

Newsletter of the GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division



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Message from the Chair

Hello MGPV members present, past and future,

The MGPV Division is the newest and the largest division in GSA with just shy of 2,000 members (1,978). Your involvement is vital, through participation in meetings, publishing in GSA journals, nominating accomplished colleagues for awards, and in encouraging students to participate.

The Fall National Meeting in Indianapolis is upon us and I hope to see many of you there. The division has sponsored and co-sponsored many sessions and I draw your attention to special sessions at which we will honor Distinguished Geological Career Awardee (DGCA) Calvin Miller and Early Career Awardee (ECA) Christopher Hamilton. See schedule highlights below including ice breaker, open MGPV business meeting, and MGPV reception. Don't forget to support your

section meetings ([information](#)).

Among the MGPV highlights this year:

- Student research support is at a new high. In addition to the 6 [Student MGPV Research Grants](#), the [Lipman Research Fund](#) has allowed us to support 16 additional graduate students. and the new [Ian S.E. Carmichael Research Award](#), with supplementary funding from MGPV, provided 1 additional student research award.

The rewarding task of determining award allocations has grown accordingly and we will be asking for help.

- The lengthening list of MGPV [DGCA](#) and [ECA](#) awardees showcases the talent and breadth of the division. There are openings on the review committees and keep in mind the February 1 deadline for nominations.
- We have a new student representative, KayLeigh Rogers, a first year MS student at Kansas State University. The applications were wonderful and we hope to be able to engage more students in leadership.

Don't hesitate to contact the leadership of the division if you have suggestions or are ready to serve on a committee or task force. Check out the GSA website that has had a thorough overhaul. And you are welcome to send money in support of GSA and/or the division. It makes a difference.

It has been rewarding working with stalwart Alex Speer our secretary/treasurer and our institutional memory, incoming chair John Shervais, incoming vice-chair Rosemary Hickey and former chair, and MGPV representative to council Wendy Bohrson. As soon-to-be former chair I look forward to working with incoming second vice-chair, Mark Caddick.

Keep up the good work and keep our community strong,

Anita Grunder, Division Chair (2018)
Oregon State University

Incoming MGPV Second Vice-Chair 2019

Mark J Caddick (M.Sci. 2000, University of Bristol; Ph.D. 2004, University of Cambridge; Post-doctoral fellow ETH Zürich, Switzerland) was elected MGPV Second Vice-Chair for 2019. He is an Associate Professor at Virginia Tech.



His work focuses mainly on the application of thermodynamic and kinetic principles to metamorphic rocks, and the use of these rocks for understanding crustal dynamics. Current research includes using mineralogical tools to infer processes and rates of subduction zone metamorphism, to better understand the thermal evolution of orogens including the Appalachians and the Himalayas, and to probe the Archean metamorphic record. He has a particular interest in fluid generation and consumption during metamorphism, with current work ranging from ocean floor serpentinization to generation and evolution of melt upon contact metamorphism. Caddick teaches undergraduate introductions to the geosciences and to petrology, an Alpine field course, and graduate classes. He has

supervised 10 graduate students and is a curator for the Virginia Tech Museum of Geosciences.

Caddick serves on the GSA's Research Grants Committee, MSA's Lecture Program Committee, the GeoPRISMS program's Steering & Oversight Committee and on the Editorial Review Board for the Journal of Metamorphic Geology. He is enthusiastic about serving as the MGPV Division second vice chair and seeks to help sustain its impressive growth through recruitment of new student and professional members. Caddick will work to further enhance MGPV's visibility and community through its continued sponsorship of short courses, field trips and scientific sessions at regional and national meetings, and by strengthening of its relationships with other GSA divisions and with associated societies.

Incoming MGPV Student Representative



Hello everyone! My name is Kayleigh Rogers, I am the new student representative for the MGPV division and I am very excited to get involved. Here is a little about me, I am from Houston, Texas and currently a graduate student in the Geology Department of Kansas State University. My research involves petrological, geochemical, and geophysical studies determining the origin of kimberlite volcanoes found in Riley County, Kansas. I am looking forward to helping expand student involvement and community growth within the MGPV division.

[[The role of the graduate student is to provide student perspectives on issues and activities related to the Division. The student is a voting member of the management board and is expected to participate in email and skype communications, and when possible, come to the annual meeting and participate in Division functions (e.g., business meeting, reception, etc.). The Division's hope is that the student representative will seek input from other students in the Division so that broad student representation is achieved.]]



2017 MGPV Division Distinguished Geological Career Award to Jon Davidson (1959-2016): Citation

Citation By: Shan de Silva and Jim Beard

Jon Davidson forged a significant career record that personifies the MGPV Career Award. He not only made seminal contributions in each of the division's research fields, but along the way, many young scientists benefited from Jon's loyal and selfless mentorship, and collaborators all over the world have been inspired by him.

Jon is most recognized for integrating modern geochemical, particularly isotopic, methods with classical petrology and fieldwork at volcanic provinces across the world. His insights into magma genesis and the pervasiveness of open system processes in the 1980s, led to the development of in-situ isotopic and trace element micro-analytical approaches in the 1990s and 2000s that are now *de rigueur* in magmatic and volcanic studies. Less appreciated is that Jon was a consummate field geologist, for whom fieldwork was about more than collecting samples. He mapped meticulously, and his attention to sampling context and detail are exemplary to those who worked with him. In recognition of his outstanding research resume, he received the Wager Medal of the IAVCEI in 1998 and was elected a Fellow of the American Geophysical Union in 2016.

Beyond outstanding research, Jon's selfless commitment to service and outreach was recognized with awards like the 2011 Coke Medal of the Geological Society of London. However, among these stellar professional achievements, Jon was proudest of his role mentoring the more than 30 Ph.D. and M.S. students and many other early-career scientists. He gave selflessly and generously as a mentor and colleague.

We are pleased to recognize Jon Davidson as the recipient of the 2017 Distinguished Geologic Career Award from the Mineralogy, Geochemistry, Petrology, & Volcanology Division of GSA—a well-deserved honor that befits Jon's creativity, commitment, and contributions to volcano science.

(Jon Davidson died 26 September 2016; [obituary](#))

2017 MGPV Division Early Career Award to Thomas Shea: Citation

Citation By: Michael P. Poland And Bruce F. Houghton

Thomas Shea, Dept. Of Geology and Geophysics, University of Hawaii-Manoa, Honolulu, HI, is the 2017 Early Career Awardee. The award was presented during the 2017 GSA Annual Meeting, Seattle, WA.

Dr. Shea is cited for using field-based constraints to understand what minerals tells us about how volcanoes work. His blend of inter-disciplinary acumen, scientific creativity and hyper-productivity combined with enthusiasm for field studies, and an exceptional level of numeracy and analytical expertise made him an outstanding and highly deserving candidate for the MGPV Early Career Award. Volcanoes are Dr. Shea's primary focus. He has pursued a wide spectrum of volcanology topics from debris avalanche flows and pyroclastic surges, bubble and crystal textures that strongly control the explosivity of volcanoes, experimental petrology examining crystallization rates, and volatiles in felsic magmas.



Dr. Shea's mapping of debris avalanche deposits on the flanks of Volcan Mombacho in Nicaragua resulted in one of the first detailed lithological maps of the mass movements. His maps documented how various lithologies spread and distribute during transport and emplacement. In addition, his work demonstrated that collapses at many composite volcanoes are not always associated with eruptions, rather they commonly result from hydrothermal weakening and volcanic spreading. His field work on Vesuvius volcano and subsequent studies of pyroclast densities in the lab also allowed him to propose that the development of bubble connectivity and permeability in magmas can have vast effects of the stability of eruptive plumes and the production of pyroclastic density currents. This fieldwork was followed by a study of avalanche emplacement dynamics in the laboratory, building a large flume/slide of low-friction materials to simulate and evaluate the origin of the complex structures observed in natural avalanche deposits. This work demonstrated that a low friction basal layer was a prerequisite for the development of the complex pattern of faults and folds found in debris avalanches. He has documented the type and distribution of structures found in debris avalanches of volcanic and nonvolcanic deposits in a catalog widely used to identify avalanche emplacement kinematics.

