University of Illinois at Urbana-Champaign

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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.

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Department of Geology Alumni Newsletter
Fall 1995
Dear Fellow Alumni,

The start of a new academic year is a time of change and a little chaos. As usual, we have thousands of students starting courses, new graduate students settling in, and faculty members preparing for the semester.

Hilt Johnson has now retired, and I cannot pass up the opportunity to thank him again for all he has done for the Department over the past three-plus decades. Hilt was director of field camp the summer I took it, and he has been more-or-less keeping me out of trouble ever since. I will miss him greatly.

Albert Hsui is taking over from Hilt as Associate Department Head. I am very pleased that he has accepted the job. Albert is a geophysicist and is bringing great talent and energy to the job. He has been a major player in improving the Department’s computer systems and in technology-based education.

We also want to welcome Eileen Herrstrom, Jerry Magloughlin, and Rønadh Cox to the Department. Eileen is a teaching laboratory specialist and will be responsible for coordinating our introductory Geology labs and discussion sections and for teaching some of them. She comes to us from the University of Iowa, where she is finishing her Ph.D. in petrology. Jerry and Rønadh are visiting assistant professors and will be teaching a variety of courses. Jerry has a Ph.D. in structural geology from Minnesota and has just finished a postdoc at Michigan. Rønadh has a Ph.D. in sedimentology from Stanford and has just finished a postdoc at the Rand Afrikaans University in South Africa.

Technological advances are driving very significant changes in the way education is done at universities, and UIUC collectively is taking the lead in introducing these changes. The Department has put in place a new client-server computer system dedicated to instruction, which will allow our courses to have on-line exercises, discussion groups, and communication with faculty members and teaching assistants. The evidence from courses in engineering that have used these techniques is that both grades and student/faculty interaction increase. We expect similar results. The trick, which we must get right, is to take advantage of the computational power, information storage and retrieval capabilities, and communication capabilities of computers and networks to increase students’ abilities to learn, while not losing sight of the need for the personal contact that is so much a part of exciting education.

R. James Kirkpatrick
Department Head
Three new faculty members join Department

There will be some new faces around the Department this fall with the addition of three positions and a replacement for Visiting Assistant Professor Fred Sievers, Ph.D. '95. Sievers is leaving to accept a tenure-track position at Rock Valley College in Rockford, Illinois. Also departing is Assistant Professor Tim Clarke, who accepted a research position at New Mexico Institute of Mining and Technology, Socorro.

The Department has hired two visiting assistant professors and a teaching laboratory specialist, all of whom began this semester. A search continues for someone to oversee the Department’s computers and networks.

Visiting Assistant Professor Rónadh (pronounced Rona) Cox will teach the courses that Sievers had been teaching since Philip Sandberg’s retirement in 1994. Cox’s research interests are global change in sediment composition and the interaction of tectonic and sedimentary processes on a regional and global scale. She comes to UIUC from Rand Afrikaans University, Aucklandpark, South Africa, where she was a postdoctoral researcher. Her research project there examined sedimentology, tectonics, and geochronology of the Itremo Group, central Madagascar, and tectonic evolution of a Proterozoic sedimentary basin and its relationship to the assembly of Gondwana.

Cox received a bachelor’s degree in geology from University College, Dublin, Ireland, in 1985 and a Ph.D. from Stanford University, Palo Alto, California, in 1993. Her dissertation was entitled “Long-term recycling and evolution of classic sediments, southwestern United States.”

Jerry Magloughlin is assuming a one-year visiting assistant professorship in the Department. He arrives by way of the University of Michigan, where he has been a National Science Foundation postdoctoral researcher since September 1993. His research interests are the evolution of mountain belts and high-strain zones in the Earth’s crust, particularly in the North Cascade Mountains of Washington and the Grenville Province of eastern Canada. His work concentrates on the mapping, structural geology, metamorphic petrology, and geochemistry of metamorphic rocks; plutonic igneous rocks; and ductilely and brittlely deformed fault rocks.

Magloughlin received a bachelor’s degree from the University of Minnesota-Duluth in 1983, a master’s in 1986 from the University of Washington, and a Ph.D. from the University of Minnesota in 1993.

Eileen Herrstrom is the Department’s new teaching laboratory specialist. She will coordinate the teaching assistant program, curate samples, and organize labs. Previously a geology instructor at Black Hawk College in Moline, Illinois, she received a bachelor’s degree from Augustana College in Rock Island, Illinois, in 1977, a master’s degree from Stanford University in Palo Alto, California, in 1979, and anticipates a Ph.D. from the University of Iowa in December 1995.

The computer position is targeted to be filled by the end of October. That person will be responsible for maintaining the UNIX, Mac, and PC platforms throughout the Department and the internal networks; enhancing the Geology home page on the World Wide Web; and working with faculty members to create online modules for 100-level Geology courses.

Scott to receive 1995 Alumni Achievement Award

Professor Emeritus Harold W. Scott, A.B. ’29 (LAS), A.M. ’31, has been selected to receive the 1995 Geology Alumni Achievement Award, which will be presented to him at his Urbana home in fall 1995. This is the second presentation of the annual award, which honors a graduate of the Department of Geology who meets at least one of three criteria: a career of outstanding professional achievement; outstanding academic or research achievement; or outstanding service to the Department of Geology of the University of Illinois at Urbana-Champaign.

Scott was associated with the University of Illinois from the time he joined the geology faculty in 1937 until his retirement in 1967. He then served for six years as head of the Geology Department at Michigan State University, which honored him last year.

His research interests focused on stratigraphy and a number of
groups of microfossils, primarily ostracods and conodonts, and sponge spicules and foraminifera. Scott is noted for the discovery of conodont assemblages. He also distinguished himself as a worldwide consultant to the petroleum industry and was involved in discovering major petroleum reserves in Libya. His work in the petroleum industry has taken him all over the world.

