

Department of Earth and Environmental Sciences Newsletter

Message from DEO David Peate

First of all, I hope that everyone is safe and healthy, and managing to cope okay with the major disruptions to their daily lives that have been imposed in recent months by the COVID-19 pandemic. As you can imagine, the pandemic has had a major impact on the department. Just before Spring Break, it was announced that all instruction had to be online-only, and so Spring Break was extended for a week to allow instructors time to get materials prepared and to allow students time to vacate the residence halls. I would like to express my thanks to all the faculty, instructors, and TAs who managed to transition courses to online-only versions at such short notice and without any major issues, and to our staff who kept department operations running relatively smoothly despite working from home. The University has also announced that instruction in the first half of the Summer will also be online-only, and there is still uncertainty as to what will happen later in the summer, and even into the fall semester in terms of when we will be able to transition back to 'normal' teaching. One of the major impacts for our students has been the cancellation of all field trips and field courses, including the Spring Break trip to Costa Rica, the Tectonics trip to Arizona, the Second-year trip to Kentucky and, of course, the Field Methods/Analysis courses in Montana. Trowbridge Hall is essentially empty at the moment – everyone is expected to work from home, and all research labs are closed until further notice. We recognize the resilience of our current students who are having to deal with the overall uncertainties and course modifications, and having to miss out on valuable research and field experiences. The department is doing all it can to minimize the impact on students education and to keep their graduation plans on track.



The Provost's Postdoctoral Faculty Fellowship Program is a new initiative at the University of Iowa designed to provide research opportunities, faculty mentoring, and career development for promising postdoctoral scholars who will contribute to diversity, equity, and inclusion at the University and it is intended to serve as a pipeline to a tenure-track position. I am very pleased to announce that Shamar Chin was selected as one of the four 2020-2021 Provost's Postdoctoral Faculty Fellows. Shamar is originally from Jamaica and is currently completing her PhD at the University of Nebraska - Lincoln on calcareous nannofossils and reconstructing past climates. We are looking forward to having her join the department in August 2020.

I am grateful to all alumni and friends for your continued support for the Department of Earth & Environmental Sciences. I look forward to seeing you all in Iowa City for the triennial Alumni Homecoming Event in the Fall (Oct 23rd-24th 2020).



Earth and Environmental Sciences Department Alumni Advisory Board

by Amy Sullivan, EESB Chair

Self-Nominate or Nominate Alumni for the EES Alumni Board

Your Alumni Board is active, adding value and contributing momentum for the department. We are seeking other alumni to join us! The Board has 3-year terms. Board members may serve two consecutive terms. It has been great re-establishing personal connection with the faculty and staff. Visiting Iowa City and connecting via ZOOM has strengthened ties between alumni, faculty, staff and students. Please contact Amy Sullivan, Chair (cajes@mindspring.com) to find out more.

2020 Triennial Alumni Board Meeting – Alumni Days – October 23-24

All EES Alumni are invited to attend events at Trowbridge and around campus. Here is a peek at the draft schedule of events. Additional coffees, receptions and tours may be added.

Fri Oct 23	Student lunch with Distinguished Alumni Awardee (DAA)
Fri Oct 23 Morning	EES Alumni Board Meeting (All alumni invited!)
Fri Oct 23 1:30 – 3:30	Student Poster Session (This is good science in action!)
Fri Oct 23 3:30 – 4:30	DAA Award & Lecture (The awesome Friday seminar!)
Fri Oct 23 5:30 – 7:00	DAA Reception & Homecoming Parade (Venue will be great)
Sat Oct 24	Field Trip (in the works, announcement soon!)
Sat Oct 24	IA v. Northwestern (kickoff @ 11:30 to be confirmed)
Sun Oct 25 (FYI)	GSA – Montreal, Quebec

AAPG Student Chapter and the Environmental Science Student Club are looking for in-person or virtual speakers for their meetings. A “get-to-know you” session or a scientific case study are appropriate and welcomed. Contact Todd Ririe (todd@tririe.com) or Amy Sullivan (cajes@mindspring.com) or Justin Rosenblum, AAPG Student Chapter President) (mailto:justin-rosenblume@uiowa.edu) to connect with these student groups.

