Dear Alumni and Friends,

Much has happened in the two years since we last connected with you. Last fall, we completed an internal and external review of all of our programs. This is something all departments on campus must go through every eight years. The review team examined a self-study document, toured the department, met the faculty in small group meetings and interviewed the staff as well as representatives of the undergraduate and graduate students.

Both review teams had a very positive impression of the department. The internal review team noted that “the department provided a strong and positive environment for research, scholarship and service.” The external review team found “a robust, engaged faculty, who are collegial and producing scholarship of the highest level.” Later they noted that “...the scholastic accomplishments within the department are substantial by any measure” and that “...the productivity of the faculty is superior, both in terms of quality and quantity.”

On May 8, 2009 the campus was hit by a bizarre storm, which the National Weather Service called a derecho. Wind speeds over large areas exceeded 100 miles per hour, and this along with the very wet soil lead to an extensive number of uprooted trees, damaged roofs, and frightened students and faculty. We went to the basement once we heard the sirens and waited for some time. This was finals week, and students from one class were sitting on the floor in the basement trying to complete their exam. The power went out and did not return to the campus for several days. Graduation was scheduled the next day and normally the College of Science holds its ceremonies in Shryock Auditorium. Instead we gathered in McAndrew stadium on a dreary, intermittently wet day, with temeramental generators humming in the distance. The College of Science awarded Jim Lightner, one of our graduates, its outstanding alumnus award at the ceremony. He spoke to all of the College graduates and his commencement speech is reproduced in its entirety in this newsletter.

We have been searching for a new coal geologist ever since Jack Crelling retired some time ago. After a couple of failed searches for an assistant professor, the University gave us permission to seek an established coal geologist and we were able to lure Professor Sue Rimmer from her position in the Department of Geology, University of Kentucky. Sue joined the faculty in January, 2009 and has established new X-ray and rock preparation laboratories. She has also revitalized our Petroleum Geology course.

I do have some sad news to report. Dr. John Utgaard passed away early morning on September 8, 2009. John served the Department for nearly 40 years as a dedicated teacher, distinguished paleontologist, and respected chair. Most of us knew him as a dear friend and colleague. John’s family has suggested gifts to the Dutcher-Utgaard Field Course fund as a memorial. Jay Zimmerman has prepared a summary of John’s career and this newsletter also provides a listing of his publications.

Sharon Simons, a longtime member of the office staff retired in 2009. That was a bit earlier than she planned. Sharon had a serious fall and could not work for an extended period of time. She also lost her sight and could not resume her job once she recovered from the fall. We miss her.

We welcomed Katheryn Fifarek as part of the office staff in the fall, 2009. Things are again running smoothly in the main office.

Dr. Sue Rimmer mid vitrinite reflectance analysis.

John Utgaard and the Summer Field Course

John Edward Utgaard was born in Anna, Minnesota, on February 23, 1936. Having grown to maturity in the agricultural environment of the northern plains, he completed his education, married, helped raise and provide for a family, and established a distinguished career in his chosen field of Geology. He passed away on September 8, 2009 in Carbondale, Illinois, his home of forty-four years.

John attended the University of North Dakota, graduating in 1958 with the degree of B.S. in Geology and membership in Phi Beta Kappa. At Indiana University, supported in part by fellowships from Standard Oil of Texas and the National Science Foundation, he completed requirements for the A.M. degree in 1961 and continued preparation for his Ph. D. in Geology with a specialty in invertebrate paleontology and major emphasis on bryozoology.

Following marriage to Mary Susan Baker, of Bloomington, Indiana in August 1961 and the birth of first son Erik in the fall of 1962, John was awarded the Ph. D. degree in 1963. The family then moved to Washington, D. C., where John spent two years as Research Associate at the U. S. National Museum, Smithsonian Institution.

In the Spring of 1965 John, Susan, Erik, and recently-arrived son Sigurd (Sig) moved to Carbondale, Illinois, where John continued his professional career at Southern Illinois University at the rank of Assistant Professor. Soon after his arrival at SIU, John assumed responsibility for the department’s summer field course, GEOL 454. Initially, he changed its location from southern Illinois to Cardwell, Montana, site of the Indiana University field course in which he had previously served as Teaching Associate. The headquarters of the SIU course were shifted from Cardwell to the Yellowstone Bighorn Research Association (YBRA) facility at Red Lodge, Montana, following Russ Dutcher’s 1971 appointment as chairman of the SIU Department of Geology. This move established the longstanding close relationship between YBRA and our department.

During the first years at the new location, John completely revamped the field course with the help of Dale Ritter and Russ Dutcher, combining some field exercise sites used by YBRA with others familiar from the IU course and adding new ones. John also saw the educational and morale advantages of interrupting sequences of local exercises with trips to other parts of the region, some as distant as Craters of the Moon National Monument and Glacier National Park.

I had the good luck to join the field course as instructor in the summer of 1975. I found that John and the others had put together a well-conceived but demanding variety of mapping exercises that were graduated in both geological and physical difficulty. The intent was to pitch the material to senior-level students who had

John Utgaard, Professor; James Conder, Assistant Professor; John C. Crelling, Research Professor; Joe Devera, Adjunct Instructor, Russell Dutcher, Emeritus; Steven Esling, Associate Professor and Chair; Eric Ferré, Professor; Richard H. Fifarek, Associate Professor; Charles O. Frank, Emeritus; Stanley Harris, Emeritus; Scott E. Ishman, Professor; Liliana Lefticariu, Assistant Professor; John E. Marzolf, Associate Professor; Nicholas Pinter, Professor; Susann Pinter, Lecturer; Joe Devera, Adjunct Instructor, Russell Dutcher, Emeritus; James R. Staub, Emeritus; Jay Zimmerman, Emeritus.

Staff

Richard Black, Office Manager; Harvey Henson, Research Project Specialist; William Huggett, Researcher; Katheryn Fifarek, Office Systems Specialist.

Southern Illinois University Carbondale
Department of Geology
2008-2009 Calendar Years

Faculty

Ken Anderson, Professor; James Conder, Assistant Professor; John C. Crelling, Research Professor; Joe Devera, Adjunct Instructor, Russell Dutcher, Emeritus; Steven Esling, Associate Professor and Chair; Eric Ferré, Professor; Richard H. Fifarek, Associate Professor; Charles O. Frank, Emeritus; Stanley Harris, Emeritus; Scott E. Ishman, Professor; Liliana Lefticariu, Assistant Professor; John E. Marzolf, Associate Professor; Nicholas Pinter, Professor; Susann Pinter, Lecturer; Joe Devera, Adjunct Instructor, Russell Dutcher, Emeritus; James R. Staub, Emeritus; Jay Zimmerman, Emeritus.

A rather grainy old photograph, taken at John Utgaard’s retirement party. From left: Jay Zimmerman, Stan Harris, John Utgaard, and Russell Dutcher.
completed all other course work for the BS degree but who were essentially beginners in the field. In fact, although many or most of our students took GEOI 454 as the last BS degree requirement before graduation, we also permitted third-year students to take the course on a case by case basis.

While SIU geology students were always first in line, John understood the advantage of including as many students from other institutions as feasible. This policy enriched the experiences of all of us who participated and probably enabled the continuation of the course after departmental enrollment decreased dramatically in the mid-1980s.

