

EAS

NEWSLETTER | summer 2022



EARTH AND ATMOSPHERIC SCIENCES

EAS

NEWSLETTER of the
DEPARTMENT OF
EARTH AND ATMOSPHERIC SCIENCES

Chair: David Polly

<https://earth.indiana.edu/>

College of **Arts + Sciences**

Executive Dean: Rick Van Kooten

Executive Director of Advancement: Travis Paulin

Director of Alumni Relations: Vanessa Cloe

<https://college.indiana.edu/>

Editors: Arndt Schimmelmann + Ruth Droppo

Cover images: renovation of the parking lot north of the building. Front: during. Back: completed. Photography by John Hettle, taken from the roof of the Geological Sciences building.



NOTES FROM THE CHAIR

Reflecting on the many things that transpired since our last newsletter in Fall 2021, I want to thank our staff, faculty, students, and postdocs for their creativity, hard work, and resourcefulness. As you will see in this edition, we have collectively been through a lot and accomplished even more. Thank you too to our alumni and donors without whose support we would have had a harder time doing what we do best.

Many of us had the luxury and the pain of settling back into our newly renovated building. The facilities and ambiance are on the whole much improved and,

thanks to the new public spaces, the Geological Sciences building feels more active than it ever has before. Yet, as with any large project, flaws are still being found, fixes applied, and adjustments made. John Hettle has worked diligently to bring the building up to its full potential, and Ruth Droppo has created exhibits and signage that add to the vibrancy and impact of Earth & Atmospheric Sciences on campus. Two exciting developments since our last newsletter are a new and more prominent seismic station display (thank you Terry Stigall, John Hettle, and Michael Hamburger) and a purpose-designed outreach center in the Indiana Geological and Water Survey that features minerals, fossils, rocks, and tons (almost literally) of interactive information about Indiana's geology and natural resources (thank you Polly Sturgeon and Jennifer Lanman).

One of the most significant events of the past year was a strike by graduate student instructors last spring. Organized by the Indiana Graduate Workers Coalition, the strike was primarily for formal recognition of a graduate student union with stipends and fees being two of the motivating factors. At the time of the strike, our graduate stipends at \$18,333 were third to the lowest of our Big 10 geoscience peer departments. Late this summer, IU announced that it would raise the minimum graduate instructor stipend to \$22,000, putting us well above the Big 10 median.

Last year Pamela Whitten became the 19th President of Indiana University and in February she was joined by a new campus Provost, Rahul Shrivastav. With an almost completely new senior administration, they are beginning to put their vision for IU into practice this year. Many of the changes are still emerging, but they include a complete restructuring of internal research funding and other changes to the responsibility center management (RCM) financial model that IU has used in recent decades, as well as new initiatives for hiring faculty. It is too early to know how the changes will impact EAS, but we hope they will benefit science degrees and research on campus.

The accomplishments of our faculty and students were recognized by several important awards this year. Juergen Schieber received the Sorby Medal for his preeminent lifetime accomplishments in the understanding of shales. In recognition of his pioneering work on molecular geochemistry, Simon Brassell was elected fellow of the Geochemical Society and of the American Geophysical Union (AGU). I am proud to have been named a fellow of the American Association for the Advancement of Sciences (AAAS). Cody Kirkpatrick and Jackson Njau both received IU Trustees Teaching Awards for their excellent work in the classroom. You will learn more about these and other awards later in this newsletter.

We welcomed a new faculty member, Dr. Elizabeth Kenderes, to fill our Lecturer position vacated by Bruce Douglas's retirement, and Dr. Jinhua Ginny Gong will start this January as an Assistant Professor in geophysics. Jim Handschy retired from his Professor of Practice faculty position and as director of the IU Geological Field Station (IUGFS) and we owe him many thanks for his service, not the least of which was leading our capstone field course through the COVID pandemic years. This year, I am excited to say, we will be searching for two new tenure-track faculty. We lost Mark Toensing as resident manager of IUGFS and are still seeking a replacement for that important job (thank you to Carol Glaze, Amanda McKinney, and Ruth Droppo for traveling to Montana to help fill the gaps this summer). Graduate services coordinator Bryan Roberts said goodbye and we recently welcomed Cami Albers to replace him. Brandon Ettelt joined us in the new staff position of Financial Administrative Coordinator, helping to relieve the overload on Amanda McKinney who had been doing that job as well as Program and Financial Coordinator for the IUGFS. And we are awaiting the arrival in September of Molly Karnes, who replaces Ben Underwood as technical manager for the Stable Isotope Research Facility. Tyler Doane and Silvia Pineda-Muñoz completed their postdocs and started new jobs and we welcomed Dr. Eyal Marder and Dr. Eric Barefoot as new postdocs working with Brian Yanites and Doug Edmonds. And, as you will see later in this newsletter, many of our undergraduate and graduate students graduated.

I wish everyone a successful new year. Special thanks to Arndt Schimmelmann and Ruth Droppo for assembling this newsletter.

P. David Polly



Indiana University
23 August 2022



EARTH AND ATMOSPHERIC SCIENCES

FACULTY

Simon Brassell	Professor
Doug Edmonds	Associate Professor <i>Malcolm and Sylvia Boyce Professor</i>
Erika Elswick	Senior Lecturer <i>Interim Executive Director, IU Geologic Field Station</i>
Ginny Gong	Assistant Professor
Michael Hamburger	Professor
Ed Herrmann	Associate Research Scientist
Claudia Johnson	Professor <i>Herman B. Wells Professor</i>
Kaj Johnson	Professor <i>Judson Mead Professor</i>
Elizabeth Kenderes	Lecturer
Chanh Kieu	Associate Professor
Cody Kirkpatrick	Senior Lecturer
Ben Kravitz	Assistant Professor
Chusi Li	Senior Scientist
Jess Miller-Camp	Assistant Research Scientist <i>Paleontology Collections Manager</i>
Jackson Njau	Associate Professor
Travis O'Brien	Assistant Professor
David Polly	Professor <i>Department Chair</i>
Shelby Rader	Assistant Professor
Peter Sauer	Assistant Scientist
Juergen Schieber	Professor
Arndt Schimmelmann	Senior Scientist
Paul Staten	Associate Professor
Andrea Stevens Goddard	Assistant Professor <i>Lee J. Suttner Professor</i>
Brian Yanites	Associate Professor <i>Robert R. Shrock Professor</i>
Chen Zhu	Professor

EMERITI FACULTY

Abhijit Basu, David Bish, Jim Brophy, David Dilcher,
Bruce Douglas, Jeremy Dunning, Enrique Merino,
Greg Olyphant, Gary Pavlis, Lisa Pratt, Ed Ripley,
Lee Suttner, Bob Wintsch

POST-DOCS + RESEARCH ASSOCIATES

Eric Barefoot Post-Doctoral Research Fellow
 Alexander Charn Post-Doctoral Research Fellow
 Paul Goddard Post-Doctoral Fellow
 Katherine Kravitz Post-Doctoral Fellow
 Eyal Marder Post-Doctoral Fellow
 Jovanka Nikolic Post-Doctoral Research Associate
 Olivia Thurston Post-Doctoral Fellow
 Zalmai Yawar Post-Doctoral Research Associate

GRADUATE STUDENTS and their advisors

Sam Anderson MS - Jackson Njau
 Sophie Black MS - Andrea Stevens Goddard
 Allison Bormet PhD - David Polly
 Eric Burton MS - Doug Edmonds
 Anupama Chandroth PhD - Claudia C. Johnson
 Etienne Chenevert MS - Doug Edmonds
 Ping Chen (Evan) Chiang MS - Kaj Johnson
 Syan Das PhD - Doug Edmonds
 Clarke DeLisle PhD - Brian Yanites
 Kelsey Doiron PhD - Simon Brassell
 Jayson Eldridge MS - Ed Ripley
 Ricardo Ely PhD - David Polly
 Henry Z.M. Fulghum MS - David Polly
 Jake Gearon PhD - Doug Edmonds
 Jeong Yeon Han PhD - Doug Edmonds
 Samantha Hartzell PhD - Claudia C. Johnson
 Kirsten Hawley PhD - Claudia C. Johnson
 Joseph Hildebranski MS - Paul Staten
 Jenni Hurst MS - Shelby Rader
 Mohammad Rubaiat Islam PhD - Travis O'Brien
 Diya Kamnani PhD - Travis O'Brien
 Thomas Koelbel MS - Jackson Njau
 Anne Kort PhD - David Polly
 Thomas LaBarge PhD - Jackson Njau

