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Indiana University College of Arts & Sciences Alumni Association

HOOSIER GEOLOGIC RECORD

Alumni Newsletter of the Department of Geological Sciences



Winter 2002

50th Anniversary Issue

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Table of Contents

Chair's Greeting	1
Editor's Note	2
Departmental News	3
Colloquium Series and Presentations	7
Other Presentations	7
Department of Geological Sciences Faculty and Staff	8
Geologic Field Station Update	9
Indiana Geological Survey Update	11
Faculty News	14
Faculty Research Grants	23
Student Notes	24
Alumni Notes	27
In Memoriam	28
Advisory Board Update	29
2000 Donors	30
Class Note Form	32
Department Photo	inside back cover



Editor's note: We urge alumni and friends to send us prints, photos, or slides that would interest our readers. Please be sure to provide a complete caption and label the material with your name and address so that it can be returned. We can't promise to include all submissions, but we can promise to return them.

Chair's greeting

Past, present, and future

Our recent past

I would like to begin this chair's statement with two simple, but I hope powerful words: **Thank you!** The department's historic Endowment Campaign officially ended in April 2001. Money in hand and pledges from corporations, alumni, faculty, and friends of the department totaled more than \$7 million! We already are benefiting greatly from your generosity and loyalty. Just look at what your support has done already!

Mark Person now is the **Malcolm and Sylvia Boyce Chair in Geological Sciences**. Part of the interest generated from that endowed position is being used to support a computer programmer, **David Dahlstrom**. The **Robert Shrock Professorship in Sedimentology** was awarded to former department chair **Lee Suttner**, which allowed us to search for another sedimentologist, thus helping assure that we will maintain our strength in that area. We were able to provide partial start-up funding to **Peter Sauer** (assistant scientist in biogeochemistry), who already is writing and coordinating a major equipment proposal. This offer was instrumental in allowing successful recruitment of both Sauer and his wife, **Debbie Cohn** (Spanish and Portuguese), to Indiana University. We now are able to provide \$2,000 per year in research support to each of our faculty members who do not have named chairs or professorships.

We are able to offer all new incoming graduate students \$1,000 each in research support, which, coupled with the efforts of our faculty to identify potential graduate students and our Graduate Committee to make early offers, resulted in the largest incoming graduate class (22) since the 1980s! We continue to support student field trips and partially support trips to present research at meetings across the nation and internationally, all of which raises the visibility and enhances the name of the Department of Geological Sciences at Indiana University.

Simply put, we are moving forward, planning for expansion, making significant progress toward hiring new faculty and research staff, and continuing to increase the number and quality of our student population. We would not be able to do this without the success of the department's historic Endowment Campaign, which was organized and orchestrated by you, our department Advisory Board, and former department chair Lee Suttner.

The present

Needless to say, we are tremendously excited about our new graduate students. This year is one of great change in our student population. Some relevant statistics about our 22 new graduate students include the following: 11 are women; eight are international; and 10 have been admitted for work toward a PhD. In addition, the breakdown of chosen fields (as you know, students do change their minds occasionally) is as follows: geochemistry, four; geohydrology and environmental geology, four; geophysics, four; petrology and economic geology, three; sedimentary geology and geobiology, seven.

We also are tremendously excited about the hiring authorizations that have been given to us by Dean Swamy and the College of Arts and Sciences. As you may know, the College of Arts and Sciences has been strapped for money in recent years and likely will continue to be so in the foreseeable future. In fact, only about 46 positions have been authorized for all of the College (fewer than one per department and program). The Department of Geological Sciences has been given authorization for three of the 46 positions! The positions are the **Judson Mead Professorship in Geophysics**, the **Murray Chair in Applied Clay Mineralogy**, and an assistant professor position in metal-isotope geochemistry or microbial biogeochemistry. Without doubt, the success of the department's historic Endowment Campaign has increased our visibility and notoriety on the IU Bloomington campus and across the nation.

In addition to those three positions, the department has an opportunity to participate in the search for a new faculty member that will be associated with the Center for Research into the Anthropological Foundations of Technology. CRAFT, which is a research center established by Nicholas Toth and Kathy Schick (both in anthropology), is searching for either a zooarchaeologist, who will have an academic home in the Department of Anthropology, or a vertebrate paleontologist (with emphasis on Plio-Pleistocene of the Old World), who will have an academic home in the Department of Geological Sciences.

Unfortunately for us, **Dave Towell** retired this past year. After more than 30 years in the Department of Geological Sciences at IU, Dave taught his last class this past spring. We will miss Dave in geochemistry, at the field station, in our



Chris Maples

introductory classes, and in the numerous departmental committees on which he served. Dave's work on the *Hoosier Geologic Record* set an exemplary standard by which other departmental newsletters are now judged. His place with the *Hoosier Geologic Record* is being filled by **Bob Dodd** (who volunteered in his emeritus status!), with assistance from **Sara Marcus**.

What about our future?

As we increase the number of faculty, we face retirements of current faculty. We will have one last burst of faculty retirements (**Abhijit Basu**, **Erle Kauffman**, **Noel Krothe**, and **Lee Suttner**) within the next few years, after which we should have several years without loss of faculty experience and expertise. Clearly the continued growth of our department is a key issue for our future. When I accepted the position as chair, the dean at the time and I agreed that the Department of Geological Sciences needed at least 20 faculty members in order to be competitive with the leading departments in the country. Although our historic Endowment Campaign will allow this to happen, university and state budgets will prevent this from happening in as timely a fashion as we all hoped. Consequently, we undoubtedly will have some fluctuation in our faculty numbers in the short term, but we still plan to have at least 20 (or more) in a few years.

The Judson Mead Geologic Field Station in southwestern Montana continues to be one of the brightest lights for the Department of Geological Sciences and for Indiana University. However, the costs of operating the field station continue to rise.

(continued on page 2)

Hoosier Geologic Record plays vital historical role

Welcome to the pages of the 50th anniversary edition of the *Hoosier Geologic Record*. For the last 13 years it was edited by **David G. Towell**, and during those years it grew from a few mimeographed pages to a “slick paper” magazine professionally published by the IU Alumni Association. If I recall correctly, Dave was first asked to edit the newsletter by the then chair, **Bob Dodd**. Little did he know at the time that he would be doing it for the rest of his career at IU! Dave Towell can count his editorship of *HGR* as a major achievement of his long and illustrious career at Indiana University. After all those years of service to the department as editor of *HGR*, Dave was understandably ready for relief from that sometimes thankless job. Dave is a hard act for the current editor to follow.

Publication of the *HGR* is a vital function of the department. Probably more people actually read the newsmagazine than read most of our research papers, which usually are published in very specialized, low-circulation journals. The *HGR* is perhaps our strongest link to our alumni — the primary way in which they keep track of their former department and fellow alumni. It is our primary way of keeping in touch with you, our former students and friends with whom we share great memories. As we remind our faculty each year when we attempt to get them to contribute material for this publication, it is an important fund-

raising vehicle for the department. It is also a means of recording our activities for the past year to share with other non-alumni friends and colleagues and those interested in knowing what is happening in the Department of Geological Sciences at Indiana University.

We are perhaps not always aware that the newsmagazine is an important repository for our departmental history. This year marks the 50th anniversary of *HGR*, which has been printed most years since 1952, originally under different names. Much of the history of our department for the last 50 years can be read in the pages of those past issues, and, in fact, they were a major source of information for **Gary Lane** when he wrote *Geology at Indiana University 1840–2000*. I hope to continue that tradition with this issue of *HGR* so that future readers, long after we are gone, can read the illustrious history of our department in past issues. Perhaps some future departmental historian will use these pages in compiling an updated version of our history.

The editor wants to thank the many people who made this issue possible. First, thanks to my co-editor, **Sara Marcus**, who

helped with writing and in helping your computer semi-literate editor in translating various disks, attachments, and e-mails into computer-readable versions. Many of our geology faculty, staff, and research staff helped immensely in accumulating the information used to construct the newsletter. I would particularly like to thank **Kim Schulte** and **Mary Iverson** for providing much of the information contained in these pages. Thank you, **Deborah DeChurch**, for providing the section on the Geological Survey and **Jim Brophy** for the section on the Geological Field Station and **Dick Gibson** for the photographs in that section. **Barb Hill** (with help

from **John Day**) was an indispensable contributor and scanner of the photos. **Joann Dodd** was an informal and uncompensated proofreader of much of the copy.

Thank you, **Julie Dales** at the Alumni Association, for your good work in taking the pages of disconnected copy that we sent and melding them into an attractive and more readable whole. And, finally, thank you, **Dave Towell**, for your help and advice and especially for keeping *HGR* alive and growing for the last 13 years.

— *Bob Dodd*



Chair's greeting

(continued from page 1)

From my own perspective, one of the great strengths of the Department of Geological Sciences at IU is the excellent and rigorous blend of field and analytical components with the recognition that individual problems must be viewed in the context of larger-scale issues (some people call this the “Who cares?” component). The field station is the cornerstone of our reputation in this area, and we must continue to support it with every means possible.

We will continue to work for support of faculty research, primarily through providing additional money for meetings, student support, publications, fieldwork, and analytical expenses. In addition, it is important to recognize the strong support that has come from alumni and friends of the department. The more research we publish, the higher our visibility becomes in the professional community. The higher our

visibility, the more high-quality students we can attract, which then leads to more research results.

Finally, our building is in desperate need of help. In a report from 1993, the HVAC system was noted to be on the verge of “catastrophic failure.” We have equipment totaling more than \$3 million in our building — sensitive, high-tech, analytical equipment that cannot operate at full efficiency in a building that has as many problems as ours has. Fortunately, we are now on the dean’s radar screen, and our building has even been mentioned in the College of Arts and Sciences Enhanced Academic Plan!

A final few words: Activity within the department continues to increase, from visiting scientists to post-doctoral fellows to visiting faculty, which is leading toward increased visibility across an ever-widening range of the geological sciences. More petroleum companies came to interview this year than before (especially with the

addition of Phillips), and our students are receiving offers for employment. Things here are going well, and we owe much of it to the course that was set some years ago by the faculty, our alumni, our Advisory Board, and former chair Lee Suttner. The department’s historic Endowment Campaign may be over in name, but it surely continues in spirit and continued support from all of our IU family! Your support has done wonders for our students, our staff, our faculty, and our alumni. As you look through the pages of this year’s *Hoosier Geologic Record* (our 50th year of publication!), you will see the benefits your support brings to us all. We owe you all a great deal of thanks. I also would like to extend my deepest, personal thanks to each and every one of our faculty and staff for all of their support, kind words, and encouragement. The past three years have gone by remarkably quickly — and I have no doubts that the next 30 will fly by as well!

— *Christopher Maples*

Around the Department

Hoosier Geologic Record celebrates 50th anniversary

The first issue of the *Geology News Letter*, the predecessor of the *Hoosier Geologic Record*, was published in 1952. Like the department, the newsletter has undergone many changes in the last 50 years, but it is still designed to perform the same major function: informing our alumni about current activities in the department.

The first issue of the *Geology News Letter* was edited by Professor **William D. Thornbury**, PhD'36. The first page of the issue included his greeting: "Greetings, geo-alumni of Indiana University, wherever you may be. The first *Geology News Letter* makes its bow. It is sent to you with the hope that you will find in it enough of interest that you will want to pay the geology department a visit and see the changes which have taken place since you left. Those of you who graduated prior to 1945 would hardly recognize the scene of your academic endeavors." What would a pre-1945 graduate think of the department now! That first newsletter includes articles by several members of the faculty and contained a list of all alumni and their addresses. Included in the article on the faculty was a note that "The youngest member of the teaching staff is **Haydn H. Murray**, assistant professor ..." Haydn was a recent recipient of a PhD from the

University of Illinois. Another "veteran" member of the faculty at that time was **Judson Mead** who "... came to IU in the fall of 1949." Issue No. 1 includes a report on the Indiana Geological Survey, the precursor to their newsletter. The number of undergraduate majors that year was 63 and graduate majors 43. That first issue was reproduced by mimeograph, probably in the departmental office.

Although issue No. 1 contained 40 pages, many of the later issues consisted of as few as four pages. On occasion the newsletter was apparently not issued, as there are a few years missing in the collection in the IU Geology Library. The library collection was not complete until recently when several back issues were provided by **Marybeth Fox**, long-time departmental secretary. The first 10 issues of the newsletter were edited by William Thornbury, who was succeeded by **Ralph Esarey** as editor for several years. Unfortunately, the editor is not shown on most subsequent issues. The first issue to bear the name *Hoosier Geologic Record* was published in spring 1981. Although the editor's name of that issue is not listed, I believe that it was Professor **Robert Dodd**, then serving as assistant chair during Haydn Murray's chairmanship. Again I am not certain, but I

think that was the first year the Alumni Association helped us with production and mailing. For some reason, the 1983 issue returned to the old name of *Geology Department Newsletter*, but in 1984 it was the *Hoosier Geologic Record* again.

Dave Towell took over the editorship in 1987 at the request of then chair Bob Dodd. He continued to serve in that capacity until his retirement from the department in 2001. During Dave's editorship the *Record* increased considerably in size and in quality. The current magazine format with slick (i.e. high kaolin) paper and numerous photos was adopted in 1992.

Yes, we have come a long way since those early mimeographed copies, and who knows what advanced desktop publishing will bring in the future. The *Record* is now assembled almost entirely electronically. None of these words or even the photographs need appear on paper until printing of the final copy. Another advance that we are contemplating is putting this entire issue of the *Record* on the departmental Web site. We may even include between-issue updates to keep you more current with happenings in the department. Maybe some day we will no longer have a paper copy of the *Record*, but I am enough of a traditionalist to hope that we will always have a paper copy to hold in our hands.

— Bob Dodd

A glance at yesteryear ...



A group of students and a professor (not a geology professor) took a trip to a local cave on May 17, 1890: *bottom row*, from left, Walter S. Chambers, Howard J. Hall, Professor Gustov Karsten, Russell Ratliff, and Mark P. Helm; *second row* seated, from left, Ray Morgan and Theodore Dreiser (later to become a famous Hoosier author); *top row* standing, from left, Walker (no first name), Samuel M. Knoop, William A. Marlow, and Francis E. Kinsey.



In the field in search of crinoids are, from left, Bill Ausich, MA'76, PhD'78; Johnny Waters, MA'76, PhD'78; Gary Lane; and Jim Welch, MA'76.

William Ausich wins Owen Award

On Oct. 6, 2001, Bill Ausich, MA'76, PhD'78, received the Owen Award, given annually to an outstanding alumnus of the department for contributions to the understanding and advancement of geological sciences in the

pursuit of their careers. Ausich presented a talk titled "Origin and Early Evolution of Crinoids" at the awards ceremony. The Owen Award is the highest award that the department bestows upon its alumni. The award is named in honor of Richard

Owen, who taught courses in geology, natural history, botany, and geography at Indiana University from 1864 to 1879. Richard Owen was the first Indiana University professor to publish papers on geology. The Owen Award was established in 1985 in celebration of the 100-year anniversary of the founding of a department for the study of geology at Indiana University. Ausich is the 23rd recipient of the Owen Award.

Having received his PhD in 1978, Bill Ausich is by far our most recently graduated recipient. When Ausich left Indiana, he took a faculty position at Wright State University in Dayton, Ohio. In 1984, Ausich left Wright State for The Ohio State University, where he is a professor today, having served from 1995 to 1999 as department chair. Ausich's research has spanned the depth and breadth of echinoderm paleobiology and paleoecology, beginning with his seminal work on his PhD study of Edwardsville Formation paleocommunities. In 1979 that work led to a co-authored paper with **Tom Kammer**, MA'78, PhD'82, who is a faculty member at West Virginia University, and Emeritus Professor **Gary Lane**. This paper won the Outstanding Paper Award for the *Journal of Paleontology* for that year. Ausich's numerous publications can be found in such mainstream disciplinary journals as *Palaaios*, *Paleobiology*, *Lethaia*, and *Palaeontology*, along with scientific journals having broader appeal, including *Geology*, the *GSA Bulletin*, and *Science*. He currently is in charge of revising the echinoderm volume of the *Treatise on Invertebrate Paleontology*.

In addition to his renowned expertise in crinoid taxonomy and paleoecology, Ausich also has published research on carbonate sedimentology, mud mounds, extinction events, epizoans, trace fossils, skeletal crystallography, and even history of geology. He is a two-time recipient of the Distinguished Teaching Award in Geological Sciences at The Ohio State University and was among the first group of scientists selected as a distinguished lecturer for the Paleontological Society. In 1990, Ausich received the Charles Schuchert Award of the Paleontological Society, which is awarded yearly to scientists age 40 and under for outstanding accomplishments and future potential in the science of paleontology, a potential that has been realized. Since 1990, Ausich has published prolifically and garnered even more awards and honors, including election as a Fellow in both the GSA and the AAAS, a Fulbright Fellowship, and, most recently, president-elect of the Paleontological Society.



Photo by John Day

Bill Ausich, right, receives the Owen Award from Chris Maples.

Department history available

"I recommend this book for all associated with IU, those interested in the development of geological sciences, and residents of Bloomington with an interest in local history. They will enjoy the human history of life here at a major university during the past two centuries as presented by Professor Lane."

This is the conclusion of **David Dilcher**, a paleobotanist currently at the Florida Museum of Natural History and formerly a faculty member at Indiana University, in a review published in the *Bloomington Herald-Times* of Gary Lane's book, *Geology at Indiana University 1840-2000*.

