Dear Friends of WSU Geology,

What a year it’s been for the Department of Geology! On the downside, two of our faculty moved on to new adventures. Larry Lemke was offered the position of chair of the Department of Earth and Atmospheric Sciences at Central Michigan University. Valentina Taranovic, our Lecturer and alumna, took a great postdoctoral opportunity in Western Australia. We wish them both continued success.

The good news is we were able to replace them both. We hired Scott Burdick, a geophysicist from the University of Maryland, and Shirley Papuga, a hydrogeologist from the University of Arizona. Scott studies the Earth’s crust and mantle by analyzing seismic data and will be a great complement to Sarah Brownlee. Shirley Papuga came as a tenured associate professor bringing an active research program from Arizona. She will be a superb addition to the Environmental Science program and to the Great Lakes and water initiatives at WSU.

A couple of old friends have returned. Dave Doherty, who was an assistant professor from 1979-81 and a Senior Lecturer in 2000-2001, is teaching Mineralogy and Petrology as a part-time faculty member this year. He has also been volunteering his time to completely restore the Mineralogy and Petrology teaching collections. Dawn Niedermiller has been the academic advisor in Physics and Astronomy and will be taking over from Cody Bailey-Crow as the advisor for Geology and Environmental Science students.

Our current faculty continue to excel. Mark Baskaran and Jeff Howard both authored books published by Springer. Baskaran’s “Radon: A Tracer for Geological, Geophysical and Geochemical Studies” came out in 2016 and Howard’s “Anthropogenic Soils” in 2017. Sarah Brownlee earned tenure and promotion to associate professor this year. She was also recently awarded a prestigious CAREER award from the National Science Foundation. With Brownlee’s tenure and the addition of Shirley Papuga, we now have four tenured faculty in the Geology Department, the most we have had in decades.

The other big news is that we have a new Geology Mineral Museum. Dave Lowrie’s dream of a museum to display the department’s gems was realized with a grand opening ceremony on May 19th. The museum is next to the Planetarium and joins a group of public attractions now housed in Old Main.

On a sad note, Bob Furlong, who chaired the geology department for the last quarter of the 20th century, passed away in March. In his memory, Rosemarie Furlong is establishing the Dr. Robert B. “Doc” Furlong Memorial Annual Scholarship to support students doing geology field work.

The Midtown Detroit area continues to boom. The Q Line light rail began operating down Woodward Ave. this spring. The new Red Wings/Pistons arena debuts this fall. Unfortunately, this has prompted a developer to buy the old Criminal Justice Building, so the geological collections and sample preparation lab are moving again. We transferred the collection of cores and cuttings to the Michigan Geological Survey Repository in Kalamazoo. The rest of the collection will be moving to a warehouse location near Henry Ford Hospital.

So a lot has changed in the past year, but the department is still vibrant with the close-knit family feel it has always had. Come by and visit if you have the chance. We are trying to keep the museum open on Friday evenings, so that is an especially good time to stop by.

In summary, the Department of Geology continues to do well. We would love to hear from you with your own stories, please keep in touch!

Best regards,

David Njus, Ph.D.
Professor and Chair

TABLE OF CONTENTS
Faculty Research Activity .....2
Mineral Museum News .....5
Donors/New Scholarship .....6
Katie’s Arctic Trip ..............7
Notes from the field ..........8
Alumni Advice ................10
AIPG..............................12
Geoscience club .............13
Student Pictures ............14
Student Awards ..............18
Recent Graduates ..........19
Dr. Scott Burdick is happy to be joining the geology department as Assistant Professor this fall. His primary research interest is in using geophysical data like seismic recordings and gravity surveys to make inferences about the structure and material properties of the Earth. Dr. Burdick earned his Ph.D. in Geophysics at M.I.T. in 2014, where he specialized in mapping the Earth’s mantle with seismic tomography. His studies there took him from the Cascade Range in Washington to the Iceland’s Reykjanes Peninsula. Following graduation, Scott served as an NSF Postdoctoral Fellow at the University of Maryland, focusing on advancing the understanding of uncertainty in Earth models derived from tomography. His ongoing research has applied these advances to a diverse set of Earth Science problems, from inner core anisotropy to mass spectrometer data reduction to the detection of glacial aquifers.

