Message from the Chair

Dear MGPV members,

Much has changed since the last newsletter – many of us are now teaching or attending classes in person for the first time in over a year. I enjoy that I’m now able to interact more easily with my mineralogy students – my TA (and MGPV member Rebecca Matecha) and I did our best to introduce the petrographic microscope last year via remote instruction, but it’s a lot more fun to be hands-on, even with masks on! And I’m looking forward to attending the GSA 2021 Annual meeting in Portland, Oregon. Although there will not be a joint MGPV-Mineralogical Society of America-Geochemical Society reception, First Vice Chair Dennis Newell and I will convene a special MGPV Division Awards session Monday morning, October 11, where we’ll honor our 2021 Distinguished Career Award recipient Michael Brown, and Early Career Award recipient Xiao-Ming Liu. This session will also be live-streamed and available for on-demand viewing for registered attendees. I hope you’ll attend this and the related technical sessions in their honor. We also celebrate our student awardees – including ten who are receiving MGPV grants from the James B. Thompson endowment to support travel to the annual meeting. I’m excited that I’ll be able to meet with our student representatives Chioma Omuwelo and Lindsey Hernandez in person for the first time.

We thank all of you that have contributed to our Division’s scholarship funds, including to the Lipman and Carmichael Student Research Grants. Over the last ten years, we’ve made 134 student research awards, and many past awardees are actively involved in geosciences and are still members of GSA.

As I come to the end of my term as MGPV Chair, I’d also like to thank First Vice Chair Dennis...
Newell and Second Vice Chair Amanda Clarke for their work as JTPC representatives that helped GSA put together a strong meeting with both in person and hybrid options for some sessions, and for their work on the MGPV Awards committees. And I’m indebted to Alex Speer, for all his guidance and support. In his role as MGPV Secretary-Treasurer, he tirelessly kept all of us on the committee on track, answered every question promptly, and helped us navigate the confusion of taking on new administrative duties under challenging conditions. I’ve also been inspired by his continued excitement about what we as geoscientists do, and how we do it – and his generosity in sharing the work of others, which I found very helpful as I looked to new ways to teach geology and mineralogy remotely.

I’ll close with our annual reminder: MGPV needs your active support to continue to represent our community at GSA. We continue to be the largest GSA Division, and our strong Student and Early Career membership (1012 students and 184 Early Career, out of 1836 total members as of September 2021) bodes well for the future. We encourage you to take the time to nominate those who represent the best in our field for the Distinguished Geologic Career and Early Career Awards and to encourage, instructions follow in this newsletter. Most importantly, please remember to renew your membership in GSA and MGPV each year and we hope that you will encourage others to join as well.

Best regards,
Rosemary Capo, Chair (2021)
Mineralogy, Geochemistry, Petrology, Volcanology Division
Geological Society of America
University of Pittsburgh, Geology and Environmental Science

New MGPV Officers starting 2022 terms

Second Vice-Chair 2022. Alan Whittington is a Professor in the Department of Geological Sciences at the University of Texas at San Antonio. He completed a B.A. in Earth Sciences at the University of Cambridge (UK), a PhD in Earth Sciences at the Open University (UK), and post-doctoral positions at the Institute de Physique du Globe de Paris (France), the CEMHTI-CNRS (Orléans), and the University of Illinois at Urbana-Champaign. He was at the University of Missouri-Columbia from 2002-2019 including serving as Department Chair from 2014-2019. His research interests include heat and mass transfer in magmatic systems, measurement of rheological and thermal properties at high temperature, emplacement lava flows on Earth and other planets, and in situ resource utilization on the Moon. He has advised 19 graduate students, 1 post-doctoral scholar, and 15 undergraduate student researchers. Alan is an Associate Editor for Geosphere (2014-present) and Volcanica (2020-present) and has been a review panelist for NASA and NSF. He served on the Missouri Department of Higher Education Curriculum Alignment Science Working Group, contributing to draft entry and exit-level standards for introductory geoscience courses. He has been a member of GSA since 1999 and was elected a Fellow in 2017. He is also a member of AAAS, ACerS, AGU, IAVCEI, MSA, NAGT, and the Society of Rheology.

Alan is honored to be considered for the position of 2nd Vice Chair of the MGPV Division of GSA. He will enthusiastically work and advocate for progress on issues including: (i) transforming the profession of geoscience to become truly inclusive; (ii) supporting students and advocating for early career scientists; (iii) promoting interdisciplinary science, including between different sections of GSA, between GSA and other societies, and MGPV contributions to transdisciplinary 21st century problems from climate change to human
Call for Award Nominations:  Nomination Deadline: 31 March 2022

MGPV Division Distinguished Geological Career Award (for 2023)

The MGPV Distinguished Geological Career Award goes to an individual who, throughout his/her career, has made distinguished contributions in one or more of the following fields of research: mineralogy, geochemistry, petrology, volcanology, with emphasis on multidisciplinary, field-based contributions. This award emphasizes a geological and multidisciplinary approach. Geological work is by nature general and has an important field component, with Earth as the natural laboratory. Nominees need not be citizens or residents of the United States, and membership in the Geological Society of America is not required. The award will not be given posthumously.

The Award: Consists of Fellowship in GSA, recognition plaque, a $1,000 cash award, and some travel assistance. The Award will be presented at the 2023 Annual Meeting of the Geological Society of America (Denver, CO, USA), with a brief (5 minute) citation from the nominator, followed by a brief (5 minute) acceptance speech by the awardee, then a 20 minute talk by the awardee.

MGPV Division Early Geological Career Award (for 2023)

The MGPV Early Geological Career Award goes to an individual near the beginning of his/her professional career who has already made distinguished contributions in one or more of the following fields of research: mineralogy, geochemistry, petrology, volcanology, with emphasis on multidisciplinary, field-based contributions. This is a new award that was generously endowed by the estate of James B. Thompson Jr., who believed in the importance to geology of understanding minerals - both their internal characteristics, and their external "social lives" (his term for their relations with each other). This award emphasizes a geological and multidisciplinary approach. Geological work is by nature generalistic and has an important field component, with Earth as the natural laboratory. J. B. Thompson’s work, regardless of subject, was always based on solid field observations. In his acceptance speech for the Day Medal in 1964 he said, “True success in the laboratory should stimulate field investigations rather than discourage them. It would be embarrassing indeed if we were to construct an internally consistent geology, chemically and physically sound, perfect in fact but for one flaw: the lack of a planet to fit it.”

The individual must either be [1] before the age of 36 or [2] within 7 years of the awarding of the terminal degree. If the former, the candidate must be 36 or less on January 1 of the year the award is decided. If the latter, the award must be decided prior to December 31 of the seventh year past the terminal degree. These time limits for the award can be extended for up to two years based on circumstances that have interrupted the nominee’s career (i.e., serious illness, childbirth, care giver, etc.). Nominees need not be citizens or residents of the United States, and membership in the Geological Society of America is not required. The award will not be given posthumously.

The Award: Consists of a wall plaque, a $1,000 cash award, and some travel assistance. The Award will be presented at the Division reception at the 2023 Annual Meeting of the Geological Society of America, (Denver, CO, USA) with a brief (5 minute) citation from the nominator, followed by a brief (5 minute) acceptance speech by the awardee.

Nomination Procedure for either award

Nominations will be from the Division membership at large, and should consist of:

http://community.geosociety.org/mgpvdivision/home
(1) A nomination letter from an MGPV Division member, no longer than 3 pages, summarizing the nominee’s most important accomplishments in geological approaches to mineralogy, geochemistry, petrology, and/or volcanology. Special attention should be paid to describing how the nominee’s published work demonstrates field-based multidisciplinary geological accomplishments of a groundbreaking nature. The letter should include the name, address, and contact information of the nominator as well as those from whom letters of support can be expected.

(2) Curriculum Vitae of the nominee.

(3) An additional three letters of support. These letters of support may be submitted by anyone, membership of GSA or the MGPV Division is not required.

Nominations should be forwarded to the Division Secretary-Treasurer, J. Alex Speer at: jaspeer@minsocam.org

Dossiers of nominees who did not receive the award in any given year will be retained and considered for two succeeding years (as long as the eight-year time limit continues to be met); thus, nominations are active for a total of three years even if not updated or re-submitted. Updated information or resubmitted nominations for such candidates may be sent to the Division Secretary-Treasurer during subsequent calls for award nominations for consideration beyond that time.

2021 MGPV Division Distinguished Geological Career Award to Michael Brown

Michael Brown, University of Maryland is the 2021 MGPV Distinguished Geologic Career Awardee. The award will be presented during the 2021 GSA Annual Meeting, Portland, OR.

Michael Brown is recognized for his exceptionally productive record of research and leadership in the field of metamorphic petrology. His principal contributions to the discipline include: (1) a career of exceptional research into high-grade metamorphism and secular change, (2) mentorship of young researchers in the petrological sciences, and (3) an outstanding record of service to metamorphic geology and the Earth Science. His numerous research contributions are multidisciplinary, and routinely involve petrology, mineralogy, geochemistry, geochronology, and structural geology. Research driven by Dr. Brown and coworkers produced the first P–T–t paths from migmatite terranes and demonstrated the critical role of deformation in the segregation and ascent of melt through orogenic crust and to the emplacement of orogenic leucogranites. The recognition of paired metamorphic belts as the signature of subduction stimulated him to examine the metamorphic rock record for evidence of secular change. The meticulous compilation of the metamorphic database, which involved extracting the pressure (P), temperature (T) and age of (to date) more than 550 localities worldwide, was undoubtedly painstaking work, but has provided the community with an invaluable resource. Using an earlier version of this database, Dr. Brown was able to fingerprint distinct geodynamic regimes during Earth evolution, linking these to secular cooling of the Earth’s mantle. A key feature of Mike’s contribution to metamorphic geology is the sheer breadth of this contribution, ranging from organizing numerous meetings, mentoring young academics and serving as a referee for many academics, founding and serving as an editor of the Journal of Metamorphic Geology, all on top of being Head of School at various institutes and a productive researcher. Perhaps out of all these contributions, it was the founding of the Journal of Metamorphic Geology by Mike over 38 years ago that has been Mike’s most profound service contribution to the field. He has worked all over the globe in countries too numerous to list, and his work often crosses boundaries, linking petrology with geochronology, geodynamics, and structural geology. Mike has contributed to both field-based and theoretical studies and has published numerous seminal review articles that are highly cited.
2021 MGPV Division Early Career Award to Xiao-Ming Liu

Xiao-Ming Liu, University of North Carolina-Chapel Hill is the 2021 MGPV Early Career Awardee. The award will be presented during the 2021 GSA Annual Meeting, Portland, OR.