STAFF

Cami Albers Graduate Services Coordinator
 Ted Boardman IT Manager
 Ruth Droppo Graphic Design | Web Design + Development
 Dianne Dupree Administrative Secretary, Chair's Assistant
 Brandon Ettelt Financial Administrative Coordinator
 Nora Ferstead Procurement (Purchasing + Travel)
 Carol Glaze Fiscal Officer
 John Hettle Facilities Administrator
 Melissa Jackson Undergraduate Advisor
 Molly Karnes SIRF Technical Manager
 Jennifer Simms EAS Librarian
 TBA IUGFS Program and Financial Coordinator
 Terry Stigall Geophysics Technician
 John Walker IT Technical Specialist

Heather Lawson PhD - Arndt Schimmelmann
 Ya-Shien (Zax) Lin PhD - Brian Yanites
 Xuechang (Shay) Liu PhD - Paul Staten
 Sierra Lopezalles PhD - David Polly
 Lan Luan PhD - Paul Staten
 Owen Madsen PhD - Simon Brassell
 Harrison Martin PhD - Doug Edmonds
 Allison Nelson MS - David Polly
 Quan Nguyen MS - Chanh Kieu
 Trung Nguyen PhD - Ben Kravitz
 Danielle Peltier PhD - Ed Herrmann/Jackson Njau
 Nicholas Perdomo PhD - Kaj Johnson
 Kwesi Quagraine MS - Travis O'Brien
 Nathan Roden MS - Shelby Rader
 James Ryan PhD - Ben Kravitz
 McKailey Sabaj PhD - Chen Zhu
 Charles Salcido PhD - David Polly
 Elizabeth Sherrill PhD - Kaj Johnson
 Hrisikesh Sivanandan PhD - Ben Kravitz
 Samuel Smith PhD - Paul Staten
 Trent Stegink MS - Shelby Rader
 The-Anh Vu PhD - Chanh Kieu
 Hao Yuan PhD - Juergen Schieber

renovations

The Geophysics Lab and nearly all Graduate Student Offices got substantial improvements in terms of furniture.

Our thanks go out to the College of Arts and Sciences, specifically Jacob Benson who championed the pursuit of our furniture upgrades, which came from another building on campus.

From Ozzy Osbourne: *“Of all the things that went missing during the moves – we miss our minds the most.”*

“The challenges from the renovation are not a problem for us to solve but rather a paradox for us to continue to manage.”

John Hettle, Facilities Administrator

“ I would like to remind everyone that while in the Geological Sciences Building this building has always fully supported every step you’ve ever taken.”



then ← → now



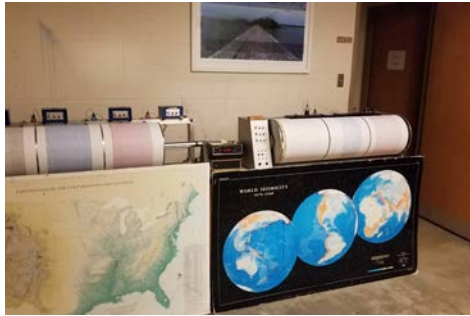
renovations:
offices, lecture halls,
gathering spaces



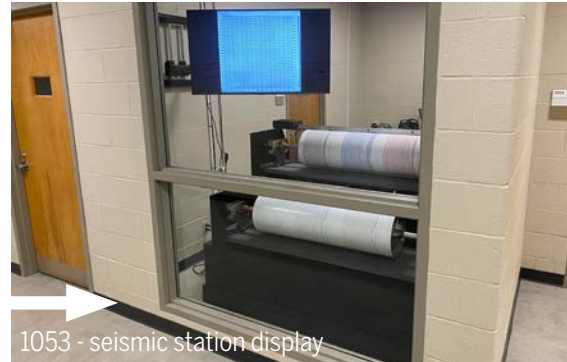
227 - graduate offices



2036 - graduate offices



147 - seismic station



1053 - seismic station display



107 - break room



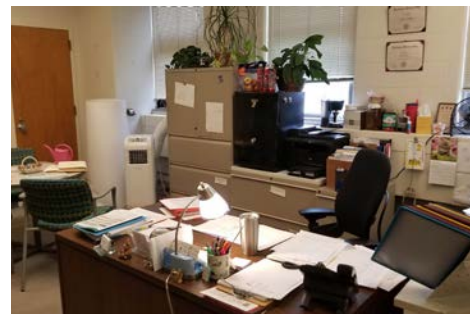
1042 - seminar room



126 - lecture room



1045 - lecture hall



127 - department office



1038 - informal learning/vending area



The lobby and the lobby displays have undergone dramatic transformation.



For instance: here's the Work Mineral Collection display from ~1965-2014 (above), and from 2014-2021 (right).

then

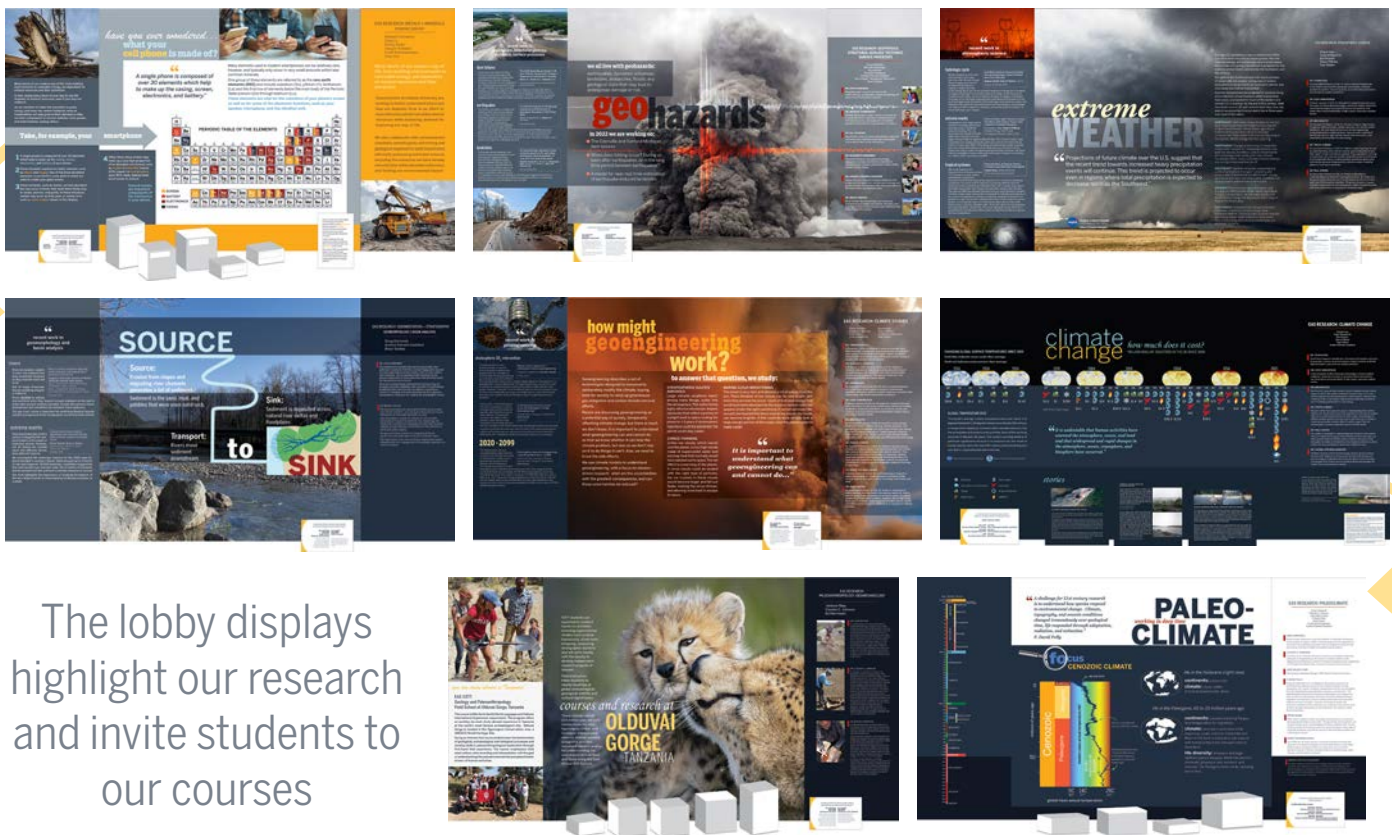


renovations: lobby

now

With a new, more inclusive building, we take a different approach to design and content for the displays.