He has written numerous scientific articles, a treatise on invertebrate paleontology, and several books, including The Sugar Creek Saga: Chronicles of a Petroleum Geologist. The UIUC Department of Geology receives all proceeds from the Sugar Creek Saga. He belongs to many professional organizations, including the American Association of Petroleum Geologists, Geological Society of America, Phi Kappa Phi, and Sigma Xi and is listed in Who’s Who, Who’s Who in the World, and the Writers Dictionary.

Scott was chosen to receive the Alumni Achievement Award at the recommendation of the GeoThrust Committee and the Department Advisory Committee.

Alumni provide scholarships for field camp

Eleven field camp scholarships for the summer 1995 field camp were selected by the Undergraduate Committee. The recipients were Jeanne Burns, Brian Cabote, Stephanie Drain, Scott Ellis, Scott Elrick, Matthew Haverty, Soukhavy Heminthavong, Chris Korose, Dan Nolan, Blake Snodsmith, and Nat Stephens. The scholarships were provided by GeoThrust funds contributed by alumni.

Counter-clockwise from top left:—Department Staff Clerk Murle Edwards had some humorous awards to present to faculty members and students on behalf of the support staff. Graduate student David Voorhees was no exception.—Professor Steve Altaner presents undergraduate student Scott Elrick with the coveted Where’s Waldo Look-A-Like Award.—Jeanne Burns and Carrie Nolan.—Graduate student John Werner was honored twofold for his TA work.—Professor and Associate Head Hilt Johnson was acknowledged for his upcoming retirement.—Scott Elrick, Dan Nolan, and Kevin Toohill.

Students reap awards

Faculty, staff, and students all gathered at the Illini Union on May 3, 1995, for the annual Department of Geology awards banquet. The following students received awards:

Outstanding Woman Graduate: Theresa Beckman
Outstanding Teaching Assistant Award: John Werner, Fall 1994
Las College Award for Excellence in Undergraduate Teaching for Graduate Assistants: John Werner
Alumni Outstanding Senior Award: Kevin Toohill
Field campers from 1977 and 1978 reunite in Sheridan

A reunion of the 1977 and 1978 Summer Geology Field Camp was held the weekend of July 15, 1995, in Sheridan, Wyoming. Early arrivals spent time at local battlefields. Friday night featured a dinner at the historic Sheridan Inn and a visit to the Mint Bar and Rodeo Street Dance.

On Saturday, the group went up Highway 14 and stopped along the geologic section. Organizer Leah Rogers, M.S. ’78, reports that the section is now marked with road signs. “Even the elusive Derby formation is labeled” she writes.

They also visited Sand Point and Fallen City and hiked over the wildflower slopes to the base of the Madison Limestone. The group later had lunch down on the igneous and metamorphic mapping exercise.

Dave Gallaher, B.S. ’79, “provided a fine slide show on Saturday night before dinner, and lots of good tales were resurrected,” Rogers says. “We plan to have another reunion in the summer of 1998.”

Other attendees were Bob Babb, Ph.D. ’81, Pete Hetherington, B.S. ’79, John Morrone, B.S. ’79, and Mike Kirby, B.S. ’79. Traveling from Bakersfield, California, Babb came the furthest distance. With a family of four, Gallaher had the largest family in attendance.

Open House welcomes 300 visitors

The Geology Club, made up of undergraduate students, welcomed nearly 300 visitors to a successful Geology Open House in March 1995. Held in conjunction with the College of Engineering’s Open House, highlights of this year’s exhibits included a demonstration of different types of earthquake waves, a map used to demonstrate triangulation for locating an earthquake, and a display showing the principles of convection.

The goal of the annual open house is “to try to attract new people to geology,” said Cheryl Miller, one of the principal organizers. This year’s high turnout was attributed to publicity in the engineering bulletin, a large sign on Green Street, and the fact that more geology is being taught to young school children.

Geology Club students who worked on projects this year included Jeanne Burns, Scott Elrick, Erika Goerich, Souk Heminthavong, Cathy Hier, Cheryl Miller, Dan Nolan, Lucy Samuel, Blake Snodsmith, and Nat Stevens.

Degrees conferred by the Department of Geology

October 1994
Yuehui Xiao, Ph.D.

January 1995
Lisa Lynn Gladen, B.S.
Xiadong Cong, Ph.D.
Ben Brandon Curry, Ph.D.
Fredrick deSchweinitz Siewers, Ph.D.

May 1995
Jodi E. Donovan, B.S.
Erika L. Goerich, B.S.
John A. Hoke, B.S.

Glen A. Howard, B.S.
Cheryl B. Miller, B.S.
Mike S. Nash, B.S.
Augustine E. Salazar, B.S.
Lisa R. Summers, B.S.
Kendall L. Taft, B.S.
Kevin R. Toohill, B.S.
Wendy A. (Gill) Czerwinski, M.S.
Marilyn M. Weiss, M.S.

August 1995
Brian S. Cabote, B.S.
Stephanie Drain, B.S.
Scott D. Elrick, B.S.
Soukthavy Heminthavong, B.S.
Daniel M. Nolan, B.S.
Bruce P. Miller, M.S.
She proves women have what it takes to succeed in science

By Clare Barkley

When Patricia A. "Tricia" Santogrossi, B.S. '74, M.S. '77, graduated from Ursuline Academy in Springfield, Illinois, and was ready to come to the University of Illinois at Urbana-Champaign, a relative advised her to go into engineering where opportunities for women would be greater than in other scientific fields. She did not take the advice but instead entered the university as an undeclared major in LAS.

"I wanted the freedom to choose a course of study for which I had a knack," says Santogrossi. "During my freshman year, I completed certain requirements and dabbled in the soft sciences and systematically ruled them out. As a youth, I was most interested in archaeology. An aptitude for chemistry led me to consider pharmacy for a time, until an older brother dissuaded me by painting an image of the boredom of pill counting. Geology, by contrast, has never been boring.

