

# Congratulations!

## 2015 AIPG Student Scholarship Winners!

The AIPG Executive Committee is pleased to announce the awardees for the 2015 Student Scholarships. AIPG has awarded thirteen scholarships this year. The first ever, AIPG William J. Siok Graduate Scholarship went to *Karen Vyverberg*, University of Florida. The undergraduate recipients are *Anna Stanczyk*, University of Alaska, Anchorage; *Christopher Kremer*, Stanford University; *Taylor Krabiell*, University of Nevada, Reno; *Nathaniel Foote*, University of Nevada, Reno; *Eint Kyi*, Oberlin University, Ohio; *Hannah Johnson*, Kent State University, Ohio; *Kevin Townsley*, University of Idaho; *Stephanie Kitowski*, University of North Dakota; *Franklin Wolfe*, Washington and Lee University, Virginia; *Vanessa Fernandes*, Hofstra University, New York; *Chloe Ivanoff*, University of Alaska Anchorage, sponsored by the AIPG Alaska Section; and *Jasmine Stefansky*, Central Michigan University, sponsored by the AIPG Michigan Section. Part of the scholarship application is to submit an essay titled, 'Why I want to be a Geologist'. Below are the essays submitted by the scholarship winners.

*The scholarships are made possible by the support of the Foundation of the American Institute of Professional Geologists and the AIPG members' voluntary contributions.*

### **Karen Vyverberg, SA-6287**

The planet is one of the few things that all seven billion of its inhabitants have in common. Consequently, I believe it is critical for humans to understand how the Earth works if we are to live with it, and ultimately, with each other.

My desire to become a geologist began after an undergraduate class field trip to a local cave. Wearing helmets and headlamps, we belly-crawled through pitch black tunnels and sticky muck – I loved it. Exploring the cave brought the material we learned in the class room to life, and I realized that was the great thing about geology – the entire planet was an example of what is in the textbooks, and that I could walk out into it. Subsequently, several experiences contributed to my decision to become a geologist. These included a field course exemplifying how scientific research can have direct benefits at the community level, my own sea-level rise research, and outreach activities where I discussed scientific ideas with the public.

In considering my post-graduate academia pursuits, one of my goals is to be engaged in science policy. This field focuses on science's "big picture," rather than the technical problems solved along the way to an advanced degree. Science policy professionals are tasked with understanding how advances in a range of fields are applied for society's betterment, and I believe that geology is one of those fields.

As a senior undergraduate, I took a graduate level field course, Geology of the Bahamas. The class consisted of weekly discussions about Bahamian geology, culminating in a week-long field trip to the island of San Salvador, Bahamas. This trip allowed me to apply my independent research skills towards a pressing current issue: potable water availability. I found



it immensely rewarding to design an experiment, collect field data, and develop conclusions about the island's subsurface geology from chemistry alone with potentially important implications for the island's residents. This experience provided a real-world example of how geologic research can inform important decisions like resource management and so provide benefits to a broad group of individuals.

Now, I am extremely passionate about my doctoral research on sea-level rise. I believe that understanding the stability of the Greenland and Antarctic ice sheets in a world where the majority of an increasingly large population lives in coastal areas is vital. Being a geologist allows me to apply my love of science and learning to the real-time issue of sea-level rise.

Finally, as a volunteer for one of my department's public outreach program, "GeoGators," I have come to love communicating science to young learners and sparking their enthusiasm for science. Not only does volunteering my time for outreach give me personal satisfaction and fulfillment, but I have learned valuable communication, organization, and time-management skills that I now apply to my graduate research and coursework. I believe the most important aspect of my outreach work, besides honing my communication abilities, is the excitement I experience and create when discussing science with other scholars and the public.

These experiences have taught me that geology is a science which not only can teach us about our how our planet evolved and functions, but how it will change in the future and, therefore, our way of life. I want to be a geologist in order to understand, and to educate others, about Earth's future, to ensure that we are a part of it.

### **Anna Stanczyk, SA-6099**

They often say that the best suited career is the one you dreamed of as a child. But like so many statements that attempt to assign a truth to the population as a whole, this saying has descended into the realm of clichés where it can eas-



ily be discredited and dismissed by the individual. Accordingly, I spent years ignoring the early memories of poring over rocks in my backyard in search of crystals and natural patterns, sure that this cultural platitude did not apply to me. Until finally, last year, I had an epiphany. Perhaps I am not so unique as to deny what “they say,” and by denying an adherence to a cliché I was in fact denying my own calling. I realized that I want to become a geologist and that I always have. Having admitted this fact, my geological aspirations can be broadly broken down into two categories of desire: the selfish and the selfless.