There are aspects of John’s work in the field course that stand out in my memory. First of all, he was a talented field geologist. He could map with skill (a skill that we emphasized in GEOI 454) and had a solid understanding of northern Rocky Mountain geology. Of course as an invertebrate paleonotologist he had the fossils down cold, but with his other areas of strength in carbonate sedimentology and petrology, he could unravel the paleoenvironmental subtleties of the Paleozoic and Mesozoic carbonate units that we encountered on a near-daily basis and set them firmly into the regional evolutionary framework. Not limited to carbonates alone, on the outcrop John could make nearshore clastic facies sing.

John was a strong believer in a working trip from Carbondale to Red Lodge where the real summer fun was to be had. A chunk of that was the physical journey between Illinois and Montana go to waste? In the late 1970s our route led west across Missouri, Kansas, and Colorado to the Rocky Mountain front at Walsenburg, south of Denver. After a day at the Spanish Peaks we headed north through Golden to Rocky Mountain National Park. We next turned west past the Florissant Fossil Beds to Dinosaur National Monument in Utah for a day. Finally, the caravan struck northward through Wyoming (Flaming Gorge, Green River lake beds, Bighorn Basin) to Montana and YBRA. At the end of this nine-day march, a group of forty or so students and instructors, most of whom had begun as near or total strangers, had been welded into a collegial group prepared for the real work of the summer. Or so the theory went.

In fact the theory worked pretty well, but after three or so years of this, we decided that a shorter, more direct approach in a course limited in length to six weeks was warranted, possibly because the senior instructional staff was now well established in middle age. So the standard “trip out” which most former students will remember was conserved. This route pointed across Missouri to Kansas City, north to Sioux Falls, South Dakota, and then west to Wall Drug, the Badlands and the Black Hills. After two days of geological reconnaissance in that area and a night at Devils Tower we arrived at YBRA ready for dinner and a “cold one” after a mere five days in the canyalls.

On the road, John was impressive. Sure, he knew the geology and where to go to see it, but he had also zeroed in on every scenic camping place, every small-town cafe with a monstrous breakfast, every restaurant that specialized in super-steaks, and every buffet that served pickled herring in cream, in at least five states. For several years I piloted the last car in the string through heat, rain, mud and clouds of dust, over good roads and awful roads, following John from outcrop to outcrop and from one camping place to the next. The students and I always hoped that he knew where he was going and had some purpose in mind. On many mornings during those first few years I could wake up in my tent, having crawled into the sleeping bag long after dark the night before, with absolutely no recollection of where I was: maybe somewhere in western Montana, maybe not. Even if the students didn’t know, and I didn’t know, John had it figured. And I can’t remember that he ever took the wrong road.

Among the constant factors of our trips to Red Lodge and our days in YBRA was the entire Utgaard family. Where John went, so went Susan and the boys. Following Erik and Sig were the arrivals, through the years, of Peter (Pete), and finally, John (Johnny). When the boys were old enough to travel, out to Montana they went. As a result, the YBRA boys joined the offspring of other faculty members in spending summer weeks on the edge of the Beartooth Mountains. Not a bad place to start growing up. And then there was Sparky Utgaard, the single-minded, gopher-hunting dachshund. Sparky had many notable adventures at the YBRA camp – but those are other tales for other days.

John’s leadership of the SIU summer field course was only one aspect of a distinguished career. He was promoted to Associate Professor in 1968 and to Professor in 1973. Throughout his tenure at the Department of Geology he maintained a standard of quality research and refereed publication. He was elected a Fellow of the Geological Society of America in 1972 and became a recognized authority on paleobryozoology with his authorship of definitive chapters on Ceramophylla bryana in the revised Treatise on Invertebrate Paleontology (1983) and other research contributions.

His performance in the classroom mirrored his contributions in research. John taught across the entire curriculum from entry-level geology to advanced graduate courses and supervised the research of some thirty graduate students. He was voted College of Science Outstanding Teacher in 1978.

John was awarded numerous research and teaching grants. He served on a long list of College and University Committees, was a member of fourteen professional and honorary societies, and a member in several of the YBRA Council for multiple terms and served as its President from 1989 to 1991.

In 1984 John assumed the chairmanship of the Department of Geology, succeeding Russ Dutcher, and remained in that position until 1993. During that span of years he ceded the leadership of the summer field course to me. I inherited a smoothly running course with a solid reputation for organization and quality of instruction but can attest that the value from the leading vehicle in the caravan is different from that of the last in line and not entirely because the dust is thinner in front. During those summers John was usually at YBRA to lend a hand with teaching and with good advice when needed. My wife Marilyn spent those summers hitching car, John read, and John taught from time to time.

John retired from his position at the University in 1998. His official send-off was celebrated by students, former students, friends, and colleagues at what I believe to be the last Buffalo To be sponsored by the department. It was a big evening, but all of us survived, and John almost immediately turned up at his old office in Parkinson Laboratory with a new title: Visiting Professor of Geology and Professor Emeritus. Not only did he continue publishing for several years but also advised students and fulfilled the occasional teaching assignment. During this period, John and Susan spent most summers in Red Lodge, renting a house on the beach near the golf course and hosting the Utgaard boys and their respective wives and children. Throughout all this, John pursued his interest in painting and captured any number of local scenes (typically field course mapping sites) on canvas.

As much as he loved the Montana mountains, John also deeply appreciated the countryside of southern Illinois. On many occasions I’ve met him and Susan by chance on the roads of Giant City Park or Crab Orchard National Wildlife Refuge. We’d stop and trade observations about the weather or birds or wildflowers before driving on.

In early 2009 John was notified that he had been selected the recipient of the Arthur Gray Leonard Award, presented to distinguished alumni by the Department of Geology and Geological Engineering at the University of North Dakota. He was to receive the Leonard Medal at a banquet in October. John passed away in Carbondale on September 8, 2009, at the age of 73.

Dr. Steven Hageman, in his memorial published in the Bulletin of the International Bryozoology Association, put it this way: “To everyone who knew him personally, John will be remembered as a genuine friend and a notably nice guy.”

Jay Zimmerman

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**John Utgaard Publications**

Published Papers


Published Abstracts


Utgaard, John, and T.G. Perry, 1963, Trepostomatous bryozoan fauna of the upper part of the Whitewater Formation (Cincinnatian) of eastern Indiana and western Ohio: Geological Society of America, Special Paper no. 67, p. 171.


College of Science Outstanding Alumnus

The College of Science, Southern Illinois University Carbondale awarded James Lightner its outstanding alumnus award in 2009. Jim earned his Bachelor’s degree in Geology here in 1974, and a Master’s degree in Geology as a Fulbright Fellow from the Australian National University.

Jim has over 25 years of oil and petroleum industry experience, including holding internships with AMOCO Oil, serving as non-Executive Chairman of Forest Oil, Inc., as Vice President and General Manager and Exploration Manager of the Denver Division of EOG Resources, Inc., and as Chairman, President and Chief Executive Officer of Tom Brown, Inc. He was also CEO of Orion Energy Partners and is a founding partner in Beacon E&P, LLC. Jim has served as a director of IPAMS and COGA, and is a member of the National Petroleum Council, AAPG, SIEG and IPAA.

Jim serves on various Boards, and as a proud alumnus of Southern Illinois University, established the Dutcher-Utgaard Geology Field Course Endowment as a means of supporting a summer field experience he credits with allowing him to receive hands-on learning in the field of Geology.