Now at Wayne State, Dr. Burdick is excited to forge ahead on several new projects. These include the joint application of seismic and gravity measurements to constrain the volume and geometry of the Midcontinental Rift and the estimation of how well seismic waves can resolve the composition and fabric of crustal rocks. Students are encouraged to contact him if they are interested in working on these questions at scott.burdick2@wayne.edu. In addition to research, beginning in Spring 2018 he will be teaching sections of Geology 1010, Structural Geology and Applied Geophysics. He also looks forward to increasing the interaction between the department and Wayne State’s high performance computing facilities and exploring the potential of the WSU Planetarium for teaching concepts in global Earth Science.

Dr. Shirley Papuga is a hydrologist with a quantitative and earth science background. As a hydrologist, she has always had the pleasure of working at the interfaces of many disciplines. There is no question though that working at these interfaces can be challenging with respect to, for instance, time and space scales (e.g. geologic time versus the lifecycle of a plant). However, she finds bridging these disciplines highly rewarding because it enables her to help address complex global change issues, which increasingly intertwine social, economic and environmental dimensions. She enjoys working on these issues with teams that bring together researchers from physical, biological, and social sciences. One of her more recent projects aims to understand how the redistribution of water resources associated with the adoption of green infrastructure in urban areas impact soil, vegetation, and microclimate.

Dr. Papuga also is passionate about involving students in her research and helping them use that experience to gain rewarding employment. She graduated five Ph.D. students and eight M.S. students from the University of Arizona and has had numerous undergraduate students conduct independent projects under her direction. She is thrilled to have the opportunity to now work with students at Wayne State. Please contact her at shirley.papuga@wayne.edu if you think you would be interested in joining her research group!
Mark Baskaran is continuing his NSF-funded GEOTRACES Research Program, an international study of the marine biogeochemical cycles of trace elements and their isotopes, in the Western Arctic Section. Katie Krupp, a Masters student, participated in the GEOTRACES western Arctic cruise on USCGC Healy for 10 weeks (August – October 2015) and has completed her thesis in summer 2017. Dr. Baskaran recently completed a project that involved investigation of sedimentation and sediment dynamics in eleven dams/reservoirs in the mid-western United States (jointly with Dr. Carol Miller, Civil and Environmental Engineering) which was funded by US-Army Corps of Engineers. He gave several talks including a plenary talk at the Third International Conference on polonium and radioactive lead at Kusadasi, Turkey (October 2015), invited seminars in China (October 2016, July 2017), S. Korea (December 2016), Turkey (October-December 2015), India (October 2015) and Greece (September 2015).

Sarah Brownlee’s research group focuses on improving our understanding of deformation processes in the continental crust. We do this by characterizing the elastic properties of deep crustal rocks that have been brought up to Earth’s surface through natural tectonic exhumation processes. Rock elasticity is directly tied to rock composition and deformation history, and rock elasticity determines how seismic waves propagate through the material. So by understanding the links between rock elasticity, composition and deformation history, and seismic wave propagation, we can improve our ability to use seismic methods to understand composition and deformation in the deepest parts of the crust that we cannot directly sample. Understanding how the deep crust deforms is critical for understanding how stress is transferred from the base of the crust up to the surface where these stresses can contribute to seismic hazard.

The Brownlee group has been very busy. In the past two years we have conducted two seasons of fieldwork at the Chester gneiss dome in Vermont, and the Pelham gneiss dome in Massachusetts with both undergraduate and graduate student participation. We have had three graduate students and one undergraduate student present their work at national meetings, with two more students presenting at this year’s AGU meeting in New Orleans. The group is currently at three graduate students, and one undergraduate, and we have seen three graduate students finish their Master’s during the past year.

I am also very excited to be working with another group of undergraduate researchers as part of my Team Research course. This course is an exciting fieldwork-based research course in which students work in teams to conduct a research project. Each team formulates their own hypotheses and designs fieldwork to test their hypotheses. They then implement their plan on a 6-day field trip, after which they make their own thin sections, and get hands-on experience characterizing the mineralogy and microstructure of their samples, and collecting chemical data on the scanning electron microscope. This is the third year of Team Research, and if the first two years are any indication, we will see some very interesting posters at the Geology and Environmental Science Student Research Poster Session in December.
~Following up on Friends~

We would like to take the chance to acknowledge our former faculty who were wonderful contributions to the department, but have moved on to other endeavors. We wish them all the best!

