Greetings from the Chair

It’s my pleasure again to give you a brief update about the Department of Geology and to brag (just a little) about the faculty.

In January 2016, Dr. Jeremy Williams joined us as a new Assistant Professor in Sedimentary Geochemistry and Paleoenvironmental Reconstructions. Jeremy earned his Ph.D. from the University of Massachusetts Boston and was a Research Scientist at Ohio State University School of Earth Sciences prior to starting at Kent State.

The faculty continue to have a national and global reach with most involved in national and international collaborative research and many serving as leaders in professional societies with national and international membership.

Anne Jefferson was selected to be a Public Engagement Fellow of the Leschner Leadership Institute of AAAS (American Association for the Advancement of Science). Alison Smith is President of The American Quaternary Association (AMQUA), a professional organization of North American scientists (US, Canada, and Mexico), and Vice-Chair of the US National Committee of the International Union for Quaternary Research.

Carrie Schweitzer has been elected Fellow of the Geological Society of America in 2016. Rod Feldmann was recently appointed as a new general Editor for the J. of Crustacean Biology.

David Hacker has received the AASG’s 2016 Charles J. Mankin Memorial Award, for his co-authorship of the Panguitch Geologic Quadrangle map, Utah. This national award is given annually by the Assoc. of American State Geologists to a nominated geological map, compilation, or report on regional, energy, or mineral resource geology published in one of the three preceding calendar years by a state geological survey.

As always, I’m delighted with all of the faculty research that is going on in the department, much of which you can read about in the following pages.

In this newsletter I thought I would introduce a few students and highlight some of their experiences and research. Inside you can read about Mike Sierleja, an undergraduate student mapping dunes in Colorado and on Mars and Elizabeth Bargdill who just earned her BS degree in Geology and now works

(Continued on page 3)
Congratulations to our newest Alumni!
Fall 2015 - Summer 2016

BS Geology
Lerin Baltzly
Tiera Battle
Dakota Brammer
Julia Capuano
Joseph Calire
Joe Fejko
Jena Freyermuth
Rachel Groynom
Krista Hardin
Christopher Harsh
Elizabeth Hoyak
Shannon Hunter
Joe Jeandervin
Hannah Johnson
Kelly Kutsko
Nick Mach
Amber Menegay
Paul Panehal
Alexa Polasky
Josiah Reamy
Holly Rodak
Benjamin Schneider
Porsha Stewart
Ted Surdel
Kim Toler
Roman Waked
Gary Zizka

BA Geology
Elizabeth Bargdil
Elizabeth Ditty
Kristine Griffith
Katherine Harding
Casey Lawver
Justin Miller
Raymond Rowland

M.S. Theses Completed
July 2015 - July 2016


John Malizia: Effect of Water Content and Density on Strength and Deformation Behavior of Clay Soils (Shakoor).

Eric Traub: The Effects of Biogeochemical Sinks on the Mobility of Contaminants in an Area Affected By Acid Mine Drainage, Huff Run, Ohio (Singer and Jefferson)

Andrew Gerwitz: Evaluating potential growth strategies using bone histology in Pleistocene-Holocene Odocoileus virginianus (Mammalia) from Florida (Green)

Evin Maguire: Volcanic Ash as a Cause for Mass Kills of Decapod Crustaceans during the Miocene in Northern Patagonia (Feldmann)

Sebastian Dirringer: Landslide Inventory Mapping of the Drift Creek Watershed, Lincoln County, Oregon, Using LiDAR Data (Shakoor)

Sergio Sudarsky: A Phylogenetic Analysis of Fossil and Extant Shrimp-like Decapods (Dendrobranchiata and Caridea) (Schweitzer)

Geology Scholarship Awardees

Amoco Alumni Scholarship: Rachel Delaney, Amber Huston, Evin Maguire

Bauer Experiential Learning Scholarship: Jacob Bradley, Alexa Polasky

John Allen Clark Scholarship: Holly Rodak

Emerald Environmental Field Camp Scholarships: Joe Campbell

Glenn Frank Scholarship: Hannah Schlaerth, Xiangming Zhao

Geology Field Camp Scholarships: Adam Carothers, Jack Twedt

Donald C. Gifford Geology Scholarship: Bryan Agee, Michael Burkey, Brandon Smith

Richard A. Heimlich Field Camp Scholarship: Jake Sounik, Alex Miller, Adam Storey

Rob Maschue Donation: Bryan Ice

Katherine Moulton Scholarship: Brianne Yarger, Jonathan Mills

School of Hard Rocks: Stacee Stinedurf, Jake Sounik

Joe and Karen Struckel Scholarship: Cody Unferdorfer, Josiah Reamy

Eckstein Scholarship: Laura Sugano, Sarah Morrison

Ph.D Dissertations

Wade Tyler Jones: A Taxonomic and Morphologic Assessment of Some Crustaceans and Crustacean-Like Problematica (Advisor: Rod Feldmann)

Inoka Hasanthi Widanagamage: Stable Strontium Isotope Fractionation in Abiotic and Microbially Mediated Barite in Modern Continental Settings (Co-Advisors: Griffith and Singer).

