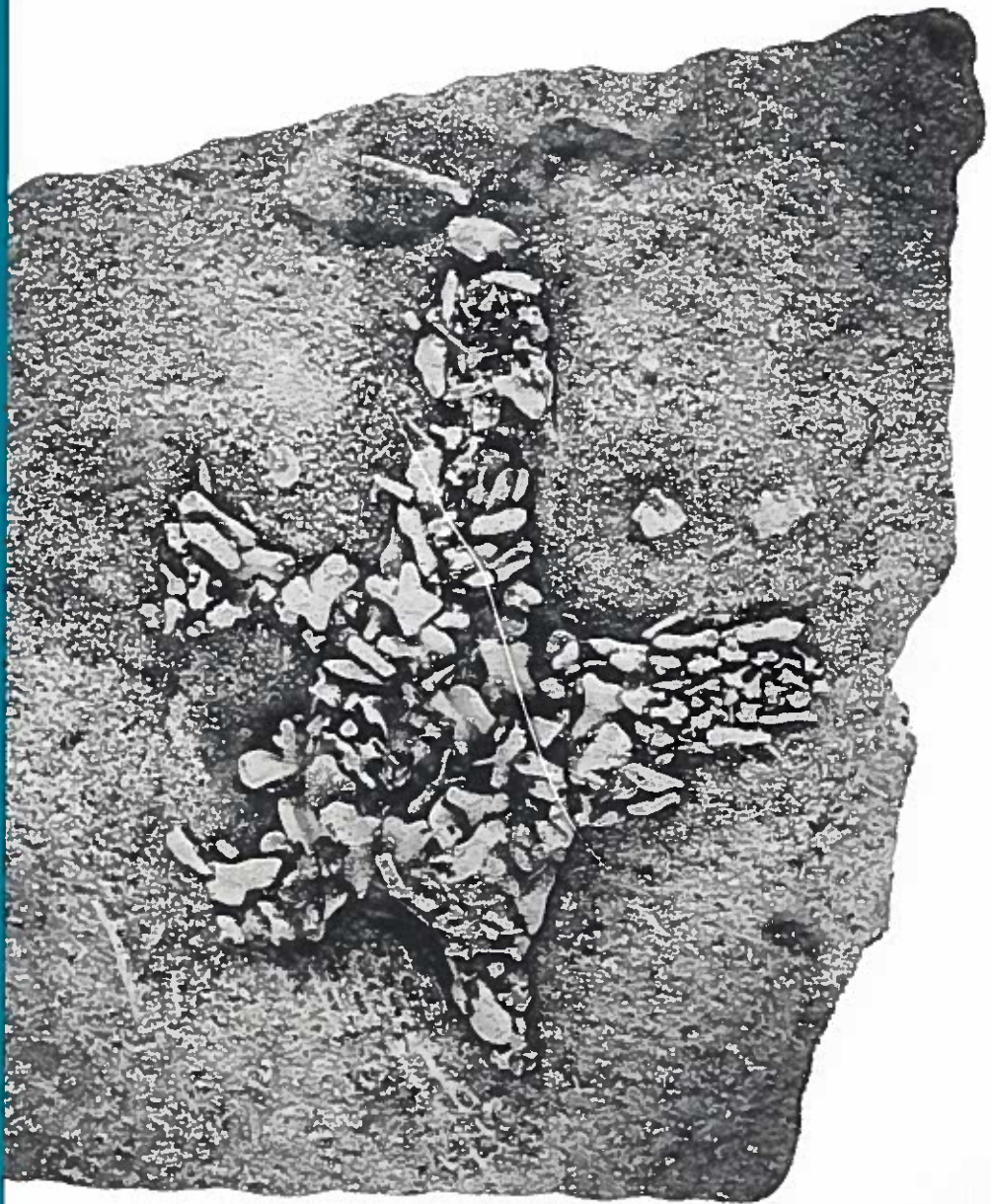


# Geosciences

Department of Geology  
Alumni Newsletter  
Spring 1994



U N I V E R S I T Y O F I L L I N O I S



# GeoSciences

Alumni Newsletter

SPRING 1994

<b>Message from the Department Head</b>	2
<b>GeoNews: Department continues its tradition of field study</b>	3
Annual Alumni Achievement Award established by Department	5
One of top seniors in country attends GSA	
GSA meeting involves many alums	
Faculty and students reap grants, honors	6
Students rate instructors as tops	
Correction	
Alumni reception at AAPG	
<b>Profiles: Jack A. Simon — alumni</b>	7
Daniel Blake — faculty	9
Tim Paulsen — student	11
<b>Alumni News</b>	14
<b>Reply Form</b>	19

*Cover Photographs:* Top view of a Mississippian seastar from southern Indiana. Parts of the arms have been lost, and individual skeletal plates ("bones") were somewhat rearranged before lithification, but detail is well preserved, revealing aspects of evolution and life mode of the species.

*GeoSciences* is the alumni newsletter for the Department of Geology, University of Illinois at Urbana Champaign. It is published in September and February of each year.

*Staff:* Department Head: W. Hilton Johnson; Asst. to the Head: Peter A. Michalove; Editor: Vanessa Faurie; Designer: Jessie Knox; Admin. Secretary: Patricia Lane.



## Message from the Department Head

W. Hilton Johnson



Dear Alumni and Friends,

Greetings again from the Department! The academic year is rapidly passing, and we are beginning to look toward the end of another successful year. We are meeting the challenges before us, and I think you will be pleased with our efforts. I will summarize some of our accomplishments here, and you can pick up on others in the pages that follow.

Every *GeoSciences* you have received recently has commented on increasing enrollments in our general-education courses. Those trends continue: This year we have 500 more enrollments in those courses than last year, and the enrollment is more than five times the number we were teaching six years ago. Overall, 10 percent of the undergraduate students on campus were in a Geology class this year. Our enrollment record is critical in these times of evaluation and reallocation of funds on campus. But more importantly, we are reaching more students and giving them that insight into the Earth that is so important if we are to be in a better position to face global problems through an informed society.

Concurrent with our enrollment increase has been an increase in external funding. Every year for the past seven, our expenditures from external research grants and contracts have increased, and the total support has more than doubled. This year, 70 percent of the faculty have external support, and more than a third of our graduate students are supported by research assistantships. Both the teaching and research trends become more impressive when considered in light of a faculty size that has decreased more than 20 percent in the same interval. Basically, we are doing more with less.

Your support of the Department also has increased, and again I thank the many alumni and friends who have made contributions through GeoThrust, the Sohl fund and other departmental funds. Your support allows us to do things we otherwise would not be able to do, and I hope more of you will want to join our efforts in making a difference here on campus and in the geosciences.

I was pleased to see many of you at GSA in Boston. We were proud of the number of alumni who received distinguished awards from the various divisions of GSA. I know you will join with me in extending congratulations to them. Please make special note of the announcement in this issue of the Geology Alumni Achievement Award that has been established by the Department. The first award will be made in the fall, so send in your nominations now. If you plan to attend the AAPG meeting in Denver, please remember there will be an alumni reception Monday, June 13, at the Marriott Hotel.