Dr. Liu’s research combines field-based studies of weathered regoliths, waters (rivers, streams, groundwaters), and sedimentary rocks with analyses of novel stable isotope systems (Li, Mg, K, Fe), modeling, and lab experiments to explore a truly multi-disciplinary array of scientific goals. To date, her work has sought to: a) document the influence of chemical weathering on the compositional evolution of the continental crust; b) develop Li and K isotopes as a tracer of chemical weathering over time; c) develop novel carbonate trace element proxies for past atmospheric oxygen levels; d) document anthropogenic influences on the rivers and streams of North Carolina (the latter largely through mentoring senior thesis students); and e) utilize Li isotopes to understand the petrogenesis of arc magmas, pegmatites, and geothermal fluids.

Her work has taken her to a wide variety of weathering environments, including the Pacific Northwest (during her PhD) where she sampled weathering horizons on the Columbia River basalts (CRB) and rivers draining only CRB on both the wet western side and dry eastern side of the Cascade Mountains – a natural laboratory allowing evaluation of climate in controlling river water chemistry. She is currently studying basalt weathering in the tropics in Hawai’i (in collaboration with Oliver Chadwick) and the Galapagos Islands, and in the more arid reaches of Western China. She has also worked more locally with several UNC undergraduates to address anthropogenic influences on North Carolina waterways (e.g., Smith and Liu, 2018, Chem. Geol.). It is the integration of these field data with her analytical and modeling approaches that have provided the novel insights she has uncovered.

In addition to her impactful science, Dr. Liu has been an outstanding mentor of undergraduate and graduate students at UNC, and at professional society meetings (volunteering for the mentoring programs at GSA, Goldschmidt, AGU). She has been an excellent citizen, organizing sessions at international meetings, as a theme Chair for the Boston Goldschmidt meeting, and has already taken on editorial duties (Geochemical News, Frontiers in Earth Science, and as guest editor for Geochimica et Cosmochimica Acta).

MGPV Division Student Research Grants

This is the tenth year for the MGPV Division’s annual student research awards. The Division has been able to provide these awards with the help of the James B Thompson Fund of the GSA Foundation. The 2021 awardees are:

**Haley Olson**, Harvard University, Brighton, MA, for her project: *Using triple oxygen isotopes to improve the phosphate \( \delta^{18}O \) paleothermometer*

Haley Olson is a 3rd year PhD candidate in the Department of Earth and Planetary Sciences at Harvard University. She is supervised by Dave Johnston, whose research focuses on using oxygen isotope compositions of chemical sediments to reconstruct past environmental conditions. Thus far, Haley’s work in the Johnston Lab has spanned geologic time and has focused on determining the controls on the triple oxygen isotope composition of sulfate minerals. Moving forward, thanks to this MGPV grant, she will focus on...
reconstructing sea-surface temperatures using the triple oxygen isotope composition of phosphorite deposits throughout earth history.

Haley received an undergraduate degree in Geology from Carleton College in 2017, where her senior thesis work with Dr. Cam Davidson and Dr. John Garver focused on using the U/Pb composition of detrital zircons to differentiate sedimentary terranes in SE Alaska. Her thesis work sparked an interest in using stratigraphy and sediment geochemistry to constrain broad earth history questions. Since, she has served as a TA for the Carleton College Geology Dept. study abroad program in New Zealand and as a research assistant in the Johnston Lab for a year prior to joining the lab as a graduate student.

In her free time, Haley spends a lot of time outside tending to her meager backyard garden, mountain biking, and taking long walks (preferably over mountains but more frequently on sidewalks).

Sally Stevens, University of Wisconsin-Madison, for her project:
Refining the temporal record of the end-Lomagundi excursion in Franceville, Gabon

Sally is a second-year master’s student working with Dr. Annie Bauer at University of Wisconsin-Madison. Her research is focused on constraining the timing and extent of oxidation of the end-Lomagundi Jatuli Event as recorded in the Francevillian basins of Gabon. The Lomagundi-Jatuli Event is the longest-lived and most positive carbon isotope excursion in Earth history and has been linked to atmospheric oxygen fluctuations in the Paleoproterozoic.

She is using Re-Os geochronology, Nd and Os isotope stratigraphy, and redox-sensitive element mapping to evaluate Francevillian sediments in order to better understand the redox conditions during this interval.

Prior to starting her master’s, Sally earned her BSc. in Geology at UC Santa Barbara (2019) and completed an undergraduate thesis with Dr. Matt Rioux. Her undergraduate thesis used combined zircon U-Pb and trace element analyses to date prograde metamorphism of the Semail metamorphic sole in Masafi, United Arab Emirates. This research with Dr. Rioux sparked Sally’s interest in geochronology and geochemistry and led her to work with Dr. Seth Burgess at the USGS California Volcano Observatory (2019-2020) as a Field Assistant and Physical Science Technician. She assisted Dr. Burgess with dating young tephras from Cobb Mountain using U-Pb zircon surface dating.

Sally is very grateful to GSA and MGPV would like to thank them for supporting her master’s research.

In her free time, Sally enjoys drawing, climbing, learning piano, and spending time outside with family and friends.

Lipman Student Research Grants

The Lipman Research Fund was established in 1993 and is supported by gifts from the Howard and Jean Lipman Foundation. The purpose of the fund is to promote and support graduate-student research in volcanology, petrology, geochemistry, and mineralogy. The president of the Lipman Foundation, Peter W. Lipman, was the recipient of a GSA research grant in 1965, the 2004 GSA Distinguished Service Award, and the first MGPV Distinguished Geological Career Award in 2010.
Bryce Brown, New Mexico State University, Las Cruces, NM, for his project: Ra/Th Dating of Potassium Feldspar Crystals in Trachytes from the Las Cañadas Caldera, Tenerife, Spain

I am a M.S. candidate in the Department of Geological Sciences at New Mexico State University, working under Dr. Frank C. Ramos. My M.S. thesis is focused on constraining ages of individual potassium feldspar crystals in phonolites from the Las Cañadas Caldera in Tenerife, Spain (Canary Islands). Funding from the Lipman Fund and MGPV Division of GSA will cover $^{40}$Ar/$^{39}$Ar analysis of four phonolite samples, which will allow me to compare crystallization and eruption ages to determine crystal residence ages and will allow me to assess the viability of using the $^{40}$Ar/$^{39}$Ar method on young, Holocene lavas.

I grew up in Greenwood, IN, just 15 minutes south of Indianapolis. I obtained my B.A. in Geology from DePauw University, a small (~2,400 students) university in Greencastle, IN. Growing up, I played basketball, baseball, and football, and have always loved sports and the outdoors. I have four siblings, Brandon, Brittany, Brady, and Brooklyn, and my parents, Scott and Laurie, have always been my role models. I recently married my high school sweetheart, Annie, last June. I also have two dogs, Millie and Nova, that keep us very busy!

Karoline Bruckel, University of Illinois at Urbana-Champaign, Urbana, IL, for her project: What triggers supereruptions? Insights into the remobilization of silicic magma systems from quartz melt channels

Karoline Bruckel is a PhD student at the University of Illinois working with Dr. Craig Lundstrom on ignimbrites of the San Juan Volcanic Field in CO. Using geochemical and petrological tools, she hopes to gain insight into the formation processes of ignimbrites. How are large, silicic volcanic systems stored and what leads to their eruption? To answer these questions, Karoline has used mineral thermometry to determine the temperatures at which silicic volcanic systems are stored. With the support of the Lipman Student Research Grant, she will look at how their eruption is initiated. Microtomography will reveal whether melt channels in volcanic quartz are aligned. If this is the case, reheating and remelting occurred from a certain direction, i.e. below the system prior to eruption.

Karoline grew up enjoying many outdoor activities, such as hiking, camping and skiing. This love of the outdoors led her to pursue a Bachelor’s degree in geology at the University of Bonn (Germany), followed by a Master’s degree at the University of Bonn in cooperation with the glass industry “Schott AG” in Mainz (Germany). Field trips to the Massif Central and the East African Rift System sparked her interest in volcanology and led to her current research in IL. Karoline would like to thank both the GSA Lipman Research Award and the MGPV division for the support of her research.
Watsawan Chanchai, The Pennsylvania State University, University Park, PA, for her project: *A Carbonate Multi-Proxy Reconstruction of Oceanic Oxygenation during the Basal Cambrian Carbon Isotope Excursion (BACE)*

Watsawan (Fai) Chanchai is a second-year Ph.D. student in Geoscience at Penn State University. She is working with Dr. Kimberly Lau to investigate geochemical and biotic evolution during the Proterozoic–Phanerozoic transition. She is interested in combining redox proxies, fossils, and biogeochemical cycles to decipher oceanic chemistry throughout the Earth’s history.

Her ongoing research focuses on using redox proxies including uranium isotopes, cerium anomalies, and iodine-to-calcium-magnesium ratios to constrain oxygenation patterns at local and global geographic scales. This redox reconstruction will improve the understanding of the widely debated timing of the biotic turnover and the role of redox conditions in shaping marine ecosystems during the Cambrian explosion. The support from the GSA Lipman Research Award and the MGPV division has enabled her to perform geochemical analyses from many geographic locations, such as Mongolia, USA, Mexico, and South Africa.

