

THE IUP GEOSCIENCE ALUMNI NEWSLETTER

GEO TIDINGS



In this issue

A New Name for a New Half-Century?

Passing the ~~Donut~~ Torch to a new Chair

Cover Photo: IUP students rise at dawn to study beach deposits at Cape Henlopen, Delaware

New Science Building Updates

Groundbreaking Ceremony Planned for Kopchick Hall

Thanks to the generosity of many alumni and friends of IUP, the building that once seemed like a dream will soon be a reality, creating opportunities for students and fostering relationships that will impact our community, our region, and our world. The building design has been approved, and we plan to break ground for our new science building, Kopchick Hall, on Wednesday, May 6, 2020, at 4:30 p.m. The groundbreaking ceremony will take place along North Walk on the edge of the Oak Grove. If you are in the area, please join the leaders of IUP, as well as the Dean and faculty of the John J. and Char Kopchick College of Natural Sciences and Mathematics, in celebrating this first step toward our new academic home.



Once completed, the 182,000-square-foot Kopchick Hall will be the hub of activity for all things science and math at IUP. The new 151,751-square foot building will include more than 51,600 square feet of laboratory space. It will be sited facing the Oak Grove and will be part of the center of campus. There will be a number of common spaces in the building — including a new planetarium underwritten by Geoscience alumni Tim and Deb Cejka — designed to showcase science and math to the wider university and local communities.

With its focus on research-teaching labs and student-centered lectures and tutoring rooms, and inviting common areas designed for collaboration, Kopchick Hall will truly transform how IUP delivers science education. |

If you would like to attend the ground-breaking ceremony and need more information please call 724-357-5661 or send a message to vip-events@iup.edu with questions. You can also check the [news page](#) of the John and Char Kopchick College of Natural Sciences and Mathematics for updates.

A New Chapter in a Distinguished Career

Professor Steve Hovan Heads from IUP to NSF

As of Jan. 6, 2020, Dr. Steve Hovan began a new phase of his distinguished scientific career by starting work at the National Science Foundation (NSF) in Alexandria, Virginia, as a visiting scientific administrator or rotator. Rotators are program managers who make recommendations about which grant proposals to fund. The position is called a rotator because it is temporary (designed to rotate researchers in and out of the job), in order to help the NSF maintain a close connection with the broader scientific community.

“Coming from IUP, I think I have a unique perspective that many other program rotators don’t have; many program rotators come from top-tier institutions that don’t require a 4-4 teaching load,” Hovan says. “

Steve Hovan’s time at IUP has been filled with accomplishments and accolades. He was named a Distinguished University Professor in 2007; in 2010, he received the College Achievement Award for his continued commitment to



the college and students. He was also given the outstanding Achievement in Research Award from the School of Graduate Studies and Research in 2000. Hovan has been a principal investigator on two successful NSF research awards and has conducted research on several ocean vessels funded by the NSF, involving IUP students on those expeditions. He has been published and presented extensively in his field throughout the United States and internationally.

Dr. Hovan’s new responsibilities will bring him into contact with many researchers and policy makers across the country, forging new relationships that can also benefit IUP over the long run. Rotators stay with the NSF between one and four years, Some of Hovan’s other responsibilities at the NSF will include long-range planning; administration of the merit review process and proposal recommendations; preparation of material describing advances in the research supported; and coordination with other NSF programs. Hovan also plans to keep a small research agenda running through IUP and he will frequently visit campus to work with students and faculty, and give presentations about how to write grants that have a better chance of being accepted at the NSF. He also hopes to attend the annual spring Geoscience Day that celebrates IUP student research.

“I’m not retired from IUP. I’m just out on loan to NSF,” Hovan tells us. We look forward to seeing him back on campus soon.

A New Name for a New Half Century

Changes are proposed for our programs of study ...

Undergraduate enrollments are declining across the country as a result of demographic change. That trend is especially noticeable in western Pennsylvania, with its older population and shrinking industrial sector.

To prepare for the future, every academic program at IUP has been asked to propose changes that would increase student success, streamline student progress, and attract more student interest in the program. This initiative, known as INSPIRE (Institutional Success through Program Innovation, Redesign, and Evolution) Review, has just wrapped up its first phase

INSPIRE: INSTITUTIONAL SUCCESS THROUGH PROGRAM INNOVATION, REDESIGN, AND EVOLUTION

and we have exciting news to announce as a result.

The Geoscience Department has proposed three major changes, all of which have been endorsed by the INSPIRE review panel and the Provost / Vice-President of Academic Affairs:

A streamlined Bachelor of Science in Geology

Older alumni will recall the days when there was only one choice to make in our department — geology or education. In the 1980's, the department added a degree track in Environmental Geology to attract the surge of interest in environmental remediation and monitoring during that decade. Similarly, in the 2000's, we added a track in Energy Resources as the Marcellus shale play boomed across the state, both to assist with workforce development and help students pursue rewarding careers in the oil and gas industry. Unfortunately, as our enrollments decline, those separate tracks begin to create barriers to graduation when required electives can't be offered due to low student numbers.



To respond to this situation, the department consolidated our three separate tracks into a single BS in Geology degree. The curriculum of this streamlined program will cover all of the requirements of the Geologist in Training (GIT) examination and will prepare students for eventual licensing as Professional Geologists (PG). We will still offer areas of focus in Environmental and Energy Resource geology, but students will now be able to graduate even if every elective in those areas is not available.

A New Name for a New Half Century

... and for our identify as an academic department.

An entirely new approach to Earth Science Education

Speaking of education, educational faculty from all four natural science areas (Biology, Chemistry, Earth and Space Science, and Physics) have proposed an even more sweeping change as a result of the INSPIRE review. If approved by the College of Education and PA Department of Education, this will create a free-standing Certificate in Secondary Science Education, replacing the current BSEd degree. Each natural science department will create a focus area within their existing Bachelor of Science degree that would give students the required science content to pass their licensure exams. The



advantage to this format, which is already in place at other institutions of higher education across Pennsylvania, is that students can decide to explore more than one educational focus area without needing to take a second degree or an enormous number of extra courses in geology. We know many of our alumni 'double-majored' in both Earth and Space Science Education and Geology, and hope this will allow future students to follow in their footsteps without staying for extra semesters or paying extra tuition.

A new focus on the Earth's global environment reflected by our name

As our faculty retire and new folks arrive, our department naturally changes the emphasis of its research and teaching to reflect the interests and project funding of its current members. Over the past decade, our focus has increasingly shifted toward exploring the Earth's global environment, climate, and sustainability. These are also areas that potential students are increasingly interested in, and we wanted our name to communicate our identity more clearly.

To grow future enrollments and attract more environmentally minded students in the coming decades, we have proposed a department name change to the Department of Earth and Environmental Sciences. We hope that change will not only reflect our current programs (BS in Geology, Certificate in Secondary Education, and Geology minor), but will also allow us to develop a new BS in Environmental Sustainability. We believe this will give our students more opportunities, such as early admissions to graduate programs in Geography and Safety Sciences at IUP, as well as the Master's in Sustainability Studies at Chatham University.

As always, we invite your feedback on any or all of these changes as we move into our second half-century. Just email us at: geoscience-info@iup.edu.

IUP Students Present Their Research

IUP Geoscience students were very busy throughout 2019, presenting the results of their research projects on campus, to regional geologic societies and on the national stage as well!

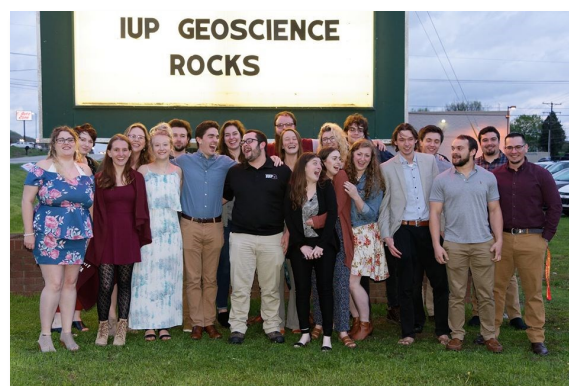
PGS-ASCE-AEG 2019 Student Research Night

It was a paleontology trifecta for IUP at the annual student research night in Pittsburgh. Seniors Rock Brenner and Heather Furlong presented posters on their diatom research projects (advised by professor Jonathan Warnock), while Nicole Carmarda gave an invited oral presentation on her dinosaur research (advised by IUP Biology professor Eric Morscheimer). Along with eight other geoscience students from our region, they were honored with certificates and cash awards given by the Pittsburgh Geological Society (PGS), the American Society of Civil Engineers (ASCE) and the Association of Environmental and Engineering Geologists (AEG).