Dr. Shea used vesicle and crystal textures to determine the evolution of magma associated with the 79 AD eruption of Vesuvius, from its storage at 6 km to eruption. Using and improving on existing texture analysis techniques, he created a computer program (FOAMS) to facilitate analysis of vesicles and wrote up a methodology that details an approach to obtaining robust textural data starting with representative sample

collection in the field. Tom also performed vesiculation and crystallization experiments on phonolite magmas from the 79 AD eruption of Vesuvius volcano. This work was the first study of formation kinetics of leucite, which is common in many K-rich lavas such as those from Vesuvius. Leucite was interpreted as a witness of magma storage conditions prior to the deadly eruption that destroyed the city of Pompeii. Tom's work illustrated two important concepts: (1) microlite-sized crystals do not necessarily form during ascent but may crystallize at depth in the reservoir and (2) nucleation is essential in determining the final size of the crystals because of the way in which the mass is distributed around each crystal nucleus.

His experimental work on more mafic magmas (basaltic andesites) focused on better constraining the mechanisms behind crystallization of microlites (e.g. determining whether the textures observed within field samples are dominated by cooling or degassing processes). To achieve this, the experiments explored the concept of pressure-driven 'effective' undercooling recognized in recent years to describe dehydration and crystallization of magmas to the classically defined undercooling (i.e. temperature driven crystallization). Experiments examined plagioclase feldspar formation and growth and demonstrated two key concepts (1) very similar feldspar textures result from dehydration- and cooling-driven crystallization and (2) homogeneous crystal nucleation transitions into a heterogeneous nucleation regime at high undercooling where pyroxene and plagioclase seem to share a symbiotic relationship. This work is of fundamental importance in understanding how crystals form, and how they should be interpreted through textural analysis.

Dr. Shea investigated the residual volatiles contained in interstitial glasses and melt inclusions to improve our understanding of magma degassing processes occurring during ascent in the conduit. Pumice glass walls are often only a few microns wide. Although many volatile species can be analyzed at these types of spatial resolution using EPMA (e.g. Cl, F, S), the most important volatile, H₂O, could not be analyzed at these resolutions by standard techniques. As a result, he developed a microRaman analysis technique to quantify H₂O in pumice glasses. His work demonstrated that strain localization is an important process in the degassing of evolved magmas.

2018 MGPV Division Distinguished Geological Career Award to Calvin F. Miller



The MGPV Division is pleased to announce that **Calvin F. Miller**, Vanderbilt University, Nashville, TN is the 2018 Distinguished Geologic Career Awardee. The award will be presented during the 2018 GSA Annual Meeting, Indianapolis, IN.

Calvin Miller is cited for his uniquely articulate and insightful contribution to our understanding of granitic systems and crustal petrology and who brings to our field an extraordinary ability to integrate information from isotope geochemistry, experimental petrology, field observation, and painstakingly careful microscopy.

Calvin was way ahead of the crowd in his realization that the rare-earths are not enriched indefinitely with progressive fractional crystallization of major mineral phases in granitoid magmas. He was one of the first two or three researchers in the world to realize that monazite (nominally Ce-phosphate) and other rare-element rich minerals “intervene” in the normal course of events and dramatically affect the abundances of key trace elements in both intrusive and eruptive rocks

Calvin went on to be a highly influential contributor to several additional major advancements in his field, including key insights into the phenomena leading to enormous eruptions of silicic magmas (“supervolcanoes”), the time-transgressive processes involved with emplacement of large granite bodies (batholiths), the nature of the basement rocks of the Appalachian Mountains, and the tectonics and general magmatism of western North America. Calvin is an enthusiastic and highly skilled field geologist, and all of his research endeavors include an important field component. He worked for decades in the Southwestern USA and Appalachia, in efforts that started with basic mapping and led to detailed petrological and geochemical investigations. Over time, Calvin expanded his breath by adding volcanic systems in the Colorado Extensional Corridor (SW USA), Cascades, and Iceland to his repertoire. Even when field research was not at the core of his efforts, Calvin understood the critical role played by field evidence, and teamed up with local experts to understand the geological record prior to advancing into detailed work. Just as importantly, in the process, Calvin mentored numerous students in the field and he has provided invaluable training for newer generations of geologists working in academia and otherwise.

2018 MGPV Division Early Career Award to Christopher W. Hamilton

Christopher W. Hamilton, Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ, USA is the 2018 Early Career Awardee. The award will be presented during the 2018 GSA Annual Meeting, Indianapolis, IN.

Dr. Hamilton is a planetary scientist and a leader in the exploration of terrestrial volcanic terrains as analogs for planetary surface processes. His specialty relates to volcano–ice interactions, with the goal of understanding the volcanic history of Mars and deciphering the complex interplay between volcanism and the Martian cryosphere. This is particularly important from scientific and exploration perspectives because magma–water interactions could have created habitable niches for microbial life on Mars and formed accessible water resources for in situ utilization during future missions.



Dr. Hamilton is an Assistant Professor within the Lunar and Planetary Laboratory (LPL) at the University of Arizona. He completed an Honours B.Sc. degree in Earth Sciences at Dalhousie University, a Ph.D. in Geology and Geophysics at the University of Hawai'i at Mānoa, and a NASA Postdoctoral Program Fellowship at the NASA Goddard Space Flight Center. During this time he developed research themes related to subglacial volcanism, machine learning, lava–water interaction on Earth and Mars, time-series measurements of active lava flows, flood basalt eruptions, and tidal heating processes within Jupiter's moon, Io. At LPL, Dr. Hamilton's research focus has expanded to include the study of impact melt flows on the Moon, catastrophic aqueous flooding events on Mars, cryovolcanism in the outer Solar System, astrobiology, and field-testing of robotic systems for future planetary exploration missions.

Dr. Hamilton's research approach uniquely combines: (1) field-based observations; (2) remote sensing; (3) machine learning; and (4) numerical modeling of silicate melts. His efforts have led to novel insights relating to lava–water interactions on Earth and Mars, including the development of explosive secondary (i.e., rootless) eruptions and the habitability of lava-induced hydrothermal systems. He has used state-of-the-art machine learning methods to characterize the distribution of volcanoes on Io and constrain underlying tidal heating processes, including how a tidal dissipation within a subsurface “magma ocean” could drive volcanism. Dr. Hamilton has also pioneered new approaches to automated landform detection in satellite imagery using artificial intelligence and developed innovative methods of volcano remote sensing using unmanned aerial systems. Additionally, he has demonstrated the importance of lava inflation and “fill and spill” processes during the emplacement of flood lavas to better constrain the timescales of effusive eruptions and led a series of field campaigns to monitor landscape evolution processes associated with the 2014–2015 Holuhraun eruption in Iceland.

Together, these activities have enabled Dr. Hamilton to make new scientific discoveries and contribute to the design of instrument and mission concepts to better understand dynamic phenomena on the Earth and Io, as well as to explore the Moon and Mars.