James Lightner
May, 2009

Commencement Speech

Good morning graduates, friends and family members, faculty and administration. I am very happy to be here and need to thank the students and the university, because this is my first college commencement. I was in your exact same position 34 years ago except that I didn’t have the pleasure of attending a commencement ceremony. I didn’t discover geology until the first semester my junior year so it took me an extra half year to graduate. After leaving here I got married (which was and still is the best thing that has ever happened to me), spent 2 ½ years obtaining my Masters Degree in Australia, followed by 32 years working in the private sector finding and producing domestic “home-grown” energy for this great country of ours. My wife and I have lived in Canberra Australia, Houston Texas, Billings Montana, and Denver Colorado. We have two sons – one who just graduated from college and one who just finished his sophomore year in college. What I would like to do this morning is share some thoughts and observations about life after college that I have accumulated over the last 34 years.

I would like to touch on science first. When I arrived on campus 39 years ago in 1970, the so-called enlightened hippy movement was beginning to wind down and we celebrated the very first Earth Day event. The focused organization on our environment was well-intentioned and very beneficial - I have no doubt that we all want to treat our environment responsibly. But let me share some predictions made on that historic occasion 39 years ago.

- We have about 5 more years at the outside to do something! (famous ecologist)
- Civilization will end within 15 or 30 years unless immediate action is taken against problems facing mankind. (Harvard biologist)

And you may not remember but we had experienced a significant 30-year cooling spell from 1940 to 1970. We were being told the earth was going into another ice age and that human activity was to blame. I would like to humbly suggest that all of the above “alarmist” statements were not scientifically based but stemmed from a passionate belief system that seems to consistently find fault with mankind.

Today we are facing dire predictions of run-away global warming primarily due to human CO2 emissions. The Environmental Protection Agency has recently issued an endangerment finding for CO2 emissions and it is now considered a pollutant. A pollutant? Sulfur dioxide, nitrogen oxide, ozone, carbon monoxide, particulate matter and lead are pollutants everyone can agree on. But CO2? A naturally occurring trace gas that is essential to plant life on earth. More CO2 means more plant life and therefore more animals! An essential building block of life as we know it? Without its natural greenhouse gas effect our earth would be a frozen ice-covered planet.

So why do I think we should all be concerned with this issue? Because something that is so natural and obviously beneficial to our ecosystems is now labeled a threat to our environment. Today we are facing dire predictions of run-away global warming caused by increasing levels of man-made emissions of CO2.

These computer model predictions can’t be tested or verified. And these conclusions are being reached without an open honest scientific debate. Does that make any sense to you? If we had a debate we would find out that there is a rapidly growing number of highly respected scientists who question the current so-called consensus. That they believe the data shows that more than half of the last 10,000 years were warmer than we are now. Most recently that it was warmer in the Medieval Warm Period from around 700-1100 years before present (when Greenland was so warm that bears? - have you ever wondered why they called it Greenland?) That 1936 was warmer than we are now. That they believe the data shows that more than half of the last 10,000 years were warmer than we are now. Most recently that it was warmer in the Medieval Warm Period from around 700-1100 years before present (when Greenland was so warm that bears? - have you ever wondered why they called it Greenland?)

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the Endangered Species Act. The World Wildlife Fund has warned that polar bears might stop reproducing by 2012 and become functionally extinct in less than a decade. But climate models indicate that in some remote periods of time, they have now and their global population has increased dramatically from about 5,000 bears in the '60s to about 25,000 today.

Did you know that our beloved planet has not warmed since 1998 and in fact has cooled over the last 6-7 years? Have any of you heard that in the nightly news? None of the complex climate models predicted this. In fact none of the models have been able to even replicate the climate change that we experience. Have you ever read that the historical climate record shows no causal correlation between CO2 and temperature? This statement is true on every time scale – millennia, centuries or decades. In fact the data shows that when levels of CO2 increase, temperature goes down. That further implies that global warming is not affected whatsoever by income, position or service. What kind of person do you want to lead. I am going to borrow some words here from Tony Dungy who led the Indianapolis Colts to Super Bowl victory in February 2007. I don't know the man but I wish I did. He is one of my role models. Tony Dungy believed that his primary job as an NFL coach was to build men worthy of being role models to a nation of boys who look up to them. Men of character, integrity and courage. Men with both confidence and humility. Men who know the value of family and faith as well as career. “The life you lead is totally up to you. It is not affected whatsoever by income, position or service. What kind of person do you want to be? Today, I have friends of all ages, races and economic backgrounds. But my clearest and most enduring model is of character. I don’t hang around with people I can’t trust. Character is tested, revealed and further developed by the decisions we make in the most challenging times.” What kind of character will you be proud of? Do you want to be a person of humility and integrity? “The great thing about integrity is that it has nothing to do with position, wealth, race or gender. It is not determined by shifting circumstances, cultural dynamics or what you’ve achieved. From the moment you are born, you and you alone determine whether you will be a person of integrity. Integrity does not come in degrees – low, medium or high. You either have it or you don’t.” Do you want to be the best friend anyone could have in the whole world, the best spouse, the best parent? Think about what your mentors and role models meant to you and imagine what a huge positive influence you could have on others.

“Each one of us is born with unique gifts, abilities and passions. How well we use those qualities has an impact on the world around us determines how ‘successful’ we really are.”

“How the messages pounded into us daily by modern society are a cop-out – messages of sexual conquest, financial achievement, of fame or victory in general!”

“If we get caught up in chasing what the world defines as success we can use our time, talent and energy to do some great things. We might even become famous. But in the end what will it mean?”

“What will people remember us for? Are other people’s lives better because we lived? Did we make a difference? Did we use to the fullest the gifts and abilities God gave us? Did we give our best effort and did we do it for the right reasons?”

Definition of success is really one of ‘significance’ – the significant difference our lives can make in the lives of others. The significance doesn’t show up in your net worth or your title. Rather, it’s the impact your life has had on the hearts and lives of the people who you have come across in your life who are better in some way because of the impact you had in their life.”

So graduates, it is up to you to decide what kind of life you want to lead and you will continue to make those decisions every day for the rest of your lives. Congratulations on your wonderful achievement. You have unlimited potential and no one where they will lead. You are the future of our beloved country. As you embark on the next journey of your life I urge you to live a life of true significance – that is how you will make a real difference. Godspeed and Good Bless. Thank you.
Summer Field Course

We thought you might like to read a poem by Christine Black, one of our undergraduate students, recited on the last day of the field course in 2009:

Lament of the Field Camp Student

We used to think classroom learning was a bore;
We wanted to go to the field and explore!
Now the thought leaves us crying on the floor;
We are field camp students.

Our feet have all been torn to shreds,
Our boots are slowly losing their treads,
But the largest pains are in our heads;
We are field camp students.

We wanted to spend time under the stars,
Instead we spend it all in the cars.
Well, that and getting in fights in bars;
We are field camp students.

At the start Bruntons we were lent,
Now we're all completely spent,
And on the Bruntons nary a dent,
We are field camp students.