2021-2022: storytelling



The lobby displays highlight our research and invite students to our courses

ac- com- plish- ments

EAS Professor Simon Brassell has been elected a Fellow of the Geochemical Society and the European Association of Geochemistry. The honor is “bestowed upon outstanding scientists who have, over some years, made a major contribution to the field of geochemistry” and recognizes Simon’s role in developing the field of molecular biogeochemistry. Few people achieve this honor and there are only seven other Geochemistry Fellows in the Big 10 (half of them at Penn State). You can find out more about the award and Simon’s fellow Fellows on the following website: <https://www.geochemsoc.org/honors/awards/geochemistryfellows>

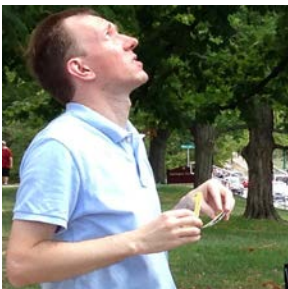


Ed Herrmann, EAS Research Scientist Ed Herrmann serves on our faculty and was the Director of the IU Museum of Archaeology and Anthropology. The Society for American Archaeology, the leading archaeological association in North America, awarded its highest honor for archaeological curation to the IU Museum of Archaeology and Anthropology. The Award for Excellence in Curation and Collection Management was awarded to the museum on Friday, April 1, 2022.

“We are fortunate that the timing of the establishment of the museum dovetails nicely with the curation improvement grants”, said Ed Herrmann, Executive Director of the IU Museum of Archaeology and Anthropology. “The new museum significantly improves space utilization, storage conditions, and access to museum functions, while the grant improves collection and curation standards to ensure the long-term care of the IUMAA’s important and valuable collections.”



faculty HONORS



EAS Senior Lecturer Cody Kirkpatrick and Associate Professor Jackson Njau received Trustees’ Teaching Awards (TTA). The TTA is awarded to the top 6 % of tenured and tenure-track faculty members and to the top 6 % of full-time lecturer rank faculty, clinical faculty, or professors of practice who have demonstrated that they are the best teachers in their unit. The awards are tributes to their exemplary teaching and to the large number of undergraduate students who they reach through their classes. It is wonderful that two of our faculty received the award this year.



EAS Professor David Polly has been named an American Association for the Advancement of Science Fellow for distinguished contributions to the field of vertebrate paleontology, particularly for original studies in morphometrics, for quantitative analyses in paleobiology, and for innovative studies on mammalian evolution.

A vertebrate paleontologist, Polly combines quantitative techniques for measuring complex three-dimensional objects with computational modeling and phylogenetics to study the evolution of morphology. His research focuses on how functional performance, chance events and the legacy of ancestry contribute to morphological evolution, and how its course is influenced by the broad context of changing Earth systems, especially climate, landscape and tectonics. Measuring their complex forms has required a fusion of geometric morphometrics, quantitative genetics and phylogenetics, including developing new methods for quantifying their three-dimensional surfaces. Polly was president of the Society of Vertebrate Paleontology, associate director of IU’s Environmental Resilience Institute and an Edward P. Bass Distinguished Visiting Environmental Scholar at Yale University.



ac- com- plish- ments

EAS Professor Juergen Schieber received the Sorby Medal in recognition “of his extensive research that has revolutionized our understanding of mud and shale sedimentology.”

The Sorby Medal is the highest award of the International Association of Sedimentologists. It is awarded once every 4 years to scientists of eminent distinction in sedimentology. Juergen is only the 13th recipient, his predecessors including Robert Folk, Charlotte Schreiber, and Francis Shepard.

The award is named for Henry Clifton Sorby, an English geologist who was known for his work on petrography, the origin of limestones and siliciclastic rocks, and metallurgy and consists of a medal and a certificate and a life-long full membership of IAS. Juergen will be honored at the International Sedimentological Congress later this summer in Beijing, where he will deliver the Sorby Medal Lecture, which will be published in *Sedimentology*.



EAS Professor Juergen Schieber has been awarded a Fulbright Scholarship for 2022-2023 for his work with the Institute of Marine Science, Italian National Research Council at Bologna University. The project is titled “High-resolution sedimentological and paleoclimate analysis from Adriatic Mudbelt cores.”

EAS Alumnus Dave Bottjer has been awarded the Twenhofel Medal, SEPM's highest honor. The Twenhofel Medal is the highest award of SEPM Society for Sedimentary Geology. This award is in recognition of “Outstanding Contributions to Sedimentary Geology.” Nominees will be chosen who are recognized as having made outstanding contributions to paleontology, sedimentology, stratigraphy, and/or allied scientific disciplines. The contributions will normally involve extensive personal research, but may involve some combination of research, teaching, administration, or other activities which have notably advanced scientific knowledge in Sedimentary Geology.

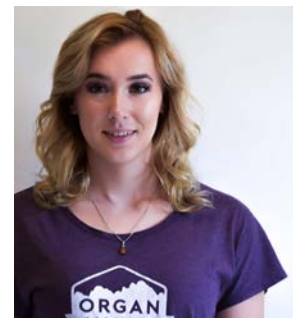
The Geological Society of America (GSA) Awarded Katherine Freeman the Arthur L. Day Medal for her pioneering work in biogeochemistry. Dr. Freeman is an alumna of our Department and a member of our Advisory Board. The medal “... is awarded annually, or less frequently at the discretion of the Council, to recognize outstanding distinction in the application of physics and chemistry to the solution of geologic problems.” The citation says that her “name is synonymous with the field of compound specific stable isotope analysis”.

[More about the GSA Day Award](#)

GSA awarded the O. E. Meinzer Award to our former faculty member Dr. Mark Person for his “... body of publications that have significantly advanced the science of hydrogeology [which has] strongly influenced subsequent hydrogeologic research.” Dr. Person is a former Professor of our Department, hugely influencing zealous research by graduate students. At the awards ceremony, Dr. Chris Gellasch, an alumnus of our Department, awarded the Bowl to Mark.

[Read about the Meinzer Award](#)

EAS Graduate Student Danielle Peltier has received a prestigious grant from the Leakey Foundation for her dissertation work. The grant provides \$12,000 for her project titled “The drivers of faunal community dynamics and its implications on hominin occupation during Bed II times, Olduvai Gorge, Tanzania”. The Leakey Foundation funds research into human origins, including paleoanthropology, genetics, primate behavior and the behavioral ecology of contemporary hunter-gatherers. Their grant program is very competitive, open as it is to an international audience and at all levels from PhD student to senior researcher.

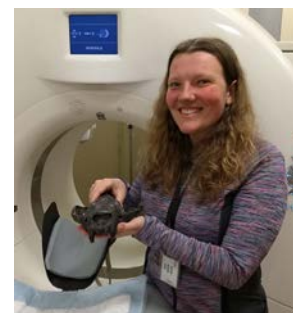


EAS PhD Candidate Anne Kort has received a McCormick Science Grant.

Charles O. McCormick III, M.D., established the McCormick Science Grant Fund to honor his father and grandfather and to support basic science research. In creating the fund Dr. McCormick asked the College to identify the graduate student member of a faculty/graduate student team whose research is judged most creative, visionary, and innovative.

Anne is doing research on the evolution of Cenozoic mammals using a combination of 3D analysis, artificial intelligence algorithms, and primary description of fossils and their geological context.