Geoscience Day 2019

Eight geoscience seniors finished their IUP geoscience careers with professional quality talks about their capstone research presentations. The schedule included:

- Sara Trio, *Analyzing Carbonate Content Present in Sediment Core KN223 10LC2: Building a Time Scale*
- Kayla Kroczyński, *Researching Stormwater Runoff at the White Township Recreation Complex in Indiana County, Pennsylvania*
- Tyler Sharretts, *Characterizing the Sedimentary Fluxes and Geomorphological Alterations of Presque Isle Peninsula using Ground Penetrating Radar*
- Manny Aviles Torregrosa, *Finding and Mapping Natural Gas Gathering Lines using Electromagnetic Induction and Ground Penetrating Radar*
- Heather Furlong, *Fragilariopsis kerguelensis: A Quantitative Interpretation of Diatom Growth and Nutrient Recycling*
- Rock Brenner, *Nutrient Availability and Recycling Rates Over Marine Isotope Stage 31 in the Ross Sea, Antarctica*
- Nicole Camarda, *Body Mass Estimation of the Protoceratops and Triceratops*
- Copeland Cromwell, *Grainsize and Componentry Analysis of Multiple Vents in 2010 from Submarine Volcano NW-Rota 1,*



Join Us for Geoscience Day 2020!

SAVE THE DATE — THE 46TH ANNUAL GEOSCIENCE DAY AND GEOSCIENCE BANQUET WILL BE FRIDAY, APRIL 24, 2020

Alumni are invited to join us for our annual celebration of geologic research at IUP on the final Friday in April. We will once again have our senior research presentations at the Hadley Union Building (HUB) in the morning, where students will talk about research projects ranging



from Marsh Creek flooding in Indiana County to dinosaur excavations in Utah. The student talks will be capped off by a presentation from our featured alumni speaker, Sierra Davis '15 on **“Dredging Up Answers: Data-Driven Sediment Management”**. This presentation will draw on Sierra’s research since graduating from IUP, both as a graduate student at the University of Rhode Island’s Coastal Mapping Laboratory and in her current position as an NOAA Coastal Management Fellow at the Delaware Department of Natural Resources and Environmental Control.

Later on April 24, 2020, the faculty and students along with friends, family and alumni will gather at the Rustic Lodge, to give out awards and honor the graduating seniors. Please plan to join us there even if you can’t take the day off from work, to help us celebrate another stop forward toward a half-century of undergraduate research in the earth

Young Alumni Achievement Award 2019



Danielle (Chirip) Miller was one of six graduates of IUP who were honored with the Young Alumni Achievement Awards for 2019. This award recognizes recent IUP graduates who are outstanding in their professions. Any IUP graduates of less than 15 years are eligible, and all recipients are selected by the deans of their colleges

Danielle graduated as an Earth and Space Education major from the Kopchick College of Natural Sciences and Mathematics in 2006. She is currently an astronomy teacher at Orange County Public Schools in Orlando, Florida, where she participates in many NASA workshops and projects.

The award recipients were recognized by President Michael Driscoll on Sunday, November 3, at a dinner in the Sutton hall and spent Monday speaking to current IUP students and giving career presentations.

IUP Rocks the AGU!

IUP faculty members Katie Farnsworth, Steve Hovan, Jon Lewis, Greg Mount, and Sajad Hamidi (Environmental Engineering), along with a number of IUP students, traveled to San Francisco during finals week to participate in the [American Geophysical Union](#) Fall 2019 meeting. After presenting numerous posters and talks over five days, the student group also got to visit local geologic research facilities and study the California coast line before heading home.



Poster: ED11B-0867, [“Using IODP Data to Enhance K-12, Undergraduate and Informal Science Education”](#) by Sharon Cooper, Laurel Childress, Stephen Pekar, **Jon Lewis**, Leslie Sautter

Invited Talk: ED22A-05 – [“Increasing the Educational Impacts of Undergraduate Research With Community-Focused Projects”](#) by **Katherine Farnsworth** and Matt Genchur

Poster: NS21C-0836 – [“The use of ERI and Seismic refraction to constrain soil depth and geologic structure at Cole Farms Agricultural Site in the Susquehanna Shale Hills Critical Zone Observatory”](#) by Joaquin Cambeiro, Perri Silverhart, Yonesha Donaldson, Angelo Tarzona, Hunter Murray, Kristina Keating, **Gregory Mount**, Jorden Hayes, Susan Brantley, Roman DiBiase, Jonathan Nyquist

Poster: NS21C-0827 – [“Investigating the hydrologic impact of relic terraces using near-surface geophysics in intensively managed critical zones”](#) by **Gregory Mount**, Ashlee Laura Denton Dere, **Tyler Sharretts '19**

Poster: NS21C-0834 – [“Imaging the structure of solifluction lobes in the Garner Run Subcatchment of the Susquehanna Shale Hills Critical Zone Observatory using 2D Seismic Refraction Tomography”](#) by Angelo Tarzona, Alex Castelo, Joanmarie Del Vecchio, Yonesha Donaldson, Joaquin Cambeiro, Hunter Murray, Jorden Hayes, **Gregory Mount**, Kristina Keating, Susan Brantley, Jonathan Nyquist

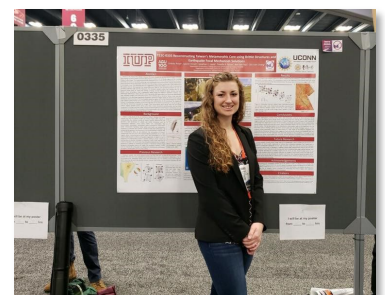
Poster: NS21C-0835 – [“The Use of Electrical Resistivity Tomography \(ERT\) to Image Solifluction Lobes in the Garner Run Subcatchment of The Susquehanna Shale Hills Critical Zone Observatory”](#) by Aisha Rodriguez, Joaquin Cambeiro, Angelo Tarzona, Hunter Murray, Yonesha Donaldson, Joanmarie Del Vecchio, Jorden Hayes, **Gregory Mount**, Kristina Keating, Susan Brantley, Jonathan Nyquist, Roman DiBiase

Poster: NS21C-0836 – [“The use of ERI and Seismic refraction to constrain soil depth and geologic structure at Cole Farms Agricultural Site in the Susquehanna Shale Hills Critical Zone Observatory”](#) by Joaquin Cambeiro, Perri Silverhart, Yonesha Donaldson, Angelo Tarzona, Hunter Murray, Kristina Keating, **Gregory Mount**, Jorden Hayes, Susan Brantley, Roman DiBiase, Jonathan Nyquist

Poster: T21C-0333 – [“Late-stage Deformation and Exhumation of the Blueschist-Facies Yuli Belt in the Taiwan Arc-Continent Collision”](#) by Michael Chojnacki, Timothy Byrne, Gong- Ruei Ho, **Jonathan Lewis**, Jian-Cheng Lee, En-Chao Yeh

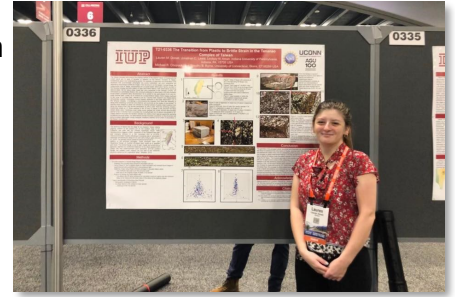
Poster: T21C-0334 – [“Synorogenic extension: gravitational collapse or extrusion in southern Taiwan”](#) by Wei-Hao Hsu, Timothy Byrne, **Jonathan Lewis**, Yue-Gau Chen, Po-Yi Yeh

Poster: T21C-0335 – [“Reconstructing the exhumation of Taiwan’s metamorphic core using brittle structures and earthquake focal mechanisms”](#) by **Lindsey Aman '20**, **Lauren Donati '20**, **Jonathan Lewis**, Timothy Byrne, Wei-Hao Hsu, Chiu-Lien Chang

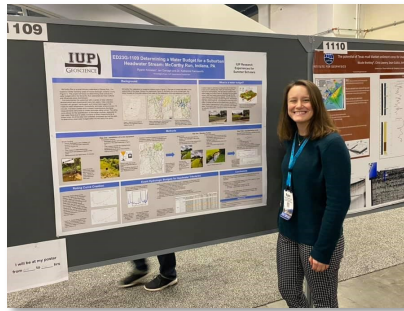


IUP Rocks the AGU!