Lane's book was published by the Department of Geological Sciences in 2000 and is available for \$21.50 (includes postage) from the Department of Geological Sciences, 1005 E. 10th Street, Indiana University, Bloomington, IN 47405, Attn. Kim Schulte. We are sure that all alumni will enjoy reading this fascinating account of our department. You may even find that your name is included in the history!



IU sets aside research and teaching preserve

Last year we reported on the efforts of **Mike Hamburger** and **Bruce Douglas**, with help from other faculty members from the Department of Geological Sciences as well as the broader university community, to have IU set aside some of its property as a research and teaching preserve. This May their dream became a reality when the IU Trustees agreed to their proposal to establish a 446-acre preserve.

The preserve consists of two parcels of rugged forest and wetlands. Griffey Woods, just northeast of the campus, makes up 185 acres of the preserve, and the other 261 acres are along Lake Monroe several miles southeast of the campus. The preserve status of these areas assures that they will not be jeopardized by future development.

IU President Myles Brand lauded the action as a "wise decision for the long-run benefit of IU." Mike Hamburger, who was chair of the special task force that recommended creation of the preserve, predicts immediate benefits to science students and faculty studying a wide variety of topics in geology, biology, and other fields.

The Griffey Woods portion of the preserve is next to property owned by the City of Bloomington, which has expressed interest in establishing a companion

research area of its own. Hamburger thinks this would be a good symbol of cooperation between the city and university.

IU Vice President Terry Clapacs indicated that the value of the property makes it a \$2.1 million investment in research at IU. No separate funding was

granted for the preserve, but costs involved with the preserve will be covered by current administrative and academic units' budgets. The protected status of the property may also attract additional private and public funding for specific projects.

History Quiz

Can you answer these questions about the history of the IU Department of Geological Sciences? The answers can all be found in the articles in this issue of the *Hoosier Geologic Record*. They also appear on page 23.

1. In what year was the Geology Department at Indiana University founded?
2. Who was the 2001 recipient of the Owen Award?
3. In what year was the first Geology Department newsletter published?
4. Who is the author of the book *Geology at Indiana University 1840-2000*?
5. In what year was the Screwball Award first given and to whom?
6. What was the size of the teaching assistant budget in 1954?
7. For how many years was Dave Towell editor of the *Hoosier Geologic Record*?
8. Who earned the first PhD in geology ever awarded by Indiana University?
9. What famous Hoosier author went on a caving expedition with other IU students and faculty in 1890?
10. One of the IU Department of Geological Sciences named professorships honors what famous geologist who received his PhD from IU in 1928?

News of yesteryear ... Our department, 1951-52

During a recent cleanup of the basement of the Department of Geological Sciences, four large volumes of faculty meeting minutes dating from 1945 to 1962 were found. These were not available when I wrote the history of the department, so I have selected a few items from the minutes of the 1951-52 academic year, 50 years ago. I hope they may be of interest to readers.

All faculty meetings were held in room 110A Owen Hall. Those present, in addition to chair **Charles Deiss**, were: **Deane, Esarey, Galloway, Lowell, Mason, Mead, Murray, Patton, Perry, Proctor, Thornbury, Vitaliano, and Guennel**.

The budget for teaching assistantships was \$8,250. The budget for research assistantships and fellowships was \$10,000. This was all internal funding. There were no outside fellowships.

In May the entire faculty received a marriage invitation from **Harriett Ann Gray** and **William L. Kaschube**.

The department sponsored five-day field trips to the Ozarks, the Appalachians, and the Lake Superior region in successive years. A memorandum was read from the bursar that university vehicles on long field

trips were to be held to a maximum speed of 50 miles per hour.

The chair received a report that rooms 220 and 230, which contained valuable laboratory equipment, were found open in the evening and the janitor found them unlocked at times in the morning. Professors **Vitaliano** and **Mason** explained that these rooms could be entered very easily because of the flimsy locks. Professor **Lowell** brought out that room 20 could easily be unlocked with a knife. The faculty voted to request new locks.

A committee of students from SGE requested a meeting with the chair, who met with the entire chapter at their next

meeting. The chair's report to the faculty was two pages long and will only be summarized here. Nine points were made: 1) The students felt that they did not have close enough contact with the faculty. 2) There is so much content in courses that students forget that content as soon as they take another course. 3) They propose individual tutorial courses for graduate students rather than lecture or laboratory courses. 4) Students complained that they were not informed early enough about long field trips. 5) There was discussion about the level of the examination for the master's degree. 6) Students wanted more time for library work and less time on laboratory work. 7) Students spent so much time on geology courses that they were getting poor grades in outside courses. 8) The students have the idea that they are being pushed around by the faculty. 9) Students want more emphasis on principles and less emphasis on details.

Finally, the chair asked all faculty to announce to seniors and graduate students to police departmental rooms and halls, especially for Coke bottles, trash, and cigarette butts.

— Gary Lane

J.J. Galloway was the recipient of IU's first geology PhD in 1913 and was professor of geology (paleontology) at IU from 1932 to 1954.



J.J. Galloway

Suttner named Shrock Professor

Lee Suttner has been named the first Shrock Professor of Sedimentary Geology. The endowed professorship was named in honor of **Robert R. Shrock**, AB'25, AM'26, PhD'28. Shrock was a renowned paleontologist and stratigrapher and long-time chair of the Geology Department at MIT. He was a member of the IU Department of Geological Sciences Alumni Council for many years and was one of the first recipients of the Richard Owen Award in 1985, the year that award was established to honor outstanding alumni of the department.

Suttner has been a faculty member of the department since 1966, serving as chair from 1990 to 1994 and 1996 to 1998. He was associate director of the Judson Mead Geological Field Station of Indiana University from 1968 to 1981 and director from 1981 to 1995. He was also an associate dean of the College of Arts and Sciences from 1994 to 1997. Suttner has been active in research in sedimentology and stratigraphy, particularly field-based studies of Cretaceous fluvial systems of the Western Interior United States and provenance studies of sand and sandstone. He has been the major adviser for 37 MS and 14 PhD students during his tenure at Indiana University. Suttner has served in many capacities in various professional organizations, especially in the Geological Society of America, where he is currently chair of the Board of Trustees for the GSA



Lee Suttner

Foundation. Suttner was the 1988 recipient of the National Association of Geoscience Teachers' Neil Miner Award recognizing his outstanding contribution to teaching. In 1989 he received the President's Distinguished Teaching Award from Indiana University and also was selected in 1994 to receive the AAPG (Eastern Section) Outstanding Educator Award. He is co-author of two articles that have received Outstanding Paper Awards, one published in the *Journal of Sedimentary Petrology* and the other in *Mountain Geologist*.

Departmental Web sites updated

Dick Gibson, BS'71, resident manager of the Judson Mead Geological Field Station and member of the Advisory Board, has undertaken the task of updating and maintaining the departmental Web page. Gibson has added a new section on alumni news that will be of special interest to many of our readers. The site includes a method for submitting your news notes for posting on the site. We hope that you will use this means of keeping us and your fellow alumni up to date on your activities. To find this section just follow the links from the departmental home page at www.indiana.edu/~geosci/.

Other Web sites of particular interest to our readers are the Judson Mead Field Station site (www.indiana.edu/~iugfs/) and the "This Week at the Field Station" site (home.earthlink.net/~iugfs/thisweek.htm). In the latter "informal" site, Dick Gibson includes news and observations from the field station throughout the year. You can learn not only about what is happening at the station during the busy summer season, but also what South Boulder Canyon is like in the fall, winter, and spring.

Geology students and faculty reach out to young people

During the past year graduate students, with some help from faculty, staff, and postdocs, have participated in programs aimed at interesting young people in science.

Nov. 18-19, 2000, several geobiology students participated in the Brownie Science and Math Event. **Claudia Johnson** was the faculty representative with **Tom Olszewski** (postdoc), and participating students were **James Van Alstine**, **Warren Bigelow**, **Leigh Fall**, **Russell House**, **Bridget Mulvey**, **Laura Slade**, and **Natalie Uschner**. The main theme of the event was Indiana during Mississippian time. The group explained to the Brownies what Indiana was like during Mississippian time, when the local rocks were formed. The Brownies then dug through sand boxes to find Mississippian fossils.

The Brownies had a "fortune teller" paper game to help identify the fossils, which included crinoids, brachiopods, bryozoans, and corals. The Brownies and

their parents really seemed to enjoy the event.

On Sept. 15, 2001, geology graduate students and faculty had a repeat performance of Fossil Day at WonderLab, a local hands-on science museum designed to appeal especially to the younger generation. The objective of the program was to heighten children's awareness of their local "fossil history." **Melissa Gibson**, **Whitney Hatch**, **Laurie Hawkes**, **Russell House**, **Laurie Huff**, **Ernie Johnson**, **Tom Olszewski**, and **Kate Remmes** joined **Claudia Johnson** for this event. The group showed fossils, told the kids what fossils are and explained what kinds of environments the animals lived in. **Sonya Wolen**, WonderLab coordinator, thanked the group warmly for their excellent work.

The following week, on Sept. 22, **Veronica Crock**, **Gary Pavlis**, **Neelambari Save**, **Terry Stigall**, and **Justin Stigall** (Terry's son) led "Quake Shakes" Day at WonderLab. The group showed the

children how to create and measure their own small "quakes" and use a shaketable to see how different building designs react to various kinds of seismic waves.

On Oct. 27 the geophysics group again took their show on the road to the annual Physics Department Open House. **Veronica Crock**, **Chengliang Fan**, **Shannon Jock**, **Gary Pavlis**, **Neelambari Save**, **Shakir Shamshy**, **Terry Stigall**, and **Xiujun Yang** participated in this big event that draws elementary and high school students from around the area to see demonstrations of physical and geophysical principles.

The geophysics group participated with hands-on demonstrations of seismology. Activities included make-your-own earthquake and take-home-your-own seismogram, an earthquake machine demonstration, the shaketable demonstration, a demonstration showing how a seismometer is made and works, and a seismic waves demonstration.

Lectures and Presentations

Colloquium Series 2000–2001

- Sept. 6, **Tom Olszewski**, Indiana University: “Testing for a Relationship Between Paleocommunity Recurrence and Taxonomic Turnover Using a Sequence Stratigraphic Framework”
- Sept. 11, **Todd Thompson**, Indiana Geological Survey: “Phase Diagrams and Shoreline Behavior in the Great Lakes”
- Sept. 18, **Scott King**, Purdue University: “Subduction: Observations and Models”
- Sept. 25, **Jack Sharp**, University of Texas: “Hydrogeology of Fractured Rock: Effects of Fracture Skins”
- Oct. 2, **Carolina Lithgow-Bertelloni**, University of Michigan: “The Origin and Structure of the Earth’s Deep Interior”
- Oct. 5, **Tom Schull**, Chevron Oil Co.: “Geophysics in the 21st Century: A Major Oil and Gas Company Perspective” (Daniel S. Tudor Commemorative Lecture)
- Oct. 9, **Chusi Li**, Indiana University: “Dynamic Ore-forming Processes in Magma Conduits: Examples from Voisey’s Bay, Labrador, Canada, and Uitkomst, South Africa”
- Oct. 16, **Mark Person**, University of Minnesota: “Tectonic Controls on Groundwater Flow Within the Rio Grande Rift Basin, New Mexico”
- Oct. 23, **George Nevers**, Garnet Resources Corp.: “Is There an Oil Field in Your Future?” (Owen Award Address)
- Oct. 30, **Lee E. Krystinik**, Distinguished Lecturer, American Association of Petroleum Geologists: “Sequence Stratigraphic Variability in Foreland Basins: An Example from the Cretaceous Western Interior Seaway of North America”
- Nov. 6, **James Brophy**, Indiana University: “On-going Studies in Mid-Oceanic Ridge Magmatism: Results from the East Pacific Rise and Hess Deep”
- Nov. 27, **Ward Sanford**, U.S. Geological Survey: “The Next Generation Hydrogeologic Model: An Example from the Albuquerque Basin”
- Dec. 4, **T.-C. Jim Yeh**, University of Arizona: “An Integrated Approach for Monitoring and Characterizing the Vadose Zone”
- Jan. 22, **Abhijit Basu**, **Simon Brassell**, **James Brophy**, **Bruce Douglas**, **Michael Hamburger**, **Claudia Johnson**, **Maria Mastalerz**, **Lisa Pratt**, and **Arndt Schimmelmann**, Indiana University: “Discussion of Current Research”
- Feb. 5, **Fred Pollitz**, U.S. Geological Survey: “Lessons from the 1992 Landers and 1999 Hector Mine Earthquakes”
- Feb. 22, **Christina Chan**, Ohio State University: “The Role of Rock Physics in Near Surface Geophysics”
- Feb. 26, **Gary Acton**, Texas A&M University: “Apparent Polar Wander Paths and Hotspot Tracks”
- Feb. 28, **Aaron Velasco**, Los Alamos National Laboratory: “The 1997 Tiber (Mw=7.5) Earthquake: Unique Rupture Characteristics and the Aftershock Without a Shock”
- March 2, **Jean Mascle**, Centre National de la Recherche Scientifique, Villefranche sur mer, France: “New Constraints on the Tectonics of the Eastern Mediterranean Sea from Recent Marine Geophysical Surveys”
- March 26, **Peter Sauer**, Woods Hole Oceanographic Institution: “New Approaches to Paleoenvironmental Studies Using Hydrogen Isotopes in Biomarkers”
- April 9, **Torbjorn Tornqvist**, University of Illinois, Chicago: “Rivers, Stratigraphy, and the Importance of Dirt”
- April 10, **Gerilyn Soreghan**, University of Oklahoma: “Tectonic Controls on Early Dolomite in Pennsylvanian Algal Mounds of the Western Orogrande Basin, New Mexico”
- April 16, **Chip T. Feazel**, Phillips Petroleum Co.: “Re-developing a North Sea Mature Oil Field: The Ekofisk Saga”
- April 17, **Carl Drummond**, Indiana University–Purdue University Fort Wayne: “Assessing the Abruptness of Climate Change — Lessons Learned from Ice Cores and Other Proxies”
- April 25, **Linda C. Kah**, University of Tennessee: “Changing Carbonate Saturation and the Evolution of Precambrian

Depositional Systems”

- April 27, **Juergen Schieber**, University of Texas, Arlington: “Studying Shales for Fun and Profit”
- April 30, **David Fastovsky**, University of Rhode Island: “The Blooming Desert: Late Cretaceous Sedimentary Environments of Mongolia”

Other presentations

- Sept. 26, **Jack Sharp**, University of Texas: “The Urbanizing World — Hydrogeologic Implications”
- Sept. 27, **Jennifer Ayres Coats**, Chevron Oil Co.: “On the Edge of Technology: Chevron USA Deepwater”
- Oct. 17, **Mark Person**, University of Minnesota: “Pleistocene Hydrology and Freshwater Resources on Nantucket Island, Massachusetts”
- Oct. 19, **Stephen E. Scheckler**, Virginia Polytechnic Institute: “Global Implications of Devonian Afforestation”
- Nov. 28, **Ward Sanford**, U.S. Geological Survey, “Sabkhas: They’re Not What You Thought”
- Dec. 5, **T.-C. Jim Yeh**, University of Arizona: “Hydraulic Tomography: Development of a New Aquifer Test Method”
- Feb. 6, **Fred Pollitz**, U.S. Geological Survey: “Regional Surface Wave Tomography: Application to Northern California”
- Feb. 23, **Christina Chan**, Ohio State University: “Understanding the Relationship Between Water Content and Dielectric Constant”
- Feb. 27, **Gary Acton**, Texas A&M University: “Excursions, Transitions, and Secular Variation Over the Past 800,000 years: High-resolution Geomagnetic and Rock Magnetic Records from ODP Leg 172, NW Atlantic Ocean”
- March 1, **Aaron Velasco**, Los Alamos National Laboratory: “An Unusual Event in the Qinghai Province, China and Implications for Nuclear Explosion Monitoring”
- April 10, **Gerilyn Soreghan**, University of Oklahoma: “Ancient Dust: Climatic and Tectonic Signals Preserved in Paleozoic Loessite of Western Equatorial Pangea”
- April 16, **Carl Drummond**, Indiana University–Purdue University Fort Wayne: “Taphonomic Reworking and Stratal Organization of Tempestite Deposition: Ordovician Kope Formation, Northern Kentucky”
- April 19, **J. Robert Dodd**, Indiana University: “A Journey to the End of the

Receive lecture announcements via e-mail!

Would you like to learn about colloquia and other lectures before they happen rather than a year later in the *Hoosier Geologic Record*? Perhaps you live in or near Bloomington and would like to attend our lectures on occasion. Send your e-mail address to comerfo@indiana.edu and tell us that you would like to be put on our “This Week in Geological Sciences” mailing list.



(continued on page 8)

John Gibson gives Tudor Memorial Lecture

John Gibson, president and CEO of Landmark Graphics Corp., delivered the second annual Daniel S. Tudor Commemorative Lecture titled "The Future of Petroleum Geophysics — Great Scientist Needed Immediately. Apply Within." The lecture series is named for **Daniel Tudor**, BS'55, MA'57, PhD'72, former president of Chevron Geosciences, Owen Award winner in 1989, longtime member of the Advisory Board, and generous contributor. The lecture series brings highly distinguished speakers to the department to present an address on the general application of geophysics to exploration for natural resources.