We hope *GeoSciences* keeps you informed of activities here and strengthens your ties with Illinois. Please write and let us know of your activities. If you have suggestions for *GeoSciences* or concerns with respect to the Department, we need to know of them. Not long ago, I received some excellent suggestions from a recent alumnus with respect to our curriculum in environmental geology. Thanks, and do keep in touch.

Sincerely,

Hilt Johnson

Acting Department Head

## GeoNews

The Wasatch-Uinta Field Camp in Park City, Utah, offers diversity for U. of I. students.



## Department continues its tradition of field study

**F**ield camp—the boot camp for fledging geologists—is alive and well at the University of Illinois.

After a decline in enrollments in the 1980s that essentially followed the employment trends of the petroleum industry, the Department's own field camp in Sheridan, Wyo., was being run for only a handful of students. One summer there were only three students at the camp, and it was becoming far too costly to continue. So in 1990 the Department decided to start a new

The director of the camp rotates among the five departments, but each sends one or more staff persons every June for the six-week course. Associate Professor Stephen Marshak has gone out in 1990 and '91, and Professor and Head **Hilt Johnson**, M.S. 61, Ph.D. 62, has gone out in '92 and '93.

Students first do a series of short field exercises that provide an introduction to the area and to geologic mapping. Students learn how to make observations, take notes, record data,



Students gather prior to starting section description and measurement exercise.

chapter in its long tradition of field work.

The U. of I. joined four other major universities in a cooperative known as the Wasatch-Uinta Field Camp in the ski resort/mining town of Park City, Utah. The University of Minnesota-Duluth, the University of Iowa, the University of Wisconsin, Michigan State University and Illinois all have responsibility for the camp, which dates back about 25 years.

make maps and interpret the observations. Then there are four major week-long exercises that emphasize different aspects of the region.

"Compared to our former field camp," Johnson said, "the geology is more diverse. There are things that we didn't have: volcanic geology, igneous intrusions, more complex folding and thrust faulting, contact metamorphism and mineralization. Overall, the students are exposed to more things,

and it's more complex. Our students, therefore, need more background so they usually go out as juniors and seniors."

But whether they are in Sheridan, Wyo., or Park City, Utah, the value of

students and faculty, providing more opportunities to make connections with people from other institutions. For example, after meeting Marshak at the camp, Tim Paulsen decided to do graduate work at Illinois. He also has

participants, with the Department sending five to 10. The camp enjoys strong support from all of its institutions who want to continue to work for improvement. One idea being considered is to introduce a week for an

Charlie Matsch (Minnesota-Duluth) and Hilt Johnson chat in front of Chateau Apres Lodge, prior to departure for the field.



Hilt Johnson directing students during section measuring exercise.



field camp for students remains constant.

"It's when they finally integrate the things they've done back here (at UIUC) in all areas of geology," Johnson said. "It's when they finally really see what geology is all about, space and time relationships and interpretations of past events. It's also an extremely intense period."

Students are usually in the field from 7:30 a.m. to 5 p.m. every weekday, with more evening work of preparing maps and rock descriptions from 7:30 to 10:30 p.m. and longer. Accommodations are in the dormitory lodge of Chateau Apres. It's not a luxury ski resort, but students stay two or three to a room that is furnished with a TV, and there is a swimming pool. The cafeteria and dining hall double as an evening work and study room.

Another of the camp's strengths, Johnson said, is its diversity among



Mark Reagan (Iowa) and students in the field, Park City area in the background.

been back to the camp for the last two years as a teaching assistant.

The camp now ranges from 50 to 70

environmental geology project or projects which would replace one of the existing four major projects. It's not a

static program, Johnson said, but it is high-quality. And that's what is important to the Department and will be to alumni when they look back to this point in their geology education.

"By the end of field camp, you're sort of drained," Johnson said. "But for most students, I think it becomes the high point of their undergraduate education. They usually have good memories of the times. They get to meet people from other schools and develop really close friendships. There are a lot of fun times as well as hard work."

## Annual Achievement Award established by Department

The University of Illinois Department of Geology has established an annual Geology Alumni Achievement Award, the first of which will be presented in the fall of 1994.

Alumni are invited to submit a letter of nomination explaining the nominee's accomplishments with respect to one or more of the following criteria: 1) a career of outstanding professional achievement; 2) outstanding academic or research achievement; and 3) outstanding service to the University of Illinois Department of Geology.

A committee of faculty and alumni will review the nominations and announce its decision in the fall. A dinner honoring the awardee also will be planned. Nominees who do not receive the award at this time will be considered in future years.

Send nomination letters by May 15, 1994, to the following address:

Patricia Lane  
Department of Geology  
University of Illinois  
1301 W. Green Street  
Urbana, IL 61801

## One of top seniors in country attends GSA

Geophysics major **Christine Puskas** of Glen Ellyn, Ill., was selected as one of the top 35 seniors from geology departments around the country who attended the 1993 Geological Society of America meeting in Boston.

"It was a lot of fun," she said as she described the activities for the elite group. As well as attending the presentations, there was a reception in the seniors' honor and a field trip

around Boston.

Puskas' studies focus on Brillouin spectroscopy under the tutelage of Associate Professor Jay Bass. She plans to go to graduate school somewhere in the West and work toward a Ph.D.

The trip was sponsored and supported by the GSA and the U. of I. Geology Department. Puskas was chosen for the honor by the Undergraduate study Committee.

Puskas



## GSA meeting involves many alums

The names of several alumni cropped up at the Geological Society of America annual meeting in Boston, Mass., last October.

**David Stephenson**, Ph.D. 65, was elected vice president; and **Sharon Mosher**, B.S. 73, Ph.D. 78, **Mark Cloos**, B.S. 76, **John Cherry**, Ph.D. 66, and **Keros Cartwright**, Ph.D. 73, were named as councilors.

**F. Michael Wahl**, M.S. 57, Ph.D. 58, was definitely evident as executive director of the Society.

**James C. Cobb**, B.S. 71, Ph.D. 81, of Lexington, Ky., received the Distinguished Service Award from the Coal Division. **Paul R. Seaber**, Ph.D. 62, of Las Vegas, Nev., and **Stephenson** of Scottsdale, Ariz., each received Distinguished Service Awards from the Hydrogeology Division. And former faculty member **Don U. Deere**, Ph.D. 55 (Engineering), received the Distinguished Practice Award from the Engineering Geology Division.

## Faculty and students reap grants, honors

Professor Tom Anderson received a grant from the UIUC Research Board for equipment and supplies. The grant is to support research on "Isotopic-Ratio Mass Spectrometry and its Application to Isotopic Variations in Natural Materials."

Associate Professor Stephen Altaner, Ph.D. 85, was awarded a grant from the Petroleum Research Fund of the American Chemical Society to study the mechanism of smectite illitization in bentonite, analysis of mixed layer illite/smectite in cretaceous and devonian K-bentonites. He also received an honorable mention certificate as co-author of a paper presented by alumnus Eric Daniels, M.S. 89, Ph.D. 92, from the Coal Division of the Geological Society of America at the national meeting in Boston.

