kalahari is a much younger and more active desert than anyone expected. He plans much more work in this region.

2020 Farouk El-Baz Award winner, Ari Matmon

Honorable mention among Ari's papers goes to two studies on some unusual desert features apparently related to seismicity: rock falls in the Negev Desert and the strange rubbing boulders of the Atacama Desert. The clustering of the rock fall ages probably relates to major shaking events along the Dead Sea fault, whereas Ari documented some of oldest known 10Be ages among the seismic rubbing boulders of the Atacama Desert.

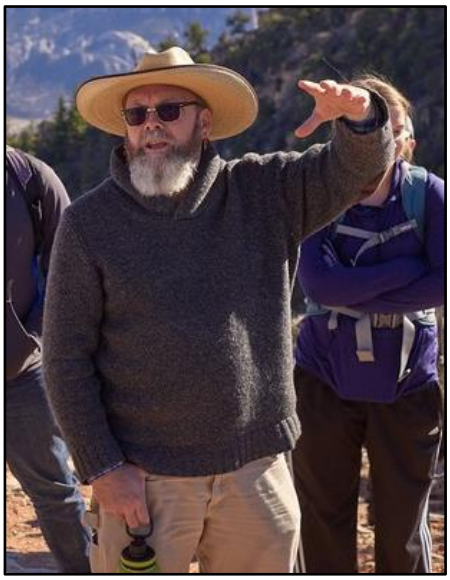
David Fink's support letter talks a lot about Ari's tremendous support of students over the years, something I can attest to as well. Like David, I spent four months at Hebrew University in Jerusalem, where every day I witnessed Ari's intense focus on his students in the field, laboratory, and with publication of theses and dissertations. About one third of Ari's publications are first-authored by his students, and further demonstrate to breadth of Ari's ideas and research: Uri Ryb on mass wasting in the Jordan Hills and denudation rates across climate transects; Michael Davis on Nile river sediments, burial dating in the central Jordan Valley and the Atacama Desert, and effects of base-level fall due to Dead Sea decline; Michaela Ben-Israel on 21Ne in sands, Schlomy Vainer on sediment provenance in the Namib Desert; B. Guralnik on merging OSL and cosmogenic dating of dryland river terraces; Christa Placzek on slow erosion rates in the Atacama Desert; and Natalie Neagu on the role of climate versus tectonics in the evolution of a hyperarid catchment. These are just a few: the list of studies with student- and colleague-authored papers goes on and on. Ari's inspiration and strong guiding hand underlies nearly all this work, but he is always scrupulous about giving his students first authorships. Behind the scenes Ari is a bundle of energy, generating ideas,

providing funding, and helping everyone publish. This is another reason I think why Ari's broad impact on desert research tends under-recognized, because so much of it appears under the heading of his students and colleagues.

Response by Ari Matmon

Listen to Ari Matmon's response to receiving the Farouk El-Baz Award on the QG&G website HERE.

--- The Gladys M. Cole Memorial Research Award ---



2020 Glady W. Cole Memorial Research Award winner, Judson Finley

The Glady W. Cole Memorial Research Award is restricted to investigation of the geomorphology of semi-arid and arid terrains in the United States and Mexico. It is given each year to a GSA Member or Fellow between 30 and 65 years of age who has published one or more significant papers in geomorphology. The fund was established in 1980 by Dr. W. Storrs Cole in memory of his wife. The first award was presented in 1982. The 2020 award was given to **Judson Finley**, Utah State University, to support investigation of the geomorphology of semiarid and arid terrains, with proposal titled" *Late Holocene Arroyo Dynamics and the Evolution of an Early Dryland Agricultural Community in Dinosaur National Monument, Utah*."

Thank You

The Quaternary Geology and Geomorphology Division management board thanks the following people for their help in evaluating this year's award applications for the Farouk El Baz and division student awards:

Julio Betancourt, Steve Forman, Andrew Goudie, Paul Hesse, David Thomas, Andy Cyr, David Grimley, David Harbor, Dylan Ward, Ed Evenson, Eric Portenga, Frank Pazaglia, Jen Pierce, Josh Galster, Juan Luis García, Kristin Sweeney, Lyman Persico, Mark Sweeney, Phil Pearthree, Philip Prince, Sara Rathburn, Sarah Crump, Sharon Bywater-Reyes, Skye Cooley, Stephanie Shepard Tony Layzell, Vance Holliday

Student Research Awards

--- J. Hoover Mackin Award ---

The J. Hoover Mackin Research Award was created in 1974 to support graduate student research in Quaternary geology/geomorphology. The 2020 Mackin Award for PhD research was given to, **Celeste Wieting**, Colorado State University, for the proposal titled "*Channel Morphologic Changes Associated with Invasive Vegetation Removal*". Advisor: Sara Rathburn

2020 J. Hoover Mackin Research Award winner, Celeste Wieting

--- Peter Birkeland Award ---

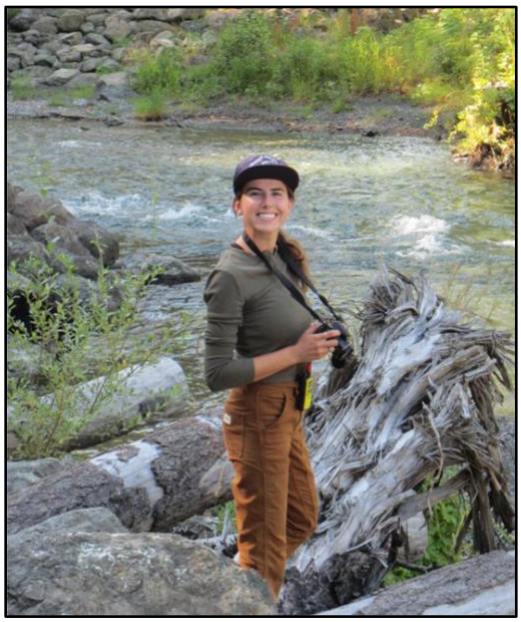
The **Peter Birkeland Soil Geomorphology Award** was established in 2016 to contribute to the advancement of soil geomorphology. The 2020 Birkeland Award was given to **Jason D. Windingstad**, University of Arizona, for the proposal titled "*Soil-Landscape Evolution Across an Alluvial Fan-Playa-Dune System in the Eastern Mohawk Valley, Arizona"*. Advisor: Craig Rasmussen

2020 Peter Birkeland Soil Geomorphology Award winner, Jason D. Windingstad

--- Robert K. Fahnestock --- Memorial Award

The Fahnestock Memorial Award from GSA honors the memory of the former member of the Research Grants Committee, who died indirectly as a result his service on the committee. The award is given for the best proposal in sediment transport or related aspect of fluvial geomorphology. The 2020 recipient was **John T. Kemper**, Colorado State University, for the proposal titled "*Tributary basin contributions to floodplain sediments using bulk elemental composition: Sediment fingerprinting in the Little Snake and Yampa River Basin, Colorado*". Advisor: Sara Rathburn.