Selfishly speaking, I am lured by the workplace environment, the nature of the science itself, and the connection to something bigger than myself. To begin, having spent enough time in an office building to figure out that is *not* what I want to do, the allure of a career spent working outdoors while exploring geological phenomena is endlessly enrapturing. Secondly, the study of geology itself piques my mind in a way few other subjects have. As I see it, it marries the right brain to the left, combining the logical concepts of science and mathematics to the creative perceptions necessary for interpretation. I am captivated by the idea that each rock, bed, and formation has a story which we, as detectives, can piece together. Lastly, I am drawn to geology by a notion that goes beyond the tangible realm. Studying the visible processes of our tiny planet feels like a connection to the universe, to something far greater than myself. A sensation too complex for words, it can best be compared to the feeling one gets when standing on the rim of the Grand Canyon.

Selflessly speaking, I am greatly concerned about the future of our planetary home. By becoming a geologist I hope to assist in guiding the path we take in the treatment of our Earth, both in establishing policies and in influencing perspectives. I want to participate in the problem solving necessary to achieve sustainable development of our current home while also exploring other options. I aim to be a steward of the planet who can read the language of the Earth and translate it into knowledge and understanding for the humans who inhabit it. In short, I want to share my passion as a student of the natural sciences, and use it to truly make a difference.

I am at the forefront of my career as a geologist and thus my current motivations undoubtedly sound idealistic, still untainted by the realities of the field that I have just entered. But it is these grandiose ideals that keep me excited and motivated, even now while completing challenging academic courses. My aspirations, both selfish and selfless, combine to produce an enthusiasm for geology that cannot be contained, reminding me of the initial intrigue I found amongst the backyard stones all those years ago.

## Christopher Kremer, SA-6173

I have exactly three recollections of rocks from my childhood. 1) There was a boulder at the end of my suburban Connecticut street that my friends and I liked to climb. 2) My favorite rock from a school museum trip was a giant nickel-iron meteorite. 3) On the car ride to grade school every morning, my dad would point to a smoothed rock outcrop in the midst

of a housing development and say, “Chris, a glacier made that.”

As I passed from childhood to early adulthood, I rarely thought about the first two rock memories, but that glacially carved outcrop always bothered me. A mile of ice smothering the picturesque New England landscape? Unconscionable. I accepted the fact quietly, but my high school mind, then primarily interested in debate and good books, could not comprehend all that ice grinding against all those rocks now covered by all those tracts of quaint condominiums. Road cuts through garnet schist weren’t intimate glimpses of a past geologic era but were rather a component of the built environment, like high rises and strip malls. As far as I was concerned, geology was the stuff of National Geographic spreads and natural disaster films, not of sound scientific study or professional pursuit. Clearly, I needed more rock in my life.

I first took up geology in college—straying from my nice, neat path to law school—because rocks made me restless. When I took my first physical geology course, I kept thinking about that outcrop and those glaciers crushing New England. After seeing enough glaciology diagrams, I eventually came to terms with my childhood dilemma, but new, more unsettling questions arose. Why exactly do tectonic plates move? Why does the Earth’s magnetic field change polarity? How do you tell chalcopyrite from pyrite? Most gratifying was the realization that I could find answers to my questions not only in the authority of professors and the scientific literature, but also in my own research endeavors.

A discipline that once seemed so remote, nowadays completely chills when I sit up and think at night. The subject of my undergraduate honors thesis research is so recent (latest Neogene), that it almost feels like it happened a few years before I was born. While doing fieldwork three summers ago in Iceland, the ubiquitous glaciers hardly fazed me. I bagged samples for my thesis work and sketched maps and cross sections. A few Ma here, a few Ma there. Yet, whenever I peer at thin sections or plot my analytical results, my whole body begins to tingle. These rocks are older than the oldest buildings I have ever seen; they are at least two orders of magnitude older than the dawn of civilization. They formed before humans, and completely without the consent of humans. Sometimes, I talk about my Iceland rocks or my chalcopyrite, thinking that the rocks are at my mercy. But really, I am the one at the mercy of the rocks.

## Taylor Krabel, SA-4858

If I had a time machine and went back to tell my high school self that he would fall in love with rocks and want to do nothing more than pursue a life time studying rocks he would’ve told me, “Taylor, you are crazy!” I guess my high school self would be right I am crazy, but I am crazy in love with Geology and this bring me joy. I can’t see myself doing anything outside of the geoscience life. I have always wanted to be a scientist, but never in my wildest dream did I think that the science I would study was found everywhere and only a small chunk can ever be brought into a lab. How could I have known when



I was small that the earth was the greatest laboratory of them all. The earth stores its history in the rocks, it creates unique chemical combinations in stunning minerals, and it designs its self better than any architect ever could. How can I ignore the earth when everywhere I go it is just demanding for me to admire it.