Associate Professor Jay Bass has received several awards from the National Science Foundation: "Brillouin Scattering Studies of Glasses, Melts and Aqueous Fluids," which includes a supplement to provide research experience for undergraduate students; "Mineral Elasticity by Brillouin Scattering"; and, in collaboration with the University of California-Berkeley, "CSEDI Initiative: Study of Natural Majorite, an Inter-Laboratory Technique Comparison." Bass also has received a grant from the Shared University Research Program for IBM computer equipment.

Graduate student Amy Berger was presented the Department's Outstanding Teaching Assistant Award for Fall 1993.

Professor Wang-Ping Chen received funding from the National Science Foundation for his project, "A Seismic Study of Subducted Lithosphere."

Professor Craig Bethke, Ph.D. 85,

was elected a fellow in the Geological Society of America.

Assistant Professor Tim Clarke had three grants come through—one is from the National Science Foundation for the "Missouri to Massachusetts Broad Band Seismometer Deployment"; and two are subcontracts from the Carnegie Institute of Washington. (Carnegie is subcontracting some data analysis work as part of an NSF grant it has.) These are for the "Brazilian Lithosphere Seismic Project" and the "Deep Structure of the Altiplano and Central Andes from Transportable Broad Band Seismic Transect."

Professor Alberto Nieto received an equipment grant from the Research Board for his project, "Failure Modes of Asperities in Rock Discontinuities."

Graduate student Bob Ylagan received a monetary award from the Graduate College for support of his research and graduate studies during the 1993-94 academic year. The award was in recognition of his receiving an NSF Graduate Fellowship.

## Students rate instructors as tops

The following faculty and teaching assistants were listed on the U. of I. students' "Incomplete List of Excellent Teachers on Campus" for the fall 1993 semester. About half of the Department's TAs made the list.

Stephen Altaner, associate professor  
Terry Beckman, teaching assistant  
Amy Berger, teaching assistant  
Ten-hung Chu, teaching assistant  
Georg Grathoff, teaching assistant  
W. Hilton Johnson, professor and head  
Mindy Legg, teaching assistant  
Tim Paulsen, teaching assistant  
Kelly Rust, teaching assistant  
Philip Sandberg, professor  
John Werner, teaching assistant  
Fred Wright, teaching assistant

### CORRECTION

On Page 6 of the Fall 1993 issue of *GeoSciences*, a photo of graduate student Honn Kao was misidentified as Ming Kuo Lee.

The U. of I. Geology Department

## ALUMNI RECEPTION AT AAPG

You are invited to attend the  
Department's alumni reception  
at the June 12-15, 1994, meeting of the  
American Association of  
Petroleum Geologists in Denver

Monday, June 13  
5:30-7:30pm  
Marriott City Center

*Hope to see you there.*



## Alumni Profile:

Jack A. Simon

'When I got the job (at the Survey) and started taking geology, I liked it. So I never left it.'



## Humility, dignity are his hallmarks

**H**is reputation as a scientist, administrator and gentleman are well-known. He was the heir apparent to the legendary coal geologist (as well as next-door neighbor) Gilbert H. Cady at the Illinois State Geological Survey. And when he rose to the position of chief in 1975, he led the Survey with dignity through some of its most productive yet financially toughest times.



Simon became chief emeritus of the Survey in 1982.

But Jack A. Simon, A.B. 41, M.S. 46, suffered a stroke in 1981 while en route to the annual meeting of the American Institute of Mining, Metallurgical and Petroleum Engineers in Chicago, and his tenure as chief soon came to a premature end. Despite a remarkable rehabilitation where he regained almost all of the 99.9 percent vocal capability he had lost and was named Mercy Hospital's Rehabilitation Patient of the Year, Simon retired with the title of chief emeritus in 1982 and served as principal scientist through 1983.

He hasn't forgotten his professional roots, though. He grew up

with geologists all around him in his Urbana neighborhood, and he began working part-time in the Survey's Coal Section as a senior in high school "doing mostly just kid's stuff." That summer, he was a rodman on a crew surveying drill holes, mines and outcrops in southern Illinois.

When he enrolled at the U. of I., he initially thought he would pursue his interest in history.

"Most people who enter their freshman year at the University of Illinois may think they know what they want, but commonly they don't," Simon said as he recounted his early days while drinking a cup of tea in the dining room of the same house he has lived in since that time. "I was thinking history in high school. When I got the job (at the Survey) and started taking geology, I liked it. So I never left it."

Simon completed his undergraduate degree and was beginning his master's work when he began his World War II service in June 1942. He was commissioned as a second lieutenant in field artillery and was drafted to the tank destroyers but transferred and

World War II veteran Simon.





became a navigator in the Army Air Corps.

After numerous missions over Germany, Simon's whole squadron was shot down Jan. 14, 1945, about 30 miles from Berlin. Simon bailed out and parachuted into a frozen, plowed field. After walking for several hours, he was eventually taken as a prisoner of war. After being moved from camp to camp, Simon recalled his liberation April 29, 1945, in a letter he wrote to his two brothers shortly afterward.

"The morning of April 29 blossomed bright and clear, and the sound of guns was drawing quite near (the camp)," Simon wrote. "The weather was great for flying, and we had a real show put on by the fighters. Some of them buzzed us and then went on to strafe targets beyond. ... At exactly 1215 hours (won't forget the time), there was some excited shouting and running from outside. When I joined the throng, I saw pointing fingers and peering eyes in the direction of the town, which was little more than a mile away. There, big as life and clear as day, on the tallest building in view, was the Stars and Stripes. What a wonderful, thrilling spectacle it was. About 15 minutes later on our front gate, they raised that same wonderful design."

Simon then returned to Urbana to finish the master's work on coal-bearing rock that he had started before the war. He credits Harold Wanless, who happened to live a half-block from the Simon home, as being the teacher who provided him with most of his training. Simon recalled how Wanless went the extra mile to help him when he was completing his thesis in the summer of 1947. Wanless was out in the field, and Simon sent him a rough draft three weeks before the final draft was due, hoping it would be returned in a week or two at best.

"I mailed in on Friday, and it was back on Wednesday," Simon said, still impressed by the memory. "Completely

edited—not slightly edited. It was an excellent job of editing."

Simon spent the next two years at Northwestern for more graduate work and, of all things, a six-week field camp/canoe expedition. His noted diplomacy and gentle humor shown through when he described his reaction to "geology by canoe": "I don't endorse it, and I don't downplay it. If you were a fisherman, it might be more attractive. It was an interesting assignment. I've never done anything like it before or since, so that's all right."

The connection to the Survey was still strong, and in 1953, Simon succeeded retiring mentor Cady as head of the Coal Section. Thus began his rise through the administrative ranks: principal geologist of the Geological Group, assistant chief, acting chief and then chief in 1975.

In recognition of his work and service in coal geology, Simon was awarded the Gilbert H. Cady Award in



Left to right: R. Roley, G. Cady, G. Wilson and Simon worked together in the Survey. Circa 1947.

1975 from the Coal Division of the Geological Society of America. It was a particularly proud honor for Simon but one he modestly maintains he shouldn't have received at the time because "there were many more people who deserved it more, in my view."