MGPV Division Student Research Grants

This is the fourth year for the MGPV Division's annual student research award. Since 2016, the Division has been able to increase the number of awards from four to six with the help of the James B Thompson Fund of the GSA Foundation. The 2018 awardees are:



Fotios Fouskas, Indiana University-Purdue University Indianapolis, Indianapolis, IN for his project: *Geochemical characterization of anoxia: insights from sulfurization pathways and mercury isotopes*

Fotios received his B.S. in Geology at the University of Athens, Greece in 2012. His bachelor thesis characterized the mineralogy and geochemistry of heavy metals and radionuclides in the coastal zone of Ikaria Island, Greece (where he comes from). After he moved to U.S. he earned a M.S. in Geology at the University of Texas at El Paso where he studied cadmium isotope fractionation during coal combustion. Fotios is now starting the 4th year of his Ph.D. at IUPUI where he studies the interactions among the biogeochemical systems of sulfur, carbon and iron in euxinic environments. In particular, Fotios works in two meromictic lakes, Mahoney Lake in British Columbia and

Fayetteville Green Lake in New York that contain productive communities of anoxygenic purple sulfur bacteria and sulfate reducers that trigger an active redox chemistry of S. His research includes S isotopic and Fe analyses, and together with kinetic modellings and molecular characterization (FTICR-MS) of dissolved organic matter will help understanding the sulfurization of Fe and organic matter prevalent in anoxic settings. In addition, as oxygen-limited environments have been recorded through Earth's history until today, it is important to constrain additional tools that could define anoxia. Fotios will thus investigate the mass independent fractionation (MIF) of Hg isotopes as a tool for tracing Earth's oxygenation, not only during the Precambrian but also throughout the Phanerozoic where smaller-scale anoxic events have been recorded. Samples were collected from different stages of oxygenation and as MIF in Hg is caused by UV photolysis, these isotopic signals can be tied to the degree of Earth's oxygenation.

Jacob Klug, University of Wisconsin-Madison, Madison, WI for his project: Volatile evolution of post glacial rhyolites at Laguna del Maule, Chile

Jacob Klug is a PhD student entering his second year at the University of Wisconsin-Madison. His work is being completed under the guidance of Dr. Bradley Singer. He is currently studying two active volcanic systems in Chile, Planchon- Peteroa volcanic complex and Laguna del Maule Volcanic Field. The broad goal of both studies is to better understand the geochemical evolution and the role of volatiles in each system. He will use funding from MGPV and GSA for SIM measurements of H₂O, CO₂, and trace element concentrations of melt inclusions in plagioclase, quartz, and olivine from Laguna del Maule. Trace element and volatile concentrations will be used to characterize volatile saturation prior to eruption, secular evolution of volatile concentration and composition over time, pressure conditions, explosivity, magma recharge, and rhyolite generation.



Prior to attending the University of Wisconsin-Madison Jacob got his undergraduate degree in Geology at St. Norbert College in De Pere, WI. He always had an interest in the sciences, but after taking an introductory geology course his freshmen year he found geology to be the perfect synthesis of disciplines. He decided he wanted to pursue a graduate degree studying the geochemistry and petrology of volcanoes after a field trip to Nicaragua peaked his interest. In his free time he enjoys hiking, fishing, and spending time with family and friends. He would like to thank both GSA and the MGPV division for supporting his research.

Bryan Maciag, Dalhousie University, Halifax, NS for his project: *Speciation of Arsenic and Antimony in Felsic Magmas and Apatite*

Bryan Maciag completed his B.A.Sc. (2010) in honours geological engineering at the University of Waterloo before proceeding to complete a M.Sc (2012) at Queens University. Following his education, Bryan proceeded to toil as an exploration geologist working at several different deposits, including the Black Thor Chromitite Deposit in the Ring of Fire, Ontario. Unfortunately, the economic downturn struck and Bryan was left unemployed like many other geologists. Jaded with doing nothing and looking for gainful employment, Bryan decided to follow his long-suppressed ambitions and complete a Ph.D. in Experimental geochemistry. After talking with many professors at different universities, Bryan decided to attend Dalhousie University, in the fall of 2016 under the tutelage of Dr. James Brennan.



Bryan's Ph.D. research focuses on the geochemistry of arsenic and antimony in magmatic systems. In particular, Bryan is interested in understanding how the speciation of these toxic elements varies in the melt phase as a function of oxygen fugacity. This research has implications for both PGE sequestration in magmatic sulphide deposits and the availability of arsenic and antimony for heavy metal leaching in igneous rocks. Additionally, Bryan is also working to develop an oxygen barometer for use in felsic systems, of which there is a current need. This oxygen barometer will be based on the partitioning of arsenic between apatite and melt. To complete his research Bryan will use a number of different experimental techniques to synthesize his melts, and a number of analytical techniques to identify the concentration and speciation of arsenic and antimony.



Donald Maute, Texas Tech University, Lubbock, TX for his project: *Investigation of the Fe+Ti+REE+Zr+P enrichment in the Raftsund Batholith, Lofoten, Norway*

Donald Maute was born in Chester, PA and grew up Manahawkin, NJ. As an undergraduate, he attended Stockton University in Pomona, NJ and received his B.S. in Geology in 2017. Being a smaller school with a tight-knit geology program, Donald had an incredibly rich experience – including forming life-long friendships, invigorating undergraduate research projects and infamous yearly Spring trips to Newfoundland/Nova Scotia, Texas/New Mexico (and many more). Donald is grateful for the spectacular educational framework that Dr. Matthew “Rocky” Severs and Dr. Michael Hozik

provided him while attending Stockton. Rocky and Dr. Hozik were not only mentors to Donald, but also friends.

Now, Donald has decided to take his research and education a step further in the realm of igneous petrology and economic geology and is currently pursuing his M.S. at Texas Tech University. His research is focused on investigating a locality of Fe-Ti-Zr-REE-P mineralized zones on the Lofoten-Vesterålen archipelago in NW Norway through a textural, geochemical and stable isotope approach. His first year at TTU has led to amazing opportunities – with the highlight being summer field work in Lofoten-Vesterålen in July 2017. Donald would like to thank his advisor Dr. Callum Hetherington for his professional guidance and the assistance in the development of skills and toolsets in which he will carry with him throughout his professional career. In Donald's free time, he enjoys camping, hiking, cooking, traveling, off-roading, and spending time with friends and family. He is grateful for the financial support from GSA and the MGPV division.

Ezequiel A Moreno Flores, The University of Texas at El Paso, El Paso, TX for his project: *Structural variations of abiotic and biogenic iron sulfide nanoparticles*



Ezequiel A Moreno Flores is a student at The University of Texas at El Paso who will be graduating with his Master's Degree in Geochemistry in December 2018. Moreno grew up in the Chihuahuan Desert area, achieving his lower education in Northern Mexico. Later, Moreno completed high school and his higher education in the United States. His passion for earth sciences was given shape and his skills as a geologist were put to the test through the course of his Bachelor's Degree in environmental science. As an active member of the community, Moreno volunteered as a member of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) and volunteered as the departmental photographer for various events. He also tutored students at several high schools in the city of El Paso and provided presentations to encourage students to pursue a STEM career. In 2015, Moreno was selected to collaborate with Dr. Craig Tweedie and his lab in the International Tundra Experiment, where he collected data

recording the effects of climate change in the arctic tundra ecosystems of Northern Alaska. Moreno is currently working at the NanoGeoBio Lab under the guidance of Dr. Jie Xu, where he is studying various aspects of iron sulfide nanoparticles and their transformation through time. Moreno hopes to provide the world-wide scientific community with resourceful information from his project and to continue volunteering for the improvement of local communities through education.