Iowa Geode Stars documents the major “geode stars” from the department’s history <https://clas.uiowa.edu/ees/about/iowa-geode-stars> . This is similar to GSA “Rock Stars” documenting scientific contributions. So what did Arthur Trowbridge and Philip Burke King contribute? Check out the Iowa Geode Stars. ANYONE can write up a Geode Star for the department Contact Steve Schutter (steveschutter10@gmail.com).

As always all alumni are welcomed to join our meetings, and in fact some alumni have! Please contact any of us with your questions or proposal for topics. Our contact information is at: <https://clas.uiowa.edu/ees/alumni-and-friends/ees-alumni-board>

Distinguished Alumni Award – Requesting Nominations from Alumni!

Do you know or recall a UI Alum with an established history of distinguished service to the discipline and/or the department? A person who has made lasting contributions to understanding geological or environmental questions? A colleague who has exhibited leadership that has provided inspiration to others in the field? All alumni may submit nominations for the Distinguished Alumni Award (DAA)!

This is an annual recognition event. It started with Homecoming 2019 by recognizing John Eiler, now at Caltech. Joanna Thamke, Supervisory Hydrologist – Groundwater and Surface WY - MT Water Section Chief, has been selected for the 2020 DAA.

Don't hesitate to send your nominations to Steve Schutter (steveschutter10@gmail.com), Alumni Outreach Chair, or Amy Sullivan (cajes@mindspring.com), Alumni Board Chair. Documenting a nominee isn't required all at once, but the following information is required for the nomination:

- (1) A letter clearly stating the nominee's contributions;
- (2) Past honors and copies of or links to relevant reports and publications of the nominee, when appropriate or possible (note that there will be no discrimination against alumni who have pursued a career path where publications are not a significant measure of impact); and
- (3) At least two support letters that specifically present the nominee's contributions to the geoscience community that makes them especially deserving of this prestigious award.

All nominations will be kept on file and can be reactivated for future consideration. The Earth and Environmental Sciences Alumni Board chairperson and the Alumni Outreach committee will review the nominations and present them to the EESB to select a recipient. The nomination and selection process may be found at: <https://clas.uiowa.edu/ees/about/distinguished-alumni-award>

Amy Sullivan - Chair EESB
Steve Schutter – Alumni Outreach Chair EESB

Board Mentoring Program Has Begun

by Todd Ririe, EESB Mentoring Coordinator



The Earth & Environmental Science Board (Board) has initiated a mentoring program that is currently available to student members of two clubs within the EES department; the Environmental Science Club and the Iowa student chapter of AAPG. The Board initiated the program after our meeting in Iowa City during homecoming.

Mentoring is a powerful personal development and empowerment tool. It is an effective way of helping people to progress in their careers. It is a partnership between two people (mentor and mentee) sharing similar experiences working in the Earth and/or Environmental Sciences field. It is a helpful relationship based upon mutual trust and respect.

Goals for the Program

1. Provide career advice and input for students to better prepare them for life after graduation.
2. Help with building their resume.
3. Assistance with expanding their networking skills.
4. Providing technical expertise where appropriate.
5. Life experience in dealing with organizations (industry and academic).
6. Advice on oral presentations.
7. Ideas on acquiring knowledge in complementary topics.
8. Safety issues
9. Ethics Issues
10. Professional Certifications

Currently 18 students from the two clubs have expressed interest in being assigned a mentor from the EESB. We hope to build upon some lessons learned during the initial stages of the program so that it can be expanded in the future to any student in the EES department.

ENVS:3230 Prairie Restoration course

by Mike Fallon, Instructor

Applied learning, Prairie Restoration's core value and educational niche, involves students in an ongoing local prairie reconstruction project. In this course, students learn the basic principles of prescribed fire/controlled burning, wildlife and pollinator habitat restoration, Native American/Indigenous Peoples land management practices, invasive species management, plantbiogeography and phenology and more. Referencing their life skills and past experiences, guest practitioners reveal the hardscrabble reality of a career in the field of ecological restoration. Students perform various fieldwork tasks like native seed and insect collection and identification and soil sample collection and GIS mapping.

About the project: Situated on the UIowa Campus at Ashton Cross Country Course, the Prairie Reconstruction Project is converting a 1-acre plot of unused, fallow pastureland into a native prairie planting. Prairie plant seed used in this reconstruction is biogeographically referenced, i.e., native to Johnson County, IA. The native plant seed was purchased with a generous grant from the University of Iowa Student Government (UISG).