Fai was born and raised in Phatthalung, Thailand then moved to Colorado Springs to obtain a B.A. in Geology from Colorado College. She enjoys sipping tea while reading novels or hiking in the mountains. She has become passionate in science education and DEI work. She hopes to return home and advocate for underrepresented groups, especially women in STEM.

Kristi Dobra, University of Pittsburgh, Pittsburgh, PA, for her project: *Using Barium Isotopes to Trace Oil and Gas Produced Water in Sediment*

Kristi Dobra is a second year PhD student at University of Pittsburgh studying environmental isotope geochemistry with Dr. Brian Stewart and Dr. Rosemary Capo. She is exploring how barium isotopes can be applied to environmental contamination and degradation problems in the Pittsburgh region, such as those related to historical discharges of oil & gas produced water in the watershed. Her research will examine the barium isotope composition, as well as trace metals concentrations, in sediment, surface water, and freshwater mussel shells throughout the watershed to determine how barium isotopes may be used in environmental applications.

Kristi received her B.S. in geology in 2011 from Temple University in Philadelphia before moving to Lander, Wyoming, to work as a geologist for the WY Department of Environmental Quality. After leaving Lander, she moved to Pittsburgh, PA, to take a job with the Department of Defense. She currently maintains a position with the Army Corps of Engineers Pittsburgh District where she works on environmental water resource challenges in the Allegheny River watershed.

The GSA Lipman Award will greatly advance Kristi’s research efforts and will be used to perform fieldwork and collect samples in the Allegheny River watershed, as well as to conduct laboratory analysis on sediment and water samples.
**Alyssa Endrich**, Kansas State University, Manhattan, KS, for her proposal: *Petrogenesis of Cenozoic Basalts from the Centennial Valley and vicinity, southwest Montana*

Alyssa Endrich is a second-year M.S. student in the Department of Geology at Kansas State University. Under the guidance of Dr. Matt Brueseke, her research investigates <6 Ma basalts north of the Snake River Plain-Yellowstone province as potential off-axis and out-of-sequence hotspot volcanism. This research will use a combination of whole-rock geochemistry, isotope analysis, geochronology, field relationships, and mineral geochemistry to help investigate the relationship between Snake River olivine tholeiites and these young basalts in southwestern Montana and to determine the source for these rocks.

Alyssa first discovered her love of rocks growing up in New York with plenty of trips to the American Museum of Natural History and studying earth science in junior high school. That love only grew upon her first field trip for an introductory geology course in the beautiful Adirondacks. However, it wasn’t until a class in igneous and metamorphic petrology that she found her true passion: volcanoes. She graduated with her B.A. in Geology from SUNY Plattsburgh. As an undergraduate, she utilized apatite fission-track dating to study displacement on the Georges Mill fault in New Hampshire supervised by Dr. Mary Roden-Tice.

In her free time, Alyssa enjoys playing piano, being outside, singing, baking, and spending time with her pugs, Derpy and Slurpee.

**Yihang Fang**, University of Wisconsin-Madison, Madison, WI, for her project: *The role of dissolved silica in the formation of sedimentary dolomite: evidence from the Silurian Burnt Bluff Formation, Wisconsin*

I am a Ph.D. candidate at the University of Wisconsin-Madison under the supervising of Dr. Huifang Xu. My Ph.D. work focuses on sedimentary dolomite’s formation mechanism from low-temperature synthesis and applies to both lacustrine and marine environments in modern settings and geologic records. The approaches I use include low-temperature precipitation experiments, major and minor element geochemistry (EDS, EPMA, ICP-OES), and mineralogical/crystallographic analyses (in-house and synchrotron XRD, TEM, STEM, CTR). The GSA Lipman Research Award allows me to conduct a detailed quantitative examination of the distribution of silica in dolomite in the Lower Silurian Burnt Bluff Formation in northeast Wisconsin using mineralogical and geochemical tools. This work is to understand the formation mechanism of these micritic dolomite, presumably primary with minimum bioturbation, silica incorporation in the dolomite, and size restriction from the adsorbed layer of silica.

I receive my B.Sc degrees in Geology and Geophysics, and Mathematics with a certificate in Physics from the University of Wisconsin-Madison. I stayed at the University of Wisconsin-Madison to pursue a M.S. in Geoscience with Dr. Huifang Xu. I am a big fan of movies, music, running, and hiking during my free time.
Samuel Grandy, California State University Sacramento, Sacramento, CA, for his project: Late Miocene-Pliocene Volcanism in the Sierra San Francisco, Central Baja California Peninsula, Mexico: Implications for Mantle Processes and Regional Tectonic Development

Sam Grandy is a M.S. candidate in the Geology department at Sacramento State University, working under Dr. Brian Hausback. Sam is working in a remote late Miocene-Pliocene-aged volcanic mountain range in northern Baja California Sur, Mexico. His work involves mapping the extent and distribution of lavas and pyroclastic flows and examining the petrography, geochemistry, and age distribution of the volcanic deposits that make up the bulk of the range. He is hoping that these volcanics will help elucidate the physical and chemical changes in the mantle during the transition from subduction off the coast of western Mexico to extension related to the opening of the Gulf of Mexico. Funding from this Lipman Research Grant will support a month-long field trip to Baja Mexico, as well as thin sections and two more 40Ar/39Ar dates for key samples of the stratigraphy.

Sam grew up in the Central Valley of California and developed a fascination with the natural world at a young age during backpacking trips in the Sierra Nevada with his dad. When he is not at home daydreaming about days in the field in Baja, he loves to go climbing in the Tahoe and Yosemite area, biking along the American River in Sacramento, and steelhead fishing in Northern California.

Jaclyn Hager, Northern Arizona University, Flagstaff, AZ, for her project: Using anisotropy of magnetic susceptibility (AMS) to determine the flow characteristics of a pyroclastic density current

Jaclyn Hager is a second-year master’s student at Northern Arizona University working with Dr. Michael Ort. She is researching the interaction between pyroclastic density currents (PDCs) and the underlying topography using a technique called anisotropy of magnetic susceptibility (AMS). AMS uses the preferred orientation of magnetic minerals as a proxy for flow fabric. The fabric between different locations within the deposit can be compared to determine how the flow varied at different points in space and time. This project explores the topographical influence on PDCs and tests the hypothesis that channeling increased the runout distance of one far-travelled PDC in western Nevada and the eastern Sierra Nevada.

Jaclyn graduated from U.C. Davis with a B.S. in Managerial Economics. She later pursued her post-baccalaureate studies in geology through California State University, Sacramento where she worked on a project with Dr. David Shimabukuro mapping and studying the geochemistry of ophiolitic rocks at the never-finished Auburn Dam. As she completed her geology courses, she interned with the Department of Toxic Substances Control in Sacramento, California. Additionally, Jaclyn has worked in the veterinary field for many years and has a great love for dogs and cats of all types.

The GSA Lipman Research Award will be used to perform fieldwork in the Sierra Nevada and northern Nevada as well as to conduct AMS, ChRM (characteristic remanent magnetization), and thin section analysis on the samples collected. Jaclyn is appreciative for the opportunities this award has provided her.
**Mckenna Holliday**, University of Florida, Gainesville, FL, for her project: *Geochemical characterization of clinker profiles in Custer National Forest, Montana.*

McKenna Holliday is a second year PhD student in the Department of Geological Sciences at the University of Florida. Under Dr. Courtney Sprain, she is currently investigating the thermal behavior and subsequent mineralogical changes of clinker deposits during a burning event. Clinker deposits are defined as pyrometamorphic rocks, which are formed during combustion of an underlying coal seam. Maximum sustained temperature and overall thermal behavior is currently not well understood in these systems. Better characterization of these deposits can guide a better understanding of the potential for use as intercontinental magnetic recorders. Ultimately, this investigation should utilize whole rock and trace isotope geochemistry, geochronology, and paleomagnetic techniques to better characterize these systems, and justify their use as magnetic recorders.

McKenna grew up sharing her time between the Wasatch Range and the Teton Range. Though not initially realized, her love for rocks and igneous systems was inevitable. For McKenna, it was not until taking a petrology course at Westminster College that she appreciated her love for internal earth systems, particularly as it pertains to geochronology. During her undergraduate studies, she worked with Dr. Tiffany Rivera to constrain the ages of the Sevier and Markagunt Gravity Slides through 40Ar/39Ar dating of bracketing stratigraphy. She graduated from Westminster College with a B.S. in Geology and a Chemistry minor. She hopes to pursue argon geochronology further under Dr. Sprain and apply it to new systems and technique collaboration.

In her free time, McKenna is a professional athlete, riding and competing her horse in dressage competitions throughout Florida and the greater United States.

**Abigail Martens**, University of South Florida, Tampa, FL, for her project: *Pre-eruptive crystallization conditions in the past 25 Ma at Martinique Island as revealed by textural and chemical variation in phenocrysts*

Abigail Martens is a Ph.D. candidate at the University of South Florida (USF), with Dr. Aurelie Germa, focusing on spatial and temporal evolution of the magmatic processes on Martinique Island, Lesser Antilles, combining petrography, geochemistry, geothermobarometry, geochronology, physical volcanology, and stratigraphy.