Poster: T21C-0336 – [“The Transition from Plastic to Brittle Strain in the Tananao Complex of Taiwan”](#) by **Lauren Donati '20, Jonathan Lewis, Lindsey Aman '20, Michael Chojnacki, Timothy Byrne**

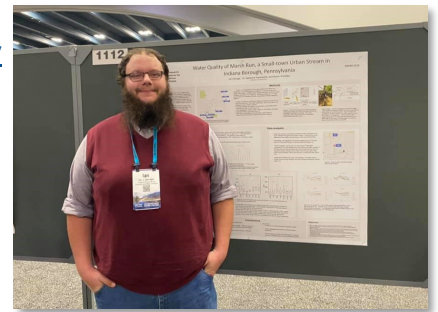


Talk: NS23A-02 – [“2D seismic imaging in the Susquehanna Shale Hills Critical Zone Observatory: New constraints on subsurface structure and weathering”](#) by Lisa Ma, Natalie Accardo, Andrew Nyblade, Xin Gu, **Gregory Mount**, Susan Brantley



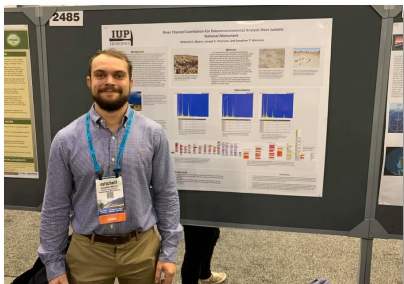
Poster: ED23G-1109 – [“Determining a Water Budget for a Suburban Headwater Stream: McCarthy Run, Indiana, PA”](#) by **Ryann Elizabeth Knowles '20, Ian Darragh '20, Katherine Farnsworth**

Poster: ED23G-1112 – [“Water Quality of Marsh Run, a Small-town Urban Stream in Indiana Borough, Pennsylvania”](#) by **Ian Darragh '20, Katherine Farnsworth, Ryann Elizabeth Knowles '20**



Poster: ED31C-0978 – [“STEMSEAS: A Vehicle for Broadening Participation in the Emerging STEM Ecosystem”](#) by **Jonathan Lewis** and Sharon Cooper

Invited Poster : ED31E-1003 – [“Partnering with the Community to Create Community-Based Research Opportunities for High-School and Undergraduate Students”](#) by **Katherine Farnsworth**



Poster: B41H-2485 – [“River Channel Correlation for Paleoenvironmental Analysis Near Jurassic National Monument”](#) by **Mitchell Moore '20**

Talk: GC43A-01 – [“Investigating the effects of salinization in peat soils of the southwestern Everglades: implications for carbon fluxes and soil collapse during sea level rise”](#) by Matthew Sirianni, Xavier Comas, Carlos Coronado-Molina, David Rudnick, **Gregory Mount**

Poster: NG43A-0895 – [“A Comprehensive Numerical Analysis of Wave Transmission in Submerged Breakwaters”](#) by **Sajad Ahmad Hamidi** (IUP Environmental Engineering), Mohammad Hassan Nobakhti, Roozbeh Panahi

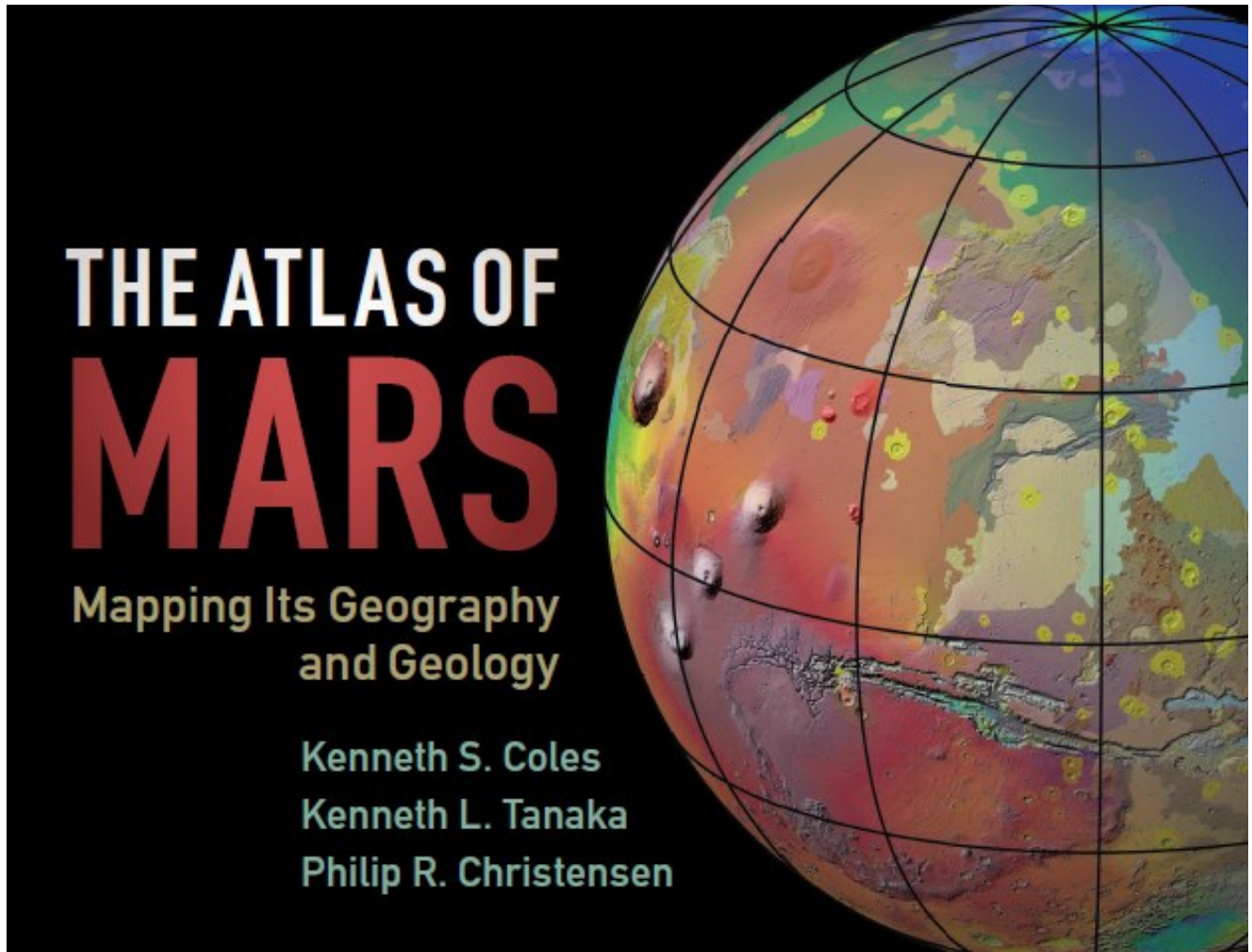
Poster: EP53F-2206 – [“Land use versus climate controls on erosion at a farmed headwater catchment in central Pennsylvania”](#) by Perri Silverhart, Roman DiBiase, Robert C. Walter, **Gregory Mount**, Kristina Keating, Jordan Hayes



Spotlight on Faculty Research

THE ATLAS OF MARS IS PUBLISHED

The Atlas of Mars: Mapping Its Geography and Geology by Ken Coles (IUP), Ken Tanaka (US Geological Survey), and Phil Christensen (Arizona State Univ.) has been published by Cambridge University Press late in 2019. It is available directly from Cambridge U. Press, at conventions held by AGU, GSA, and the Lunar and Planetary Science Conference, through the usual online outlets, and maybe at your local library, if you ask them to get it!



This project has never failed to amaze and interest those working on it. The perspective one gets assembling a comprehensive overview of a field of research is useful in creating new research projects for students and informs teaching in classes at IUP. The funny part is that Dr. Coles says he has still not memorized where all the named features are on Mars. Reaching for the book is already a habit and is the reason for keeping a copy in the office at all times!

To learn more about the book, including sample pages and a set of the maps, go to www.cambridge.org and enter Atlas of Mars in the search box (choose Academic in the drop down menu).