The recent ENVS:3230 field trip to the field site was lead by Rachel Larson, PhD Student at the University of Iowa in the Department of Geographic and Sustainability Sciences. The students pictured in the photos are installing or observing the installation of camera traps. Camera traps photograph wildlife and help us determine a baseline for the wildlife population at Ashton Cross Country Course.





Graduate Student Profile

Aline Blasizzo

Advisor: Ingrid Ukstins

Research: Small and large-scale textures in the 1961 lava flow in Askja, Iceland for martian lava flow studies. I am working to understand the relationships between internal textures, such as phenocryst distributions or vesicularity, and linking them to the large-scale textures visible in the field and in satellite imagery. When most of the data about Mars comes from satellites, it is important to consider how the interpretation of lava flow architecture changes with resolution.

Experience I value at UI: The opportunity to conduct field work in Iceland during the summers of 2018 and 2019 have been extremely valuable in learning about the work that goes into planning for a field expedition abroad. Being a TA has also held a high spot for me since it is where I am able to notice the growth of professional skills in myself and my fellow classmates. The Earth and Environmental Science department has been incredibly beneficial in my development that will prepare me to succeed in my future career.

Future Plans: After my M.S. I hope to find a job working in industry using a combination of field work and remote sensing to solve geologic problems.

Alumni Perspectives

by Dr. Timothy McHargue

As the son of a military man I was used to moving frequently, ready or not. So when I finished my undergraduate degree at the University of Missouri (MU), it was the longest I had ever lived in one place during my life to that point. Geology was my major because I had always loved fossils. Dr. Ray Ethington, a University of Iowa PhD, was my advisor from my first day as a freshman through the last day of my Masters. After a lackluster BS, during which I spent way too much time playing guitar instead of studying, I was able to squeak by requirements for acceptance to grad school at MU, due to a good word from Ray. I got serious about my MA, picking, sorting, identifying and explaining over 35,000 Ordovician conodonts. But I still played guitar on weekends in a local coffeehouse. After spending some time in the army and finally graduating, I was able to attract one job offer from Phillips Petroleum Company where I worked for 3 years. During that time I interpreted and later published a study of the Indus submarine fan, based on my interpretation of some of the first multichannel seismic ever acquired in deep



water. Then I went to Iowa for my PhD. I worked on conodonts with Gil Klapper and carbonates with Phil Heckel. Upon graduation, I couldn't get an academic position so I started with Chevron Research along with my Iowa office mate, Rex Price. Rex and I published a paper together on dolomitization and I eventually coauthored a stratigraphy text book with Bob Brenner of the University of Iowa. Although I was hired as a carbonate expert, I never worked on a carbonate project during my 28 years at Chevron. Instead, I worked on lacustrine, fluvial, shallow marine and deep water clastics, based largely on interpretation of seismic data. Although I traveled a lot, I spent my entire Chevron career living in California with the exception of about 5 years in Perth, Australia – California without the people. About half of my Chevron years were devoted to exploration and the rest in research. A highlight was Chevron's turbidite research team, which I assembled and was honored to lead for my last several years at Chevron.

I developed and taught company courses on sequence stratigraphy and, along with the team, turbidite deposits. That led to a request from Steve Graham to teach as an Adjunct Professor at Stanford University. After retirement from Chevron, the relationship with Stanford has continued. In addition to consulting with graduate students and serving on committees, I teach courses on Clastic Sequence Stratigraphy, Turbidite Depositional Architecture, and a seminar that broadly considers topics related to deep water deposition and erosion. Recent research in collaboration with many students, Steve Graham, Don Lowe, George Hilley (Stanford) and Charlie Paull (Monterey Bay Aquarium Research Institute (MBARI)), has included student projects on turbidite process modeling, submarine canyons, channels, and lobate deposits. The relationship with MBARI, who acquire extremely high resolution ocean bottom bathymetry, has resulted in studies of neotectonics of a transform fault in the Gulf of California, geohazards near the Eel canyon-fan system near the northern end of the San Andreas fault, and high resolution images of channels, intrachannel bars, and basinal megascours beyond the shelf of western North America. Research also has taken me to many outcrop exposures around the world, including Spain, South Africa, Turkey, Namibia, Nigeria, and Chile. Also, I have volunteered to serve on committees for IODP and professional societies, a good way to network and to give back to the science community.

I am thankful that I have been exceedingly fortunate to have a loving and supporting family and to have had the opportunity to participate in so many interesting research projects with so many talented and generous colleagues and students. I hope that continues for a long time. And I still play the guitar.