Geology Graduates

2008

John Boyd, May, 2008, BS
Sarah Garner, May, 2008, BS
Adam Shaw, May, 2008, BS
Thomas Reeves, May, 2008, BS
Christopher DeLor, August, 2008, BS
Elizabeth Evanoff, August, 2008, BS
Jennifer Klippenstein, August, 2008, BS
Timothy Pool, August, 2008, BS
Thomas Fullingim, December, 2008, BS
Justin Skord, December, 2008, BS

Jennifer Kelley, May, 2008, MS
Neil Shannon, May, 2008, MS
Alicia Stantiff Dye, August, 2008, MS
Brendan Lutz, August, 2008, MS
Elizabeth Geiger, December, 2008, MS
Kristen Krug, December, 2008, MS
Dominic Smith, December, 2008, MS
Rob Venczel, December, 2008, MS

2009

Joseph Batir, May, 2009, BS
Kiel Keller, May, 2009, BS
Jennifer Purdy, May, 2009, BS
Kenny Bassertt, August, 2009, BS
Gary Vancil, August, 2009, BS
Christine Black, December, 2009, BS
Tony Tobenski, August, 2009, BS

Layne Britton, May, 2009, MS
Andrew Flor, May, 2009, MS
Teresa Russin, May, 2009, MS
Chris York, May, 2009, MS
Drew Downs, August, 2009, MS
Laura Bordelon, December, 2009, MS

Christopher Williams, December, 2009, PhD

New Theses in Geology


Alicia Stantiff Dye – Geophysical Investigation of the Subsurface Structure of the Pennsylvanian and Younger Stratata associated with the Inman East Fault, Gallatin County, IL

Elizabeth Geiger – Paleocology of Pleistocene Gastropods in Glacial Lake Deposits in Southern Illinois/Missouri

Brendan Lutz – Late Neogene Planktonic Foraminifera of the Cibao Valley (Dominican Republic), Biostratigraphy and Paleoceanoigraphy

Rob Venczel – Historical and Seasonal Patterns in the Conveyance Capacity of the Tisz River, Hungary

Layne Britton – Depositional History of a Low Sulfur Coal in a Typically High Sulfur Basin

Andrew Flor – Evaluating Levee Failure Susceptibility on the Mississippi River Using Logistic Regression Analysis and GPS Surveying

Teresa Zimmerman Russin – Origin of the Auriferous Barite-Base Metal and Goethite Stages of the Summitville High Sulfidation Gold Deposit, Colorado, USA

Christopher York – Combustion Property of Density Separated Inertinite Macerals in the Herrin #6 and Murphysboro Coal Seams

Drew Downs – In Search of the Triassic-Jurassic Boundary: Palynostratigraphy and Carbon-Isotope Stratigraphy of the Lower Dinosaur Canyon Member on the Colorado Plateau (Kanab, Utah)

Laura Bordelon – Austral Autumn and Winter Seasonal Affections Benthic Foraminiferal Communities: Bransfield and Northern Gerlache Straits

Luis Parra-Avila – Rediscovering Southeast Missouri Mississippi Valley-Type Pb-Zn Deposits: The Co-Ni Enriched Higdon Deposit, Madison and Perry Counties

New Dissertations with Geology Faculty Advisors

Christopher Williams – Recent natural and anthropogenic ecosystem change to the marine environments of Biscayne Bay, Florida

Jonathan Remo – Utilizing Archival Data to Assess Historic Changes in Flood Flow Conveyance of the Mississippi River

John Keller – Creation of Highly Accurate Radial Numerical Models for the Analysis of Aquifer Tests

Scholarships and Awards

2008

Bill D. Allen Geology Memorial Scholarship
Elizabeth Evanoff

Ira E. Odum Memorial Scholarship
John D. Boyd
Matthew McIndoo
John Lanson
Kiel Keller
Thomas Fullingim
Adam Shaw
Gary Vancil

John L. Jobling Memorial Geology Fellowship
Brendan Lutz

Joe Porter Geology Memorial Fellowship
Ryan Scroggins

David Beals Memorial Scholarship
Joseph Batir

Joe Batir, one of the outstanding seniors for 2009 at the May, commencement. Kien Basnett is behind him.
Faculty and Staff News

Many of the faculty prepared statements summing up events in their lives over the last two years:

James Conder – I am delighted to have joined the department as an assistant professor of geophysics in 2008. Conveniently, the move wasn’t far, as I am coming from Washington University in St. Louis, where I was a researcher in the seismology group. It has been a great experience getting to know the faculty, students, and other members of the department. Some quick background on me: I grew up in Salt Lake City and received an undergraduate degree in Geology with a minor in Mathematics from the University of Utah. After graduation, I worked for a short time at Kennesaw Exploration, a precious metals mining company, before continuing with graduate studies at Brown University in Providence, Rhode Island. My research focuses on seismology and geodynamics, with an emphasis on subduction zones. Much of my recent work has been closely tied to the NSF MARGINS program which aims to present an integrated understanding of the many geological processes occurring at both oceanic-continental and oceanic-oceanic boundaries.

In addition to moving house and setting up my office and research lab, I spent my first semester, Fall 08, teaching and developing the class Solid Earth Geophysics, comprising both graduate and undergraduate students, and representing SIU on the American Geophysical Union Chapman Conference on Shallow Mantle Composition & Dynamics (5th International Lherzolite Conference) at Mt. Stasha, CA. This work explores the structure (seismic, thermal, and petrologic) and behavior of mantle beneath the volcanoes making up the Mariana island chain. This chain is associated with robust backarc spreading, with marked along-strike changes in morphology, petrology, and arc-spreading center distance. This work helps put each of these changes in a geodynamic context where arc-spreading center distance is a primary factor in melt retention and mixing in the Mariana mantle and likely at other arc-backarc systems. I look forward to continuing researching and teaching as part of the SIU geoscience community.

Steven P. Edling – In the opening letter to the newsletter, I told you about the May, 2009 storm. It hit my family hard. Some of you may recall that I live in a geodesic dome and you may also recall the ancient oak that grew just to the northwest of my home. Well that tree came down on the house crushing through the roof at one point and knocking my bed about six feet across the room. Numerous other trees were down blocking most entrances to the house and we were without power for about a week. Structural damage has been repaired, but I still need a new roof as well as cosmetic repairs to the house.

John Keller and I submitted another paper together this year to Ground Water on an Excel file that serves as an interface to the Kansas Geological Survey slug test program. This is a useful tool for practicing professionals that would like to apply state-of-the-art methods in the determination of hydraulic conductivity. John completed his dissertation in the summer, 2009 and has recently accepted a teaching position in Nevada. Doug Kolb completed his thesis on the Quaternary deposits of a quadrangle in southern Illinois. He is now in Utah, gainfully employed.

My family is doing well, but I am going to make some of you feel very old. Ellen graduated high school and will start at Southern this coming fall. Do any of you remember babysitting her? Molly is about to complete her freshman year in high school. Time moves much much too fast. All the best in the coming year.

Eric C. Ferré – The main news item concern my 6 months sabbatical leave in France where I was able to perfect my already extensive analysis of French cheeses. I visited three areas to collect smelly samples, in the South (where I spent 3 months at the University of Montpellier), in the North (1 month at the University of Cergy-Pontoise) and in the West (at the University of Nantes). Since the cheeses were equally good in all places, I had to keep myself busy with other activities, the French TV being as boring as the US counterpart.

In Montpellier, I worked on two mantle-related projects since this is their area of expertise.

Xenomap Project – This new project started from a brainstorming session between Ferré and his colleague Martin-Hernandez (Madrid) aimed at identifying new high visibility projects in rock magnetism. The two scientists are aware that despite publication of their results in good journals their respective citations indices are not as high as in other disciplines such as geochemistry for example. One of the strategies considered to improve is to embark on new projects that would attract significant interest from one of the leading communities in geosciences that focuses on mantle processes. To this effect, the two investigators decided to start a new project on the magnetic properties of the lithospheric mantle based on the study of mantle xenoliths. Samples for this project have been taken from collections in Montpellier and St Etienne. This project resulted in a grant proposal submitted in December 2009.