Gibson earned his bachelor's degree in geology at Auburn University and his master's degree in geology at the University of Houston. His career in petroleum began as an exploration geophysicist for the Gulf Oil Co. Following acquisition of Gulf by Chevron, Gibson became manager of geophysical and geological subsurface imaging for Chevron's Oil Field Research Co. Gibson joined Landmark in 1994 and held various executive positions, including executive vice president of the Integrated Products groups, vice president of Landmark's Zycor Division, and chief operating officer of Landmark. He attained his current position in May 2000.

Landmark is a leading supplier of integrated exploration and production technical and economic software to support decision-making about finding, drilling, and producing oil and gas. Gibson has played a key role in providing worldwide leadership to the company's development, marketing, and sales and delivery groups. He has driven development and delivery of innovations within specific scientific arenas, as well as integration of those technologies to accelerate the activities of multidisciplinary teams from exploration to production, drilling, and data management.

Departments collaborate for lecture

Under the leadership of **Abhijit Basu**, the department led eight other departments on campus in organizing a Horizons of Knowledge and Sigma Xi Lecture on Oct. 1, 2001 by Professor **A.M. Celâl Şengör** of the Technical University of Istanbul. In 2000 Şengör was inducted into the U.S. National Academy of Science and is currently spending a sabbatical as a Distinguished Moore Fellow at Caltech.

Şengör is a scholar in the renaissance sense. Besides his contribution to the knowledge of how the earth works, i.e., tectonics, he is a scholar of history, classics, and philosophy of science. The topic of his lecture was "Is the present the key to the past or the past the key to the present?" This is an ongoing debate in geology as well as a general problem in historical sciences. The lecture was provocative and aroused many comments, questions, and dissensions.

Other presentations

(continued from page 7)

Earth in Patagonia: A Geologic Travelog"

• April 25, **Linda C. Kah**, University of Tennessee: "Bedded Gypsum in the Mesoproterozoic: A Critical Link in Understanding Biospheric Evolution"

• April 26, **Juergen Schieber**, University of Texas, Arlington: "Of Mudstones, Microbes, and Mars"

• May 1, **David Fastovsky**, University of Rhode Island: "New Horizons in Pre-Tertiary Paleosols, Late Triassic of Petrified Forest National Park, Arizona"



Geology support staff (Aug. 31, 2000) are, from left, Brian Snow, Patty Byrum, DeAnn Reinhart, Steve Studley, Cindy Hale, Mary Iverson, Tricia Miles, Terry Stigall, Kim Schulte, and Candace Franz.

Department of Geological Sciences faculty & staff

Professors: Abhijit Basu, Simon Brassell, James Brophy, Michael Hamburger, Claudia Johnson, Erle Kauffman, Noel Krothe, Christopher Maples (chair), Enrique Merino, Greg Olyphant, Mark Person, Gary Pavlis, Lisa Pratt, Ed Ripley, Lee J. Suttner, Robert Wintsch

Part-Time Professors: Henk Haitjema (SPEA), Brian Keith (Survey), Peter Ortoleva (Chemistry), Carl Rexroad (Survey), Jeff White (SPEA)

Research Scientists: Bruce Douglas, Erika Elswick, Chusi Li, Peter Sauer, Arndt Schimmelmann

Visiting Research and Postdoctoral Associates: David Finkelstein, Thomas Olszewski

Emeriti Faculty: Robert Blakely, J. Robert Dodd, John Droste, Donald Hattin, Norman Hester, N. Gary Lane, Judson Mead, Haydn H. Murray, Al Rudman, David Towell

Staff: Amy Beatty, grant monitor/administrative support, fourth floor; Patty Byrum, administrative secretary, chair's office; Christina Comerford, grant monitor/administrative support, fifth floor; Dave Dahlstrom, computer support, geofluid computational lab; Ruth Droppo, senior office services assistant, third floor; Cindy Hale, administrative secretary, Geologic Field Station; Mary Iverson, student records; Clint Mahoney, computer systems manager; DeAnn Reinhart, office services assistant, business office; Kim Schulte, administrative assistant, chair's office; Terry Stigall, geophysics electronics technician; Steve Studley, manager, mass spectrometry lab
Library: Elizabeth Hanson (librarian), Linda Stewart (circulation/reserves), Barbara Cox (technical services)

Geologic Field Station Update

Academic schedule changes result in more efficiency

Summer 2001 was, by any means of comparison, much less eventful than the previous two or three years. This is not to say that the events of the previous years, which centered around a 50th anniversary celebration, the retirement celebrations of three prominent field station faculty members (**Bob Cassie**, **Jim Meyers**, and **Dave Towell**), and the worst drought and fire season in at least 20 years, were not fun and enjoyable (except the fires, of course). We were, however, finally able to settle back into the routine of teaching, which is what we have done best for the past 52 years. That being said, there *were* some significant changes in what was being taught and who taught it.

The biggest change in our academic schedule was the combination of Options I and II of G429/G429e Field Geology of the Northern Rocky Mountains into a single offering of G429/G429e. The reasons behind this move were many, but it was ultimately driven by a desire and need to be more efficient in our use of field station and faculty time and resources. The single offering was held during the time slot formerly held by Option II (early July to mid-August). We experienced only a minor drop in overall enrollment, which eliminated many of the concerns we had that such a move might force many students to have to look elsewhere for their field

experience. It was gratifying to realize that students from across the country wish to participate in the Indiana field program regardless of when it is offered.

At the same time that Options I and II were combined into a mid- to late-summer offering, our other course, G329 Introductory Field Experience in the Environmental Sciences was moved from its traditional time slot in the mid- to late-summer to the time slot formerly held by Option I of G429 (early June to early July). This move had many expected and unexpected consequences. In the realm of the expected, for any of you who have experienced the Tobacco Root Mountains during both early June and early July, you are aware

that there are some dramatic differences in the general "lay of the land" (i.e. early June is cold and wet, much of the area is still under the winter snow pack, and the summer grasses and flowers are just starting



G329 students stream gage in North Willow Creek.

to emerge). Working under these new conditions, particularly the uncertainty as to how the flora and fauna would differ, was an anticipated unknown, and the G329 faculty did a remarkable job in responding to the new circumstances. Another anticipated and unfortunate consequence of the move was that **Ben Brabson**, from the IU physics department, would no longer be available to teach the week-long module on micro-meteorology. Ben is a superb teacher and a delightful colleague, and we will miss him sorely. A final consequence of the move to a new time-slot was that the students and faculty of G329 were now alone at the station, rather than sharing the space and resources with the much larger G429/429e program. For whatever reason, this turned into a huge unexpected benefit, as there were noticeable differences in the morale, collegiality, and overall work habits of the "329ers." All in all, it would appear that G329 has survived the move to early summer with flying colors.

There were several important changes in the faculty of both G429/429e and G329. Starting first with G429/429e, **Paul Jewell** from the University of Utah joined us as a faculty member with a specialty in hydrogeology and immediately became an

(continued on page 10)



G429 students map an independent exercise "somewhere in Montana."

Field station

(continued from page 9)

integral part of the environmental option (G429e). Paul is quite a catch (and we hope that we can keep him), for he started his career as a “traditional” hard rock/mining geologist before receiving a doctorate in hydrogeology from Princeton in the 1980s. This makes Paul the very sort of “renaissance man” that is rare in this day and age, but sorely needed in the teaching of both the “traditional” and “environmental” aspects of doing geology in the field.

Also of note is that **Tom Howald**, a longtime staff member in the G429/429e program, was elevated to “faculty” status this past summer and proved what everyone knew all along ... that a philosopher can be one heck of a geology professor!

G329 had two new faculty members join the ranks. **Andrew Olyphant**, a research scientist in the IU Department of Geography, took over for Ben Brabson as the micro-meteorology specialist, while **Mark Person**, the newest member to join the IU departmental faculty and current holder of the **Malcolm and Sylvia Boyce Chair in Geological Sciences**, agreed to lend his expertise in groundwater and surface water hydrology. Both Andrew and Mark are eager to participate in next



Tanya Atwater, of plate tectonic fame (and a G429 alumna), demonstrates plate reconstruction programs to G429 students during an infrequent break from their evening work.

summer’s offering of G329, and it is our hope that they become permanent fixtures as field station faculty.

On a final note, the summer was capped off by **Dave Towell’s** departmental retirement celebration, which was held at the field station shortly after the departure of the G429/429e return caravan. In addition to the entire (and huge) Towell “clan,” the celebration included numerous

field station “old-timers” (and a few current ones) as well as several local ranchers and town folks. The celebration was a crowning success and, as Dave put it in his own words, “I feel like I am the luckiest man alive.” We will miss Dave, but we know that he will always come back to Montana, so we haven’t really lost him.

— Jim Brophy

Hoosier Geologic Record

This newsletter is published annually by the Indiana University Alumni Association, in cooperation with the Department of Geological Sciences and the College of Arts and Sciences Alumni Association, to encourage alumni interest in and support for Indiana University. For membership or activities information, call (800) 824-3044 or e-mail iualumni@indiana.edu.

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Indiana Geological Survey Update



This overview of the activities of the Indiana Geological Survey highlights just a few of the many projects and programs that are ongoing in "the other side of the building." Please visit the IGS Web site at www.indiana.edu/~igs if you would like more information about these projects or for contact information.

Southwestern Indiana GIS project completed

IGS staff recently have compiled more than 170 layers of geospatial information in a geographic information system for 26 southwestern Indiana counties. The GIS will be used by an engineering and environmental consulting firm that is preparing an environmental impact statement for a proposed extension of Interstate 69 between Indianapolis and Evansville.

Because of the diversity of coverage required in this study, nearly half of the staff at IGS, in some way, played a part in this project. The IGS compiled data on the geology, elevations, mineral resources, petroleum, coal, waste, caves and karst, water, geologic hazards, and some cultural and industrial features. Included in the geologic hazards are subsidence risks related to coal mines, as well as earthquake epicenters, faults, liquefaction features, and clay thicknesses and character. The information was derived from a variety of sources, including federal and state agencies, as well as files and records at both IGS and BLA.

Currently, the IGS is involved in a second phase of the GIS project for INDOT: disseminating these data through the Web and by CD-ROM.

When completed, all data will be posted on the IGS Web site. The Web version will consist of interactive maps on the IGS Web site, complete with the capability to zoom and pan, and will include metadata and browse graphics.

IGS collaborates with USGS on statewide geochemical survey

The IGS has agreed to collaborate with the U.S. Geological Survey to conduct a statewide geochemical survey. Over the next two years, stream sediment samples will be collected on an approximately 10-mile by 10-mile random grid across the state, resulting in about 536 samples. The resulting geochemical database will serve as a valuable study for future mineral resource, geochemical, and environmental investigations in Indiana.

Climate change

Researchers in the Energy Resources Section recently obtained a \$560,000 grant from the U.S. Department of Energy for a three-year project aimed at reducing the discharge of manmade greenhouse gas emissions into the atmosphere. This project is part of a five-state Midwest consortium in which each of the states is evaluating long-term storage or "sequestration" of carbon dioxide. The project's goal is to identify possible sites for the deep geologic burial of CO₂ from industrial emissions or from the atmosphere. Survey researchers are developing a digital database integrating CO₂ sources and potential sequestration sites, and they are evaluating underground geological formations to determine if they can be used as long-term storage sites for large volumes of CO₂.

Geologic sequestration — the trapping of CO₂ in geological reservoirs — may be

one way to safely manage CO₂ over long periods of time. Potential sites for such sequestration include oil and gas fields, coal beds, and abandoned subsurface mines. The project is one of 13 currently funded by the DOE's carbon sequestration research program.

IGS director working to preserve geoscience data and collections

John Steinmetz, director of the IGS and state geologist, has been selected to serve on a committee of the National Research Council investigating the preservation of geoscience data and collections. Concern has been raised that with budget cuts and the downsizing of the U.S. oil industry and some federal agencies, combined with the lack of space in private and public museums, the preservation of geoscience data (for example: cores, cuttings, maps, paper reports, and digital data) are becoming a critical issue for federal agencies, academic researchers, museums, institutes, and industry. The overall goal of the study is to develop a comprehensive strategy for managing geoscience data in the United States.

Mapping the Heartlands

Glacial geologists are currently working on a project titled "New 1:100,000-scale Mapping of the Indiana Heartlands." The project will produce maps of several central Indiana counties, depicting bedrock

(continued on page 12)



John Steinmetz, left, and Denver Harper review maps for the Southwestern Indiana GIS project.

Photo by John Day



Erik Kvale, right, receives the Outstanding Paper in the *Journal of Sedimentary Research* Award.

Geologic Survey

(continued from page 11)

topography and bedrock geology.

The Heartland mapping project will serve as a foundation of geologic information in central Indiana and provide planners with a critical tool for approaching regional and site-specific problems, planning exploration, and regulatory strategies.

Geochemical research

Ron Smith is investigating the removal of toxic metals from acid mine drainage in wetlands constructed for the purpose of reclamation. His project was one of two selected for funding through the Surface Mine and Reclamation Technology grant program sponsored by the Indiana DNR Division of Reclamation.

Educational outreach

Carl Rexroad is helping with the editing of the script and graphics of the "First Life" segment of a geology display being produced by Cortina Productions for the new Indiana State Museum, scheduled to open in May 2002.

John Johnston, Brian Keith, and Todd Thompson, MA'84, PhD'87, participated in the 2000 Science Olympiad State Tournament held at Indiana University. Assisting them in the "Write It/Do It" event was Nelson Shaffer, PhD'96. Sam Frushour helped provide logistical support for the Olympiad. Kim Sowder was coach for Batchelor Middle School's "Road

Scholars" team (which placed third in the National Tournament).

Jeff Kirby conducted a workshop about Indiana geology at the Falls of the Ohio State Park Fossil Festival at Clarksville, Ind.

IGS geologist receives SEPM's award

Erik Kvale, IGS sedimentologist, and his colleagues received the 1999 Outstanding Paper in the *Journal of Sedimentary Research* Award at the 2001 annual Society

for Sedimentary Geology President's Reception and Awards Ceremony in Denver for: E.P. Kvale; H.W. Johnson; C.P. Sonett; A.W. Archer, MS'79, PhD'83; and A. Zawistoski; 1999, "Calculating Lunar Retreat Rates Using Tidal Rhythmites," *Journal of Sedimentary Research*, v. 69, no. 6, p. 1154-1168.

2001 IGS director's assistantship announced

The Indiana Geological Survey is pleased to announce the selection of Sarah Pietraszek-Mattner for the 2001 IGS Director's Research Assistantship. The assistantship was established in 1999 and supports an outstanding IUB graduate student for the academic year to conduct earth sciences research related to Indiana. Pietraszek-Mattner will work in collaboration with IGS geologist John Rupp on a project titled "Geochemical Characterization of Degraded Hydrocarbons from Naturally Occurring Seeps of the Illinois Basin." The purpose of this investigation is to learn how hydrocarbon seeps degrade at or near the surface of the earth.

Other IGS news

- IGS director John Steinmetz published an article about the restoration of the Rapp Granary/David Dale Owen Laboratory in New Harmony in the August 2001 edition of *Geotimes*.

- Sam Frushour was named a Fellow of the National Speleological Society at the year 2000 Annual Convention of the Society.

- Maria Mastalerz hosted the 17th



Ron Smith analyzes samples. His current research involves investigation of methods to remove toxic metals from acid mine drainage.

annual meeting of the Society for Organic Petrology, Sept. 17-20, 2000, in Bloomington. She was elected president-elect of the Society for 2001-2002.

- **Maria Mastalerz'** presentation on the application of the electron microprobe to study organic matter, co-authored with Lila Gurba for the University of New South Wales, Australia, received the Best Presentation Award of the 53rd International Committee for Coal and Organic Petrology meeting in Copenhagen. Congratulations!

- **John Rupp** represented Indiana in a national assembly of state representatives in Socorro, N.M., meeting with the U.S. Geological Survey, Electric Power Research Institute, and the Department of Energy to plan for the sampling and analysis of coal samples for a national coal quality inventory.

- **Jeff Kirby** made a presentation about Indiana geology to a group of about 50 teachers at the Rocks and Minerals in Modern Society workshop held at Conner Prairie Living History Museum, Fishers, Ind.

- **Nelson Shaffer** attended the 36th Annual Forum on Geology of Industrial Minerals in Bath, England, where he presented a paper about caves in quarries. The steering committee of the forum accepted an invitation from the IGS to host the forum in 2004.

- **Rick Hill, Paul Irwin, and Kimberly Sowder** attended the "Digital Mapping Techniques '00" workshop in Lexington, Ky., convened by the Association of American State Geologists and the U.S. Geological Survey.

Meet the new folks

- **Randy Snyder** joined the Indiana Geological Survey staff as a GIS/database analyst and is working with **Licia Weber** on the Coal Mine Information System. Snyder came to the IGS from the Indiana Department of Natural Resources, Division of Water, where he most recently served as a network administrator and systems analyst.

- **Sally Letsinger, PhD'01,** joined the staff of the Center for Geospatial Data Analysis as a hydrogeologist. Most recently, Letsinger served as an engineering geologist in the Basin Studies Section of the Division of Water in the Indiana Department of Natural Resources.

- **Marni Lynne Dickson** is a new glacial geologist in the Environmental Geology Section. Dickson comes to the IGS from the University of New Brunswick where she recently received her master's degree in geology with an emphasis on quaternary stratigraphy.

- **Kevin Spindler, MS'99,** recently joined the staff of the Center for Geospatial



Photo by John Day

Sarah Pietraszczek-Mattner, recipient of the 2001 IGS Director's Research Assistantship, works on samples related to her study of degraded hydrocarbons found in natural seeps.

Data Analysis as a hydrogeologist. He received his master's degree from IU's Department of Geological Sciences in 1999 and has been involved in a number of projects within the center.

