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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 yours.
Chair's greeting

Busy faculty, 'home' improvement, cooperation keep department on the move

It's my pleasure to welcome you to this edition of the newsletter. In just a few words, I'll do my best to hit the high points of recent and forthcoming events.

Changes in the membership of the faculty have been, in comparison to previous years, enormous. Hardon the heels of Gary Lane's retirement last year, we are now getting accustomed to thinking of Don Hattin and Al Horowitz as emeriti (this is not very easy, since both are still very much in evidence), their retirements having taken effect this summer. Similarly, Vishnu Ranganathan will be leaving us at the end of the present academic year. When his further plans are settled, we'll let you know how to stay in touch.

On the positive side, we are enjoying the company of Claudia Johnson as a visiting assistant professor, and Randy Mackie will be joining us in January as a tenure-track assistant professor. Claudia, a paleobiologist/earth historian, is particularly interested in the development of reefs and reef communities over time. Mackie, or a Sun, or a PC, or even by a VCR) and, at this writing, almost every-thing works. It would never have happened without the seed money contributed by alumni.

The remodeling/redecoration of the lecture hall is complete, and the installation of the "technology" is staggering to completion. The room looks terrific (an aisle down the middle so that seats are more efficiently occupied and dual projection screens, one equipped with a high-resolution video projector driven by a Mac, or a Sun, or a PC, or even by a VCR) and, at this writing, almost everything works. It would never have happened without the seed money contributed by alumni.

Perhaps some even more startling news. Neither side has out-maneuvered the other and, wonder of wonders, cooperation has broken out. Our next edition will provide details and, perhaps, some even more startling news.

— John Hayes

Departmental news

Undergraduate major enrollment as of September 1995 numbered a total of 44 BS and BA students. Graduate enrollment during the academic year 1994–95 was 70, with 32 PhD candidates and 38 MS students. There were 25 research assistants, 10 graduate fellows, and 19 associate instructors among the graduate student body. Both undergraduate and graduate enrollments represent rather stable figures compared to last year.

The Geology Library continues to grow in size and reputation and now has passed 102,000 volumes, 305,000 maps, and 26,000 microforms. The library allocation of $103,000 is devoted entirely to serial subscriptions, although this past year a one-time allocation of $5,000 was received for monographs. With minimal support for monographs, maps, and other formats, only gifts (including exchanges and federal/state documents) make continued growth in this part of the collection possible. Currently, there (continued on page 2)
The Braided Channel Simulation: a case study of the GSA journals year of residency remaining. Students are required to submit a research proposal for evaluation. Selection criteria include the quality and scientific merit of a formal research proposal and overall academic merit. This scholarship in many ways reflects the increased visibility of undergraduate research being conducted within the department. The scope of undergraduate research projects covers a wide range of topics from paleontology to applied geophysics to metamorphic petrology.

During the past academic year, nine students participated in research projects, four at the Honors level. A shining example of the success of undergraduates involved in research during baccalaureate study is the 1993 Brunton Award Recipient, Rebecca Robinson, who was awarded a National Science Foundation Predoctoral Fellowship. She was one of just 25 earth science recipients from more than 9,500 applicants.

The new interdisciplinary environmental science BS degree in the College of Arts and Sciences is taking shape. Degree requirements include a core composed of course work from the departments of biology, chemistry, computer science, geography, geological sciences, mathematics, and physics coupled with work in an advanced concentration area. Two new courses in geological sciences

Look who's talking: 1994–95 Colloquium Series

- Aug. 29, Vinícius Rangastaran, Indiana University: "Aspects of Thermohaline Groundwater Flow in Sedimentary Basins"
- Sept. 19, Steven Fritz, Purdue University: "Chemical Evolution of Groundwaters in Indiana's Glacial Aquifers"
- Oct. 3, Jeffrey Danie, Ohio State University: "Use of Ground-Penetrating Radar for Shallow Investigations"
- Oct. 10, Ralph Hunter, U.S. Geological Survey: "Eolian Fine Structure" (Owen Award Address)
- Oct. 17, Tomas Hirschmann, Swissboring, Guatemala: "Geotechnical Engineering: Sealing the Foundation of the El Cajon Dam in Honduras"
- Oct. 31, Thomas Anderson, University of Illinois: "Chemistry of Sulfur in Marine Sediments"
- Nov. 7, Matthew Mikuelsen, Chevron Corp.: "Application of 3-D Seismic Technology to Reservoir Management"
- Nov. 17, James Lowell, Little ton, Colo.: "Structural Inversion: Occurrence, Mechanisms, and Implications for Petroleum Exploration"
- Nov. 21, Richard Gordon, Northwestern University: "Mobile Bed in the Equatorial Indian Ocean: Intraplate Deformation or Diffuse Plate Boundary?"
- Dec. 7, Chris Maples, Kansas Geological Survey: "Processes and Patterns of Lagocratin in the Late Paleozoic"
- Jan. 9, Ben van der Pluijm, University of Michigan: "Far Field Stresses in the Easternmost Midcontinental Region"
- Jan. 24, Andy Barth, IU/UV: "Reevaluation of Continental Growth by Exotic Terrane Accretion: An Example from the Precambrian of California"
- Jan. 30, Simon Bressel, Indiana University: "Molecular Clues of Ancient Climates"
- Feb. 6, Jeremy Dunning, Indiana University: "What I Did on My Summer Vacation: Hanging Tea on the Wave of the Future"
- Feb. 13, Terry Plank, University of Kansas: "The Ins and Outs of Arc Volcanoes: Sediment Recycling at Subduction Zones"
- Feb. 20, Paul Potter, Rio Claro University, Brazil: "How Old Is a River? How Old Are South American Rivers?"
- Feb. 27, Ken Hanes, Indiana University: "The Global Environment Behavior of Polychlorinated Biphenyls and Dioxins"
- Mar. 6, Joan Gomberg, USGS/CERI, Metropolis, Tenn.: "Earthquake-Induced Seismicity: Evidence from the M=7.4 Landers Earthquake and the Geysers Geothermal Field, California"
- Mar. 7, Neal Iverson, University of Minnesota: "Flow Mechanism of Glaciers on Udded Beds"
- Mar. 9, Tom Johnson, University of California, Berkeley: "Isotope Ratios As Dynamic Tracers in Groundwater Systems"
- Mar. 20, Chris Paolo, University of Minnesota: "Modeling the Filling of Sedimentary Basins"
- Mar. 22, Harry Jol, Simon Fraser University, British Columbia: "Ground Penetrating Radar (GPR): A New Approach to the Earth Sciences"
- Apr. 5, Thomas Estepolo, Trinity College, Dublin, Ireland: "Understanding Warmstorian (Mississippian) Mudsounds: Contributions from Paleontology"
- Apr. 28, Julia Morgan, University of Washington: "Active Processes at Subduction Zones: The Imprint of Deformation and Dewatering in the Toe of the Nankai Accretionary Prism, Southeast Japan"
- Apr. 3, Michael DeNiro, University of California, Santa Barbara: "Every Dogma Has Its Day: Water Is Not the Sole Source of Temperature Plants Use to Synthesize Organic Components"
- Apr. 4, Kenneth Clay, AAPC Distinguished Lecturer, University of London, U.K.: "3-D Fault Systems"
- Apr. 5, Bob Dalrymple, Queens University: "From Systems Tracts to Rhythmites: Tide-Dominated Deltaic Sedimentation of the Papua New Guinea Foreland Basin"
- Apr. 7, Johnny Waters, West Georgia College: "Blastos, Bryozoa, and Blinders — Thirty Years of Fun and Fieldwork with Alan Horowitz"
- Apr. 17, Randy Mackie, Massachusetts Institute of Technology: "3-D Electrical Resistivity Forward Modeling and Inversion with Applications to Environmental Geophysics"
- Apr. 24, Geoffrey Eglinston, University of Bristol, U.K.: "Dune"
Ralph Hunter received the Richard Owen Award in October 1994.