Nick Bonini: Assessing the Variability of Phytoplankton Assemblages in Old Woman Creek, Ohio (Ortiz)
Joseph Struckel received his B.S. in Geology from Kent State University in 1969. After graduation, he served in the United States Army as a project leader and combat engineer, obtaining the rank of major. Joe worked as a project geologist for the Corps of Engineers and Lawrence Laboratory in Livermore, CA where he conducted research in the geology of explosive excavations and their impact on the environment.

From 1983 - 2011, Joe founded and was president of Geosearch Logging Inc. headquartered in Edmond, CA. The company provided comprehensive geological and hydrocarbon well logging services in 15 states across the country. During this time, Joe managed and operated 11 offices in 8 states.

Beginning in 2012, Joe served as vice president of industry relations for Empirica LLC. His responsibilities included presentations, seminars and lectures on technological advancements as well as identifying expansion and growth opportunities of Empirica surface logging.

His professional affiliations include the Association of Petroleum Geologists (AAPG); Society of Professional Well Log Analysts (SPWLA); Society of Petroleum Engineers (SPE); SIPES (Society of Independent Professional Earth Scientists) and American Institute of Professional Geologists (AIPG).

Joe has kept close connections with faculty and students at KSU, interviewing and hiring Geology majors, giving presentations in Geology and to business students. He and his wife Karen have generously given to the Department, and both are currently serving on the College of Arts and Sciences Advisory Board.

At our 72nd Annual Geology banquet in May we awarded over $41,000 in scholarships to our students – a record. This is only possible because of the strong alumni giving over the years. I want to send out a very big thank you to everyone who has donated to the Department of Geology. Thank you for staying connected with the department and for ‘giving back’ with gifts and continued donations. Please stay in touch as always and let us know what you are doing.
This year has been pretty busy and exciting with a lot of activity with our graduate students and with some pretty interesting travel.

We began by spending a couple weeks in China again. We worked in the Geological Survey of China office in Chengdu, Sichuan Province, and then went into the field near Luoping, Yunnan Province. There, we looked at a whole new quarry that is part of the developing national park and mapped the distribution of fossils on numerous horizons.

Following that we toured Inner Mongolia where we experienced an awesome sandstorm, rode camels, rode horses, and stayed in a fully modern “yurt.” The work there formed the basis for one of two papers we gave at the GSA meeting in Baltimore. The other was on diversity patterns in decapods which was a result of our current NSF grant.

Following the China work, we “vacationed” in Montana and Wyoming were we collected fossils and rocks for teaching at Stark and Kent. The rocks included some of the most spectacular cross-beds ever seen. On the way there, we (Continued on page 5)
stopped in Grand Forks, North Dakota, to see Rod’s major professor and his wife. Fantastic people!

Winter break took us to the Smithsonian Institution where Sergio Sudarsky examined and coded extant shrimp to compare with fossils primarily from the Jurassic of Europe. Sergio is completing his MS thesis on the phylogeny of shrimp – an objective that is really breaking new ground.

During spring break, Sergio and Rachael Delaney joined us for a fossil collecting trip to the Chesapeake Bay area and North Carolina. We filled the back of the truck with Cretaceous, Eocene, and Miocene fossils that have already been put into service. Carrie has used them in Invertebrate Paleontology at Stark and Rod had made up a batch of fossils and sediment for 4th graders at Holden School to study. They were thrilled.

To wrap up the year, Carrie talked to the Stark Gem and Mineral Club in Canton, and Evin Maguire gave a really interesting talk on the effect of volcanic ash falls on fossil crabs from the Miocene of Argentina to the North Coast Fossil Club in Cleveland. Evin applied for a grant through the Experiment program in order to support work we will be doing in Argentina this coming year. Terrific initiative!

It’s been a great year. Jessica Tashman is in the process of taking her comprehensive exams, and Wade Jones is completing his dissertation for defense in the summer. Things could not be better.
The highlight of the past year for me by far was being honored with the Kent State Alumni Association’s 2015 Distinguished Teaching Award (see page 4). I want to thank all of my former students who touched my life each and every year and made my teaching experience fun, enjoyable, exciting, and memorable. This award would not have been possible without the support of so many outstanding KSU students!