- **Christina James, BS'98,** and **Chris Walls,** who have been working as contract employees of the IGS, were the successful applicants for two support staff positions. James is working in the Mineral Resources Section as an environmental field technician; Walls is a database manager for the Center for Geospatial Analysis.

- **Jessica Raines** joined the IGS staff as Environmental Section database coordinator.

- **Wilfrido Solano** also recently joined the IGS. He is a reservoir geologist who will be working on the CO₂ sequestration project.

- Graduate student **Grzegorz Lis** is working with **Maria Mastalerz** and **Arndt Schimmelmann** on hydrogen and nitrogen isotopes in coals and kerogens. Lis is a recent graduate with an MS degree in geology from Wroclaw University in Poland; he will pursue his PhD at IU's Department of Geological Sciences.

- **Peng Li** has joined the Indiana Geological Survey as a research assistant and also is working with **Maria Mastalerz** and **Arndt Schimmelmann** on a project on prediction of CO₂ sorption in coal seams using uncrushed coal cores under realistic P, T, and moisture conditions, funded by the USGS. Li received his MSc degree in geology from China and will work toward a PhD degree at IU's Department of Geological Sciences.

- **Ginger Korinek** joined the Center for

Geospatial Analysis as a research assistant and is working with **Sally Letsinger** and **Greg Olyphant** on developing watershed modeling tools using Geographic Information System.

- **Leslie Drozen** recently joined the Indiana Geological Survey as the publications editorial intern; she is working on a second bachelor's degree in geology and on a degree in secondary science education.

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— Deborah DeChurch

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Faculty News

Retirements

David G. Towell and Norman C. Hester from the geology faculty and Lois Heiser, longtime head of the Geology Library, retired last year. The following tributes to them were presented at a reception held in Alumni Hall on April 19, 2001, honoring all faculty and librarians retiring from the Bloomington campus.

David G. Towell

Rare earth elements occur in some minerals in concentrations measured in parts per billion. One of the most powerful and useful analytical tools for measuring such minute concentrations, neutron activation analysis, was developed at MIT in the laboratory of Professor J.W. Winchester in the early 1960s. Some observers claim that the development of this technique was the most important advancement in trace element geochemistry in the past half-century. As a National Science Foundation Fellow, David Towell, working under the supervision of Professor Winchester, played the key role in this development. He also was the first to observe that one of the rare elements, europium, typically occurs in minerals in concentrations different from its rare earth relatives, and he was the first to explain this anomalous behavior correctly. Later, understanding the europium anomaly would play a pivotal role in reconstructing the magmatic differentiation history of the moon. I had never heard of the europium



David G. Towell

anomaly during my graduate study of geochemistry in the 1960s; now it is considered an essential part of the vocabulary of every undergraduate geoscience major. And rare earth geochemistry, then not even recognized in textbooks, now is a major subfield of geochemistry. David Towell was a pioneer in the birth of this subfield.

Dave was born in Fillmore, N.Y., within a few hours' drive of Cooperstown and baseball's Hall of Fame, as the only child of a postmaster and a nurse. A favorite story he tells of their marriage is that the

honeymoon was spent in Cleveland, where the newlyweds attended three Cleveland Indians baseball games with the New York Yankees (and Babe Ruth). With that background, it is not surprising that Dave became an outstanding athlete, later playing varsity baseball at Penn State University, where he received his BS degree and graduated Phi Beta Kappa in 1959. His fondness for and dedication to intercollegiate athletics have been manifest in his devoted work on a variety of assignments while serving on the Indiana University Athletics Committee. This service has touched the lives of scores of student athletes.

Following the completion of his PhD in geochemistry at MIT in 1963, Dave was a Ford Foundation postdoctoral fellow at the California Institute of Technology. Fortunately, during his recruiting visit to Bloomington for the faculty position he later accepted, fresh snow was covering the rolling, forested landscape of Monroe County. This revived fond memories of his youth in western New York and happy days at Penn State. He and Lindsay, now his wife of more than 40 years, quickly decided that sunny Pasadena was no match for Bloomington. They have resided here ever since and raised two wonderful sons.

When Dave arrived in Bloomington in 1964, he intended to utilize a small nuclear reactor at the cyclotron facility to continue development of neutron activation techniques for study of the rare earth elements, but funding for the reactor was deleted from the National Science Foundation budget, which partially supported the facility in those days. Consequently, Dave redirected his research to other elements and isotopes based on studies of rocks from Montana. Through these activities he played an early role in creation of the analytical isotope laboratory in the Department of Geological Sciences, considered by many to be among the best in the nation. Most recently, he has collaborated with **Abhijit Basu** in a predictive study of the composition of Martian rocks.

Probably no other current member of the Department of Geological Sciences faculty has achieved a higher level of career productivity in teaching and in department and university service than Dave. He has taught 16 different courses, ranging from the introductory to the advanced graduate level. Without question, however, his primary passion and love have been for teaching geology in the field at the Judson



Ed Ripley, from left, Arndt Schimmelmann, Cindy Hale, and Don Hattin toast Dave Towell (far right) at a surprise party in the Owen Room on Dave's last day of classes.



Lindsay and Dave Towell at Dave's retirement party in Montana

Mead Geologic Field Station of Indiana University in southwest Montana. For 33 summers, Dave invested on average 70 to 75 hours per week for nearly six weeks, meticulously and tirelessly guiding students through the discovery of the awesome geologic wonders of the Montana Rockies.

Dave is as passionate about his health and about staying in good physical shape as he is about his teaching in the field. He is an avid jogger and monitors his diet more carefully than anyone else I know. As a result, even after he turned 60 he still looked younger than 50, and none of his colleagues and few of his students, regardless of age, climb the Montana mountains with his vigor and speed. I might add that few students and faculty members who had to keep up on climbs with Dave, myself included, complimented him very often on this particular ability, even though we all envied it.

Unlike some colleagues who view service as a necessary evil in their faculty life, Dave has always considered service as important as teaching and research. He has served six multiyear periods on the department's Committee for Graduate Studies and chaired the committee during two of the terms. He has been a member of 21 other departmental committees and has also served as associate chair of the department for four years and as associate director of the Montana field station. The department shares his pride in the *Hoosier Geologic Record*, the widely acclaimed annual departmental newsmagazine that Dave has edited for the past 13 years, and which has played a significant role in the success of the department's development and fund-raising efforts. At the campus level, Dave has been a member of the Faculty Council in both the '80s and '90s, for a total of more than six years. During this time he served on a

number of council committees and subcommittees; he is currently completing his fifth year as a member of the Athletics Committee.

As his friend for 35 years, his colleague in Montana for nearly 28 years, and his department chair for seven years, I have observed firsthand Dave's incredible loyalty to and love for the university, his outstanding professional integrity and responsibility, and his generosity, kindness, and sensitivity as a human being. Dave is a true gentleman. From small-town Fillmore to metropolitan cities on the East and West Coast, then to Bloomington and Montana and now Mars, Dave has enjoyed a wonderful geographic and geologic journey. The journey will not end with his retirement. He and Lindsay intend to purchase a recreational vehicle that will permit them to continue their exploration of the United States and Canada as the primary focus of their well-deserved retirement years.

— Lee J. Suttner

Norman C. Hester

Norman C. Hester served as Indiana's 13th state geologist, director of the Indiana Geological Survey from 1986 to 1998, and as a faculty member in the Department of Geological Sciences from July 1986 through February 2000. During his tenure as state geologist, Hester promoted the importance of geology to state, federal, and local officials as a vital component to decision-making. He fostered improved communication and cooperation among the state geological surveys of Indiana, Kentucky, Illinois, and Ohio, the Illinois Basin Consortium being the most notable example of these efforts. Among his many contributions to the welfare of Indiana, Hester's role in the revitalization of the IGS geologic mapping program cannot be overemphasized. Working with contacts in the U.S. Geological Survey and with numerous members of the Association of American State Geologists, he laid the groundwork for a variety of significant contributions to STATEMAP, one of three elements funded under the umbrella of the National Cooperative Geological Mapping Act.

Under Hester's leadership, the IGS earned national recognition for its contributions to the three-dimensional portrayal of nonlithified materials in various northern Indiana counties, for aquifer characterization studies throughout the state, and for work on the performance of geological materials during earthquake-induced ground shaking in the greater Evansville area. Norman was also a key person in the establishment of the Central United State

Earthquake Consortium-State Geologists, an active program involving the cooperative development by the staff of seven Midwestern state surveys of a variety of derivative maps that illustrate elements of seismic hazards, including ground-shaking amplification and liquefaction. He continues his services to this group on contract with the USGS as principal liaison between the state and federal surveys.

Hester served in the U.S. Navy from 1952 to 1956. He then attended the University of Cincinnati, where he was a NASA fellow and Fenneman fellow; he earned the PhD there in 1968. His career has ranged from a position as a field geologist for an oil company to the management of his own petroleum exploration company to research and teaching. He began his career as a geologist at the Illinois State Geological Survey (1968–73). He then accepted an appointment at Eastern Kentucky University as associate professor of geology (1973–78). At the same time, he worked with the Kentucky Mapping Co-op for the United States Geological Survey (1974–77) and held the position of vice president at Keystone Geological Consultants Inc. (1977–78). He moved to the Kentucky Geological Survey in 1978 as assistant state geologist (1978–80). This was followed by four years as exploration manager at Consolidated Resources of America Inc. and two years as manager of Hester Exploration and Consulting (1984–86). Between 1986 and 1998, as described above, Hester served as state geologist, director of the Indiana Geological Survey,

(continued on page 16)



Photo by John Day

Norman C. Hester

Retirements

(continued from page 15)

and a faculty member in the geological sciences at Indiana University. Since 1998 he has been director of CUSEG-SG.

Hester has also contributed to the Association of American State Geologists in various capacities including service on the ASSG Liaison Committee to Washington, D.C.; the Central Great Lakes Geological Mapping Coalition; the Illinois Basin Consortium; the Cincinnati Arch Consortium; Professional Geologists of Indiana; and the Center for Earth and Environmental Sciences Advisory Board. As a member of the Rapp Granary Owen Foundation Advisory Board, he actively solicited funds for the restoration of the Rapp Granary in New Harmony, Ind.

Working with the U.S. Department of Commerce, Hester negotiated a partnership among coal-fired utilities, the USGS, and collaborators within the IBC to gather new subsurface information and collect existing coal-quality data from producers within the Illinois Basin, which is a broad structural feature encompassing Illinois, much of Indiana, and western Kentucky. The result of these efforts produced a modest resurgence in interest in selected low-sulfur coals (e.g., Springfield coal) within the basin.

In what was perhaps his single greatest contribution to the long-term health of the Indiana Geological Survey, Hester made a case for and received support from throughout state government for the transfer of the IGS from the auspices of the Department of Natural Resources to Indiana University as an institute of the Office of Research and the University Graduate School with its own budget line. The move consolidated budgetary and management control under one roof and has served to insulate the survey from radical upsets experienced by the DNR as a result of political change. Moreover, the transfer has allowed the survey to be a stronger partner with Indiana University as an institute of directed research that is committed to providing earth-science information and educational outreach to the benefit of all Indiana citizens.

—John R. Hill

Lois Heiser

Lois Heiser came to Indiana University from New York City in the mid-1950s to earn a BA in biology. Her quest for an IU degree was interrupted when she returned to New York to work for several years. After attaining the position of treasurer with Database Corp., a company specializing in computer applications in

market research surveying, she decided to come back to IU and resumed her studies with a new major, German language and literature. Fortunately for the IU Libraries, former director of the IUPUI University Library Barbara Fischler (then assistant undergraduate librarian at IUB) offered her part-time employment, and Lois chose to enter library school after the completion of her BA in 1966. She received the MS in library science in 1969.

It is difficult to imagine the IU Libraries without Lois because she has been so deeply involved in so many aspects of the library, from technical to public services. She started her library career as a cataloger, but became the assistant acquisition



Lois Heiser displays the cake at her retirement reception in the Elephant Room in April 2001.

librarian in 1969, a position she held until 1981. For the past two decades, Lois has provided outstanding public service as head of the Geology Library. In a large and complex system such as the IU Libraries, it helps tremendously to bring to a job that deals directly with the public a thorough knowledge of the acquisitions systems and procedures and the cataloging rules that ultimately result in the original library database — the catalog.

Widely recognized as an expert reference librarian in the geosciences, Lois, in a typical year, would field reference questions from around the world. A geology faculty member has written, "Lois Heiser is a

superb librarian in all senses. She is unequalled in helping you find difficult things and references, in using and helping you use Library Services through the Web, in keeping the library up to date, and in doing things on the spot." While all whom she has helped would likely sing similar praises, some have chosen to show in other ways their appreciation of Lois and the collection she has helped build in the last two decades. For example, the president of the Exmin Corp. makes no secret of the fact that Exmin chose to locate in Bloomington largely because of the Geology Library. He has told me repeatedly how valuable the assistance has been from Lois, and to underscore the point, Exmin has made significant financial donations to the library over the years.

The past three decades of librarianship have seen tremendous changes in information technology. Lois's guiding hand can be seen in some of the key implementation committees that planned IU's approaches to library automation. She served on the OCLC Implementation Task Force and the Data Base Committee. Lois was an early adopter of CD-ROMs in the Geology Library, and she introduced some of the more innovative services there, including a popular geology Web site.

The institutional memory of Indiana University will suffer a tremendous loss when Lois retires, for she was among the group of young Turks that founded InULA, the Indiana University Librarians Association. InULA played a significant role in the creation of faculty status for librarians at IU. Lois has served in InULA in a number of capacities over the years, notably as the first president of the organization. For more than a decade she was heavily involved in the National Library Week activities of InULA, which culminate in the IUB Libraries book sale that has provided funds for an annual SLIS graduate student scholarship. There was a period of time on this campus when the American Federation of Teachers was quite active in addressing various issues of interest to the faculty, particularly salary issues. Lois served the AFT both as treasurer and vice president and was the editor of the AFT newsletter, *On Campus*.

Once faculty status for librarians was achieved, Lois stepped to the fore to accept a succession of important assignments as a member of the Bloomington Faculty Council from 1977 to 1985.

The Bloomington Library Faculty Council and the IU Library Faculty Council also have profited from Lois's participation over the years, both as a member of the councils and as a member of their committees. She was frequently a member of the

Faculty activities

Abhijit Basu continues his work on “lunar regolith petrology” with support from NASA. He is also a frequent visitor to Italy, enjoying the wine and food as well as doing research on Tertiary deep-sea deposits and on pollution in the Venice Lagoon. Basu has been teaching Intensive Freshman Seminars, a program cited by *Time* magazine supporting its decision to name IU the College of the Year in its class. Basu does not seem to get his fill of teaching at IU and so last summer taught at the Universities of Parma and D’Annunzio in Italy. He has been active in university governance as a member of the Wells Scholar and Honors College Scholarship committees, India Studies Program Advisory Council, Faculty Affairs Committee at both campus and university levels, IU Honorary Degree Committee, Board of Directors of the Society for Advanced Studies, etc. And by the way, he still finds time to serve as editor for the *GSA Memoirs, Special Papers, and Reviews in Engineering Geology Series*.

Simon Brassell was on the *JOIDES Resolution*, Ocean Drilling Program ship last fall. They were drilling in the area east of Japan in the North Pacific.

Bob Dodd is enjoying his retirement, but still is a frequent visitor at the department. He and Basu organize the Friday morning faculty coffees. Dodd also meets regularly with the geobiology faculty for their brown bag lunches. In a weak moment, he agreed to work with **Sara Marcus** to edit the *Hoosier Geologic Record*, a bigger job than he anticipated. He is planning a short course in Carbonate Petrology to be taught during spring 2002.

Dodd and his wife, Joann, continue to travel frequently, including to Italy, Patagonia (southern Chile and Argentina), and Alaska during the past year. He is still running, biking, bird watching, doing volunteer work with the Red Cross, and tending to his rose garden.

John Droste can be found in the Petroleum Section of the Indiana Geological Survey on most mornings. He continues to do research on subsurface stratigraphy of Indiana.

Erika Elswick participated in an Ocean Drilling Program’s Leg 193 to the Manus Basin, Bismarck Sea, north of Papua, New Guinea. She was one of the geochemists aboard the *JOIDES Resolution* from early November 2000 until early January 2001. The main goal of the trip was to study a chimney field produced by venting of hydrothermal fluids.

Elswick’s interest in the site, for post-cruise research, is the secondary vein fillings in the highly altered rocks. She is also studying the carbon and sulfur isotopes of the Stanley Shale of the Arkansas barite district, and the sulfur and strontium isotopes of the barites of the Red Dog mine in Alaska.

Michael Hamburger is on sabbatical leave at the UNAVCO Consortium in Boulder, Colo., where he is collaborating with Chuck Meertens on a project concerning Philippine volcanoes, as well as on some new education and outreach projects. Hamburger was invited to make a presentation to the National Academy of Sciences panel on the major new NSF initiative “Earthscope”. He and **Gary Pavlis** are both participants in this major new geophysical/geodynamic project on crustal processes in the North American continent. Hamburger

is planning a new introductory-level field course with **John Rupp** of the Indiana Geological Survey, titled “Volcanoes of the Eastern Sierra Nevada: Geology and Natural History of the Long Valley Caldera.” They will teach the course in the Long Valley caldera of eastern California.

Hamburger and Pavlis continue to take on a leadership role in the education and outreach program “U.S. Educational Seismology Network,” which brings research-quality seismic instruments into America’s schools. They are operating a 20-station broadband seismic network in Indiana, with support from the Indiana Commission for Higher Education.