Hannah Shamloo, Arizona State University, Tempe, AZ for her project: *Developing a Diffusion Chronometer for Determining the Timing Preceding a Supereruption.*

I'm a petrologist and PhD Candidate in the School of Earth and Space Exploration at Arizona State University. I'm interested in the processes that govern magma reservoirs beneath volcanoes. I study the chemistry of erupted material to better understand the connection between the timescales and processes preceding an eruption, including Yellowstone's most recent supereruption that expelled ash over the greater United States 631,000 years ago. Along with petrological studies, I work in an experimental petrology lab. I have been working on a series of experiments to constrain the rate at which magnesium diffuses in alkali feldspar to be used as a stopwatch for magmatic processes. Along with research I love scientific outreach including lab tours, science demos



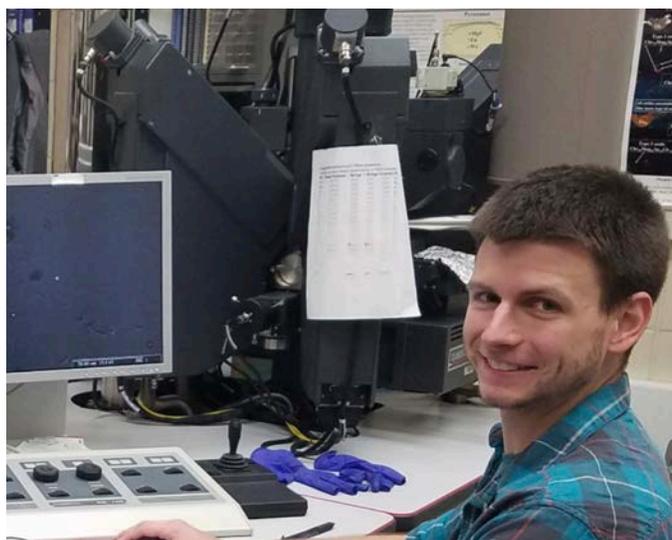
for all ages, science Olympiads, and producing educational science videos. I also enjoy mentoring undergraduate freshmen with the goal of improving the retention of underrepresented minorities in STEM.

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.

Aaron Ashley, University of South Carolina, for his proposal: *The Effects of Carbonatitic Metasomatism on the Water Systematics of the Lithosphere*

My geologic origins began in early childhood. I recall staring in fascination at glittering stuff in our driveway gravel freshly exposed by Dad's hammer. Years later I hiked the trail (only slightly exaggerated) to Carrollton, GA, home of the University of West Georgia and one of Georgia's best undergraduate geology programs. Graduating in May 2016 with a B.S., I had my sights on graduate school advisors in geochemistry, particularly regarding igneous/metamorphic petrology. Surprisingly, I found myself in geotechnical consulting instead. The industry experience cemented my resolve to continue in academia, and a year later I secured a graduate assistantship at the University of South Carolina under esteemed mantle geochemist, Dr. Michael Bizimis. Under his guidance I've been using the geochemistry



of mantle xenoliths from the Samoan hotspot chain to assess water in the mantle and the processes influencing its distribution. My story took a turn when using Fourier Transmission Infrared Spectroscopy (FTIR) to constrain the hydrogen content of mantle minerals, the FTIR revealed the presence of carbon in olivine and pyroxene fluid inclusions. This discovery was particularly exciting given the recognized trace element characteristics of carbonatitic metasomatism in some Samoan xenoliths. With the Lipman Award, I will perform Raman Spectroscopy to determine the entrapped carbon's speciation and explore the relationship between carbonatitic metasomatism and mantle water. I'd like to extend my abundant thanks for a wonderful opportunity to expand the research in mantle geochemistry. I will carry this experience into a PhD program to further exploration in geological sciences.

Roy Bassoo, Baylor University, for his proposal: *The residual pressure of zircon-hosted mineral inclusions of the Lava Creek Tuff, Yellowstone caldera: A Raman Spectroscopic Study*

Born in Guyana, Roy Bassoo has always had an interest in science. Given the opportunity to pursue tertiary education abroad, Roy left Guyana at 19 and was able to complete a Hons. BSc. in Earth Sciences from McMaster University in Canada. After graduating, he worked as a consultant geologist for several gold and iron ore exploration companies. Working as an exploration geologist on the 9 Mile Deposit, he compiled and analysed the structural and geochemical data pertaining to gold mineralization and used that as part of a graduate thesis project earning him a MSc. from Saint Francis Xavier University. Eventually offered the role of project geologist for Alicanto minerals, he further advanced his technical and managerial skills. Roy's goal was to one day pursue a PhD with the intent to become a researcher. Now a PhD student at Baylor University, he hopes to continue to develop his expertise as a scientist with Dr. Kenneth Befus as his supervisor and contribute to the field of Geology.



Kadie Bennis, University of Missouri-Kansas City, for her proposal: *Field and experimental analysis of sediment-magma mingling at the 71 Gulch Volcano in the western Snake River Plain, Idaho, USA*

Kadie Bennis is a second-year graduate student at the University of Missouri – Kansas City in Kansas City, MO, where she is pursuing a Master of Science in Environmental and Urban Geosciences. She received her Bachelor of Science in Geology and a minor in French from the University of Mary Washington in Fredericksburg, VA. Her current research focuses on water-magma interactions and further, sediment-magma interactions in order to understand the processes related to subaqueous volcanism. She recently participated in the 7th International Maar

Conference in Olot, Catalonia, Spain, where she presented preliminary results from her field site at the 71 Gulch Volcano in Bruneau, Idaho. Using the 71 Gulch Volcano as a proxy to compare these magmatic interactions with present phreatomagmatic systems, she is able to better study the mechanisms that influence the probability of a subaqueous explosion. Her research will aid in the discussion surrounding peperites* and their formation, as well as contribute to current experimental procedures regarding magma erupting into water. Support from the Lipman Award allowed her to travel back to her field site in Idaho this summer to collect supplementary data and observations, as well as gather additional geochemical analyses from her field samples. Kadie looks forward to presenting this research at her first GSA meeting this fall in Indianapolis, IN.

* *peperite* is a sedimentary rock containing fragments of igneous material, and is formed when magma comes into contact with wet sediments.

Melissa Chambers, California State University-Fullerton, for her proposal: *Tracking magma mixing through single mineral analysis of megacrystic K-feldspar*



Melissa Chambers is a second-year MS student at California State University, Fullerton. She is working with Dr. Vali Memeti to investigate the size and connectivity of magma chambers at the emplacement level using mineral scale geochemistry. Her research focuses on K-feldspar megacrysts from the Tuolumne Intrusive Complex in Yosemite National Park, CA. She is using core-to-rim major and trace element analyses and TIMS-TEA dating of zircons from the cores and rims of megacrysts to determine which adjacent Tuolumne units, if any, were magma mush simultaneously, and mixed and transferred crystals at the emplacement level. The Lipman Award will provide funding for trace element analyses for characterizing K-feldspar populations used to track mixing throughout the intrusive complex.

Melissa is originally from Hackettstown, NJ where she enjoys hiking at local state parks and adding to her childhood rock collection. She received her B.S. in Environmental Science at Montclair State University, NJ where she worked with Dr. Matthew Gorrington investigating the Sterling Forest Granite Sheets in the NY Hudson

Highlands. Comparisons with field relationships and geochemistry from other Hudson Highland granite suites with radiometric ages were made to constrain the timing of the emplacement of the Sterling Forest Granite Sheets to better understand the full tectonic history and order of geologic events in the western Hudson Highlands.