This year students from other universities coast to coast (North Carolina to California) attended our field camp. It is always exciting to see so many students come together for the common goal of studying geology and building long lasting friendships. One week after we finished mapping on Crow Peak, a lightning fire consumed most of the mountain and the Black Hills State campus was turned into a staging area for firefighters from all over to fight the fire. We will see if our map area is still there next year.

This past year I added a field trip project to the Contaminant Hydrogeology and Hydrology course motivated by Flint Michigan water crisis. Students saw firsthand how Kent obtains its drinking water from municipal wells, treats it at the Water Treatment Plant, and cleans wastewater at the Water Reclamation Plant before discharging it into the Cuyahoga River. The goal was to show how municipalities meet Environmental Protection Agency (EPA) mandates for safe water.

My research on the Markagunt gravity slide continues to roll along and I was awarded “Scholar of the Month” last year at KSU. With continued mapping, this mega-landslide is now the world’s largest at >5000 km². We also discovered a second, and slightly older slide that we will call the Sevier gravity slide.

One of my students, Stacee Stinedurf, completed her detailed mapping this summer of an important area of the Markagunt gravity slide to better understand deformational features produced by the catastrophic movement.

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My colleagues and I are conducting a six day international field symposium in 2017. We will concentrate on giant sector collapses in volcanic fields using our recent discoveries as examples of these extraordinary structures. I continue research with Dr. Dasgupta on emplacement of laccoliths, dikes, sills, and diatremes in the northern part of
the Black Hills. We recently found two additional rhyolite laccoliths containing igneous garnets that indicates very rapid transport of magma directly from deep mantle sources. Two of our students (Shannon Hunter and Jacob Sounik) are presenting at GSA this fall.

*Crow Peak fire as viewed from Black Hills State University campus (top left); Bison stop field campers from viewing thermal features in Yellowstone (top right); Dedication to strike and dip data collecting (lower left); Field campers view from top of Inferno Volcano in Craters of the Moon National Monument, Idaho (lower right); Field Camp class of 2016 (below).*
Jeremy Green

It’s been a wonderful year for vertebrate paleontology in the Department of Geology! In addition to being awarded tenure and promotion to Associate Professor this past spring, I am happy to report that my first Master of Science student, Andrew Gerwitz, successfully defended his thesis on bone histology and growth in Pleistocene-Holocene white-tailed deer from Florida in December. We are currently working on revising his thesis into a publication, and I have a brand new MS student arriving this fall.

Additionally, as a recognized expert in the field of tooth wear, I was honored to be invited to speak at the “Latest methods in reconstructing Cenozoic terrestrial environments and ecological communities” international symposium in September 2015. I was one of 17 speakers invited from around the globe to present review talks. The proceedings from this cutting edge conference will be published as an edited volume that will serve a guiding tool for students and scholars interested in Cenozoic terrestrial paleoecology. I am currently collaborating with different researchers from Sweden, Vanderbilt University, University of Michigan and the Field Museum of Natural History on several major research projects, ranging from examining paleodiet in Pleistocene mastodons to measuring growth increments in the tusks of Permo-Triassic dicynodonts!

Lastly, on a more personal note, my wife and I are pleased to report the birth of our first daughter, Jinnette Lane Green, who was born in March of this year. She is a happy, healthy baby that is doing very well and we are overjoyed to have her as a part of our family. So, you can imagine how my “free” time is spent right now! It has been a productive year on all fronts, and I am thrilled to be continuing my career here.

Elizabeth Herndon

My second year at Kent State was both really enjoyable and highly productive for research and teaching. This past fall I taught Environmental Soil Science, a new upper-level Geology course focusing on the chemical, physical, and biological processes that transform rock into soil. In the spring, I taught our introductory Geology class, How the Earth Works, for the first time. I really enjoyed the opportunity to communicate the nuts and bolts of earth science to over 100 students from diverse disciplines.

I’ve also been fortunate to work with two great new graduate students this year. Bri Yarger (MS) is spearheading a project to evaluate manganese biogeochemistry in abandoned coal mine lands in order to understand how vegetation might mitigate contaminant fluxes out of mine waste. This work is in collaboration with Dr. David Singer in the Huff Run watershed near Canton OH, and served as a basis for our co-chaired session on “Environmental Consequences of Resource Development” at the American...
This year has flown by! I was awarded tenure and promotion to Associate Professor in April, but there’s been no time to rest on my laurels.