will be required within the core of this program: G220 Earth Materials and G329 Field Experience in Environmental Science. G220 will be a five-credit course that provides a one-semester encapsulation of mineralogy and petrology with particular emphasis on those aspects important to environmental science, such as clay mineralogy and soil development. G329 will be a five-credit course taught at the IU Geologic Field Station in Montana. This course will reflect the highly regarded G429 program in terms of its organization, educational philosophy, and unique teaching venue. The course content will consist of traditional geology, hydrology, surface processes, ecology, environmental chemistry, and meteorology.

During the past year, two graduates of the department who have distinguished themselves in either industry/government or academia have been awarded the Richard Owen Award. On Oct. 10, 1994, Ralph Hunter, BA'S7, was presented this award. Ralph has been a geologist with the U.S. Geological Survey in Menlo Park, Calif., for many years and has become widely recognized as a leader in the field of sedimentology, having published 89 papers, many in the leading geological journals. He is perhaps the world expert on sedimentary structures in eolian deposits. Ralph has maintained contact with the department over the years and has recently been involved in research in Indiana on the Ste. Genevieve Limestone. A number of years ago, he helped lead one of the SCCHO field courses to Lake Michigan. Hunter presented his Owen Award address, titled "Eolian Fine Structure," to the Geology Colloquium. We congratulate Ralph on an outstanding professional career. The second Owen Award presented was given to Alan Horowitz, PhD'S7. Alan's distinguished career and contributions are chronicled in the "Faculty news" section on page 9. His Owen Award address to the Geology Colloquium on Sept. 18, 1995, was titled "100 Years of Bryozoa Studies in the Department of Geological Sciences," and was followed by the traditional Owen Award reception in the "Elephant Room" of the Geological Survey.

The search for a new environmental geoscientist culminated with the campus visits of five applicants. Randall Mackie, a research scientist in the Earth Resources Laboratory at M.I.T. was offered the position, accepted, and joins our faculty in January 1996. Mackie obtained his BS degree in geophysical engineering at the Colorado School of Mines in 1984 and his PhD at M.I.T. in 1991. His thesis dealt with three-dimensional magnetotelluric modeling and inversion with applications to the California Basin and Range Province. He plans to conduct research in diverse areas of electromagnetic geophysics while joining existing IU projects focused on deep crustal processes in central Asia and continuing his work on shallow geophysical investigations pertinent to environmental problems, including those at Superfund sites. Randy presently serves as co-chair of the research committee of the Environmental and Engineering Geophysical Society (SAGEEP).

The department also has been given permission to search for a tenure-track appointee in geobiology and paleontology. This is particularly important with the retirement of three faculty in geobiology, namely Don Hattin, Alan Horowitz, and Gary Lane. In the meantime, however, we have successfully attracted an outstanding one-year appointee, who came to us from the Earth-Systems Science Center at Penn State — Claudia C. Johnson. Her BA, MS, and PhD (1993) degrees all were earned at the University of Colorado, where she studied under Erle Kauffman. Her dissertation dealt with the Cretaceous biogeography of the Caribbean region, and her longer-term goals are to analyze the interface between Cretaceous tropical and temperate systems in the Americas and to investigate the oceanographic/climate history of Cenozoic reef systems in order to provide a temporal view of changes in tropical ecosystems. Her work thus far has yielded six publications, and she is presently co-editing a forthcoming G.S.A. publication, *The Evolution of Cretaceous Ocean/Climate Systems*.

In May 1995, the department participated in the National Science Olympiad hosted by Indiana University Bloomington. Some 2,500 of the brightest and most motivated young science students in the nation along with some 500 adult teachers and coaches attended. Most science departments participated, and Bruce Douglas coordinated the activities in geological sciences. These included laboratory tours and demonstrations as well as judging of the earth science competition by faculty.

A major highlight of the academic year was the visit of Frank Press, president emeritus of the National Academy of Sciences, under the sponsorship of the University Patten Foundation for the week of April 8-15. Establishing himself as a premier geophysicist at Caltech and then M.I.T., he served on President Kennedy's Science Advisory Board, NASA's Lunar and Planetary Missions Board, and as a member of the U.S. delegation to the Nuclear Test Ban re
Other seminars, brownbag talks, special presentations entertain, enlighten geology faculty, staff, students