Shoshauna Farnsworth-Pinkerton, Louisiana State University, for her proposal: *Deciphering the chemical signature of tourmalinites using multivariate statistics of Laser-Induced Breakdown Spectroscopy: Determining the environment of formation*

Shoshauna Farnsworth-Pinkerton is an M.S. candidate at Louisiana State University studying under Dr. Barbara Dutrow. Her research focuses on determining and comparing chemical signatures of tourmalines from tourmalinites that are and are not associated with ore deposits. Chemical signatures obtained from Laser-Induced Breakdown Spectroscopy (LIBS) are being analyzed and compared using Principal Component Analysis (PCA) and Partial-Least Squares Regression (PLSR). The outcome will be a statistical model that discriminates chemical signatures for the environment of tourmalinite formation. Many thanks to the MGPV Division for the Lipman Award, which will provide funding for LIBS analysis of tourmalines.



Shoshauna gained an interest in geology after enrolling in an Earth Science course at Sierra College in Rocklin, CA. A weekend field trip to Yosemite National Park is what solidified her decision to declare geology as her major. She then transferred to New Mexico State University, where she received her B.S. degree in geology. Studying under Dr. Nancy McMillan, her undergraduate research focused on using LIBS to determine provenance of detrital tourmalines in the Picuris Mountains, NM, USA. It was during her time in New Mexico that she developed a strong interest in mineralogy and geochemistry. During her spare time, Shoshauna enjoys traveling to Utah, where she grew up. She also enjoys spending time around animals, painting, playing the piano, and expanding her mineral collection.

Justine Grabiec, University of North Carolina at Chapel Hill, Chapel Hill, NC, for her proposal: *Origin of K-Feldspar Megacrysts in Granite: A 3D Tomographic Study*



Justine is currently pursuing her PhD at the University of North Carolina at Chapel Hill where she is studying the petrological, geochemical, and structural characteristics of granites in Yosemite, National Park, with Allen Glazner. In particular, she hopes to use detailed studies of K-feldspar megacrysts, aplite-pegmatite dikes, and hydrothermally altered pipes to understand the complicated process of granite genesis. This includes cooling timescales, cyclicity of melt influxes, crystallization sequences, melt-crystal relationships, and details of late-stage water release. Justine has been interested in nature since she was a child and chose to pursue a career in science at a young age. She received her B.S. in geology with a minor in planetary science at the University of Maryland College Park. Her undergraduate research project with Sarah Penniston-Dorland involved studying a low-displacement fault and the metamorphic rocks in which it formed on Catalina Island, where the field work sparked her interest in petrology. Justine's favorite thing about petrology is how varied in scale connected systems can be; the fact that micron-scale characteristics can reveal important implications about kilometer-scale systems, such as granite intrusions, fuels

her passion for science, as do the diverse methods for studying these features. In her free time, Justine enjoys drawing and painting, spending time outdoors, and cooking.

Lisa Grohn, University of Rochester, for her proposal: *Petrogenesis and eruptive history of xenolith-bearing magmas in the north Andean volcanic zone: insight for lower-crust processes in active continental arcs*

Lisa is a PhD candidate at the University of Rochester, NY, where she is working with Dr. Mauricio Ibanez-Mejia to investigate a potential case of modern crustal foundering. She is focusing on a peculiar volcanic tuff in the Andean Northern Volcanic Zone, Colombia, which hosts an unparalleled load of garnet-rich lower-crust and mantle xenoliths. Lisa is excited to reconstruct the tuff's eruptive history and the P - T - t pathway of the xenoliths using various geochemical and geochronological tools. With this award, she plans to study the petrography, thermobarometry, and major and trace element geochemistry of basaltic juvenile magmatic bombs that host the xenoliths.

Lisa received her B.S. from St. Lawrence University, NY, with a double major in geology and chemistry. During this time, she studied a suite of mafic dikes in the Canadian Shield and continued to explore the Adirondack Mountains where she fell in love with nature as a kid. Following graduation, Lisa worked a summer for the U.S. Forest Service monitoring oil and gas wells in the Wayne National Forest, OH through GeoCorps America. On the side, she loves to run and is building a Tiny House. She would like to thank the MGPV division for their support to continue her passion and advance our understanding of Earth's processes.



Rachel Hampton, University of Oregon, for her proposal: *Oxygen Isotope Analysis and U-Th dating of zircons from the Krafla Central Volcano: An insight into the formation of rhyolites in basaltic environments*

I was born and raised in the drop-dead gorgeous mountain town of Telluride Colorado. It was there that I learned to love the world around me and began to question how it worked. This adventure of discovery took me first to the big city of Boston for college. I attended Harvard University, and my journey took an



unexpected turn within a week of arriving. After becoming hopelessly lost in the vast Science Center at the heart of the Harvard campus, I stumbled upon an introductory geology course. Little did I know this class would take me down an incredible road in my education, leading me straight to the department of Earth and Planetary Science. Here I learned to love earth science and discovered a passion for research and volcanoes, investigating the ancient volcanoes that lie just outside of downtown Boston. All of this has led me to the University of Oregon in Eugene to pursue a PhD, working with Professors Ilya Bindeman and Leif Karlstrom to uncover hidden patterns in geochemical data and unravel the complex processes that lie hidden within the magma chambers underneath active volcanoes. In particular I have found an exciting path

investigating the occurrence of high silica lavas where we might not otherwise expect them. This has been an incredible journey so far; I look forward to continuing to find puzzling questions about the Earth, and to discovering answers that never cease to surprise us and stretch the limits of what we thought possible.

Antonio Luna, University of South Florida, for his proposal: *Subduction Recycling in the South China Sea – Luzon Arc system: characterization of sedimentary and ocean crustal materials recovered during IODP Expeditions 349, 367, and 368.*

Antonio Luna was lucky enough to be raised Puerto Rican and lived in Puerto Rico. Born to a U.S. Navy family, he always loved to travel and at the age of 18 joined the U.S. Marine Corps. After he honorably left the Marine Corps he decided to get his B.S. in Geoscience at Pacific Lutheran University in Tacoma, Washington, after which he became a geologist working full time in the commercial sector as a consultant, as well as going into the Army National Guard in aviation for several more years. While working with the Marines and the Army in Afghanistan in 2009-2010, during his last deployment, he was drilling water wells for bases as well as providing guidance for local national drillers around the forward operating bases he worked from.

Several years after returning from Afghanistan he approached the University of South Florida to work toward his Ph.D. in Geochemistry. While working with the company he is currently employed by, and University of South Florida he was accepted by the International Ocean Discovery Program (IODP) as a hard rock petrologist aboard the JOIDES Resolution and in 2017 went to the South China Sea. Mr. Luna continues to work toward his Ph.D. in Geochemistry looking at the cycling and recycling of fluid mobile elements in subduction systems.



Samuel J. Mitchell, University of Hawai'i at Mānoa, Mānoa, HI for his project: *The evolution of volatiles preceding and during deep submarine silicic eruptions*



Samuel J. Mitchell is a final year PhD candidate in Geology and Geophysics at the University of Hawai'i at Mānoa. He gained a combined B.Sc and M.Sci in Geology from the University of Bristol, UK in 2015 and spent time at the University of California, Berkeley. He is currently working under the supervision of Dr. Bruce Houghton (U. Hawai'i) and Dr. Rebecca Carey (U. Tasmania) on the silicic submarine eruption of Havre volcano in 2012. The project is part of a larger research effort that spans multiple global research and academic institutions endeavoring to further our understanding of eruptive, transportation and depositional dynamics of large, deep-submarine volcanic eruptions. Samuel's broader research focuses on using pumice microtextures and magmatic volatiles in volcanic glasses to constrain conduit dynamics and degassing histories of large silicic volcanic eruptions. More specific research interests explore the rehydration and quenching mechanisms of pumice during large, deep-submarine eruptions. The GSA

Lipman Award will be used to acquire volatile contents of melt inclusions from various phases of the 2012 Havre eruption to assess the effect of changing initial magmatic conditions on transitions between explosive and effusive behavior. Samuel would like to extend his gratitude and appreciation to the MGPV Division and selection committee for his receiving of this award. The data acquired will be a very valuable contribution to his final dissertation project and the broader aims of the Havre research group.