Alumni News

John Repetski '69

Having just passed two years of retirement, I'm still spending about halftime at USGS, as they let me keep office, labs, etc. as an Emeritus researcher (AKA scientist with less bureaucratic paperwork burden). However, it looks like I still have at least 20 years' worth of research I'd like to finish. Not the least being a bunch of intermingled studies with fellow alumni John Taylor and Jim Loch, on Appalachian, New Mexico, Nevada, and Alaska. Some day we'll sort out the end-Cambrian & Early Ordovician problems! Personally, I'm glad all 3 boys are gainfully employed and live close-by; and I can still run, but much slower now. Best wishes to all!

Brian Roth '73

I am now mostly retired, although I did renew my P.G. license for one more term. I still work part time for Minetech Engineers in Altoona, PA. I volunteer two days a week at the Air Mobility Command Museum in Dover, DE helping to restore and maintain retired U.S. Air Force aircraft, mostly transports and tankers, for static display at the museum. Our daughter, Karen, is chief engineer at the Rome, NY branch of the Air Force Research Laboratory, Information Technology Directorate. She had our first grandchild, a girl named Charlotte, in the middle of November. We expect many trips to New York in the future!

Paul Weaverling '79

Greetings to my fellow alums of the later '70's. The adventures continued in 2019 with a late August trip to Alaska. We paddled around and walked on the glaciated, accreted terranes of

the Kenai Peninsula and then ventured inland to visit The Great One – Denali. What an enormous granitic massif, and it's still rising above the surrounding tundra and glacial outwash plains.



The weather cooperated amazingly well and the views were spectacular whether from the air or from Wonder Lake at sunrise. So many great geologic wonders, so little time. All the best in the New Year!



Wendy (Metcalf) Straatmann '92

2019 was full of traveling and seeing some great geology and biodiversity. I spent time on the Galapagos Islands and there are really no words to describe the uniqueness of that area. David Attenborough gave it a good

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shot. I have attached a few photos. Seeing some fiords in Norway was pretty awesome and I was impressed by the immensely steep mountains and deep water. Two bucket list trips now off the list.



I am also enjoying my role at TC Energy leading engineering and operations for their US natural gas transmission pipeline footprint. I get to use my geology degree regularly as I oversee 650 bcf of natural gas storage fields. One of my favorite projects has been partnering with the PA Game Commission in planning out elk food plots along pipeline right of way in central PA to encourage the elk to migrate away from Interstate 80.

On the home front, daughter, Kate is working on a masters degree in business and son, Grant is deciding between college or the

military. They are both happy and healthy. Warren and I are enjoying time on the family farm and working on the gentleman farmer life.

Steve Smith '01

Well, 2019 started relatively the same as the previous year, but it is ending with some change - more on that is a bit. We are all doing well, and hope you are doing well. Our daughter Aurora is making it through seventh grade at Porter Traditional School, but not as excited for it as previous years. She still enjoys reading, but is now for some reason transitioning into a horror phase - quite the change. She had to take a language - Spanish - and has not been thrilled with it. She is doing photography again this year for the Yearbook staff. She has also been interested in skateboarding as well, but is still trying to get the hang of it. She is in her second year of Cadettes for Girl Scouts.

My wife Kate started a full time position as a Pre-K Teacher's Assistant at Leesylvania Elementary School, in Virginia. She is still involved with Girl Scouts as a leader for two troops. Aurora's Cadette Troop and a Troop of girls with special needs at The Arc. Kate is still the cookie mom, so as usual things will get crazy around here.

I have continued to do some Civil War reenacting and living history events with my group, the Liberty Rifles. This year the living history schedule included Point Lookout Winter Garrison, Maryland; Orange County, Virginia Encampment; the anniversary program at Gettysburg, PA - as the 15th Alabama charging the actual 20th Maine positions on Little Round Top; Cedar Creek, Virginia Picket Post; and the Remembrance Day program at Gettysburg, PA.

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There was also one reenactment event at Missionary Ridge, Tennessee as the first artillery event I have done.

Marking the 10th year of doing Honor Flights, this year was a heavier dose of them as there were 18 days of greetings for 34 Honor Flights. So far I have been able to greet 177 Honor Flights throughout that time.

Three other trips this year started with a small 25th Anniversary Reunion in Las Vegas with two other buddies from Antarctica - Jake and Tim! Great to see them again! Even got to check out Frenchman Mountain and the Hoover Dam while I was there. The second trip was a short weekender with another Antarctic buddy, Brian, to hike up Old Rag in Shenandoah National Park. What was billed as at least a 7.5 hour hike took us 6.5 hours - killed it!



This year, we took the big trip to Colorado - Rocky Mountains Baby!! We spent the last part of July into early August traveling around the state - taking almost 7,000 photos! An abridged list of the sights were: St. Louis, Sand Creek Massacre National Historic Site, Colorado Springs (and cousin Brandon), Garden of the Gods, Pike's Peak, Denver area sites, Rockies baseball game, Rocky Mountain National Park, Dinosaur National Monument, Colorado National Monument,

Black Canyon of the Gunnison National Park, Ouray area sites, Durango, Four Corners Navajo Tribal Park, Hovenweep National Monument, Mesa Verde National Park, Chimney Rock, Great Sand Dunes National Park, Florissant Fossil Beds National Monument, and Breckenridge. Unfortunately, the main thing I wanted to do was the Ice Lakes Trail just outside of Silverton, Colorado, but ended up getting sick the night before, so we had to skip it. Sucked too, since it looked like it would have been a decent day to hike it.



Aurora knocked off another 5 states from her list (Kansas, Colorado, Utah, Arizona, and New Mexico). Five more to go for all 50 (Oklahoma, Texas, Nevada, Oregon, and Hawai'i)! We also spent most of the drives listening to the last three Harry Potter books on audio CDs - thanks Janice. One other thing Aurora got to do early in the trip was see where she was born - St. Louis, as it was the first stop. We all made it up the Arch.

There were still six other trips to Pittsburgh to see family members. Kate and Aurora also got to go to northeast Pennsylvania to see her sister, Linda. Our pup Jolly Roger turned four back in November, and is still jumpin'. He made several trips to Pittsburgh with us this year, and has held his own with buddy Thor.

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As for another change to the year, I found out in November 2019, that I was accepted for a position with the USGS as a Physical Scientist. I will be starting that position around early February 2020, after just over 14 years with the National Geospatial-Intelligence Agency. Looking forward to it.

Bob Kervin '02

All is going well down here in Texas. On a personal basis my wife and children are doing great. My two girls are growing like bean stalks with Amelia being a little over 3 and Eloise at 20 months. As any parent would understand, this period in their lives is incredibly exciting as you can watch them suck in knowledge like a sponge; however, this period in their lives is also somewhat frustrating as they learn how to cope with emotions. It's great though, I love it.

On another interesting personal note, in early December my wife, Katie, donated a kidney to a young woman that she used to babysit when she was in high school. The recipient has been in renal failure for a little over a year and against many odds, Katie was a perfect match. Watching the entire process was remarkable; within a few hours of transplant the recipient's kidney was functioning properly, her color came back, and her blood chemistry began the conversion back to normal. It's been 6 weeks now and both are doing well.

As for life in the oil patch things are great (that is, speaking for us. I don't think the rest of the energy sector can say the same thing). Despite coping with oil prices in the "lower for longer" regime, we've managed to steadily grow production and cash flow. I've been working some very interesting geology as of late. Newly completed seismic reprocessing

has popped out some neat clues into production trends on a project I'm working. In a region where the "old" data displayed a very simple structural picture, the new data shows a highly complex structural story that I wouldn't believe if I didn't see it. Stuff like this makes me excited to come to work everyday. Once again confirming to myself that becoming a geoscientist was one of the better decisions I've ever made in my life!

Mark Zellman '99

The Wyoming State Geological Survey has published a map of the Teton fault that I authored. I've attached a copy. You can link to the download page from their homepage <https://www.wsgs.wyo.gov/>. They offer free downloads of the PDF, and they also sell printed copies. The WSGS and I were interviewed by an AP report this morning, and the article is popping up all over – including the Washington Post. I had no idea it would have such widespread interest. This was also the year that my wife Kristi became received her PhD from the Colorado School of Mines.

Joe Biondo '07

Another job change for me.

In May of 2019 I was given the opportunity to come to work for Lineal Industries. Lineal is a pipeline construction and pipeline integrity contractor. The pipeline integrity portion of our work is very consistent as every time PHMSA changes a specification on how pipe must be safely serviceable underground, it allows opportunity for my company to run smart pigs through the line for any abnormalities.