"It was fateful that my undergraduate adviser was James B. Risatti, a fellow Italian-American and, significantly, the first geologist I'd ever known. When the time came to take a physical science sequence, geology was by far the most appealing option. I soon knew that I had found the avocation that was an art as well as a craft, an investigative science that deals with some of the fundamentals of human existence on planet Earth—the perfect combination for me."

Santogrossi is currently the Senior Geologist in the Conventional Leasehold Group of the Gulf of Mexico Department of Marathon Oil Company in Houston, Texas. Her career has principally involved evaluating the structural and stratigraphic framework of basins in the Western Hemisphere, taking her from the North Slope in Alaska to the Magallanes Basin in southernmost Chile.

Santogrossi began her 20-year career as a summer research geologist at Shell’s Bellaire Research Center (BRC) in Texas in 1975. Santogrossi says, "I received more lucrative offers that summer, but UIUC faculty members made me aware of the fine reputation of Shell's lab."

Her initial assignment was to evaluate the significance of an extended abstract that preceded Exxon's publication in 1977 of the now-famous AAPG Memoir 26 on seismic stratigraphy. The summer work was presented two years later when Santogrossi was invited to participate in Shell USA's first companywide Seismic Stratigraphy Conference at Woodlands, Texas. Santogrossi, among the one-third of the delegates with fewer than seven years' experience, was the only woman.

Santogrossi finished her M.S. in 1976. She took her first full-time job that same year after participating in the British Isles summer field course led by UIUC Professor Dennis Wood.

In October 1976, Santogrossi joined Shell's Alaska Division (later called Pacific Division) as a geologist. She spent two years (three field seasons) working in Alaska and one year in California evaluating the prospects of offshore basins. She was a member of the first team (composed of three young geologists) to work on an offshore lease sale (Sale 48), and one of the prospects she worked on became Arguello Field. Following that, she put in a two-year stint in the Rocky Mountain Division, where she was responsible for play development in the Williston Basin.
During her two years of basic training at Shell, Rufus LaBlanc, world-renowned sedimentologist now retired from Shell, predicted that Santogrossi would be the first woman manager at Shell. In fact, of the 43 Shell trainees, only 8 were left after the second year, and Santogrossi was the only woman. On her fourth anniversary with Shell, she was promoted to senior geologist, a step that previously had taken 7 to 10 years.

In 1982, she transferred to the Bellaire Research Center as a senior research geologist to develop, particularly for geologists, seismic-stratigraphic basin and prospect analysis techniques. Traditionally, seismic calibration using well control had been in the realm of geophysicists and was often focused at the reservoir level. Her research was performed on mixed clastic and carbonate systems of the Baltimore Canyon Basin, a portion of the U.S. Atlantic margin offshore of New Jersey. She developed whole-well calibration techniques and innovative documentation tools for seismic stratigraphic analysis and lateral facies prediction, for which she received a Special Recognition Award.

In late 1985, Santogrossi joined Pecten International, by that time a wholly owned subsidiary of Royal Dutch Shell. As the geologic coordinator stationed in Santos Basin, Brazil, she pioneered the use of computer-based interpretive databases and developed drilling operations methodology that is still used today. Also in Santos, her advanced understanding of the stratigraphy resulted in the naming of two new seismic sequences and the refinement of a third.

The object of her work was best realized, though, in the uncannily accurate predictions of turbidite-reservoir and source-rock parameters over 75km from control surrounding the only risk contract discovery to date in Brazil. She also conducted evaluations of the passive margin Magallanes-Austral Basins in Chile and Argentina, the forearc Manabi Basin in Ecuador, foreland basins in Argentina and Colombia, and an exotic terrane in Colombia.

(with Jack Edwards, who had retired from Pecten), *Divergent Margin Basins* (AAPG Memoir 48, 1990), the first of the five-volume World Petroleum Basin series.

"The best all around" is the way Santogrossi describes her next situation. In 1989 she transferred to Shell Offshore, Inc., in New Orleans, to become team leader of a large multidisciplinary exploration and production team that accomplished the predevelopment appraisal of the supergiant Mars Field in Mississippi Canyon, Gulf of Mexico. "At ultimately 14 members—two each in such disciplines as geology, geophysics, petrophysics, geologic engineering, reservoir engineering, and drilling—we were the largest such team Shell had ever assembled. Two UIUC alumni, including Geology alum Bob Barnard, M.S. ’77, were on the team. My job was to coordinate the team efforts to formulate complex turbidite reservoir characterizations for more than 14 reservoir levels, to estimate reserves, and to design an optimal development plan. In addition, I was the focal point for information flow to several layers of management and conducted monthly technical meetings with

"I soon knew that I had found the avocation that was an art as well as a craft, an investigative science that deals with some of the fundamentals of human existence on planet earth—the perfect combination for me."

She coordinated two phases of strategic evaluation of the Latin American (including the east African salt basins) and Sub-Andean theatres.

Ironically, it was also at Pecten that Santogrossi first heard that some of her managers believed that “women don’t have it for science.” At one point a manager refused to let her show some techniques she had developed. When she finally was able to circumvent his orders and show the work, it resulted in tens of millions of barrels of hydrocarbons in added reserves. Santogrossi says, “I was sure glad I hadn’t been told that before. I might have been disillusioned.” She went on to co-edit
our partners. The privilege of working with so many focused and talented people has been the highlight of my career—in its first half.”

In 1991 Santogrossi was named province leader of a special study group at Shell Offshore, Inc., that established a link between velocity and basin type for the western slope basins of the Gulf of Mexico. In fewer than eight months, her small team solved a problem that had prevented successful exploration in prospects outboard of the Auger Field discovery; they effectively integrated an analysis of salt structures, seismic stratigraphy, interval velocity, and gravity data to rank trends in the slope province.

At Shell, since 1980, Santogrossi also had recruitment responsibilities, another area in which she faced skepticism by some male colleagues who thought a woman could not be successful in recruiting. She was on-campus recruiter at 11 universities, including UIUC. She also did Ph.D. recruitment at Yale, Johns Hopkins, Brown, and Columbia. She acted as recruitment resource to three successive chief geologists from 1986 to 1991.