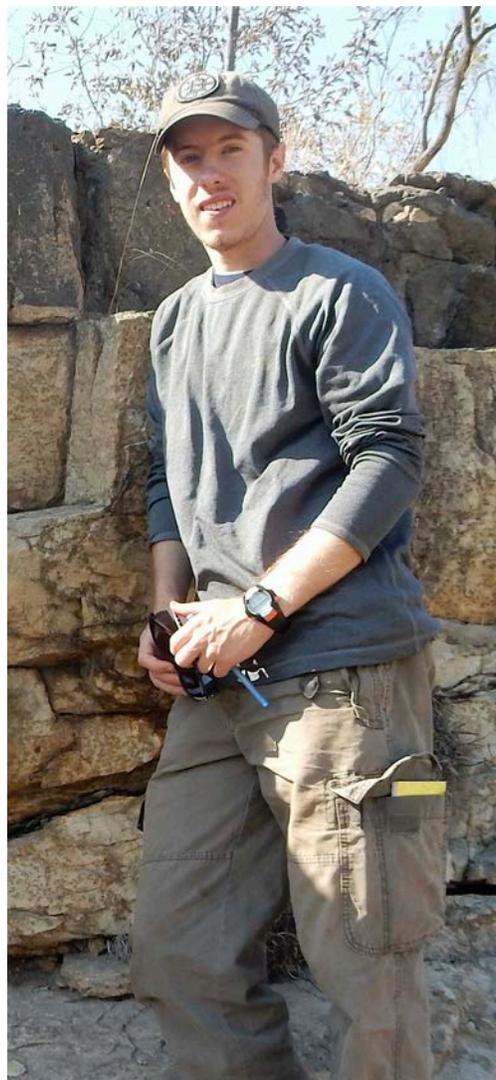
Bryant Platt, California State University-Fresno, for his proposal: *Does Mafic Recharge Control Eruption Timing? A Thermobarometric Test from Brokeoff Volcano, Lassen Volcanic Center, California*

Jacob Setera, Rutgers University, Piscataway, NJ for his project: *Constraining the mid-temperature thermal and hydrothermal history of the Bushveld Igneous Complex: Insights from apatite U-Pb geochronology*

Jacob is a PhD candidate in the Department of Earth and Planetary Sciences at Rutgers University. Originally from New Bedford, Massachusetts, Jacob received his B.S. in Geology at the University of New Hampshire. After his undergraduate education, he spent two years as a laboratory technician at the University of New Hampshire as well as being employed with the New Hampshire Geological Survey where he worked on various geologic mapping projects.

At Rutgers, working under the supervision of Dr. Jill VanTongeren, his doctoral studies focus on the magma chamber dynamics and thermal history of the world's largest layered mafic intrusion, the Bushveld Complex in South Africa. Funding from GSA & MGPV will support his work aimed at elucidating the sub-solidus thermal evolution of the Bushveld Complex by combining high-precision apatite U-Pb age dating with already completed low-temperature $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology. In addition to his doctoral studies, Jacob has worked on the development of *in situ* LA-ICP-MS isotopic methods leading to his involvement on various projects with samples ranging from zircons, HED meteorites, serpentinite, foraminifera, and tooth enamel, among others.

Outside of research, Jacob engages in scientific outreach programs for the Rutgers Geology Museum and within the local community. In his spare time, he enjoys cycling, hiking, and following his favorite hometown sports teams.



Lorenzo Tavazzani, Southern Methodist University, for his proposal: *Miocene granitic intrusions and eruptive centers of the Colorado River Extensional Corridor (AZ, NV), a window into the plumbing system of rhyolitic calderas.*

Lorenzo Tavazzani is a second-year Ph.D. student at Southern Methodist University (Dallas) whose research is focused on deciphering the volcanic-plutonic connection, in particular by the study of fossil magmatic systems preserved in tilted crustal sections. He is interested in the timescale of reactivation of silicic magma chambers and the role of mafic recharge as trigger of caldera-forming eruptions. He uses the tools of geochronology, diffusion chronometry and isotope geochemistry to address questions concerning mass transfer, temperature fluctuations and melt-mineral interactions occurring in a magma body prior to an eruptive event. Before landing in the U.S. he completed his BSc in geology (2013) at the University of Trieste (Italy) and obtained an MSc (2015) at the University of Pisa (Italy) completing the geological mapping and geochemical study of a granitic intrusion in the Ivrea-Verbano crustal section. Ongoing research, which will be supported by the GSA graduate research grant and the Lipman award, is centered on the field and geochemical study of intrusive and volcanic products of the Miocene magmatism of central Basin and Range province. Despite evidence for magmatic activity through the whole central Basin and Range crustal column, granitic melt storage in the crust has not yet been unequivocally linked to caldera-forming volcanism at the surface. Lorenzo will apply secondary electron microscopy (SEM) and image analyses techniques paired with electron microprobe analyses on samples from selected intrusion and eruptive centers of the central Basin and Range province. The goal is to test the hypothesis that eruptible melt was stored in the crust during the Miocene, and that it coexisted with physical conditions able to trigger an eruptive process.



Samantha Tramontano, City University of New York, for her proposal: *Eruption trigger mechanisms at arc volcanoes with century-long repose periods*



Samantha Tramontano is a 2nd year PhD graduate student at the City University of New York – The Graduate Center working with Dr. Marc-Antoine Longpré. She received her BSc in geology from the University of Rochester, USA and began research in petrology during an undergraduate semester at the University of Canterbury, NZ with Frontiers Abroad. After working in the gemstone jewelry industry in NYC, she returned to school and earned a MSc from Vanderbilt University, USA working with Dr. Guil Gualda on the triggering of supereruptions. She is a huge advocate for mixing methods and is most happy when combining field work with analytical geochemistry and computational thermodynamics. Support from the Lipman award will aid in funding the analytical portion of her graduate research examining melt inclusions from tephra collected after the 2014-2015 eruption of Momotombo volcano, Nicaragua. Through this project, Samantha aims to reconstruct melt and fluid evolution prior to eruption to constrain trigger mechanisms and timing for a system that lay quiet for 110 years.

Samantha was born and raised in Staten Island and is enjoying being back in NYC teaching Earth science labs and lectures at Queens College and at the College of Staten Island. When she is not ‘geologizing’, Samantha (also known as Sam Tram) loves playing team sports and is an appreciator of live music, due largely to experiences playing saxophone and dancing (not simultaneously). She is extremely grateful to the MGPV division and would like to thank them for supporting this project and an opportunity to expand the field of petrology.

Erin Wales, California State University-Northridge, for her proposal: *The Role of Magmatic Scapolite In Recording The Volatile Cycle Of The Lower Crust*

Erin Wales received her B. A. in French Literature and Language with a minor in Geology from the University of California, Los Angeles in 2014. After graduating, her continued interest in geology led her to pursue additional coursework in earth sciences, as well as post-Bach geochemical research focusing on lunar and terrestrial volatiles found within the mineral apatite. The opportunity to present this research at LPSC in 2016 solidified her desire to officially continue her education in geology.



Erin is currently a first-year graduate student at California State University, Northridge, where she is pursuing her Master's degree working with Dr. Joshua J. Schwartz. Her research focuses on the role of magmatic scapolite as a reservoir for volatiles within the lower arc crust of Fiordland, New Zealand. Support from the Lipman Award is helping fund an array of data collection including major and REE data via EMPA and LA-ICP-MS in order to characterize both magmatic and metamorphic scapolites, as well as sulfur isotopic analysis to identify the source of volatiles found within those scapolites.