- Sept. 7, Alan Horowitz, Indiana University: “Graphic Correlation”
- Sept. 14, Kristen Haggstrom, Indiana University: “The Relationship Between Siphoneck Size, Sunular Complexity, and Shell Geometry in Late Paleozoic and Mesozoic Ammonoids”
- Sept. 21, Charles Zuppan, Indiana Geological Survey: “The Oil Game”
- Sept. 28, N. Gary Lane, Indiana University: “A Nature Walk through Monroe County”
- Sept. 29, Michael Mound, FLS Automation A/S, Copenhagen, Denmark: “Global Economics and Quality Control in Industrial Minerals Processing”
- Oct. 4, Jeffrey Daniels, Ohio State University: “Advances in Ground-Penetrating Radar”
- Oct. 12, Nathan Way, Indiana University: “Early Cretaceous Subsidence near the Black Hills Is the Result of: a) Vertical tecronics, b) strike slip motion, c) horizontal compression, d) none of the above.”
- Nov. 8, Matthew Mikulich, Chevron Corp.: “An Update on the Oil and Gas Industry, the Business, the Technology, and an Employment Outlook”
- Nov. 9, Richard Darling, 1994 Alumni College Participant: “Alumni College 1994 — The Tom and Gary Show”
- Nov. 16, Debra Dawson, Indiana University: “Extraordinary High Temperature Metamorphic Rocks from California”
- Nov. 22, Richard Gordon, Northwestern University: “Crustal Kinematics from VLBI Geodesy and Possible Implications for Tectonics and Earthquake Hazards in the Western U.S.”
- Jan. 25, Alan Horowitz, Indiana University: “The Linnaean Nomenclatural Heritage or Is It Here?”
- Feb. 15, Rob Mellors, Indiana University: “Rocks, Faults, and Canals: Geophysics and Pictures of Central Asia”
- Feb. 21, Paul Potter, Rio Claro University, Brazil: “Adventures of a Retiring American Sedimentologist in Sao Paulo, Brazil”
- Mar. 1, Volker Bruchert, Indiana University: “Abundance and Isotopic Variation of Inorganic and Organic Sulfur in Pleistocene Sediments of Hole 892A, Santa Barbara Basin, California”
- Mar. 7, Paul Bodin, CERI/University of Memphis: “Seismic Geodesy: Northridge, California, Earthquake Effects and Small-Scale Differential Ground Motion”
- Mar. 8, Neil Iverson, University of Minnesota: “A General Mechanism of Sediment Entrainment by Glaciers”
- Mar. 10, Tom Johnson, University of California, Berkeley: “A Selenium Isotope Ratio Study in San Francisco Bay”
- Mar. 23, Harry Jol, Simon Fraser University, British Columbia: “Application of Geophysical Methods to Environmental and Geomorphic Problems”
- Mar. 30, Charles Vitoianu, Indiana University: “Kamchatka and Some of Its Volcanoes”
- Apr. 5, Bob Daleymple, Queens University, “Sequence Stratigraphy of Incised-Valley Estuarine DepoSits: General Characteristics and Common Variants”
- Apr. 13, Randy Mackie, Massachusetts Institute of Technology: “The Lower Crust in California As Seen Through the Lens of Magnetotellurics”
- Apr. 19, Lloyd Furu, Indiana Geological Survey: “An Old Structural Model for the Northern Rockies Revisited!! Old is Gold!! A Few Eyewitness Reports!”
- June 20, Roger Summons, Australian Geological Survey: “Geochemistry of Young (<60 Ma) and Old (> 1400 Ma) Oil”
- July 4, Kenneth Eriksson, Virginia Polytechnic Institution and State University: “Crustal Growth, Surface Processes and Atmospheric Evolution of the Early Earth”
Departmental news
(continued from page 3)

Frontiers in the field of science and technology are advancing at a rapid pace. For those interested in keeping up with the latest developments, the following highlights are a glimpse into the exciting work being done in various fields:

**Nanotechnology**

With the increasing demand for smaller, more efficient electronic devices, research in nanotechnology has become crucial. Scientists at the University have made significant strides in developing new materials and technologies that could revolutionize the field.

**Climate Change**

Global climate change is one of the most pressing issues of our time. Researchers at the university are working on projects to better understand the impacts of climate change and develop strategies to mitigate its effects.

**Human Genomics**

Advancements in genomics have opened up new avenues for understanding human health and disease. The university's genomics institute is at the forefront of this field, with ongoing research into the genetic basis of various conditions.

**Space Exploration**

With the recent success of missions to Mars, interest in space exploration continues to grow. The university's space science department is actively involved in planning for future missions and exploring new frontiers in space.

**Mathematics and Statistics**

In addition to the applied sciences, there is a rich tradition of excellence in mathematics and statistics. The department is known for its contributions to pure mathematics and its applications in data science and computational methods.

**Conclusion**

The university is committed to fostering an environment where cutting-edge research and teaching are at the forefront. Through collaboration and innovation, the university continues to make significant contributions to the world of science and technology.
Enrollments in the station's flag course, G429, were 129 and 108 for the summers of 1994 and 1995, respectively. Our introductory course, G111-G112 had 14 students in 1994 and 13 in 1995.

Extensive planning and discussions as well as reconnaissance study of a number of new field sites and interaction with scientists in the Montana Bureau of Mines and Geology, the U.S. Forest Service, the Soil Conservation Service, and the Water Resources Division of the USGS resulted in the decision to offer a pilot version of "G429e" during summer 1995. Eleven students from Option II of the regular G429 offering were selected to participate in this special section, which included an emphasis on field study of surficial processes, hydrogeology, and environmental geology. These students followed the conventional G429 curriculum through the first three weeks before being split off to do a set of newly introduced exercises under the direction of Greg Olyphant and his doctoral student, Chris Carlson. Included were studies of Cenozoic landform and basin deposits (two days), surface water in a mountain watershed (three days), and field investigation of abandoned mine sites (two days). Subsequent to this, a five-day final project integrated mapping of Paleozoic/Mesozoic bedrock structure and the unconsolidated Cenozoic basin-fill with detailed subsurface study of groundwater flow within the map area. Superfund sites in Anaconda and Butte were visited by the pilot group on the final day of the Northwest Montana trip.

The central element of the new environmental curriculum will be the development of a Demonstration Watershed in the Willow Creek drainage basin, which is located a short distance from the field station. Development of the model watershed will involve installation of snow, surface water, and meteorological monitoring instrumentation and drilling of two wells to permit the study of groundwater processes. A variety of geological framework investigations, such as field mapping of surface exposures, characterization of aquifers through analysis of drill cores, and application of geophysical techniques, will supplement data derived from long-term monitoring of surface water flow in our interpretations and modeling of the hydrologic regime of the watershed. The demonstration watershed will form the basis for class exercises and graduate research projects for many years to come.

The local land owners, the Madison County Conservation District, the U.S. Forest Service, and the Soil Conservation Service have enthusiastically endorsed the demonstration watershed initiative. In addition, they invited Indiana University to co-sponsor a grant proposal to the state of Montana for the purchase and installation of snow and stream gauges in the Willow Creek drainage basin. Lee Sumner co-presented this proposal to a subcommittee of the Montana legislature in January 1995, and it was subsequently funded (see page 1).

Gary Hinton resigned as resident manager in April 1995. After nearly a decade of outstanding service to the field station and IU, Gary has taken a new job with Montana Railink. We owe a great deal of gratitude to Gary for his dedicated work over the years at the station, and we wish him outstanding success in his return to the railroad industry.

We are extremely pleased to announce that our new resident manager is Grant Estey of Whitehall, Mont. Grant was appointed in May 1995, from among some 50 applicants, many with outstanding credentials, and did an outstanding job as resident manager during the past summer. We look forward to having him with us in the years to come.
The professional staff of the Indiana Geological Survey was enriched during the past year by the addition of two new geologists. Henry Barwood became head of the Mineral Resources Section and Maria Mastalerz joined the Energy Resources Section. Maria spent the previous four years doing research on organic petrology and geochemistry and teaching sedimentology and coal geology courses at the University of British Columbia, Vancouver. She graduated from Wrocław University, Poland (MSc), and Silesian Technical University, Poland (PhD), and did research on Polish coal basins for nine years before going to Canada.