When I came to the University of Nevada, Reno I planned to study Mining Engineering with my sights set on big money. My first semesters would change this when I took a Geology 100 level course from the most charismatic professor I had ever seen, Dr. Carr. After just three classes from this Dr. Carr I knew I had to know more. I arranged a meeting to change my major and when we sat down to meet he told me of the wonders that awaited me if I wanted to pursue Geology. I had so many questions and I needed to answer these questions so I changed my major to Geology. During my junior year I read a few hydrogeology papers and enrolled in a hydrogeology class. This class was academically satisfying and ignited an additional passion, so I added hydrogeology to my major.

The most interesting people I have met are my fellow Geology majors and professors. I have talked to people outside of the geosciences and they all hate their majors and are uncertain about their future in whatever major they are perusing. I can say with 100% certainty that the geoscience world is nothing like that. Every professor I have had are the envy of my non-geoscience friends: helpful, eccentric, and passionate for what they do. This passion for geosciences extends to my best friends all of which are Geology majors. I have taken time out of my day to help my friend Paige dePolo with her research at Berlin Ichthyosaur Park. Another friend, Nick Potter, introduced me to panning for gold and showed my first fleck of gold. These friends, and more, have a passion.

During my junior year I had the honor to go rock hounding with the professor that got me into Geology. I have always wanted my own garnets and he knew where to find them, in addition to other minerals. We started the day at his house and spent the day in the field 75 miles from the city. The rocks at the site were breathtaking. I was later informed it was a skarn deposit that was being mined for scheelite. Scheelite looks identical to quartz until put under black light where it fluoresces a stunning baby blue. The holes that the former miners had dug revealed the contact between a granodiorite and marble, they had mined out the skarn. I was able to touch the contact between the former hot and mighty granodiorite and the cold unmovable marble. After we left I could only think of one thing I needed to know more. When I got home I found the only research paper on the area was from the 1970's and that mining had stopped in the early 1950's. I was astonished and thought to do my own senior research project on this skarn deposit. It has been the most frustrating thing I have ever done in my entire life. This frustration and unending questions on the area have made it that much interesting. If I can have just 1% of the fun I have when doing this research for the rest of my life I will have lived the greatest life I can imagine.

## Nathaniel Foote, SA-6326

I was born with a curiosity about the natural world around me. I loved geology before I was old enough to know what it was called. Even when I was as young as two and three years old, my favorite thing to do was to pile sand up in a mountain in my sandbox, then run the hose down it to watch the transformation of



my mountain into something entirely different. As I got older I realized that my sandbox world was merely a model of the real world and I became fascinated with learning more about earth processes. Luckily, I had a family who recognized my obsession with understanding how the earth works, so every Christmas and birthday I was rewarded with stacks of science books and science kits from every relative. As I became familiar with the correct terms to identify what I had already observed in the sandbox, I found I only wanted to know more and more about alluvial streams, erosion, oxbow lakes and glacial valleys. I never grew out of this stage of being fascinated with the earth as many children do. The lure of the internet was not as a source of games and social media for me, instead it was a bountiful source of information about how everything works on, under, and beyond our earth.

I find geology fascinating because it tells the story of our earth. When I really understood just how old the earth is, my own life began to feel somewhat insignificant. Time takes on a whole new meaning when thinking in terms of billions of years instead of decades. But rather than be depressed with the very small place that I have in this world, I feel a sense of joy and wonder at being alive at what seems to me like the best time of all. I have the huge advantage of accessing all the information and scientific knowledge the geologists that came before me have already figured out. Now, I feel it is my turn to add to this body of knowledge and I am eager to conduct my own research as I learn more about the earth and its processes for the rest of my life. My hope is that I can someday contribute my own answers to further unravel the mysteries of our earth for future young geologists to come.

My other hope is that I can use my chosen profession to be useful in this present time. For this reason, and also because I love the eloquence of mathematics, I am pursuing a dual major in both geology and geological engineering, along with dual minors in both math and hydrogeology. I believe that the interaction of math and physics with earth science will allow me to achieve many useful applications for human endeavors. Geology and geological engineering will complement each other and give me a strong background for doing much needed work. If I can help find safe building sites for construction projects, make roads safe and passable through rough country, and keep rivers and streams clean and healthy from mining run off, I will be happy. My home state of Washington has had two major landslides recently, the Oso slide which killed many people, and a large landslide near my own home on Whidbey Island. If I can help predict this kind of major destruction and help people avoid the devastation that it brings, I know I will be satisfied with my work.