Dr. Ed Van Hees: He is now enjoying his retirement in Canada

Dr. Lawrence Lemke: He is now chair of the Department of Earth and Atmospheric Sciences at CMU

Dr. Valentina Taranovic: She is now in western Australia working on her post-doc

Cody Bailey-Crow: He has been transferred to psychology advising and we are bringing in Dawn Niedermiller as our new advisor

David J. Doherty  emeritus professor, is back teaching Geology courses at Wayne. Dave earned his BS in 1972, and MS degree in 1976 from Wayne State and worked extensively on a Ph.D. (cut short by having children). Dave Doherty was an Assistant Professor 1979-1981; Lecturer 1999-2001, and presently here to help out. He is currently teaching Mineralogy and recently taught a course in Optical Mineralogy, and a course in Igneous and Metamorphic Petrology in the spring.

Dave’s research interests are silicic volcanic centers related to pyroclastic flow deposits. He has spent many years mapping the margins of the eastern Snake River Plain, Idaho. Dave has also spent much of his career studying the geology of the Cenozoic-Mesozoic aged southcentral Alaskan fore-arc basin. There he ran 14 geological field expeditions in Alaska with helicopter and boat/ship support. Dave is an expert on the sedimentology of the non-marine Cook Inlet basin, Alaska.

Dave’s work in the Cook Inlet basin (1980-1990’s) formed much of the framework of research later done by the Alaska Geological Survey and the USGS, on the geology of this beautiful part of scenic Cook Inlet basin. Dave has published over 35 papers and Geologic Maps mostly related to his work on the rhyolites of the eastern Snake River Plain, in Idaho. He will be teaching Mineralogy and Petrology back at Wayne. This summer, Dave and some students cleaned, updated, and re-cataloged our entire mineral specimen trays.

Jeffrey Howard and graduate student Jon Weyhrauch are finishing up a study of $^{226}\text{Ra}$ and other radioactive elements in urban soils and street dusts of Detroit. There are plans to continue this line of research through collaborations with other researchers at Wayne State. Dr. Howard has also been collaborating with researchers at UCLA and Iowa State on a study of detrital zircons in non-marine rocks near Los Angeles with the goal of elucidating the paleodrainage history of the southwestern United States during the Paleogene. He also is currently mentoring undergraduate geology major Austin Fellmy on a study using trace elemental analysis to determine the provenance of conglomerates near Los Angeles. Dr. Howard recently conducted a webinar for the USDA-NRCS on the use of geophysical methods as tools for mapping urban soils, and has recently published a book on Anthropogenic Soils.
From a collection of minerals once owned by Thomas Edison to a 4.5 billion-year-old meteorite you can hold in the palm of your hand, eons of geological history are on display at Wayne State University’s new Geology Mineral Museum — the first of its kind in Detroit.

The museum, located on the lower level of Old Main, opened to the public in May 2017 and showcases some of the rarest items in Wayne State’s collection of thousands of geological specimens. Each of the 350 artifacts in the museum has a story to tell. The Edison collection alone contains 94 pieces handpicked for the famous inventor by a Tiffany & Co. gemologist in the early 1900s. The collection was gifted from Edison to Henry Ford and eventually stored at the Ford Rouge Factory. A factory employee gave the treasure trove of gems and minerals to Wayne State in the 1940s after he found them tossed out with the trash.

Also on display is a unique slice of plumbing unearthed from Edsel Ford’s historic Highland, Michigan, estate. Construction workers salvaged the pipe when they discovered several sparkling layers of crystallized calcite inside. In addition, visitors will see a collection of nearly 50 agates from across the globe, as well as a display of antique miners’ lamps dating as far back as the 1800s. A display of fluorescent and phosphorescent rocks illuminated by ultraviolet rays is also planned.

The Geology Mineral Museum will regularly rotate the earthly delights on display and host special exhibits throughout the year, according to museum curator David Lowrie.

An academic services officer in the Department of Geology, Lowrie has worked at WSU for more than 50 years and knows the backstory on each piece in WSU’s dynamic collection — many of which he has personally acquired. Asking Lowrie to identify his favorite specimen in the museum is like asking a mother to choose her favorite child. Among several pieces from long-shuttered mines from across the world, he points to a brilliantly scarlet-hued quartz on hematite as one item he’s particularly proud of.