Humboldt Corridor Project – Ferré has collected samples of a unique subhorizontal shear zone in the ophiolite of New Caledonia. These samples were later analyzed in Montpellier in collaboration with a post-doctoral researcher. A publication on these results is in preparation for the journal Tectonophysics.

While in Montpellier, I also developed two new projects related to pseudotachylites (rocks formed by frictional melting during earthquakes).

Pseudotachylite Tomography Project – This new project stemmed from an original idea of Ferré based on a flaw in the resolution of the determination of seismic slip direction and seismic slip sense of pseudotachylites in a recent paper published in Nature. A solution to the problem is currently investigated and is based on samples collected in the Italian Alps and processed as serially cut slabs across large veins of pseudotachylite. The geometric solution requires a freeimage image stitching software used to create a 3-D rendering from which the vein asymmetry can be determined.

Pseudotachylite Fabric Project – The issue of determining seismic slip direction and slip sense can also be addressed by using the internal fabric of pseudotachylite veins. To avoid ambiguity regarding the origin of the fabric Ferré has selected a unique example of paramagnetic pseudotachylite in which the anisotropy of magnetic susceptibility is controlled by small oriented flakes of phyllosilicates. New measurements of the crystallographic orientation of these very small crystals have been performed on the European instrument CrystalProbe installed in Montpellier in the Spring 2009. The material of this study is the core of a manuscript in preparation for the journal Nature.

The sabbatical month in Cergy-Pontoise was dedicated to pseudotachylite projects. New samples were collected from ophiolites in the southern part of Massif Central, near the small town of Chirac (which has nothing to do with a former French president) and in the classic area of Val Gilba in the Italian Alps. Doing field work in Italy is always a challenge because food is good that you can rarely crawl to the outcrops. Nevertheless, my three French colleagues and I were able to find new localities and geometric criteria for fault propagation direction.

Nantes is in the part of France where my father is from, so it was a kind of return to ancestral roots and talking about roots Nantes on the month of April had their floral garden competition. It was really amazing to see the floating gardens on the canals. Nantes has been nicknamed the Venice of the West. My work in Nantes consisted in wrapping up an old long overdue project on the Bushveld Complex of South Africa. I had worked on this with Patrick Launeau back in 1999. The manuscript is now in good shape and will be submitted soon. I also had opportunities to talk about Mars with their planetary group and learned a lot about hyperspectral imagery with Launeau.

Back to Corbandale in June, I took off immediately to teach our field camp in Montana. Everything went smoothly at YBBA and we have now added Grand Tetons to the list of National Parks that we visit. I find GTNP a lot more friendly than Yellowstone.

The main event of the Fall 2009 was our field mission to South Africa during which we collected samples from the Karoo dolerites. The goal of this project is to figure out if the magma flow pattern was determined by the underlying mantle plume or if
it was locally controlled by the dike network. The results have already been presented at the American Geophysical Union Fall meeting by Anaesa Lehman, one of the SIU undergraduate students who participated in the South Africa adventure. During that trip we also visited localities such as the Kimberley diamond mine and the Vredefort asteroid impact craters.

Richard H. Fifeare – My professional highlight of 2008 was the opportunity to consult for a privately funded company conducting "grass roots" exploration for gold deposits in a highly favorable area of northern Nevada. It was the first time since graduate school (back in the Neoproterozoic?) that I had engaged in such summer activities. Even though no major discoveries were found, the experience was very challenging and enjoyable. As late as August, 2008 metal prices were high and it was difficult for exploration companies to find geologists or drill rigs. Of course, this was prior to the worldwide plunge in demand for commodities and the sharp downturn in the industry that prompted even the gold companies to lay off employees and pull back on exploration and other expenditures. In the latter part of 2009 there were hopeful signs of recovery in the mining industry.

In 2009, Terri Russian completed her MS degree based on research emphasizing the origin of the large, gold-bearing, IOCG (Iron Oxide Copper-Gold) mineralization stages of the Summitville, Colorado gold deposit. The stable isotope and fluid inclusion characteristics of barite, along with some 39Ar/39Ar dates on alunite and jarosite, allowed her to constrain the T-P-X conditions and timing of gold precipitation. Luis Parra completed his MS research involving the Ni-Co mineralogy of the Hidgon Pb-Zn deposit in SE Missouri. His research methodology included extensive core logging as an intern for The Doe Run Co. and detailed petrographic and microprobe studies.

On the personal side, Kathryn was hired as a secretary in the Department of Geology on a 10 month appointment that will allow her to travel with me to the YBRA camp and other points farther west during the summer. We have enjoyed visiting our children and grand daughter in 2008 and 2009 and count the days to the next family gathering.

Have a golden year and please stay in touch.

Sue Rimmer – I guess I am considered the “new guy” this year, although perhaps I could be considered the “player to be named later” in the trade… let me explain. I joined the faculty at SIUC this past January after teaching at the University of Kentucky for 25 years. Just a year before that Kentucky hired away one of SIUC’s faculty members, Tiku Ravat. It was a great hire for Kentucky and I was fortunate to call Tiku a colleague for a year or so. But, SIUC had an opening for a “senior” person in coal research and I was fortunate to be hired… thus, the trade. This has

Science so please support him and the Department in whatever way you see fit. Come and visit and see what we are up to!

Liliana Lefèricaré – Greetings! The biggest news from the Biogeochemistry group is that National Science Foundation has approved funding for a brand new Isotope Ratio Mass Spectrometer (IRMS). The instrument has arrived on campus and will be probably installed over the summer and fully functional by fall. The IRMS will allow us to measure isotope ratios of hydrogen, oxygen, carbon, nitrogen, and sulfur in a wide range of geological samples (e.g., water, inorganic and biological carbonates, coal, sulfates, oxides, and biological materials). The instrument will provide much needed analytical support for research, education, and training not only for the students from the Geology Department but also for students from other departments. I do cordially invite everybody interested in stable isotope research to contact me for current and future projects.

In addition to stable isotopes, I am working on other projects involving energy & environmental topics. Together with YosiefSegid (Geology Department) and Dr. Kelly Bender (Microbiology Department), I finished a preliminary biogeochemical evaluation of a coal-generated acid mine drainage system in Southern Illinois. Yosief has included most of the geochemical data in this thesis which he successfully defended this April. I am currently working at securing additional funding support for continuing the fieldwork at the site with my student Paul Behum (Environmental Resources and Policy Program). The acid drainage is a serious environmental problem in Southern Illinois. In addition, I have two project related to energy issues. Rajesh Sigh (Geology Department) is working at deciphering sulfur distribution in Illinois coal as he has obtained unique results that will be part of his M.S thesis. Wahid Rahnam (Environmental Resources and Policy Program) is in the process of collecting and interpreting data on the trace elements of environmental concerns in Illinois coal. The last two projects are in collaboration with Dr. Paul Chugh (Department of Mining and Mineral Engineering). In summary, my research group is developing into a diverse and interdisciplinary research group to address the fundamental biogeochemical processes in the environment.

Besides research, I continue to enjoy teaching a mix of undergraduate and graduate classes. My teaching portfolio included new classes. The Planets (GEOL 350) has been a sold-out event for the last two spring semesters. In this class we explore many interesting topics related to the space exploration and life on other planets. During the lab session, the students search for and build a planet with the necessary characteristics for life and/or human habitation. The class is really fun for students regarding of their background or major. In addition, I developed and taught a new hybrid classroom and online course “Earth and Space Science for Teachers” for teachers (GEOL 585), which was quite a success. The students, who are middle and high school teachers, enjoyed learning about rocks & minerals, energy resources, and planets. The field trip that I co-organized with Joe Devera (ISGS) was very enlightening since most of the participants had no idea how interesting the geological history of Southern Illinois is. I also thought two graduate classes in Isotope Geochemistry and Geochemistry of Natural Waters. Of course the very good, hard working students made teaching challenging and enjoyable.