By this time, Santogrossi had worked in every subsidiary of Shell, which was restructuring and downsizing, and was unsure that available opportunities could top the ones she’d had. In 1991, she joined Marathon Oil Company in Houston as a senior geologist in lease acquisition. Her work has centered on producing a structural and stratigraphic framework and play concepts in the Gulf of Mexico.

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Her return to Houston brought important changes in her personal and civic life. In March 1992, she married Joe Delasko, a senior electrical engineer with Baker Hughes in Houston, and she became active in volunteerism, a natural interest for her, as she says, “I come from an altruistic family.” It is not surprising that her biggest volunteer project is one that helps women succeed in the working world.

Her volunteer work with a literacy project began in 1992 when she joined Zonta, a 75-year-old international service organization of executive women. Zonta’s “Circle of Caring Through Literacy Project” began in late 1993, and Santogrossi was the first to chair the literacy committee of the Houston club. Seeking a focus for the club’s stated literacy mission, Santogrossi called Margaret Doughty, director of the Houston READ Commission, the mayor’s coalition for literacy and the largest urban literacy coalition in the United States.

“The timing of my call was fortuitous,” says Santogrossi. “Margaret couldn’t believe we called. She had wanted to develop a program for vocational mentoring but needed qualified mentors. Now, she refers to this program as the ‘missing piece,’ is sharing the program with other coalitions in the state, and expects it will catch on nationwide.”

Santogrossi was asked to design a program for vocational mentoring. The program, named Women Moving Up by the initial participants, brings together female literacy students at Houston learning centers with volunteers who teach them how to prepare to survive and succeed in the working world. At monthly sessions, the group discusses such topics as résumé writing, word processing, organizational skills, and work values. Smaller groups then meet for specific skill tutoring, particularly in reading and math.
But, according to Doughty, what the women appreciate most is Santogrossi's own story. "I come from an immigrant population family," Santogrossi says. "My father told me my grandfather could barely write, and my grandmother couldn't read or write English at all, yet she handled the family finances. My father, the youngest of five, might have left school at age 16 like his older brothers were it not for his teachers and others who helped him stay in school long enough to get an associate's degree. He had seven children, and each of us has an advanced degree in fields such as business, geology, audiology, and speech pathology. One of my siblings is a medical doctor, another a professor. I tell our women that's a lot of progress in just two generations. It doesn't take much intervention to break the cycle of poverty and illiteracy." Four of her six siblings are Illinois graduates: Fred '64, David '69, Mary '71, and John '80.

The executive women who act as mentors help the literacy graduates to identify career interest areas and introduce vocational opportunities that many of the women may not have heard of or considered.

Santogrossi enlarged on the idea of mentoring by arranging the first "job shadowing" experience last spring. Fifteen women, four of them hosted by Marathon, visited work sites where they experienced practical facets of the working world. The plan is to continue and expand job shadowing and eventually to provide internships.

Santogrossi has been named "Outstanding Volunteer" (1993–94) for District 10 of Zonta, which encompasses 31 clubs in five south-central states. As a consequence of her spearheading Zonta's literacy project, the Houston Club won first place for literacy in District 10 and second in the nation. District 10 was the Outstanding District in the nation that year. Santogrossi was named district literacy chair for the 1994–96 biennium. She also will be honored this fall as a "Woman of Excellence" by the Federation of Houston Professional Women for her years of dedicated professionalism, service, and achievement.

Although honors should be no surprise, Santogrossi says one was a surprise. In 1974, Geology Department Acting Head Hilt Johnson (representing the absent Fred Donath) arranged with a friend of Santogrossi's to make sure she attended a particular Friday colloquium. It was there that she was named Outstanding Undergraduate in Geology. Also at UIUC, she was inducted into Alpha Lambda Delta honor society for freshman women and Phi Kappa Phi honor society for science majors.

Santogrossi continues her involvement with the Department. She is co-chair of the Geo-Thrust Committee for Texas and Louisiana. At its annual meeting in fall 1994, the committee decided to organize the Department's part of Campaign Illinois by regions, and Santogrossi became co-chair with Jack Threet. B.A. '51, of a drive to raise funds for a Texas-Louisiana Alumni Graduate Fellowship. Anchored by a large challenge grant offered by Threet, the initial goal is to raise $300,000.

"We are very close," she says. "I know we will make it."
After a summer of research, new associate head prepares for fall

Professor Albert Hsu spent his summer vacation in California—only it was a working vacation. At the end of the spring 1995 semester, Hsu headed for Lawrence Livermore Laboratory, where he has been a participating scientist since 1993, to work on a project to study the evolution of sedimentary basins.

“This is not something new,” he said. “In the past, I’d already done studies in the initiation and development of sedimentary basins. But the models I developed at the time were relatively simple because of the limited computing power at the time. Now computers are becoming more powerful every day. Therefore, more realistic models can be developed so that we can make better predictions.”

This investigation is to learn, on the basis of three-dimensional models, how fast a basin subsides and what its temperature and pressure histories are. Once those factors are understood, and if there are organic matters within the sediments, then it is possible to predict whether there is a potential for hydrocarbon products.

“This study has more practical applications,” Hsu said. He started formulating and polishing the idea last December and prepared a proposal for the Department of Energy.

Another aspect of Hsu’s research is the driving mechanism of plate tectonics. His focus is mainly on the understanding of the dynamics of the solid Earth—Why does the Earth’s surface move? What drives plate tectonics? What are the flow patterns within the mantle?

“This is especially interesting in light of a recent discovery by Berkeley seismologists suggesting that earthquakes, at least in California, seem to have a cyclic behavior,” Hsu said.

For example, there are times when there are a lot of earthquakes along the San Andreas Fault in California, then the fault becomes quiet and earthquakes of a different type occur in areas like the Cascade Mountains, off the coast of Washington and Oregon, and on up to the Aleutian Islands. Those areas also have a lot of active volcanoes.