Anne has a podcast! The Virtual Paleontologist <https://www.youtube.com/channel/UCJaiHFrVyOwdObYoV-rwXPw>



Undergraduate Awards

Cummings-Malott Scholarship for Department Citizenship: Harley Bailey

Cummings-Malott Scholarship for Professional Development: Libby McKesson

Lawrence A. Taylor Travel Scholarship: John Kemper

Rudman-Pavlis Award: Carter Dills

Bill and Jan Cordua Senior Award: Riley Henson

Frank and Shirley Pruett Junior Award: Ethan Steward

Sheldon Turner Fellowships: Jacqueline Patterson, Mia Keller

Robert Saenger Scholarship: Jenni Hurst, Isaac Nash

student
AWARDS

Graduate Awards

John and Mary Droste Award for Best Teaching Assistant: Danielle Peltier

Life is a Ride Scholarship for Department Citizenship: Anne Kort

Ralph E. Esarey Geology Award for Research on Indiana: Harrison Martin

Norman R. King Award for Field Research in Soft-rock Geology: Clarke DeLisle

Grants-In-Aid of Research:	Anupama Chandroth	Allison Nelson
	Kelsey Doiron	Danielle Peltier
	Henry Z. M. Fulghum	Charles Salcido
	Thomas LaBarge	Hao Yuan

milestones:

- Ahmed Alkhathami** – Earth Science BS Fall '21
- Bronlyn Bates** – Earth and Atmospheric Sciences BA Summer '22
- Miguel Contramaestre** – Earth and Atmospheric Sciences BA Spring '22
- Joseph Hildebranski** – Atmospheric Science BS Spring '22
- Jenni Hurst** – BSES Spring '22

2021-22 undergraduate DEGREES

- Caroline Klare** – Earth and Atmospheric Sciences BA Fall '21
- Mason Knotts** – Earth and Atmospheric Sciences BA Spring '22
- Alex Martinez** – Earth and Atmospheric Sciences BA Spring '22
- Natalie Mattner** – Earth Science BS Spring '22
- Libby McKesson** – Earth and Atmospheric Sciences BA Spring '22
- Raul Moreno** – Atmospheric Science BS Spring '22
- Brandon Parker** – Earth and Atmospheric Sciences BA Fall '21
- Jacqueline Patterson** – Earth and Atmospheric Sciences BA Summer '22
- Maximillian Scott** – Earth Science BS Fall '21
- Thomas Trapp** – Atmospheric Science BS Spring '22
- Nathaniel Weinzapfel** – Earth and Atmospheric Sciences BA Spring '22

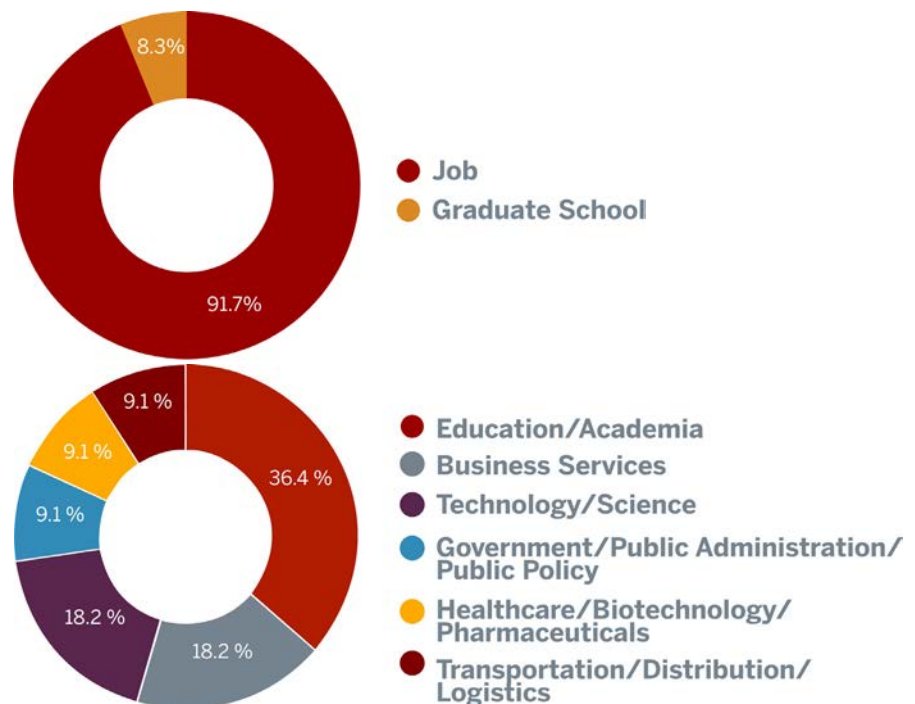
2021-22 graduate DEGREES

- Jack Brown** – MS Geological Sciences
- Jason Eldridge** – MS Geological Sciences
- Thomas LaBarge** – MS Geological Sciences
- Caitlin Sifuentes** – MS Geological Sciences

career outcomes:

100 % of EAS graduates are employed or in graduate school within 6 months of graduation.

IU Walter Center for Career Achievement



our graduates - what are they up to?



James Atterholt

I graduated in 2019 with a BS in geological sciences and a B.S. in mathematics.

I'm a geophysics PhD student at Caltech, and I use seismic waves to study fault zones and earthquake ruptures.

Sarah McCorkle

I graduated in 2019 and I got my BS in Geological Sciences with a concentration in Atmospheric Sciences as well as a BS in Informatics. I also went on to get my masters in Atmospheric Science from University of Wyoming.

I am currently an operational meteorologist with the National Weather Service at the San Francisco Bay Area weather forecast office.



Amanda Whaling

Image: This is a picture of me from my field work as a hydrologist for the US Geological Survey, Lower Mississippi-Gulf Water Science Center.

I graduated in 2016 in Geosciences, with minors in Anthropology and Studio Art.

I am a hydrologist for the USGS involved in a range of studies encompassing geomorphologic change, statistical hydrology, and bathymetric mapping, with a focus on remote sensing as a tool to analyze, map, and visualize earth processes.

field courses



Class of 2022 X429-X428

news from the IU Geologic Field Station

Wow, what a summer it has been! We had a great group of students for the summer field classes and had a great time exploring the geology of SW Montana. Twelve different schools were represented beyond the eight students from IUB this year.

All this despite historic flooding in the Yellowstone area that forced us to cancel our Big Horn Basin trip. Once the majority of Yellowstone was opened, we were able to visit the park for the day. Then there was a small forest fire above campus that was started by a lightning strike. Fortunately, the US Forest Service was quickly able to get the fire under control.

Facilities improvements included an interior remodel of the Resident Manager's house, ongoing upgrades to the internet infrastructure and installation of a new water bottle hydration station in the Lodge.

We are looking forward to next year and getting back to post-pandemic class numbers.

We would love to hear from you. Keep in contact at IUGFS@indiana.edu find us on @IUGFS on Facebook and IU_GFS on Instagram!

Erika Elswick, Interim Executive Director



Scan the QR code to visit the IUGFS website.



Scan the QR code to watch a YouTube video of Brian Yanites' drone footage.

The 2022 X429 "Digital Mapping" concentration measured the Beaver Creek delta which has been forming in response to the creation of Earthquake Lake, a water body formed by a landslide dam generated during the 1959 magnitude 7.3 Hebgen Lake Earthquake.

Students employed RTK GPS, drone surveys, and 'Structure from Motion' to develop a detailed 3D map of the surface of the delta. The students were able to measure an average aggradation rate of 2.2 cm/yr since 1959 and have set up future 429 students to measure year-to-year changes in this dynamic system.

EAS-E 116 Our Planet and Its Future

ASPIRE Semester: Italy

Arts + Sciences Programs for International Research and Education (ASPIRE)

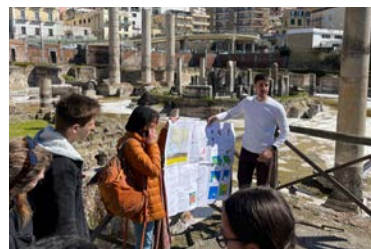
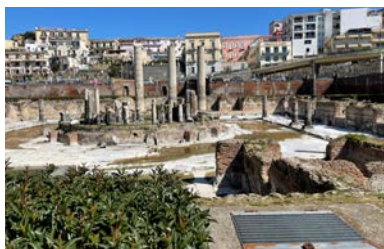
Professor Michael Hamburger

This spring semester, nineteen IU students joined EAS Professor Michael Hamburger and three other IU faculty members for a semester-long interdisciplinary introduction to geology, history, and culture of southern Italy. The course, a field-based version of our E116 “Our Planet and its Future”, was part of a recently developed College of Arts and Sciences “ASPIRE” (Arts & Sciences Programs for International Research and Education) program, which offers IU students an opportunity to study abroad in semester-long programs taught by IU faculty. The IU semester in Italy focused on the remarkable array of landscapes, ancient history, cultural resources, and amazing food that brings thousands of tourists to the region each year.