Dr. Tim McHargue received his BS and MA degrees from the University of Missouri in 1971 and 1974. He received his PhD from the University of Iowa in 1981.



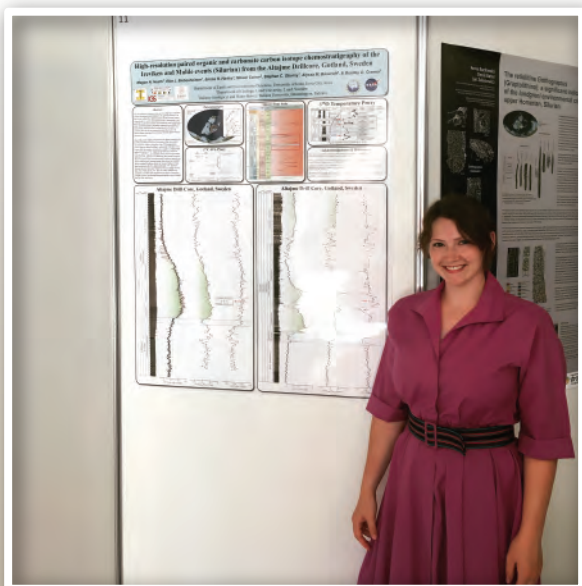
Congratulations to our student awardees!!

Graduate student award winners:

A.C Trowbridge award for Outstanding Masters Student – Megan Heath
Samuel Calvin award for Outstanding PhD Student – Jennifer Thines

Undergraduate student award winners:

Bill Vosper award for Geoscience Majors – Ashley Morris
Cornelia C. Cameron award for Outstanding Environmental Sciences
Major – Natalie Rapp



Graduate Student Profile

Megan Heath

Advisor: Brad Cramer

Research: High-resolution Paired Organic and Carbonate Carbon Isotope Chemostratigraphy of the Hangenberg Event from H28 and H32 Cores in Burlington, Iowa

Experience I value at UI: Graduate school at the University of Iowa has allowed me to grow immensely as both a scientist and person. Supportive faculty members have helped me develop confidence in my scientific ability. Hours upon hours of lab work taught me that persistence is essential (as are audio books, podcasts, and a stellar lab assistant). I feel incredibly grateful for a large number of field opportunities, which allowed me to travel a variety of places in the past two years. Field work in Missouri, Illinois, and South Dakota to collect conodont and isotope samples, a field trip to the Bahamas to study carbonates, and traveling to Milan, Italy to present at STRATI 2019 are a just

a few of the experiences that I will never forget. I feel very fortunate to have been apart of this department and am thankful for the fulfilling community and friendships I found here.

Future Plans: After I graduate, I'm hoping to move to Colorado or Utah to pursue a career in environmental science and eventually continue my education to get a PhD. My overall goal is to improve the relationship that humans have with the environment in any way that I can.

UI's first postdoc faculty fellows announced



Four postdoctoral scholars comprise the University of Iowa Office of the Provost's first cohort in the Provost's Postdoctoral Faculty Fellowship Program. The program is intended to serve as a pipeline to tenure-track positions and is expected to increase campus diversity.

Shamar Chin will be hosted in the Department of Earth and Environmental Sciences and is joining Iowa from the University of Nebraska–Lincoln where she is completing a PhD in micropaleontology.

Postdoctoral fellowships will begin in fall 2020, and the fellows will participate together in tailored workshops to prepare them to become excellent teachers and to support their ability to pursue grants, create productive mentor relationships, and publish or present research and scholarship.

Dr. Jane Gilotti is selected as a Fulbright Scholar

The University of Iowa is thrilled to announce that Jane Gilotti, professor in Earth and Environmental Sciences at the University of Iowa, has been selected as a Fulbright Scholar to Poland for the 2020-21 academic year.

Gilotti is one of more than 800 U.S. citizens who will teach, conduct research, or provide expertise abroad for the 2020-2021 academic year through the Fulbright U.S. Scholar Program. Recipients of Fulbright awards are selected based on academic and professional achievement as well as a record of service and demonstrated leadership in their respective fields.



Gilotti's research in Poland will involve understanding the architecture of mountain belts by collecting data from deeply buried rocks and studying the exhumed bits of ancient plate collisions.