—Jessica Archer
Associate Director of Marketing & Communications
College of Liberal Arts and Sciences Department

From October 18th to December 1st the museum will open to the public on Wednesday’s 1-5 and Friday’s 5-7. There will be extended hours on Noel Night, December 2nd. The museum will then re-open in January.
Donations

The faculty, staff and students of the Department of Geology and Environmental Science Program would like to thank the many donors who have given so generously. Your gifts have contributed greatly to our success. Thank you very much!

If you would like to make a donation to continue in improving our department, please make checks payable to Wayne State University sent to the mailing address: Wayne State University 5700 Cass Ave., Suite 1200.

To donate by telephone: Toll-free (888) WSU-GIVE. For online donations use: giving.wayne.edu/donate and specify that you wish your donation to be used for the geology department.

Remembering Dr. Robert Furlong

Dr. Robert Burton "Doc" Furlong, Ph.D., passed away peacefully Sunday, March 5, 2017 with his wife Rosemarie by his side. Born January 19, 1934 in Malone, New York, to Francis Furlong and Bessie (née Shutts) Blume.

During his childhood in Ilion, NY, Robert developed a special interest in the rocks and minerals he found on the hillsides around him, and this interest would guide him into a life in the outdoors and in the study of the earth. After serving in the United States Airforce, Robert had the opportunity to get a college degree, and he followed his childhood interest into Geology and Clay Mineralogy. He studied at the State University of New York at Binghamton and earned his Ph.D. from University of Illinois at Urbana-Champaign in 1967.

Robert then began on his career and a lifelong joy—teaching. He became a professor at Wayne State University in Detroit, eventually becoming the Chairman of the geology department. He worked at WSU until retirement, over 30 years later.

Playful and fun, Robert had a love and fascination for the world around him that inspired him throughout his life. Whether it be music, flying, or science fiction, Robert celebrated imagination and creation. He is remembered at Wayne State in our hearts and his legacy lives on in the passion he had for teaching students about his ultimate love: geology.

In Robert’s memory and his dedication of 33 years in the geology department, a new scholarship will be instituted in his honor. During his time at Wayne, Robert desired not only to teach, but to mentor his students and to share his delight in geology and the planet with them. It is in light of this love that the Dr. Robert B. “Doc” Furlong Memorial Annual Scholarship is being created to support Geology Field Work.

Information about the specifications for this scholarship will be provided to students in the upcoming semester. The amount awarded to each student will be told at that time.
~Katie Krupp’s Arctic Adventure~

In my time as an undergraduate and graduate student in the WSU Geology Department, I had some amazing opportunities to build my career. I started as an undergraduate student in geology and soon became part of a research group that resulted in me publishing a paper in *American Mineralogist* as the first author. This research experience led to my Master’s program at WSU where I spent 10 weeks aboard US Coast Guard Icebreaker *Healy* collecting and analyzing Arctic samples. Our data included aerosols, snow, sea ice, and water samples from Bering Sea, Makarov and Canada Basins, starting from Dutch Harbor, AK all the way to the North Pole and back. The work, which was fully funded by the National Science Foundation, utilized isotopic disequilibria to characterize the biogeochemistry of the Arctic and quantify seasonal ice accumulation and ablation rates.

The results of my work include data that has never before been collected and will offer new insights into the dynamics of seasonal Arctic ice formation and ice-rafted sediment transport. I was incredibly excited to be the first person from the geology department to travel to the North Pole to conduct research. Getting to be in that environment was like nothing I’ve ever experienced. I also felt extremely lucky to be a part of a larger research team that included members from MIT, Wood Hole Oceanographic Institution, Stanford, Columbia University among others. We all had different projects and frequently learned new techniques from what the others were doing. It was exhilarating to apply what I’d learned in class in the real-world.