Hamburger’s version of the E116 course in southern Italy—which ran for six weeks in March and April of this year—focused on the region’s rich mix of geological and tectonic environments, the challenging geological hazards faced by residents of the region, and its varied and dynamic environments. The course was centered around a lively mix of field trips, including the remarkable volcanic history of Mt. Vesuvius and its infamous AD 79 eruption that destroyed Pompeii and Herculaneum; the breathtaking landscape of the Sorrento Peninsula and the Amalfi Coast; geological elements of ancient Greek and Roman sites that grace this coastal region; and the palpable hazards associated with earthquakes, volcanic eruptions that have plagued Italy throughout its history.

Based in Salerno, Italy, students combined classroom instruction with intensive day-long or overnight field trips, including visits to Rome, Naples, and surrounding areas of southern Italy. As part of the EAS field class, students hiked to the summit of Mount Vesuvius to explore its summit crater. They explored the Roman towns of Pompeii and Herculaneum, eerily preserved by blankets of volcanic ash. On a field trip to Campi Flegrei, the slumbering volcanic system just west of Naples, students visited the steaming volcanic crater at Solfatara and the famous Roman market at Sarapeo, once deeply subsided into the Mediterranean Sea, then suddenly uplifted prior to its 16th century eruption. They hiked the Amalfi Coast’s famous “Path of the Gods” with its spectacular views of the Amalfi coast. The class visited the preserved Paestum, one of the best preserved Greek sites in all of the Mediterranean, where the Greeks used local travertine deposits to build an array of monumental temples. At Amalfi, they explored a medieval paper museum, a renaissance Duomo, and a narrow canyon formed by dramatic floods.

The course, which began in 2019, was interrupted by the COVID pandemic, but got back into action this spring. With luck, our EAS participation in the program will continue into the foreseeable future. A class is already scheduled for Spring 2023, with 20 eager students already enrolled!



EAS-X 420 Appalachian Geological Journey

Professor Juergen Schieber

May 8-13, 2022 This course was a JOURNEY THROUGH EARTH HISTORY.

We explored the geologic history of the eastern US from the Precambrian gneisses (as much as 1.8 billion years old) of the Blue Ridge Mts. to the Pennsylvanian coal fields of Kentucky (~300 million years old). It was a 1000 mile road trip, starting in Bloomington and with multiple stops along the way to examine outcrops of mostly sedimentary rocks that range in age from Cambrian (~570 million years old) to Pennsylvanian (~300 million years old) in age.

field courses The outcrops were examined by the class for clues to past conditions, such as environmental parameters (e.g. water depth, climate, depositional setting, etc.), and the goal was to “read” the pages of Earth history and to get a comprehensive understanding of the forces that shaped this part of the world through the ages. On the side we also began to appreciate how local geology and geologic resources influenced local agriculture, economic development, and general prosperity.

The course met once a week in the second half of the semester for preparations and background information, and the field trip was a one week roundtrip to North Carolina following the end of the semester.



5/10, Thorn Hill overlook, NE TN, classical valley and ridge with TVA reservoirs



5/11, tidal rhythmites, channel fill in Upper Pennsylvanian strata



5/10, Thorn Hill overlook, coffe break with vinegar pie



5/11, dinner in Richmond, KY at Sonny's BBQ



5/11, Middlesboro, SE KY, drilling for gas below Pine Mtn. thrust



5/12, near Richmond, KY, the Wallbridge Unconformity, Silurian (green) meets Middle Devonian (brown)



5/8, dinner in Chattanooga, TN. Pizza the size of your head



5/9, Ducktown, TN. Wildlife, not ducks



5/11, Cumberland Gap overlook, three states meet, TN, KY, VA



5/13, Bernheim Forest Preserve, KY, lunch break



5/9, high grade metasediments, staurolite-biotite



5/9, Chunky Gal Mtn., NC, Precambrian metasediments



5/9, Carborundum Knob, NC, dunite with ruby, mostly olivine, from upper mantle (beneath oceanic crust), cooked (heated) and altered = ruby and sapphire



5/10, Clinch River Valley, TN



5/11, Hazard, KY, Upper Pennsylvanian strata with ancient rivers and coal swamps



5/13, I65 south of Louisville, New Albany Shale, one more outcrop to go, and then off to B-town

Crossroads 2022

Crossroads Conference 2022 was held in-person on the Bloomington campus, Friday March 25th.

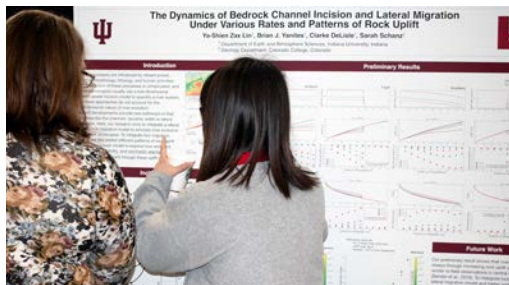
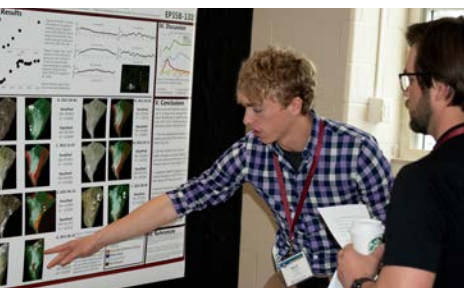
Thank you to everyone who helped and participated in Crossroads! Especially Elizabeth Sherrill and Henry Fulghum for their immense help in organizing everything and the department staff, including Ruth, Carol, Amanda, Bryan, and John Hettle, who helped make sure everything stayed on track and went smoothly.

Most of all though, thank you to those who presented and came to the event. All our visitors and judges volunteered their time to come, and having such a good turnout makes it much easier to ask them to come again. There were several compliments from judges about the presentations and level of participation, so thank you!

The following representatives from industry and education participated as judges for talks and posters, and as consultants during the working lunch:

JUDGE	ROLE	AFFILIATION
Valerie Beckham-Feller	Research Geologist	Indiana Geological and Water Survey
Stanley Carpenter	EAS Advisory Board Environmental Manager	Colonial Pipeline Company
Ginger Davis	Research Geologist	Indiana Geological and Water Survey
Joel Degenstein	EAS Advisory Board	Retired El Paso E&P
Elizabeth Kenderes	Lecturer	IU Earth and Atmospheric Sciences
Stuart Kenderes	Postdoctoral Researcher	IUPUI Department of Earth Sciences
Sarah Pietraszek-Mattner	EAS Advisory Board Transformation Manager	ExxonMobil
Cameron Stewart	Geologist	Arcadis
Allison Yanites	Geologist/Immersive Technology Lead	Arcadis

COMPANY	REPRESENTATIVE
Arcadis	Cameron Stewart, Alli Yanites, Matt Griles, Greg Byer
Terracon	Adeline Evans, Garrett Goff, Perre Burns, Peter Danzl-Tauer
IGWS	Ginger Davis, Valerie Beckham-Feller
Resume Review	Sarah Pietraszek-Mattner