Prior to her time at USF, she received a BS from Illinois State University. She was able to develop various research and lab skills at this stage in her career. While in undergrad, she also received an amazing opportunity to work at Lamont Doherty Earth Observatory in New York City through an REU program. She performed research in the field and lab to find the time and age progression of the Yellowstone hotspot track using paleomagnetism and radiometric dating. Abigail presented her REU research at the annual GSA conference in 2015. She then took a master’s position California State University and was awarded a graduate research fellowship through the NSF Centers for Research Excellence in Science and Technology. Her thesis work determined the structural and strain analysis on Obsidian Dome and surficial structure interpretations of Inyo Volcanic Chain. In addition, she gained LiDAR data on the entire Inyo volcanic chain in Eastern California from another NSF grant, The National Center for Airborne Laser Mapping. In her free time, she is a part of a salsa performance team, and golfing when she can.

The GSA grant will be used to complete geochemical analyses using an electron probe microanalyzer. The data analysis will be conducted on 12 samples distributed throughout the Island, to complete the spatial and temporal magmatic evolution she has already determined.
Julia McIntosh, Southern Methodist University, Dallas, TX for her project: Measuring stable and radio isotopes of clay minerals from Pennsylvanian-aged paleosols to assess diagenetic mechanisms in the Illinois Basin

Julia McIntosh is a third year Ph.D. candidate at Southern Methodist University (SMU) studying sedimentary geochemistry with Prof. Neil Tabor.

Julia was born and raised in Austin, Texas, where she was encouraged to appreciate nature and geology by her geophysicist father from an early age. She went on to receive her B.Sc. in Geosciences, with a concentration in paleomagnetism, from the University of Texas at Dallas, where she was mentored by Dr. John Geissman. Beginning in her senior year, Julia interned with the National Weather Service’s West Gulf River Forecast Center. Her work studying the impact of anomalously high rainfall events on Texas rivers encouraged her interest in researching the causes and effects of catastrophic climate trends in the geologic record. She then transitioned to SMU where she began her master’s research (continuing into her Ph.D.) studying clay mineral formation in Pennsylvanian-aged fossil soils, or paleosols, to better understand how clay minerals can inform our understanding of ancient environments of soil formation. She will use the funds from the Lipman Fund, MGPV and GSA to analyze the stable ($\delta^{18}$O and $\delta^{2}$H) and radio (K-Ar) isotopic composition of paleosol clay minerals with the goal of identifying and differentiating between geochemical signatures representative of paleoclimatic, diagenetic, and detrital origins.

When she is not in the field or in the lab, Julia enjoys cooking and jigsaw puzzles. Julia is appreciative for the support from Lipman Fund, GSA and the MGPV division.

Dana Mineart, Iowa State University, Ames, IA, for her project: Constraining continental emerges: Proterozoic ocean crust as a record of seawater isotopes.

I am a M.S. student in the Department of Geological and Atmospheric Sciences at Iowa State University, working with Dr. Benjamin Johnson. My M.S. thesis is focused on constraining continental emergence by using the oxygen isotope composition of seawater. With the samples we recently collected from Jones Hill, New Mexico and future site Jerome Mining District in Arizona, we will implement a microfluorination technique to measure oxygen isotopes from Proterozoic sections. We predict that by the Proterozoic, there was widespread emergence and modern-like oxygen isotope composition of seawater. Funding from the Lipman Research Award from the Howard and Jean Lipman Foundation allowed me to leave Iowa and travel to New Mexico to collect my first batch of samples. The experience was exciting and reminded me of why I love geology.

I grew up in Marion, IA and have always enjoyed the outdoors, like most of my fellow colleagues. I enjoy painting with watercolors of scenery I have either seen or have been inspired by. I received my B.S. in Geology and Anthropology from Iowa State University. I work with my department to incorporate more inclusion and diversity and hope I can inspire other minorities, LGBTQ+, and women to join the geology field. I love canoeing and taking nature walks with friends, who are sometimes annoyed by my frequent stopping to explain a random outcrop we stumble across.
Alireza “Ali” Namayandeh, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA for his proposal: *Impact of oxyanion surface complexes mode and strength on the nucleation and growth of goethite and hematite during ferrihydrite transformation*

I am currently a PhD candidate in the Department of Geosciences at Virginia Polytechnic Institute and State University (Virginia Tech). My PhD research under the mentorship of Dr. F. Marc Michel is in environmental geochemistry and nanomineralogy, with a particular focus on the cycling of iron oxide and hydroxide nanoparticles and oxyanion within soils, sediments, and water. My research focuses on understanding the role of iron (hydr)oxide nanoparticles in immobilizing contaminants in the environment. Specifically, I am examining the impact of oxyanion surface complexes including phosphate, sulfate, nitrate, and arsenate on the formation and transformation kinetics of ferrihydrite. My research is also addressing highly reactive and ultra-small ferrihydrite precursors, known as Fe₁₃-like clusters, and their reactivity and transformation behaviors. Lastly, I am studying how nitrate controls Fe(II)-catalyzed ferrihydrite transformation under redox conditions. My research relies heavily on applying advanced characterization techniques, including high-energy synchrotron X-ray scattering for pair distribution function (PDF) analysis, transmission electron microscopy (TEM), and chemical analysis.

The GSA Lipman Research Award enables me to collect high-resolution TEM images to investigate the nanoscale structure, chemistry, and morphology of ferrihydrite and its transformation products. This information has implications for understanding how and when contaminant remobilization will occur during ferrihydrite transformation, which is critical for the management of both natural and industrial systems requiring remediation.

Samuel Oxhorn, University of Georgia, Athens, GA, for his project: *Western Aleutian Volcanism; Differentiation of Holocene Kiska Magmas*

Sam Oxhorn is a 2nd year master’s student at the University of Georgia studying petrology and geochemistry with his advisor Dr. Mattia Pistone. His research focuses on the western portion of the Aleutian subduction zone wherein there is a distinct along strike compositional shift from tholeiitic to calc-alkaline magmas. He seeks to understand the origin and differentiation mechanisms necessary to explain this trend. He will use the fund from MGPV and GSA to analyze the bulk major and trace element chemistry of samples from two compositional end member volcanoes within the region; Gareloi and Kiska.

Sam grew up in Jupiter, Florida enjoying the outdoors while surfing and skateboarding. While attending Santa Fe Community College he took an intro geology class and knew it was what he wanted to do for a career. He transferred to the University of Florida to complete his bachelor’s degree while serving in the Florida National Guard as an Infantryman. His passion for petrology and geochemistry was kindled by Dr. Michael Perfit, who advised his undergraduate honors thesis pertaining to primitive tephra from Makushin and Pakushin volcanoes within the Aleutian arc. In his spare time, Sam enjoys fishing and hiking with his dogs. He would like to thank GSA and specifically the Lipman Fund and the MGPV Division for offering critical support for his thesis.
Natalie Packard, University of Michigan, Ann Arbor, MI, for her project: *Determining the temperature dependence of triple oxygen isotope fractionation during acid digestion of carbonate minerals*

Natalie Packard is a PhD candidate, working with Dr. Ben Passey, in the Earth and Environmental Sciences department, at the University of Michigan. Her broad research focuses on understanding paleo-aridity in western U.S. lake systems. More specifically, she is among the first few trailblazers using the novel triple oxygen isotope application on carbonate archives.

Natalie’s research on the Bear Lake, Utah core investigates a large positive oxygen isotope (δ¹⁸O) shift moving from the last glacial maximum to the present. This δ¹⁸O shift is accompanied by a negative shift in δ¹⁷O (an evaporative signal indicator). Clumped isotope thermometry revealed unreasonably high carbonate growth temperatures suggesting a minor detrital dolomitic influence was amplifying the isotopic signals. Through temperature stepped reactions and re-analysis she confirmed the detrital interference in both clumped and triple oxygen isotope measurements.

This led Natalie down a path to identify potential fractionations that influence the measurements she uses. It turns out that fractionation during acid digestion of carbonate minerals is not yet systematically characterized for triple oxygen isotopes. Traditional δ¹⁸O has a temperature dependent acid fractionation, which makes it reasonable for her to assume this is also the case with δ¹⁷O. However, this temperature dependence is yet to be experimentally determined. This unknown parameter caught Natalie’s eye and she is eager to improve triple oxygen isotope applications of carbonate archives.

When Natalie is not in the lab, or out in the field she enjoys spending her time kayaking, hiking, making collages, gardening, exploring with her adventure kitties, and cooking vegan meals.

Emily Persinger, Saint Louis University, Saint Louis, MO, for her proposal: *Using remote sensing to predict nutrient pollution events associated with the suspended load for the Mississippi and Missouri Rivers*

Emily Persinger is a M.S. student at Saint Louis University studying environmental geosciences. Emily is currently researching suspended sediment-bound nutrient chemistry of the Mississippi and Missouri Rivers under the tutelage of advisor Dr. Elizabeth Hasenmueller.

Emily received her B.S. in Geology in 2020 from the University of Nebraska at Omaha where she studied clastic dikes in Slim Buttes, South Dakota working under her undergraduate advisor Dr. Harmon Maher. Emily’s love for geologic research continued throughout her undergraduate career and led to her decision to pursue a M.S. degree in Geosciences with a concentration in Environmental Geosciences from Saint Louis University.

Currently Emily’s research aims to analyze suspended sediment-bound nutrient chemistry of the Mississippi and Missouri Rivers and correlate it to remote sensing satellite data. Emily’s research involves collecting weekly water samples from the Mississippi and Missouri Rivers and analyzing them in-situ for basic water quality parameters. Emily also analyzes the water samples in the lab for, nitrogen, phosphorus, and ammonia using a discrete analyzer, anion chemistry using an ion chromatograph, and major cation chemistry using an inductively coupled plasma optical emission spectrometer. In addition, Emily analyzes suspended sediment characteristics of the water samples by measuring particle size distribution using laser diffraction analysis, as well as sediment mineralogy using powder x-ray diffraction. To establish a relationship between suspended sediment-bound nutrient chemistry and remote sensing, Emily plans to correlate suspended
material in the water samples with suspended sediment concentration predictions from Landsat-8 satellite data to forecast suspended load-associated nutrient fluxes from the Mississippi and Missouri Rivers to the Gulf of Mexico

**Amy Plechacek**, University of Wisconsin-Madison, Ann Arbor, MI, for her project: *Assessing radium leaching potential from stratigraphic units within the Midwestern Cambrian-Ordovician aquifer system*

Amy Plechacek is a PhD Candidate in the Environmental Chemistry Program at the University of Wisconsin-Madison studying the mobility of geogenic radium in groundwater with her advisor, Dr. Matthew Ginder-Vogel.