As a result of the Arctic trip, I travelled to several places. These included Hawaii and Louisiana to conferences where I presented my paper, as well to pre-cruise planning meetings in Washington and Florida. I also had the privilege of giving a seminar in the Water@Wayne seminar, a university-wide seminar organized by the Office of Vice-President for Research. Currently, I am working on two research publications from the data that I have acquired for my Masters thesis. This amazing opportunity has absolutely changed my life and I look forward to the next phase of my career that will be built upon all these wonderful experiences!
~Notes from the field ~
Stories and advice from current students

Mara Karageozian—Her experience

This past summer I received the amazing opportunity to join the University of Alaska Fairbanks (UAF) on their 2017 Field Camp course. Their field course is competitive and they only accept 18 students for the camp which includes a large majority of their own students. I was lucky enough to be accepted with my good friends and fellow WSU geology students, Makayla Meyers and Phil Trela.

Our field camp experience started off with flying out to the university. Alaska is pretty darn far from Detroit so getting there took around a day. Once we arrived we all stayed in the dorm rooms that the university rents out in the summer to out-of-state students like us. The dorms were great, but we knew not to get too comfortable because the bulk majority of our time during our 8-week stay was going to be spent camping… in the wilderness… without bathrooms.

After settling into the dorms, the real work began. The total field course consisted of a week for an introduction to field geology/safety lessons, and seven weeks in the field and at the university typing up final reports. Alaskan field work is unique to the rest of the country (which we found out is referred to as “the lower 48” by locals). There is a large threat from wildlife and the elements when doing field work in Alaska, so we had two entire days dedicated to learning wilderness first aid and gun-handling. Our camp was required to have no fewer than two certified wilderness first responders and a shot gun (for bears).

After all this scary stuff, we set out for the trips! The course was divided into three trips: Five days in Healy, 10 days in Denali, and a final 22 days in the Limestone Gap area in the Talkeetna Mountains. They eased us into the Alaskan wilderness by starting off first in a nice camping ground with running water in Healy, then a more remote campground in Denali National Park, and lastly in the complete wilderness with water only from a waterfall in Limestone Gap. It was this last leg that really tested whether or not you could handle the outdoors; our location was so remote we had to be flown in via two-person bush planes.

But it wasn’t all camping and s’mores (we only had s’mores once!). The curriculum was incredibly challenging. I mean, you don’t know how to map something geologically until you’ve done it, and after this field camp I’ve mapped three different areas and still am not certain I know exactly how to map. The challenge though, was what made it worth it. We were expected to use all of our knowledge from every geology class that we had ever taken; and some of the UAF students had taken more classes than us Wayne Staters, so the bar was set very high. We learned how to make accurate stratigraphic columns, do proper rock unit and structural descriptions, make mylar-layered geological maps of large-scale areas, and put all of the resources together into a final professional report. I’ve never once learned so much in one class in my entire college career whilst simultaneously hiking through amazing places; so worth the money!

Overall, field camp is the highlight of any geology student’s undergraduate experience, despite how far we had to hike each day and how bad our bodies hurt. We made friendships and professional connections for life, learned how to geologically map, realized how long we could really go without showering, and pretty much became geologists!
Erin D’Hondt

Over the summer I enrolled in the Albion College field camp that took us to Wyoming and Montana for our mapping projects. I was lucky enough to complete this journey with four of my fellow Wayne State geologists. Through various group exercises, field trips, and lectures we were introduced to different rock formations and their identifying features. Once familiarized with an areas story and formations we were set upon the area alone, or with others, to map contacts and faults to the best of your ability. So it’s completely on you to correctly get the job done. Above and beyond that field camp is like living in a different world for a month with a new group of friends and teachers. You wake up early to start work and you stay up late to finish it. You travel to beautiful mountainous field areas and then curse them when you realize just how many of the mountains you have to climb. We got to go to many amazing places; Badlands National Park, Yellowstone, Grand Teton National Park, camped at Seminoe State Park, and drove through my favorite spot the Beartooth Mountains.

In large, it’s not going to be easy and is only occasionally fun, but you are a geology major and this is what you’ve been training for. Field camp is hard work but there are teachers there to help you if you ask, so make sure to! My main tips for success would be this: take really good notes, wear sunscreen and buy a belt you can attach all your field gear to save time rummaging through your bag. It’s going to be an experience unlike any other and you will certainly do great!

Mara Karageozian— Her advice

Apply Early: Since we don’t have our own program, you have to get into some other university’s. You will get in, so don’t be nervous about that, but to get the good ones you have to get in there early.