The Watershed Hydrology research group is flourishing. Two graduate students (Hayley Buzulencia and Laura Sugano) started in Fall 2015, working on research supported by Cleveland Metroparks. Post-doc Pedro Avellaneda joined us in February and is adding fantastic modeling expertise to the group, and undergraduate Cody Unferdorfer keeps the lab humming and has taken on a research project of his own. Our group will gain two more new graduate students in Fall 2016. We had several papers on stormwater management come out this year and got some good press on a paper led by alumna Kimm Jarden on the effectiveness of bioretention cells in Parma, Ohio.

I’ve also enjoyed having a second run through some of my classes (Watershed Hydrology, Urban Hydrology, and Environmental Earth Science), learning the behind-the-scenes tricks of the trade as incoming Graduate Coordinator, and continuing to be actively involved with Geological Society of America Quaternary Geology and Geomorphology Division, where I sit on the management board. I’ve also been named a American Association for the Advancement of Science (AAAS) public engagement fellow through the new Leshner Leadership Institute. As part of my fellowship, I have a mandate to help improve the communication of climate change science and to work for institutional transformation of public engagement activities at Kent State and beyond. So, there’s no pressure on that front.

Running continues to be an extracurricular passion of mine. This past February I competed in the Olympic Marathon Trials on a hot day in Los Angeles, placing 43rd in a time of 2:45 and exceeding my goal of top 50 in the nation. I look forward to a beautiful summer of running in the Cleveland-Akron area (especially CVNP) with my teammates, husband Greg, and our new dog Bruno.

Anne Jefferson

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Anne Jefferson

Anne Jefferson leads a fieldtrip for a middle school - high school teacher workshop this past July.

Fortunately, my family keeps me grounded. My 9-year old loves building forts in the woods, and my 18-month old knows the words “rock” and “water”, so we figure he’s pretty much set for language. Lots of professional travel to DC and a family vacation to the UK rounded out the year.
I had a productive year for AY2015-2016. I continued development on the “All about the Oceans” Course, offering it as a hybrid distance learning class that meets once a week in addition to the online instruction. I had my largest enrollments ever in my Paleoceanography class with 22 students, and Sedimentology and Stratigraphy Class with 34 students. (I can remember a time when we had 34 students in the entire major!) We are now arguably the largest undergraduate geology program in the state, although OSU still has more students if you combine all their various Earth Science related programs.

My doctoral student Nick Bonini graduated, completing his research on water quality at Old Woman Creek. Nick is planning to form a small business to develop distance-learning materials for universities now that he has graduated.

Elizabeth Griffith (University of Texas Arlington), Anne Jefferson (KSU Geology), David Dees (Director of the KSU Faculty Professional Development Center) and I published a geoscience education paper together in Oceanography, the journal of The Oceanography Society describing a laboratory activity we developed to introduce stable isotope analysis and instrumentation into undergraduate Earth Science classes. We conducted a Rayleigh distillation lab in Sed-Strat, to simulate the impact of ice sheet growth over glacial-interglacial cycles.

I published a second Geoscience education paper in collaboration with Adiel Klompmaker (KSU Applied Geology PhD, 2012) in the same journal describing a laboratory based on the quantitative analysis of physical models of turbidity currents that we generate as another activity in the Sed-Strat course.

The major focus of my research this year has been on my water quality work. I participated in a number of NASA-related workshops regarding Harmful Algal Blooms (HAB) on the Great Lakes and smaller inland lakes. My lab has raised about $250,000 from NASA, ODHE & OSG over the past two years to develop and implement remote sensing based methods to monitor HABs. My collaboration with NASA Glenn and BGSU continues to study the HABs on Sandusky Bay and the Western Basin of Lake Erie.

We have now successfully applied my spectral decomposition method to the NASA Glenn, second generation, Hyperspectral Imager (HSI2) as well as the MODIS and Landsat 8 satellites. The method is proving to be very effective at differentiating the signal associated with toxic cyanobacteria from that associated with non-toxic algae. I served as a panel member on a discussion of HABs in Ohio on NPR, “The sound of Ideas,” and was interviewed several other times on this work.

This summer I will be conducting field work in the US Virgin Islands, Sandusky Bay, the western basin of Lake Erie, and Old Woman Creek. I’m starting to expand the remote sensing work to monitor coral health in the US Virgin Islands.
Our family continues to love living in Kent, even if the winters are a little too cold and the summers a little too warm for this British expatriate’s total comfort. I’ve had a busy year of research, with recent and pending publications looking at plate tectonics at global and regional scales. This includes my latest attempt to crack the complicated deformation history of New Zealand’s North Island. It’s been a decade since I defended my PhD thesis on the same subject, and I’m still looking for new excuses to return there!