"In 1990 while on a mapping expedition with the Geological Survey of Greenland, I discovered a very large area of high-pressure rocks, called eclogites, in the continental crust of North-East Greenland," said Gilotti. "Before the opening of the Atlantic Ocean, Greenland occupied the upper plate of the Caledonian collision with Scandinavia, in much the same way that Asia overlies India in the modern Himalayan orogen. The eclogite province in North-East Greenland is analogous to rocks currently located at 50–80 km beneath the Tibetan Plateau, formed by over thickening of the crust due to contraction. My Fulbright project will focus on the question of how and when did the eclogite province make its way back to Earth's surface? We will use my existing rock collection to study the mineral assemblages and chemistry to gain an understanding of the temperature and depth path the rocks followed back to the surface. Our results will help us build models of both the formation and exhumation of ancient mountain systems."

Pulling from her experience over the years working with students to provide real-world, hands-on learning, Gilotti will offer a graduate student workshop on microstructural analysis during her Fulbright visit to Poland and share her collection of over 500 rock samples with a recent post-doc and Polish colleague, Karolina Kosminska, using the collection as a basis for new projects.

Given the global nature of Gilotti's area of study, international research and collaborations are essential to anyone working in the field of earth and environmental science.

"Belonging to an international community of scholars with shared interests has been a very rewarding aspect of my career," said Gilotti. "The 'eclogite community' meets every other summer to go on field trips and discuss progress in our discipline. It is a very welcoming group that celebrates the joy of basic discovery. International collaboration is an essential element of Arctic research because single investigators cannot afford the expensive logistical costs of fieldwork in these remote regions. The Fulbright project will reinvigorate my research on the high-pressure rocks of North-East Greenland."

In addition to her research and teaching, Gilotti hopes to continue to foster exchanges of students and data between her research groups and countries, ultimately organizing future fieldwork in North-East Greenland.

"Living abroad brings new experiences, friendships, surprises and challenges that just don't present themselves in everyday life in Iowa City. I truly enjoy immersing myself in a different culture. I find that being in a different space is conducive to new ideas and problem-solving. Time suddenly materializes for deep thinking and writing. I am grateful for the opportunity to realize J. William Fulbright's vision for this truly global exchange program and expect to return to the University of Iowa feeling revitalized."

*This article is reproduced from the University of Iowa International Programs website:
<https://international.uiowa.edu/news/ui-professor-teach-and-conduct-research-poland-fulbright-scholar>*



Graduate Student Profile

Guo Cheng

Advisor: William Barnhart

Research: My current research is focused on the co-seismic strain characteristics of the 2013 Mw 7.7 Baluchistan Earthquake in Pakistan. Strain, as defined in structural geology, is a measurement of how much an object is deformed. I calculated surface strain distribution of the 2013 earthquake using co-seismic surface horizontal displacement generated by subpixel correlation of optical satellite imagery. This study will help answer the following questions: how much elastic (recoverable) vs. inelastic (non-recoverable) deformation is generated by the earthquake? Where are these deformation types located around the fault being ruptured? What factors (e.g. surficial material types, fault maturity, etc.) control the spatial variation of the co-seismic strain?

My future research will still be focused on the 2013 Baluchistan Earthquake, but in terms of post-seismic processes rather than co-seismic. I will generate post-seismic surface displacement time-series using Landsat 8 and Sentinel-1 satellite imagery. I will then simulate different post-seismic processes (e.g. afterslip, viscoelastic relaxation) with different co-seismic slips and subsurface material properties using finite element modeling software PyLith. The predicted displacements will be compared to the observed time-series to find the best-fit scenario. This study will help estimate material properties and behaviors at depths of lower crust or upper mantle, which are hard to constrain using conventional geological or geochemical survey methods.

Experience I value at UI: As an earthquake geophysicist, my research is primarily computer-based. However, during my time at UI, I have had the opportunities to participate in field trips to travel across Arizona and Wyoming. I have not only learned a lot of useful field skills from these field trips, but also been able to communicate with my colleagues who come from different areas of expertise and share with me their perspectives of geoscience. Moreover, I have also attended and presented my research at the Geological Society of America 2018 annual meeting and America Geophysical Union fall meeting 2019. At these conferences, I was able to meet and talk to the experts and researchers in my field of study, which helped broaden my knowledge and improve my scientific presentation and communication skills.

Future Plans: I would like to pursue my future career as a researcher for government geological survey or as a consultant for engineering companies.