“All of these volcanic eruptions may have something to do with the cyclic behaviors of the Earth’s interior,” he added.

“That’s one thing we are trying to do some theoretical studies so we can have a better conceptual understanding of how the cyclic behaviors come about—to see...
whether the periodicity of those cycles can be predicted. Although this aspect of my research is expressed in terms of earthquake predictions and volcanic eruption predictions, it is a study of conceptual understanding of the fundamental science of the Earth. Actual predictions could be a long time to come.”

By summer’s end, though, Hsui was back in Urbana preparing for his new role as associate head of the Department to succeed the retired Hilt Johnson.

“My duty is to assist Jim Kirkpatrick, our Department head, in whatever areas that he feels the need to delegate responsibilities,” he said. “My understanding at this point is that I mostly will handle the educational aspects of the Department in terms of graduate and undergraduate education—teaching assistant assignments, courses and curricula implementations, and the assurance of a quality education to our students when they come (to Illinois).”

He is unsure just how much of his time these new duties will take from his research and teaching.

... I mostly will handle the educational aspects of the Department in terms of graduate and undergraduate education—teaching assistant assignments, courses and curricula implementations, and the assurance of a quality education ...

This semester, he will teach Geology 350, “Introduction to Geophysics,” which he has taught since he came to the Department as an assistant professor in 1980.

Before that, Hsui was a research associate in geophysics and planetary physics for four years at the Massachusetts Institute of Technology in Cambridge. He graduated from the University of Massachusetts at Lowell in 1968 with a degree in mechanical engineering. He then went to Cornell for a master’s in aerospace engineering and applied mathematics in 1969 and a Ph.D. in aerospace engineering and geophysics in 1972.

“So as far as my background is concerned, I think many people may be shocked that I basically have had very little formal geology training at all,” Hsui said. “I pretty much have learned everything on my own.”

He has done well. In 1994, he received the Arnold O. Beckman Research Award from UIUC and is associate editor for two journals of the American Geophysical Union—one on computational...
seismology and one on geophysical research. Back in 1991, he also received a "NeXT at Illinois" award to implement instructional innovations on a NeXT computer platform for Earth sciences. Hsui has been a key person behind the enhanced computerization of the Department.

"I have this dubious title of the coordinator of departmental computing facilities," he said. Those facilities are composed of two labs—157 Natural History Building (NHB) is for upper-level undergraduate teaching and 236 NHB is a Macintosh lab for undergraduates. It offers students access to word processing and spreadsheet programs and 100-level class exercises. The lab in Room 157 has eight Silicon Graphic work stations, a color scanner, and a slide maker.

Upper-level instructional programs are created by individual faculty members for use by their students. For example, Professor Craig Bethke developed a program for his hydrogeology students to simulate groundwater flow patterns and to analyze the chemicals within groundwater systems. There are plans to design more 100-level exercises, as well.

"But in the future," Hsui said, "students may not need to come into the lab to do the exercises. They will be able to do them from their dorm room or home through the campus network or phone lines.

"The hardware is already being put together and should be up and running in the fall semester.

The difficult part is the software. It takes a substantial amount of time to develop these programs. As soon as they become available, we'll put them on-line. We envision that the complete implementation of this project will take at least a year or two."

Hsui has also used his computer skills to broaden the reach of the Department of Geology around the world with the development of a home page on the World Wide Web of the Internet. The URL address is


All of the Department faculty members and students are listed along with their e-mail addresses. It also includes undergraduate curriculum requirements, the types of majors offered, admissions policies and the like, with a corresponding section for graduate studies.

"This home page has been read by people all over the world," Hsui said. "We first designed it for students who may be interested in the Department. Certainly, we welcome our alumni to look at it and make suggestions. The home page is continuously evolving. We also list the faculty's specialties and their research projects. However, that part is mostly still under construction. Right now there are only a couple of faculty members who have put their projects on the Geology home page."

The application of computer technology is an exciting part of Hsui's work, he said. And he appreciates the fact that UIUC is at the forefront of this revolution.

"I'm a theoretical type of person," he said. "So I use computers quite a bit. I'm really lucky to be at the University of Illinois and to be able to participate in this revolution. I find that I can do a lot more things than I could do when I was a graduate student.

"That's one thing I've been pushing in the Department—to make our students computer literate—because I think that it's a shame for any University of Illinois graduate to have fears of computers. That's part of the reason why I've been pushing and suggesting new curricula and incorporating computing into geological education."

It certainly seems like Hsui is juggling several balls at once. But he said now that the computers in the two labs are up and running, the labs operate themselves. With the help of graduate student Ten-hung Chu, the labs pretty much operate by themselves. Instead, most of Hsui's time is spent writing proposals and raising funds for such things as upgrading equipment and hiring programmers.

"Raising funds is just the name of the game," he conceded. "If I don't raise funds for the computers, I have to raise funds for my own research. So it's a matter of constantly writing proposals."

Then he laughed and said, "I get quite used to it."
A love of learning, teaching guide his work

It is gratifying to receive recognition for your work. When you put a lot of time and effort into that work because you truly love it, the recognition is even more sweet.

That's why graduate student and teaching assistant John Werner ranks his receiving a 1995 Harriet and Charles Luckman Undergraduate Distinguished Teaching Award—the principal campus award for excellence in undergraduate instruction from the university—as one of the best moments to date in his young career.

"I was extremely happy," he said. "I do put a lot of time into my teaching. It would have been worth it anyway, but this was just a tremendously uplifting, gratifying experience. What made me happiest and most proud was to know that many former students were willing to take the time to put down in words what sort of influence I had on them, what kind of teacher I was."

Werner is working on his Ph.D. in paleontology with Professor Daniel B. Blake after receiving his master's degree from UIUC in 1994. It took him a while. Werner came to the Department in 1990 from the California Institute of Technology in Pasadena.