My PhD student Chenjian Fu continues developing new methods of reliably reconstructing plate motions in the distant past, presented a well-received poster on his progress so far at the AGU Fall Meeting. I’ve also been having fun in the lab, modelling deformation at the tabletop scale. Undergraduate Joe Wislocki has been invaluable in getting our sandbox model running smoothly, and performing the necessary grunt work of filling and emptying the model between runs. He received an Honorable Mention for his presentation at this year’s Undergraduate Research symposium.

This year’s Tectonics and Orogeny class also got to play in the sandbox, designing and running their own experiments. I was impressed by the wide range of different tectonic settings being investigated, from exotic terrane accretion to continental rifting. The class also seemed to really enjoy the field trip - a transect across the Appalachians, culminating in a look at the record of past Wilson Cycles found in Shenandoah National Park (including some spectacular tilted columnar basalts formed during the rifting of the Iapetus Ocean). This was the inaugural outing for this field trip, and a number of the stops were scouted remotely via geological maps and Google Earth; so I was delighted that it all came together so well!
I completed my first year as an Emeritus Professor. During this year, I taught Engineering Geology during the Fall semester and Introduction to Soil Mechanics in Spring. I also have a few new graduate students who are doing their research under my direction. The best thing about our department is that the professors can stay active even after retirement.

In September, 2015, I attended the AEG Annual Meeting in Pittsburgh, PA. I served on the Organizing Committee and had a chance to visit with many of our alumni during the meeting. During the meeting, I participated in a field trip to the Bolivar Dam, Ohio, and received the AEG Honorary Member award at the Annual Banquet.

I continue to Co-Edit Environmental and Engineering Geoscience journal, an AEG-GSA joint publication. I encourage all of our alumni and their colleagues, involved in applied geology work, to consider submitting manuscripts for possible publication in E&EG.

I look forward to reconnecting with alumni at professional meetings. I'll be attending the 2016 AEG meeting in Kona, Hawaii, and hope to see many of you there.
It’s been another great year for me and my family in northeast Ohio. Our children, Hannah and Asa, continue to grow, learn, and keep us busy. Recent highlights included a trip to MetroPark’s Farm Park and visiting all the animals and greenhouse.

It’s been a busy research year; Hasanthi Widanagamage (PhD) and Eric Traub (MS) completed their work. Hasanthi is now a post-doctoral scholar at Rutgers University-Newark. Eric is a working as a hydrologist with the USGS in Oklahoma.

Mike Cahill (MS) is close to finishing up and has just gotten a job with the US Forest Service out in Sierra National Forest. Laura Zemanek (MS) is also close to finishing up, after a very productive and successful year of lab and field work in the Huff Run Watershed. Sarah Morrison (MS) joined our grad program this year and got a quick start with field work at Huff Run in the fall and spring, and had the opportunity to participate in and lead synchrotron experiments at the Advanced Photon Source.

A former undergrad, Kristen Davis, helped collect soil samples at a high school in Cleveland for a project I am developing on heavy metal contamination in urban soils. We are looking forward to a productive summer field and lab season that includes some conferences, and some well-earned vacation time in August.

This year, I had the pleasure of teaching Invertebrate Paleontology for the 15th autumn in a row, and it was an excellent year with Jessica Tashman (Ph.D. candidate, Paleo) as outstanding teaching assistant.

We returned to Caesar’s Creek, of course, and had a great collecting trip in the autumn air. The very first year I taught this course, Tim Cosma was the TA and just about wore the class out with the most energetic field trip ever, does anybody remember that trip? We had about 45 students that year, and Tim marshalled the troops over hill and down ravines, in a 2 day tour of the Paleozoic stratigraphic column-great fun!

A couple of Geoinformatics grants came in, funded to analyze big datasets of fossil and modern ostracode samples, so all that has kept me busy this year with lots of computer programming help from Ted Surdel (Geology B.S. 2016). Ted will be starting his M.S. this fall, so the Paleolim lab will be a busy place.

This spring I have been on a faculty professional Improvement leave (aka, a sabbatical) and it has been a

(Continued on page 14)
great research experience. I did some travelling – to the Canadian Museum of Nature in Ottawa, to the Smithsonian, to Minneapolis to work with colleagues, and most recently, to England.