Radium is a naturally occurring radioactive contaminant in groundwater, an important global drinking water source. Long-term exposure to elevated levels of radium in drinking water is linked to development of bone cancer. Amy uses a combination of field, laboratory, and modeling approaches to improve understanding of radium sources and the geochemical conditions that result in elevated radium in the Midwestern Cambrian-Ordovician aquifer system (MCOAS), an important source of drinking water in the Midwest. Funds from the Lipman Research Award will allow Amy to conduct batch laboratory experiments with aquifer solids to quantify the radium leaching potential of different MCOAS stratigraphic units under a range of geochemical conditions. Results will help guide preventative strategies for reducing radium concentrations in pumped groundwater.

Amy grew up in west-central Wisconsin before moving to Virginia to obtain a B.S. in Geosciences from Virginia Tech. Her passion for water quality was ignited after conducting undergraduate research, where she examined potential mechanisms for trace element release from black shales during hydraulic fracturing of natural gas under the direction of Dr. Madeline Schreiber.

**Calli Provenza**, Oklahoma State University, Stillwater, Oklahoma for her proposal: *Hydrothermal Source Proxy Using Noble Metals*

Calli is a second-year M.S. student at Boone Pickens School of Geology at Oklahoma State University. She is working under the supervision of Dr. Natasha Riedinger. Her M.S. project focuses on understanding the main source and spatial distribution patterns of noble metals such as gold, silver, and palladium. Once analyzed, they will be evaluated to see if they can be used as a tracer for hydrothermal vent activity. Sediment samples for this research were collected around hydrothermal vents from the East Scotia Ridge in the South Scotia Sea. With support from the Lipman Student Research Grant, she will be able to look at noble metal marine sedimentation rates by analyzing the Pb$^{210}$ in sediments. This technique will be done using a gamma spectrometer and will help solidify the main source of noble metals in the area.

Calli is from Houston, Texas, and obtained her B.S. in Geology from Texas A&M University. She enjoys outdoor activities such as rock climbing, hiking, and playing tennis. Additionally, she enjoys playing the piano and cooking. She is passionate about geochemistry and hopes to continue working with heavy metals in water sources. Calli would like to thank the GSA, the MGPV Division, and the Howard and Jean Lipman Foundation for their support of her research.
Mark Radwin, University of Utah, Salt Lake City, UT, for his project: *Extreme diagenesis and chemical evolution in southwest Australia: observations from mineralogy*

Mark Radwin is an M.S. candidate at the University of Utah, located in Salt Lake City, Utah, doing what he loves studying mineralogy and changing landscapes under his advisor Dr. Brenda Bowen. His interests range from geology, atmospheric sciences, to physics and loves learning new techniques in the lab, on the computer, and in the field. One of his favorite scientific tools is reflectance spectroscopy in the visible-to-near-infrared (VNIR) electromagnetic spectrum, which he has used to study mineralogy in the lab, field, and through remotely sensed imagery from aircraft and satellites. Currently, his work focuses on assessing spatial patterns and geochemical relationships of mineralogy in Western Australia, where regolith and sediments display extensive iron diagenesis in an acid-sulfate environment. Mark hopes to help bolster the understanding of formation and preservation of the sediments found in Western Australia, which has implications for interpreting similar environments on Earth as well as on Mars. Funding from the Lipman Research Award will greatly help his work, as it will allow Mark to perform chemical and optical analyses on core, surface, and bedrock samples from Western Australia.

Mark grew up just north of Salt Lake City in Ogden, Utah, and learned a love for the outdoors at a very young age through skiing in Little Cottonwood Canyon. Although he loves to travel to see new things and meet new people, Utah has continually captivated Mark through the variety of landscapes and activities available, such that he still loves to live, adventure, and study there.

Gabriela Ramirez, Missouri University of Science and Technology, Rolla, MO, for her project: *Platinum-Group Element Concentrations in Tropical Lake Sediments in the Exploration of Nickel-Laterite Deposits*

Gabriela is second-year M.S. candidate in the Department of Geoscience, Geological and Petroleum Engineering at Missouri S&T, working under Dr. Marek Locmelis and Dr. Jonathan Obrist-Farner. She works within a collaborative research group that focuses on Lake Izabal, Guatemala. The main goal of her project is to develop an exploration tool that can be used for nickel laterite exploration in tropical lake regions around the world. With the help of the Lipman Research Award, she will be able to send more samples for geochemical analysis from within the area of exploration interest (northern region) of Lake Izabal to further see if platinum-group element concentrations can be used as a proxy for Ni-laterite exploration.

Gabriela is from the rural town of Bourbon, Missouri where she worked at the local cave giving tours for two summers before she decided to pursue her Bachelors in Geology and Geophysics from S&T. During her undergraduate field studies in the Western US, she visited a gold exploration site and from then on, knew she wanted to do research in economic geology and focus her thesis on a mining exploration project. Fast forward to now, her masters is almost completed and has worked with two mining companies.

In Gabriela’s free time, she enjoys traveling, painting, running, and hiking. Special thank you to the Howard and Jean Lipman Foundation for furthering a project she is so passionate about.
William “Bo” Ward IV, Western Washington University, Bellingham, WA, for his project: Reconstructing changes in precipitation triggered by ancient global warming

Upon completing a bachelor's in history from the University of Washington in 2012, I found work as a travel agent in both the private and nonprofit sectors. The nature of the work, in conjunction with a lot of time off, allowed me to travel the world and take several long road trips through the states. These journeys instilled in me a love for the natural world and the geologic complexities of planet Earth.

In 2018, I acknowledged my interests in the natural world by setting out to finish a post-baccalaureate degree in geology at Western Washington University. During this time I had several experiences that solidified my interest in geologic studies. The summer of 2019 I worked as a field assistant in the Bighorn Basin, WY with Dr. Brady Foreman investigating Cenozoic hyperthermals by looking at sand body paleogeomorphology and paleosol habits. That same year I began working with Dr. Camilo Ponton in his organic geochemistry lab where we continued investigating hyperthermals by measuring stable isotopes within organic material extracted from 56 Mya rock.

Inspired by my work with Dr. Foreman and Dr. Ponton, I have continued working with the two on a Master's project reconstructing hydrologic conditions within the North American continental interior during the Paleocene-Eocene Thermal maximum, the largest and most abrupt hyperthermal event in the Cenozoic. Historically used as an analog for modern climate, this research into the PETM is particularly exciting given the current state of our climate.

Nitzan Yanay, The University of Arizona, Tucson, AZ, for his project: Weathering of Himalayan carbonates, the marine $^{87}\text{Sr}/^{86}\text{Sr}$ record and implications for Cenozoic cooling

Nitzan Yanay grew up in Israel, where he received his BSc. in chemistry and Earth sciences from The Hebrew University of Jerusalem in 2018. In his undergraduate research he focused on electrical conductivity in DNA molecules and peptides. After completing his degree, he spent a year manufacturing biodiesel from used cooking oil at General Biodiesel in Seattle.

Nitzan recently received his MS degree in geosciences from the University of Arizona. With advisor Dr. Jay Quade and a team from the University of Washington and Aerodyne Research, he took part in the development of a novel system for measuring clumped isotopes in carbonates using direct absorption tunable infrared laser spectroscopy. The system is now in the final stages of calibration.

The Lipman Student Research Grant will help fund Nitzan’s field work in Nepal, part of his PhD research at Arizona. The objective is to determine whether weathering of Himalayan carbonates could explain the rise in the marine $^{87}\text{Sr}/^{86}\text{Sr}$ ratio during the Cenozoic. The marine Sr record is often regarded as a proxy for silicate weathering and therefore the drawdown of CO$_2$. The increase in marine $^{87}\text{Sr}/^{86}\text{Sr}$ over the past forty million years has been attributed to silicate weathering during Himalayan uplift, which in turn is commonly used to explain the long-term cooling trend during the Cenozoic. However, if the Sr record is strongly tied to the weathering of carbonate rather than silicate rock, the latter process of which involves no net drawdown of CO$_2$, then this long-standing notion may prove to be inaccurate. This work will improve current understanding of the drivers of long-term climate change.
Qin Zhang, University of Calgary, Calgary, AZ, Canada, for her project: *Experimental Determination of Glauconite Carbonation Kinetics*

Qin Zhang is a PhD candidate in geochemistry in the Department of Geoscience at the University of Calgary. Her work focuses on exploring the potential for utilizing glauconite-rich greensands formations as safe, economical, and accessible carbon dioxide storage reservoirs through the carbonation of glauconite. Her research has explored the spatial distribution and availability of glauconite, the kinetics of glauconite dissolution and carbonation, as well as shown that typical hydrocarbon-producing reservoirs provide thermodynamically favorable geochemical conditions for glauconite carbonation. Qin’s research has demonstrated that glauconite is widely available, and that glauconite carbonation is a common phenomenon in the subsurface, and, as such, is a globally viable avenue for mineralizing and sequestration of excess anthropogenic carbon dioxide.

Prior to her starting her PhD, Qin received a MS in applied geosciences from the University of Pennsylvania and a BS in geology and environmental science from the University of Illinois at Urbana-Champaign. In her spare time, she hikes the Canadian Rockies, volunteers at local animal shelters, teaches children about geoscience via Skype a Scientist, Qin is also a beginner diver and her goal is to improve her skills and explore the wonderful world underwater more in the future.