In Remembrance

Elaine Semken, wife of Emeritus Professor Holmes Semken, passed away on December 27, 2019. Elaine and Holmes met at the University of Texas, Austin on a blind date. She believed they would marry after that very first date. Holmes had similar feelings and they married on August 31, 1957. Soon after, Elaine put her new "hubby" through a master's degree at the University of Texas and later a PhD at the University of Michigan in Ann Arbor by teaching elementary school. There was a stint in the service for Holmes during which the couple lived in Alexandria, Virginia, between degrees. While still living in Virginia, Holmes was employed by the Smithsonian to dig mammoths in Littleton, Colorado. Elaine spent the next two summers tent camping south of Littleton. The crew was delighted to have a real cook oversee the meals and the project supervisor was happy because the language was less colorful in camp. Her sense for adventure probably was enhanced here.

A lover of wildlife, home, and family, she was at once a loyal wife and mother, but also a friend that others, including many University of Iowa students, regarded as a second mother. She loved her pets. As the saying goes, it was a lucky dog that lived in her house. She is survived by her husband of sixty-two years, Holmes A. Semken, Jr.; her two sons, Steven H. Semken (wife, Ingrid), David A. Semken (wife, Cindy); grandson Daniel, granddaughter Fenna, and step granddaughter, Andrea; as well as her loving Corgi JJ.



Undergraduate Student Profile

Emma Hartke

Advisor: Brad Cramer

Research: Evaluating CO₂, anoxia, and primary productivity during the Silurian Ireviken Event based upon high-resolution paired organic and carbonate carbon isotope chemostratigraphy

Experience I value at UI: I have had so many wonderful experiences throughout my undergraduate career, it's difficult to narrow them down! One of my most valued experiences I have had has been the ability to work on an independent research project in Brad Cramer's lab for about two years now, on which I have been able to give a variety of poster and oral presentations at several conferences (Iowa Space Grant Consortium, GSA

North Central, GSA Annual)--opportunities not all undergraduate students have. Giving so many presentations allowed me to sharpen my professional skills and improve my confidence as a speaker, researcher, and scientist. As a student in the geoscience program, I have also had the chance to travel to amazing places for class trips including 9 national parks, 11 different states, and a variety of state parks. Not only did these trips allow me to learn about important geological features/processes hands-on, but they also made for amazing memories that I will remember forever. Finally, I have never known such a closely-knit department like the Earth and Environmental Sciences at UI, and I feel that such a community has helped tremendously in supporting me through my undergraduate career. I am extremely grateful for all of the knowledge and skills I have acquired from learning in such a supportive environment, and no doubt these will be useful for me as I continue into graduate school and beyond.

Future Plans: I plan to attend graduate school this fall in pursuit of a M.S. degree in geoscience. After that, we will see!



In Remembrance

David L. Campbell, 78, died Saturday, December 21, 2019 at his home in Tiffin from complications of brain cancer. Dave was born April 23, 1941 and raised on his family's farm near Tiffin. He graduated from Clear Creek #3 (1955), University High School (1959), and University of Iowa (1963), where he majored in physics and mathematics. Funded by a graduate scholarship from NASA, he then earned MA (1966) and PhD (1969) degrees in geophysics from University of California-Berkeley. While at Berkeley, he helped install World-Wide Standard seismographic stations in California, and worked summer 1968 for NASA at Ames Research Center, Sunnyvale, CA, on a project simulating moon craters. On graduation, he taught geophysics for five years at Krumb School of Mines, Columbia University, New York City.

Dave worked for 26 years for the United States Geological Survey. For USGS he did field studies all over the United States especially in the Rocky Mountains and in the Alaska Range; and he also worked on the Precambrian shield of Saudi Arabia.

He used many different geophysical techniques in his studies, especially magnetics, electromagnetics, and ground-penetrating radar. During the mid- to late-1990s, Dave served as chief of the Geophysics Branch of USGS, supervising more than 250 employees in Denver CO, Reston VA, and Menlo Park CA.

In 2001, Dave and Katharine retired to the 10 acres across Highway 6 from the home place where Dave had been raised. They started an apple/pear orchard, certified the property ("Adelyn's Organic Garden") as organic, and grew vegetables and honey for Iowa City Farmer's Market for the next 13 years.