In England I worked with my colleague Dave Horne (Queen Mary University of London) to make ostracode biogeographic maps to track species biogeography through time. I was able to give a colloquium at the University of London, and attend the Micropaleontology Society Spring Field Meeting, which was in a geologically spectacular area known as the Yorkshire Dales. Amazing steep walled dry valleys with plunging cliffs and green hills stretching out to the horizon awaited us, and we climbed above Malham Cove, where Carboniferous limestone paving shaped by subglacial weathering is exposed, and there is a spectacular overlook of a dry waterfall, above a 260 foot drop to the valley floor. You may have seen this very spot if you saw the last Harry Potter movie, and for those of you that have enjoyed James Herriot stories, this is his landscape.

As I write this, I am en route to Santa Fe, New Mexico where the American Quaternary Association (AMQUA) will be holding its biennial meeting. This year concludes my service as President of AMQUA, and this meeting also brings to a close my sabbatical. I am definitely recharged with energy and ideas for the coming academic year. I look forward to hearing from you!

Karen Smith

Hello, everyone! It's a pleasure to be able to say "Hello" again to so many wonderful people whom I met during my 28 years as secretary in the Department of Geology.

I've been "retired" now for six or so years. It doesn't seem like it, though, because I still go to the Department twice a week to work with Dr. Shakoor on the E&EG journal. I am still connected to 4-H, I joined and am active in the Garden Club of Kent, and all the work connected to owning a house keeps me pretty busy; not to mention family matters, occasional house sitting, and sleeping!

Last year, at the AEG Annual Meeting, Dr. Shakoor instigated and the Executive Board voted to give me a unique award for "Outstanding Service as Editorial Assistant for the E&EG Journal." I've been working on the journal with Dr. Shakoor for about 30 years. I was invited to attend the meeting and dinner in Pittsburgh where I was warmly greeted by many KSU alumnae and met some of the "big-wigs" in the Association of Engineering Geology. It was a wonderful evening and I appreciate the recognition and honor. Thank you.

It would be a great pleasure to hear from you - Yes, YOU. Each and every one of you. Please email the department with an update of your activities since you graduated.
Jeremy Williams

I joined the Geology Department as an Assistant Professor in Spring 2016. I received my bachelors' degree from Hampton University in Marine and Environmental Science and my masters' and doctoral degree from the University of Massachusetts Boston in Environmental Science. My research area consists of redox chemistry, black shale geochemistry, secondary effects of stray gas contamination on shallow aquifers and the Permian-Triassic Extinction. My research involves field and laboratory work. I use a wide array of instrumentation including Energy Dispersion X-ray Fluorescence (ED-XRF) for major and minor elements, Inductively Coupled Plasma Mass Spectroscopy (ICP-MS) for trace and rare earth elements, Elemental Analyzer (EA) for light elemental composition, Isotope Ratio Mass Spectroscopy (IRMS) for stable isotopes, and Helix SFT for noble gas geochemistry. I am excited to join this department, eager to work with students, and collaborate with fellow faculty members. I am a firm believer in enhancing the department's research profile and giving students the opportunities needed to be successful after their tenure at Kent State.

Crossing the 2nd highest pass in the world -Taglangla in India (Altitude: 17,582ft/5,359m).

Warriors Among Us

A group of brave geologists participated in the Warrior Dash in North Lawrence, Ohio on August 21, 2016. Drs. Elizabeth Herndon and David Singer, along with graduate Laura Zemanek and grad students Sarah Morrison and Haley Buzulencia leapt over fire and ventured through mud caked backroads as they made their way to the finish line.

The Warrior Dash is a 5k obstacle race to raise funds for St. Jude’s Children’s Research Hospital.

Elizabeth Herndon, Sarah Morrison, Haley Buzulencia, Laura Zemanek, and David Singer
Q: Why did you choose Kent State for your grad degree?

LS: I chose Kent State for my grad degree for many reasons. I was told by my undergraduate advisor to decide which graduate school to go to based on the advisor I would be working with. I considered other graduate schools, but Dr. Anne Jefferson’s research interests lined up perfectly with mine. When I reached out to talk to her she was warm and real. I knew I could work well with her right away. Furthermore, everyone in the geology department and the Kent area is welcoming and friendly.

I believe that it is crucial for experts from different fields to collaborate to make scientific results more meaningful. That is why it was so important to me to work with an interdisciplinary group for my research. Since I started here at Kent I have been able to work closely with a geologist, biologist, landscape architect, geographer and civil engineer - who are all interested in the upcoming field of green infrastructure.

Q: How has grad school been different from your undergrad experience?