Apply with friends: Just do it! Honestly, having a friend support group with you wherever you go is never a bad idea. Makayla, Phil and I may have wanted to kill each other after spending so much time together but having our three-person support system made every day so much easier to go into with a positive attitude.

Be smart with gear: We were in Alaska... so unlike most field camps we had to be prepared for temperatures anywhere from 20°- 85°F with all types of weather. However, regardless of where your field camp is, buy the good gear. I’m not talking about wasting hundreds of dollars on the fanciest rain cover for your day-pack. Get yourself a good sleeping bag and pad, a great tent, and even better rain gear. And if you don’t have two pairs of good hiking boots... hop on that.

WORK OUT: If there is anything I can stress from my field camp experience, it’s to do yourself a favor and get in shape. On our last trip, an average day for us was a 10-15 mile hiking day depending on where we were mapping. The trip before that required less horizontal distance and way more vertical distance with huge summits being expected daily. Field camp gets a lot easier if your thighs can hold up to the terrain! Recommended: stair steppers and long runs on the regular.
~Advice from Alumni~

Paula Lancaster (B.S. Geology 2013)

My advice is to really pay attention to what you want to do with your life. Do not settle for what's available around here. Think about what really challenges you and brings you peace at the same time. Where do you like to be the most? First - look for the place in the world that makes you most happy. Is it the big city, the ocean, the deep dark woods? From there, focus on the work that challenges you - or doesn’t - based on your own sense of ambition and goals in life. Some people are never satisfied unless they are reaching for the next goal and others are looking for stability and a sense of comfort.

When looking at employment you want to keep these things in mind. Are you interviewing with a company that is growing and will allow for upward mobility or one that has a steady stream of "bread and butter" work that will provide stable, albeit stationary (i.e. no room for advancement), work? As you make your way through school, pay attention to the classes that really interest you - there’s your niche. Focus on that and the industry that will allow you to explore that interest. If you’re interested, you’re not bored. When you’re bored, you stagnate and misery soon follows.

I suggest looking for internships as you move through school. Internships will serve you in at least two ways: (1) you’ll get a better understanding of the industry and (2) you’ll make connections. If you find that you love the job, you may have set yourself up for a permanent position upon graduation. If you find that you can’t stand the job, you know to find another niche or maybe even a different industry. There a lot of jobs to be done in the world. Just remember that if you enjoy something, it’s quite likely that you can get paid to do it.

Thomas Schumacher (B.S. Env. Sci. and Geology 2015)

From my experience, the greatest asset is the ability to communicate with others. At every level of education and now as a member of the workforce, effective communication has always served me well. Whether through an essay or an email, getting your point across is a valuable tool. It makes you a better coworker and employee, as well as a better classmate. The best students at Wayne were those who put in the extra time, but they also worked well with others. Make friends. Form study groups. Quiz each other.

Listen to your professors. They have definitely been in your position before, plus many have been where you’d like to be, both academically and professionally. They know much more than just the course they’re teaching, but they can only teach as much as you’re ready to learn. In one class, I was able to go 10,000 feet underground and realize that the mining industry wasn’t where I wanted to be. However, in that same class I also learned basic accounting skills that I still use at my current job. Both experiences have strengthened me going forward. You may find a career in a lab, in the field, or in an office. A degree in Geoscience will give you the experience of all three.

Pay attention. Be curious. Be inquisitive. Ask as many questions as you can now, because before you know it, people will be asking you the questions.
~So what happens after the diploma?~

1 year in the work place
by Ashley Reibel

After graduating from the geology department last year I started my career as an environmental consultant for a large publicly traded environmental consulting firm. After a year in the industry, I have learned some valuable lessons and key tips:

**Job descriptions are not always 100% accurate.**

I was offered a job as an environmental scientist writing phase I reports. I was told I would be working 50% in the field and 50% in the office. I ended up working 100% in the office. So sometimes companies will lie to you.

**Network and Speak Up.**

You may not start with your dream job. I was a report writer for the first six months of my career and quickly knew this was not what I wanted. I chose to take initiative and expressed to my supervisor that I was better fit for the field. By reaching out to experienced geologists I found a position better suited for me.

**Always say yes.**

Now I’m not saying to accept every work offer that comes your way; however if there is an opportunity to learn... take it! You will go so much further by continuously expanding your knowledge.