During his tenure at the Survey, Simon served on or led numerous state

and federal commissions and committees. "Yeah, there's a long list of them," he said. He helped establish guidelines for environmental regulations and helped determine the direction of coal geology research. He also helped launch a program to examine techniques to remove sulfur from coal long before the idea became popular.

"Jack knew of our work in electron microscopy of solids in our Materials Research Laboratory," wrote Professor Emeritus Charles Wert. "So he encouraged me to see if we could apply those techniques to coal, especially sulfur in coal. We were successful in that attempt, pushing forward sulfur analysis in a way never done before. He encouraged us, prodded and cajoled us. He read out papers (in the beginning our ignorance of coal literature was monumental) and corrected our mistakes. He did this kindly—not scathingly as he might have done. As a result, of the 25 or so papers written by my students, none was rejected and never was the coal-science ever seriously questioned by reviewers. Such errors he had patiently helped us remove long before."

Perhaps his greatest accomplishment was not a singular achievement but what he was able to do throughout his career, that is to maintain the Survey's delicate balance between basic and applied research and to foster cooperation between entities that are more often than not diametrically opposed to one another. Simon has received honorary resolutions from both the Coal Advisory Committee and the Environmental Protection Agency, as a case in point.

"I seen my duty and I done it," he said, half-joking. "I was able to get people together sometimes who might have a little bit of jealousy or whatever.

"There were times when I worked like it was going out of style, seven days a week," he added. "But it was always fun."

## Faculty Profile:

### Daniel Blake

'(The museum) is a valuable presence on this campus. We have collections of hundreds of thousands of biological specimens that help to document the diversity of life.'



## Museum's future is just one of his many concerns

Professor Daniel Blake, B.S. '60, wears several hats in the Department of Geology. Along with the jobs of teacher and researcher, he is the director of the Museum of Natural History—the continued existence of which has been the subject of debate as the University struggles to maintain its programs in light of declining state funding.

No final decision has been made yet, but Blake remains optimistic about the museum's survival.

"I don't think its (closing is) likely at this point," he said. "(The museum) is a valuable presence on this campus. We have collections of hundreds of thousands of biological specimens that help to document the diversity of life. The collection cannot be replaced here or duplicated anywhere else."

The museum has established a computer catalog and a security alarm system. The research collections and public exhibits can accommodate the most sophisticated scholars as well as grade school students. If the museum were to be closed, the collections would not be destroyed, but they would no longer be a part of the University of

The academic environment appealed to Blake more than the private sector.

Illinois.

"Many other collections have gone to the Smithsonian, for example," Blake said. "But a friend of mine who works with the collections there said, 'We hope you can take care of them because we're having the same problems.' It's not spectacular. But we have a valuable resource here, and we should not let it go."

Aside from his director's role with the museum, Blake also has the duties of teacher and researcher. He returned to the U. of I. in 1967 to teach, which he has always had a high interest in. Being around students and the academic community was more stimulating to him than being in the oil industry—which many other of his fellow paleontologists opted for. Along with the basic paleo courses, he has taught stratigraphy, fossil distribution in rocks, historical geology and some basic physical geology and graduate courses.

"I'm a little old-fashioned in the sense that as a student, I wanted to hear the information," he said. "So what I try to do in my classes is use my experience to provide information that's manage-



able and up-to-date. I'm not there to entertain."

Being able to impart the information is important to Blake to achieve personal satisfaction in his teaching. When the Department adjusted to the changing needs of students and cut the introductory paleo course from three lecture hours to two hours a week, Blake struggled to compact all the information he felt he still needed to cover in the shorter time frame. But he realized it just wouldn't work.

"I decided last fall that I simply can't do it all and I'm going to have to block off some of it," he said. "In many ways, that was not a good semester for me because I was still struggling with something I wasn't very satisfied with.

"One reason I'm happy to be doing the historical geology course (this semester) is that it's a good precursor to the paleo course," he added. "Now when I do the paleo course, I know what the students will have had."

But just getting through material or even integrating courses to make them work better is not at the heart of Blake's teaching. His main goal for students is a matter of perspective.

"One of the things about geology that needs to come out in the students' minds is to say, 'Look, this is the way geologists think about these things.'"

For geology students to be successful today, Blake believes a sound foundation of scientific background is essential before specialization. They also need to get out and see rocks and be exposed to a wide variety of science before they can manipulate the ideas behind it.

"Through the years, I've had students who, for one reason or another, take the paleo course before they complete the historical geology course," he said. "It's just a bad idea. They don't do as well. They do not yet have insight into the nature of the significance of geologic time.

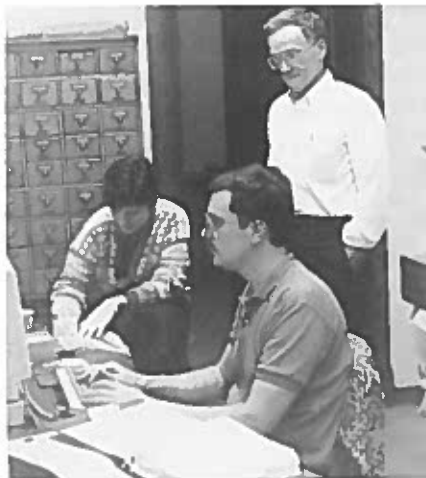
"(Geology) is intellectually a wide-

open area in that there are so many different things you can do. In some ways, the Department can cover an extraordinarily broad area of intellectual inquiry. But other than the Earth as a subject, we don't have a whole lot of things in common as a background."

And geology itself has been in a revolutionary transformation with the acceptance of the theory of plate tectonics, changing the way researchers look at and understand the past. The use of computer technology as a tool also has broadened the scope of inquiry.

That is true with Blake's area of interest—the fossils of invertebrates.

"One of the things invertebrate paleontologists always did was to use fossils as guidelines to where the rocks



Blake also splits his time as director of the Museum of Natural History.

are to find oil," he said. "As the years went by, I think more and more people became curious about these biological entities, these signposts. We've seen technological changes, but in some ways there have been shifts in the way people want to look at invertebrates. There is much more interest in the biology of ancient life and what fossils can tell us about evolution and other general topics. A good deal, as it turns out."

Blake became interested in invertebrates when he went out to California in the 1960s to do graduate work. His

thesis at the University of California-Berkeley was on both modern and fossil star fish.

"I kind of drifted into it, I suppose, to an extent," Blake said. "It was more serendipity. I found them to be interesting animals."

He looks at the whole group, from their origins in their early evolution to modern times and how they have changed over time.

"When you hear these programs on dinosaurs and people talking about what they did and how they changed, in a sense, I'm doing the same thing with starfish," he said. "I find the invertebrates interesting because they are peculiar. You can look at a dinosaur and animals of this nature in the vertebrate groups and you can immediately, intuitively understand a little about how they work. But so many of the invertebrates are peculiar, whether it's something like a starfish or a clam, and you wonder how they succeed in these numbers."

Despite a full schedule, Blake's future plans include a return trip to Antarctica through the National Science Foundation at the end of 1994 to study



Blake's area of research interest is invertebrate fossils.

the invertebrates. On top of that, he also will become the new managing editor of the *Journal of Paleontology*.