My choice to become a geologist has been a very natural progression from my earliest years in the sandbox, to middle

and high school where I spent my spare time successfully competing in Science Olympiad and the National Geographic Geography Bee, to my decision to attend the Mackay School of Earth Science and Engineering. My desire to do something useful and important, along with my love of science and math, has made my decision to become a geologist the best choice I ever could have made. I am looking forward to a great future.

## Eint Kyi, SA-6277

As a child, my curiosity grew from investigating the world through “instruments” such as my hands and mouth. I was most fascinated with the two vast unknowns that surround Earth’s surface: the deep ocean and space. In my childlike mind, they were the two most intangible areas in this world and, I never expected to find a connection between these two unknowns through Earth science.



My journey in ultimately discovering my passion for Earth science was a serendipitous encounter. I had arrived at Oberlin College, with a full four year plan to major in Biochemistry and go on to earn a Ph.D in a biomedical field. It was only in my second year of college that I accidentally ended up taking Geology 101 simply to fulfill my credit requirements. At the time, all I knew about geology was similar to the general opinion of my colleagues: geologists lick and identify rocks. However, what I experienced in my first class was a complete opposite that shattered the silly, little assumptions I had about geology. Most of all, I was fascinated by the energy and passion my professor, Bruce Simonson lectured on the topic. The way he talked about geology made me wish I would find something similar I felt so strongly about. Thus, began my decision to major in geology with the hope of finding the same passion Bruce had found.

With every step in my undergraduate career, the field of Earth science has never ceased to amaze me. Since majoring in geology, it has dawned on me that Earth science is a field that unites knowledge from all the other sciences. I never expected so many sub-divisions to exist in Earth science and moreover, I never knew just how significant the field could be in my daily life. Many of the things we use in our lives come from minerals in the Earth such as fluoride in toothpaste from minerals like rutile and ilmenite, yet we often tend to overlook what the Earth provides for us. Personally, pursuing a career in Earth science will allow me to not only investigate the very world that live in but also to remind people of just how precious the world we live in is.

Now as a senior in college looking back, my journey in the field of Earth science has exposed me to numerous adventures whether in marine sciences, petrology, paleontology, mineralogy, or geophysics. And somewhere along the way, I found something that I can talk about with the same enthusiasm as that of my professors: biogeochemistry. Earth science is an inter- and intra-disciplinary field where knowledge in other science fields can only greatly enhance it. As a result, I was able to combine my two majors in Geology and Biochemistry

and be involved in the field of biogeochemistry. The 21<sup>st</sup> century is an era where many investigations in science have gone micro. Through biogeochemistry, I wish to study microbial activity on rocks near hydrothermal vents and methane seeps. I believe the world of microbes in extreme environments can further the search for the possibility of life on planetary bodies. Astrogeology is an emerging field where our knowledge of Earth can most aid us in understanding other planets and I hope to contribute to the plethora of knowledge with my future research.

Simply put, my reasons in wanting to study Earth science are multiple fold. Personally, the field of biogeochemistry will allow me to do both laboratory and field work— both aspects of Earth science that I love. Moreover, for as long as human beings thrive, Earth science will continue to be an integral area of focus that sheds light on the fine balance we have with Mother Nature. Since many of the environmental changes have been a product of our actions, it is up to Earth scientists to research, inform and educate the society about the world we live in and I strongly wish to be at the frontier of that endeavor. The beauty of Earth science is in the very simple fact that it can be easily integrated into multiple fields of science. Thus, as technology progresses, investigations in Earth science will further extend into space and extraterrestrial life explorations, and when combined with other fields of science, it will be a powerful tool that may possibly save mankind from extinction.

Professionally, my decision to pursue a Ph.D. in Earth science stems from my background. Oberlin’s commitment as a progressive liberal arts college in social justice issues and as the first higher education institution in the country to regularly admit female and black students has greatly influenced me. Coming from a low socio-economic background, I witnessed economic barriers and social struggles that not only made me feel fortunate and appreciative of my own situation but also gave me the drive to focus on my education so I can reach a level where I can create opportunities for other economically and socially disadvantaged children into academics. And by furthering my education career in the Earth science, I wish to build on this experience and help make education more easily accessible. Thus, by going onto graduate school, I hope to refine my skills and explore my curiosity in the field of biogeochemistry so that I will have the tools and education background to enhance educational access to underrepresented groups. Through Earth science, I have found a way to connect my childhood curiosity with the oceans and space, and I am excited for the many mysteries that await to be explored.