Colin Harvey returned to Bloomington in January 2001 to teach classes in clay mineralogy and X-ray diffraction analysis. Harvey spends most of his time in his homeland of New Zealand where he consults and teaches part time at the University of Auckland in clay mineralogy and geothermal geoscience. Since last spring, he has traveled in Argentina, Brazil, India, and Western Europe. He returned to Bloomington in October to present a colloquium on geothermal energy. He is again teaching courses in clay mineralogy and instrument techniques at IU this spring. Harvey is still an avid runner; he completed the Louisville Mini-marathon in 2001 well ahead of **Dave Towell** and **Bob Dodd**.

Don Hattin led field trips last spring and again in the fall to the National Gypsum mine near Shoals, Ind. Hattin continues to curate numerous displays throughout the Geology Building, including a display of new publications by department faculty and staff. He also

(continued on page 18)

Retirements

(continued from page 16)

BLFC Collection Development Committee, the people who have the difficult task of making recommendations on how to allocate equitably an often inadequate materials budget for books, journals, and other acquisitions. She has also served on more than a dozen search and screen committees for librarians.

For the last two decades, the Geoscience Information Society has benefited from Lois’s active participation. Drawing on her experience in acquisitions, she has served on and chaired GIS’s Geoscience Publications Prices Committee and Collection Development Issues Committee. As listserves became a prominent means of communication in many professions, Lois was instrumental in fostering the development

of GEONETBL, serving as editor and moderator from 1992 to 1996. Lois’s colleagues in the Geoscience Information Society chose her to be president of GIS in 2000. Her professional affiliations at various times in her career have also included the American Library Association, the special Libraries Association, and the Indiana Library Association.

Lois has contributed to a number of publications over the years. For example, she compiled the people and photograph index to Clay Stuckey’s *Origins of the Indiana Limestone Co.* as well as the 1966–94 index to the Proceedings of the Geoscience Information Society. She also contributed to such standard works as the GEOREF database (its theses/dissertations section) and the sixth edition of the *Union List of Geologic Field Trip Guidebooks of North America* (1996). Finally, she served as the

editor of vol. 30 of the Geoscience Information Society Proceedings (2000), aptly titled *Communication Divides: Perspectives on Supporting Information Bridges in the Geosciences*.

In many ways, Lois Heiser has been a bridge in the Indiana University Libraries. Her knowledge of the history of faculty status for librarians at IU and her long employment in the IUB Libraries have helped solve many problems and smooth over many disputes. Coupled with her keen sense of humor, Lois’s insightful comments on difficult issues were often just the thing that was needed to help resolve conflicting points of view. To paraphrase the words of another geology department faculty member, Lois Heiser is a star librarian, and we have been fortunate to have her working with us.

— Gary Wiggins

Faculty activities

(continued from page 17)

continues his scientific writing and reviews articles for scientific journals. Hattin works as a steam locomotive preservation specialist at the Indiana Railway Museum in French Lick. His biography of wife Marge's artist grandfather is in final stages of preparation for publication. Don and Marge are volunteers with Red Cross and are active in the IU Annuitants Association and University Club.

Claudia Johnson continues to focus her research on ancient reef ecosystems. She is investigating the comparative ecologic role of scleractinian corals and rudist bivalves in Cretaceous reefs. Johnson is also studying hierarchy theory and using it as the theoretical framework for determining evolutionary processes within Phanerozoic reef ecosystems.

Johnson and several students from the spring 2001 evolutionary paleoecology class (**Leigh Fall**, **Catherine Jamet**, and **Laura Slade**) embarked on an analysis of the thrombolites from the local St. Louis limestone. They presented their findings at a marine paleontology poster session at the GSA meeting in Boston. Johnson and her students have also done field studies of the Cretaceous of Puerto Rico during the past year.



Mayon Volcano, Philippines, underwent pyroclastic eruption on July 26, 2001. Beth Bartel, an MS student working with Mike Hamburger on a thesis project concerning volcanism in the Philippines, helped to install a GPS monitoring network around this actively erupting volcano.

Erle Kauffman says he has had a "spectacular year." He has his sights set on producing a paper a month and will come near to meeting that goal this year. He has a number of research projects in the works, including a study of a Cretaceous nautiloid bitten by a mosasaur (the first ever described), proof that *Platyceramus* was chemosymbiotic, and the ecology of rudist bivalves. He and wife **Claudia Johnson** have been active on the social scene, going to the IU Theatre, opera, and many concerts. Last summer Erle and Claudia traveled to Glenwood Springs, Colo., to visit with Erle's children and grandchildren.

Noel Krothe traveled extensively in Europe this summer, giving research talks in Sardinia, Rome, and Edinburgh. He also spent a week this September in Munich, Germany, where he co-authored a paper with **Bryan Motzel**, MS'00. The highlight of the trip was the opportunity to attend his son Jason's first scientific talk. **Jason Krothe**, BS'00, is now in his second year of graduate school at the University of Texas. You guessed it; he is majoring in hydrogeology with Jack Sharp. To make us all, especially the earlier hydrogeology students, feel older, Jason was 4 months old when Noel arrived at Indiana in 1976. Noel and Joyce's other children also have interesting careers. Joseph earned a BS in geology at the Pennsylvania State University and is employed as a broker for Amerex Energy in Houston. Kara earned a BA in government at Smith College. She recently earned a law degree at Indiana University and is practicing law with the firm of Glazer and Elbs in Fort Wayne, Ind. In May, Noel will travel to Prague, Czech Republic, to conduct research with scientists from the Czech Geological Survey. From Prague he will go to Slovenia to conduct research in Adriatic Sea karst areas. The trip will end in Rome, where he is cooperating with scientists at the University of Rome. All of this research concerns stable isotopic studies of storm hydrographs in karst regions. Noel will travel to New Zealand over the 2002 spring break to continue isotopic studies with the Geothermal Institute at Auckland University.

Gary Lane continues to be active in research. He and IU alumnus **Bill Ausich**, MA'76, PhD'78, published a paper in the British journal *Folklore* on geologic and paleontologic aspects of the legend of St. Cuthbert's beads, actually crinoid columnals found on Lindisfarne, the Holy Island. Lane and his wife, Mary, attended the GSA meeting in Reno in 2000. They also visited Cabo San Lucas, Baja California, Mexico last year. Their daughter Ann was married in late May. In September, George Sevastopulo of Trinity College, Ireland,

Lane's long-time research collaborator, visited Lane and the department. For the fifth year the geobiology faculty and graduate students held a cookout at the 150-year-old Draper log cabin in Morgan-Monroe State Forest. Lane supervised a stir-fry in his famous giant wok for the 21 in attendance.

Chusi Li has enjoyed collaborating with other petrologists in the department, particularly **Ed Ripley** and **Jim Brophy**, which has resulted in submission of several joint papers. His current research focuses



Voisey's Bay field area in Labrador, where Ed Ripley, Chusi Li, and students are studying Ni-Cu-PGE ore mineralization

on genesis of world-class Ni-Cu and platinum-group element deposits, a project for which he and Ripley received NSF support. Li is busy recruiting graduate students to work on this and related projects.

Chris Maples is doing collaborative research with **Gary Lane**, **Johnny Waters**, MA'76, PhD'78, Gary Webster, and others on global echinoderm biogeography and extinction rebound in Devonian and Carboniferous rocks. They have papers either published or in press on crinoids and blastoids from China, England, Iran, and Germany, and are planning to submit manuscripts during the coming year on crinoids and blastoids from Algeria, Iran, and Morocco. In addition, Maples has been collaborating with Thomas Stanley (a former PhD student from the University of Kansas), former IU postdoc **Lindsey Leighton**, MS'95, and current IU postdoc **Thomas Olszewski**.

Maples currently is president of the Board of Trustees for the Paleontological Research Institute in Ithaca, N.Y. PRI is building a new museum and is in the midst of a multi-million-dollar capital campaign for construction and completion of the new Museum of the Earth. Another major effort is Maples' service as chair of a National Research Council (National Academy of Science) committee on the Preservation of Geoscience Data and Collections. Simply put, we suffer untold losses every year through willful or accidental loss of cores, cuttings, paper logs, fossil and mineral

collections, geophysical tapes, and other types of physical data. The tasks include assessing the scale of the problem and making some recommendations about some possible solutions. Maples has been serving this past year as chair of the American Geophysical Union's Board of Heads and Chairs. At the next meeting, which will take place this coming spring, they will concentrate on legislative lobbying efforts on behalf of geoscience funding.

Jud Mead comes to the department on a regular basis, attending many of the colloquia. He and Jane still spend the summers in their cottage in New Hampshire.

Enrique Merino had a busy year with much traveling. He spent three months last spring in Oslo, Norway, participating in the Advanced Study Institute of the Norwegian Academy of Sciences, where he worked with 12 other invited scientists from Europe and the United States. In March the group took a weeklong field trip to the African Rift Valley in Kenya. In June Merino attended a conference on rock-water interactions in Sardinia, Italy. Merino's wife, Consuela, and son, Miguel, joined him in Italy, where they visited Sicily and where they saw Mount Etna begin a major eruption. They also visited the Eolian

Islands (all volcanoes), where they went to the top of Mount Stromboli and saw it erupting. They also visited the beautiful cities of Rome and Naples. Merino finished the summer with a trip to Madrid, where he evaluated research for the Spanish Ministry of Science. He is continuing his research on replacement and force of crystallization. He is also working on a project concerning basalt alteration with Ed Ripley.

Haydn Murray had a busy year of research and travel. He currently is conducting research with two postdoctoral students, **Qinfu Liu** from Beijing University and **Wanda Allo** from the Universidad del Sur in Argentina. In July Murray attended an international environmental conference in Singapore where he presented a paper co-authored by IU alumna **Karen Keith**, MS'89, PhD'00. Also in July, Haydn and his wife, Juanita, attended the 12th International Clay Conference in Bahia Blanca, Argentina. Also at the conference were 12 other clay mineralogists with IU connections. While in Argentina he was awarded an honorary doctorate from the Universidad del Sur in Bahia Blanca. Haydn is excited that the department is advertising to fill the Murray Chair in Applied Clay Mineralogy. Several promi-

nent clay mineralogists have expressed interest in the position.

Mark Person, the new **Malcolm and Sylvia Boyce Chair in Geological Sciences**, arrived in Bloomington in June. With the help of Lindsay Towell, Mark, his wife, Rachel, and their two daughters, Mattea and Amelia, moved into a home on the east side of Bloomington, within a "stone's throw" of the Maples/Marcus residence (so far, no stones have been thrown). After a whirlwind start that saw Person begin his teaching duties at the Geologic Field Station almost immediately after moving to Indiana, he and his family are getting to know Bloomington better in the only slightly more sedate fall semester, while Person is teaching classes. Person, a hydrogeologist by training, says that the move to Bloomington is an extremely good fit for both him and the department. "For more than a decade, my research interests have focused on petroleum hydrogeology. One thing that really attracted me to Indiana University was the close relationship this department has with their alumni in the oil industry."

Lisa Pratt received the Office of Women's Affairs Distinguished Scholar Award at a special ceremony in the University
(continued on page 20)

Focus on Arndt Schimmelmann, research scientist

Arndt Schimmelmann, research scientist, has been a major contributor to the departmental organic geochemistry program. He currently is working on three projects. The first concerns the history of catastrophic flooding in the Santa Barbara area in California. Flooding occurred roughly every 200 years over the past few thousand years, and it often seems to be correlated with documented climate extremes elsewhere.

The second research project, in collaboration with **Maria Mastalerz** and funded by the Department of Energy, focuses on the role and fate of isotopically exchangeable organic hydrogen in the thermal maturation of kerogen, the insoluble solid organic component in sediments. Graduate student **Grzegorz Lis** has chosen part of this study as his research project on elemental, isotopic, nuclear-magnetic-resonance, infrared spectroscopic, and petrographic changes in naturally maturing kerogens.

Third, also in collaboration with Maria Mastalerz and with funding from the U.S. Geological Survey, Schimmelmann is investigating the possibility of storing industrial carbon dioxide emissions in coal seams while at the same time liberating and producing coalbed methane gas as a fuel that generates comparatively modest greenhouse gas emissions. To this end, graduate student **Peng Li** is researching sorption characteristics of coal at controlled pressure and temperature conditions.

At right: Arndt Schimmelmann adjusts equipment in his lab.



Photo by John Day

Mark Person becomes a Hoosier

In June 2001 **Mark Person** joined the faculty as the **Malcolm and Sylvia Boyce Chair in Geological Sciences**. Person joins us from the University of Minnesota, where he taught in the Department of Geology and Geophysics for the past seven years.

Person spent his undergraduate years in the rolling hills of Pennsylvania, obtaining a BA in geology from Franklin and Marshall College. He then moved on to Johns Hopkins University, where he earned his PhD studying hydrologic constraints on petroleum generation within continental rift basins, a continued area of interest. Person then spent time at the University of New Hampshire before moving to the

University of Minnesota.

Over the past decade, Person, his students, and his colleagues have developed novel computational models that link geologic phenomena such as subsidence, sedimentation, faulting, petroleum generation, and ore body emplacement to hydrologic processes. Person says, "We have used these models to wind back the geologic clock in order to reconstruct fossil groundwater flow systems that developed millions of years ago." These models of fossil groundwater flow have implications for many aspects of geology, from economic geology to paleoenvironmental reconstruc-

(continued on page 21)



Mark Person

Faculty activities

(continued from page 19)

sity Club on March 23, 2001. The award recognizes outstanding scholarship and creative work.

Ed Ripley is continuing his research, mostly involving stable isotopic studies, on metallic ore deposits around the world, including Labrador, Canada, China, and Duluth, Minn. Two of Ripley's PhD students, **Tim Johnson** and **Nur Iskandar Taib**, recently successfully defended their dissertations. Ripley continues to be active in campus service as a member of the College of Arts and Sciences tenure committee and the University Faculty Board of Review. He also serves as an NSF Petrology and Geochemistry Panel member. He can frequently be seen at noontime on the basketball courts in the Wildermuth Recreation Center, taking a break from his busy schedule.

Al Rudman is in his third year of retirement, but he can still be seen daily in his office helping students. He currently is working with **Neelambari Save**, an undergraduate from India, on analysis of GPS data from the Philippines. He is also helping **Shannon Jock** with analysis of geophysical data from the Crane Naval Station. With **Mike Hamburger** on sabbatical, Rudman is helping **Gary Pavlis** with two weekly graduate seminars. In December, Rudman and Joan Lauer attended the AGU meetings in San Francisco, where they did their usual run across the Golden Gate Bridge followed by the annual dinner at Capps.

Arndt Schimmelmenn, with **Maria Mastalerz** from the Indiana Geological Survey and two new graduate students, is

doing research on organic geochemical aspects of coal. Among other things he is also studying isotopic composition of petroleum source rocks. As a change of pace from his research he is working with a Boy Scout troop on their environmental sciences merit badge.

Lee Suttner plans to retire at the end of next year. By that time his last two graduate students, **Shayne Wiessmann** and **Bill Elliott**, will have completed their degrees. Their projects will culminate the last 15 years of work on the nonmarine Early Cretaceous rocks in the Rocky Mountain foreland, which has been the focus of a dozen graduate theses, and extensive postdoctoral study at IU by **Mike Zaleha**. Zaleha now has a teaching position at Wittenberg University.

Suttner is active in fund raising and development for both the department and the Geological Society of America. As the department's active faculty member with the longest history at Indiana University, he probably knows more living alumni than any other active faculty member. Suttner enjoyed visiting with many old friends and students at the annual reception for Houston-area alumni in September.

The extended Suttner family continues to grow. Both twins, Lisa and Lori, delivered children this fall, bringing the total number of Suttner grandchildren to seven. Both twins, like their mom and dad, are teachers, Lori in Grand Rapids, Mich., and Lisa in Bloomington. Jennifer recently re-located with her family to Orlando, where her husband took a position with the Disney Corp. Son Jim is a CPA in Bloomington and regularly squashes his father in golf. Ginny continues as principal at St. Charles School, which was honored

this year by its selection as a national Blue Ribbon School.

David Towell hit the ground running in retirement. His retirement party (see "Geologic Field Station Update") was a rousing success. Thanks go to **Jim Brophy** for help in making it possible. More than 40 people attended, including 11 family members, former teaching colleagues, students, and friends. Pre-party activities included baseball games (five for Towell) at Coors Field in Denver and mountain hikes (three for Towell) in the Colorado Rockies. On the way to the field station, the family visited Grand Teton and Yellowstone National Parks. Post-party activities by the group included mountain hikes and biking in the Tobacco Root Mountains and one more ball game in Denver for Towell.

Fall 2001 included trips to West Virginia (an RV convention in late September), Minnesota (Karen Meyers' wedding in early October), North Carolina (a week in the mountains near Asheville in late October), Pennsylvania (IU-Penn State football game in mid-November), and Virginia (a post-Thanksgiving week at Williamsburg with Bob Dodd and his wife, Joann). In late October, Towell's new GMC crew cab HD truck arrived, followed by the order of a 31-foot fifth-wheel trailer. The rig will be towed to Florida for the month of March for its first major voyage. This will be preceded by a two-week visit to Puerto Rico in mid-January. Late June will find the Towells on a two-week land/water tour/cruise of Alaska.

Bob Wintsch was seriously injured when hit by a car last summer. His condition is now much improved after spending the fall semester recuperating.

New faculty

(continued from page 20)

tions of aquifers and climate.