Maria's husband, Brian O'Donnell, practices family medicine in Bloomington (new patients welcome!). Their daughter, Katarzyna, attends school locally.

The survey's extended family also experienced a new addition this year with the Oct. 13 birth of Anna Branam, daughter of Tracy Branam. Tracy's other daughter, Lauren, celebrated her third birthday in March.

Survey news from last year wasn't all good, though. Senior cartographic specialist Kim Sowder did not enjoy last July. During that month, her parents experienced a total of 13 artery bypassed, three bonus heart catheterizations and two heart attacks in the span of 13 days. Then, 15 days later, her husband, Mike, had a catheterization to end the month in style (but no problems there!).

Haluk Cetin, in addition to his work on projects as a geologist with the Energy Resources Section, served as an instructor for three courses involving geographic information systems (GIS) and remote sensing. Haluk served as assistant professor with the IU Department of Geological Sciences. Haluk was also involved in a special IU program that trained Indonesian scientists on GIS principles, concepts, and use.

Sam Frushour, Physical Facilities and Field Services Section head (and resident cave expert), was involved in several cave rescues during the past year. Sam also conducted a leveling survey in Wyandotte Cave for the Department of Natural Resources Division of Forestry and others. Sam, who teaches scuba diving classes at the YMCA, also spent time this past year in Florida, Missouri, and Mexico, diving and photographing underwater caves and mines.

Two IGS geologists contributed to the sixth edition of SME's Industrial Minerals and Rocks: Don Carr, principal geologist, industrial minerals, is senior editor of the 1,200-page volume and co-author of a chapter on limestone and dolomite. Nelson Shaffer, Mineral Resources Section geologist, contributed a chapter on biotechnical materials. Speaking of biotechnical materials, Nelson was invited by NASA to a conference on bacteria in crystals as part of their extraterrestrial life research. He went to Fairfax, Va., to present his research on biological inclusions to a handful of leading researchers. An outgrowth of this effort was the initiation of a theme session on biological inclusions for the national GSA meeting in New Orleans this past November.

Followers of the saga of Nelson Shaffer will be pleased to know that, among other things, he added to his huge stash of gorilla stuff, served as an officer in the national Friends of Mineralogy, attended several large mineral shows, worked on a book about minerals of Indiana, submitted a rough draft of one of the world's oldest dissertations, was elected chair of the Indiana Academy of Science Research Grants Committee, and experienced the high school graduation of child three (child four will start high school next year).

Brian Keith, basin research coordinator, received the Honorary Membership Award from the Eastern Section of AAPG at its annual meeting in East Lansing, Mich., in September 1994. Brian also organized the Illinois Basin Energy and Mineral Resources Workshop, held in Evansville in September 1994. The workshop, sponsored by the Illinois Basin Consortium (IBC) and the USGS, included 41 oral and poster presentations made to 130 attendees.

A workshop on the Gas Potential of the New Albany Shale was held in Evansville on March 1. This workshop, organized by Nancy Hasenmueller, Environmental Section geologist, John Conner, Geochemistry Section head, and Jeff Kirby, education specialist, was sponsored by the IBC and the Gas Research Institute. The workshop, featuring 10 speakers and several poster presentations, was attended by nearly 200 registrants from 13 states. This workshop provided an overview of the organic lithofacies, organic carbon content, thermal maturity, and gas potential of the New Albany Shale. The reservoir characteristics and completion technology for productive organic-rich Devonian shales in the Michigan and Appalachian Basins were also reviewed. Emphasis was placed on how proven technologies together with appropriate geologic and geochemical information can be used to explore for gas in the New Albany Shale.

Tony Fleming, Environmental Section geologist, conducted a short course on his study of the hydrogeology of Allen County, including instruction on use of the maps produced as part of that study. The course, aimed at the general public, was presented at Fort Wayne in January and was well attended by a wide variety of people, including county government officials and consultants.

Erik Kvale participated in an SEPM-sponsored transgressive systems tract meeting in Long Beach, Wash.
Three outstanding members of the faculty retired during the past year. The following tributes to our retirees were presented at the retirement reception, held on the Bloomington campus on April 12, 1995.

Donald E. Hattin
After 41 years of service to the Indiana University Department of Geological Sciences, with a single exception longer than any other faculty member in the history of the department, Donald E. Hattin is retiring. World-renowned stratigrapher, award-winning teacher, mentor of an immense number of graduate students, warm and outgoing colleague and friend, and loving husband and father are all phrases that describe this outstanding individual.

Don was born on Nov. 16, 1928, in Cohasset, Mass., and spent all of his precollege years in the neighboring town of Scituate, where he attended primary school. After graduation, he and his bride headed to the University of Massachusetts, where he earned the BS degree in 1950. A childhood fascination with dinosaurs developed into a broader interest in the earth and led him to major in geology. After graduation, he and his bride headed west to the University of Kansas, where he studied stratigraphy and paleontology, first earning the MS degree (1952) under the direction of A.G. Fischer and John Imbrie, and then the PhD degree (1954) under the direction of Raymond C. Moore. All three of these geologists were or became giants in their fields.

During his PhD degree, Don came to Indiana as an assistant professor. He taught for one year before being called to active duty as a lieutenant in the U.S. Air Force. Don returned to his faculty position at Indiana in 1957.

Don has authored or co-authored 71 papers and monographs and 48 abstracts ranging widely across the fields of stratigraphy, paleontology, sedimentology, and paleoecology. His work on the stratigraphy of rocks of Cretaceous age has been recognized internationally as among the most innovative and significant research ever done on rocks of this period. His knowledge of chalk deposits around the world on Cretaceous strata has led him to be affectionately labeled “Dr. Chalk” by researchers in the field. His work has led to invitations to participate in conferences both in the United States and abroad, most recently in Denmark, where he presented the lead talk at an international conference on chalk deposits. He has held visiting professorships at the University of Texas at Arlington and the Ernst-Moritz-Arndt-Universität in Greifswald, Germany, and a distinguished visiting professorship at the University of Kansas. His research has been supported by grants from the National Science Foundation, the Petroleum Research Fund of the American Chemical Society, the Kansas and Indiana Geological Surveys, and the New Mexico Bureau of Mines and Mineral Resources.

Don is generally recognized as one of the most effective teachers in the university. He has received the College of Arts and Sciences Alumni Association Distinguished Teaching Award (1988), the Sigma Gamma Epsilon-Texaco Outstanding Teaching Award from the students in geology (1990), and the Graduate School Distinguished Teaching and Mentoring Award (1995). Recognition of his teaching has extended beyond the university with receipt of the Outstanding Educator Award from the Eastern Section of the American Association of Petroleum Geologists (1992).

But perhaps the awards he values most are the informal ones he has received from geology students, who on three separate occasions named him “Screwball of the Year.” Despite its name, this award actually reflects the affection and admiration the students feel for the recipient. Indeed, this award was originally created to honor Don Hattin, its first recipient.