In Iowa, Dave was an Adjunct Professor in the Geosciences Department, sang and played guitar and banjo with several local amateur groups, and served for many years as secretary of the East-Central Iowa Beekeepers Association.



Tribute to Holmes Alford Semken, Jr.

Two EES alums recently published an article in *Quaternary International* as a tribute to Professor Emeritus Holmes Semken

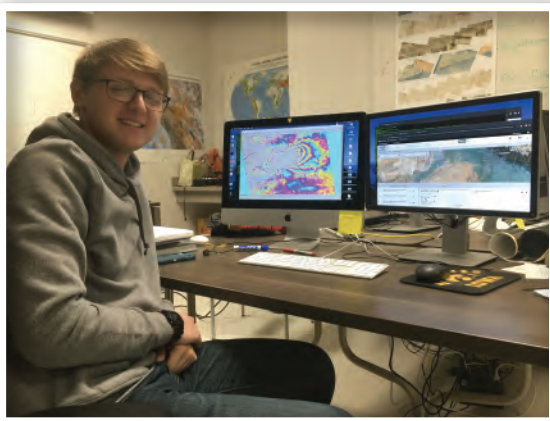
Ralph E. Eshelman (MS 1971), former Semken student, friend, former museum director and research associate of Department of Paleobiology, National Museum of Natural History, Smithsonian Institution and **Russell W. Graham** (BS 1969, MS 1972), former Semken student, colleague, and friend, now professor and museum director (emeritus), Department of Geosciences, Pennsylvania State University, wrote the article to honor the accomplishments and contributions Holmes has made to science, academia, the University of Iowa, the Department of Geology.

The authors write that “Holmes’ research and publications have contributed significantly to Quaternary vertebrate paleontology, paleoecology, and zooarchaeology in many different ways.”

Eshelman recalls that, “Holmes was the perfect thesis supervisor. He always showed patience, was giving of his time and was always there to help as he could to get me through my two years as a graduate student working on my master’s degree at the University of Iowa. Whenever I experienced frustration or doubts Holmes was always there with his calm and positive demeanor. Holmes had the gift of helping me, and I presume others, to relax and smile when things got difficult.”

The paper reports that, “[Holmes] has thus far published over fifty peer-reviewed research papers (he is still publishing papers), supervised nine successful doctoral candidates and thirty-five master candidates in geology-paleontology as well as five in anthropology and five in science education.”

Eshelman, R.E. and Graham, R.W., 2019, Tribute to Holmes Alford Semken, Jr.: Quaternary International, 530-531, 4-13.



Undergraduate Student Profile

Zach Vig

Advisor: William Barnhart

Research: Analyzation of InSAR Data. By using interferometric synthetic aperture radar (InSAR) data obtained from the Sentinel 1-A and 1-B satellite network, I have been working under Dr. Barnhart to process and analyze a series of earthquakes dating back to 2014. After locating events that have the potential to yield meaningful data, I am able to use python to create various interferograms. These data will then be used for further research such as creating three dimensional models of various faults around the globe and training AI software to locate prominent areas of crustal deformation.

Experience I value at UI: As a double major in Physics and Geology, I have found the University of Iowa to be very flexible in regards to my class schedule. Plus, both the Earth and Environmental Sciences and the Physics departments have been very helpful toward my interest in doing research in the somewhat niche field of Geophysics. My coursework as well as my research experience has allowed me to form a tight knit community of peers, and has allowed me to really excel in my learning!

Future Plans: In the next few years of my undergraduate degree, I plan to get more involved in the Earth and Environmental Sciences department, as my coursework transitions from introductory Physics courses to higher level Geology courses in the Earth and Environmental Sciences department. I also plan on continuing to do as much interesting research as I can in the department, and can’t wait to go to field school next summer! After I finish my undergraduate degree, I plan to attend graduate school for Geophysics.



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EARTH & ENVIRONMENTAL SCIENCES

SPRING 2020

Anything you would like to see in the newsletter? Please send an email with any suggestions or requests to geology@uiowa.edu!

Share your perspective

Please share the wisdom you've accrued throughout your career with our students by answering one or more of the questions below, or dispensing any other advice you may have. Your responses will be included in the Alumni Perspectives in the next newsletter. Send them to geology@uiowa.edu and indicate whether you would like it to be anonymous or attributed to you. Thanks for sharing!

What made you competitive in your field?

What were your lucky breaks?

What type of preparation would have made your career path easier?