As always, if you are interested in what the Biogeochemistry group is doing fell free to stop by office, give me a call, or just sent me an email. My students and I are always happy to show the lab and the projects we are doing. Until next time, best regards.

Laura Bordelon finished up her thesis and moved on to a PhD program in Germany. Molly Patterson and Rachel Berger are writing away hoping to finish this summer. We welcomed two new MS students into the lab. Gary Vancil and Tony Tobenski. All is well at home. Zach is now a Senior at SIUC looking forward to field camp this summer. Ali is a Senior at CCHS and will be a Marketing major at SIUC starting this fall. The students search for and build a planet with the necessary characteristics for life and/or human habitation. The class is really fun for students regarding of their background or major. In addition, I developed and taught a new hybrid classroom and online course “Earth and Space Science for Teachers” for teachers (GEOL 585), which was quite a success. The students, who are middle and high school teachers, enjoyed learning about rocks & minerals, energy resources, and planets. The field trip that I co-organized with Joe Devera (ISGS) was very enlightening since most of the participants had no idea how interesting the geological history of Southern Illinois is. I also thought two graduate classes in Isotope Geochemistry and Geochemistry of Natural Waters. Of course the very good, hard working students made teaching challenging and enjoyable.

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been a great move for me and for my family, husband Steve and 10-year old Evan, and we love being part of such a vibrant department. My oldest son, James, is a veterinarian in Indianapolis so he’s not too far away.

It’s really great to be back here in Carbondale. I received my B.S. degree here in 1975, after which I went on to the University of Illinois (Champaign-Urbana) for my M.S. degree, and then on to Penn State for my Ph.D. (1985). I’d been at U. of I. and at U. of K. ever since, as both a faculty member and an administrator.

My research involves the study of coals and oil and gas source rocks. Currently, I am focusing on four main areas: 1) coal maturation and the role of heating rate (contact metamorphism vs. burial maturation); 2) biogeochemical cycles in organic-rich sediments; 3) evolution of volatile isotope composition of organic matter and interpretation of C and N isotopes in organic-rich sediments and coals; and 4) linkages between organic matter and past atmospheric composition. I will be using my startup funding to build up to this capability and to source rock capability as well. I know there is obviously a great place to do coal research and I look forward to collaborating with others here.

I was fortunate to have one of my U.K. M.S. students move here with me, Maggie McPherson who is working on Antarctic coals, along with her fiancé Jesse Sanders who is now also a graduate student in the geology program. But I will still be logging a fair bit of time back and forth to the UK so that I can get the rest of my grad students (4 more) wrapped up there. Our group here also includes senior Jen Stephenson who is an undergraduate research assistant working in organic petrology, and as of November 1st, is a member of the U.K. January and is working on the New Albany Shale. For the first couple of years, I will be focusing on graduate classes. I teach-taught petroleum geology (to 18 students) this past spring and I am teaching coal petrology (to 16 students) this fall. It’s great to see how much healthy enrollments in our graduate classes here.

Department Research and Professional Service 2008-2009

The faculty of the Department of Geology authored or co-authored 32 peer reviewed journal articles, six book chapters, one long contribution to a proceedings, and one book during the 2008 and 2009 calendar years. Faculty and students also participated in 57 presentations at international meetings and 21 presentations at National meetings. Total external funding increased substantially, with $1,348,830 in new grants that involve faculty and staff in the Department in 2008 and $3,075,656 that involve faculty and staff in the Department in 2009. The awards come from prestigious National sources, such as the National Science Foundation (NSF) and the United States Geological Survey (USGS) as well as important state agencies such as the Illinois State Board of Education, Illinois Clean Coal Institute, and Illinois Emergency Management Agency. Eight of the ten faculty in the Department either have active grants or submitted at least one grant application over the last two years. The Department keeps a presence in the International Resources and Policy Doctoral Program, and with two students from that program advised by Department of Geology faculty.

Faculty in the Department remained highly visible Nationally and internationally. Ken Anderson served as a Member of the Council for the Division of Geochemistry for the American Chemical Society. He also served on the Committee on Committees for that same organization. James Conder was the co-chief scientist on the active source ocean bottom seismograph L-SCAN experiment. Jack Cretling won the Ralph Gray Award for Outstanding Book on Coal and Coal Petrography from the Society of Organic Petrology. Sue Rimmer served as the 2nd Vice Chair for the GSA Coal Geology Division. Richard Firlack was the President of the Yellowstone-Bighorn Research Association.

The faculty contributed professionally as editors or associate editors of important journals such as Acta Crystallographica (Paul Robinson); Geological Society of America Bulletin (Eric Ferrie); Journal of Geophysical Research: Solid Earth (Eric Ferrie); Geochemical Transactions (Ken Anderson); Geomorphology (Nicholas Pinter); Environmental & Engineering Geoscience (Nicholas Pinter); Journal of Environmental Micropaleontology, Microbiology, and Metabiology (Scott Ishman); and the Annals of University of Cumana: Chemistry Series (Lethucaro).

Eric Ferrie was a guest ed. of a special issue of Elements. The faculty also provided service to their disciplines, reviewing papers for important journals such as the International Journal of Coal Geology; Chemical Geology; Geophysical Journal International; Geochemical Research Letters; Organic Geochemistry; Global and Planetary Change; Marine Micropaleontology; Journal of Asian Earth Sciences; Journal of Geophysical Research: Solid Earth; Journal of Structural Geology; Journal of Volcanology & Geothermal Research; Tectonics; Tectonophysics; Isotopes in Environment and Health Studies; Chemical Geology; Engineering Quarterly; Geochemistry, Geophysics, Geosystems; Computational Geosciences; Micropalaeontology; Palaeo Palaeo Palaeo; Journal of Quaternary Science; Earth and Planetary Science Letters; Bulletin, Geological Society of America: Geochimica et Cosmochimica Acta; and the Proceedings of the National Academy of Sciences.

Eric Ferrie was elected to tap reviewer of the year by the editors of Tectonophysics in 2008.

Faculty reviewed proposals funded through National and international agencies, such as NSF, the American Chemical Society Petroleum Research Fund, Canadian Natural Sciences and Engineering Research Council, Swiss National Science Foundation, Oak Ridge Associated Universities, NASA Peer Review Panel for the Outer Planets Program, the Quebec FRQNT Research Foundation, the German Research Foundation, the Associazione Italiana della Scienza, the National Science Foundation, the Alberta Canada International Grant Program.

Nicholas Pinter served as a panelist for the U.S. National Academy of Science, Committee on Missouri River Recovery and Associated Sediment Management Issues. James Conder served on the Illinois State Seismic Safety Task Force and served as a judge for student papers submitted to the Natural Hazards Section of the American Geophysical Union Fall Meeting. Eric Ferrie convened a Special Session at the American Geophysical Union Fall Meeting and Liliana Letificariu organized and co-chaired a symposium on Innovative Applications of Isotope Geochemistry in Environmental Geology at the Geological Society of America North-Central Section Meeting in 2008. Liliana Letificariu also co-organized a symposium on the Geochemical and Isotopic Studies of Rocks, Minerals and Fluids at the Geological Society of America North-Central Section Meeting in 2009. She also contributed to three NASA white papers and participated in the Earth Science Literacy Initiative (ESLI), funded by NSF. Ken Anderson played a significant role in the Professional Science Masters Steering Committee to help develop the Professional Science Masters in Advanced Energy and Fuels Management on campus. He also committed time to the Coal and Natural Gas Alliance Technical Steering Committee, a group that has been successful in securing considerable funding for energy-related research on campus. John Marzolf was an invited participant to the ExiconMobil Bighorn Basin field seminar. John Sexton received a data grant from Royal Drilling and software grants from both GeoModeling Technology and HCI.