Because of his excellent reputation both as a researcher and a teacher, Don has attracted many fine graduate students. A total of 29 students have completed master’s degrees under his direction, and 13 students have received the PhD degree with Don as their adviser. Many of these students have gone on to prestigious, award-winning careers of their own. Practically every geology major at IU for the last 40 years has taken a course from Don, and very many remember Don’s courses as among the best they have ever taken.

Don has not neglected the service component of his contribution to his university and profession. In spring 1955, he presented 13 live television programs on geology that were broadcast throughout southern Indiana. He has served on numerous professional committees and review boards, including the important North American Commission on Stratigraphic Nomenclature from 1987 to 1994.

Don is especially noted for his enthusiasm for geology and for whatever topic happens to capture his interest. A frequently told story about Don concerns one of the many field trips he led during his early years at IU. Because Don was discovering so many interesting things to share with the students, he was running behind schedule. Food and rest for the evening seemed trivial in comparison to the geology, so Don had the students park the cars so that their headlights would shine on the outcrop in the growing twilight! Yet, despite stories of long hours on the outcrop, Don’s field trips are almost always fully subscribed with a waiting list.

Although Don will no longer be teaching, he will continue his active program of research at Indiana, including completion of numerous papers already in progress or planned. In addition to completing an autobiographical book about growing up in New England, Don plans
Alan S. Horowitz

After 31 years of service to Indiana University, Alan Stanley Horowitz, curator of paleontology and professor of geology, part time, is retiring. An internationally respected paleontologist, Alan is a leader in the study of Paleozoic fossils. He is also an always-concerned friend and counselor to his faculty colleagues and generations of paleontology graduate students in the Department of Geological Sciences.

Alan was born on June 12, 1930, in Ashland, Ky., the eldest of three children. His interest in geology was kindled at an early age when his father, a railroad weighmaster, brought home interesting rocks and minerals that he encountered on his job weighing freight that passed through the railroad yard. Alan attended public schools in Ashland before entering college at Washington and Lee University in Lexington, Va. Alan originally planned to be a trial lawyer, but decided to earn a degree in geology before entering law school. The law's loss was geology's gain when Alan then decided that he really was not the lawyer type, but that geology would make an admirable career. After receiving the BA degree in 1952 from Washington and Lee, Alan began his graduate studies at Ohio State University, specializing in paleontology. For his MS thesis, Alan prepared a geologic map of an area in northern Greenland, conducting his fieldwork in this strategically sensitive area under government security in the summer of 1953. After receiving his MS degree from Ohio State in 1954, Alan came to Indiana University to continue his work in paleontology under the direction of Thomas Perry, receiving the PhD degree in 1957.

Alan's first geological employment was as a research geologist with the Marathon Oil Co. at its research facility near Denver, Colo. At Marathon, Alan belonged to a team of outstanding geologists, his colleagues and mentors. Alan's infectious enthusiasm of your teaching.

THE THREE MUSKETEERS! Alan Horowitz, from left, Don Hattin, and Gary Lane celebrate their retirements from the department.

pressed their gratitude and admiration for Alan for this important service to the profession.

Alan has also been active in service to the Department of Geological Sciences and the university. For many years, he has served on the Bloomington Campus Library Committee. He has long been coordinator of the Wednesday noon brown bag seminar in the Department of Geological Sciences, an institution in the department.

Alan's love of books is well known by geology faculty and students, who can usually find him wearing his ever-present glasses in the corner of his darkened office. Faculty and students know that they can always go to Alan to discuss any problem — scientific, academic, or otherwise — and find a knowledgeable and sympathetic listener and advisor. Generations of geology graduate students have benefited from his counsel, whether or not his name appeared on the signature page of their dissertation.

In his middle years, Alan married Lillian Perry, the widow of his former colleague and mentor. Although they had no children of their own, Alan has been a loving father to the four Perry children (now with 12 grandchildren). Lillian passed away in 1992.

Although Alan is retiring, he will continue to have an office in the department and will continue his research and, undoubtedly, also his interaction with an
N. Gary Lane

Gary Lane’s professional career has been marked by quiet, purposeful dedication to the mentoring of students at all levels of academic endeavor, by scholarly research that has earned him rank amongst the world’s most accomplished and widely known paleontologists, and by a sense of humor that has endeared him to students and faculty alike. His retirement will afford a much-deserved opportunity to pursue even more vigorously a research effort that has led to global leadership in the study of fossil Crinoidea.

Gary was born in French Lick, Ind., on Feb. 19, 1930, the first child of Charles and Thelma Lane, but spent most of his youth in Sidell, Ill., where the family moved when he was just two years old. Gary’s abiding love for nature and the out-of-doors was spawned by frequent visits to his grandfather’s farm near French Lick, where the combination of animals to feed, spring and creek to explore, and forest to roam guided his early pursuits in science. By the age of 11, Gary had become involved in scouting, which stimulated the camping and hiking activities that were to become fixtures of his adult lifestyle. By the time he finished college, Gary had already spent hundreds of nights under the stars.

In the fall of 1948, Gary entered Oberlin College with a view to majoring in chemistry, as well as playing some football. During his freshman year, Gary’s roommate, Bert Driscoll, enrolled in a geology course to fulfill a science requirement. Gary read parts of Bert’s textbook, found geology interesting, and declared geology as his major. So did Bert! Gary’s senior year at Oberlin brought him into contact with a young new assistant professor, Harold Brooks, who steered Gary towards a career in paleontology and recommended graduate study with Charles Moore at the University of Kansas.