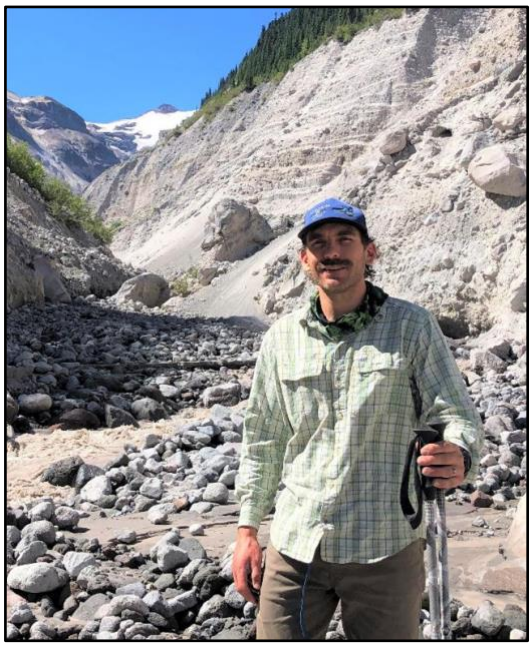
2020 Fahnestock Memorial Research Award winner, John T. Kemper



2020 Stanley A. Schumm Research Award winner, Alyssa DeMott

---Stanley A. Schumm Award---

This award was established in honor of Stanley Schumm and recognizes the contributions of graduate students in the field of fluvial geomorphology. Established in 2012, the inaugural award was given in 2018. The 2020 recipient was given to **Alyssa DeMott**, Central Washington University, for the proposal titled "*Long-term geomorphic effects of the Glines Canyon Dam removal on the Elwha River, WA, USA*". Advisor: Lisa Ely.



2020 Arthur D. Howard Research Award winner, Edward Fordham

--- Arthur D. Howard Award ---

The **Arthur D. Howard Research Award** was established in 1992 to support graduate student research in Quaternary geography or geomorphology. The 2020 Howard Award for MS research was given to **Edward Fordham**, Western Washington University, for the proposal titled "*Quantifying debris flow contributions to basin-scale sediment supply in the Suiattle River, North Cascades, Washington State*". Advisor: Allison Pfeiffer

--- John A. Black Award ---

The John A. Black Award supports graduate student field-based research on coastal processes for geomorphology research located in the USA, Puerto Rico or Canada. The 2020 award was given to **Collin Roland**, University of Wisconsin - Madison, for proposal titled "*Lake Michigan coastal erosion: measuring geomorphic response to extremely high lake levels*" (advisor: Lucas K. Zoet)

2020 John A. Black Research Award winner, Collin Roland

--- Marie Morisawa Award ---

The **Marie Morisawa Award** was established in 2006 to support promising female graduate students in geomorphology. The 2020 Morisawa Award was given to **Joanmarie Del Vecchio**, Pennsylvania State University, for proposal titled "*Quantifying sediment and carbon fluxes in thawing permafrost landscapes*". Advisor: Roman DiBiase

2020 Marie Morisawa Research Award winner, Joanmarie Del Vecchio

--- Denton, Andrews, Porter Glacial Geology Award ---

The Denton, Andrews, Porter Glacial Geology Award was established in 2020 in honor of the initial primary donor's academic advisors: George H. Denton, John T. Andrews, and Stephen C. Porter. The 2020 award was given to **Gryphen A. Goss**, University of Calgary, for the proposal titled "*Fluvial response to climate change-induced stream capture, Yukon, Canada"*. Advisor: Daniel Shugar

2020 Denton, Andrews, Porter Glacial Geology Research Award winner, Gryphen A. Goss

Awardees of Student Research Grants are notified in late spring and presented in the fall at the GSA Annual Fall Meeting. Winners for the 2021 awards will be presented in Portland at GSA Connects 2021. Get info and apply for future student research grants and awards at https://www.geosociety.org/GSA/grants/gradgrants.aspx

THE GEOLOGICAL SOCIETY OF AMERICA®

--- QG&G Includes ---

We are limited by a lack of diversity of perspective that is brought to our science.

We must **identify QGG policies and procedures** that may be limiting our ability to maximize Diversity, Equity and Inclusion within our ranks.

We **cannot remain quiet or inactive** in our pursuit of being more representative, more equitable, and more inclusive.

We need **YOUR** help to achieve our goals.

We must take action in our pursuit of being more representative, more equitable, and more inclusive. We recognize that we, as a professional organization, can no longer remain quiet or inactive on such important issues.

The QG&G Includes Task Force

Last Fall, the Quaternary Geology & Geomorphology Includes Task Force was gathered, comprising a group of QG&G members who saw the rise of the Black Lives Matter movement and interpreted the spotlight being shined on systemic racism pervading our public institutions as an invitation to look inwards on our own community. The most recent demographic survey of QG&G's showed that at least 83% is White/Caucasian and at least 9% is Black, Indigenous, Hispanic/Latinx, Asian, or two races or more; our non-White membership is less compared to GSA as a whole (15% People of Color) and significantly less than a 2019 estimate of the United States as a whole (~40%; US Census Bureau). We also recognize that Diversity goes beyond racial diversity, and while membership has

generally achieved gender parity, we have limited data on diversity with regards to persons with disabilities and age/pathways into QG&G sciences. Neither QG&G nor GSA offer opportunities for members to register their LGBTQ+ identity and in doing so, an entire community of Geologists/Earth Scientists remains invisible.

The QG&G Includes Task Force believes that 2021 cannot be a return to normal for our Division. We must be better. The QG&G Includes Task Force has inspected our Division's Bylaws and Governing Documents, and while we recognize that QG&G has no policies that are purposefully meant to discriminate, ostracize, or be unwelcoming to underrepresented minoritized persons, we believe we can do more to establish a welcoming environment. As a Task Force, we have taken several steps since the QG&G Extravaganza at last October's GSA Meeting:

1. Encouraged Field Trips and Topical Sessions seeking QG&G endorsement to make a concerted effort to focus on field areas and topics that are actively-inclusive of persons and topics representing those often marginalized or unrepresented in the geosciences
2. Recommended (and now **remind**) that Topical Session Leaders be fully-inclusive when considering Invited Speaker roles
3. Reviewed the QG&G Bylaws for exclusionary language and areas for improvement to be more inclusive and supporting QG&G scientists from all backgrounds
4. Drafted a Diversity, Equity, and Inclusion Statement to be considered for addition to the Bylaws, which will be reviewed and considered by the QG&G Board at a future meeting
5. Identified mechanisms by which ethical complaints and concerns can be raised by QG&G membership to GSA and will provide guidance for members in doing so.
6. Established the inaugural Donald R. Coates Award to support meritorious research proposed by a graduate student, who self-identifies as being from a minority ethnicity, a person with a disability, a non-traditional student, or a student who identifies as LGBTQ+ through their Personal Statement