"It's fun," he said, "and it's going to be something different to do."

Add another hat to the rack.

## Student Profile:

### Tim Paulsen

'Field camp is where you take all the previous information from all of your courses and stuff you've learned from the classroom and you go out and apply it to real-life situations.'



## Leave no rock unturned

Graduate student **Tim Paulsen** first worked with Associate Professor Stephen Marshak out in Utah at the Wasatch-Uinta Field Camp. But Paulsen was doing his undergraduate work through the University of Wisconsin at the time. It was because of that meeting that he decided to come to the U. of I. in the fall of 1991 to work on his master's degree in structural geology.

"I'd always been interested in archeology and geology when I was younger," the Wisconsin native said. "I just happened to wander into a geology class when I was a sophomore at Wisconsin. I had experimented with the liberal arts—anthropology, philosophy, comparative literature—and learned that I really wanted to do those more as hobbies. In geology, I found that I liked it and I liked doing it. I was bitten by the geology bug."

Paulsen took a number of courses,

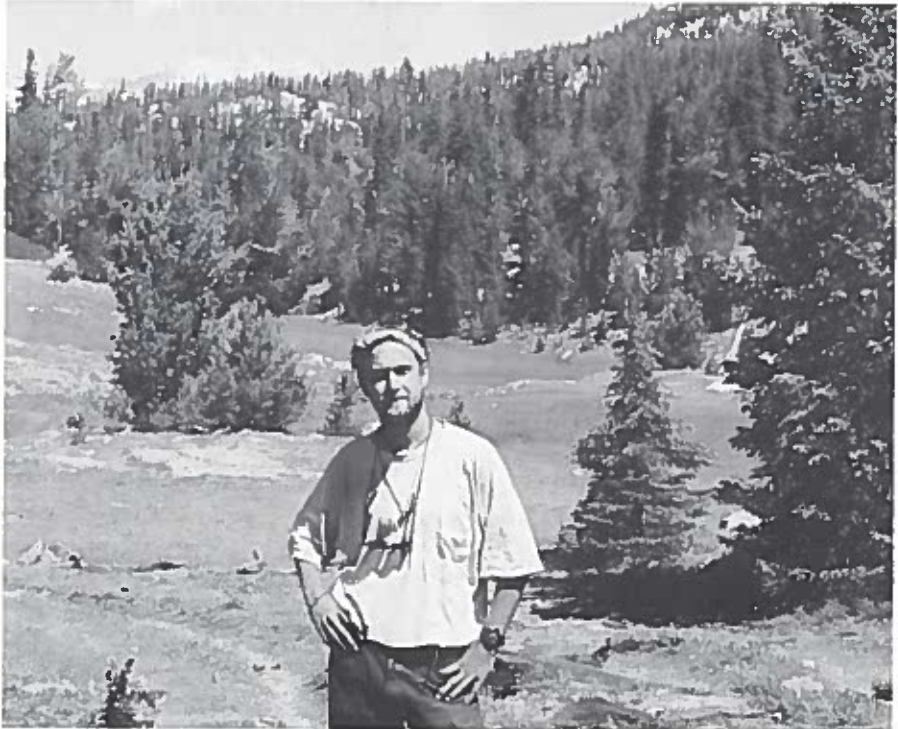
including the introductory class and the evolution of the earth, but something really clicked when he took petrology and started picking up rocks.

"In fact, the field course was the highlight of my undergraduate education because it's outdoors," he said. "Instead of the stale environment of the classroom, you're out in the mountains taking a course."

The field camp in Park City, Utah, is a cooperative venture of which both Illinois and Wisconsin are a part, along with three other Big Ten universities. Paulsen has since returned there the past two summers as a teaching assistant.

"It was a good experience," he said. "I learned things from both positions (as student and as teacher). I even learned stuff about mapping by teaching other people about mapping. It was good because, as a TA, you're

Tim in Windriver Range, Wyoming







Tim in Guadalupe Mts.

almost a medium between the professor and the students. By having been a recent student at field camp, you can relate to their problems and exhaustion, which helps with explanations and keeping their motivation up.

"It's a lot of work, but it's probably the most fun you'll ever have doing that much work."

It's not difficult to see that Paulsen is an ardent supporter of the field camp experience.

"Field camp is where you take all the previous information from all of your courses and stuff you've learned from the classroom and you go out and apply it to real-life situations. It's one thing to read about something; but it's another to go out there and actually see what they're talking about."

Paulsen attributes his focus on structural geology to one of his Wisconsin professors and the fact that he finds it "neat" to take a body of rocks and try to figure out their history.

"In structural geology, you're dealing with the three-dimensional

configuration of rock packages. You're trying to figure out the sequence of events of how the rocks actually came to be in their present state," he said and speculated that it might be the historical aspect of the Earth that appeals to his scientific interests.

The main focus of his thesis deals with a mountain belt in Utah. While out at the field camp, a mapping project of part of the Sevier fold-thrust belt revealed some odd relationships. In the area just within the Wasatch Mountains on the south side of the Uinta arch, where Paulsen is working, the Sevier belt takes an unusual east-west trend instead of its normal north-south trend. The goal has been to try and figure out the cause of this curvature and how it evolved.

"It's a weird process," Paulsen said. "When I was initially out there during my first summer, there was this stage where I still had to try and figure out what exactly what would make a contribution to the area. At the end of the second summer, I had ideas about

how I thought things evolved based on the data I had collected. Then Steve came out and basically backed me up, so that was a good feeling. To be stuck out there all summer, camping for a month alone and going crazy, talking to rocks, it was good to have someone come out there and come up with the same interpretation. It was a rewarding experience."

Paulsen likes the way he and Marshak work, calling him "a good idea man."

"When you work with Steve," he said, "you do your own thing. He has ideas for you to investigate, but it's pretty much hands-off from there. He's there at the critical times when you need him. It works well for me. I don't think I could have made a better decision by coming to work with Steve."

Since so much of his thesis is field-oriented, Paulsen's approach is essentially to "plop" himself in the middle of his field area and camp for six weeks or so at a time, gathering information.

"It's basically going out there and sticking your nose to a rock and making observations," he said.

He looks for rock that is still intact

Tim riding Moses the camel in Egypt prior to leaving for a geologic expedition along the Red Sea.





Tim in Windriver Range, Wyoming.

and rooted to the crust such as those still in place within a mountain side. From those outcrops, Paulsen estimated that he has sampled about 500 pounds of rocks, many of which sit in boxes under and around his desk in the Natural History Building.

Another aspect of his thesis work involves an extensive cratonic weak zone that runs approximately from South Dakota to South Carolina like a huge scar. "To put it in simple terms," he explained, "it's like the backbone of the United States is essentially broken, and along this weak area there's been repeated movement.

"We read many, many books and papers (pertaining to this part of the mid-continent) and distilled out a number of features that were mentioned in the literature but hadn't been tied together with one coherent idea. It was an incredible learning experience.

"I'm at the stage now where I have to pull it all together," he added. "I

think it's going to be a good thesis."