Geology was actually his third field of study. He started out as an astronomy major and then changed to planetary science before landing in geology. Consequently, his senior year was spent taking some basic courses that most geology majors would take early on.

When the professor of his mineralogy course at Cal Tech, George Rossman, asked him what he wanted to do after getting his undergraduate degree, Werner decided he was going to do "something I could enjoy for a whole lifetime." Financial considerations aside, he chose paleontology and the desire to teach and do research at the college level.

"I told (Rossman) this, and he said, 'Well, Cal Tech is a good place to come to get a good grounding in the natural sciences before you go on to a place like the University of Illinois.' So that put a seed into my head."

When Werner arrived on campus, he entered a situation he knew nothing about. "I was extremely lucky," he says today. "I was interested in evolution and in natural history," Werner said. "To tell you the truth, I was never much of a fossil collector. Most of my interest was in modern animals. But I became interested in geology in college and eventually saw paleontology as a way to integrate geology with my interest in organisms."

Following Blake's advice, Werner decided to get his master's degree before pursuing the Ph.D.—in retrospect, a choice he's glad he made. After going through that experience, he has many ideas to explore and has mastered the analytical skills.

Now his current project is a morphometric approach to microevolution—the formation of species and evolution within a single species—of the scallop genus Argopecten.

"Morphometrics is basically the quantification of shapes," he said. "What I do is I take fossils and just measure the hell out of them. I take every conceivable character (i.e., linear distances, angles, number of costae or rib lines on the shell) and study all of the different scallops we have in different populations. What I try to do is track organism morphology through time."

To do this, Werner's most important equipment is what comprises the morphometric work station—a microscope attached to a video camera and a digital computer. When a specimen is placed under the microscope, it is viewed on the computer screen. Measurements can be made by simply pointing and clicking with the mouse. Another computer has the statistical software programs to run the data.
Morphometric evolutionary studies, such as the one Werner completed for his master’s degree, usually involve the construction of a morphospace, an n-dimensional, statistical space wherein each axis represents one of the measured characters, such as the angles, rib counts, and linear measures taken on the scallops shown here.

"Right here we have one of the nicest setups of any paleontology lab anywhere," he said. "It’s an incredibly helpful system and an amazing piece of technology."

It took four years for Werner to complete his master’s thesis, so he’s attempting to “crank it up a little bit” on the Ph.D. But he also hopes to follow through on some ideas he got from the master’s project.

"Some of my ideas have been controversial," he said. "One of the major chapters in my M.S. was an attempt to look at various aspects of organism morphology and try to figure out what part of that is determined by the genetics of the organism and what parts are determined by the immediate environment. I thought I had found a good way to split these apart. I still think I’ve found it, but I think I overstated the case. And that’s what my reviewers said when they rejected my paper. But I haven’t given up on it. It’s very exciting for me to be controversial; I don’t want to be staid and boring."

That doesn’t mean he likes to be controversial for controversy’s sake. He spends a lot of time and care on his analyses. For the master’s project, he measured about 170 scallops and took 25 measurements of each.

"In terms of results, what made the biggest splash was a method I found for recognizing character displacement in fossil populations," he continued. "Character displacement is a phenomenon that we see when we have two closely related species living together and competing for resources. When I had two closely related species of the same genus living together, one of them was being displaced."

"I’ve been reading a lot lately on geometric morphometrics, which, instead of taking individual characters and making a morphospace out of them, is a school that was derived from craniofacial studies. Geometric workers take points on the skull, for example, and notice how they move relative to some base line. So that’s basically what I did. I took that and applied it to my scallops. I like it because it allows a pretty good visualization of what’s going on."

To save some time on his Ph.D. project, Werner is foregoing a lot of field work and getting most of his samples from museums. The specimens themselves are from Pliocene and Pleistocene sediments from Florida and upward along the Gulf and Atlantic coasts.

Admitting that he’s not a field work fanatic, Werner was reminded that he received another award, the first Norman Sohl Memorial Award in 1994 for graduate field work in paleontology.

"It’s to supplement my field work," he said and laughed. "It’s not on the basis of any heroics on my past field work."

That doesn’t mean there weren’t any heroics.

Once on a Geology 108 field trip, there was a baby copperhead crawling around in a bush near some of the students. Werner picked up the snake with his rock hammer and flung the creature to a new locale in the canyon below.

"I told (the students) to remember when they evaluated me that I had saved their lives," he said and laughed.

In addition, Werner has received the Outstanding TA Award in the Department for the spring 1994 semester and the College of Liberal Arts and Sciences Award for Excellence in Undergraduate Teaching in 1995.

But then, teaching, he said, is his first love. In fact, his mother, a junior high school teacher, enjoys telling of how a 5-year-old Werner announced one day that he was going to teach the family dog how to read. He proceeded to place an open book before their St. Bernard puppy with the instruction, “OK, Snoopy, first you have to learn the alphabet. A, B, C, D…”"
“Apparently I’ve been interested in teaching for a long time,” Werner said, recalling the story. If he had to choose one thing to do in his career, Werner said teaching would be it. One of the reasons he thinks that’s true is because he enjoys learning so much himself.

“And teaching is learning,” he said. “I’ve learned much more teaching courses than I ever did taking courses. There’s also the aspect of the gratification you get from helping people. It’s just a good feeling to know that you’re having a positive influence in people’s lives.”

Werner likes to have a close rapport with students as soon as possible. That first day of lab can be difficult for him because he says it’s not easy for him to talk to strangers. Once he gets to know people, he can talk more openly and be relaxed. He also prefers to commit his lectures to memory so he can “say what (he) wants to say, how (he) wants to say it.” But he also has notes along to prevent him from getting off track or forgetting something. A sense of humor is also very important to his teaching style.

“I’m always cracking jokes in lab,” he said. “I’ve found, though, that when I rehearse them and bring them up in lecture, they bomb. But when I ad lib, I usually kill ‘em.”