Person feels that the move to Bloomington is an extremely good fit for both him and the department. "Much of my research has focused on petroleum hydrogeology. One thing that really attracted me to Indiana University was the close relationship this department has with their alumni in the oil industry." Oil and hydrogeology are not often thought of together, but fluid flow through rocks can affect generation of petroleum by both cooling sedimentary rock, driving generation of petroleum deeper than might be expected, and by hydrothermally heating sedimentary rocks, generating petroleum in areas shallower than might be predicted. An example of this from Person's research is work he has done with Carolyn Lampe, a graduate student from the University of

students have concentrated on is the insights that hydrogeology can bring to the genesis of ore bodies. This research again ties nicely into the Department of Geological Sciences' strengths. Research conducted by Person and John Swenson, one of his doctoral students, has led to a hydrologic model of formation of the White Pine ore body on the south shore of Lake Superior. They found that about 1.1 billion years ago, compaction forced warm, saline groundwater upwards. These waters interacted with a pyrite-rich shale layer, forming copper-sulfide ore minerals. This study shows that compaction-driven flow is a viable mechanism for ore genesis, a controversial finding, and an exciting area for more research.

Another area of research for Person is the complex interaction of groundwater and climate. With funding from NASA and NSE, Person, Bill Gutowski (Iowa State), and several students, including Jennifer



Mark Person's visualization wall displays model results in 3-D, using video projectors equipped with polarized filters; from left, Linda Zhang (graduate student), David Dahlstrom (computer support staff, geofluid computational lab), and Mark Person.

Koln, in the Rhine Graben of Northern Germany. Their work there has shown anomalous patterns of shallow oil generation related to one or more hydrothermal fluid flow events along fault networks about 5 million years ago. In a series of papers published in *AAPG Bulletin*, *GSA Bulletin*, and *Water Resources Research*, Person and several of his students have shown how extensional tectonic events have changed the subsurface "plumbing" of sedimentary basins influencing oil generation and migration.

Person argues that while many in the earth sciences view hydrogeology strictly as an environmental science, groundwater plays an important role in numerous other geologic processes as well. Another aspect of hydrogeology that Person and his

York, have been modeling links between subsurface and atmospheric water reservoirs. They have modeled the central Kansas aquifer, and to test their model predictions, they are conducting experiments in northern Minnesota to provide "ground truth" results. Their models show that groundwater is an important, yet often unaccounted for, portion of the atmospheric water budget, and ultimately may affect weather patterns in the Great Plains.

In collaboration with Chris Neuzil and Paul Hsieh of the USGS, Person has developed a graphical user interface for paleohydrologic basin modeling called RIFT2D. This public-domain model permits fast, complex modeling of groundwater flow, heat transfer, faulting, sediment compaction, and petroleum generation. Person hopes that because of its accessibility and ease of use, RIFT2D will become a popular program for the earth science community. With all of this modeling and the obvious need for lots of computer power, Person's "Geofluids Computational Laboratory" opened its doors in October. In addition to containing a lot of computers, the lab has a 6' by 4' visualization wall (GeoWall, see photo) that is used to display model results in three dimensions, using video projectors equipped with polarized filters. Research

associate and lab manager **Dave Dahlstrom** (a former Minnesotan and IU field station alumnus) has joined the staff here in the Department of Geological Sciences. His responsibilities include programming, and keeping the lab up and running, no small task!

Where does Mark Person see his research going? In addition to the areas of interest outlined above, he has research interests in exploring dynamics of mid-ocean ridge hydrothermal circulation systems, saltwater intrusion into coastal aquifers, long-distance transport of soluble hydrocarbons as indicators of petroleum reservoirs, and ice sheets as agents in reorganizing continental scale groundwater-flow systems across North America. Needless to say, he will be keeping busy for the foreseeable future. Person also will be offering classes at IU in environmental geology, hydrogeology (with **Noel Krothe**), computational modeling, basin analysis (with **Lee Suttner**), and petroleum geology (anticipated in fall 2002). In addition, he will participate in the environmental science field course in Montana at the Judson Mead Geologic Field Station.

We welcome Mark Person and his family to Indiana!

Peter Sauer joins the department

Peter Sauer has joined the Department of Geological Sciences as a research scientist, interested in stable isotopes and biomarkers and how they relate to paleoclimate. Sauer and his wife, **Debbie Cohn**, an assistant professor in the Department of Spanish and Portuguese, moved to Bloomington this summer. Sauer earned his BA at Carleton College and a PhD at University of Colorado at Boulder. He worked with former IU faculty member **John Hayes** as a postdoctoral researcher at the Woods Hole Oceanographic Institute.

Before arriving in Bloomington, Sauer had worked with research scientist **Arndt Schimmelmann**, and he is very pleased that they are now in the same building. Sauer feels this will enhance their collaboration. "I'm glad that all I have to do now is walk down the hall to ask a question, instead of e-mailing Arndt and waiting for an answer." In addition, Sauer is pleased that the Department of Geological Sciences has both instrumentation and dedicated support for the machines. He said that this was an aspect of the department that really drew him to IU. "The fact that the department has made a commitment, in terms of both monetary support and

(continued on page 22)

New faculty

(continued from page 21)

excellent support staff, to keep up their instruments, was really appealing.”

Sauer’s research interests are truly global in scale. He is interested in the climate history of the earth, what causes climate changes, and what we can predict about future environmental change based on the paleoenvironmental record. Sauer uses stable isotopes, specifically carbon and hydrogen, as proxies for paleoclimate. He has been exploring correlation of hydrogen isotope ratios in organic compounds with climate.

This research has led Sauer to the top of the world, where he headed a monitoring program of lake water near Iqaluit (Nunavut, Arctic Canada) that examined various climate effects on isotopes in these lake systems. By comparing results from the Arctic with paleoclimates determined from other parts of the globe, he hopes to determine timing and geographical extent of climate anomalies. The ultimate aim is to build a database using this knowledge to show where climate is changing, on what scale, and to try to understand mechanisms that cause climate anomalies. This has important implications for assessing natural climate cycles, and the nature and scale of human impact on climate.

One area of future research that Sauer hopes to pursue at IU is using hydrogen isotope ratios of leaf wax components as a proxy for evaporation rate. Preliminary data suggest that leaf wax preserves isotopic enrichment from evaporation of water, so it may be possible to use D/H ratios of leaf wax components as an integrated, basin-wide paleo-humidity proxy. This research has implications for paleoclimate reconstruction, as well as paleobotany.

Sauer’s research and continued collaborations with colleagues at IU will enhance our understanding of climate recorded by stable isotopes.

We welcome Peter Sauer and Debbie Cohn to Bloomington and wish them long and fruitful careers here at IU.

Postdoctoral Researchers

David B. Finkelstein

Linking climate, tectonics, and terrestrial productivity is one of the main goals of David Finkelstein’s ongoing research, which he is conducting in collaboration with **Lisa Pratt** as a postdoctoral researcher. Fieldwork, petrography, mineralogic characterization, and provenance modeling provide a contextual framework for Finkelstein’s biogeochemical analyses. In



Peter Sauer

addition to his research, Finkelstein has taught several classes, including G104 Evolution of the Earth and G105 Earth, Our Habitable Planet, and has helped teach sedimentology and stratigraphy.

Finkelstein’s current research focuses on Cretaceous lacustrine sediments from Arizona and from present-day Great Salt Lake, Utah. Lacustrine deposits preserve a continuous record of deposition and are excellent archives of climate history. Finkelstein is integrating field and laboratory studies of organic geochemistry and clay mineralogy of Early and Late Cretaceous lacustrine environments to elucidate productivity, biodiversity, paleoclimate, and post-depositional histories during peak greenhouse (high CO₂) and the onset of icehouse (low CO₂) conditions. Knowledge of paleobiological responses to uplift and erosion, nutrient supply, global warming, and onset of cooling events will provide a better model of how Cretaceous terrestrial ecosystems evolved.

To model ancient lake dynamics, Finkelstein has turned to the modern, and is examining and characterizing sediments, biomarkers, and other extractable and solid organic materials from Great Salt Lake. He is using both organic and inorganic sedimentary components to model changes in terrestrial vegetation, nutrient influx and lake productivity, climate of the surrounding catchment, seasonality, and water temperature in the Great Salt Lake.

Thomas Olszewski

Tom Olszewski is working with **Chris Maples** as the postdoctoral fellow in geobiology. In particular, their collaborative research focuses on paleobiogeography of marine benthos in North America during Pennsylvanian time. Coupling a quantitative approach with extensive fieldwork to establish a stratigraphic framework, Olszewski is interested in the response of fossil communities to environmental change. In addition to his research,

Olszewski has organized and taught several graduate-level classes, including a seminar on sequence stratigraphy, which culminated in an 11-day field trip to the Cretaceous Book Cliffs of Utah. He is also leading a graduate seminar class on current topics in geobiology, as well as teaching a class in paleoecologic data analysis, where students presented project results in an open poster session for the department.

Olszewski has been developing a numerical model of time-averaging in marine fossil accumulations, the initial results of which were presented at the 2001 North American Paleontological Convention. In his models, Olszewski inputs parameters such as sediment rate, rate of reworking, and rate of destruction, then runs the models under different starting conditions. These models have produced results that show how different types of shell accumulations can be produced, as well as predictions as to what the actual ages of shells in accumulations should be. The next steps in this research are to continue to refine his models and test them in an actualistic study. In addition, Olszewski continues his work on the influence of climate and eustasy on the stratigraphy of late Paleozoic epeiric seas in North America. He also is involved actively with the Paleobiology Database, a community-wide effort to examine patterns of biodiversity through the Phanerozoic.

Have tag, will travel



Send us your business card — or just your business information — and we’ll send it back to you laminated and attached to a strap, perfect for your traveling pleasure. (One tag per graduate, please.)

Your luggage tag will show that you are proud of your connection to the College of Arts & Sciences at IU and will improve our alumni database.

Mail your card or information to Luggage Tags, College of Arts & Sciences, Kirkwood Hall 208, 130 S. Woodlawn, Bloomington, IN 47405.

We want to hear from you!

Please use the form on page 32 to send us your class note. While you’re at it, become a member of your alumni association today!

Faculty Research Grants

Faculty research grants 2000–2001

- BASU, A. (NASA) — “Petrologic Evolution of Lunar and Meteorite Parent Body Regolith”
- BRASSELL, S. (NSF) — “Evolution of Temperature Controls on Alkenone Biosynthesis”
- ELSWICK, E. (Texas A&M) — “Exploration of the Coupling of C, S, and Fe Stable Isotopes in a Felsic-hosted Hydrothermal System, Eastern Manus Basin”
- HAMBURGER, M. (NSF) — “Collaborative Research: GPS Measurement of Crustal Deformation at Pinatubo and Taal Volcanoes, Philippines”
- HAMBURGER, M. (NASA) — “GPS Measurement of Crustal Deformation at Taal Volcano, Philippines”
- HAMBURGER, M. (NASA) — “GPS Measurements of Localized Deformation in the Tien Shan”
- HAMBURGER, M. (DOI- US GEOL SURVEY) — “GPS Data Acquisition in the Wabash Valley Seismic Zone”
- HAMBURGER, M. (NSF) — “Collaborative Research: Self-consistent Kinematics and Dynamics of the United States”
- HAMBURGER, M. (NSF) — “Collaborative Research: GPS Measurement of Tectonic and Volcanic Deformation in an Active Island Arc, Luzon, Philippines”
- HAMBURGER, M. (NASA) — “Lithospheric Rheology and Geodynamic Processes from Integration of Geodetic, Gravity, and Topography Data”
- HAMBURGER, M. (DOI- US GEOL SURVEY) — “GPS Constraints on Present-Day Strain in the U.S. Mid-continent”
- HAMBURGER, M. (ST EMERG MGMT AGENCY) — “Support for Indiana PEPP Seismograph Network”
- HAMBURGER, M. (IND COMM HIGHER EDUC) — “Eisenhower FY00: Teacher Training and Curriculum Develop-

ment in Earthquake Science”

- HAMBURGER, M. (INC RES INST SEISMOL) — “PEPP Instrument Center”
- HESTER, N. (CUSEC) — “Earthquake Hazard Program”
- JOHNSON, C. (NSF) — “Comparative Role of Scleractinian Corals and Ancient Rudist Bivalves in Cretaceous Reefs: Implications for Changes in Reef Composition in a Future Greenhouse World”
- KAUFFMAN, E. (NSF) — “Testing the Hypothesis of a Cretaceous Supertropical Climate Zone in the Caribbean Province: Do Climate Simulations and Observational Data Support the Concept of Tropical Stability?”
- KROTHER, N. (Purdue) — “Collection of Water Samples for State Chemist Office”
- KROTHER, N. (COMARCO) — “Groundwater Investigation at the Ammunition Burning Ground, Crane Division, Naval Warfare Center”
- KROTHER, N. (CBS Corp.) — “Determining the Direction of Shallow Groundwater Flow at Lemon Lane Landfill: A Temperature, Depth to Bedrock, and Fracture Trace Study”
- MAPLES, C. (NSF) — “SGER: Devonian-Carboniferous Echinoderms from Iran: Implications for Extinction Rebound and Global Repopulation”
- OLYPHANT, G. (Purdue) — “Illinois-Indiana Sea Grant, College Program Graduate Fellowship”
- PAVLIS, G. (NSF) — “Direct Imaging of Crust and Upper Mantle Structure with Broadband Seismic Arrays”
- PAVLIS, G. (IRIS) — “Princeton Earth Physics Program Instrument Center: IRIS Educational Outreach”
- PAVLIS, G. (NSF) — “Princeton Earth Physics Program Instrument Center”
- PAVLIS, G. (U.S. Department of Defense) — “Collaborative Research: Seismic Catalogue Completeness and Accuracy”
- PAVLIS, G. (NSF) — “Educational Seismic Network Workshop”
- PERSON, M. (Bechtel BWXT Idaho) — “Computer Modeling of Regional Groundwater Flow and Migration in Sedimentary Basins of the Colorado Plateau”
- PERSON, M. (Bechtel BWXT Idaho) — “Assessment of Long-term Variations in Soil Moisture and Regional Groundwater Flow Across the Snake River Aquifer in Response to Potential Climate Changes”
- PRATT, L. (Princeton) — “Subcon-

tract Proposal to Princeton University: South African Ultra Deep Mines — Long-term Sites for Interdisciplinary Studies (LSLIS) into Extreme Environments of the Deep Subsurface”

- PRATT, L. (Texas A&M) — “JOI/ USSSP Post-Cruise Support Proposal: Oxygen, Hydrogen, and Carbon Isotopic Composition of Interstitial Waters at ODP Site 1150, Leg 186; Support for German Mora”
- PRATT, L. (Petrobras) — “Petrobras/ CENPES-Indiana University Collaborative Scientific Agreement: Continuation”
- RIPLEY, E. (NSF) — “Re-Os Isotopic Systematics Accompanying the Conversion of Organic-rich, Pelitic Country Rocks to Hornfels, Magma Contamination, and Sulfide Ore-genesis, Duluth Complex, Mid. Rift, Minn.”
- RIPLEY, E. (NSF) — “Stable Isotopic Studies of the Voisey’s Bay Cu-Ni-Co Deposit, Labrador Canada: The Role of Externally-Derived Sulfur in Ore Genesis”
- SCHIMMELMANN, A. (NSF) — “Reconstructing Extreme Southern California Flood Events from Gray Flood Deposits in Santa Barbara Basin since 5000 B.P.”
- SCHIMMELMANN, A. (U.S. Department of Energy) — “Significance of Isotopically Labile Organic Hydrogen in the Thermal Maturation of Source Rocks”
- SCHIMMELMANN, A. (NSF) — “Collaborative Research: Reconstructing Southern California Flood Events from Gray Flood Deposits in Santa Barbara Basin Sediments since 5000 B.P.”
- SCHIMMELMANN, A. (Woods Hole Institute) — “Isotopic Biogeochemistry, IU/WHOI/NASA Subcontract”
- SCHIMMELMANN, A. (Shell Intl.) — “IU/Shell International Exploration and Production, Inc. Cooperative Project”
- SHRINER, C. (Ind. Academy Science) — “The Application of an Integrated Analytical Approach to the Study of ‘Aeginetan Ware’ Technology and Production”
- WINTSCH, R. (NSF) — “History of Terrane Assembly, Eastern New England”
- WINTSCH, R. (NSF) — “Identifying Multiple Thermal Events in Polymetamorphic Rocks: Electron and Ion Microprobe Analysis of Complexly Zoned Titanite”
- WINTSCH, R. (NSF) — “Supplement to Identifying Multiple Thermal Events in Polymetamorphic Rocks: Electron and Ion Microprobe Analysis of Complexly Zoned Titanite”

Answers to History Quiz

1. 1886
2. William Ausich
3. 1952
4. Gary Lane
5. in 1964 to Don Hattin
6. \$8,500
7. 13
8. J.J. Galloway
9. Theodore Dreiser
10. Robert Shrock

'Screwball tradition' alive and well

Most IU geology alumni will remember the traditional presentation of the Screwball Award at the annual Christmas party. The award was originated in 1964 by **Don Kissling**, PhD'67, in recognition of the eccentric ways of his faculty adviser, **Donald Hattin**. Kissling prepared a trophy consisting of a gold-painted sphere with a large screw penetrating it, set on an elaborate base. As Hattin was not the only faculty member with eccentric ways, the award was presented annually to a faculty member selected as best exemplifying the screwball by popular vote of students, faculty, and staff of the department.