His days are filled with working on the most pertinent items on his list of things to do, which includes teaching, classwork and research. However, research often takes a back seat to the teaching and classwork, which has included Geology 100, "Geology and the National Parks" and "Structural Geology."

"Oh, I love it," he said. "I think it's great. My first semester here I taught two sections of (Geology) 100 and then taught structure. Structure was the most wonderful experience. When people are interested, it's just great. There's a lot of energy in the classroom.

"But when I went into my 100 discussions, some students were just occupying a chair. It was kind of hard dealing with that. It depressed me after a while. Now what I do is I go in and give fire-and-brimstone lectures. You have to put on a show for those students or you lose them like that. (He



Tim hiking in Windriver Range, Wyoming.

snapped his fingers.) And I've had a good experience lately with 100. I'm happy. It was a challenge, I guess."

For now, Paulsen continues to work on his thesis and is applying to Ph.D. programs. He's not optimistic about the job market right now, but his ideal profession would be to teach at a small liberal arts school while pursuing his research interests. He'd also like it to be in his home state of Wisconsin, close to the Green Bay Packers.

"It's pretty unrealistic," he said and laughed, but then added, "Well, you never know. You never know. ..."

## Alumni News

*GeoSciences is for alumni and largely about alumni. Please take the time to complete and return the information form you will find at the end of this issue. Just as you like to read about classmates and other alumni, they'd like to know the latest about you. Your news is important to them and to us in the Department. Send a recent photo along, too, but let us know if you want it returned.*

*The following notes are divided by decade. Those who were affiliated with the Department during part of one decade through to the next are listed according to the last degree received. Within each decade, items are listed in yearly sequence, not alphabetically.*

### OBITUARIES

Retired U.S. Air Force Col. **Benjamin Grote**, A.M. 34 (Education), Ph.D. 49, died Jan. 14, 1993, in Albuquerque, N.M. He taught in a rural school in Pike County, Heidelberg College in Ohio and was superintendent of Bluffs School. He was in the Air Force from 1942-48 and from 1951-61 and earned the Legion of Merit. Grote is survived by his wife, Esther, a sister, two nephews and four nieces.

Retired geologist **William W. Hallstein**, B.S. 49, M.S. 52, of Corpus Christi, Texas, died Aug. 6, 1993. He was born in Pekin and worked for the Illinois State Geological Survey before joining Exxon in 1958. Most of his career with Exxon was spent overseas until 1982, when he moved to Texas.

**William "Dean" Cunningham**, B.S. 57, of Decatur died April 4, 1993. He was 62. He was employed by Minerva Oil Co. as a field geologist prior to joining Illinois Power Co. in 1961. He retired in 1989 as manager of economic development after 29 years with the company. Cunningham was a veteran of the U.S. Marine Corps. He is survived by his wife, mother, son, daughter-in-law, three granddaughters, brother, sister-in-law, nephew, niece, father-in-law and mother-in-law.

**Jess Hulsey**, M.S. 60, Ph.D. 62, died Sept. 16, 1993, in Houston, Texas. He was retired from Exxon USA.

### THIRTIES

Former U. of I. trustee **Park Livingston**, A.B. 30, M.Ed. 81 (Education), was featured in the *Suburban Life*, a newspaper serving Broadview, Hillside and Westchester, Ill. The story documented his many years of service to the University, both during his student years and as a trustee for 24 years. He currently lives in La Grange.

### FORTIES

**Ed F. Bushman**, B.S. 41, and his wife, Louise, were lucky enough to have their Laguna Beach, Calif., home spared by the October wildfires that swept through eight southern California counties. About 18,000 acres east and north of Laguna Beach were burned over, he reported, but most of the town was left unscathed. When residents were ordered to evacuate Oct. 27, the Bushmans went to a friend's vacant apartment in San Juan Capistrano. When they returned several days later, their house was fine, although "ashes were everywhere."

### FIFTIES

Just before he retired from the U.S. Geological Survey in May 1992, **Edwin W. Tooker**, Ph.D. 52, received the Department of the Interior's Distinguished Service Award Gold Medal for "exemplary contributions to research on ore deposits and science administration in the Geological Survey."

He and his wife were in New Zealand in October and November and visited with Dr. Maxwell Gage and his wife, Molly Rose, at their home in Napier. "Max was visiting professor from Canterbury University Christ Church in 1952-53 while I was completing my graduate research," Tooker writes. "The Gages are active and stimulating as ever. They send their regards to Geology Department friends."

**Donald G. Hauser**, B.S. 58, is the project engineer for Sage Consultants Inc. civil and soil engineering firm in Camarillo, Calif. In November 1992, he was elected as director of Division 3 of the Calleguas Municipal Water District.

**R. Budiharto**, B.S. 59, retired from ARCO in 1984 and is now doing administrative work as general manager for P.T. Digicon Mega Pratama in



Jakarta, Indonesia. He still continues his work as a petroleum explorationist, doing consulting jobs and exploration analyses. He is considering taking full retirement by the end of 1995 or the beginning of 1996.

## SIXTIES

**David A. Schaefer, A.B. 60**, retired in August 1992 as head of formation evaluation for Chevron's Western Exploration Business Unit. He and his wife, Priscilla, A.B. 60 (LAS), live in the shores of Lake Buchanan in the "hill country" of central Texas and have three children and four grandchildren.

**Richard E. Smith, M.S. 60**, is director of the Technical Assurance Division for Environmental Safety and Health as part of the Department of Energy's Strategic Petroleum Reserve Program. He has spent 32 years in government service, including four years in the military. He also became a grandfather in August 1993.

**M.E. Bickford, M.S. 58, Ph.D. 60;** **William D. Sevon, Ph.D. 61;** and **Casey M. Diana, A.B. 91 (LAS)**, wife of Professor Emeritus Ralph Langenheim, performed Mozart's Requiem in the auditorium of Boston's New England Conservatory of Music as part of the Geological Society of America's 1993 October meeting.

Distinguished Teaching Professor in geosciences at Fredonia State University College in New York **Richard Gilman, M.S. 59, Ph.D. 61**, delivered the commencement address for the Class of 1993. Although he retired in December 1992, he remains on the faculty part time. The structural geologist also created the 1988 *Guide to the Geology of Acadia National Park* in Maine.

**John P. Kempton, Ph.D. 62**, senior geologist and head of the Quaternary

Framework Studies Section at the Illinois State Geological Survey, retired after 36 years. He now has the honorary title of senior geologist emeritus. Kempton joined the Survey in 1956 as an assistant geologist and was promoted to geologist in 1971. In 1988, he received the Survey's Distinguished Achievement Award. Since 1990, he has been the GSA representative to the Association of American State Geologists.

**Robert N. Farvolden, Ph.D. 63**, accepted a senior scientific counsel position with the National Groundwater Association. He is a professor and chair of regional hydrogeology in the Earth Sciences Department of the University of Waterloo in Ontario, Canada. He recently received the Distinguished Service Award from the Hydrogeology Division of the GSA.

**Gerald Groenewold, B.S. 67**, was presented the North Dakota Innovator of the Year award. He is director of the Energy Environmental Research Center at the University of North Dakota in Grand Forks. It is the world's largest low-rank coal research center and the leader in lignite coal and groundwater research.