Werner also considers himself a hard grader, otherwise he isn’t doing a student any service. But he is also quick to provide help when necessary during a lab and explain ideas to students.

Ironically, his teaching load will be lessened this fall because he’s trying to gain some time on that Ph.D., which he realistically doesn’t expect to complete for another two years. His major duty now will be as a curator in the Museum of Natural History in addition to a Geology 143 lab appointment.

“I’m officially known as a

Teaching is learning. I’ve learned much more teaching courses than I ever did taking courses.”

Stage 3 dissertation student,” he said, “which means I’ve passed my preliminary exam. Right now I’m gathering data, going out to museums. I’m also writing up various ideas that came to me while I was working on my master’s, and I’m trying to get them submitted to journals for publication.”

When he was asked to identify his other interests outside of the Department, he laughed. “My hobbies and interests are the stereotypical geologist’s hobbies and interests—camping, hiking, fishing, star-gazing, and drinking beer.”

But really, learning itself seems to be his top priority. After the Ph.D. is behind him, Werner ideally would like to find a position, perhaps at a small college, where he can continue to teach and conduct his research. He doesn’t like to grade labs, and it can be a drudge to read so many research articles. Yet these minor nuisances pale when compared to the feeling Werner had when he passed the milestone of turning in his master’s thesis and undoubtedly will feel again when the dissertation is done.

“If there was a higher degree than the Ph.D.,” he said, “I’d probably go for that, too.”

Sketch of the morphometric workstation in the Department’s paleontology lab, which allows for increased speed and accuracy in the measurement of morphometric characters.
GeoSciences is for alumni and largely about alumni. Please take the time to complete and return the information form 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 along a recent photo, too, but let us know if you want it returned.

The class 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

Charles Denard (Denny) Lee, M.S. '30, died January 22, 1995, at the age of 92.

He graduated from Southern Illinois Normal College and received a bachelor's degree in education from the University of Illinois in 1927 before beginning graduate study in paleontology here. He also worked at the Illinois State Geological Survey at that time. He taught at The Park School in Cleveland Heights, Ohio, from 1932–42 and then at University School, a private boys' school in Shaker Heights, Ohio. There, he taught biology, physics, and chemistry, chaired the Science Department for 13 years, and served as assistant coach of the track team.

During his summers in the 1940s, he led canoe trips at Camp Wabun on Lake Timagami. Other summers were spent pursuing graduate studies, traveling, canoeing, and gardening.

He retired in 1969, and he and his wife, Dorothy Meffert Lee, wintered on the Gulf Coast of Florida. She died in 1973.

Lee eventually moved into a house next to his daughter, Marilyn Lee Fisher, in Leroy Township, Illinois, that was designed by the two.

She writes, "(My father) was fond of telling me that because I was born on graduation night (June 3, 1930), he didn't have to attend the ceremony. My father was a total success in living. Being a teacher he never had a lot of money, but he was an example of a kind, loving, and good person. His interest in nature, books, math, science, and just about everything else never waned."

Robert S. Dietz, A.B. '37, M.S. '39, Ph.D. '41, known for his once controversial but now established models of sea-floor spreading and meteorite impacts, died May 19, 1995, at his home in Tempe, Arizona, at the age of 80.

He was born in Westfield, New Jersey, and worked at the State Geological Survey during the time he was at Illinois. He also worked at the Scripps Institution of Oceanography in San Diego, California, before becoming a pilot in the Army Air Corps during World War II.

After the war, he began studying the ocean floor in earnest. He and Jacques Piccard collaborated on the development and use of the bathyscaphe Trieste for crewwed, deep submersible dives, and the two wrote about the descent into the Challenger Deep in the western Pacific in the book, Seven Miles Down.

Dietz was a professor of geology at the University of Arizona from 1977 until his retirement in 1985, when he was named professor emeritus. In 1992, he returned to Urbana to accept the LAS Alumni Achievement Award. He had also received the Walter H. Bucher Award, the Alexander von Humboldt Prize, and the Penrose Medal.

Dietz seemed to enjoy the role of outsider. Commenting on his work being recognized and accepted, he said, "It was more fun to be iconoclastic. I hate to be mainstream."

He is survived by two sons, a brother, six stepchildren and grandchildren, and his former wife, Nanon Grinstead Dietz.

Jack E. Harrison, Ph.D. '51, died June 2, 1995, at home in Lake-wood, Illinois, at the age of 71. He was a retired research geologist.

Harrison was born in Tipton, Indiana, and was a World War II Navy veteran. He married Joan Phillips in 1947.

He received his bachelor's degree from DePauw University in 1948 and worked for the U.S. Geological Survey for more than 40 years. In 1979, he received the Distinguished Service Medal from the U.S. Department of the Interior.

Harrison is survived by his wife, three daughters, his mother, a brother, and six grandchildren.

Mathias J. "Matt" Walters, M.S. '58, died June 25, 1995, in Oklahoma City, Oklahoma, from cancer. He is survived by his wife, Jeanette Thorburngh Walters, A.B. '58 (LAS), two daughters, one son, and seven grandchildren. He worked as a petroleum geologist for all of his professional career.
Twenties

A reminiscence about Albert N. Murray, Ph.D. '29, was featured in the December 1994 issue of TU News, the newsletter of the University of Tulsa's College of Engineering and Applied Sciences. A young World War I veteran, Murray was the first geologist hired by TU and helped build it into one of the best in the country. He went there in 1928 as chairman of a one-person geology department. He was known as "Cannonball" Murray because students often took the round, 50-pound geological formation he used as a doorstop in his classroom and rolled it down the hall, past his office door. University of Illinois Professor Emeritus R. L. Langenheim recalled "rolling" the cannonball more than once at TU.

Thirties

A gift to the American Association of Petroleum Geologists Foundation was made in March 1995 in honor of Harold W. Scott, A.B. '29, A.M. '31, by Jack C. Three, A.B. '51, to be applied toward its general fund.