In the fall of 1952, Gary entered the Faculty research grants

- A. BASU (NASA), “Petrologic evolution of lunar and meteorite parent body rocks”
- S. BRASSELL (PACKARD FDN), “Molecular organic geochemical research studies of climatic variations over geological time”
- S. BRASSELL (UNOCAL), “Organic Geochemistry”
- S. BRASSELL (NSF), “Temporal variations in molecular records of sea surface temperatures and plankton productivity: assessment of high resolution signals in sediment trap particulates from the Gulf of California”
- S. BRASSELL (NATIONAL LEADING LABORATORIES OF CHINA), “Biogeochemical evidence of environmental and climatic change in the sedimentary record of Lake Gucheng Hu, Nanjing, China”
- S. BRASSELL (NSF), “Modernization of Biogeochemical Laboratories”
- S. BRASSELL (Petrolebrás), “Cooperative agreement for research in biogeochemistry and petroleum geochemistry”
- J. BROPHY (TEXAS A&M), “Mineralogic and experimental studies of Lc 142 Igneous Rocks”
- J. BROPHY (NSF), “Acquisition of an Electron Microanalyzer”
- J. R. DODD (MARATHON OIL), “Architectural elements, composition and diagenesis of the shool facies of the Salem Limestone, south central Indiana”
- J. R. DODD (IU, RUGS/DEPT. OF GEOL. SCIENCES), “Research award for field work in South Australia on the Lower Cambrian fossil reefs”
- B. DOUGLAS (NSF), “Environmental weakening of Geologic Material”
- B. DOUGLAS (NSF), “The Role of Fabric and Crystal Chemistry in Subcritical Fracture Propagation”
- J. DUNNING (NSF), Chemical Weakening in Geologic Materials”
- A. FISHER (US NAVY), “Characterization of physical hydrogeology of Pennsylvanian formations at Rockeye and other Solid Waste Management Units at Naval Surface Warfare Center, Crane”
- A. FISHER (NSF), “Fine-scale hydrogeology and geochemistry of the areas of active venting in Middle Valley, a sedimented rift on the northern Juan de Fuca Ridge”
- A. FISHER (NSF), “Determination of Barbados accretionary prism hydrogeologic characteristics at sealed ODP boreholes”
- A. FISHER (NSF), “Upper ocean paleotemperatures: direct measurement using geothermal instrumentation”
- A. FISHER (USGS), “Multi-scale investigations of hydrogeological properties: Barbados accretionary complex”
- A. FISHER (ONR), “Ocean crustal hydrogeology: the influence of bathymetry, sediment thickness, and permeability structure on off-axis energy and mass fluxes”
- M. HAMBURGER (USGS), “Multidisciplinary Study of Geocycles in an Active Collisional Orogen, Soviet Central Asia”
- M. HAMBURGER (NSF), “Analysis of Seismic Data from Pinatubo Volcano, Philippines”
- M. HAMBURGER (IRIS), “Seismic Array Studies in Eurasia”
- M. HAMBURGER (NSF), “Multidisciplinary study of Intracontinental Mountain Building in the Tien Shan of Kyrgyzstan and Kazakhstan”
- J. HAYES (NASA), “Isotopic Biogeochemistry”
- J. HAYES (DOE), “Isotopic studies of the biogeochemical cycle of carbon relationships between pCO2 and the abundance of 13C in sedimentary organic matter”
- J. HAYES (NSF), “Maintenance of pre-industrial atmospheric pCO2 levels: recalibration of a carbon isotopic paleobarometer and pCO2 mapping of the late Quaternary global ocean”
- J. HAYES (NASA), “Training Grant, Fellowship for Graduate Student Training - Kristen Leckrone”
- J. HAYES (PETROBRAS), “Tuition and fee support for Eugenio Santos Neto”
- J. HAYES (NSF), “Modernization of Biogeochemical Laboratories”
- J. HAYES (NSF), “Factors controlling the abundance of 13C in algal and sedimentary biomarkers from the Amundsen and Bellinghausen Seas, Antarctica”

(continued on page 11)
Faculty research grants

(continued from page 10)

• N. KROTHE (WESTINGHOUSE), "Hydrochemical Field Research and Spectrofluorophotometer Analysis for Dye Tracing Studies"

• N. KROTHE (WESTINGHOUSE), "The Geology and Hydrogeology of the Neal's Landfill Area"

• N. KROTHE (WESTINGHOUSE), "Hydrogeologic Testing in the Upper Mississippian Carbonates, Neal's Landfill Area"

• N. KROTHE (US ARMY CORPS OF ENGINEERS), "Chemical and Geological Reconnaissance to Provide Aquifer Data for the Development and Verification of Chemical and Physical Models of Groundwater Flow Beneath the Naval Weapons Support Center, Crane, Indiana"

• N. G. LANE (NSF), "Paleobiogeography of Late Devonian and Carboniferous echinoderms from the Peoples Republic of China"

• N. G. LANE (NSF), "Echinoderm rebound and diversification after the Late Devonian extinction evidence from Asian Carboniferous and Eurasian ammonian echinoderm faunas"

• N. G. LANE (IU, RUGS), "Paleobiology of Late Devonian fossil crinoids in Eurasia"

• E. MERINO (NSF), "Origin of agate textures"

• G. OLYPHANT (USGS/NOAA), "Contemporary and historical holocene sand transport in a coastal dune environment, South Shore, Lake Michigan, Indiana"

• G. OLYPHANT (IDEM/EPA), "Chemistry and Movement of Septic Tank Absorption Field Effluent in the Dunes Area, Lake and Porter Counties, Indiana"

• G. OLYPHANT (USGS), "Analysis of the Potential Geomorphic Response of the Wabash River to Neotectonic Deformation along the Wabash Valley Fault System"

• G. OLYPHANT (NATIONAL PARK SERVICE), "Seed Funding for Monitoring Hydrogeologic Conditions in Wetland Watersheds of the Indiana Dunes National Lakeshore"

• G. PAVLIS (USGS), "Multidisciplinary study of geodynamics in an active collisional orogen, Soviet Central Asia"

• G. PAVLIS (AFOSR), "Broadband signal enhancement of seismic array data: application to long-period surface waves and high-frequency wavefields"

• G. PAVLIS (IRIS), "Seismic Array Studies in Eurasia"

• G. PAVLIS (USGS), "Collaborative research (S.E. Missouri State Univ., Indiana University, Indiana Geological Survey): A comprehensive geophysical investigation to assess seismic hazards in the Wabash Valley Seismic Zone: A case study of the New Harmony Fault"

• L. PRATT (NSF), "Cooperative study of Cretaceous Black Shales in the Benue Trough, Nigeria"

• L. PRATT (DOE), "Isotopic studies of the biogeochemical cycle of carbon relationships between pCO₂ and the abundance of 13C in sedimentary organic matter"

• L. PRATT (NSF), "Biogeochemistry of lipid biomarkers in modern and fossil bi valves"

• L. PRATT (NSF), "A Stratigraphic and Geochemical Transect across northern South America for assessment of paleoceanographic events in the Caribbean gateway during the middle Cretaceous"

• L. PRATT (NSF), "Molecular and isotopic composition of lipids in biroleo shells: records of biosynthetic origins and paleoenvironmental change"
Faculty news

(continued from page 11)

mier programs for research on fossil Crinoidea. Students who received train-
ing under Gary's direction are now them-

selves among the best-known paleon-
tologists in the nation.

Shortly before leaving U.C.L.A., Gary and colleague Clarence Hall had under-
taken study of flowering plants with the hope of developing an undergraduate course on the natural history of southern California. Because of the move to IU, the course has been taught instead in southern Indiana, first under the aus-
pices of the Collins Living Learning Cen-
ter, and then of the Honors Division. The course, now part of the Lane leg-
end, entails weekend camping trips, field-
work on biology and geology, song sing-
ning around the evening campfires, and open-air preparation of Chinese-style meals in a gigantic wok, of which Gary is an acknowledged master!