## Hannah Johnson, SA-6258



I never said, when asked in 1<sup>st</sup> grade, “I want to be a geologist”, instead I said, I want to be an architect, an artist, a teacher, or an archaeologist. I knew, in first grade, I was a tom-boy, liked playing outside, digging in the dirt and exploring in creeks. I just did not know that all of these interests made me fit to be a geologist.

I am fit to be a geologist, but why do I want to be a geologist? The answer is simple, I want a clean environment for humanity, I want to make Ohio a better place to live, I want

to have plentiful and clean drinking water, I want to create an environment sustainable for later generations! I enjoy the math and science that would be needed for these goals, so I want to apply them for our community, state, country and the world.

My greatest interest currently is in hydrogeology. I have always had a love for northeast Ohio's landscape and resources. My classes at Kent State have taught me about the many challenges we face. Currently, we have oil and gas exploration, pesticide and herbicide use, and waste management that are threatening our water source. In the past year I have been bothered by state and local regulations and testing. Last spring, my hometown, Salem, Ohio was given a notice of TTHML contamination, it was deemed safe to drink, but my curiosity was spiked. I learned TTHML was a disinfectant that is proved harmful upon ingestion. The same month as that notice was issued, a neighboring city, Alliance, Ohio was dealing with giardia contamination. Giardia is a parasite known to harm house pets. Earlier spring of last year, we all heard about the West Virginia chemical spill in Elk River that contaminated water for thousands of people and wildlife. Fall of last year, the restaurant I work for was visited by the EPA for unsafe drinking water. The restaurant has made many updates to meet standards but I was floored to learn the public did not need to know of this contamination! The restaurant is located in Hanoverton, Ohio, just miles from Marcellus Shale drilling. Of course, most Ohioans are aware of the Cuyahoga River fire of 1969 caused by waste and contamination. Not as many are aware that the river had actually caught fire 13 times in known history! And most recently, who can forget the algae plumes at Lake Erie that cut off water access to most of Toledo!

I think Ohio needs young, creative geologists, conservationists and insightful politicians to move us toward a more sustainable state. I want to be a part of this movement and am so optimistic about what the future holds for me! Geology fulfills my want for learning, my never-ending curiosity, and my need for exploring.

## Kevin Townsley, SA-4712



It is six thirty in the morning. As the sun creeps over the top of the valley, the towering granite walls are washed with light. The rack of nuts, hexes and cams jingles on my torso as we hike up the short approach to the cliffside. We begin our ascent of the cliff. Nine pitches, six hours, a thousand vertical feet, and a few granola bars later, we arrive at the top of the immense monolith. This

is Yosemite. I first became interested in geology because of my passion for rock climbing. As a climber, the more in tune you are to the story you are climbing through, told by clues frozen in stone, the more you can appreciate the act of climbing.

I am interested in furthering my knowledge of this story by pursuing a degree in geology, with an emphasis on hydrology, or environmental geology. As an avid outdoorsman, I believe as though with a thorough education of the natural world, I can be a steward to our great land, using what I know for the benefit of all and preserving it for generations to come, as well as setting

an example for their stewardship. In such a rapidly changing world, the need for educated geologists who are invested in the responsible management of our natural resources is paramount. To be able to guide a company, whose interests are profit-oriented, in a direction which is both responsible and lucrative, is a dream of mine. That dream, and the existence of geologists of the same caliber, can only be possible through comprehensive education and passion. While a great deal can be learned vicariously, through textbooks, lectures, and specimens, in the words of the romantic poet John Keats, "Nothing ever becomes real until it is experienced." In much the same manner, as one of my professors at the U of I remarked, the best geologist is often "the one who has seen the most rocks." One of the elements of geology that is most difficult to grasp in the classroom is scale. Actual, personal experience will always trump textbook knowledge, which is one reason why, as a budding geologist, the experience I would gain at field camp is so important to me. Field camp will contribute to my long term academic goals because I will gain actual, physical familiarity with my field of study, as well as demonstrating how my upper level geology classes can be applied.

My career goal is to become an environmental geologist or hydrogeologist. Field camp will be a useful exercise in problem solving- thinking critically, and using what I know, as well as the tools in my reach- to come to a conclusion. I also hope that because of field camp, I will develop the confidence in my ability as a geologist to form a conclusion and stand by it because of research I have conducted. Thank you for your consideration of my application for this scholarship.