Nicholas Pinter won the College of Science Outstanding Scholar Award and received a prestigious Marie Curie Fellowship (IF) from the European Commission. Ken Anderson traveled to Australia as invited visiting scholar to Monash University, giving multiple presentations to university and Australian brown coal industry representatives concerning coal research, development and deployment activities at Southern Illinois University Carbondale. He also participated in a State of Illinois trade delegation to the European Union/UK as technical expert at the request of the Illinois Department of Commerce and Economic Opportunity.

Publications by Faculty and Students 2008

Articles


Oral Presentations 2008

International


National

Chatterjee, Shibaji and Sexton, John L. (2008). Seismic Reflection and Drillhole Study of the Herold-Phillipstown Fault in the Wabash Valley, AAPG/SEG Student Expo, Program with Abstracts, October 8-9, Houston, TX, 21


Remo, J.W.F., and Pinter, N. (2008). Retro-modeling the Middle and Lower Mississippi Rivers to assess the effects of river engineering and land-cover changes on flood stages. Geological Society of America, North-Central meeting, Evansville, IN, Abstracts with Program, 40(5)


Oral Presentations 2009

International


Lefticariu, L., October 2009. Oxidation of sulfuric minerals: from acid mine drainage to life on Mars. Scientific session “Mineralogy and Geodiversity dedicated to the 70th anniversary of Professor Dr. Emil Constantinescu, Bucharest, Romania.


National


Evannoff, E., J. W. F. Remo, N. Pinter, and G. Balint. April 2009. One-dimensional retro- and scenario-modeling for two time steps across the middle Tisza River, Hungary. Geological Society of America, North-Central meeting, Rockford, IL.


Conder, J. A., November 2009. (Invited Speaker) Microseismicity and other acoustic signals of the central and northern Lau basin. St. Louis University, St. Louis, MO.


Lefticaru, L., November 2009. (Invited Speaker) Petrology and dynamics of the continental crust. University of St-Etienne, Saint-Etienne, France.

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Grants and Contract proposals which included faculty and staff of the Department of Geology during calendar year 2008.

<table>
<thead>
<tr>
<th>Investigator(s)</th>
<th>Agency/Title</th>
<th>Requested Support</th>
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<tbody>
<tr>
<td>M. Whiten; N. Pinter; K. Willard; J. Garvey; H. Henson</td>
<td>National Science Foundation Collaborative Research: Integration of Small Moveable Red River Models into Undergraduate Science and Technology Curricula</td>
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<td>L. Lefticaru; G. Kinsel; G. Whitledge</td>
<td>National Science Foundation Acquisition of an Isotope Ratio Mass Spectrometer for Geochemical, Biological, and Petrologic Research, Education, and Training at SIUC</td>
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<td>S. Ishman; B. Lutz</td>
<td>Evolving Earth Late Neogene Foraminiferal Paleooecology of Shallow and Deep Water Environments of the Caribbean and Eastern Equatorial Pacific Related to the Uplift of Panama</td>
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<td>J. Means; M. Wright; F. Mumba; H. Henson</td>
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<td>N. Pinter; C. Lant; M. Whiles; L. Chevalier; M. Davenport</td>
<td>National Science Foundation IGERT: Multidisciplinary, Team-Based Training in Watershed Science and Policy</td>
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<td>K. Anderson; J. Crelling</td>
<td>Illinois Clean Coal Institute Structure of Virtinite</td>
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<td>S. Ishman</td>
<td>University of Nebraska Reconstructing Miocene Glaciomarine Environments of SMS Using Foraminifera</td>
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<td>Y. Chugh; S. Esling; L. Lefticaru</td>
<td>Illinois Clean Coal Institute Field Demonstration of Alternate Coal Processing Waste Disposal Technology for Sulfate Discharge Control</td>
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<td>L. Lefticaru</td>
<td>Illinois Clean Coal Institute Integrated Study of Mercury and Other Trace Elements Distribution in Illinois Coal</td>
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<td>J. Crelling; K. Anderson</td>
<td>Illinois Clean Coal Institute Reactivity of Inertinite Macerals</td>
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<td>N. Pinter; J. Garvey</td>
<td>National Science Foundation River Training Structures: Effects on Flow Dynamics, Flood Levels, and Habitat</td>
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<td>F. Mumba; H. Henson; M. Wright</td>
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<td>K. Anderson; T. Wiltowski; K. Mondal</td>
<td>Illinois Clean Coal Institute Wet Scrubber for Carbon Dioxide Capture from Flue Gas</td>
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<td>K. Renzaglia; J. Spears; H. Henson</td>
<td>National Science Foundation Green Scholarships: Training the Next Generation of Environmental Experts</td>
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<td>J. Conder</td>
<td>National Science Foundation Collaborative Research: Assessment of T-Wave Processes and Hydroacoustic Monitoring Capabilities in Lau Basin</td>
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Grants and Contracts awarded to faculty and staff in the Department of Geology during calendar year 2008.

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<td>Spectral Analysis of Aeromagnetic Data for Geothermal Reconnaissance of West of the Red Sea Region in Egypt</td>
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<td>H. Henson</td>
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<td>Remote Sensing Investigation at Campground Church Cemetery near Anna, Illinois</td>
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<td>D. Ravat</td>
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<td>N. Pinter</td>
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<td>N. Pinter</td>
<td>United States Geological Survey</td>
<td>Development of a Hydrologic and Geospatial Data Repository for the Mississippi River System</td>
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<td>K. Renzaglia; S. Sipes; D. Gibson; H. Henson; F. Mumba</td>
<td>National Science Foundation</td>
<td>Heartland Partnerships: Inquiry-Based Ecological and Environmental Education at SIUC</td>
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<td>E. Ferre</td>
<td>National Science Foundation</td>
<td>Acquisition of a Vibrating Sample Magnetometer for the Rock Magnetism Laboratory at Southern Illinois University</td>
<td>$5,200</td>
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<td>S. Ishman</td>
<td>National Science Foundation</td>
<td>Collaborative Research in IPY: Abrupt Environmental Change in the Larsen Ice Shelf System, a Multidisciplinary Approach - Marine and Quaternary Geosciences</td>
<td>$178,867</td>
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<td>T. Wiltowski; K. Mondal; K. Anderson</td>
<td>Illinois Clean Coal Institute</td>
<td>I-Lab: Coal to Liquid Fuels Research Facility</td>
<td>$1,419,979</td>
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<td>L. Lefcariu</td>
<td>Illinois Clean Coal Institute</td>
<td>Distribution and Model of Occurrence of Sulfur and Trace Elements in Illinois Coal</td>
<td>$39,986</td>
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<td>F. Mumba; H. Henson; M. Wright</td>
<td>Illinois State Board of Education</td>
<td>Science, Mathematics and Action Research for Teachers (SMART)</td>
<td>$167,675</td>
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<td>K. Anderson</td>
<td>Pulsewave, LLC</td>
<td>Application of Pulsewave Disintegration to Comminution, Drying, and Cleaning of Illinois Coal</td>
<td>$54,717</td>
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Total $2,903,024

Grants and Contracts funded during previous years, but still active during calendar year 2008.
Grants and Contract proposals which included faculty and staff of the Department of Geology during calendar year 2009.