PRESENTER	INSTITUTION	TITLE
Quan, N., Kieu, C.	IU EAS	<i>Application of the Machine Learning to Tropical Cyclone Formation Detection</i>
Smith, S. et al.	IU EAS	<i>Revisiting the Role of Diabatic Eddy Generation in the Persistence of the Southern Annular Mode</i>
DeLisle, C.R., Yanites, B.J.	IU EAS	<i>Insights from a New Model for River Incision Accounting for Stochastic Water and Sediment Discharge</i>
Brown, J.D. et al.	IU EAS	<i>A Transit Through Galloway Space: Process Dominance Naturally Changes as Deltas Grow</i>
Henson, R.T. et al.	IU EAS	<i>Land Cover Change Following Upstream-Migrating Dechannelization and Avulsion</i>
Luan, L. et al.	IU EAS	<i>Tropical Tropopause Layer Structure and The Roles of Waves During QBO Disruptions</i>
Nelson, A.E.	IU EAS	<i>An Exploration of the Canis Lupus and Canis Rufus Species Boundary Via Morphometrics</i>
Burkle, T.W. et al.	IU Physics	<i>A Regional Climate Modeling Laboratory for Understanding Coastal Fog</i>
Anderson, S.B.	IU EAS	<i>Mapping Stratigraphy and Erosive Surfaces Using UAV and Photogrammetry at Olduvai Gorge, Tanzania</i>
Chiang, P-C., Johnson, K.	IU EAS	<i>Estimates of Fault Slip Rates and Coupling in Taiwan Using a 2-D Lithospheric Kinematic Model</i>
Ely, R.C.	IU EAS	<i>Introducing the Early-High Disparity Phylogenetic Comparative Model</i>
Black, S.R. et al	IU EAS	<i>Using Detrital Thermochronology to Track the Timing and Rate of Exhumation During Sevier Deformation, Northeastern Utah</i>
Lin, Y-S.Z. et al.	IU EAS	<i>The Dynamics of Bedrock Channel Incision and Lateral Migration Under Various Rates And Patterns of Rock Uplift</i>
Ashley, T. et al.	Virginia Tech, Blacksburg VA	<i>Particle Collisions Control Bedform Initiation</i>
Sabaj, M.M. et al.	IU EAS	<i>Deciphering Mechanisms of Stable Isotope Exchange Between Natural Barite Using ¹³⁷Ba-Enriched Solutions with [Ba]/[SO₄] Ratios at or Near Chemical Equilibrium</i>
Martin, H.K. et al.	IU EAS	<i>After The Flood: The Characters, Causes, and Effects of Recent Catastrophic Dam Failures in Central Michigan</i>
Sherrill, E.M. et al.	IU EAS	<i>Probabilistic Estimates of the Fully Coupled and Transitional Creep Zones at Nankai and Cascadia</i>
Gearon, J.H., Edmonds, D.A.	IU EAS	<i>Space Lasers for Geomorphology: Using ICESat-2 to Investigate the Causes of Catastrophic River Avulsions</i>
Salcido, C. J. et al.	IU EAS	<i>Skull Mechanics and Functional Morphology of Brasilodontidae, the Sister Clade to Mammals</i>
Kamnani, D., O'Brien, T.A.	IU EAS	<i>Seasonality Associated with Atmospheric Rivers</i>
Burton, E., Johnson, K.	IU EAS	<i>Accelerating Creep in Northern Japan Due to Erosion of Locked Asperities in the Decade Prior to the M9 Tohoku Earthquake</i>
Fulghum, H.Z., Polly, P.D.	IU EAS	<i>Assessing the Diversity of Extant Tribosphenic Molars with Simple Indices of Functional Morphology</i>
Gearon, J.H., Ashley, T.C.	IU EAS Virginia Tech, Blacksburg, VA	<i>Peculiar Self-Formed Channels in Salt Playas</i>
Ryan, J.M., Kravitz, B.	IU EAS	<i>Precursors to Cold Air Outbreaks in the Southeastern United States</i>
Kort, A.E.	IU EAS	<i>Bizarre Backbones: Evolution of Lumbar Vertebrae in Paleogene Mammals</i>

Finally, congratulations to our winning presentations! Our judges decided the following for best presentation in each category.

DEGREE	POSTER	ORAL
UNDERGRADUATE	Riley Henson, IU EAS	
MASTERS	Sophie Black IU EAS	Quan Nguyen IU EAS
PhD	Diya Kamnani and Anne Kort IU EAS	Clarke DeLisle IU EAS



EAS participated in the IU Day activities in April, which always coincides with Earth Week, so we made it a dual celebration.

The geomorphology group, including Dr. Doug Edmonds and Dr. Brian Yanites along with graduate students Harrison Martin, Clarke DeLisle, Etienne Chenevert, Jake Gearon, Zax Lin, and Jack Brown, set up a stream table demonstration which was well-attended by students of all ages.

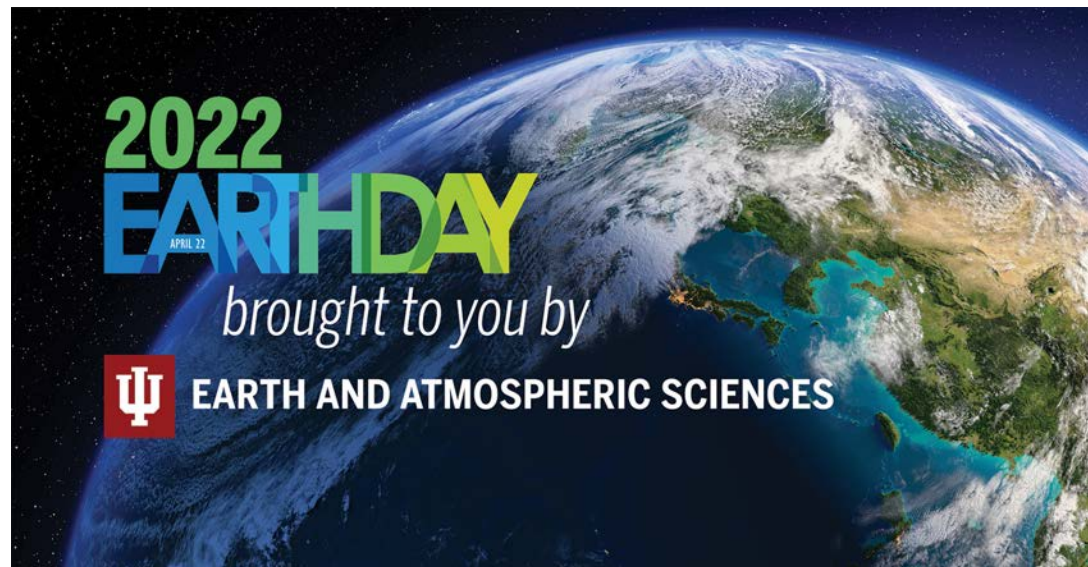
Throughout the afternoon, they handed out Earth-themed swag and information about our degree programs to around 200 visitors.

Dr. Brian Yanites (Director of Undergraduate Studies) and Dr. Doug Edmonds (Director of Graduate Studies) were both on hand to greet prospective students and talk about graduate and undergraduate programs offered in Earth and Atmospheric Sciences.

EAS @ IU DAY



Click or scan the QR code to watch a YouTube video of Brian Yanites and Doug Edmonds demonstrating the stream table at IU Day.



Jim Brophy, Professor Emeritus



After 2 ½ years of retirement I can honestly say that it is something everyone should try some day! In short, I am loving it, but getting here was not easy. I retired from the department on January 1, 2020., My wife Lyn and I planned to return to our New England roots and build a reproduction early 1800s Greek Revival house in the town of West

Bath, Maine, which is located about 50 miles up the coast from the city of Portland. Ground was broken in October of 2019 and construction started on schedule. We had airline tickets to travel to Maine for a week on or about March 13, 2020. You may recall that this is when the country shut down due to COVID. We decided to not make the trip. Not only did work on our new house slow down but we couldn't travel to Maine to see it happening! When we finally made the move shortly after Thanksgiving of 2020 it was the first we ever saw of the house. Lyn and I love living in Coastal Maine. There are so many things to see and do that we never seem to get bored or tired. Yes, the winters are long and harsh and spring occurs in June, but the cool summers and falls (relative to Indiana) more than make up for it. For me, I am reveling in the life of a retiree. I finally have the time to do all the things that I have wanted to do and actually do them. I have built an outdoor sauna for the cold winter months. I have built a 20' long floor to ceiling bookcase in our new family room. I have learned to cook the perfect lobster. I have learned to fish for striped bass in the ocean. I have become an aficionado of digging for and eating clams. I have learned to slurp down raw oysters and actually like them. I have bought a second-hand motorboat (a 13' Boston Whaler built in 1977) and use it to motor around the nearby sheltered inlets and bays (I don't get close to the open ocean!). I have become heavily involved in the West Bath Historical Society and was asked to be the town's annual speaker in the Town History Series of talks sponsored by the public library in Bath which involved speakers from five different towns. My talk, presented via ZOOM, was entitled "The Geology of West Bath and its Influence on the Early years." I had to give myself a crash course in local history to be able to pull it off. If interested, a recorded version of the talk can be found at <https://www.youtube.com/watch?v=f6BJKYC7AhY> I could go on and on but won't. If any of you find yourself in our neck of the woods, don't hesitate to reach out.