At Lineal, I have continued my role as Director of Environmental, Health, Safety and Training.

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Our work spans most of the NE part of the county. I have found that a good bit of my IUP graduating class is working in the industry for some of the Oil and Gas operators in the area.

Mallory Zelawski '07

In March 2019 I left Warwick Group and started a new job with Mach Resources in Oklahoma City as a geologist. My husband (Dan Costello) and I celebrated our one year wedding anniversary with a trip to Alaska. It was an incredible trip getting to hike and ice climb on the Mendenhall glacier along with exploring Denali National Park. We look forward to going back in the future.



Jeff Dereume '08

Happy 2020 to everyone and wishing you all the best. Professionally, 2019 was a year of change for me. After 10 years with EQT, I was

laid off in January as the company attempted to reduce costs and prep for a proxy battle with Rice Energy Group. While a bit of a shock to the system, the perspective was great and it was a nice chance to move on to something new. From April to September, I worked with Northeast Natural Energy as an operations geologist, and from September until now I have been working as a planning geologist with Olympus Energy in Pittsburgh. As we prep for some of the lowest gas prices we've experienced, it will be a challenging year and will take some crafty planning.



On a personal level, 2019 was a wonderful year. My daughter Evie turned three in September and we've loved traveling with her. In May, we went on a family trip to South Dakota where we checked off some geologically significant stops at Devils Tower, Mount Rushmore, and The Badlands. All highly recommended for anyone who has never been. This year we are looking forward to trips to Mexico and Yellowstone. As usual we'll spend the winter skiing, and we'll be hoping Punxsutawney Phil predicts six more weeks of winter on February 2nd!

Kalin McDannell '08

This past year has been very interesting and has gone by very quickly. I sit here writing this

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is the throes of a Calgary winter, complete with intermittent chinook winds to warm things up and remind me of what having seasons used to be like. I'm currently wrapping up my 2.5 year postdoctoral fellowship with the Geological Survey of Canada in Calgary, which ends in March. I'm still looking for an academic or industry position and have been applying to many places. During my time in Calgary I have published 7 journal articles, a few open file reports, and have a few others submitted or in the works, one of which I'm currently writing as an invited piece for the journal Elements upcoming 2020 issue on

Taylor and all the paleo types will be interested to know that this spot is not only beautiful, but is where James Walcott discovered the amazing Cambrian trilobite beds and soft-bodied fossils of the Burgess shale above the lake in 1909, offering a well-preserved view into the goings on at ~505 Ma in a shallow water setting. Overall an excellent year! I'm sending out good vibes for all IUP alums in 2020.

Mark Smith '11

After graduating IUP, I continued my interests in structural geology by receiving an MS



'noble gas thermochronology'. I have asked Dr. Becky Flowers at CU-Boulder to be a coauthor and our paper assesses deep-time thermochronology of ancient rocks. I also attended the recent fall GSA meeting in Phoenix and presented some of my work in Canada. Over the summer, family visited and we took a trip to Golden, British Columbia and stayed in the Kicking Horse valley doing some hiking, relaxing, and exploring. One of our highlights was stopping at Emerald Lake, BC (near Field) in Yoho National Park and taking in the spectacular views (see photo). Dr.

degree from UConn Geosciences in 2013. Shortly after, I launched a successful startup company with co-founder and fellow IUP geoscience alum, Daniel Saftner, called Macroscopic Solutions, LLC. The company provides high quality imaging and microscopy solutions for niche applications across widespread oil/gas/mining industries, environmental/conservation/preservation agencies and natural history museums. In 2018, I started an investment firm with prior business colleagues and mentors at local law firms, businesses and universities in

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northeast Connecticut. My most recent venture has been accepting the CEO position at Voltxon, Inc. where my role is to assist our board members in licensing and commercializing novel energy generator and storage devices for high risk medical devices. I occasionally offer geological consulting services for a patent and research firm called Nerac, Inc. and I continue to pursue my passion for scientific photography, privately and professionally.



In my personal life, I've happily married Annette Evans in 2015, who I met while studying abroad at the University of Auckland in 2009. We've temporarily settled in a house in Storrs, CT as she completes her final year as a PhD student in conservation biology at UConn. I regularly keep in touch and meet up with friends from IUP geoscience, still in love with cycling (thanks Jon Lewis!) and am proud caretaker of our dog named Ngaio. Wishing everyone from IUP Geoscience my best!

Patrick Boyle '12

For the past five years I've been working Permian Basin assets for ConocoPhillips Company, as a geologist in Houston, Texas. This past June I was lucky to be offered a transfer to Anchorage, Alaska to work assets on the North Slope – something I've been dreaming of since IUP. The move has been great, and the adjustment to Alaska seems to be more welcoming to a Pennsylvanian than the move to Texas. I've been enjoying getting back into mountain biking, downhill skiing, and camping. Since my last update I've added a four-legged family member, Sawyer the dog, who is very much enjoying the move, and the additional food that comes with the increased activity. Besides getting back into old hobbies with Sawyer, I've been picking up a few new ones too. One of which is curling. Funny enough I ended up on a curling team with fellow IUP Geoscience alumni Patrick Perfetta '95.

Patrick and Sawyer the dog taking a break during a fat tire bike ride.



Alumni News

John Kearney '13

In summer 2019 I conducted my fourth and final field season at Olduvai Gorge, Tanzania. I successfully defended my dissertation on Aug 23, and started a full-time position as a Geoscientist at ExxonMobil on Dec 9.

Zach Tolbert '14

I'm on the 4th year of my job as a lab technician at R&D Coatings; while not geology related I still find that the data entry work I did for Dr. Taylor has come in useful for plugging in that data.

For more Geology Related things; this year is my 10th year volunteering at the Carnegie Museum of Natural History's Paleontology Dept/Lab. Last year I also received recognition for 250 hours of volunteering.

For other matters I've been doing more environmental/sustainability activism within the Pittsburgh area. I also moved to wonderful Morningside which makes the commute to McKees Rocks much better compared to driving from Monroeville.

Rachel Krueger '17

I started working at Eurofins Lancaster Laboratories Environmental as a Data Review Specialist, plus I've started a volunteer Collections Assistant position at the North Museum of Nature and Science.

Brandon McGregor '17 (minor)

Brandon is enrolled in the Earth and Planetary Science Ph.D. program at University of Hawaii-Manoa, working on a study of the Hawaii-Emperor seamount chain with a focus on lithospheric flexure and

seismic imaging. He reports: "I'm all settled in here in Hawaii and have been loving it. I'm taking courses in geophysics, foundations of geology, and speaking seminar. I have made some neat maps of my study region using GMT software. It's similar to ArcGIS, but more favorable for large amounts of data. I have actually learned to surf here and the beaches are just gorgeous."

Danielle Guttman '17

While I am not directly in the scientific world anymore, I have found that my passion lies within environmental conservation work. I've spent the last year working for the Student Conservation Association and have an interview [soon] to become a Plant Health Care Specialist. So hopefully I will be able to spend my time diagnosing and treating sick trees...something very dear to me.

Alyssa Lerda '17

In September 2019, I began working as a high school Earth Science teacher at Elmira High School which is located in upstate New York. I had to re-take all my certification exams to get my PA certification transferred to a NY certification but hanks to the stellar education (no pun intended) I received at IUP I was able to pass those exams on the first try and I feel very confident in my abilities to effectively teach earth science. I can't thank you enough for believing in me and encouraging me to take the leap and switch my major. While it was definitely a more challenging route to take I feel that it was worth every penny. I'm excited to pass on my passion for the earth sciences to the young minds of Elmira High School!

Faculty News — Karen Rose Cercone

Karen Rose continues to serve as Provost's Associate in the Division of Academic Affairs. Her tasks include helping to organize IUP's learning outcomes, overseeing the curriculum revision process, keeping track of records for IUP's next Middle States accreditation and probably a dozen other things that she's lost track of since she first took the position last January. She very much enjoys working with IUP faculty from across the campus, and now knows more about obscure curriculum rules and PASSHE policies than she ever thought possible.

Over the summer, Karen Rose carried out a historical research project with her nephew Tony Cercone (a senior History Education major at Clarion) on sites of historical and geologic interest along the [Westmoreland Heritage Trail](#).