<table>
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<tr>
<th>Investigator(s)</th>
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<tr>
<td>J. Conder</td>
<td>National Science Foundation&lt;br&gt;Collaborative Research: Crusted Accretion and Mantel Processes Along the Subduction-&lt;br&gt; Influenced Eastern Lau Spreading Center</td>
<td>$51,723</td>
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<td>M. White; J. Garvey; T. Chevalier; H. Henson; N. Pinter; F. Mumba</td>
<td>National Science Foundation&lt;br&gt;Integration of Small Moveable Red River Models into Undergraduate Science and Technology Curricula</td>
<td>$493,484</td>
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<tr>
<td>K. Anderson; J. C relling</td>
<td>Illinois Clean Coal Institute&lt;br&gt;Structure and Maturati on of Vitrinite</td>
<td>$58,369</td>
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<td>N. Pinter; J. Remo</td>
<td>National Science Foundation&lt;br&gt;RAPID: Effects of River Training Structures on Flow Dynamics and Flood Levels</td>
<td>$120,789</td>
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<td>K. Renzaglia; H. Henson; J. Spears</td>
<td>Chicago State University&lt;br&gt;SIUC Bridge to the Doctorate</td>
<td>$979,500</td>
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<td>J. C relling; K. Anderson</td>
<td>Illinois Clean Coal Institute&lt;br&gt;Combination Properties of Inertinite Macerals in Illinois Coal</td>
<td>$98,231</td>
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<td>L. Lefticariu</td>
<td>Illinois Clean Coal Institute&lt;br&gt;Occurrence, Distribution, and Geochemical Correlations of Trace Elements in Illinois Coal</td>
<td>$108,657</td>
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<td>N. Pinter</td>
<td>National Science Foundation&lt;br&gt;Collaborative Research: Testing a Hypothesis of Latest Pleistocene Paleo-Environmental Collapse, Northern Channel Islands</td>
<td>$47,721</td>
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<td>M. Wright; H. Henson; F. Mumba</td>
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<td>$249,106</td>
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<td>K. Renzaglia; H. Henson; L. Achenbach</td>
<td>Illinois State Board of Education&lt;br&gt;DNA Summer Institute: Building the Model from the Molecule</td>
<td>$248,645</td>
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<td>K. Anderson; J. C relling; S. Rimmer</td>
<td>Illinois Clean Coal Institute&lt;br&gt;Characterization of Product Streams from the OHD Coal Conversion Process</td>
<td>$310,586</td>
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<tr>
<td>E. Ferré; J. Conder</td>
<td>National Science Foundation&lt;br&gt;Collaborative Research: Seismic Anisotropy of the Continental Crust in the Superior Province, Minnesota &amp; Tectonic Signific</td>
<td>$377,177</td>
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<td>J. Sexton</td>
<td>Illinois Petroleum Resources Board&lt;br&gt;Computer System for Geophysical Research and Teaching</td>
<td>$17,250</td>
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<tr>
<td>M. Wright; K. Renzaglia; H. Henson; J. Means</td>
<td>National Science Foundation&lt;br&gt;Collaborative Research: Magma Dynamics in Sill-Dike Systems - Constraints from Magnetic Fabrics and Paleomagnetism in the K.</td>
<td>$8,618,413</td>
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<td>E. Ferré</td>
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<td>$1,294,514</td>
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<td>S. Secchi; G. Wilkerson; J. Remo</td>
<td>National Science Foundation&lt;br&gt;Science Masters Program: Professional Science Master's (PSM) in Advanced Energy and Fuels Management</td>
<td>$16,200</td>
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<td>K. Anderson; T. Wiltowski; S. Kraft; I. Altman</td>
<td>National Science Foundation&lt;br&gt;Testing Paleo-Environmental Fingerprints on Landscape in Scandinavia</td>
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<td>National Science Foundation&lt;br&gt;Collaborative Research: Wabash Valley Geophysical Experiment in Illinois</td>
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<td>E. Ferré</td>
<td>National Science Foundation&lt;br&gt;Collaborative Research: Towards a New Magnetic Model for the Lithospheric Mantle</td>
<td>$324,627</td>
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Total $14,339,804
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<td>K. Renzaglia; S. Sipes; D. Gibson; H. Henson; F. Mumba</td>
<td>National Science Foundation; Heartland Partnerships: Inquiry-Based Ecological and Environmental Education at SIUC</td>
<td>$443,581</td>
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<td>M. Wright; H. Henson; F. Mumba</td>
<td>Illinois State Board of Education; ISBE-MSP-Science Mathematics and Action Research for Teachers</td>
<td>$166,529</td>
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<td>L. Lefricanu; G. Kimbel; G. Whitledge</td>
<td>National Science Foundation; Acquisition of an Isotope Ratio Mass Spectrometer for Geochemical, Biological, and Petrologic Research, Education, and Training at Southern Illinois University Carbondale</td>
<td>$407,335</td>
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<td>S. Ishman</td>
<td>National Science Foundation; Collaborative Research in IPY: Abrupt Environmental Change in the Larsen Ice Shelf System, a Multidisciplinary Approach - Marine and Quaternary Geosciences</td>
<td>$67,362</td>
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<td>K. Renzaglia; J. Spears; H. Henson</td>
<td>National Science Foundation; Green Scholarships: Training the Next Generation of Environmental Experts</td>
<td>$70,270</td>
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<td>Illinois Clean Coal Institute; Characterization of Product Streams from the OHD Coal Conversion Process</td>
<td>$310,586</td>
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<td>J. Conder</td>
<td>National Science Foundation; Collaborative Research: Assessment of T-Wave Processes and Hydroacoustic Monitoring Capabilities in Lao Basin</td>
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<td>J. Sexton</td>
<td>Illinois Petroleum Resources Board; Computer System for Geophysical Research and Teaching</td>
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<td>H. Henson</td>
<td>Illinois Emergency Management Agency; Earthquake Hazard Mitigation and Education Video</td>
<td>$45,444</td>
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<tr>
<td>N. Pinter; C. Lant; M. Whiles; L. Chevalier; S. Baer</td>
<td>National Science Foundation; IGERT: Multidisciplinary, Team-Based Training in Watershed Science and Policy</td>
<td>$599,999</td>
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<td>$20,032</td>
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<td>N. Pinter</td>
<td>Kendall Sheriff; Illinois Multi-Hazard Mitigation Planning Initiative, Kendall County</td>
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<td>National Science Foundation; Collaborative Research: Testing the Impact of Seasonality on Benthic Foraminifera as Paleoenvironmental Indicators</td>
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NOTE: Please send electronic correspondence to geology@geo.siu.edu. This newsletter is posted on the Web, and the electronic version preserves the color photography. Check it out at http://www.geology.siu.edu/. If you do not have email, please fill out and return the following form if you have changed your home or business address or have new information you wish to share with the Department and other alumni. Mail your news and information to:

Katheryn Fifarek
Alumni News
Department of Geology
Southern Illinois University Carbondale
Carbondale, IL  62901

Students from the summer field course working in Elk Basin.

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NAME

NEW HOME ADDRESS

HOME PHONE

E-MAIL ADDRESS

NEW BUSINESS ADDRESS

BUSINESS PHONE

NEWS

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