Qin would like to thank GSA Lipman Research Award and the MGPV Division for supporting her research.

Simin Zhao, Georgia Institute of Technology, Atlanta, GA, for her project: *The effects of Fe$^{2+}$ concentration on the early diagenesis of biogenic silica in reverse weathering.*

Simin Zhao is a 3rd year PhD candidate in the School of Earth and Atmospheric Sciences at Georgia Institute of Technology. Simin’s research with Dr. Yuanzhi Tang focuses on authigenic clay mineral formation in marine sediments via the reverse weathering process. This process is critical in balancing the global Si budget and regulating marine alkalinity and CO$_2$ dynamics. The aim of her research is to better understand the inducing geochemical factors, reaction mechanisms, and characteristics of the authigenic clay products of the reverse weathering process.

Simin is from Changsha, a historical and dynamic city in southern China. She obtained her bachelor's degree in Geology from Central South University, China. After that, she worked on a geomicrobiology project focusing on microbial-mediated Fe redox cycling of Fe clay minerals and completed her M.S. at Miami University, Oxford, OH. She is now extending her research interest to explore marine geochemical processes at Georgia Tech.

In her spare time, she enjoys travelling, reading, singing, cooking, and exploring new things. She is thankful to GSA and MGVP division for supporting her research.
Carmichael Student Research Grant

The Ian S.E. Carmichael Research Award was established in 2018 to support graduate student research and related activities in the fields of igneous petrology and volcanology.

David Giovannetti-Nazario, University of Puerto Rico – Mayagüez Campus, for his project: Chemical Characterization of Garnets to Determine Zoning Patterns and Fluid Compositions in the Tibes Skarn, Puerto Rico.

David is a second-year Master’s student at the University of Puerto Rico in Mayagüez (UPRM) with Dr. Thomas R. Hudgins. He started his undergraduate years studying English (with a focus in linguistics), and later discovered a newfound passion for geology right after his freshman year. Afterwards, he double majored in both linguistics and geology which opened various opportunities.

David has participated in field work all over the island for different projects and did his senior theses in ore and economic geology. Currently, he is also part of the AURUM Research Lab, a collaborative effort between Auburn University and UPRM to study ore deposits in Puerto Rico and the Caribbean.

Since ore geology is an area heavily understudied and underexplored in Puerto Rico, the Ian S.E. Carmichael Award will provide funding to study garnets as potential petrochronometers in the Tibes Fe-Skarn. By studying garnet mineralization, efforts towards will be made in elucidating the chronological and fluid history of Tibes, and iron skarns in general.

David’s interests are quite varied and interdisciplinary but essentially revolve around unraveling the stories that rocks can tell. After graduating, he plans to aim towards a PhD and continue contributing new knowledge and methods to geology and science in general. Outside of academics, he enjoys outdoor activities such as hiking, snorkeling, and instinctive archery. He is also a film and book enthusiast.

Student Travel Grants

MGPV Travel grants support student travel to the annual GSA meeting. The funds for this award were endowed by the estate of James B. Thompson Jr., who recognized the value of presenting results at meetings and attending field trips for students preparing for careers in the geosciences.

- **Francisco Apen**, University of California-Santa Barbara, Apatites for Destruction: New Reference Apatites For U-Pb Petrochronology And Sm-Nd And Sr Isotope Geochemistry
- **Umme Fatema**, Bowling Green State University, The Role of Dissolved Organic Matter on Phosphorous Sorption onto Iron-enhanced Activated Alumina Media Using In-Field and Flow-through Column experiments
- **Lisa Hlinka**, City University of New York, Constraining Timescales of Magmatic Processes In The Columbia River Flood Basalt Province
- **Chioma Onwumelu**, University of North Dakota (UND)-Grand Forks, Compensation Effect In Source Rock Kinetics: Influence Of Bitumen Formation
- **Tiera Naber**, University of British Columbia, New Constraints on The Age, Geochemistry, And Environmental Impact of High Arctic Large Igneous Province Magmatism: Tracing The Extension Of The Alpha Ridge Onto Ellesmere Island, Canada
- **Ibrahim Ajibola Oladeni**, Georgia State University, Rare-Earth Element Occurrence in Heavy Mineral Sand in SouthEast Georgia
- **Elyssa Rivera**, Auburn University, Building A Framework for Interpreting the Mo Isotopic Composition of Ore
• **Lorenzo Tavazzani**, Southern Methodist University, *Modeling Zircon Growth During Open-System Crystallization*

• **Audrey White**, University of Puget Sound, *Geochemistry and Petrology of Eocene to Miocene Rocks In A Rear-Arc Setting, Central Cascades, Washington*

• **Yezi Yang**, Virginia Tech, *First report of the Archaeocyathid Extinction and the Redlichiid-Olenellid Extinction Carbon Isotope Excursions (AECE and ROECE) in eastern Laurentia: Implications for perturbations in the late early Cambrian carbon cycle*

**Honorable mention should be made of Sarah Lamm, Kansas State University. She was among the finalist, but as she received a travel grant form another Division the award could be given to another.**

### Contributors

There are several permanent Funds that provide a source of income for critical programs and services offered by GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division. Income from these funds provide for a range of student research and travel grants and recognition awards. Some are gifts/bequests but many members contribute to the MGPV Division each year by including a contribution with their dues. Here we want to extend our gratitude to those who helped support the Division:

**Lipman Research Fund**: Peter W. Lipman and the Lipman Family Foundation Inc.

**The James B. Thompson Jr. Fund**: estate of Dr. James B. Thompson, Jr.


Giving to MGPV

Did you know that you could donate to the MGPV Division, when you renew but also at any other time at GSA Foundation’s online giving page. Enter a donation amount and then select “Mineralogy, Geochemistry, Petrology, and Volcanology” from the “Category or Area of Interest” pull-down menu. There are several other permanent Funds that provide a source of income for critical programs and services offered by GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division. Income from these funds provide for a range of student research and travel grants and recognition awards. Some are gifts or bequests, but many members contribute to the MGPV Division each year by including a contribution with their dues.

MGPV at Portland, Oregon
10-13 October 2021

The GSA Connects 2021 meeting in Portland, Oregon is an in-person event with an online component. GSA has made the decision that all participants at the in-person GSA Connects 2021 meeting (whether a presenter, attendee, exhibitor, staff, guest, or vendor) will be required to provide proof of full vaccination and receive a negative COVID test within 48 hours of traveling to the Connects 2021 meeting in Portland. Per the Centers for Disease Control and Prevention you are considered fully vaccinated two weeks following a second dose of mRNA vaccines or a single dose of Johnson & Johnson. In addition, Multnomah County, Oregon, currently requires masks in all indoor settings for anyone over the age of two regardless of vaccination status.

Earlier this year, GSA decided to offer the GSA Connects 2021 as a hybrid event, to allow for online participation as well. Attendees have the option of registering for access to the online meeting program only.

• Technical Sessions. 58 Topical Sessions (co-)endorsed by MGPV Division and its Adhering Societies

- T002. Cenozoic Tectonism, Magmatism, Sedimentation, and Landscape Evolution in the Intermountain West (Posters).
- T002. Cenozoic Tectonism, Magmatism, Sedimentation, and Landscape Evolution in the Intermountain West I.
- T002. Cenozoic Tectonism, Magmatism, Sedimentation, and Landscape Evolution in the Intermountain West II.
- T005. Geologic and Geomorphic Evolution of the Columbia River Basin (Posters).
- T007. Initiation and Evolution of Arc-Forearc Systems in Cascadia and Beyond (Posters).
- T007. Initiation and Evolution of Arc-forearc Systems in Cascadia and Beyond.
- T009. Late Cretaceous–Eocene (pre-Cascadia) Tectonics from the Greater Pacific Northwest Margin to the Rocky Mountains (Posters).
- T009. Late Cretaceous–Eocene (pre-Cascadia) Tectonics from the Greater Pacific Northwest Margin to the Rocky Mountains.
- T012. Sutures and Suture Zones in the Phanerozoic and Precambrian Orogenic Belts.
- T017. Mapping the West: Understanding of the Geologic History of Volcanic Terranes (Posters).
- T020. Structural Geology and Tectonics Division 40th Anniversary Symposium: Drivers of Orogenesis (Posters).
- T020. Structural Geology and Tectonics Division 40th Anniversary Symposium: Drivers of Orogenesis.
- T021. From the Afar Rift to Alaskan Arcs (and the Oregon Plateau in between): Honoring the Career and Contributions of William K. Hart (Posters).
• T021. From the Afar Rift to Alaskan Arcs (and the Oregon Plateau in between): Honoring the Career and Contributions of William K. Hart.
• T022. Rhyolites, Take a Bow! Examining the Production of Rhyolite Magma in Continental Arc Settings (Posters).
• T023. The How, When, Where, and Why of Open-System Magma Processes (Posters).
• T023. The How, When, Where, and Why of Open-System Magma Processes.
• T024. The Life and Times of Arc Volcanoes from Bottom to Top (Posters).
• T024. The Life and Times of Arc Volcanoes from Bottom to Top I.
• T024. The Life and Times of Arc Volcanoes from Bottom to Top II.
• T025. Metamorphism into the 21st Century II—A Celebration of the Career of Mike Brown.
• T027. Evolution of Earth’s Surface: Honoring Xiao-Ming Liu, Recipient of the 2021 Mineralogy, Geochemistry, Petrology, and Volcanology Division’s Early Geological Career Award (Posters).
• T027. Evolution of Earth’s Surface: Honoring Xiao-Ming Liu, Recipient of the 2021 Mineralogy, Geochemistry, Petrology, and Volcanology Division’s Early Geological Career Award.
• T033. Magnetite Apatite (MtAp) Deposits in Space and Time.
• T034. Metals for the Future: Geology of Critical and Basic Minerals for the Green Economy I.
• T034. Metals for the Future: Geology of Critical and Basic Minerals for the Green Economy II.
• T038. 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 (Posters).
• T038. 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.
• T050. Arsenic, Fluoride, and Other Geogenic Contaminants in Groundwater Basins: Linking Advances in Natural Sciences and Applications of Artificial Intelligence and Data Science for Long-Term Risk Prediction and Policy Interventions.
• T054. Geology, Hydrogeology, and Hydrochemistry of Non-Traditional Basin Resources.
• T065. Karst Sedimentary, Paleoclimatic, and Historical Records.
• T066. New Frontiers in Cave and Karst Research: In Honor of the International Year of Caves and Karst.
• T069. Out of This World Lakes.
• T080. Foraminiferal Signals of Major Events in Mesozoic–Cenozoic Earth History.
• T081. Impacts of Volcanism on Global Climate and Oceans—Drivers of Mass Extinctions through the Phanerozoic I.
• T081. Impacts of Volcanism on Global Climate and Oceans—Drivers of Mass Extinctions through the Phanerozoic II.
• T089. The Evolution of Early Phanerozoic Oceans: A Geobiological Perspective.
• T099. Insights into Cordilleran Tectonics and Magmatism from the Sedimentary Record (Posters).
• T105. Reading the Record of Volcanic Tephra and Tuff in Geoarchaeological Site Studies and Drill Core Records.
• T108. Young Investigators in Mineralogy and Crystallography (Posters).
• T108. Young Investigators in Mineralogy and Crystallography.
• T109. Life’s Innovations from the Early Earth to the Search on Modern Mars I: Honoring the Career of Andrew H. Knoll.
• T109. Life’s Innovations from the Early Earth to the Search on Modern Mars II: Honoring the Career of Andrew H. Knoll.
• T109. Life’s Innovations from the Early Earth to the Search on Modern Mars III: Honoring the Career of Andrew H. Knoll.
• T109. Life’s Innovations from the Early Earth to the Search on Modern Mars: Honoring the Career of Andrew H. Knoll (Posters).
• T124. New Advances in Geobiology (Posters).
• T124. New Advances in Geobiology.
• T125. New Voices in Geobiology.
• T126. Source, Fate, and Roles of Natural Organic Matter in Geochemical Cycling of Metals and Metalloids in Surface and Groundwater Systems.
• T140. Paleoclimate, Paleoenvironments, and Paleoceanography of Northwestern North America (Posters).
• T140. Paleoclimate, Paleoenvironments, and Paleoceanography of Northwestern North America.