The QG&G Includes Task Force recognizes that the steps taken thus far are small and do not come close to addressing, much less resolving systemic issues that may be preventing full inclusion and support of Quaternary Geologists and Geomorphologists from all backgrounds and communities. We will continue our work in 2021 and beyond, advocating for active inclusivity and financial and structural support for all regardless of race/ethnicity, LGBTQ+ identity, age/pathway into the science, and/or disability status. We recognize that the Includes Task Force's efforts are being led and discussed by members who, in large part, come from the majority White/Caucasian membership. To this end, **we *strongly* encourage members (graduate students, too!), especially those from minoritized communities, to join in our efforts and to help us build a stronger community and to guide your GSA Division towards a more equitable future for all[1].**

***Participation in the QG&G Includes Task Force in voluntary and open to all QG&G Division members. Please contact Eric Portenga for more information: eric.portenga@emich.edu**

GSA Connects 2021 annual fall meeting

THE GEOLOGICAL SOCIETY OF AMERICA®
CONNECTS 2021
10–13 October
Portland, Oregon, USA

Join us at GSA Connects 2021 for the annual fall meeting in Portland, Oregon, October 10-13, 2021. Check out the QG&G sponsored fieldtrips, workshops, and sessions below and submit an abstract by July 20th!

Refer to the current issue of GSA Today for details on the 2021 Fall Meeting in Portland

-- Sneak Peek: The 2021 Kirk Bryan Field Trip --

North flank of Mt. St. Helens in 2019 showing revegetation after the 1981 eruption. (photo credit: Scott Burns)

2021 Kirk Bryan Field Trip: *Mt. St. Helens - four decades of geologic, geomorphic, ecologic, and engineering insight and challenges since its 1980 eruption* **(No. 418)**

Trip Description: The 1980 eruption of Mount St. Helens instantaneously disturbed the surrounding landscape on a grand scale. On 18 May 1980, an ensemble of volcanic processes including a massive debris avalanche, a directed pyroclastic density current, voluminous lahars, and widespread tephra fall abruptly altered landscape hydrology and geomorphology and created distinctive disturbance zones having varying impact on regional biota. On this trip, we will visit the Toutle River valley, which bore the brunt of the eruption, to discuss the volcanic processes and impacts of the 1980 eruption, the hydrologic, geomorphic, and ecologic responses to those eruptive impacts, and the engineering challenges they have presented. We will visit Johnston Ridge Observatory directly across from the volcano and hike a 3.5-km loop trail (with about 100 m of elevation gain and loss) on the debris-avalanche deposit to examine outcrops and discuss geomorphic evolution and ecological recovery in the upper North Fork Toutle River valley. Time permitting, we will visit the U.S. Army Corps of Engineers 800-m-long, 50-m-tall sediment retention structure to discuss ongoing efforts at mitigating abnormal sediment delivery owing to upstream erosion of the debris-avalanche deposit.

Date: Thursday, October 14, 2021

Leaders: Jon Major; Scott Burns; and Patrick Pringle

Primary Leader Email Address: jjmajor@usgs.gov

Cost: $335, *NOTE - all field trips are expensive this year because of cost of travel under social distancing regulations, but costs may possibly be reduced depending on changes to Covid-19 restrictions and regulations.

-- QG&G Endorsed Fieldtrips at 2021 Fall Meeting in Portland –

404. River versus Arc: The Geology of the Columbia River Gorge. Thurs.–Sat., 7–9 Oct. US$590. Endorsers: GSA Quaternary Geology and Geomorphology Division; GSA Structural Geology and Tectonics Division. Leaders: Jim E. O'Connor, U.S. Geological Survey; Ray E. Wells; Scott Bennett; Charles M. Cannon; Lydia Staisch; Gabriel Gordon; Anthony Pivarunas.

413. Developing Landslide Chronologies Using Landslide-Dammed Lakes of the Oregon Coast Range. Sat., 9 Oct. US$235. Endorsers: GSA Quaternary Geology and Geomorphology Division; GSA Environmental and Engineering Geology Division. Leaders: Logan Wetherell; William Struble; Sean LaHusen

418. Mount St. Helens—Four Decades of Geologic, Geomorphic, Ecologic, and Engineering Insights and Challenges Since its 1980 Eruption. Thurs., 14 Oct. US$335. Endorser: GSA Quaternary Geology and Geomorphology Division (Kirk Bryan Field Trip). Leaders: Jon Major, U.S. Geological Survey Cascades Volcano Observatory; Scott Burns; Patrick Pringle.

421. Upper Grand Coulee—New Views of a Channeled Scabland Megafloods Enigma. Thurs.–Sun., 14–17 Oct. US$728. Endorser: GSA Quaternary Geology and Geomorphology Division. Leaders: Richard Waitt, Cascades Volcano Observatory; Brian F. Atwater; Jim O'Connor; Isaac J. Larsen; Michelle A. Hanson; Bruce N. Bjornstad; Karin E. Lehnigk.

-- QG&G Endorsed Workshops at 2021 Fall Meeting in Portland --

503. Age-Depth Modeling of Sedimentary Deposits. Wed., 15 Sept., 9–11 a.m. PDT. and Wed., 22 Sept., 9–11 a.m. PDT. and Wed., 29 Sept., 9–11 a.m. PDT. US$30. Limit: 50. CEU: 0.6.Instructors: Lisa Park Boush, University of Connecticut; Maarten Blauw, Queen's University; Amy Myrbo, University of Wisconsin. Endorsers:GSA Limnogeology Division; GSA Geochronology Division; GSA Continental Drilling Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; EarthRates RCN.

518. Forensic Geochemistry: Contaminant Sources/Release Ages and Aquifer Continuity in Soil/Groundwater Systems Using Stable Radiogenic Isotopes of Strontium (Sr) and Lead (Pb). Mon., 4 Oct., 9 a.m.–3 p.m. PDT. US$35. Limit: 50. CEU: 0.6. Instructor: Richard W. Hurst, Hurst Forensics. Endorsers:GSA Hydrogeology Division; GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division.

527. Introduction to Drones (sUAS) in the Geosciences. Sat., 9 Oct., 8 a.m.–5 p.m. PDT. US$112. Limit: 24. CEU: 0.8. Instructor: Gregory Baker, Colorado Mesa University. Endorsers:GSA Hydrogeology Division; GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division.