## Stephanie Kitowski, SA-5266

Ever since I was a little girl, I knew I wanted to become a geologist. Although at the age of 7, I had no idea what the word "geologist" even meant; however, that was the path I was heading towards. At a young age, I would collect rocks from the different places I lived and store them in my rock box. After staring at them for weeks and observing their outside, I would be curious as to what were in those rocks. When my father was not looking, I would sneak into my father's tools, steal a hammer, safety goggles, and crack one open. I remember being so intrigued at the fresh minerals inside glistening in the sunlight compared to the weathered outside of the rock. It was hard for me to grasp that what I was looking at grew from the Earth, that it was not man-made from some factory. This was nature's work.



Throughout high school, I took what geology courses I could; nevertheless, there are never enough students intrigued with the subject to have any classes. Some teachers seemed discouraged that I wanted to major in geology and tried to sway my pathway towards something more common like nursing or law. However, my mind was made up. I did not want to spend the rest of my life pursuing a career that I did not have a passion for. I would rather be poor and happy, than rich and unsatisfied. One science teacher did cheer me on and would always talk to me on what I could do with a degree. He encouraged me to major in geology in my college career.

My passion for geology continued into college. As a freshman and even today, when walking through the halls of Leonard Hall at the University of North Dakota, I always stare into the cases along the wall filled with picture perfect minerals. Quartz crystals with perfect prisms sticking out of a rock, blood red garnets the size of quarters, and pyrites with perfect cubic structures. It still astounds me that these crystals have not been disturbed or broken. They form such beautiful crystals, each one like a snowflake and unique in their own way.

As I went on through my years in college, I was reassured of my passion to be a geologist through field trips with my classes to study the Precambrian rocks of Canada, and the geomorphology of the swamps in the Chippewa Falls National Forest in Minnesota. This last October, I attended the presentations of hundreds of students and professional geologists at the GSA conference in Vancouver, Canada in 2014. The scenery of the Coast Mountains in the background was breath taking, but the best part was hearing the passions of professionals. It made me realize that this is what I will be doing someday and I became even more excited for my journey. I felt right at home among everyone at the conference. This is the lifestyle I want to pursue.

As I walk down my pathway, I want to explore the secrets the Earth still has for us. Another frontier we need to explore in order to understand the Earth. My interests lie in mineralogy and petrology. I plan on being apart of the combined program at the University of North Dakota to obtain my Master's degree a year and a half after I graduate with my Bachelor's degree. Geologists have a high respect for the Earth and we appreciate all the spectaculars it gives us. Many people tend to forget the beauty in Earth and everyday life. When you look at a sunset in a desert and watch the orange and pink streaks of light cross the sky or the purple mountains at dawn, time slows down and the moment takes your breath away. This is what being a geologist is like for me.

## Franklin Wolfe, SA-6334



Why do you want to be a geologist? What is so special about rocks? Somewhat not surprisingly, these are questions that my peers often ask me. And I do not blame them. As an incoming freshman, if you had asked me what I wanted to major in as an undergraduate, geology would not have made my short-list. In fact, I did not even take my introductory geology course until sophomore year. I will never forget my first

geology lab, in which I stood with my mind blown as I tried to understand how river cobbles could sit at the top of a hill that was hundreds of meters from the closest body of water. Initially, I thought for sure my professor was delusional. But as he explained how the sinusoidal migration of a river could occur over a geologic time scale, my imagination began to run wild. Fast-forward three years and I am like a mouse on a wheel, and geology is like a savory piece of cheese dangling just out of reach. I have always hated mornings, but now, I wake up early, before my 8:00 a.m. class, to review yesterday's material and I often stay up late because I am anxious to read ahead to uncover what I will learn next. Sometimes, it seems like there are just not enough hours in the day.

I want to be a geologist because I enjoy the holistic nature of geology, which not only allows me to incorporate knowledge of chemistry, physics, and mathematics, but also sparks imagination and creative thinking in order to fathom the phenomenal processes that have created Earth, as we know it. I look forward to field days in lab where I get the chance to apply what I have learned through lecture in a hands-on way, and I am grateful to attend college in the heart of the Appalachian Mountains, which provides me diverse, geologic, learning opportunities not possible in flatter areas of the country. I can safely say that I had the coolest birthday possible this past April as I was in New Zealand for my geology study abroad course, and we got to map the lava flows from Mt. Ngauruhoe, also known as Mt. Doom in the Lord of the Rings Trilogy. Also, I have great respect for geologists because they have a major impact and are integral contributors to society. They power the globe through the exploration of hydrocarbon resources, they keep us safe by understanding local geology so that potential landslides, earthquakes, and drinking water contamination hazards are mitigated, and their roles are deeply embedded in global and national politics due to climate concerns and national security issues arising from fossil fuels.