**Stephen C. Ruppel, B.S. 69**, is employed by the Bureau of Economic Geology, a research arm of the University of Texas at Austin with a full-time research staff of about 45 geoscientists. His principal research interests continue to be focused on lithological and geochemical characterization of Paleozoic and Cretaceous carbonates in Texas. He is also directing research into the strontium isotope composition of Paleozoic seawater using conodonts.

**Richard E. Ely, M.S. 69**, is a self-employed consultant after leaving Woodward-Clyde Consultants in March 1993 after 20 years. Lately, his work has

been divided between neotectonic studies of the Colorado Plateau and Sierra Nevada ("the fun part") and contaminant-distribution studies of hazardous waste sites ("pays the bills"). He lives in Sebastopol, Calif.

## SEVENTIES

**Ron Stieglitz, M.S. 67, Ph.D. 70**, is associate dean for graduate studies and research at the University of Wisconsin-Green Bay.

**James C. Gamble, M.S. 67, Ph.D. 71**, is an engineering geologist in the Geosciences Department of Pacific Gas & Electric Co. in San Francisco, Calif., working from Bakersfield on tunnels, landslides, erosions, earthquake hazards, foundations for gas lines, transmission towers and substations, dams, etc. He writes that he has "enjoyed 12 years of challenges at PG&E with great variety in work and locations and geology."

Retired U.S. Navy Cmdr. **Steve Jamrisko, B.S. 71**, is working for defense contractor SYSCON, Inc., in Arlington, Va.

**Harold "Duke" Wilber, B.S. 71, M.S. 73 (LAS)**, continues summer ranger work at Craters of the Moon National Monument, receiving an NPS certificate of merit with a bonus last summer. He expects to begin teaching geology and physical science at Lincoln Land College in Springfield.

**Tom Perkins, B.S. 72**, of Occidental Indonesia has been involved in discovering gas (probably more than 2 TCF) at Bintuni Bay, Irian Jaya (the Indonesian part of New Guinea). He's also senior author of a paper describing the field.

**Larry Stanker, M.S. 73, Ph.D. 80 (LAS)**, is project leader and head of the Immunochemistry Research Group for



the USDA's Agricultural Research Service. He recently moved to College Station, Texas, from California, where he was head of the monoclonal antibody facility at the University of California Lawrence Livermore National Laboratory for nine years.

**Chris Ledvina, B.S. 74**, has founded the National Museum of Coal Mining and is writing a *Pictorial History of Coal Mining in Illinois*. He reports that **Ed Stermer, B.S. 89**, taught in his department at Northeastern University in 1993.

**Craig Smith, B.S. 74**, is head of the radiogenic isotopes group in the Bernard Price Institute of Geophysical Research at the University of Witwatersrand in South Africa. "Despite the problems, we have maintained research funding," he writes. He and his wife, Meryl, welcomed a second son to the family. Smith is still involved in dating rocks and diamond geology, in addition to a number of other research interests.

## Alumni in the Rockies



**Polly (Knowlton) Cockett, M.S. 80**, of Alberta, Canada; **Plus Weibel, M.S. 82, Ph.D. 88**, from Champaign; **Brian Popp, M.S. 81, Ph.D. 86**; and **Jan Reichelderfer, M.S. 85**, take a hike in the Canadian Rockies. Brian and wife Jan live in Kailua, Hawaii.

### Call for '77-'78 field camp reunion

**Leah Rogers, M.S. 79**, was a field camp student in 1977 and staff member in 1978. She recently called the Department to say she is interested in hearing from students of the '77 and '78 field camps. "Isn't it time for a reunion in Sheridan?" she asks.

Drop her a line and offer your thoughts: 432 Waverley Street, Menlo Park, CA 94025. Her e-mail address is rogers11@lnl.gov. Also send any addresses of other camp students you know, particularly those from other schools.

Rogers continues her work as a hydrogeologist at Lawrence Livermore Laboratory.

### EIGHTIES

**David Rich, M.S. 77, Ph.D. 80**, is employed by Grant Environmental, and Geotech Computer Systems (which he founded in 1986) is combining operations with Grant. Rich is now director of database management serves, and he remains president of Geotech. He writes to say that his cat died, adding, "normally, this would not be big news for an alumni newsletter, except that Rikki spent a good part of his kittenhood dodging darts in our communal office in (the Natural History Building) 18 years ago."

**Karen Houck, B.S. 80 (Education), B.S. 80 (LAS)**, completed her Ph.D. in May 1993 at the University of Colorado on Pennsylvanian rocks near McCoy, Colo.

She is a senior instructor in geology at the University of Colorado-Denver. Last summer, she led a field trip in the McCoy area for the Western Interior Paleontological Society and is organizing an AAPG field trip for June 1994.

**Gary Fleeger, M.S. 80**, is now a hydrogeologist with the Bureau of Mining and Reclamation in the Pennsylvania Department of Environmental Resources. He reviews the geology and hydrogeology of permit applications for small operators (who produce less than 300,000 tons of coal per year).

**Sandra Wyld, B.S. 82**, is a research associate and part-time lecturer in the Department of Geology and Geophysics at Rice University in Houston, Texas. She is doing research on regional tectonics and structural geology of the western U.S. Cordillera with her husband, Jim, who is a professor at Rice. They are mostly working in western Nevada and the Klamath Mountains of northern California, with some new work developing in Siberia and Alaska. Wyld has been mostly teaching environmental geology at Rice.

**Martha (Hoskins) Schwartz, B.S. 82**, is one of two mineralogists at Hasen Research Inc. in Golden, Colo., which conducts minerals processing and hazardous waste treatment research and development. Schwartz does reflected light microscopy, X-ray diffraction, electron microprobe analysis and general lab work. She and husband Robert "Lee," have a daughter, Erin. Lee works in hazardous waste treatment process development.

**Karen Fryer, M.S. 82, Ph.D. 86**, was promoted to associate professor of geology-geography at Ohio Wesleyan University in Delaware, Ohio. She joined the faculty in 1986.

**Dean Rose, B.S. 83**, of Champaign is an oil geologist turned custom ironworker. What once was a hobby is now his vocation as Rose creates hand-wrought tables, beds, gates, etc.

**Gregory Jarvis, B.S. 85**, is a natural resource specialist for the National Park Service and lives in Lakewood, Colo. He has been working on a project and has travelled to Denali and Nome, Ala., Hawaii Volcanos National Park ("where I witnessed the creation of pillow lavas"), Yosemite, Crater Lake and Sequoia national parks. He has been preparing plans and environmental documents (environmental assessment and environmental impact statements). Daughter Kiersten is 4 and son Sean is 1.

**Stephen Laubach, M.S. 83, Ph.D. 86**, is the co-chair of the upcoming First North American Rock Mechanics Symposium in June at the University of Texas-Austin. Laubach is in the Bureau of Economic Geology at UT.

**Paul Mekkelson, B.S. 87**, is an intelligence analyst for the Defense Intelligence Agency within the Department of Defense. He assesses raw intelligence data and publishes finished reports. "The attention to detail that I acquired as a student of geology at Illinois has aided me immensely in my career," he writes.