A resident of Los Angeles for over a decade, the landscape of the west helped to shape and solidify her love of geology. As of late last year, Erin is a new mom, and in her spare time enjoys travel, photography, and backpacking in the Sierras with her family and friends. Additionally, she's really funny. Erin would like to thank the MGPV Division for this generous award and she looks forward to sharing her research at this year's annual meeting in Indianapolis.

Kellie Wall, Oregon State University, for her proposal: *Localization, longevity, and compositional diversity of intermediate magmatism in the Cascade arc: insights from the Goat Rocks volcanic complex*



Kellie is a PhD candidate at Oregon State University, working with Dr. Anita Grunder to reconstruct the life cycle of a young but extinct andesitic volcanic complex in the beautiful Goat Rocks Wilderness of Washington State. Kellie uses radioisotopic dating techniques such as $^{40}\text{Ar}/^{39}\text{Ar}$ and U/Pb zircon dating, and geochemical analyses of bulk rocks and their minerals, to investigate magmatic processes and their timescales over a roughly 3-million-year eruptive history in this geologically complex region of the southern Washington Cascades. As a side project this year, Kellie worked with fellow PhD students Allan Lerner (UO) and Emily Cahoon (PSU) to organize and host the first Volcanology Students of Oregon (Volc-OR) conference, where students from nearby universities presented their volcano-related research and attended workshops on analytical techniques and

professional development.

Before beginning her work at OSU, Kellie earned her B.S. in Geology at Washington State University (go Cougs!) and worked with Dr. Michael Rowe to develop an XRD methodology for determining eruption styles of basaltic volcanic rocks based on their groundmass crystallinity, with relevance to geologic research on Mars. She also spent a summer in Washington D.C. working with Dr. Elizabeth Cottrell and Dr. Fred Davis at the Smithsonian National Museum of Natural History, investigating the oxygen fugacity of mantle xenoliths erupted at volcanic islands in the Pacific. When she isn't collecting rocks in the mountains or working with geochemical data on her computer, Kellie enjoys playing in her garden and finding new ways to lead a more eco-friendly lifestyle.

Carmichael Student Research Award

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.

GSA will call for and accepts student research grant proposals with a deadline of 1 February. The recipient is determined by the Mineralogy, Geochemistry, Petrology, and Volcanology (MGPV) Division of GSA. Criteria for selection by MGPV - how well the proposal integrates and depend on a range of geology (field) evidence that may be combined with lab work or modeling to answer the posed question or select the samples. Will the study would make an important or interesting contribution. Will the techniques to be used have a good chance of answering the question(s) posed.

Rebecca Degraffenried, University of Hawai'i at Manoa, Manoa, HI for her project: *Using Volatile Diffusion Profiles in Melt Embayments to Estimate Magma Ascent Rates*

Rebecca is a second year PhD student at the University of Hawai'i at Manoa with Dr. Thomas Shea. Her study of geology began just 90 miles north of her hometown of San Antonio, Texas at the University of Texas at Austin, where she obtained her B.S. in General Geology. Throughout her undergraduate career, she worked on various projects in different labs and discovered a love for research, which led to her pursuing an M.S. in Geology at the University of Alaska Fairbanks. Although she knew from a young age that she wanted to study volcanoes, she was unsure of what she wanted to study specifically in the broad field of volcanology. While in Alaska, she worked on a project that used experimental petrology to study rhyolitic magma degassing during ascent to the Earth's surface. This turned out to be a topic and method that greatly interested her, and she decided to pursue this avenue of research for her PhD. Her research focus has since broadened to include other factors that influence conduit dynamics during magma ascent. The Ian S.E. Carmichael award will provide funding for her efforts to experimentally calibrate previously developed methods of calculating magma ascent rate, which will make up a significant portion of her dissertation. Outside of her studies, she enjoys both playing and watching soccer, as well as collecting rocks from every place she visits.



MGPV at Indianapolis 2018

• **Technical Sessions.** MGPV and its Participating Societies are sponsoring 24 topical technical sessions:



2018 Annual Meeting in Indianapolis, IN Sessions sponsored by MGPV and its Associated Societies

- T030. Geology and Fluid Dynamics of Cr, Ni-Cu-PGE, and PGE Mineralized Magmatic Plumbing Systems
- T038. Interdisciplinary Investigations of Mantle-Crustal Mass Transfer
- T050. Processes and Feedbacks in the Critical Zone
- T057. Undergraduate Research Talks: The Next Step in Student Research Projects
- T106. The Axial Role of Water in Being Prepared for Environmental Change
- T113. Gemological Research in the Twenty-First Century—Characterization, Exploration, and Geological Significance of Diamonds and Other Gem Minerals
- T114. Apatite, from Magma to Medicine: In Honor of John M. Hughes
- T115. Mineral Evolution and Ecology: Potential Directions for the Next 100 Years with the Mineralogical Society of America
- T116. New Developments in Geochemical Proxies for Paleoceanographic Research
- T117. Greenhouse to Icehouse Transition: Global Events of the Devonian, Carboniferous, and Early Permian
- T136. Tick Tock in the Rock: Elucidating the Time Scales of Geologic Processes and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist
- T138. Magmas Assemble! Petrologic, Geochemical, Chronologic, and Geophysical Insights into the Architecture and Timescales of Magmatic Systems
- T139. Work on the Zircon, Highlight the Apatite: Wielding the Power of Accessory Minerals and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist
- T140. Frontiers in Mineralogy, Petrology, and Geochronology: A Session in Honor of Dana Medalist Jörg Hermann
- **T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface—A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award**
- T142. Metamorphic Petrology Past, Present, and Future: Preparing for the Next 100 Years with the Mineralogical Society of America
- T149. Volcanism and Tectonism on Planetary Bodies
- T150. Impact Cratering: Geologic, Geochemical, and Geophysical Signatures on the Terrestrial Planets
- T154. Coordinated Microanalysis as a Tool for Increasing the Scientific Yield of Returned Planetary Materials
- T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting
- T159. Different Roads to Rodinia: Re-Analysis of the Geochronology and Tectonic Evolution of Precambrian Sedimentary and Crystalline Basement Terranes in Southeastern Laurentia
- T181. Recent Advances and Future Directions in Paleolimnology and Paleoclimate
- T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction
- **T185. Features, Processes, and Emplacement of Melted Rock on the Earth and Planets—A Session in Honor of Christopher W. Hamilton Recipient of the MGPV Early Career Award**

• **Reception.** The MGPV Division will join with the Mineralogical Society of America and the Geochemical Society in a joint reception, Tuesday, 6 November 2018: 5:45 PM - 7:30 PM, Indiana Convention Center, Room 204.

• **Business Meeting.** The Division will have its required business meeting on Sunday, 4 November 2018: 1:00 PM - 11:45 PM, Indiana Convention Center, Tech Session TBD. There will be a brief update about the Division, and an opportunity to ask questions or make comments.

MGPV at GSA Section Meetings

Divisions have the primary responsibility for developing the technical session program for GSA Annual Meetings. They are now being asked to take a similar active role for the Section meetings, where their involvement has generally been low. Please consider developing and submitting theme session topics for 2019 Section meetings. Now is the time to approach the [organizers](#) of those meetings to get MGPV Division theme sessions into the programs.

MGPV website: the GSA Connected Community

The Mineralogy, Geochemistry, Petrology, & Volcanology (MGPV) Division [website](#) 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.