LS: I didn’t expect grad school to be so different from my undergrad experience because I thought I was already doing everything that grad students do. Nevertheless, I still had to adjust to my new life in grad school. In undergraduate degrees, grades are more important than research, but in grad school it is the other way around. It was difficult for me to make this adjustment in my thinking, because for so long I had been hard wired to put my grades first and everything else second. However, while grades are not as important as they once were, it has been harder for me to get the grades I was used to getting. The time I was spending doing my research left me with little time to focus on my coursework. This brings me to my next biggest difference from undergrad to grad school… time management. I've had to be more mindful of how I spend my time, what is urgent and important and what is not, and how to be more efficient.

Q: What are you working on for your research?

LS: My thesis is focused on the hydrology and biogeochemistry of two green stormwater infrastructure sites in Parma, OH. Stormwater negatively impacts stream hydrology, geomorphology, and water quality with the amount of water and nutrients that are carried downstream during storm events. This is especially a problem in urban areas, like northeastern Ohio, because of the large area that impervious surfaces cover. Stormwater infrastructure is a way to mitigate these negative impacts by slowing down the water flow. I am monitoring the water quantity and water quality performance of a green roof and a bioretention cell. Specifically, I am trying to determine which type of infrastructure is better at improving the hydrology and water quality from what enters the site to what flows out of the site.

Q: What are your professional goals after graduation?

LS: After graduation I would like to work as an environmental geologist in the industry for a while, incorporating what I know about geology, hydrology, and water quality.

Meet our Geology Students

Laura Sugano

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I believe that it is crucial for experts from different fields to collaborate to make scientific results more meaningful. That is why it was so important to me to work with an interdisciplinary group for my research. Since I started here at Kent I have been able to work closely with a geologist, biologist, landscape architect, geographer and civil engineer - who are all interested in the upcoming field of green infrastructure.

Q: How has grad school been different from your undergrad experience?

LS: I didn’t expect grad school to be so different from my undergrad experience because I thought I was already doing everything that grad students do. Nevertheless, I still had to adjust to my new life in grad school. In undergraduate degrees, grades are more important than research, but in grad school it is the other way around. It was difficult for me to make this adjustment in my thinking, because for so long I had been hard wired to put my grades first and everything else second. However, while grades are not as important as they once were, it has been harder for me to get the grades I was used to getting. The time I was spending doing my research left me with little time to focus on my coursework. This brings me to my next biggest difference from undergrad to grad school… time management. I've had to be more mindful of how I spend my time, what is urgent and important and what is not, and how to be more efficient.

Q: What are you working on for your research?

LS: My thesis is focused on the hydrology and biogeochemistry of two green stormwater infrastructure sites in Parma, OH. Stormwater negatively impacts stream hydrology, geomorphology, and water quality with the amount of water and nutrients that are carried downstream during storm events. This is especially a problem in urban areas, like northeastern Ohio, because of the large area that impervious surfaces cover. Stormwater infrastructure is a way to mitigate these negative impacts by slowing down the water flow. I am monitoring the water quantity and water quality performance of a green roof and a bioretention cell. Specifically, I am trying to determine which type of infrastructure is better at improving the hydrology and water quality from what enters the site to what flows out of the site.

Q: What are your professional goals after graduation?

LS: After graduation I would like to work as an environmental geologist in the industry for a while, incorporating what I know about geology, hydrology, and water quality.

Elizabeth Bargdill

Q: Why Kent State and why geology?

EB: Kent State was not on my radar when I was searching for potential colleges in high school. Taking a campus tour was spur of the moment for me, and I actually fell in love with the campus. I was able to meet Dr. Holm, the chair of the geology department, before I officially decided on Kent State. This was something I hadn’t had the opportunity to do at other universities, and it really sealed the deal for me. I left that day knowing Kent State would be my future home!

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Q: Why Geology, and why Kent State?

JM: I chose Geology as a major because I want to be involved in a field that allows me to work on environmental problems, and preserve our natural resources, especially surface and sub-surface water. As a child growing up in a smaller farming community in Western Ohio, leaching and transport of agricultural fertilizers had a devastating effect to the rivers and lakes in the area. Aquatic plant and animal species were left to suffer the consequences of our poor environmental protection practices and the naturally beautiful water resources became an eye-sore to society. With the interdisciplinary nature of Geology and focus in water resources, hopefully I will be able to not only have an effect in environmental protection, but also the ability to better manage the dwindling freshwater resources that world today is facing. I chose Kent State because the Geology department has a great reputation and the size of the department has given me the opportunity to get a more individualized focus from the professors as well as

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Q: You just graduated in May. What are you doing now?