As a result of their research and grant funding from the Trail Volunteer Fund, 17 new historical plaques were installed along the trail this past fall, with subjects ranging from the Pennsylvania Mainline Canal in Saltsburg to the Loyalhanna Flood Control Dam to the early days of coal mining in the Irwin gas-coal basin.

Karen Rose spent much of the fall and winter helping Steve Hovan and other Geoscience faculty write our five-year self-study document, which will form the basis for our spring program review by our external evaluator. She

also created the draft for our BS in Geology INSPIRE program response document ... partially assisted by the fact that the Provost had asked her to help coordinate the INSPIRE review process during its formation. It's helpful to have a hand in designing the rubric your own submission is going to be evaluated with! Whether or not that was the reason, the Geoscience submission was fully endorsed by the INSPIRE review committee, and was also singled out as one of three model program responses submitted in Phase I of the review project.

Karen Rose finished up the year presenting a workshop at the Annual Meeting of the Middle States Commission on Higher Education in Philadelphia, where she and two IUP colleagues (Edel Reilly and Bryna Siegel Finer) discussed the progress IUP has made in assessing program outcomes, Writing Across the Curriculum and Liberal

Studies.

It wouldn't be a Karen Rose update without a dog picture at the end, so here is Mica winning third place in Companion Dog Excellent Obedience last March. Yes, you guessed it — only three dogs qualified!



Faculty News — Steve Hovan

Most of you have seen the news by now, but I rang in the new year with some pretty significant changes – a new position with the National Science Foundation! On January 6, I started my appointment as a Program Director for NSF’s Marine Geology and Geophysics program. I’ll be a “Rotator” which means I’m part of a number of program directors who are appointed from universities throughout the nation to serve a temporary term while “on leave” from their home institutions.

Much of my new job involves coordinating the proposal review process for a number of programs related to the exploration and understanding of the seafloor environment – seismic surveys, records of climate change in sediments, marine hazards, etc. All research proposals go through peer reviews to evaluate the scientific merits of the project and the broader impact it has on society. I’m very excited about the challenges this new opportunity brings and eager to serve the community of science in this way.

So after nearly 13 years as Chairperson I am finally stepping aside and letting one of the “new kids” take the reigns. Nick will be a fantastic Chair and I’ve no doubt that his leadership and dedication to our department will serve our students well. I want to take this opportunity to thank you for all the support you’ve given me over these years. I’ve had the good fortune of knowing many of you personally and being part of your education. For others, I’ve gotten to know you as alumni and friends of the department. A truly rewarding aspect of being Chair is getting to see first-hand the impact our alumni have in the world. You change lives as educators and you make the world a better place as geologists and environmentalists. Thank you!



During my leave, I will have access to my IUP email account and plan to return to campus regularly. So please don't be a stranger! And if you need anything, let me be the first to say “go ask the new Chair!”.



Faculty News — Jon Lewis

Jon Lewis is continuing to keep busy in the classroom teaching Foundations of Geology, Structural Geology and Environmental Geology in the last year. This coming Summer he'll be joining Dr. Warnock to offer Geology of the American Southwest in eastern Utah and southern Colorado, reflecting a hybrid of classes they've both offered in the past. Look forward to updates from the Colorado Plateau and Rockies via social media and in future GeoTidings editions.



Jon's field party in Taiwan: Wei-Hao Hsu (blue hat), Lindsey Aman sitting, Tim Byrne standing and Lauren Donati standing by the troubling sign.

On the research front, Jon remains busy with STEMSEAS and his Taiwan project. He returned to Taiwan in July 2019 with Lindsey Aman '20 and Lauren Donati '20, and co-PI Tim Byrne. In continuing to explore the role that normal faults and shear zones play in exhuming the crystalline rocks of the eastern Central Range, they deployed a drone to do high-resolution landscape analyses of anomalously low-relief surfaces that occur at ~11,000' just below the highest peaks of

Taiwan. They were focused on curious lineaments that have revealed themselves to be likely fault scarps. The surveying was cut short by the expected landfall of Typhoon Danas. They had to wake at 3 AM to backpack out of the high peaks region, then make a hasty retreat to Taipei. Alas, the typhoon turned east and missed Taiwan altogether. Nonetheless, their initial results have spurred much attention. Lindsey and Lauren shared their findings at AGU in San Francisco this December.

The STEMSEAS project (<http://mlp.ldeo.columbia.edu/stemseas/>) is also keeping Jon busy. During 2019, STEMSEAS sailed a total of 42 students from all over the country. Port calls included Reykjavik Iceland, Bridgetown Barbados and Seward Alaska. Jon hopes you will check out STEMSEAS online through FaceBook and WordPress. At the AGU meeting in December Jon and his Columbia University co-PI Sharon Cooper gave an update on the impact that the STEMSEAS project is having on its participants. At last year's AGU Jon and Sharon did an interview for Laura Fattaruso's blog ***Lab Talk with Laura***. Laura is a structural geology graduate student at UMass. (<https://soundcloud.com/labtalkwithlaura/ep-30-caroline-lisa-and-interviews-from-agu>).

This year at AGU Laura was interviewing the seven STEMSEAS alumni that were at the meeting. The students gave presentations that were very powerful. Look for updates from ***Lab Talk with Laura*** in the coming months. Also, check out the FB interview that the U of AK Fairbanks did with STEMSEAS alum Michael Martins that is shared on the GSIUP page! https://www.facebook.com/permalink.php?story_fbid=10157263340691785&id=119175556784&comment_id=10157264023566785¬if_id=1576698129518253¬if_t=feed_comment

Faculty News — Jon Lewis

In the realm of professional service, Jon continues his work on the International Ocean Discovery Program (IODP) Science Evaluation Panel (SEP) this year. This Summer the SEP met in Edinburgh Scotland to evaluate an amazing array of proposals to drill through the seafloor. In January 2020, SEP meets at Scripps Institution of Oceanography.

From San Diego Jon will head back to Taiwan with Lindsey Aman and new geoscience major Susie Adams to host an undergraduate workshop for Taiwanese geoscience undergraduate students, then head to the field for a little research along the rivers of the eastern Central Range. Jon was also very privileged to help guide a short fieldtrip in the Atacama Desert north of Antofagasta, Chile this Summer for undergraduates before embarking on IODP's first JR Academy.

Recent updates from Team Tecto graduates are as follows. Amy Clegg '18 is working in Pittsburgh as an Environmental Scientist at Intertek. We've crossed paths at REI, not surprisingly!

Allie Berry '17 is still in Syracuse but her company was recently purchased by Ramboll. She's enjoying the north country and preparing for some Winter environmental drilling efforts around Lake Placid NY. Sounds cold!

Chaz Cavallotti '16 is working for CWM Environmental in Kittanning PA, specifically on issues related to drinking water quality. This is very important work for folks in the 'burgh and nearby communities!

Mark Smith '11 is growing his company, Macroscopic Solutions, in scenic Connecticut (<https://macroscopicolutions.com/>). He connected with a Taiwanese postdoc we are working with, Gong-Ruei Ho, who spent a few months at UConn – and naturally they did some biking (Jon's jealous).

Dan O'Hara '14 is winding down his PhD at the University of Oregon and he gave an invited talk at the AGU this December. Well done!

Alumnus Ellen Lamont '12, is working on her PhD at Oregon State after having completed a Fulbright Fellowship in India. She'll be giving a talk at the AGU Chapman Conference "On the Evolution of the Monsoon, Biosphere and

Mountain Building in Cenozoic Asia" in January 2020. Very cool!

Kalin McDannell '08 is still working as a postdoc with the Geological Survey of Canada in Calgary. Reach out to him by email at: kalin.mcdannell@canada.ca, or visit his website at: <https://www.kmcdannell.com/>. He's been a publishing machine as of late!

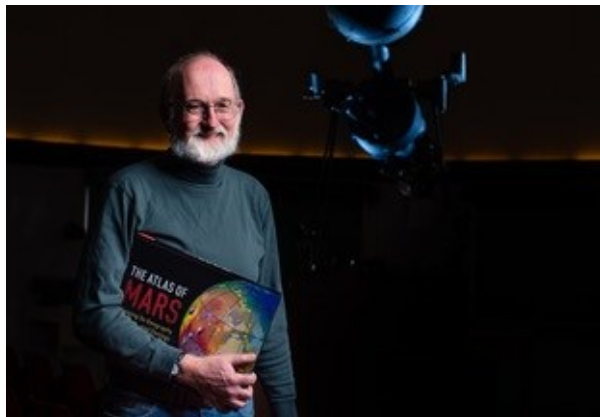
This update is incomplete so if you or someone you know is missing by all means reach out to Jon!