Forties

Paul K. Sims, A.B. '40, M.S. '42, retired in July from his job as a geologist for the U.S Geological Survey in Denver, Colorado. He worked in the Hartville uplift in southeastern Wyoming on Precambrian geology.

K. O. Emery, B.S. '37, M.S. '39, Ph.D. '41, is senior scientist emeritus at Woods Hole Oceanographic Institute in Woods Hole, Massachusetts. He is a member of the American Academy of Arts and Sciences and the China Academy of Science. He received an Alumni Achievement Award from the Illinois Alumni Association in 1977 and has written more than 360 journal articles and 15 books, mostly on various aspects of oceanography.

Fifties

William L. McKenzie, B.S. '50, of Winter Haven, Florida, is retired because of health reasons.

Richard H. Voris, M.S. '52, of Tulsa, Oklahoma, retired in October 1992 and is now a consultant geologist.

Sixties

Robert F. Lundin, M.S. '61, Ph.D. '62, is a professor of geology at Arizona State University in Tempe and will change his status to professor emeritus when he retires in August. He taught paleontology and stratigraphy at ASU for 33 years. "Retirement," he writes, "hopefully, will allow me the time to complete some major research projects which are presently underway."

Seventies

Chang L. Lin, Ph.D. '70, is assistant deputy minister of the Office of Environmental Technologies in Nova Scotia's Department of the Environment. His role is to promote environmental innovation and technology cooperation domestically as well as globally.

Before his current position, he was an assistant to the deputy minister; acting director of policy, planning and coordination; and chief of water resources planning. He has been with the government of Nova Scotia for more than 25 years. He has two sons—one an industrial engineering graduate and the other is currently in Harvard's doctoral program.

H. Richard Naslund, B.S. '72, is a professor of geology at the State University of New York in Binghamton and chair of its geological sciences and environmental studies. He was promoted to his current position in May 1995 and will spend the academic year in Chile on a Fulbright Scholarship. His wife and children, Sterling (8), Skye (6), Neelam (3), and Cambria (1) will spend the year with Naslund at the University of Chile in Santiago. He invites UIUC geology alums in Chile or who will be visiting Chile then to look him up.

Stephen Chioce, B.S. '72, married Mary Ann Ray on June 3. He is vice president of Bechtel Energy Resources Co. in Houston, Texas. He says his first book, Lithuanian: The Nation That Would Be Free, has been published by Cobblestone Books and released, and he is now negotiating for his second book.

Nahum Schneidermann, Ph.D. '72, is director of international technical relations for Chevron Overseas. He is also chair of the AAPG international liaison committee and technical co-chairman of the 1995 Nice AAPG/IAPF conference and the 1996 AAPG/IAPG Caracas conference. In 1994, he received honorary membership in AAPG and the Nigerian Association of Petroleum Explorationists. His wife, Sheila, is finishing a master's degree in clinical psychology. Daughter Michelle, who was born in Urbana, is in Dartmouth Medical School, and son Ron is a junior in high school.

William I. Aussch, B.S. '74, is a professor of geological sciences at The Ohio State University. He has just begun a term as special publications co-editor for the Paleontological Society.

Christopher T. Ledvina, B.S. '74, was granted tenure and promoted to associate professor of geology at Northeastern Illinois University. He is also founder, chairman of the board, and CEO of the National Museum of Coal Mining. The museum is developing a 700-acre modern, underground mine complex and a 100-acre historic mine for research, exhibits, and historic preservation, he writes. The museum is in West
Eighties

Zakaria Lasemi, M.S. ‘83, received the Outstanding New Staff Member Award for 1994 from the Illinois State Geological Survey. An assistant geologist in the Oil and Gas Section, he was honored for his work in the field relationships of modern and ancient carbonate sediments and rocks and the understanding of limestone formation. He also developed a depositional model of two rock formations in the Illinois Basin that may be useful for oil exploration.

After Joe Schrot, M.S. ‘81, Ph.D. ‘83, graduated, he worked for an oil company in seismic data acquisition and borehole geophysics research groups. Then he was an acoustician for the U.S. Navy and now works as a seismologist for the U.S. Air Force. He recently worked on negotiations for the Comprehensive Nuclear Test Ban Treaty. “In all these years,” he writes, “I have never worked in my area of expertise, which was rock physics.”

Schrot also had some sad news to pass along to former classmates. He contracted acute myelogenous leukemia, a fast-acting cancer in the blood stream, and has survived four rounds of aggressive chemotherapy. He is now in remission and back to work after nine months off. “My family and I received much-needed support from many people,” he says, “including many friends made at the U. of I.”

His older daughter, Julie, who was born a year and a half before he graduated, is now 13. He also has another daughter, Lisa (11), and a son, Kevin (8). They all enjoy living near the beach (Satellite Beach, Florida) and play sports year-round.

Nineties

Richard Poskin, B.S. ‘91, teaching assistant in Eastern Illinois University’s Zoology Department and his colleague, Edward Moll, were among four recipients of the 3rd Annual Linnaeus Fund Awards for 1994. The awards are for turtle research and administered by the Chelonian Research Foundation. The two will use the grant to continue their study of the false map turtles in Illinois.

Mary Ann Glennon, Ph.D. ‘94, works at Argonne National Laboratory on decommissioning buildings using geophysics (EM, magnetics, and GPR) as a first step. She doesn’t have to do the field work but is responsible for writing the reports. She says she’s learning a lot about interpreting EM, magnetic, and GPR data quickly.
Let's Keep In Touch!

Please take a few minutes to let us and your classmates know what you've been doing: promotions, publications, election to office, marriage, parenthood, moving, awards. We'd all like to hear from you. Send your news to the Department of Geology, 245 Natural History Building, 1301 West Green Street, Urbana, Illinois, 61801; fax 217-244-4996; e-mail geology@uiuc.edu.

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(indicate if changed)

Home phone

E-mail

Degrees from Illinois (with year)

Degrees from other universities

Present employer and brief job description

Other news you would like to share

Your comments on the alumni newsletter
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