-- QG&G Endorsed Sessions at 2021 Fall Meeting in Portland --

Pardee Keynote Sessions

P1. Linking Diversity, Equity, and Inclusion to the Climate Crisis: Inclusive Leadership and Practice in Geoscience.
Sun., 10 Oct., 2 p.m.–4 p.m.
Submit an abstract to this session

Technical Sessions

T1. Cascadia Subduction Zone Earthquakes: Geologic, Geophysical, and Modeling Constraints on Rupture Timing and Process.
Tectonics/Tectonophysics | Marine/Coastal Science | Geophysics/Geodynamics
Submit an abstract to this session

T3. Evolution, Structure, and Landscapes of the North Atlantic–Arctic Realm.
Tectonics/Tectonophysics | Geophysics/Geodynamics | Geomorphology
Submit an abstract to this session

T5. Geologic and Geomorphic Evolution of the Columbia River Basin.
Tectonics/Tectonophysics | Volcanology | Quaternary Geology
Submit an abstract to this session

T11. Recent to Long-Term Slip Histories of Active Faults and Folds in Cascadia.
Tectonics/Tectonophysics | Quaternary Geology | Geophysics/Geodynamics
Submit an abstract to this session

T20. Structural Geology and Tectonics Division 40th Anniversary Symposium: Drivers of Orogenesis.
Structural Geology
Submit an abstract to this session

T38. Geologic Research at the Cascade Volcanoes: Ideal Natural Laboratories for Cutting-Edge Research with Implications for Life Safety and Infrastructure Protection in the Pacific Northwest.
Energy Geology | Geomorphology | Quaternary Geology
Submit an abstract to this session

T52. Coastal and Marine Hydrogeology in an Age of Rising Seas: From the Shore to the Oceanic Ridge.
Hydrogeology | Marine/Coastal Science | Engineering Geology
Submit an abstract to this session

T58. Water Storage and Transit in Bedrock and Implications for Critical Zone Evolution, Stream Chemistry, Climate, and Ecosystems.
Hydrogeology | Geomorphology | Environmental Geoscience
Submit an abstract to this session

T64. Karst Processes and Speleology.
Karst | Geomorphology | Geochemistry
Submit an abstract to this session

T65. Karst Sedimentary, Paleoclimate, and Historical Records.
Karst | Stratigraphy | Paleoclimatology/Paleoceanography
Submit an abstract to this session

T66. New Frontiers in Cave and Karst Research: In Honor of the International Year of Caves and Karst.
Karst | Hydrogeology | Environmental Geoscience
Submit an abstract to this session

T67. Pseudo-Karst Processes and Features.
Karst | Geomorphology
Submit an abstract to this session

T68. Lacustrine Systems around the World: In Honor of Michael Rosen.
Limnogeology | Paleoclimatology/Paleoceanography | Stratigraphy
Submit an abstract to this session

T69. Out of This World Lakes.
Limnogeology
Submit an abstract to this session

T70. The Diversity of Cenozoic Western North American Lakes.
Limnogeology | Stratigraphy | Continental Scientific Drilling
Submit an abstract to this session

T73. Coastal Storm Impacts in Times of Changing Climate and Sea Levels: Geological Records, Historic Perspectives, and Forecasting.
Marine/Coastal Science
Submit an abstract to this session

T74. Geoscience Approaches to Interpreting Coastal Records of Earthquakes, Tsunamis, and Storms.
Marine/Coastal Science | Geomorphology | Tectonics/Tectonophysics
Submit an abstract to this session

T76. Sea-Level Indicators: New Interpretations and Constraints for Future Projections.
Marine/Coastal Science | Geomorphology | Sediments, Carbonates
Submit an abstract to this session

T104. Neogene and Quaternary Environmental Change in the Tropics: Recent Advances and Future Opportunities.
Continental Scientific Drilling | Paleoclimatology/Paleoceanography | Quaternary Geology
Submit an abstract to this session

T115. Geomorphology and Landscape Evolution of Mars.
Planetary Geology | Geomorphology | Hydrogeology
Submit an abstract to this session

T116. Impact Cratering in the Solar System: Remembering Nadine Barlow and H. Jay Melosh.
Planetary Geology | Petrology, Metamorphic | Geophysics/Geodynamics
Submit an abstract to this session

T127. Advances in Geomorphology: Understanding How Interactions among Climatic, Tectonic, Fluvial, and Hillslope Processes Drive Topographic Change.
Geomorphology | Quaternary Geology | Tectonics/Tectonophysics
Submit an abstract to this session

T128. Biogeomorphic Responses to Wildfire in Fluvial Ecosystems.
Geomorphology | Quaternary Geology | Environmental Geoscience
Submit an abstract to this session

T130. Military Geosciences: Past Lessons and Modern Challenges.
Geomorphology
Submit an abstract to this session

T132. Sediment Residence Times and Thresholds for Sediment Transport in Fluvial Corridors.
Geomorphology | Geochronology | Quaternary Geology
Submit an abstract to this session

T133. Weathering and Soils: Advances in Understanding Rates, Mechanisms, Controlling Factors and Feedbacks.
Geomorphology | Soils | Geochronology
Submit an abstract to this session

T134. Advances in Wildfire-Related Earth-Surface Processes.
Quaternary Geology | Geomorphology | Environmental Geoscience
Submit an abstract to this session

T135. Dynamics of the Laurentide Ice Sheet.
Quaternary Geology
Submit an abstract to this session

T136. Eolian Processes, Landforms, and Chronologies.
Quaternary Geology | Geomorphology | Soils
Submit an abstract to this session

T137. From the Caspian to Mediterranean: Environmental Change and Human Response during the Quaternary (INQUA IFG POCAS, IGCP 610).
Quaternary Geology
Submit an abstract to this session

T138. Glacial Hydrology: Processes Operating within, beneath, and along the Margins of Glaciers and Ice Sheets.
Quaternary Geology
Submit an abstract to this session

T139. Hyperthermals of Western North America: Cenozoic Lessons for the Future.
Quaternary Geology | Limnogeology | Marine/Coastal Science
Submit an abstract to this session

T140. Paleoclimate, Paleoenvironments, and Paleoceanography of Northwestern North America.
Quaternary Geology | Limnogeology | Paleoclimatology/Paleoceanography
Submit an abstract to this session

T141. Reconstruction of Quaternary Paleoenvironments at Regional and Global Scales: A Tribute to Eric C. Grimm (1951–2020).
Quaternary Geology | Geoinformatics | Paleoclimatology/Paleoceanography
Submit an abstract to this session

T142. The Status of the Laurentide Ice Sheet during MIS-3.
Quaternary Geology | Paleoclimatology/Paleoceanography | Marine/Coastal Science
Submit an abstract to this session

T143. Wildfire as an Earth System Process—Ancient and Modern.
Quaternary Geology
Submit an abstract to this session

T160. How Has the COVID-19 Pandemic Transformed K9–16 Students' Ability to Engage in Multi-Faceted Research in the Geosciences Using a Virtual Platform? (Posters).
Geoscience Education | Geoscience Information/Communication | Geoscience and Public Policy
Submit an abstract to this session

T172. Integrating Remote Sensing and In Situ Data for Understanding Surface and Subsurface Processes.
Geoinformatics
Submit an abstract to this session

T176. Losing Cultural Heritage: Geoarchaeology and Climate Change Impacts.
Geoarchaeology
Submit an abstract to this session

T177. Solving Paleoenvironmental Problems with Isotopes: New Advances and Ongoing Challenges in Soils and Geoarchaeology.
Geoarchaeology | Soils | Geochemistry
Submit an abstract to this session

-- QGG endorsement at GSA *Section Meetings* --

GSA has recognized that having division endorsement for sessions and events within section meetings greatly increases participation and also helps attendees find sessions and abstracts of potential interest.