Jon Lewis with IODP JR Academy students in Chile.

Faculty News — Ken Coles

As you can read elsewhere in this edition of GeoTidings, anyone who needs to find their way around Mars now has a publication that may prove useful. Pack it for your next trip to the red planet!



A presentation at the Ninth International Mars Conference in Pasadena this past summer got a lot of interest from the research community. I hope the Atlas of Mars proves useful both now and as a record of what we knew and thought at this time in planetary exploration. It is time to let the book speak for itself.

Two students completed their degrees and teacher certification at the start of 2019. Gabriella Zuccolotto is now teaching in Lake Forest School District in Delaware, while Nathaniel Zlockie is farther down the Delmarva peninsula at Northampton High School, Virginia, right on top of the Chesapeake Bay impact structure. Science teacher education is smaller than it was many years ago - society offers many appealing alternatives to those who study science - but a new cohort of students are joining us. A top priority remains encouraging and supporting the teachers of tomorrow.

The plans for the Cejka Planetarium to be included in the new science building took form early in 2019. It will have a larger dome than the current planetarium (35 feet vs. 30 feet) and more seating. The digital projection

system will give us capabilities we have not had before. The existing facility is working well and will serve us for several more years. Students in GEOS 342 Stellar Astronomy are currently creating and presenting public planetarium shows. This same group made a visit to Green Bank Radio Observatory in West Virginia in September to use a large radio telescope to study targets of their choosing. This was rated as a great experience by all involved, even though cell phones don't work in the National Radio Quiet Zone.



I have a sabbatical coming up in 2020-2021 and will pursue projects in astronomy and geophysics. Several old telescope mirrors we have are polished but not aluminized and have an unknown quality of optical figure, so I will make a mirror tester and refigure them to get them ready to put in telescopes for our observing sessions.

The small, portable seismometers that Jon Lewis and I obtained last year will be shared with local high schools as an outreach program. Finally, I cannot resist continuing activity in planetary exploration. A contact with colleagues at the University of Arizona in Tucson led to an invitation to -- who would have guessed it -- create an atlas (some people never learn). This time it is of Bennu, a near-Earth asteroid that is a relic of solar system formation. Bennu is currently being studied by NASA's OSIRIS-REx mission. This mission will return a sample of Bennu to Earth in 2023. I'm "sure" we'll be done with the

Faculty News — Katie Farnsworth

What a busy year this one has been! It has been great to see many of our alumni at different events or stopping by for a visit this year. With the 'temporary' move to Weyandt we may be hard to find (Weyandt 306!), but please come by for a visit if you are in the area.

Over the summer I had a few students working on continuing projects along local streams. They were examining the water quality and quantity passing through Indiana PA and the surrounding community. This is part of a larger project being conducted with the Indiana County Stormwater Education Partnership. The partnership has evolved and grown, allowing all the member organizations to move forward in their goals of stormwater remediation and education within our community. Many of our members have submitted grants for some forward-thinking stormwater remediation projects to build the resiliency of our community! Proud of the work this group is doing in helping our community. I also put our knowledge of community focused projects to good use by co-leading a workshop at the Earth Educator Rendezvous in Nashville Tennessee entitled "Broaden and Diversify Your Reach Through Expanding Your Definition of 'Community of Practice'". This workshop focused on helping educators identify issues/projects/goals within their own communities that could be moved forward by building a community of practice and the practical steps they could take to build one that contained diverse voices.

This Summer and Fall I also helped start the first campus-wide Undergraduate Research Office here at IUP. We are expanding opportunities for undergraduate students across campus to participate in undergraduate research. This includes

helping to organize the IUP Scholars Forum, supporting travel to conferences, aiding faculty in incorporating research experiences into the courses. This has been a great challenge and opportunity for me to work on something I care deeply about.

This Fall I had two great opportunities that involved both current students and alumni. The Coastal Geology and Processes course is offered every two years, and is definitely one of my favorite to teach (the fieldtrip to the coast may have something to do with it!). This year we partnered with a new Coastal Archaeology course here at IUP and had the students core in the marshes of Cape Henlopen State Park to map the buried landscape. They then worked together to link the paleo-landscape to the modern landscape, and likely locations of past human occupation. It was an interesting exercise we hope to refine for the next time these courses are taught in two years. We also got to hear about the work the Delaware Dept. of Natural Resources and Environmental Control from alum Sierra Davis ('15)! Some of the pictures in this edition come from that trip!

Another great trip with students was to AGU to present our research, but the quick fieldtrip afterwards was even more fun than the conference. I took the students back to my old stomping grounds around Monterey Bay. We visited IUP Alum Gerry Hatcher and other colleagues in my old office at the USGS Pacific Coastal and Marine Center in Santa Cruz. The next day we took a leisurely tour along the coast down to Point Lobos State Reserve. The 1.5 day trip allowed us to learn about the USGS Coastal group mission and the tools they use to accomplish that, we looked at some rocks, watched surfers on BIG waves, took the students on their first trip to a taqueria, searched for sea otters, barked at the sea lions and in general enjoyed being on the left coast. Sadly the students never got to see the Golden Gate due to the notorious fog!



MENTOR MONDAY

Dr. Katie Farnsworth
UC College Mentor
Kopchick College of Natural Sciences and Mathematics
Associate Professor of Geoscience

"My experience as one of the KCNSM faculty mentors to the University College has reminded me of both the excitement and nervousness of starting at a university and picking a major. I have enjoyed working with students to explore their interests and hopefully learning to find rewards in exploring and trying new things."

Faculty News — Nick Deardorff

Over the last year I have designed and implemented a new SEM lab, continued to work toward a PASSHE-wide summer field course, and became chair of the Geoscience department.

In fall 2018 I received funding from the National Science Foundation (NSF) to purchase a Scanning Electron Microscope (SEM) with some analytical equipment, including Electron Dispersive Spectroscopy (EDS) and Electron Backscatter

Diffraction (EBSD). The SEM was successfully installed last April, and I have been training faculty and students in use of the instrument, as well as running the day-to-day lab operations, ever since. The SEM lab has seen pretty regular business since opening and the users have collected high quality images (and EDS data) of diatoms, radiolarians, pollen (oh so much pollen), volcanic dikes and lava samples, igneous crystallization experiments, casts of dinosaur teeth, spiders and other bugs, and much more. Thus far we have mostly had IUP faculty and students work with the SEM, but we hope other university and industry researchers will also start using our SEM lab. So please contact me if you are interested in using our new instrumentation suite: <https://iup.edu/natsciandmath/sem/>

For the last couple of years several colleagues and I have been working at building a PASSHE-wide geology field course that would include faculty and students from all state system universities. This course would run in and around Pennsylvania and highlight local

and regional geologic problems, train our students to identify and solve modern and locally relevant issues, while learning traditional and modern analytical techniques, and prepare them for the workforce. We also

intend to include an outreach component that will bring underrepresented minority high-school students into the field for 1-3 day field experiences to introduce them to locally relevant geologic issues and to potential career paths. This is a large collaborative effort involving several faculty at many PASSHE



universities. In January 2019 we held a two-day workshop in Pittsburgh with 26 PASSHE faculty, administrators, and students to knock out the preliminary details. Since then we have been working on writing proposals to fund this enormous operation. In early January 2020 we submitted a proposal to the PAsmart grant program, operated through the Department of Education, to fund the first year of the outreach component. In February 2020 we will submit a proposal to NSF to fund the rest of the program, including the field course. In short, there has been a lot of scheming and writing over the last year and we are now in the 'begging for money' phase. We hope to run the first PASSHE-wide field course in summer 2021.

Finally, last fall the Geoscience faculty elected me as the next chair of the department, as Steve Hovan has transitioned into a new position at NSF for the next year or so. I am honored to be trusted with this position. Although, at the moment I am a bit overwhelmed and trying to figure this job out. My current approach is to just take it day by

Faculty News — Greg Mount

Dr. Greg Mount spent the past year in the usual way—zipping from field site to field site, as he participated in multiple grant-funded projects on geophysics in the critical zone. He continued his on-going work on porosity distribution in the karstic Biscayne aquifer of Florida, scanning parts of Everglades National Park with ground penetrating radar. He also scouted out new field locations for future carbonate geology trips in the sinkhole country of northern Florida, although logistical conflicts prevented IUP from running its usual winter field workshop this past year.