In 1984, Gary was invited to chair the Department of Geology, a task that he carried out with a remarkable display of patience, firmness, and administrative skill. These qualities rested on wide ex-
pereince with students, faculty, and staff here and at other institutions both in the United States and abroad.

In 1987, Gary relinquished the geol-
ogy chair and returned to the full-time program of teaching and research that he loves so much. Most recently, in 1991 and 1993, Gary and two of his former doctoral students mounted paleontologi-
ical expeditions to the most remote areas of western China and also to southern China to research richly fossiliferous crinoidal strata of Xingjiang-Uigur Aut-
onomous Region and Guangxi prov-
inces. Yet a third expedition took place during the summer of 1995, testifying to the unreduced vigor with which Gary is initiating his retirement years.

Many honors have been accorded Gary for his outstanding scholarship and self-
less dedication to science. Gary was elected president of the prestigious Paleon-
tological Society for 1977-78. In the spring of 1995, he was presented the Raymond C. Moore Medal of the Paleon-
tological Society and thus recognized as one of the foremost paleontologists of our time.

Faculty and staff members in the De-
partment of Geological Sciences are greatly indebted to Gary and extend sin-
cerest thanks for the contributions he has made to our program. Through his own work and that of the students he has so ably mentored, Gary's influence on our science will continue far into the future. We look forward to the pleasure of his continuing presence in the re-
search laboratories, and to the wise coun-
sel of this quintessential man of science.

— Donald E. Hattin

In other news:

Abhijit Basu continues with his research on the petrologic evolution of the lunar roolith with support from NASA, us-
ing JSC-Houston Laboratories fre-

quently. In September 1994, he was a week-long guest of the Italian Geologi-
ical Society and the Italian Society for Mineralogy and Petrology, delivering a keynote address at their joint meeting. He also traveled to Brazil to present a paper at the quadrennial meeting of the International Association of Sedimen-
tologists. He is rotating out after five years of chairing the Developing Coun-
tries' Libraries Committee of SEPM and re-charting it to the Friendship Programs Committee. He, however, continues to be an associate editor for the Journal of Sedimentary Geology, and, in January 1996, will assume the responsibility of science editor for the books published by the Geological Society of America.

Basu raised money to help establish a Professorship in India Studies at IU and will not be shy in asking geology alumni for generous gifts, especially over a single rail!

Bob Dodd and Mike Savarese did field work during summer 1994 in the Fldner Range of South Australia studying lower Cambrian coral and archaeocyathid-bearing reefs. This is of particular interest because these are the oldest corals that have been described. They are attempting to learn how reefs are constructed in terms of energy sources and cycling, as well as determining if archaeocyathids had photosynthetic al-
gae in their tissues as do modern corals. After looking at the fossil reefs they spent three days on the Great Barrier Reef on Heron Island. Joann and Bob Dodd then traveled north to the tropical part of Australia to vacation around Cairns.

Jeremy Dunnig has co-authored, with Professor Philip Brown, University of Wisconsin, the first geologic textbook (and perhaps the first science textbook) or compact disc-read only memory. In-
Terra-Active is published by West Pub-
cishing Co. and is an interactive geology text on CD-ROM that presents a multi-
media approach — text, sound, film, and animation — that allows students to learn about a variety of rocks and geo-
logic reactions and then test their knowl-
edge. Among the features is a section

wherein students can plot the effects of three global trends over time — global warming, energy and resources, and waste management. As an example, start-
ing from the year 1900, users can see the contemporary state of garbage — how much waste was produced at the time and where people put it. They can select what to do about the problem in the future — whether to limit development, change behavior or defer action. Each choice changes the future in terms of protecting the environment relative to economic growth and development.

One feature will print out a student's activities during a given session as a way of measuring what they're doing and what they're learning while at the same time letting the students set their own learning rates. This past spring, Jeremy taught as honors section of course G193 using this interactive text and, in the fall, he and Gary Pavlis co-taught a larger section of this offering open to all stu-

ents.

Don Hattin's retirement has been marked by the establishment of an en-
dowment through the IU Foundation. Interest generated by the Don Hattin Special Field Course Fund will be used to help financially needy undergraduate and graduate geology majors at IU Bloomington to participate in special (noncore) field courses such as G420 Regional Geology Field Trip, G575 Ge-
ology of Tropical Marine Environments, and G341 Natural History of Coral Reefs. Anyone who wishes to contribute to this endowment may do so by send-
ing a check (made out to the IU Foun-
dation and designated for this fund) to Sarah Burron, Department of Geologi-
cal Sciences, Indiana University, Bloomington, IN 47405. G341 will be cross-listed as L341 in biology. The first year will be a three-week class, with the first week taught in Bloomington and the last two on-site in Bermuda at the Bermuda Biological Station for Research.

Alan Horowitz has retired after 31 years as curator of paleontology. A sym-
poium and field trip was hosted by the department in his honor on April 7-9, 1995, and several alumni and colleagues gave presentations including a keynote address by Johnny Waters, MA'76, PhD'78, and research reports by Bob Anstey, MA'67, PhD'70, Bill Ausich, MA'76, PhD'78, Bob Dodd, Mike Savarese, and Johnny Waters. Addi-
tional reports were given by students from Ohio State, the University of Cin-
cinnati, and IU on work currently in progress. Other alumni attending that weekend included Gary Anderson, MAT67, MA'69, PhD'71, from St.
Cloud State, Jim Stratton, MAT'67, MA'72, PhD'75, from Eastern Illinois University, and Larry Knox, BA'65, MA'71, PhD'74, from Tennessee Tech. Alan also was honored as the recipient of the department's 1994-95 Owen Award for distinguished alumni.

In February 1994, Alan gave a presentation, co-authored with Joe Pachut of IUPUI, at the International Bryozology Association conference in Wellington, New Zealand. He also attended part of the postconference field trip to South Island. IU alumnus Roger Guflcy, BA'61, MA'65, PhD'66, from Penn State, also attended. Alan expects to be busy in retirement finishing various ongoing paleontological studies.

Gary Lane has formally retired, but remains active on several fronts. His retirement luncheon on Dec. 9, 1994, was a roaring success with about 90 people attending, including six of his former PhD students, as well as Clarence Hill from U.C.L.A. He left May 22 for his third stint of field work in China, returning on June 17. Former students Johnny Waters, MA'76, PhD'78, and Chris Maples, MS'85, PhD'85, joined him. Several of Gary's U.C.L.A. PhD students including John Grimmer, Al Larson, and Gary Webster, visited in late June for a retirement cimopout. Gary made a museum trip to England this past September/October to study type Devonian crinoids in conjunction with the Chinese work. He also stopped in Ireland to visit George Sevastopolu and family.

Gary is slowly putting together a history of the IU Department of Geology. By the end of the past spring semester, he had completed text up to about 1920. He would be most pleased to hear from any alumni who want to relate interesting or amusing stories about present or former faculty, especially stories that illustrate their personalities, foibles, or other characteristics.