Jim Brophy

Enrique Merino, Professor Emeritus



In retirement I continue research into the geochemical dynamics of the earth's only two huge cases of metasomatism – dolomitization of limestones and serpentinization of peridotites. I've discovered that serpentinization of peridotites is how the mantle sends magnesium to the crust, making it possible for dolomitization, which needs magnesium, eventually to happen. But the writing of that and related stories is not going well. The pandemic hasn't helped. It disorients me. Travels and age don't help, either. On the other hand, with speaking I have much less trouble: I gave a talk at the U of Arizona in March 2020 at the start of the pandemic, invited by Peter DeCelles, a Pettijohn Price awardee well known to our department. Then I gave another at the U of Utah but via zoom. And last May, at the University of Pau in SW France, I gave four talks in a week – with generous support from both our Department Chair and the University of Pau.

Here is one of the posters for the two lectures I was invited to give in Oaxaca in October 2012. Consuelo gave another one – in a beautiful 17th-century library – on her research. All three lectures were funded by the Alfredo Harp Helú Foundation – no relation with the University.



I'd like to give more. Other things loom: resigning ourselves to having our children and grandchildren far away. And "downsizing". Coming to terms with age, with forgetting names and other things.

Gary Pavlis, Professor Emeritus

Image shows Gary on the right and his twin brother Terry on the left.



Gary Pavlis has continued his research in seismology during retirement. Between times spent traveling and visiting his grandchildren he has been involved in two projects. In 2019 he worked with Dr. Ian (Yinzi) Wang, now at the Texas Advanced Computing Center and Pavlis' former PhD student, to write a successful proposal to the National Science Foundation's CSSI program. Like much of science, earthquake seismology has a aging software infrastructure for data processing. The reason is that all the common software package were originally designed in the 1990s. We all know the profound changes that have happened in information technology in the past 30 years. Six orders of magnitude or more changes in processor speed and data storage made all existing packages largely obsolete. The new project has developed a new, potentially revolutionary package for seismology data processing called MsPASS (Massively Parallel Analysis System for Seismology). MsPASS uses three key technologies to enable processing of terabyte or more scale data sets that are the norm in seismology today: (1) containers (Docker and Singularity) that simply setting up the system on large clusters and are essential for cloud computing, (2) parallel schedulers (DASK and Spark) to parallelize an algorithm using the map-reduce paradigm, and (3) a "document" database called MongoDB that manages what would be called header data in the seismic reflection processing world and today is commonly called "metadata". Readers can learn more about the MsPASS from the project web site at <https://mypass.org>.

Gary Pavlis (cont.)

Pavlis's second retirement project is an extension of work he did shortly before becoming Emeritus in 2018. The large seismic array project called the USArray (part of the Earthscope project) recently completed its mission in its final deployment in Alaska. After an NSF-supported workshop aimed at a synthesis of results from the project in Alaska a group formed to draft a set of synthesis papers. Pavlis has taken the lead on a paper addressing the geometry of the subducting Pacific-Yakutat slab imaged by the USArray data using a range of seismic imaging methods. He expects to submit that paper to an electronic monograph on Alaska-Earthscope science results by September 2022.



Terry Stigall, Geophysics Technician

On August 17 of this year I will have worked in the Department of Earth and Atmospheric Sciences for 41 years. I can't believe it has been that long. It's has been an amazing place to work and I hope to be continuing to serve the department for several years to come and maybe at a reduced capacity.

I have had several people ask me how I came to work at IU and, unbeknownst to me, I was a bit of a surprise to the person for whom I was hired. I actually applied to a job posting for an electronics position in Chemistry department, but while I was being screened by HR, I was informed there was a second position available in the Geology Department that would also match my qualifications. The HR person set up interview appointments for both positions. My first thought about the Geology electronics position, was "What the heck does electronics have to do with rocks?" I interviewed for both positions. The person at Chemistry said I was over-qualified for his electronics position, but he knew about the Geology electronics position and assured me that I had all of the qualifications needed for that job.

I was interviewed by Dr. Robert Blakely, acting proxy for Dr. Judson Mead who was at the Geologic Field Station for the summer. However, the department needed the electronics position filled when the field camp caravan got back to Bloomington so the CB radios could be removed before returning the vehicles to the fleet. I was actually one of several candidates for the position. Dr. Blakely had mailed the candidates' resumes to the Field Station so Dr. Mead could decide who he was hiring. Several weeks had passed and Dr. Blakely made sure to call me regularly to tell me not to accept another job, because this job was mine, for certain. Mead and Blakely conversed via telephone and concurred I was hired for the job.

There was one detail about me that Dr. Blakely left out of the conversation with Dr. Mead. I started working on August 17, 1981 a few weeks prior to the Filed Station caravan returning to Bloomington. Dr. Blakely suggested I tidy up the electronics shop and repair a few items before Dr. Mead's arrival. One morning I was walking back to my work room and as I was passing the floor secretary, Cathy Martindale's office, she stopped me and waved me into her room. She was on the phone and said, "She is right here." Cathy's eyes got big and a huge smile spread across her face, like she was a Cheshire cat and she said, "Yes, SHE!" and she handed the phone receiver to me, grinning from ear to ear. I took it and said "Hello" and got complete silence. I asked, "How can I help you?" after a few more seconds, he took a big breath and said, "So, this is Terry." I said, "yes". More silence.... Then he

blurted out his name and told me to be looking for a letter from him that contained instructions for me, and to be in the parking lot on the day he arrived with the caravan. His final words were "BE THERE!" and he hung up.

It took me a while to sort out why he was so curt with me on the phone until Dr. Blakely came by and asked how my introduction to Dr. Mead went. Dr. Blakely explained he had discussed the candidates for this job and that they mutually agreed I was the person for the job and thanks to the spelling of my first name, I was hired based on my credentials and not on my gender. Dr. Mead had no idea he had hired a woman! My mother spelled my name Terry, rather than Teri, because I was an unexpected twin to my sister, whom my mother had named Sherry Gale. My name became Terry Vale.

When Dr. Mead arrived with the caravan, our first encounter in the parking lot didn't go much better. I did exactly as he instructed and got the job done. After that, he tested me on my skills and pretty much stood over me, testing me on everything I did. He slowly discovered I was competent and physically strong enough to do the job, and after a year he accepted me and our working relationship was a good one.

Soon Dr. Mead retired and Dr. Gary Pavlis took his place as my boss. Our first encounter couldn't have gone any better. When we met and exchanged names, Gary also said he had a twin brother named, Terry! Without skipping a beat, I said to Gary, "And I have a TWIN sister named SHERRY!" We were instant friends and colleagues. Not long after that came Dr. Michael Hamburger spawning another wonderful working relationship/friendship.

I feel blessed to have served in a single career that has given me so much to be thankful for, the variety of different fields of science and the adventures that go with it. I appreciate the faculty and scientists I have worked with, and also the students I have come to know as I watched them move on to develop their own careers. It will be 41 years really soon and I still feel like it has been 10 or 15, tops. Time really does fly, when you are having fun!

I will still be around for more.

Terry Stigall

Lisa M. Pratt, Professor Emerita Bruce Douglas, Lecturer Emeritus

Transition to retirement is going well for both of us. We spend most of the winter months in the Florida Panhandle enjoying kayak adventures in the coastal marshes and long walks on white sand beaches (see photo on the boardwalk to Crooked Beach, Tyndall Air Force Base).



Bruce continues to work on two NSF-funded projects on field and classroom geodetic instruction. In May, he helped lead an in-person short course at Idaho State University for 32 faculty members and postdocs developing activities for field courses using structure from motion photogrammetry. Two of our alumni participated in the event. One was Alejandra Ortiz, a post-doc with Doug, now at Colby College and Jeremy Maurer, an MS student with Kaj who is now a faculty member at Missouri University of Science and Technology.

In February and March, Lisa served as co-chair for NASA's senior review of eight planetary science missions seeking funding for continuing operation.

We relish our homestead time in Bloomington through the seasonal cycle of tapping/boiling maple sap, planting vegetable/flower beds, and cutting/splitting firewood. Lack of contact with IU students and colleagues has been a regrettable hole in our lives during the pandemic.

news + stories

emeriti and staff



Lee Suttner, Professor Emeritus

My greetings and best wishes to alumni and friends. Having just turned a youthful 83, I am delighted and grateful to write from my office on campus that I continue to remain in excellent health. And thankfully my family and I all escaped any significant physical anguish

of the pandemic. All is well.