QGG will continue to established Section Meeting Liaisons that will serve for each section meeting. Conveners can contact these liaisons directly to get 'endorsement' from QGG for session proposals at sectional meetings.

***Consider seeking QG&G endorsement in 2021 for your 2022 session proposals once the liaisons are announced.**

--2021 QGG Candidate Bios --

*Search your email for "*QG&G Division Ballot*" sent from "QG&G Division Chair" for the link to your ballot and be sure to **vote by June 13th, 2021!**

The following candidates have been nominated for the following Division Officer and Panel positions:

Chair

Karl W. Wegmann. *Education:* BA, Whitman College, 1996; MS, University of New Mexico, 1999; Ph.D., Lehigh University, 2008; *Professional Experience*: Geologist-Natural Resource Scientist, Washington Geological Survey, 1999-2004; Assistant/Associate Professor, NC State University, 2008-present; Faculty Fellow, Center for Geospatial Analytics at NC State University, 2017-present; *Professional Licenses*: Geologist / Engineering Geologist (WA State #733); *Professional Affiliations*: GSA, AGU, AMQUA. *GSA Service:* Geological Society of America Bulletin Associate Editor, 2015-2020, GSA QG&G 2nd Vice-Chair (2019-2020) and First Vice-Chair (2020-2021), GSA QG&G Panelist 2016-18, GSA Graduate Student Grant Review Panel, 2016-17; *Other Service*: Grant Review Panels for USGS EDMAP and NEHRP, NSF Integrated Earth Systems. *Awards*: Whitman College Leeds Prize in Geology 1995; *Research Interests*: Geomorphology, Active Tectonics, Natural Hazards and Landscape Evolution of subduction zones (Hellenic and Cascadia) and passive margins (Southern Appalachians and Atlantic Piedmont).

First Vice Chair

Arjun Heimsath. *Education*: BS, Yale College (Honors, Mechanical Engineering); MS, Yale University School of Forestry and Environmental Studies (Hydrology); PhD, University of California, Berkeley (Geology); NSF Post-Doctoral Fellow at Australian National University, Canberra. *Experience*: US Peace Corps as a water development engineer, Kenya, 1989-1991. Dartmouth College, Assistant Professor, 2000-2007. Arizona State University, Associate and then Full Professor, 2007-present. *Professional Affiliations*: GSA, AGU, Soil Science Society of America, Geochemical Society. *Select Awards*: GSA Fellow, 2016; Blaustein Fellows, Stanford, 2013; Guggenheim Fellowship, 2007-2008; Crosby Fellow, MIT, 2006; Presidential Early Career Award for Scientists and Engineers, 2004. *Research Interests*: Soil production and erosion, Quaternary climate changes, Carbon sequestration, exposure age dating, glacial and tectonic geomorphology, human impacts on the landscape.

Treasurer

Scott Burns: Education: BS, MS Stanford University; PhD University of Colorado. Experience: Professor & Past Chair, Dept. of Geology, Portland State University; previous institutions: Louisiana Tech University, University of Colorado, Western Washington University, Lincoln College New Zealand, American College of Switzerland. Professional Affiliations: GSA Fellow, AGU, NAGT, AEG (Past President), AIPG, IAEG (Past President). GSA Service: Treasurer, QGG, Chair of EGD, Chair Cordilleran Section. GSA Awards: EGD Meritorius Service Award and Outstanding Practice Award, Public Outreach Award and GSA/AEG – Richard Jahns Distinguished Lecturer Award. Research interests: landslides, slope stability, Missoula Floods, terroir, radon, soil development, glacial geology, heavy metals and trace elements in soils.

Communications Coordinator

Nicholas A. Sutfin. Education: BS, Boise State University 2009; MS, Colorado State University 2013; PhD, Colorado State University 2016. Experience: Post-doctoral Research Associate, Los Alamos National Laboratory, 2016-2018; Visiting Assistant Professor, Case Western Reserve University 2018-2020; QGG Communications Coordinator, 2019-2021; Professional Affiliations: GSA, AGU, NAGT; Select Awards: NSF Doctoral Dissertation Improvement Grant 2015; QG&G Division Arthur D. Howard Award 2012, GSA John Montagne Award Honorable Mention 2012; CSU Schumm Graduate Scholar 2011; BSU Faculty Award for departmental service, 2009; NOAA Hollings Scholar 2008, Research Interests: fluvial geomorphology, erosion and sedimentation, water resources, sediment.

Candidates for 2nd Vice Chair

Mark Sweeney. *Education:* B.S. University of Nebraska-Lincoln 1997; M.S. University of Nebraska-Lincoln 1999; Ph.D. Washington State University 2004. *Experience:* Postdoctoral Research, Desert Research Institute 2004-2006; Assistant/Associate/Full Professor, University of South Dakota Dept. of Earth Sciences 2006-2018; Dept. of Sustainability & Environment 2018-present. *Professional Affiliations*: GSA, AGU, NAGT, IAS, Sigma-Xi. *GSA Service*: QG&G Graduate student awards review panel 2012, 2020, QG&G Panelist 2016-2018. *Awards*: GSA Gladys W. Cole Research Award 2009; University of South Dakota Arts & Sciences Cutler Award for excellence in teaching and research 2017. *Research Interests:* Eolian geomorphology and sedimentology, formation of dust and loess, fluvial-eolian interactions.

Doug Thompson. *Education*: BA, Middlebury College 1991; MS, Colorado State University 1994; PhD, Colorado State University 1997. *Experience*: Project Geologist, Hydro-Environmental Technologies, Inc. 1991-1992; Hydrologist, USGS 1993-1997; Assistant Professor, Connecticut College 1997-2003; Associate Professor, Connecticut College 2003-2007; Chair Department of Physics, Astronomy and Geophysics, Connecticut College 2004-2007, 2009-2010, and 2014-2017; Professor Connecticut College 2007-2016; Karla Heurich Harrison ’28 Director, Connecticut College Goodwin-Niering Center for the Environment 2008-2014; Rosemary Park Professor, Connecticut College 2016-Present; Suzi Oppenheimer ’56 Faculty Director, Connecticut College Office of Sustainability 2020-Present. *Professional Affiliations*: GSA (Fellow), AGU, SER. *GSA Service*: GSA Partners for Education Program 1997-2000; GSA QG&G Howard-Mackin Award Selection Committee 2002 and 2014. *Other Service*: NSF Scientists and Engineers in the Schools Program 2000-2002. Connecticut DEP Instream Flow Scientific and Technical/Natural Resources Working Group 2006-2010. Connecticut State Director, Society for Ecological Restoration 2019-2020. *Awards*: AAG G.K. Gilbert Award 2000; AAS Kavli Fellow, 2000. *Research Interests*: Fluvial Geomorphology. Channel morphology and hydraulics, historic and modern channel restoration practices, and cold-water fisheries management.