Dr. Mount continued his long-standing collaborations with colleagues from Penn State and



elsewhere at the Shale Hills CZO Observatory in central Pennsylvania. He also served as co-PI on large research grant with Rutgers University, whose goal was to determine the most effective ways to recruit students from non-traditional backgrounds into geophysics. This work involves bringing students out into the field to experience geophysical research at first hand, along with other creative pedagogical approaches to engage students who do not traditionally choose to enter geoscience.

Dr. Mount did not neglect his own students at IUP. He served as a research advisor for students doing research into methane release from leaking gas wells and also created several new on-campus classroom activities for his near-surface geophysics class.

Dr. Mount ended the year by authoring or co-authoring several different posters and presentations at the American Geophysical Union meeting in San Francisco. He hopes to see more alumni there next year, or elsewhere along his never-ending travels in 2020.



Faculty News — Jonathan Warnock

It was a banner year for Dr. Jonathan Warnock, with accomplishments ranging from being selected to represent the United States on an upcoming research expedition with the International Ocean Discovery Project to being elected to Indiana Borough Council.

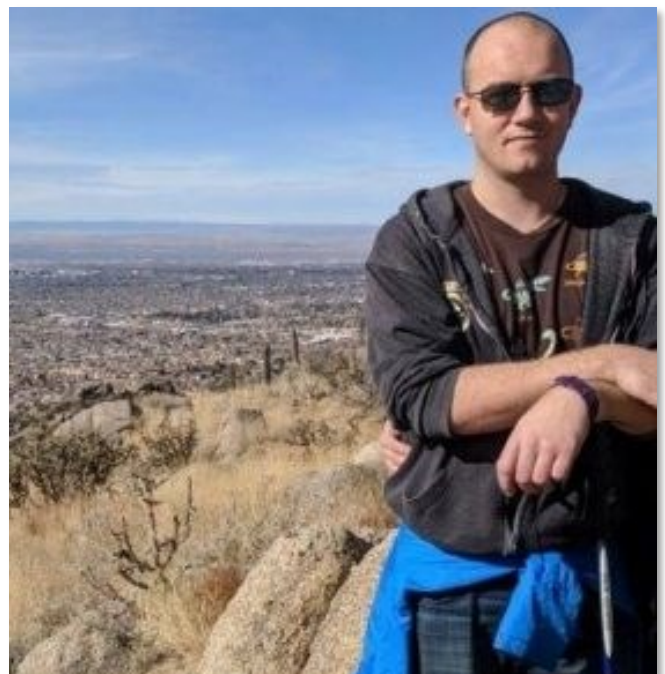
Dr. Warnock spent 60 days at sea this year collecting marine sediment cores as part of Expedition 382, “Iceberg Alley and Subantarctic Ice and Ocean Dynamics.” Along with fellow scientists from around the world, he helped analyze sediment cores going back to the early Miocene to better understand past periods of deglaciation, and the interactions of ice sheets with the Southern Ocean.



Dr. Warnock has also continued publishing his research on the Baltic Sea. Along with an international team of colleagues, he has studied changes to the Baltic over the last 8,000 years in order to understand both natural and anthropogenic change. Their research has documented environmental change during the period when the Baltic Sea transformed from a fresh to brackish state. This study also helped unravel the history of the medieval climate anomaly, the “little ice age,” as well as the development of agriculture and industry across the Scandinavian peninsula.

In addition to serving as co-director of Sustainability Studies at IUP, Dr. Warnock also was an invited speaker at the third annual [Indiana County Sustainable Economic Development Taskforce](#) Summit at Rustic Lodge on October 4, 2019. Dr. Warnock spoke as a member of the steering committee of the taskforce, and described his work on the advisory board of [Solar United Neighbors of Pennsylvania](#), a non-profit that recently became the most successful solar co-op in Pennsylvania. The installation of solar panels resulted in lower electricity costs for households as well as a reduced need to burn coal in local generating plants.

After carrying out another successful summer season of research in the Cleveland-Lloyd Dinosaur Quarry with several IUP students and other colleagues, Dr. Warnock’s grand finale for the 2019 year was to run for a seat on Indiana Borough’s Council to represent Indiana’s Fourth Ward (the northern and western parts of the borough.) Dr. Warnock was elected in November and currently serves on the Community Development Committee.



Faculty News — Yvonne Branan

For the past year, I have continued in my role of teaching service courses. It is still a joy to introduce students to these concepts (some for the first time) and especially fun to show them how this shapes the world around them



(Geology of National Parks is still my favorite). I have also been enjoying connecting the College of Natural Science and Mathematics students with our local school district. Last year student clubs created IUP science-

based prizes for an elementary school science fair. And many science club students volunteered their time to participate in STEAM Game Night at a local elementary school. The students were tasked with introducing and playing various STEM-based games to about 100 elementary-aged kids! No small job, that's for sure. I even took along our earthquake shaker tables (seen here), which was a very big hit with the kids.

On a more personal level, we've been continuing home renovation projects (that never seem to end), expanding our garden areas and continuing with keeping chickens. One interesting mix of personal and geology was my daughter's trip to the Appalachian Geoscience Geo-Camp near Morgantown, WV which is run by the USGS and WVU. This was a week-long camp for high-school-aged students to learn about orienteering, topographical and geological mapping, forest ecology and more. All this while enjoying rock-climbing, zip-lining, white water rafting, cycling, caving and hiking! I tried to pack myself in her suitcase, but she wouldn't let me go along. Suffice it to say she had a wonderful time and wants to go back again – highly recommends it.

Emeritus Faculty News — John Taylor '75

All is well with the Taylor family, shown here in a portrait taken for a parish directory late in 2019. Yes, that's Adam at top center, just to make all you alumni who remember him as a small child roaming Weyandt and Walsh feel painfully ancient. As for the young woman front and center, well that might be Kait, but that's far from certain. You see, the woman in the photo was so completely and unexpectedly cooperative that it took the photographer less than a minute to capture that image of a happy family. On the way home, John suggested to Joanne that they go back to Life Steps (Kait's day-care facility), drop off the compliant doppelganger, and pick up the real Kait. But non-compliance notwithstanding, she is still Daddy's girl, and demands at least as many of John's waking hours these days as all his delinquent research projects combined.



With considerable help from Adam, John emptied his office by the start of the Spring 2019 semester, as space had to be found in Weyandt for the Geoscience Department office and six faculty who had to be relocated from Walsh. Through February and early March, he continued to use 129 Weyandt and its two remaining pieces of furniture for his base of operations on campus, pending the decision as to what department and individuals would make use of his old office in the new space plan. Over Spring Break, Dr. Hovan passed along the Dean's decision that 129 Weyandt should be used as an Emeritus Faculty Office Suite to house initially.....wait for it.... Dr. John Taylor and Dr. Joseph C. Clark from Geoscience! So, come Fall

2021, John plans to celebrate the 50th anniversary of the day he first planted his backside in a chair in 129 Weyandt, when he was a freshman Geology major and that room was a student room for department majors.

On the research front, John continues to push forward two projects in particular: the late Cambrian faunas of the Windfall Formation and Hales Limestone in Nevada (with Jim Loch '83 and John Repetski, '69), and the Cambrian-Ordovician faunas of the Yukon and Alaskan

North Slope (with Justin Strauss and Tyler Allen '15 of Dartmouth College). The collections from the Yukon have challenged him to identify species much older (middle Cambrian) and younger (late Ordovician – “nose-bleed” territory for him) than those he knows best. The older faunas even required him to identify

some primitive (monoplacophoran) mollusks to establish precise age correlations with rocks elsewhere in North America! He had an opportunity to enlighten (torture, bombard, exhaust,... whatever) those who attended the January meeting of the Northern Alleghenies Geological Society last month with a presentation on some of the Alaskan and Yukon discoveries. To his delight, three department alumni were in attendance: Charlie Burger '04, Ben Stufft '09, and Terry (Kohler McConnell '80. John enjoyed catching up with Charlie and Ben, both his former students, and was pleased to meet Terry, who attended IUP during the handful of years that he was off at graduate school...and was never met in 129 Weyandt.

We Love Hearing Your Success Stories. Please Stay in Touch!

Contact Us

IUP Geoscience Department

Indiana, PA 15705

724-357-2379

geoscience-info@iup.edu

www.iup.edu/geoscience

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