I believe the key to my longevity and happiness is that I have tried throughout my retirement to live like I am not retired. When I am not on travel, I wake up nearly every morning with a to-do list. This usually brings me into my office for a few hours each day. And with my most recent move, I will now have occupied offices on all but the fourth floor. Most of my professional responsibilities center on my role as the Department's Director of Alumni Relations and Development. In addition, I still get occasional requests to do editorial reviews.

My close association with the Field Station in Montana - spanning parts of 8 decades - was re-kindled earlier this summer when I was asked to teach a three-day field course for 20 students from a private academy in Georgia. An outbreak of the virus at the Field Station precluded their much-anticipated stay on the campus (They instead hunkered down in a Butte motel.) Nevertheless, it was a wonderful opportunity for me to do what I love to do the most - teach geology in the field.

The students had a ball, and so did I. But the end was most emotional for me. After 56 years of teaching in our beloved Tobacco Root Mountains could this be my last time? In the early 1950's, geomorphology professor Bill Thornbury, asked then Department Chair Charles Deiss if he could go out to Montana to teach. Deiss refused Bill permission to do so given his age and concern for his health. Bill had just turned 50!

My non-professional to-do list surrounds what I now lump together as hobbies - taking care of my house, flowers and landscaping, reading (I am among the dinosaurs who still read at least two newspapers a day), golf, attending IU sporting events, and pretending to be a chef for my children, grandchildren and their friends for Sunday dinners. Basketball is looking up; football is still looking somewhere. No college football team has lost more games than Indiana. That record seems well intact for another year.

Sadly, pandemic restrictions, coupled with the re-modelling of the Geology Building and much increased occupancy of it by other academic disciplines has greatly diminished the social atmosphere and energy within the building. Both staff and faculty spend far less time here; I may see and talk to only 2-3 people all week. And I may go a year or more without interaction with faculty and/or staff who chose to occupy offices in the new multi-science building east across the street. Administrative offices have been condensed and moved from the first to the third and recently to the second floor. And I would estimate that student traffic during the academic year is well less than 50 percent of what it has been in the past. Things ain't the same anymore!

I always enjoy hearing from all of you. Please do write. I promise to reply. And many thanks for the extraordinary joy and satisfaction those of you who are former students of mine have brought into my life and into my career. You have touched my heart and inspired my mind. I hope I have done the same for you.

Bob Wintsch, Professor Emeritus

I've been retired from IU for 4 years now and moved to Connecticut. Here we live on the Connecticut River, near the beautiful Haddam Meadows State Park. The river is tidal (>1 m!) and at low tide a sand bar emerges that is about 2 acres. It is a wonderful place to wade, swim, and wonder, and Demetrius (border collie) loves it as well.



Meantime, not to lose touch with academics, I am a visiting scholar at Wesleyan University (a 15-minute drive) where they have given me an office and a microscope. I don't do any classroom teaching (and the thought of zoom teaching drives me crazy), but I co-supervise two master's students (re)mapping some critical quadrangles in Connecticut. And this year a paper on the origin of pegmatites was published in GSA Special Paper 553. I have been working on pegmatites since 1968, so it was about time to get it out. And I have another paper in press, and a third in review. So all of this is mostly fun: what they say about the brain: use it or lose it. I'm trying.

Funny that during the pandemic neither Jody nor I find any day long enough. 9 o'clock comes along, and we ask "Is it supper time already?" I guess that we are lucky that way. We have been "sheltering in place" with minimal interaction in closed places (except for the wine store), and unlike one of two of our neighbors, it does not seem like "aging in place."

We hope that you all are also doing well and finding your days too short.

regarding history

All historical and more recent issues of the departmental newsletters and directories (including the Hoosier Geological Record) have been scanned back to 1952 and uploaded to the departmental website: <https://earth.indiana.edu/news-alumni/newsletter/eas-news-archives/index.html>

The collection of annual departmental group pictures back to 1958 (and other pictures dating back to 1948) had been temporarily lost during the renovation of our building. Luckily the collection has been found in some boxes in the Indiana University Archives. The images are being professionally scanned and will eventually be uploaded to the alumni section of our departmental website.

spring 22 colloquia



February 21: iDEAS Seminar Series: Harrison Martin, EAS Ph.D. Student and Dr. Doug Edmonds

March 7: iDEAS Seminar Series: Eric Burton, EAS M.S. Student, and Dr. Brian Yanites

March 21: Dr. Jeremy Maurer, University of Missouri S&T

Title: *Rare and Overlooked, but Mighty: Developing ^{17}O for the Paleoclimate Toolkit*

March 25: CROSSROADS: Presentation awards were given to Clarke DeLisle and Quan Nguyen for talks, and Diya Kamnani, Anne Kort, Sophie Black, and Riley Henson for posters

March 28: Dr. Lena Cole, Smithsonian National Museum of Natural History

Title: *Deep-time Perspectives on Community Ecology and Niche Evolution of Fossil Crinoids*

April 4: Dr. Danielle Rempe, University of Texas Austin

Title: *Beyond Soils: The Role of Bedrock in Regulating Terrestrial Water and Carbon Cycling*

April 12: Dr. Dione Rossiter, Science@Cal

Title: *Systemic Racism in Science Communication*

April 11: Dr. Dione L. Rossiter Science@Cal

Title: *SciComm and Self-branding: How to Promote Your Science and Your Worth*

April 18: Dr. Michael Rygel SUNY Potsdam

Title: *Sticks and Stones: The Co-evolution of Land Plants and the Terrestrial Landscape*

in memory

Allen W. Archer

1952-2022



Allen Archer passed away August 12, 2022 in Manhattan, Kansas. He was a Professor Emeritus of Geology at Kansas State University.

Al was born June 7, 1952, in Harford City, Indiana, the son of Don and Martha (McColly) Archer. He attended college at Indiana University and Oregon State, and in 1979 received a PhD in Geology from Indiana University.

Archer (along with E. Kvale in IGS and Johnson in Astronomy) made a name for IU studying the tidalites of Hindostan Beds vis a vis the Earth-Moon system.

[You can read his obituary here](#)



Sue McDonald

1962-2022



Susan (Sue) K McDonald, 60, of McPherson and formerly of Fargo, ND, passed away peacefully at home on April 12, 2022. Sue was a lifelong educator, most recently Professor Emerita at Kansas Wesleyan University in Salina, Kansas.

Sue was born on March 9, 1962, in Berkeley, California, the daughter of Clarence E. and Lois (Kay) McDonald. She graduated from Fargo North High School in 1980. She received her Bachelor of Science degree in Mechanical Engineering from North Dakota State University in 1983, her Master of Science degree in Geology from Indiana State University in 1990 and Doctor of Philosophy in Physics at Indiana University in 1994. On May 10, 1987, Sue was united in marriage to Dale Griffith in Fenton, Michigan. They were married 34 years before Dale's passing on February 5, 2022.

Sue and Dale's marriage began in Kansas City and Washington DC, working as Mechanical Engineers for Babcock and Wilcox until Sue's return to school to complete her master's and doctoral studies. Sue and Dale lived in Terre Haute, Indiana and Sioux City, Iowa while Sue completed her degrees, following which she began her academic career at Morningside University. Sue and Dale then moved to Kansas to accept her professorship position at Kansas Wesleyan University in Salina, where she retired Emerita in 2012. **Throughout the years, she shared her love of Earth Science as an instructor at the yearly summer field camp experience at Indiana University's Judson Mead Geologic Field Station in Cardwell, Montana. A residential facility was named in her honor at the Field Station in 2021.** Dr. McDonald loved working with her students and positively impacted the lives of many along the way.

[You can read her obituary here](#)



hello alumni!

(we'd love to hear from you)

Are you an alumnus or alumna of the Department of Earth and Atmospheric Sciences
(formerly the Department of Geological Sciences)?

Would you like to update your contact information?

If so, please visit our online form and send us some stories, news about your
employment or address or just chat.

<https://earth.indiana.edu/forms/share-your-story.html>



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Indiana University College of Arts + Sciences
Summer 2022 Alumni Newsletter of the
Department of Earth and Atmospheric Sciences

This newsletter is published by the
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in cooperation with the

College of **Arts + Sciences**

to encourage alumni interest in and support for
Indiana University.



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