EB: I am currently a Centennial Volunteer Ambassador for Cuyahoga Valley National Park. This is a year internship in conjunction with the National Park Service, the Student Conservation Association, and AmeriCorps. 2016 is the year of the National Park Service’s 100th birthday, so I am working on volunteer coordination and community engagement. A large part of what I do is education based (there is always an opportunity to learn!), so I have been able to put my geology background to great use! Keep an eye out for National Fossil Day programs this Fall!

Q: What did you like most about the department? Strengths?

EB: The geology department is large enough that there are many diverse and creative minds bringing forth new ideas, but also small enough that it feels like a family. The environment the department created gave me confidence in what I had learned in my four years as an undergrad, something I have recently learned to be extremely important in the field. Also, there was always a fellow student or faculty member that was willing to help you out, no matter the situation.

I think many of the strengths the department has stem from the faculty. Everyone has different backgrounds, areas of interest, and ways of communicating. Due to how diverse the faculty and staff are, I believe they are able to relate and work well with the students. For example, Dr. Hacker is a great supporter of our National Parks, which made it easy for me to relate to him and go to him for help in a class or for advice.

Q: Besides taking lots of classes, what else did you do?

EB: Geology classes definitely kept me busy! I minored in geography, so I spent quite a bit of time in PA and central OH doing water quality and spatial video work my final semester, trying to build up practice in that field. I worked on-campus for the Counseling Education and Supervision department in White Hall. I was President of the Kent State Geological Society and the Events Planner for the American Association of Petroleum Geologists my senior year. Alpha Xi Delta, one of the sorority’s on Kent’s campus, was my home away from home. Through Greek Life, I spent time raising awareness and fundraising for Autism Speaks and various other philanthropic organizations. When I wasn’t hiking in Cuyahoga Valley National Park (which was often!), I was volunteering for them on trail projects or invasive plant species removal. Downtime was rare, but being busy kept me organized and allowed me to have some amazing experiences I wouldn’t have had otherwise.

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Jonathan Mills

Q: Why Geology, and why Kent State?

JM: I chose Geology as a major because I want to be involved in a field that allows me to work on environmental problems, and preserve our natural resources, especially surface and sub-surface water. As a child growing up in a smaller farming community in Western Ohio, leaching and transport of agricultural fertilizers had a devastating effect to the rivers and lakes in the area. Aquatic plant and animal species were left to suffer the consequences of our poor environmental protection practices and the naturally beautiful water resources became an eye-sore to society. With the interdisciplinary nature of Geology and focus in water resources, hopefully I will be able to not only have an effect in environmental protection, but also the ability to better manage the dwindling freshwater resources that world today is facing. I chose Kent State because the Geology department has a great reputation and the size of the department has given me the opportunity to get a more individualized focus from the professors as well as

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the chance to participate in undergraduate research. Kent, Ohio also has a nice, small-town feel and is still close to home.

Q: What are your professional goals after graduation?

JM: After graduation my goal is attend graduate school to get a Master’s Degree with my research focusing on contaminant hydrology and hydrogeology. I would also like to gain exposure to the biological affects of water resources in aquatic ecosystems in graduate school. From there my goal is to get a position working for a state or federal government agency where I can focus on managing our water resources and natural environment.

Q: What do you like most about the department?

JM: What I like the most about the Geology Department at Kent State is the small, family-like feel in the department. With small classes, I was not only able to get more attention from the professors, but also to take most of my classes with the same classmates. The size allows you to get to know every professor and student in the department and allows for great opportunities to participate in departmental organizations and undergraduate research.

Q: Besides taking classes, what else do you do?

JM: Other than classes, I’ve been able to participate the Sigma Gamma Epsilon (SGE) geological honor society at Kent State. I’ve also been able to work for Dr. David Singer as a research assistant and work on my own undergraduate research project under Dr. Elizabeth Herndon.

**Internship Spotlight: Mike Sierleja**

Undergraduate Geology major Mike Sierleja did a 10 week summer Center for Earth and Planetary Sciences (CEPS) internship at the Smithsonian National Air and Space Museum. This internship opportunity was made possible by a generous donation from Alumni Don Gifford. Mike started the internship at the Great Sand Dunes National Park In Colorado where he worked with researchers monitoring dune movement by mapping techniques and GPS and GNSS technology to be used for similar projects on Mars. They also used the same techniques to study mega ripples which are the smaller ripples between the large dunes. Mike took the strike and dip of the mega ripples and used a laser to measure it’s height every ten centimeters. Mike was happy that he was able to apply his knowledge from structure class to study the movement of these spectacular dunes! Mike spent the rest of his internship in Washington DC using remote sensing techniques to track wind travel over Martian Dunes!
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