• **Lectures or Special Events.** MGPV is sponsoring a session for the 2021 Distinguished and Early Geological Career Awardees’ citations, acceptances and awardee lectures on Monday, October 11; 8:00 AM - 12:00 PM

**GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division Awards Session**

- Chairs: Rosemary C. Capo, University of Pittsburgh and Dennis L. Newell, Utah State University
- Introductory Remarks: Rosemary C. Capo
- GSA-MGPV Early Geological Career Award
  - Introduction: Rosemary C. Capo
  - Citation: Roberta L. Rudnick, University of California-Santa Barbara
  - 63-1: MGPV Early Geologic Career Award Lecture: Are Lithium Isotopes Good Tracers of Continental Weathering? - LIU, Xiao-Ming,
  - Questions & Answers
- GSA-MGPV Distinguished Geological Career Award
  - Introduction: Rosemary C. Capo
  - Citation: Chris Yakymchuk, University of Waterloo
  - 63-2: MGPV Distinguished Geologic Career Award Lecture: Secular Change In Metamorphism And Metamorphic Cooling Rates Track The Evolving Plate Tectonic Regime on Earth - BROWN, Michael
  - Questions & Answers

There are also sessions in honor of the MGPV 2021 Distinguished and Early Geological Career Awardees:

- Metamorphism into the 21st Century - A Celebration of the Career of Mike Brown. Wednesday, Oct 13; 204-T25
  (Part I) 8:00 AM - 12:00 PM; 233-T25 (Part II) 1:30 PM - 5:30 PM
- Evolution of Earth’s Surface: Honoring Xiao-Ming Liu, Recipient of the 2021 Mineralogy, Geochemistry, Petrology, and Volcanology Division’s Early Geological Career Award. Sunday, October 10; 8-T27 (oral) 8:00 AM - 12:00 PM 55-T27 (Posters) 2:30 PM - 6:30 PM

• **Reception.** There will be NO joint reception with MSA and GS this year. MSA and GS have decided against participating and MGPV cannot afford one on its own. Additionally, the setup is hardly a situation conducive to the purpose of a reception. Food/beverage events will be “grab and go” type service. A reception must be planned, and contracts signed with the then currently in place limits both on social distancing and on the number of participants (both for the GSA meeting itself (informally we hear that the number of people in the conference center is restricted to 3000 at any one time) and any social events).

• **Business Meeting.** The Division will have its required annual business meeting on Tuesday October 5, 10am-12pm (PST) (1pm-3pm (EST)). It will be virtual via Zoom and will NOT require registering for GSA Connects 2021 to attend. Details will be sent to MGPV members closer to the date, and will be included in the GSA Connects 2021 mobile app.

**MGPV at GSA Section Meetings**

Divisions have the primary responsibility for developing the technical session program for GSA Annual Meetings. GSA is now asking Divisions to take a similar role for the Section meetings,
where the Divisions’ involvement has generally been low. Please consider developing and submitting theme session topics for 2023 Section meetings and requesting MGPV endorsement.

- **endorsed sessions at 2022 Section Meetings**
  - MGPV has agreed to endorse sessions at the 2022 Cordilleran/Rocky Mountain Joint Section, Joint North-Central & Southeastern Section, Northeastern Section, and South-Central Section Meetings.

- **planned exhibits at 2022 Section Meetings**
  - MGPV has inquired about exhibiting at the 2022 Northeastern Section (Lancaster, Pennsylvania. 20–22 March 2022) and 2022 Joint Section North-Central & Southeastern Section (Cincinnati, Ohio. 7–8 April 2022) and meetings. No details about the exhibit areas are yet available.

**MGPV website: the GSA Connected Community**

The Mineralogy, Geochemistry, Petrology, & Volcanology (MGPV) Division [website](http://community.geosociety.org/mgpvdivision/home) is hosted on GSA’s Connected Community. There is a (1) public portion of the MGPV website with the Division description, MGPV awards, resource library, newsletter archive, and events calendar as well as a (2) Division-member-only portion that includes a searchable Division directory, discussion group. GSA’s Connected Community is a member-only, on-line community.

As a member of the MGPV Division, you have been subscribed to the Daily Digest version of the MGPV Division’s General Discussion Group, meaning that you will receive one e-mail every day containing all of the previous day’s posts, if any. If you’d like to change that to no emails (you can view the discussion on-line but won’t receive e-mail) or to real time (you will receive an email every time something new is posted), use the “Community Notifications” item in the “My Account” menu of your profile.

**MGPV Division Organizational Items**

- **Membership.** The Division grew rapidly after it was established in October of 2009:

```
<table>
<thead>
<tr>
<th>Year</th>
<th>Division Affiliates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>547</td>
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<tr>
<td>2010</td>
<td>972</td>
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<tr>
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</tr>
</tbody>
</table>
```

In 2014, GSA instituted a policy wherein students can join their first Division at no cost. This new policy dramatically
increased MGPV membership, increasing student membership from about 30% to 60%. But another result is a loss of income. After 2014, the ups and downs in MGPV membership numbers more or less track the changes in total GSA membership numbers.

**Finances:** As of 06/30/2021, MGPV has an unrestricted cash balance of $19,603.69.

**Income.** Dues income in 2020-2021 (GSA’s and the Division’s fiscal year to July 1 through June 30) was $7,129.16. This is slightly less than the previous 12-month periods dues of $7,336.30 (2019-20), $7,626.86 (2018-2019), $7,556.65 (2017-2018), and $7,437.98 (2016-2017). The Division received $16,000 in transfers from the James B. Thompson, Jr. Fund of the GSA Foundation to support student research grants, student travel grants, and travel for the 2021 Distinguished Geological Career and Early Career Awardees. In addition, the Lipman Research Fund provided $60,000 and the Ian S.E. Carmichael Research Award $1,430 to fund student research grants.

**Expenses.** Division expenses from dues during this period were $27.00 for AV services, postage, shipping, and freight; and $5,000.00 for student research grants (MGPV and balance of Carmichael), awards, student, and awardee travel support. $61,500 was dispersed for student research grants from the Lipman and Carmichael Funds. There were no reception expenses for either the GSA 2020 Connects and upcoming GSA 2021 Connects meetings. This is a saving of about $5,000 (this is 1/3 of the total remaining cost after ticket sales with that balance due shared among MGPV, GS & MSA).

**Liabilities.** With GSA 2020 Connects being online, expenses for the 2020 awardees have been delayed until GSA 2022 in Denver, Colorado, USA.

**Committee and Appointed Post Volunteers:**

Division members help with the important tasks of the Division by serving on committees and in appointed posts. You might be asked to serve on one of them.
The **Distinguished Geological Career Award Committee** and the **Early Career Award Committee** encourage and evaluate nominations for the respective awards and reports to the Management Board their selections.

The **Officer Nominations Committee** of the Division reports to the Management Board a list of possible candidates to run for office the following year.

The **Student Research Grants** and **Travel Grants Committees** of the Division evaluate proposals submitted by the students for possible funding by the MGPV, Thompson, Lipman, or Carmichael Funds.

The **Program Committee** is a standing committee and are also members of the GSA Joint Technical Program Committee (JTPC). It plans and arranges for the technical sessions and symposia of the division at the Annual and Sectional Meetings of the Geological Society of America, and other external meetings as may be directed by the Management Board.