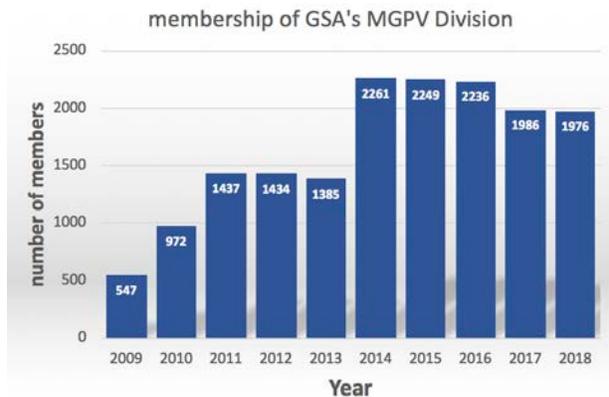
As a member of the MGPV Division, you have been subscribed to the Daily Digest version of the MGPV Division's General Discussion Group, meaning that you will receive one e-mail every day containing all of the previous day's posts, if any. If you'd like to change that to no emails (you can view the discussion 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 "My Subscriptions" link found to the right of this post or in the footer.

The screenshot shows the MGPV website interface. At the top, there's a navigation bar with links like 'Home', 'About Us', 'Awards', 'Resources', 'Events', and 'Our Community'. Below this is a 'Welcome' section with a message from the Division. The 'Announcements' section highlights a call for nominations for the MGPV Distinguished Geologic Career Award, mentioning the deadline of July 16, 2016. It also lists the 2016 MGPV awardees: Donald A. Swanson and Heather Williams. The 'Latest Discussions' section shows a thread titled 'CALL FOR NOMINATIONS: MGPV Distinguished Geologic Career Award'. The 'Our Events' section mentions the MGPV AGU Joint Reception at the 2016 GSA Annual Meeting. The footer includes a list of MGPV Adhering Societies and a 'Terms of Use' link.

MGPV Division Organizational Items

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

547	2009 Division affiliates as of 31 December 2009
972	2010 Division affiliates as of 30 December 2010
1,437	2011 Division affiliates as of 30 December 2011
1,434	2012 Division affiliates as of 30 December 2012
1,385	2013 Division affiliates as of 30 December 2013
2,261	2014 Division affiliates as of 30 December 2014
2,249	2015 Division affiliates as of 30 December 2015
2,236	2016 Division affiliates as of 30 December 2016
1,986	2017 Division affiliates as of 30 December 2017
1,976	2018 Division affiliates as of 31 July 2018



In 2014, GSA instituted a policy wherein students can join their first Division at no cost. This new policy dramatically increased MGPV membership. Students have gone from about 30% of the

membership to 60%. But one result is a loss of income. Help us sustain a strong Division by renewing, asking others to join, and volunteering. We have several hundred individuals with lapsed memberships, and so there is room to grow.

• **Finances:** As of 06/30/2018, MGPV has a cash balance of \$23,054.35. Dues income in 2017-2018 (GSA's and the Division's fiscal year to July 1 through June 30) was \$7,556.65 a slight increase from the \$7,437.98 for 2016-2017. The Division received \$18,000 in transfers from the James B. Thompson, Jr. Fund of the GSA Foundation to support 4 of the 6 student research grants and the 2017 Distinguished Geological Career and Early Career Awards. In addition, the Lipman Research Fund provided \$49,600 and the Ian S.E. Carmichael Research Award \$2,000 to fund those student research grants.

Division expenses during this period were \$4,410.76 for AV services, postage, shipping, travel, awards, and freight; \$6,000.00 for student grants, awards & awardee travel support; and \$1,753.50 for the reception (1/3 of the total cost with the balance shared between GS & MSA).

MGPV has enough income for the upcoming 2018-2019 fiscal year to support the MGPV's awards, reception, and up to six student research grants, but we must keep an eye on membership/dues and GSA Foundation support.

• **Committee Volunteers:** We thank the following individuals who volunteered for MGPV committees this year:

- **DGC Award Committee:** John Shervais (Chair), Michael Dorais, Bob Wiebe, Donna Whitney, Charles Alpers, David A. Fowle, and Diane Moore
- **MGPV Early Career Award Committee:** Rosemary Hickey-Vargas (chair), Pam Burnley, Peter Nabelek, Matt Brueseke, John Valley, and Elisabeth Widom
- **Nominations Committee:** Wendy Bohrson (Chair), Craig Schiffries, David Waters, and Katharine Cashman

Giving to MGPV

Did you know that you could donate to the MGPV Division? To make a gift, please go to [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. The Division would like to increase its support of student activities.

Announcements

[1] Please consider nominating deserving candidates for MGPV Division’s Distinguished Geologic Career and Early Career Awards. Procedures and deadline (**31 March 2019**) for nominations are given on the Division’s Connected Community site:

<<http://community.geosociety.org/mgpvdivision/home>>.

[2] Please consider nominating deserving MGPV members for GSA Fellowship. The deadline is 1 February. 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:

<http://www.geosociety.org/GSA/About/awards/GSA_Fellows/GSA/Awards/Fellowship.aspx>.

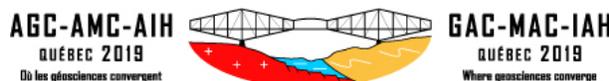
from the Adhering Associated Societies:

• Web listing of MGPV-related Scientific Meetings and Events at:

<http://www.elementsmagazine.org/archives/e14_4/e14_4_dep_calendar.pdf>

•• The **Mineralogical Association of Canada (MAC) Annual Meeting** is May 12-15, 2019 in Quebec City, QC, Canada, Canada. More information and online registration at

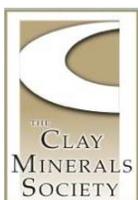
<<http://gacmac-quebec2019.ca>>



The **Mineralogical Association of Canada (MAC)** has several opportunities for students:

<<http://www.mineralogicalassociation.ca/index.php?p=60>>

Foundation Scholarship: two \$5000 scholarships to graduate students yearly, one to a student enrolled in an MSc program and one to a student in a PhD program. **Student Travel/Research Grants:** travel and research grants to assist honors undergraduate and graduate students in the mineral sciences. **Student Awards:** given annually to undergraduate students at recognized Canadian universities or institutions of higher education, for excellence in one of the specialties supported by MAC.



- The **Clay Minerals Society (CMS) 56th Annual Meeting** is **1st-5th July 2019**, Paris, France meeting jointly with the of the European Clay Groups Association (ECGA) and the 6th Mediterranean Clay Meeting (MCM). Details at <https://euroclay2019.sciencesconf.org>.

Nominations for the CMS 2019 Awards and grants. Deadline is 19 February 2019. More information and online registration on the CMS website www.clays.org.

- **Mineralogical Society of America (MSA).** Nominations are sought for the **Roebing and Dana Medals and MSA Award**. You need not be an MSA member to nominate someone. More information and nomination procedures on the MSA home page <http://www.minsocam.org>.



- The Mineralogical Society of America (MSA) invites applications for the **2019 MSA Grant for Research in Crystallography** and for the **2019 MSA Student Research In Mineralogy and Petrology**. There are up to three research grant awards of \$5,000 each. Application deadline is January 31, 2019. Awardees need not be MSA members; MGPV student members are invited to apply. More information and online application on the MSA website, <http://www.minsocam.org>.

- 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. Instructions to nominate a student at http://www.minsocam.org/msa/Awards/UnderGrad_Award.html.

- 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). Visit <http://www.minersoc.org>. MSGBI also offers free membership to students for one year. This includes a subscription to *Elements* and is open to applicants from all countries. Details at <http://www.minersoc.org>.



Division Management Board

Officers

Chair (2018)

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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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