Candidates for QG&G Panel

Scott R. Beason. *Education*: B.A. Earth Science (2005) and M.S. Environmental Science (2007) at University of Northern Iowa; GIS Certificate, University of Washington, 2011. *Experience*: Staff Scientist/Fluvial Geomorphologist, ENTRIX Environmental Consultants 2007-2008; Park Geologist, Mount Rainier National Park, 2010-Present; Licensed Geologist in Washington since 2018. *Professional Affiliations*: GSA, AGU, SGE. *GSA Service*: Invited to serve on the Geology in Government student luncheon at 2014 Annual Meeting; Invited to present a short talk at 2005 Annual Meeting about GeoCorps program for approximately 400 students at President's Student Breakfast; Represented GSA through GeoCorps program as an Interpretive Geologist at Mount Rainier National Park in 2003. *Awards*: Completed the competitive National Park Service Generating Organizational Advancement and Leadership (GOAL) Academy in 2019-2020; Selected twice to represent the U.S. Government in a US/Colombia Bi-national Exchange for emergency planning in response to volcanic crisis (2013 and 2016). *Research Interests*: Landscape response to climate change; Debris-flow monitoring and forecasting; Remote telemetry; Data acquisition and processing; Fluvial geomorphology; Geographic Information Systems Aggradation; Glaciology; Volcanic & geologic hazards; Periglacial processes; Braided rivers.

José Antonio Constantine. *Education*: B.S. Geology, William and Mary; M.S. Hydrologic Sciences, University of California, Davis; and Ph.D. Geological Sciences, University of California, Santa Barbara. *Experience*: Lecturer, School of Earth and Ocean Sciences, Cardiff University (UK) 2008-2016; Assistant Professor, Department of Geosciences, Williams College, 2016-present. *Professional Affiliations*: GSA, AGU, NAGT; *AGU Service*: EPSP Exec Committee 2020-present; Reviewer for EPSP Student Awards numerous years. *Research Interests*: Fluvial geomorphology, climate change impacts, environmental justice.

Tony Layzell. *Education:* BSc, University of Nottingham, 2001; MS, University of North Carolina-Charlotte, 2010; PhD, University of Kansas, 2015. *Experience:* Post-doctoral Fellow, Kansas Geological Survey, 2015-2016; Assistant Research Professor/Scientist, Kansas Geological Survey, 2016-present. *Professional Affiliations:* GSA, AMQUA. *GSA Service:* Roy J. Shlemon Mentor Program in Applied Geoscience, 2019; Reviewer for QG&G Division Mackin, Howard, and Morisawa student awards 2016, 2018, 2020. *Other Service:* AMQUA Student Mentoring Panelist, 2018; Editor Midcontinent Geoscience, 2018-present; USGS NGMDB Working Group 2018-present; NSF Sustainable Regional Systems panelist, 2021. *Awards*: NSF IGERT Fellowship, 2011-2015. *Research Interests:* fluvial and soil geomorphology, Quaternary landscape and environmental change.

Avriel Licciardi. *Education*: B.S. and M.S. Geology, University of New Hampshire; Ph.D. Geological Sciences, University at Buffalo. *Experience*: Senior Associate Editor and Research Communications Strategist (Accdon, LLC; 2019-present). At the nexus of academia and scholarly publishing, my work consists of editorial operations and management, as well as scientific communications, author education, and outreach. Professional goals include educating researchers on publishing trends, including open access/open science and multimedia communications and technology (video abstracts, infographics, social media), to assist scientists worldwide in communicating their research more efficiently and effectively. *Professional Affiliations*: GSA, AGU, AWG, SSP, ISMTE, IASC. *Geosciences Community Service*: AGU 2020 Workshop Organizer ("Scientific Writing Workshop: Essential Skills for Earth Scientists"); GSA 2016 Field Trip Leader ("Pinedale glacial history of the upper Arkansas River valley: New moraine chronologies, modeling results, and geologic mapping").

Research and Professional Interests: glacial geology, Quaternary geochronology, paleoclimate, scholarly publishing, scientific communication, educational outreach.

Jill A. Marshall Education: BS Earth and Environmental Sciences, California State University – East Bay; MS Geosciences, San Francisco State University; PhD Geosciences, University of Oregon. Experience*: Engineering Geologist/Environmental Scientist*, CA Regional Water Quality Control Board (with stints as a *Stream Restorationist* and *River Science Coordinator* at Urban Creeks Council and The CA Bay-Delta (CALFED) Science Program respectively) 1994-2009; *NSF Post-Doctoral Fellow*, University of California Berkeley | University of Colorado 2015-2017; *Assistant Professor*, Dept. Geosciences, University of Arkansas, 2017-present.
Professional Affiliations: GSA, AGU, CSDMS Service: NCALM Steering Committee, 2019-present Award: AUG Earth and Planetary Surface Processes Luna B. Leopold Early Career Award Research Interests: Critical Zone science, periglacial processes, rock mechanics, biotic/abiotic weathering and soil production mechanisms, paleoclimate's influence on past and modern landscapes. I am happiest wearing waders, digging a soil pit, celebrating when my computer code finally works, and growing science ideas with colleagues and students.

Andrew Wickert. *Education*: S.B. Earth, Atmospheric, and Planetary Science, MIT; Ph.D. Geology, University of Colorado Boulder. *Experience*: Postdoctoral Research Scientist, Universität Potsdam, 2014–2015; Asst. Professor, Dept. Earth & Environmental Sciences and the Saint Anthony Falls Laboratory (SAFL), University of Minnesota, 2015–present. *Professional Affiliations*: GSA, AGU, EGU, AMQUA; GSA Service: North-Central GSA session co-convener, frequent reviewer for Geology. Research Interests: Fluvial geomorphology; Quaternary glaciations, sea level, and isostatic adjustment; sediment transport; paleohydrology; environmental instrumentation development.

Blast from the Past: Participants at the 2017 Kirk Bryan Field Trip, *Exploring the Mechanics, Frequency, and Impacts of Deep-Seated Landslides in Washington State*, during the GSA Fall Annual Meeting in Seattle. (Photo credit Robert Marvinney, Maine Geological Survey)

Necrology

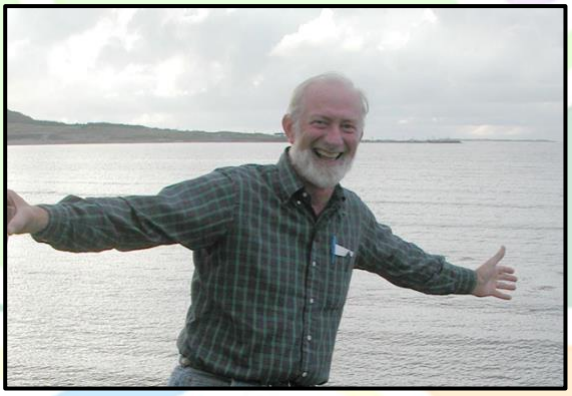
In the last year, we have received notice of the passing of our colleagues listed below:

Harold Borns
Jerome De Graff
Roger Hooke
Waite Osterkamp
B. Schreiber

Remembering Roger LeBaron Hooke:

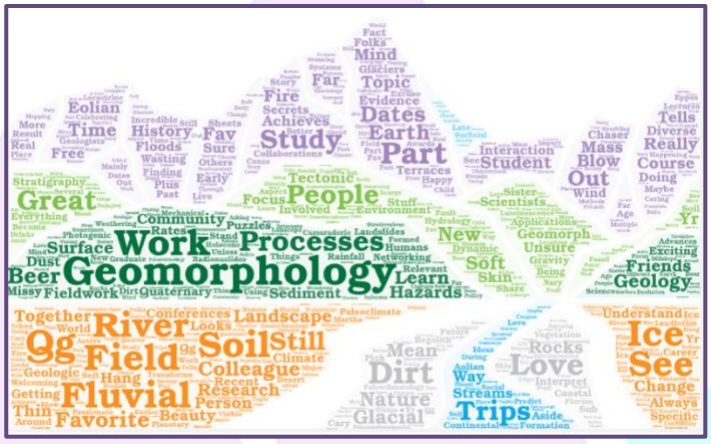
Roger LeBaron Hooke, notable geomorphologist, passed away near his home on the Maine coast on March 10, 2021. In a career spanning more than sixty years, Roger made seminal contributions to our understanding of alluvial fans, river meanders, glacial geomorphology, and glacier mechanics. His textbook, "Principles of Glacier Mechanics", is a staple in the field, now in its 3rd edition. Late in his career, he published pioneering studies documenting the effects of humans on geomorphic processes of the Earth surface.

Roger's approach to science was characterized by a remarkable passion for intellectual rigor and an unwavering pursuit of excellence. His grounding in the scientific principles essential for quantification of earth system processes was steadfast through his entire career of teaching and publications…continuing through his retirement in Maine and in his approach to participation in broader discussions related to sustainability by predicting human activities as measurable agents of geomorphic change on the planet. He leaves us with a long list of important contributions and sizable intellectual imprint on the earth science community, and more broadly with an expanded knowledge base to the benefit of natural resource managers attempting to quantify the relative influence of humans on the planet.



James Pizzuto, University of Delaware
Neal Iverson, Iowa State University
Sean Smith, University of Maine

Things to do looking ahead…



Vote in the QG&G elections by June 13th. *Search your email for "*QG&G Division Ballot*" sent from "QG&G Division Chair" for the link to your ballot.

Submit abstracts to the annual fall meeting at GSA Connects 2021

Reengage with your QGG community in Portland!

Keep Up to Date with Your Division and Community:

http://community.geosociety.org/qggdivision/

Like and follow QG&G: @GSAQGG on and qgg_gsa at

Geological Society of America Quaternary Geology and Geomorphology Division Management Board Meeting

Sunday, October 25, 3:00 – 5:00 PM (EDT)
ZOOM – hosted by UMass Amherst

Attending:

Management Board:
Missy Eppes, Chair
Julie Brigham-Grette, 1st Vice Chair (Chair elect)
Karl Wegmann, 2nd Vice Chair (1st Vice Chair elect)
Arjun Heimsath, 2nd Vice Chair elect
Grant Meyer*, Past Chair
Sarah Lewis, Secretary
Lisa Ely, Secretary elect
Scott Burns, Treasurer
Nick Sutfin, Communications Coordinator
Thom Davis, Historian
John Kemper, Student Representative

***Panel*:**
Kristen Jaeger*, Shannon Mahan* and Eric McDonald *(2018-2020, outgoing)*
Andrew Cyr, Brad Johnson, Sarah Schanz *(2019-2021, midterm)*
Eric Leonard, Allison Anders, Kristin Cook *(2020-2022, incoming)*

Others Present:
Dominique Olvera, GSA Liaison to Divisions
Eric Portenga, QG&G-Includes Committee Spokesperson

**Sent regrets for not attending*

Meeting was called to order at 3:05pm EDT and began with introductions.

Eric Portenga (QG&G Member) attended the board meeting as the representative from the recently formed ad hoc committee "QG&G Includes Task Force". This committee was formed in August 2020 to consider how our QG&G community would respond to division members and the public in the face of an increasing awareness of the lack of diversity, the presence of inequity and the problem of exclusion within our professional community. The committee was formed by volunteers who responded to a Google Poll to the QG&G Division online Community.

The QG&G ad-hoc committee held two online meetings plus discussion and revision of the draft document. The overarching goal of the group from the first meeting was to hold our professional community responsible for taking action by developing a list of concrete tasks to explore within our Division, within GSA, and within our personal spheres of influence.

The committee provided a draft document for review (Appendix C). The Board engaged in a thoughtful discussion of the initiative, how to support it going forward, commended the committee for

their work, and discussed next steps, including introducing the committee and its work to the membership at the extravaganza, revising the draft and preparing for review by Nan Stout at GSA Diversity Officer. Lisa will add the QG&G Includes draft statement as a "living document" appendix to GDD.

Some of the concrete action items relevant to DEI discussed at the meeting included:

- Adding language to bylaws affirming commitment to DEI
- Transparency procedures to diversify the personal on Awards and Nominations committees
- Resource Development, creating a list of minority speakers
- Accessibility for K-12 and university students
- Communication with GSA and other Divisions, such as Geoscience Education Division
- Items that could be taken on as priority this year:
  Any events, nominations or awards put on by QGG should be mindful of including a diverse range of participants and leaders.
  At regional or national GSA meeting, reach out to K-12 students in local schools where GSA is being hosted, e.g. field trips, invite them to events. Broaden reach of QGG in the future

Missy Eppes proposed

1. Add a short, direct DEI statement to the bylaws
2. DEI document can become an appendix to the GDD (no vote necessary)
3. Include diversity statement in calls for sessions and events for next year
   Dominique Olvera said that GSA is working on a DEI statement and actions, does not include blanket statement for GSA Divisions
4. Task force continue
   Start working on an award or event to promote DEI
5. Keep section meeting organizers advised of actions
6. Timeline would be summer 2021 onward to implement priorities

Scott Burns (Treasurer) provided a general financial update and budget (see attached table in Appendix B). Annual budget numbers were presented, with QG&G having a resoundingly positive balance for fiscal year 2020 (July 2019 – June 2020). Donations contributed significantly to this shift from a negative balance in FY19. In addition, the budget reflects payment of 3 years of IAG dues from 2018-2020.

A motion to accept the financial report and approve the FY 2021-22 budget (attached) was made by Sarah Lewis and seconded. Passed unanimously.

With the 2020 GSA Connects shift to an online meeting, the budget for FY 21 is also anticipated to end with a positive balance, and the funds usually used for catering the Awards Ceremony and Board Meeting will not be utilized. QG&G did authorize some small expenditures in support of the shift to the Online Meeting format (i.e. Kirk Bryan Field Trip).

All QG&G accounts with GSA Foundation continued to grow in the last fiscal year. Providing standard amounts to award recipients did not require supplementary from the QG&G budget in 2020. The exception is the QG&G Distinguished Career Award, which is funded directly by the QG&G dues and donations, not a Foundation account. QG&G has a new "QG&G Greatest Needs Fund" that can receive donations to be moved wherever needed.