**Be resourceful.**

I have accepted tasks that I needed help completing. The internet can be a great resource. I’ve youtubed and googled my way to knowing how to use a Trimble/GPS unit. Also, when spreadsheets made absolutely no sense to me I reached out to the local excel wizard in my office. So you don’t have to figure everything out by yourself.

**Ask questions.**

The people giving you assignments are not teachers. Most will assume you know way more than you do and expect you to produce quality work. I never proceed with a task if I don’t know EXACTLY what they want from me. Don’t be afraid to admit that you are confused by something. I’ve been told by multiple people that they appreciate the questions I ask; consequently time and money are not wasted.

**Do your best.**

This industry is stressful and difficult. Everyone in the company is expected to reach an annual billable goal; meaning the time you spent on a project is being charged to a client and not the company. If you do not meet that goal you may get laid off. But honestly, if the work isn’t there it’s not there and there’s nothing you can do about it. Just breathe, do what you can, and produce quality work.

My last piece of advice would be to stay open to new opportunities. If you begin to feel stuck in your career remember that you have endless potential and life is what you make it. Your life isn’t set in stone just because you now have a diploma.

College is just one step of the journey; you can decide where it goes next.
~AIPG~

The American Institute of Professional Geologists (AIPG) was founded in 1963 to certify the credentials of practicing geologists and to advocate on behalf of the profession. AIPG represents the professional interests of all practicing geoscientists in every discipline. Its advocacy efforts are focused on the promotion of the role of geology and geologists in society. If you are not yet a member, you may want to consider joining. See their website for further information: (http://mi.aipg.org/)

Congratulations! Wayne State University was selected for the AIPG-National Student Chapter of the Year award. There are 40 AIPG Student Chapters at Universities across the United States and eight of the Student Chapters requested to be nominated for this award. Out of all of these, our own Chapter at Wayne State University was selected, nice job!

The AIPG Michigan Section will prepare a check to the WSU Student Chapter in the amount of $500 (this will be given to us at the National Conference Awards Banquet). In addition, The AIPG Michigan Section will cover the costs for one of Wayne State University’s AIPG Student Chapter officers to attend the National Conference held on September 23-26, 2017 in Nashville, Tennessee (http://aipg.org/annualmeeting). Also, AIPG National will be mailing certificates, and AIPG lapel pins for all of the Student Chapter Officers, to the WSU faculty liaison (Dr. Howard). The Michigan Section of the AIPG contributes money annually to the WSU Student Chapter of the AIPG which is used for students to attend conferences and field trips.

The AIPG and geoscience club funded annual Geology Thanksgiving Potluck, 2016
The geoscience club allows for geology students, environmental students and rockhounds alike, to get together at least once or twice a month to participate in various activities and events together. These can vary from participating in Noel Night, hosting bake sales and mineral sales to raise money for the club, putting together seasonal potlucks for the holidays. Also we, of course, highly look forward to our field trips to places that are geology/environmental involved, whether it be a day in the city of Detroit touring a recycling center, or a week long mineral hunting adventure!

Each year, there are student elected officers in the club. The elected officers for the 2017-2018 school year include: Chelsea Veryser for president, Hannah Jackson for Vice President, Max Denny for treasurer, and Rachel Hakim for Event Planner.

The goals for the club for the 2017-2018 school year remain high. One of our primary goals that we would like to focus on is increasing our fundraising. In order for us as a club to continue striving as our member count increases, we also need to increase our money allowance. This will allow us to do more for not only the geology and environmental science department, but for those extracurricular activities that we can involve the whole club in as well. In addition to this, bringing up our second goal, we are planning a geology spring break trip which has previously been done for many years in the club. These trips are a great learning experience for everyone involved and would be a wonderful opportunity to learn about more work and techniques in the field.

Last, but certainly not least, as a club in general we endeavor to make this year another prolific year. We have hopes of winning Student Chapter of the Year award through the AIPG for the second year in a row! If you’re interested in joining our endeavor please contact Dr. Howard or feel free to just stop by at a meeting!