Soon the students initiated the tradition of campaigning for their favorite faculty member. Posters usually began to appear on walls around the building about Thanksgiving time, sometimes almost completely covering the bare cement blocks. Some faculty got into the spirit of the occasion and actively campaigned for election. Other faculty members (or at least one) would deliver a "sour grapes" speech when he failed to win.

The screwball tradition and indeed the Christmas party itself went into semi-decline in the late 1990s. The award was not made every year, and eventually the trophy was lost. The award resurfaced with

considerable enthusiasm in December 2000. Graduate student **Bill Elliott** went to great effort using Salem Limestone to sculpt a new trophy consisting of sphere, screw, and elaborate base (see photo), much like the original but more impressive, being made of stone. Appropriately, the first winner of the new trophy was Elliott's eccentric faculty adviser, **Lee Suttner**. A vigorous campaign is sure to follow for Christmas 2001, with many well-qualified faculty and enthusiastic students.

Degrees awarded, 2000-2001

Bachelor of Arts

J. Wayne Britton (Gosport, Ind.)
Bronwyn Goodnight (Hagerstown, Ind.)
William Lewis (Columbus, Ind.)
Katherine Lloyd-Jones (Indianapolis, Ind.)
Solimer Mercado (Coamo, Puerto Rico)
Jennifer Pechie (Union City, Ind.)
Dawn Uroff (Stanwood, Wash.)

Bachelor of Science

Gregory Allion (Zionsville, Ind.)
Jason Errickson (Metuchen, N.J.)
Mark Henning (Fort Branch, Ind.)
Brian Howard (Carmel, Ind.)
Frances Knapczyk (Bloomington, Ind.)

Paul Lester (Indianapolis, Ind.)
Daniel Miksich (Schererville, Ind.)
Ralph Milliken (South Bend, Ind.)
Carrie Taylor (Columbus, Ind.)

Master of Science

• Kenneth Arroyo Jr., New York, N.Y. (2001): "A Shallow Temperature Profile, Fracture Trace and Very Low Frequency Investigation to Determine Locations of Lateral Inflow Beneath a Superfund Site in Bloomington, Ind."

• Dana L. Cannon, Cincinnati, Ohio (2001): "Delineating Mineral Water Flow Paths Using Oxygen, Hydrogen, and Inorganic Carbon Isotopes"

• Burvee M. Franz III, Milford, Conn. (2001): "Assessment of Potential Coal Slurry Resources for Electric Power Generation in Southern Indiana"

• Steven P. Loheide II, Lodi, Wis. (2001): "The Use of Stable Isotopes in Hydrology — Case Studies on the Mineral Springs of South-Central Indiana and the Taupo Geothermal System in New Zealand"

• Bryan C. Motzel, Simi Valley, Calif. (2001): (Research Paper) "A Hydrochemical and Stable Isotopic Study of Groundwater Impacted by Nitrogen and Sulfur Sources in an Unconfined Outwash Aquifer in Jackson County, Ind."

• Vladimir P. Rybakov, Klaipeda, Lithuania (2001): "Intraplate Deformation and Seismic Activity in the Wabash Valley Seismic Zone"

• Judith C. Thomas, Hiram, Ohio (2001): "Monitoring and Statistical Modeling of Bacterially Contaminated Stream-Flow at the Outlet of Burns Ditch, South Shore, Lake Michigan, Ind."

Doctor of Philosophy

• Christopher P. Carlson, Evanston, Ill. (2000): "The Influence of Septic-System Discharges on Groundwater Quality Within a Coastal Dune Complex: Beverly Shores, Porter County, Indiana"

• Sally L. Letsinger, Greenfield, Ind. (2001): "Simulating the Evolution of Seasonal Snowcover and Snowmelt Runoff Using a Distributed Energy Balance Model: Application to an Alpine Watershed in the Tobacco Root Mountains, Mont."

• Anthony J. Park, Seoul, Korea (2001): "A Multi-Process and Reservoir Simulator: Effects of Multi-Mineral Diagenesis, Pressure Solution, and Textural Dynamics"

• Christian J. Poppeliers, Orlando, Fla. (2001): "Prestack Planewave Migration of Teleseismic P-to-S Converted Phases"



Photo by John Day

The new Screwball Trophy was sculpted by Bill Elliott and first presented to Lee Suttner in December 2000.

We need your help!

The only known record of past recipients of the Screwball Award was contained on the plaque on the trophy itself. When the trophy was lost, the record of past recipients was also lost. We know that the first recipient was **Don Hattin**, followed in 1965 by **Tom Perry** and in 1966 by **Jud Mead**. Beyond that we are unsure of who won the trophy in what year.

We are asking our alumni to help us reconstruct the record. Many of you surely remember who won the trophy in a particular year or years. Please send that information to Bob Dodd at the Department of Geological Sciences (e-mail dodd@indiana.edu). Please do not be concerned about duplicating information someone else might be sending, or we may not get any responses. We hope to receive enough responses to reconstruct the list of recipients so that it can go into the historic records of the department. We will publish the list in next year's *Hoosier Geologic Record* if we are successful.



Chair Chris Maples makes a plea for funds in faculty skit at the December 2000 Christmas party.

- Alex L. Sessions, New Haven, Conn. (2001): "Hydrogen Isotope Ratios of Individual Organic Compounds"

Student Research Day

April 4, 2001, saw the inauguration of a new, exciting opportunity for IU Department of Geological Sciences students: Student Research Day. This day was set aside for students to present their research to a panel of judges, with \$250 prizes awarded for the best talk and the best poster.

The primary objective of Student Research Day is to allow both undergraduate and graduate students the chance to show faculty and research scientists, scientists from the Indiana Geological Survey, and fellow students their current research projects or proposed research areas. In addition, students received feedback about their projects from all in attendance. Students had the option of presenting a poster or a talk about their research. Talks were done GSA-style, 15 minutes per presentation, with time for questions at the end of the talk. Posters were presented to a panel of judges, and then the presenters answered questions.

The judges for Student Research Day were **Erika Elswick**, **Dave Finkelstein**, **Erle Kauffman**, **Chris Maples**, **Maria Mastalerz**, and **Tom Olszewski**. They had such a hard time deciding a winner among all the excellent talks and posters that there were co-winners in each category. In the talk session, there was a tie between undergraduate **Ralph Milliken** and PhD candidate **William Elliott**. **James Van**

Alstine, an MS student, and **Rachel Walker**, a PhD candidate, tied in the poster session. Congratulations to them and to everyone who participated for a job well done! The experience made them all winners.

Oral Presentations:

- Warren Bigelow: "Changes in epibiont communities during the Late Ordovician on the Cincinnati Arch"
- Jamie Blevins-Walker: "An eastern provenance for the New Haven arkose and the Portland formation of the Hartford and Pomperaug basins: Broad terrane revisited"
- *William Elliott: "Depositional control on the clay mineralogy of mudstones from the lower Cretaceous Cloverly Formation of central Wyoming"
- Russell House: "Keeping up with the Jones's: Intraspecific competition as a driving force for speciation (lessons from epiboles)"
- Jennifer Latimer: "Eocene to Miocene terrigenous inputs and export production: Geochemical evidence from ODP Leg 177, Site 1090"
- Steve Loheide: "Stable isotopes — What are they good for?"
- *Ralph Milliken: "Life in extreme environments: Microbial sulfate reduction in deep South African gold mines"
- Christian Poppeliers: "Imaging the earth using teleseismic P-to-S converted phases: Deconvolution and planewave migration"
- Natali Uschner: "Sexual dimorphism in Late Cretaceous *Baculites*"

Posters:

- Kenneth Arroyo: "A fracture trace, very low frequency and temperature profile

investigation to determine locations of lateral inflow beneath a Superfund site, Bloomington, Ind."

- Leigh Fall: "Evaluation of methods for morphometric analyses of rudist bivalves"
- Mark Henning: "Isotopic integrity of hydrocarbon gases stored in various syringes"
- Sally Letsinger: "Comparison of isotropic versus anisotropic energy distribution in an alpine watershed"
- Sarah Pietraszek-Mattner: "Geochemical fingerprints and biomarkers of naturally occurring petroleum seeps, Illinois Basin"
- *James Van Alstine: "Field analysis of an exposure surface within the King Hill Shale Member (Upper Pennsylvanian, Lecompton Limestone), Mid-continent, USA"
- *Rachael Walker: "Variations in coal chemistry and implications for coking"

*Winners

Five companies recruit in geology department

The following companies sent representatives to the department to recruit both full-time employees and interns during 2000–01.

- Chevron Oil Co., Houston, Texas, and New Orleans, La., (Carole Rock and Jennifer Ayres Coates)
- ExxonMobil Oil Co., Houston, Texas, (Barbara Rassmann)
- Shell Oil Co., Houston, Texas, (Brett Hampton)
- Schlumberger Oilfield Services, Sugar Land, Texas, (Matthew Law)
- Phillips Petroleum Co., Bartlesville, Okla., (Chip Feazel)

(continued on page 26)



Five hydrogeology students who went through graduation ceremonies in May 2001 are, from left, Steve Loheide, Dana Cannon, Catherine Talbot, Kenny Arroyo, and Brian Motzel; Professor Noel Krothe is at the far right.

ExxonMobil hosts spring field trip to New Mexico

Students **Kenny Arroyo, Kirsten Bannister, Matthew Campbell, Dan Capps, Bill Elliott, Leigh Fall, Tom Kulp, Sarah Pietraszek-Mattner, Laura Slade, Natalie Uschner, and James Van Alstine** participated in a field trip sponsored by ExxonMobil March 24-30, 2001, to the Guadalupe Mountains in New Mexico. In addition to Indiana University, students from the University of Wyoming, University of Utah, University of Florida, and the University of Miami, Fla., participated in the field trip. The field trip leaders from ExxonMobil were **Chuck Calavan, Tim Garfield, Barbara Rassmann, and Rick Sarg.**

The purpose of the trip was to expose graduate students to sequence stratigraphic approaches to mixed siliciclastic-carbonate systems. The group studied the Capitan Reef complex and saw evidence of its progradation and development. They also had the opportunity to observe sandstones and mudrocks of the Brushy Basin Formation, which are turbidites and deep-marine siliciclastic deposits in the Delaware Basin. Highlights of the trip included hikes in the Guadalupe Mountains and a tour of Carlsbad Caverns.



IU geology students participating in ExxonMobil spring field trip enjoy the sunshine at White Sands, N.M.: from left, Laura Slade, Leigh Fall, Natalie Uschner, Kenny Arroyo, Matthew Campbell, Kirsten Bannister, Sara Pietraszek-Mattner, Dan Capps, and Tom Kulp. (Not pictured: James Van Alstine and Bill Elliott, the photographer.)

Student notes

(continued from page 25)

Student Awards & Grants

Undergraduate

- N. Gary Lane Beginning Geologist Award: Joseph Balta (Portage, Ind.)
- Junior Award: Brett Tipple (Fort Wayne, Ind.)
- Professional Development Award: Melissa Gibson (Fortville, Ind.) and Rebecca Riall (Rossville, Ga.)
- Faculty Scholarship (Senior) Award: Ralph Milliken (South Bend, Ind.)
- Field Station Scholarships: Deiss Award — Brett Tipple (Fort Wayne, Ind.); Mead Scholarships — Melissa Gibson (Fortville, Ind.), Laurence Hawkes (Bloomington, Ind.), Russell House (Oxford, Ala.), and Michael McKendry (Indianapolis, Ind.)

Graduate

- Estwing Award (Hammer) and Outstanding Academic Achievement: Steven Loheide (Lodi, Wis.)
- Department of Geological Sciences Award for Academic Achievement: Tae-Hong Kim (Seoul, Korea)
- Outstanding Associate Instructors: Sarah Pietraszek-Mattner (Glenwood, N.Y.) and James Van Alstine (Morris, Minn.)
- Departmental Citizenship Award: William Elliott (Latrobe, Pa.)
- Chancellor's Fellowship: Matthew

Campbell (Spartanburg, S.C.) and Steven Loheide (Lodi, Wis.)

- Graduate School Fellowship: William Elliott (Latrobe, Pa.)
- Graduate School Fellowship and Departmental Oil Company Fellowship: Steven Loheide (Lodi, Wis.)
- Chevron Oil Fellowship: Christian Poppeliers (Orlando, Fla.)
- Geology Department Minority Oil Company Fellowship: Miriam Attenoukon (Baltimore, Md.)

• Women-in-Science Fellowships: Karen (Cyr) Kelsheimer (Fort Wayne, Ind.) and Sarah Pietraszek-Mattner (Glenwood, N.Y.)

• Geological Society of America Research Grant: Warren Bigelow (Santa Monica, Calif.)

• Schlanger Ocean Drilling Program Fellowship (two awards given per year); a JOI/OSSSP Research Award; and selected as a Shipboard Scientist for ODP: Jennifer Latimer (Indianapolis, Ind.)



Award recipients at the April 2001 Student Award Ceremony are, from left, Brett Tipple, Scott McCamma, Melissa Gibson, Russell House, Michael McKendry, Laurence Hawkes, and Bryan Beiler.

Alumni Notebook

Before 1960

S. Ross Taylor, PhD'54, an Owen Award winner in 1985, worked for 30 years at the Research School of Earth Sciences at the Australian National University as an expert in trace element geochemistry. He is now an emeritus professor and visiting fellow at Australian National University.

William F. Moll, MA'58, is semi-retired but still serves as chair of the technical committee of the Sorptive Minerals Institute. In February, he received the Hal Williams Harding Award from the American Institute of Mining, Metallurgical, and Petroleum Engineers for contributions to industrial materials.

1960s

Bernard R. Berry, MA'61, has worked a variety of jobs, including as a special agent for the FBI, a security specialist with Coca-Cola, and a private investigator. He currently is a volunteer at a local hospital and a mentor in public schools. He lives in Cumming, Ga.

Benjamin Richard, MA'61, PhD'66, professor emeritus at Wright State University, was awarded the W.W. Mather Medal for 2000 by the Ohio Geological Survey. The medal recognizes outstanding contributions to the knowledge of geology of the state of Ohio.

Jack Sunderman, PhD'63, was featured in an article in the November/December issue of *Outdoor Indiana*. Since his retirement from the geology department at Indiana University-Purdue University Fort Wayne, Sunderman has been studying the origin of pre-Pleistocene, Cenozoic sediments and fossils in a sinkhole discovered in a quarry in northern Indiana. The sediments were apparently transported by the ancient Teays River.

Kennard B. Bork, MA'64, PhD'67, was the 2000 Neil Miner Award winner of the National Association of Geoscience Teachers, for exceptional contributions to the stimulation of interest in the earth sciences. He is a professor of geology and geography at Denison University in Granville, Ohio.

1970s

Greg Wahlman, BA'72, MA'74, who is employed by BP Amoco, reports that it has been a busy summer for him with time spent working on a project in Jakarta, Indonesia. He then went on a field seminar down the Pecos River Canyon (by canoe).

During the trip one of the group was bitten by a rattlesnake and had to be flown by helicopter to San Antonio.

Neal Immegea, MA'72, PhD'76, was general chair of the Houston Geological Society committee for Earth Science Week. Neal received the HGS President's Award for long-term and valuable service. He also was given the Star Volunteer Award.

James F. Murray, BS'75, was promoted to vice president and general manager of Hunt Midwest Mining Inc. He is responsible for all phases of the company's operations. He lives in Kansas City, Mo.

Clyde Cody, MA'78, recently visited the department while on a trip to visit his parents in Logansport. **Elizabeth Inouye Cody**, BS'78, also visited her parents in Tennessee. The Codys live in Boise, Idaho, where they work as geologists for the state.

1990s

Wes Boberg, MS'90, is a tenured faculty member at Ridgewater College in Willmar, Minn., where he teaches geology, astronomy, and meteorology. He says that he continues to enjoy paleontology, which he incorporates into his teaching program. He is married to Sheree Boberg, they have an infant son, Cain Emrys, and he has a stepson, Anthony, 5. They live in Pennock, Minn.

Lisa Rhoades, MS'91, PhD'99, is employed by Chevron in New Orleans, where she serves as an exploration/production geologist in the offshore Gulf area. Since August 2000 she has been involved in nine successful new wells. She commenced work on another tract last fall. Rhoades will be moving to the stratigraphy/regional team of the new ChevronTexaco Co. and will be involved in training other explorationists within the company. Rhoades was the Chevron representative for the 2001 United Way Campaign and was elected secretary of the New Orleans Geological Society.

Chris Carlson, MS'91, PhD'00, and **Martha Anderson** were married at Grace Episcopal Church in Madison, Wis., on April 21, 2001. Several IU alumni attended the wedding, including **Steve Bennett**, MS'90; **John Hohman**, PhD'98; and **Neil Vaughn**. **Jennifer Lewis**, MS'95, was the "best bridesmaid," and **Alice Nightengale Luhan**, BS'90, was soloist for the ceremony (see photo below).

Rebecca K. Ambers, BA'93, was named to the environmental science faculty at Sweet Briar College in Virginia for the 2001-2004 academic years. She and her husband, **Clifford Ambers**, MS'88, PhD'93, recently moved to Virginia.

(continued on page 28)



The wedding party at the wedding of Chris Carlson and Martha Anderson are, from left, Sara (Elbert) Bennett with Jeremy, Steve Bennett with Nathan, John Hohman, Martha Anderson, Chris Carlson, Jennifer Lewis, Alice Nightengale Luhan, and Neil Vaughn.