Mekkelson also serves part time as an officer in the Maryland Army National Guard. He received an impact award from the Army last summer while deployed in Germany. He was married in November during a beach-side ceremony in the Virgin Islands.

**Mark P. Fischer, B.S. 87**, is currently doing postdoctoral research at Penn State University on the brittle and ductile deformation of ice. He defended his Ph.D. dissertation in January and

will graduate in May. In Boston last fall, he collaborated with Terry Engelder and Mike Gross to teach a GSA short course on the fracture mechanics of rock. Mark and his wife, Tamara Webb Fischer, B.S.W. 87, are expecting their second child in March.

**Dae-Kyo Cheong, M.S. 88**, was named an assistant professor of geology in August at Kangwon National University in the Republic of Korea. He works with **Kyungsik Woo, Ph.D. 86**, who has been at the university since 1986.

## NINETIES

**Ghyi Wang, M.S. 90**, lives in Jacksonville, Fla., having moved into a new home in May 1993. He also received permanent-resident status and was planning to return to Taiwan to visit his parents and friends.

**Eric Daniels, M.S. 89, Ph.D. 92**, received an honorable mention certificate from the Coal Division of the Geological Society of America at the national meeting in Boston. He lives in Irvine, Calif.

**Sharon (Horstman) Qi, B.S. 89, M.S. 93**, and her husband, **Quan, M.S. 90 (Engineering), Ph.D. 92 (Engineering)**, celebrated the Sept. 23 birth of their daughter, **Madeline**. Qi also has accepted a position with the USGS in Denver, Colo., where she will be working for the National Water Quality Assessment Program taking care of the ARC-NIFO data base.

## Department field trip a success

In fall 1993, 40 students and faculty spent the first Saturday of the semester in the field discussing both regional and local geologic setting. Organized by Associate Professor Steve Altaner and intended primarily for new students, several faculty contributed to discussions of the Precambrian, Paleozoic and Quaternary geology of the mid-continent region. Some of the stops included the Fithian cyclothem, two large Quaternary sections and various nearby sites to discuss the local landscape, coal geology and the origin of saline brines in the subsurface.



Professor Craig Bethke discusses the origin of salt springs along the Salt Fork of the Vermilion River at an I-74 rest stop near Danville. (Or is he really asking for a hand-out with the big salt kettle?) Others facing the camera, from left to right, are graduate student Bill Elinski and faculty members Jim Kirkpatrick, Tim Clarke, Steve Altaner, Richard Hay and Chu-Yung Chen.

## Petrology field trip at Villers Caldera, New Mexico, during Spring break 1993.



FRONT ROW: Debbie Vanderlinden, Wendy Gill, Erika Goerich and Don Colby  
BACK ROW: Jim Kirkpatrick, Kevin Todhill, Micheal Newman, Tim Lamont and Bruce Miller

*Please take a few moments to let us and your class mates know what you've been doing: promotions, publications, election to office, marriages, parenthood, moving, awards. We'd all like to hear from you!*

Name \_\_\_\_\_ Response date \_\_\_\_\_

Home address \_\_\_\_\_ Office Address \_\_\_\_\_  
(indicate if changed)

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Other news you would like to share \_\_\_\_\_

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Your comments on the alumni newsletter \_\_\_\_\_

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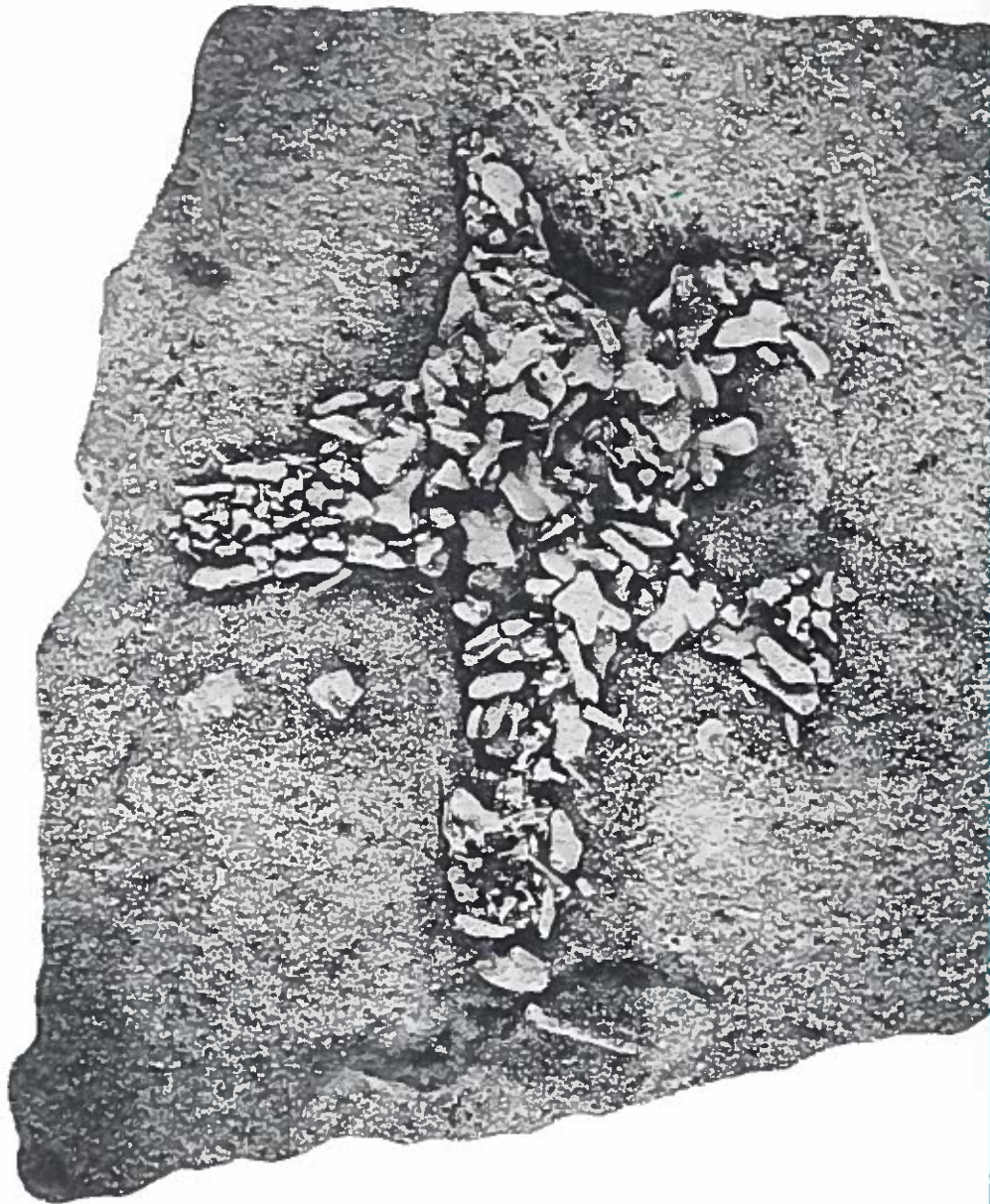


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