Missy Eppes (Chair) gave a brief overview of the Fall Division Chair's Meeting:

Call for new Section Liaisons. QG&G identified liaisons for 2020 and all plan to continue in their roles for 2021. Alison Anders volunteered to take over on North Central from Nick Sutfin, who is also covering South Central. Liaisons to GSA Sections:
NE: Julie Brigham-Grette
SE: Karl Wegmann
SC: Nick Sutfin
NC: Alison Anders
Rocky Mountain: John Kemper
Cordilleran: Andy Cyr

- GSA is looking for proposals for webinars and asks that we add our photos to our GSA logins, and reminds us to check our Community notification settings.
- Review our QG&G website to ensure that our verbiage is in line with GSA's Division Description (or vice versa); also ensure that a selection of officers have access to the website to make changes. Carryover idea to put donate button on the website.
- Discussion of adding a second student position to provide continuity, and broaden the reach of the nominations beyond our awardees. Also discussed the role of student rep/members in enhancing social media. Note that the QG&G student representative is a voting board member defined in the by-laws, with duties outlined in the GDD.
    - Includes attending Student Advisory Council meetings and assisting with the transition of the new student representative.
    - Initiated a conversation about developing a social media plan for posts on Facebook/twitter (QG&G is not yet on Instagram) and better defining responsibilities, as led by Communications Coordinator.

Ongoing Business (limited discussion due to time considerations):

- The discussion of updates to the GDD was limited to the mention that all board and panel members will review sections of GDD relevant to their positions and responsibilities, especially outgoing members. Send edits and contributions to **Lisa Ely** (Secretary-elect), who will compile and report any significant changes or concerns to the board and consult with **Sarah Lewis** (outgoing Secretary) to identify any outstanding issues.
- JTPC reps (Julie and Karl for next year) will meet with Missy to discuss and document lessons learned from the 2020 meeting process.
- Farouk El-Baz Award committee (Julie Brigham-Grette provided a proposal for discussion.
    - serve on 3 years, rotate on/off;
    - increase diversity on committee
    - standardize requirements
    - promote submissions (this should be done for all awards)
    - Encourage young scientists to strive for excellence--Julie will follow-up to determine origin of this language and potentially follow-up with Farouk if needed.
- **Karl Wegmann** presented results of Student Award Committee, who successfully chose six QG&G award recipients and will recognize two additional award recipients (Fahnestock and Black). The awards selection is summarized in the program for the GSA 2020 Online Networking and Awards Extravaganza.
  The committee had two notes to add to the GDD procedures:
    - Unknowingly selected a previous winner of the same award (Marie Morisawa) and through board discussion determined was allowable as previous selection was for M.S.,

and this one is for PhD. The board approved in 2020 that a student could receive the same award twice, if it were for MS and PhD and different projects. This decision was added to the GDD.
    - Due to COVID-19 restrictions, one student's research focus changed after the proposal was submitted. The student notified the selection committee upon learning that they had been selected and the board determined that the research was in the same broad category and the award would proceed using the revised research title.
    - Missy will follow up with Grant Meyer on the status of the award funds in development.
    - The Student Award Committee expressed the desire for more background information on the names behind the awards; Historian Thom Davis volunteered to write brief descriptions of the awards where needed.
- QG&G completed the steps to recognize formally IAG as an affiliated society with GSA.
    - Allan James has submitted the first report to the Board
    - At QG&G's request, GSA sent a letter to IAG in support of their effort to help declare an international geodiversity day.

New Business:

QG&G initiated 2 new ventures for GSA Connects Online – QG&G Cares and QG&G Includes (see above). QG&G Cares was modeled after GSA Cares, initiated in summer 2020. QG&G Cares proposed to promote meeting attendance by providing reimbursement for meeting registration (up to $200). There were no applicants. Money will carry-over in budget, discussion needed about how to use for future initiatives.

Additional T-shirts – Scott Burns presented a proposal from Sara Rathburn, the originator of the QG&G merchandise order (in 2013?). Sara has requested that the Board consider making T-shirts, hats, etc. available to the membership again, and has volunteered to coordinate the effort. Wary of the expense to the Division, in both dollars and time, the suggestion was made to research online platforms (custom ink, red bubble) that would make the logo/design available, with a portion of the proceeds going to the Division as a fundraiser for awards or other DEI efforts (TBD). Dominique Olvera (Division Liaison) confirmed that other divisions have successfully set this up. Here is a link to an example from GSA Soils Division:
https://www.customink.com/fundraising/s-8266?utm_campaign=desktop-&utm_content=s-8266&utm_medium=social&utm_source=copy-link

Portland GSA Meeting October 10-13, 2021:

- Adam Booth (Portland State University) is co-chair of field trips for Portland Meeting with Anita Grunder of Oregon State University.
- Dominique will share the Diversity Group Report/recommendations with the board. At the Spring GSA Council Meeting, it was approved to no longer serve alcohol during scientific sessions (i.e. posters). This restriction does not apply to social events during the meetings.
- Scott Burns provided a brief review of a possible Kirk Bryan trip to Mount St Helens. [A proposal for this trip was received after the QG&G Management Board meeting from Jon Major, Pat Pringle and Scott Burns]. Thom Davis reminded the group that the KB, as originally conceived, was meant to be a minimalist trip to a few interesting sites to foster exchange of ideas (see https://community.geosociety.org/qggdivision/events/kirk-bryan-field-trip). This trip should fall on the Saturday before or the Thursday after the meeting. Julie and Karl as JTPC reps will coordinate with the Field Trip Chair for the Portland meeting to designate an appropriate trip as the Kirk Bryan for 2021.

- The DCA and FEB awardees chose to defer their award lectures to 2021. Award lectures and award ceremony for 2021. At a future meeting, the Board will discuss how to recognize the 2020 and 2021 recipients appropriately.

Recognition of Service:

We thank outgoing Secretary Sarah Lewis for 8 years of service, Past Chair Grant Meyer, and 2018-2020 Panel Members Kristin Jaeger, Shannon Mahan and Eric McDonald for their service to QG&G.

Business Meeting and Awards Ceremony Summary:

The Board Meeting will be followed by a practice run of the 2020 QG&G Extravaganza to be held Tuesday, October 27th, 8-10 PM EDT as a Zoom meeting, hosted by UMass Amherst. In addition to presenting the Division's student and professional awards, the management board will provide an update to the membership on the financial status of the division and solicit nominations and proposals for the coming year and the Portland 2020 meeting. The Extravaganza includes small group breakouts to allow for networking, and pre-recorded and live video messages from awardees. Registration and technical logistics for the meeting were organized by Julie Brigham-Grette. Advance sign-up was required and each person received an individual link to the meeting, but they did not have to be registered for the GSA meeting or be a member. (See attached meeting flyer in Appendix D.)

Adjourned at 5:09 PM EDT

Minutes approved via email vote December 11, 2020