Alumni notes

(continued from page 27)

Chris Gellasch, MS'94, is now a captain in the U.S. Army, stationed at the West Point Military Academy. Gellasch is an instructor in the Department of Geography and Environmental Engineering, where he teaches physical geology, field geology (in Colorado), and physical geography. He is also assistant officer in charge of the Orienteering Club and is branch representative for Environmental Science and Engineering. The latter function involves educating cadets on career opportunities within the Medical Service Corps. Gellasch is preparing for publication a paper on geology of the West Point region and is helping the nearby Bear Mountain State Park staff to update displays and information in their Geology Museum.

In September, Gellasch hosted **Don and Marge Hattin** for a football weekend that involved viewing a cadet parade, enjoying a tailgate party at the home of Gellasch's boss, and attending the Army-Cincinnati game.

Lindsey Leighton, MS'95, has recently taken a position on the faculty at San Diego State University. Leighton is finishing a postdoctoral appointment at the University of California at Davis with Sandy Carlson, having been a postdoctoral researcher at IU with **Chris Maples** the previous year.

Changxing Qin, MS'96, died earlier this year in San Francisco. He was born in a small town in Gansu Province, western China. After brilliant research in economic geology at the China University of Geosciences at Beijing, he arrived at our department in 1990. He was working on the PhD degree when he left IU for the West Coast to become a software engineer at Intel, where he was eventually promoted to senior engineer. His career and his life were taking off when he was diagnosed with cancer last May. He is survived by his wife and daughter (born in Bloomington) and by his parents, whom he was preparing to visit for the first time since 1990 at the time of his death.

Donna Surge, MS'96, recently has taken a position on the faculty at Iowa State University.

Eugenio V. Santos Neto, PhD'97, is president of the Latin American Association of Organic Geochemistry for the 2001–2002 term. He lives in Botafogo, Rio De Janeiro and can be reached by e-mail at eugenio@cenpes.petrobras.com.br.

Katrina Gobetz, MS '98, currently is a doctoral student in the Department of Ecology and Evolutionary Biology at the University of Kansas. Her dissertation concerns the paleoecology of an extinct

group of rodents. Gobetz recently helped restore part of a Pleistocene bear from Alaska. The bear will be mounted in an Arizona museum.

Jennifer Ayers, MS'98, currently is working for ChevronTexaco in New Orleans. Last fall she gave a talk about ChevronTexaco on a recruiting trip to Indiana.

Karl Leonard, PhD'99, has taken a faculty position at Morehead State University. Leonard has been on the move for the last few years, having taken a temporary position at the University of Wisconsin at Whitewater for a year, then a temporary position at the University of Akron. He and his wife, Patty, are very happy to not have to move again after this year!

2000s

Thomas W. Chorny, BS'00, former IU cross country and track star, won the 3,000-meter steeplechase at the USA Track and Field Championships. His time was 8:22.16, and he is ranked No. 3 among Americans in the steeplechase.

German Mora, PhD'00, has taken a position on the faculty at Iowa State University. Mora recently completed a postdoctoral appointment at Johns Hopkins.

Carrie Nolan, MS'00, currently is working for ExxonMobil in Houston. She recently gave a talk on new-hire perspectives for ExxonMobil on a recruiting trip to Indiana. In addition, she helped organize the annual IU Houston alumni get-together last year.

Chris Willan, MS'00, currently is working for ExxonMobil in Houston.

In Memoriam Frank Kottowski

Frank E. Kottowski, AB'47, AM'49, PhD'51 died on April 18, 2001, at the age of 80. He was born on April 11, 1921, in Indianapolis, Ind. He is survived by his wife of 55 years, Florence Jean, his three daughters and their spouses, five grandchildren and their spouses, and three great-grandchildren. Kottowski began his higher education at Butler University as a business major, but he enlisted in the Air Force during World War II before completing his degree. He served in Europe as an aerial navigator and photographic interpreter for the 8th Air Force from 1942 to 1945, receiving five distinguished service medals. After the war, he entered IU as a business major. He nearly had completed a degree as a certified public accountant when he took a geology course from **Charles Deiss**. After that experience, Kottowski knew that he

wanted to be a geologist rather than an accountant.

After earning his AB and AM degrees, Kottowski began work on his PhD in the economic geology area under the direction of **Eugene (Pat) Callaghan**. In 1951, Kottowski briefly served as an instructor in the Geology Department at IU. In 1951, Professor Callaghan went to Socorro, N.M., to be director of the New Mexico State Bureau of Mines and Mineral Resources, and he offered Kottowski a position as an economic geologist. In 1967, Kottowski became assistant director, a position he held until 1968 and again from 1969 to 1973. He was acting director from 1968 to 1969 and from 1973 to 1974. He became director of the New Mexico Bureau of Mines and Mineral Resources in 1974 and later state geologist. He held those positions until his retirement in 1991. The bureau is a division of New Mexico Institute of Mining and Technology, and Kottowski was appointed a faculty associate of that university in 1954 and adjunct professor of geology in 1970, a position he held until 1995.

Kottowski was active in professional service and received many honors. He served AAPG as associate editor from 1968 to 1982 and as editor of the AAPG *Bulletin* from 1971 to 1975. He received the AAPG Distinguished Service Award in 1981 and was named an Honorary Member in 1985. He was president of the New Mexico section of the American Institute of Professional Geologists, a committee chair for the National Academy of Sciences, chair of the American Commission on Stratigraphic Nomenclature, and president of the Association of American State Geologists.

The New Mexico Geological Society established the Frank Kottowski Graduate Fellowship in 1987. New Mexico Gov.



Frank E. Kottowski, 1921–2001

Photo courtesy of New Mexico Bureau of Mines

Advisory Board Update

The Advisory Board for the Department of Geological Sciences met Friday and Saturday, Oct. 5-6, in Bloomington. A meeting of the Executive Committee on Thursday, Oct. 4, preceded the full board meeting. This was **Derek Fullerton's** first year of a two-year term as president of the Advisory Board. Once again this year, **John Bubb** deserves special recognition for his excellent job in handling the spreadsheets, having taken over from **George Nevers**, who handled the job in previous years.

Highlights of the Advisory Board meeting included another question-and-answer session with the dean of the IU College of Arts and Sciences, Kumble R. Subbaswamy. Dean Swamy noted that new facilities for the department (possibly a new building or complete remodeling of the current building with a possible addition onto the northwest corner) was one of four building priorities that will be put forth by the new chancellor of the Bloomington campus, Sharon Brehm.

Another Advisory Board highlight was a presentation by **Mark Person**, our new **Malcolm and Sylvia Boyce Chair in Geological Sciences**. As part of Mark's presentation, the board was treated to an in-house fieldtrip to Mark's 3-D visualization laboratory. The ability to see complex images and interactions is a tremendous benefit to both teaching and research. We are very fortunate to have Mark Person on our faculty and even more fortunate that he has brought modeling and visualization expertise to IU.

One pre-Advisory Board highlight was



Photo by John Day

the second **Daniel Tudor Memorial Lecture**, which was delivered this year by **John Gibson**, president and CEO of Landmark Graphics. John delivered a stirring lecture on the future of geophysics research in the petroleum industry. We plan to continue the tradition of having the Daniel Tudor Memorial Lecture at the beginning of our annual Advisory Board meeting.

The annual meeting of our Advisory Board continues to be one of the highlights of the year in our department. We had a wonderful reception and dinner again this year at the DeVault Alumni Center. As has been the case in past years, special thanks are owed to **Patty Byrum** and **Kim Schulte** for their hard work and preparation before and during this year's board meeting. The Geological Sciences Advisory Board continues to serve as a model for advisory boards of other departments



Advisory Board members who attended the October 2001 meeting are 1. Michael Mound 2. Ken Vance 3. Glenn Hieshima 4. Bob Blakely 5. Chris Maples 6. John Steinmetz 7. John Gibson 8. John Bubb 9. Dan Sullivan 10. Frank Pruett 11. Dick Harris 12. Dick Gibson 13. Jud Mead 14. Mike Cowen 15. Derek Fullerton 16. Kim Schulte

within the College of Arts and Sciences. We are indeed fortunate to have such active, interested, and accomplished alumni and friends of the Department of Geological Sciences. Next year's Advisory Board meeting will be held Oct. 4-5.

— Chris Maples

In memoriam

(continued from page 28)

Bruce King declared the date of Kottlowski's retirement "Frank Kottlowski Day," and the Socorro mayor proclaimed it "Frank and Florence Kottlowski Day."

Frank Kottlowski was a loyal supporter of the IU Department of Geological Sciences in many ways. He served on the departmental Alumni Council, the predecessor of the Advisory Board, and in 1986 received the Owen Award, the department's highest honor for an alumnus. You may wish to read the memorial statement about Frank Kottlowski by David Schoderbek, which appeared in the October 2001 issue of the *AAPG Bulletin*. A tribute to Frank Kottlowski by George Austin, including many laudatory statements from former

colleagues and friends, was published in *New Mexico Geology* by the New Mexico Bureau of Mines. The editor extends his thanks to the New Mexico Bureau of Mines for providing much of the information for this article.

Harold V. Kaska

Harold V. Kaska, AM'52, died in his sleep on April 29, 2001. He was born in Brooklyn, N.Y., on Jan. 11, 1926. The family soon moved to nearby Queens, N.Y., where Kaska spent his formative years. He served in the U.S. Army in Germany with the 69th Infantry division during the late stages of World War II and was awarded the Bronze Star. After the war, he attended New York University and earned a bachelor's degree in geology. He then came

to IU to study with renowned paleontologist **J.J. Galloway**. His research with Galloway led to their publication of a benchmark paper, "Genus *Pentremites* and Its Species," as a *GSA Memoir*. Kaska received his master's degree in 1952 before joining the Chevron Oil Co. He was employed by Chevron for his entire 32-year

(continued on page 30)

Lost Alumni

We have lost contact with the following alumni. If you have any information about their current location, please let us know. Send e-mail to iuaarec@indiana.edu or call (800) 824-3044.

Mark A. Brown, David M. Falls, Brian P. Wallick, Jennifer E. Wilson

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Hildreth, George and Janet

In memoriam

(continued from page 29)

professional career. His initial assignment was in Trinidad. He later worked in San Francisco, Calif.; Guatemala; Coral Gables, Fla.; Perth, Western Australia; Bakersfield, Calif.; and finally back in San Francisco. He retired in 1985.

Kaska's early work with Chevron was with foraminifera, but he later shifted his emphasis to palynology. He developed a keen interest in sailing, a hobby he followed for many years. In later years, he focused on opera, classical music, and model trains. He is survived by his wife of 51 years, Cecille, daughter Diane and sons Alan and Neil, and three grandchildren. Harold Kaska was a loyal supporter of the IU Department of Geological Sciences and was especially generous in his support of the Geology Library.

Douglas Reynolds

Douglas W. Reynolds, AM'65, died on July 10, 2001. He led his own petroleum exploration company, Reynolds Resources Inc., in Owensboro, Ky. For several years in the 1970s and 1980s he was a member of the Geology Alumni Council. He was a longtime and faithful friend of the department. His sons, **Douglas W. Reynolds Jr.**, MS'87, and **Bryan R. Reynolds**, BS'83, also received degrees from our department.

Among the honors received by Reynolds was the 1996 Kentucky Oil and Gas Association's Petroleum Professional Award. In addition to his two sons, Reynolds is survived by his wife, Barbara, of Owensboro; daughters, Jennifer Ann Moehrle and Suzanne Christine Reynolds; and seven grandchildren.

In memoriam

We have recently learned of the passing of the following alumni of the department (date of death shown in parentheses):

Charles Wesseler Bicking, AB'35 (June 22, 2000)
Frank Cataldo Capozza, AM'67 (Oct. 18, 2000)
Robert Lee Dayson, BS'62 (March 30, 2000)
Alan Lloyd Dusendschon, BS'60 (Aug. 12, 2000)
Hollis B. Fender, AB'39, AM'49 (Feb. 9, 1998)
Robert Glenn Foltz, MA'73 (June 9, 2001)
Wasfy Boulos Iskander, AB'64 (Oct. 13, 2000)
Harold V. Kaska, AM'52 (April 29, 2001)
Frank Kottlowski, AB'47, AM'49, PhD'51 (April 18, 2001)
Eugene John Lennart, AB'38 (Sept. 23, 2000)
Ralph B. McClintock, AB'27 (May 5, 1997)
John Samuel Osborne, AB'49 (March 12, 2001)
Martin Prinz, AM'57 (Dec. 16, 2000)
Changxing Qin, MS'96 (2001)
Douglas Wade Reynolds, AM'65 (July 10, 2001)
Gianfranco Rinaldi, AB'70, AM'72, PhD'74 (August 2000)
Willis Levi Smith, AB'39 (Aug. 25, 2001)
John Rex Taylor, AB'49 (July 13, 2001)
Waller Eugene Taylor, BS'50, AM'52 (Oct. 1, 2001)
John Henry Thiele, AB'79 (Oct. 1, 2001)
William Dale Updike, MAT'73 (July 15, 2001)

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(continued on page 32)

Honor Roll

(continued from page 31)

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Will your name be on the department's Donor Recognition Plaque?

A generous contribution from the Indiana University Foundation will enable the Department of Geological Sciences to place a permanent plaque in the foyer of the Geology Building to recognize major donors to the department's recently concluded and successful \$5 million endowment campaign. The plaque, which will consist of three separate panels, also will list the names of continuing donors.

Highlighting the center of the display will be a photograph of the 1996 External Advisory Board, whose leadership, vision, and generosity were critical to the success of the campaign. To the left of the center panel will be a listing of all annual donors categorized according to level of contribution (<\$100, \$100-\$499, \$500-\$1,000, and >\$1,000). This will be a "living" panel in the sense that names will be changed annually in January to reflect the previous year's contributions. The right-hand panel will recognize members of the department's "200 for 400 Club," friends and alumni of the department who have contributed a minimum of \$400 per year on average for five consecutive years for a total of at least \$2,000. One goal of the campaign was to attract a minimum of 200 such donors.

We expect that the recognition plaque will be mounted on the south-facing wall in the southwest entrance to the building by the end of the academic year. Those wishing to be included within the inaugural membership of the 200 for 400 Club should plan to meet their minimum \$2,000 pledge by March 1, 2002. Names of new members of the club will be added as the minimum contribution is met in future years. All who made contributions to the department in 2001 will be recognized in the "living" panel. Please check the listing of donors in the 200 for 400 Club section (beginning on page 31) if you are uncertain as to whether you qualify. If your name is not included but you think that it should be, please contact Lee J. Suttner, director of fund raising and development.

— Lee Suttner (suttner@indiana.edu)

Geology Alumni: What's new with you?

Please print in as much of the following information as you wish. Its purpose, in addition to providing us with your class note, is to keep IU's alumni records accurate and up to date. Thank you.

Date:

Name

Preferred name

Last name at IU

IU Degree(s)/Yr(s)

Soc. Sec. # or Student ID #

Home address

Home phone

City State Zip

Business title

Company/institution

Work phone

City State Zip

E-mail

Mailing address preference: Home Business

Spouse name

Last name at IU

IU Degree(s)/Yr(s)

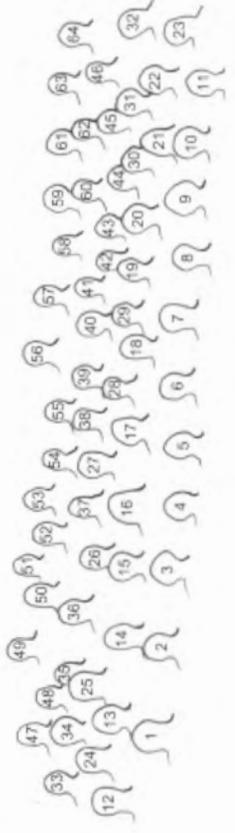
Your news:

Please attach additional pages if necessary.
 Mail to the IUAA return address, or fax to (812) 855-8266.



Geological sciences seniors, graduate students, faculty, staff — October 2001

1. Kim Schulte 2. Shannon Jock 3. Enrique Merino 4. Christina Comerford 5. Kate Remmes 6. Abhijit Basu 7. Miriam Attenoukon 8. Sarah Pietraszek-Matther 9. Patty Byrum 10. Albert Rudman 11. Xiujun Yang 12. Mark Person 13. Bob Dodd 14. Adam Davis 15. Michael Gilman 16. Stephaney Puchalski 17. Erica Barrow 18. Laurence Hawkes 19. Leigh Fall 20. Russell House 21. Laurie Huff 22. Chengliang Fan 23. Neelambari Save 24. Chris Maples 25. Robert Wintisch 26. Sohel Anwar 27. Rachel Walker 28. Nicholas Carr 29. Whitney Hatch 30. Shakir Shamshy 31. Peng Li 32. Timothy Johnson 33. David Dahlstrom 34. Guocan Wang 35. Erika Elswick 36. William Tackaberry 37. Melissa LeTourneau 38. Dan Capps 39. Cindy Hale 40. Jenny Watters 41. Amy Borcharding 42. Melissa Gibson 43. Ernest Johnson 44. Paula Shafer 45. John Johnston 46. Linda Zhang 47. Quinfu Liu 48. Drew Smith 49. Matthew Campbell 50. David Lampe 51. Carl Rexroad 52. Shawn Wheelock 53. Jim Brophy 54. Jeffrey Mariga 55. Amy Beatty 56. Neil Whitmer 57. Mohammed Al-Khadhrawi 58. Erik Boice 59. David Finkelstein 60. Lisa Pratt 61. William Elliott 62. Lee Suttner 63. Grzegorz Lis 64. Noel Krothe



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