Aside from these general feelings, two events have clarified my motivation to pursue a career in geology: conducting research this past summer and then attending the Geological Society of America Annual Meeting & Exposition in October to present my findings. During the research phase of this experience, each day was a challenge to learn as much as I could and I was encouraged by close interactions with my supervisor Dr. Jeffrey Rahl, Washington and Lee University. Learning and using new technologies and techniques such as the scanning electron microscope, thinking about creative ways to approach and solve research questions, and reading the geologic literature to gain knowledge, made me excited to work each day. I found it stimulating to pursue my own understanding of the topic through individual reading and inquiry, and if I came across other questions of interest, I pursued them along the way. My motivation for a research career in geology grew as I began to realize how many geologic questions remain unsolved, how important research is to further our understanding of Earth systems, and how much I enjoy finding answers.

At the Geological Society of America meeting, I was inspired by the overwhelming diversity of geologic topics and the opportunity to be a part of that environment, addressing unanswered questions and creating new knowledge. On the first day, I was only required to be present at my poster for three hours, but remained for six because I realized how much I enjoyed sharing my research findings with others. Seeing my work well received was exciting and encouraged me to continue with this project during the fall 2014 and winter 2015 semesters. On the second day, I took full advantage of the conference by attending lectures and talking with senior geologists, and my desire to learn and become a geologist grew more. I particularly enjoyed experiencing the respect and camaraderie demonstrated among geologists, who all seemed to know one another, and it motivated me to want to be apart of this community.

As I continue my pursuit of a B.S. and Ph.D. in geology, I am determined to soak up as much knowledge as I can so that I can make an impact on society and the geologic community. I am happy to have discovered something that I am truly passionate about and I am eager to discover where geology will take me.

## Vanessa Fernandes, SA-6301

My interest in geology is a confluence of accident, inspired by mentoring from passionate experts, and random historical events at the crossroads of High School and College. That being said, I knew that I was destined to a career in the field when I went on an expedition in Kenya during my junior year of high school. I was with a team of thirteen other people and our goal was to climb to the summit of Mt. Kenya. As we ascended Mt. Kenya, I took note of the diverse topography, flora and fauna, pausing often to elate in each observation. Despite the four days of sweat, insect bites, chilling winds, ankle deep marsh, and purified river water, we reached the summit. But more importantly, I symbolically reached the summit of my desires to pursue Geology as a life-path. Following this experience, my eyes have a permanent filter- I see the world through geologic lens. My travels however, did not stop in Kenya but permeated to exploration of the Galapagos Islands in Ecuador and Andaman Islands in India.

During my sophomore year at Hofstra University, I volunteered with Dr. Charles Merguerian to pursue research that investigated the geotechnical limitations of mega-construction projects in New York City. The practical applications procured immediate fascination. My responsibilities entailed mapping the man-made connections between Manhattan Island and its surrounding regions including water tunnels, railroads, and subway lines using Photoshop; this responsibility helped me develop my cartographic skills. Additionally, compiling data on each connection, including the construction techniques incorporated, fine-tuned my documentation skills. The project concentrated on the use of Tunnel Boring Machines (TBMs), a common tunnel excavation technique employed in recent times. We reported on some of the significant differences in penetration rate in tunnel boring projects which result from changes in the consistencies of the metamorphic and igneous rocks underlying Manhattan. The culmination of my independent study consisted of a presentation at the annual Long Island Geologists' conference at Stony Brook University.

Now I am at my fourth and final year at Hofstra University. I have been an enthusiastic participant in all of the academic and professional opportunities presented to me. While working as a tutor and teaching assistant, I've developed an affiliation for assisting peers in the topics I'm so passionate about. Lately, I have been working on collecting and dating sediment cores and sampling them for trace metal analysis to look at the contamination history of marshes in southwestern Long Island; this work will compose my senior thesis at Hofstra. Despite my appreciation of the experience I've gotten in sedimentological/environmental projects, my main area of interest is structural geology.

I want to become an expert in structural geology. In pursuit of this goal, I will be attending a field camp with Southern Illinois University this summer. Additionally, I am applying to geology masters programs that focus on areas that are of interest to me. On completion of my masters, I plan on pursuing my doctorate in geology. I hope that gaining a thorough understanding in the field of geology enables me to make a positive difference in the world while enabling me to love what I do. I was very inspired by Dr. Merguerian's work on mega construction projects in New York City and aspire to someday contribute to projects of the same caliber. I hope I too can assist at fostering a safe environment during these mega-construction projects.

I look forward to the challenges ahead and hope that I am given the opportunity to pursue my academic and professional career goals.