~ Club President Chelsea Veryser

Some of the geoscience club members on a most recent hiking/kayaking trip, 2017
~Capturing the Adventure~

Everyone smile at Bancroft, 2016

Watch your step! Port Austin, MI, 2017

Dr. Lemke and students in front of a Mardi Gras tree during their spring break trip to New Orleans, 2016

Talk about cave exploration! Bancroft, 2016

Students reclining in Johnson Shut-in, MO, 2016
The Mineral Museum receives a seal of approval from this young future scientist! 2017

Dr. Howard’s students map urban geology of Detroit, funded by the US Geological Survey’s EDMAP program, 2015

Students taking in some amazing views at the Grand Tetons, 2017

Dr. Brownlee’s students explore in Vermont, 2016

Students look like ants in Elephant Rocks State Park, MO, 2016

“Adventure is worthwhile in itself”
~ Amelia Earhart
A student’s work is never done in lab 319. But who doesn’t just love crystallography? 2017

Geology students never seem to get tired of looking at rock samples. 2017

“I suggest that the best geologist is he who has seen most rocks.”
~Herbert Harold Read

And our student’s certainly love to look at their rocks! 2017
Our Geoscience Club regularly holds bake sales where we get to show off our baking skills, as well as sell awesome minerals!


1975 WSU Geology Field Camp, Top of the World Bar in the Beartooth Mountains, Montana
### WSU 2014-16 Geology and Environmental Science Student Awards and Honors

<table>
<thead>
<tr>
<th>WSU Dept. of Geo. Undergrad Student Merit Award</th>
<th>WSU Env. Sci. Undergrad Student Merit Award</th>
<th>WSU Dept. of Geology Graduate Student Merit Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014—Andrew Church</td>
<td>2014—Katherine Krupp</td>
<td>2014— Mellisa Allen</td>
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<tr>
<td>Ashley Reibel</td>
<td>Thomas Schumacher</td>
<td>Amanda Pruehs</td>
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<tr>
<td>2015—Michele Blundell</td>
<td>2015— Andrew Camilleri</td>
<td>2015— Roozbeh Ravansari</td>
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<tr>
<td>Michael Detizo</td>
<td>Philip Wilt</td>
<td>Brittany Watling</td>
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<tr>
<td>2016— Mara Karageozian</td>
<td>2016— Aaron Darling</td>
<td>2016— Katherine Krupp</td>
</tr>
<tr>
<td>Benjamin Mark</td>
<td>Krystal Krygowski</td>
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</tbody>
</table>

### David J. Lowrie Endowed Scholarship

More of our students have benefitted from the continuation of this scholarship, which continues to increase in fund. We are incredibly thankful to all donations made.

**2014**
- Katherine Krupp
- John Niedermiller
- Noor Soboh
- Erica Volansky

**2015**
- Rebecca Butcher
- Douglas Detraz
- Richard McGregor
- Senan Saif
- Ross Wine

**2016**
- Makayla Myers
- Luke Buzo
# Recent Graduates

## 2016 Geology
- Rebecca Butcher, B.S.
- Sarah LeTarte, B.S.
- Noor Soboh, B.S.
- Marvin Wells, B.A.
- Kalan Briggs, B.S.
- Emily Cornea, B.S.
- Michael Detizio, B.S.
- Richard McGregor, B.S.
- Jack Press, B.S.
- Michael Sobel, B.S.
- Jerica Witulski, B.S.
- Michele Blundell, B.S.
- John Hardyway, B.S.
- Ashley Reibel, B.S.
- Zachary Rymski, B.S.
- Olivia Sly, B.S.

## 2016 Environmental Science
- Brett Beddow B.S.
- Tess Burzynski B.S.
- Christopher Kramb B.S.
- Benjamin Scherphorn B.S.
- Rommy Sleiman B.S.
- Noor Soboh B.S.
- Andrew Camilleri B.S.
- Alexandra Feschenko B.S.
- Brandon Goleski B.S.

We send out our heartfelt congratulations to these and all of our graduates. We wish you prosperity in any field you enter and that you remember you will always have a home in our department.
College of Liberal Arts and Sciences

Department of Geology
0224 Old Main
Detroit, MI 48202

Geology News

____________________________
Name _______________________

____________________________
Year of graduation ______________

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Degree ______________________

____________________________
Your current position (title and employer)

____________________________
Your news

____________________________

____________________________

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attn: David Lowrie
email: djlowrie@wayne.edu
ph: 313-577-2506

0224 Old Main
Detroit, MI 48202

Alumni news and information for future newsletters

Fall 2017