We thank the following individuals who volunteered for MGPV committees and posts this past year:

- **Early Geological Career Award** (2022 award): Amanda Clarke, Chair, Tracy K. P. Gregg (2020-2022), Dina Lopez (2020-2022), David Peate (2020-2022), Mary Reid (2020-2022), Karen Bemis (2021-2023), Loyc Vanderkluysen (2021-2023)
- **Nomination for Officers** (for 2021 ballot): Rosemary Hickey-Vargas (Committee Chair, 2020 past MGPV chair), John Shervais (2020 past MGPV chair), Anita Grunder (2019 past MGPV chair), Wendy Bohrson (2018 past MGPV chair)
- **Student Research Grants** (for 2021): Rosemary Hickey-Vargas (Chair), and MGPV Division Officers: Rosemary C. Capo, Dennis L. Newell, Amanda B. Clarke
- **Student Travel Grants** (for 2021): Rosemary C. Capo (Chair), and MGPV Division Officers: Dennis L. Newell, Amanda B. Clarke
- **Program Committee** (JTPC): Dennis L. Newell and Amanda B. Clarke

**MGPV 2021 Election.**

The MGPV Management Board changes yearly after the Division Annual Business Meeting at the GSA Annual Meeting. Elections are held over 30 days during the summer (northern hemisphere), for the position of Second Vice Chair and biennially for the position of Secretary-Treasurer. The positions of Past Chair, Chair, and First Vice-Chair are filled in succession by the individuals from the preceding office. The election will also be the time when members are asked to approve any Bylaw changes. The election of Division officers only requires that the Secretary-Treasurer notify GSA of the results. Any Bylaws changes must be submitted for GSA Council approval a month before a GSA Council meeting.

- **Election 2021.** 146 Division members voted during August 2021. Alan Whittington, The University of Texas at San Antonio was elected to the position of Second Vice Chair for a one-year term. J Alex Speer, Mineralogical Society of America, was re-elected as Secretary-Treasurer for a 2-year term.

- **Election 2022.** The election in 2022 will be for Second Vice Chair for members who have given GSA their e-mail addresses, voting is online. The message notifying you that voting is open will contain the necessary USERID and password. Members who do not have internet access will receive a paper ballot through the US mail from GSA.
GSA Student Advisory Council

In April 2014, GSA Council established the Student Advisory Council (SAC) as a forum through which student members of the GSA could communicate directly with the Council. The SAC consists of ~35 members appointed as representatives from GSA Divisions, Sections, or Committees and has one non-voting seat on the GSA Council. Two new MGPV student representatives were appointed for 2021-2022: Lindsey Hernandez of the Ohio State University and Chioma J. Onwumelu of the University of North Dakota.

SAC activities for the past few months include promoting GSA's opportunities by posting available research/outreach grants, programs, workshops, and recognizing student representatives on their social media (Twitter). This year, SAC oversaw creating the GeoScene newsletter (which includes a roundup of the most recent opportunities for students and early career professionals).

Announcements

from MGPV:

[1] Consider nominating deserving candidates for MGPV Division’s Distinguished Geologic Career and Early Career Awards. Procedures and deadline (31 March 2022) for nominations are given on the MGPV Division's Connected Community site.

[2] Consider nominating deserving MGPV members for GSA Fellowship. The deadline is 1 February each year. GSA members are elected to Fellowship in recognition of distinguished contributions to the geosciences. The criteria for GSA Fellowship, the nomination process, the names of current fellows are given on the GSA website.

from the Adhering Associated Societies:

• A listing of MGPV-related Scientific Meetings and Events is on the Elements magazine calendar site.

• The Mineralogical Association of Canada (MAC) Annual Meeting is 1-3 November at 2021 annual GAC-MAC meeting, Western University, London, Ontario. With the goal of the government to have all Canadians vaccinated by September, the goal of the LOC is to offer a GAC-MAC meeting with the traditional in-person focus – providing opportunities for networking, informal discussion and feedback, and social events – but still with the option for virtual presentations and participation. Please check the GAC-MAC 2021 website for new abstract submission and registration dates, and other information pertaining to the rescheduled annual meeting.
• The Clay Minerals Society (CMS) 58th Annual Meeting 14–15 October 2021. Because of the global pandemic, the International Clay Conference (ICC) meeting has been postponed from 2021 to 2022. This means that the CMS 58th Annual Meeting originally to be held at ICC has been cancelled and a new, online-only event for 2021 has been assembled: International Workshop on Clay Minerals in Healthcare Applications. Discussions will range from historical aspects linked to the traditional medical and pharmaceutical to the use of clays in gene transfection by association of DNA with certain clay minerals. The program is based on two special issues of Clays and Clay Minerals on ‘Clay Minerals in Health Applications’ and ‘Clay Minerals in Healthcare’ to be published in 2021 and 2022 and incorporating contributions by colleagues from Qing Yang Institute for Industrial Minerals, China.

• Nominations for the CMS 2023 Awards. Deadline is March 1, 2022. Details.

• Geochemical Society (GS). The next Goldschmidt Conference will take place both in Honolulu, Hawai‘i, USA and online from 10-15 July 2022. It will be a hybrid event, offering both in-person and virtual components. The call for session and workshop proposals opened on 10 August and closes on 30 September.

• Mineralogical Society of America (MSA).

Minerals Day. MSA is sponsoring Minerals Day (11 October 2021, the Monday of American Geosciences Institute’s Earth Science Week). The purpose is to highlight the importance of mineralogy and petrology to students and teachers, the collector community, and the general public. There will be live and recorded webinars and presentations focusing on the theme of Cool Careers in Mineralogy/Petrology. Career webinars will include forensic mineralogy, aggregates, planetary mineralogy, gemology, museum curation, and federal and state agency jobs. One of the webinars will be presented by representatives of the Young Minerals Collectors and the Friends of Mineralogy Virginia Chapter. For more information on Minerals Day: www.mineralsday.org.

40th FM-TGMS-MSA Tucson Mineral Symposium: Held in conjunction with the Tucson Gem and Mineral Show, it will take place on Saturday, February 12, 2022. The symposium theme is the same as the show theme: Minerals of the apatite supergroup and mineral fluorescence. The symposium is cosponsored by the Tucson Gem and Mineral Society, the Friends of Mineralogy, and the Mineralogical Society of America. Further details about the symposium are on the Friends of Mineralogy website.

The MSA Workshop Committee is looking to help support scientific workshops across all MSA related fields. As COVID gathering and travel restrictions ease and researchers are looking to restart or initiate their proposed workshop plans, especially face to face activities, consider submitting a proposal description to the MSA Workshop Committee. These workshops can focus on applications and techniques, or more broadly any cutting-edge research. Please contact the MSA Workshop Committee chair (Frank C. Ramos) at framos@nmsu.edu. More information can also be found on the MSA website at Workshop.

Nominations are sought for the Roebling and Dana Medals and MSA Award. You need not be an MSA member to nominate someone. Nomination deadlines are June 1.

• The Mineralogical Society of America (MSA) invites applications for the 2022 MSA Grant for Research in Crystallography and for the 2022 MSA Student Research In Mineralogy and Petrology. There are up to three research grant awards of $5,000 each. Application deadline is March 1, 2022. Awardees must be MSA members; MGPV student members are invited to apply.
• The Mineralogical Society of America's Undergraduate Prize (formerly American Mineralogist Undergraduate (AMU) Award) program recognizes outstanding students who have shown an interest and ability in the discipline of mineralogy. Each student is presented a certificate, receives a student membership in MSA with access to the electronic version of American Mineralogist and Elements, and a Reviews in Mineralogy and Geochemistry or Monograph volume chosen by the sponsor, student, or both.

• The Mineralogical Society of Great Britain & Ireland (MSGBI) offers travel/research bursaries directly and through its constituent special interest groups (Applied Mineralogy, Clay Minerals, Volcanic and Magmatic Studies, Metamorphic Studies, Geochemistry, Environmental Mineralogy Group, Mineral Physics, Geomicrobiology).

Nominations for the 2023 Mineralogical Society of Great Britain and Ireland awards are being accepted and should be sent to the Chair of the Awards Committee at the Society’s office, to arrive not later than 15th April 2022: Neumann Medal; Collins medal; Max Hey medal; and Barrow Award.

Remember:

Renew your MGPV Division membership when you renew your GSA membership.
Encourage your MGPV-interested colleagues to join:
http://community.geosociety.org/mgpvdvision/join
Division Management Board

Officers: 5 Members; Chair, 1 year; First Vice-Chair, 1 year; Second Vice-Chair, 1 year; Secretary-Treasurer, 2 years; immediate Past Chair, 1 year

Management Board: 6 Members; consists of the Division officers and Student Representative. The Management Board of the MGPV Division also includes representatives of the Adhering Societies. (Any Associated Society of the Geological Society of America which is in good standing may become an adhering Associated Society member of the Division.)

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Welcome to the newsletter of GSA’s Mineralogy, Geochemistry, Petrology, and Volcanology (MGPV) Division. Aside from the Division website, newsletters are one important means for GSA Division leaders to communicate information to their members, and they serve as an archive for the Division.

The MGPV Division publishes two newsletters per year. The first after GSA’s and Division’s Annual Meeting and before any elections, deadlines for abstracts, and nominations. A second newsletter is issued a month or so before the Annual Meeting. Newsletters will contain Division news, calls for award nominations and meeting abstracts, announcements of upcoming meetings, ballot and officer candidate information, meeting news, award acceptances, and other important news and information.

If you are a member that has email access, a notice will be sent by GSA alerting you that a new issue has been posted on the website. Those members who do not have internet access will receive the newsletter in paper form through the US mail sent by GSA. Issues of the newsletter, both present and future, will be available for retrieval in electronic Portable Document Format (pdf) on the Division’s website.

The MGPV Division leaders welcome your feedback to the newsletter of the Mineralogy, Geochemistry, Petrology, and Volcanology (MGPV) Division.

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