## Chloe Ivanoff, SA-6337



I have always loved the earth sciences, but I found them more intimidating when I first entered university. Perhaps this is why my initial declared major was a bachelor of arts in geography. When I transferred to my current school, the University of Alaska Anchorage, I declared geology as my major because there was no geography program

offered. I wasn't quite sure what I was getting myself into, but it was one of the best decisions I've made in my life. My true appreciation for geology came while taking courses in geochemistry, mineralogy, and hydrogeology. What I loved about these classes is they took all the stuff I learned in chemistry, physics, and calculus and applied it to real life. Learning about the solubility of calcite and applying Darcy's law to groundwater flow was so cool! Looking at thin sections of rocks in mineralogy opened up a whole new world to me. I never knew how amazingly different a mineral can look with the use of a scope or even a hand lens. Just recently I did a whole lab in my sedimentology class on concretions. These were some of the most intriguing rocks I have ever encountered. All of the classes I have taken in geology have been challenging, but that is part of why I enjoy studying geology. I want to be a geologist because it's exciting, challenging, and there are so many places to explore and try to explain. I also know that it is a field that will always be valuable because it encompasses all things vital to life water, rocks, minerals, soil and so much more.

## Jasmine Stefansky, SA-5197

Ever since childhood I had a fascination with rocks. I would search the fields near my house and collect rocks for hours, even though ninety percent of them were granites! My love of nature and the outdoors started young. During high school my interests in biology and environmental science grew and I took advanced classes. When I arrived at Central Michigan University I was sure I wanted to be a biologist. I even worked as an undergraduate researcher in a fisheries biology lab. I liked what I was doing, but I realized I was spending the majority of my time on my geology elective.



When I told my geology professor I was interested in learning more, she was so excited. She paired me with an amazing advisor and I felt instantly at home. Now, I am still interested in the biological and chemical aspects, but I am most interested in the geology aspect. I am fortunate enough to have

had research opportunities involving bio-geo-chemical cycling and the experience of working in a clean room, as well as field work experience collecting samples. Every class and hands on opportunity I have taken advantage of has fueled my drive to become a geologist.

I want to become a professional geologist because it holds my attention more than any other option I have explored. It takes a special kind of person to enjoy the studying optical mineralogy for hours, looking at outcrops, differentiating sand grain sizes; and I am a person who happens to like every one of those things! Geology also has a context for a huge amount of subject matter: biology, chemistry, physics, calculus, mechanical engineering, and anthropology. The components of these different disciplines join in Geology, which keeps the subject matter extremely interesting. I enjoy taking physics and chemistry because they allow me to further my understanding of geology and they give me the opportunity to broaden my knowledge base. I never get bored with my classes and look for ways to tie in geology with whatever I am learning.

I plan to attend graduate school after graduation from Central Michigan University and hope to study contaminant transport or watershed science. I firmly believe that water has the potential to become the new oil or gold, and I want to help ensure that does not happen. My career goals include water resourcing, searching for ways to make fresh water less scarce, contaminant transport and remediation. To do this I would like to work for an environmental consulting firm or the EPA. I also have strong desire to help developing countries create sustainable ways to transfer and purify water. As a hydro geologist, I will have the tools necessary to make the environment a better place, but more importantly I will have the ability to assist people in meeting water demands sustainably. I am excited to continue my learning experiences and am looking forward to making positive differences in the world around me. Thank you for your consideration.



AIPG Nevada Section President Kel Buchanan presenting scholarship checks to Nathan Foote, and Taylor Krabiel.



AIPG National Advisory Board member Keri Nutter presented scholarship checks to Anna Stanczyk and Chloe Ivanoff.



AIPG National President Foster Sawyer, presenting the AIPG Bill Siok graduate scholarship to Karen Vyverberg.



AIPG Ohio Section advisory board member Robert Andrews presents Eint Kyi her scholarship check.

Hello Geological Sciences Community,

The American Institute of Professional Geologists (AIPG) grants the AIPG National Undergraduate Scholarship award each year to deserving undergraduates across the nation who are majoring in geology or earth science. This year, UAA Geological Sciences students Anna Stanczyk and Chloe Ivanoff were each awarded \$1,000 scholarships to help assist with their educational costs in the coming academic year. The students received a surprise announcement from Keri Nutter, Advisory Board Representative for the AIPG National Executive Committee, and Dr. Kris Crossen, Chair and Professor of the Department of Geological Sciences. It was a wonderful moment for all involved, and we would like to share the experience with you. If you see either Anna or Chloe around town this summer, be sure to say congratulations for receiving this great honor.

Sincerely,

**Rachel Lee**  
**Administrative Assistant for Social Media and**  
**Graduate Affairs**  
**Division of Mathematics & Natural Sciences**  
**College of Arts & Sciences**  
**University of Alaska Anchorage**  
**3101 Science Circle**  
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