Enrique Merino traveled in May 1995 to Townsville, Australia, to deliver a keynote paper with Daniel Nahon (Mareville) on the dynamics of laterization at the 17th International Geochimical Exploration Symposium. While contradicting the fashionable current thinking on this matter, Enrique found time to snorkel on the Great Barrier Reef. On their return from Australia, Merino and Nahon also presented their laterite story to the Goldschmidt Conference at Peru State. Postdoc Yutian Wang continues to work on aspects of laterization with Enrique. Ex-graduate student Yifeng Wang, PhD'95, after a couple of years at Georgia Tech, is taking a job at Sandia Labs in Albuquerque, where, in addition to new work, he will continue working with Rick Murray (Boston University), Caroline Isaacs (USGS Menlo Park), and Enrique on the origin of the cyclicity of beckled cherts and banded iron formations.

Haydn Murray remains busy in retirement. In May 1995, he taught a course on industrial minerals at the University of the South in Bahia Blanca, Argentina, where Eduardo Dominguez, who was a postdoc with Haydn at IU in 1988-89, is the chair of the Department of Geology. Recent members of the industrial minerals group who once worked in Haydn's lab include Jun Yuan, PhD'96, who is employed in research and development with English China Clay/America in Sandernall, Ga.; Xunjia Weng, MS'95, working at Evans Clay Co. in McIntyre, Ga.; Jason McColliston, BS'93, employed by Spinks Clay Co. in Paris, Tenn.; and Clayton Millard, MS'95, working for the Indiana Geological Survey.

On the personal side, Murray is busy with several clay mineral projects in China, Brazil, and Argentina. He is a trustee of the AGI Foundation, the GSA Foundation, and the SME Foundation. He also is on the board of directors of Oil-Dri Corp. of America, a large mining and processing company producing absorbent clays. He serves as a trustee of the AGI Foundation, the GSA Foundation, and the SME Foundation. He also is on the board of directors of Oil-Dri Corp. of America, a large mining and processing company producing absorbent clays. He serves as a trustee of the AGI Foundation, the GSA Foundation, and the SME Foundation.
Faculty news (continued from page 13)

eral Association (AIEPA) until 1997, Juanita and Haydn attended the Euroclay meeting in August 1995 in Belgium, where the AIEPA Council met. Nevertheless, Haydn says that he does manage to find some time to fish, hunt, and play a little golf.

Jessica Elza-Kogel, MS'87, PhD'90, is employed in the research and development laboratory of Thiele Kazin Co. in Sandiesville, Ga. Jessica had her second child, a boy, in January 1995.

Ed Ripley has had several visitors in his laboratory during the past year including Cheon-Young Park, a visiting scientist from Korea. Park is employed in the research and development laboratory of Thiele Kazin Co. in Sandiesville, Ga. Jessica had her second child, a boy, in January 1995.

Ed Ripley has had several visitors in his laboratory during the past year including Cheon-Young Park, a visiting scientist from Korea. Park is employed in the research and development laboratory of Thiele Kazin Co. in Sandiesville, Ga. Jessica had her second child, a boy, in January 1995.

A recent doctoral student in Ed’s lab, Insung Lee, PhD’94, has now assumed full responsibility as director of the Stable Isotope Laboratory, Korea Basic Science Center. In addition to a variety of service projects, Insung is doing research on tectonic deposits in Korea and working on improvement of the extraction and conversion of water from amphiboles for hydrogen isotopic analysis.

Al Rudman is working on two grants involving the Wabash Valley. One is a USGS grant with Gary Pavlis and Michael Hamburger to assess seismic hazards in the Wabash Valley Seismic Zone and the other is a VASTAR (Arcos)-funded project with John Rupp to relate seismic and potential field data to the tectonics of the Wabash Valley. Graduate student Matt Cohn is studying the fracture patterns associated with karst terranes in Monroe County, using field measurements at exposed sites and electrical resistivity measurements. Results may be applicable to contaminant movement in landfills. Glenn Bear is in the final year of his PhD research with a focus on the tectonics of the Wabash Valley Seismic Zone. He is utilizing large potential field data sets and (some) proprietary seismic lines in the area.

Bob Shaver remains busy in retirement. He recently finished a three-year stint as an associate editor of the Geological Society of America Bulletin. During August 1994, he assisted as a volunteer advisor at the Alumni College at the Geologic Field Station in Montana. Returning home was initially a treat for Bob and Sue as they stopped off to visit the Beartooth Mountains. However, breakdown of the IU van they were bringing back to Bloomington resulted in an extra day of travel and “considerable expenditure of neurotic energy.” In April 1995, Bob accepted an invitation from the local Elder Hostel Group, which meets at Clifty Falls State Park, Madison, to conduct a one-week course there on “Fossil Life and the Dynamic Earth As Its Basis.” Bob has continued his research into his family genealogy with plans for a third published book, this one probably to be the last and smallest.

Lee Suttner was a recipient of an Outstanding Educator Award from the Eastern Section of the American Association of Petroleum Geologists at its September 1994 meeting. He was specifically cited for his outstanding contributions in the classroom and the field at the graduate and undergraduate levels through teaching, administration, and research in sedimentary geology.

Lee continues his studies of the factors that controlled the spatial and temporal migration of major fluvial systems in the Western Interior foreland basin. Currently, two PhD students, Nathan Way and Craig Rankin, are major contributors to this project through their field and subsurface studies in the Black Hills and Powder River Basin region. Lloyd Purser (Indiana Geological Survey) is primarily responsible for coordination of the subsurface aspects of the study. Michael Zaleha, a recent PhD student of John Bridge at SUNY Binghamton, has joined the group this year in a post-doctoral position. Michael is modeling paleohydraulic parameters of the river systems in order to detect how these parameters were affected by subtle intrabasinal tectonics. An important summary of the group’s work appeared last spring in SEP Special Publication 52.

Lee’s twin daughters, Lisa and Lori, and son Jim, all have completed their undergraduate degrees at IU and reside in Bloomington. Daughter Jennifer and son-in-law Chris, also both IU alumni, reside with their four-year-old son, Daniel, in Kalamazoo, Mich. Ginny Suttner began her 15th year as principal of St. Charles School this past fall.

Dave Towell completed his latest term on the Bloomington Faculty Council, where he served as secretary and as a member of the Agenda Committee. He also chaired the Bloomington Campus Student Affairs Committee and co-chaired the equivalent committee at the university level. The Bloomington committee, working with the dean of students, student government, and various school administrators drafted a revision of the Code of Student Ethics, which will be presented to the Bloomington and University Faculty councils this year. Dave will remain on the Bloomington Committee as a non council member.

Dave and Lindsay are proud grandparents of a second granddaughter, Abigail, born in January 1995 to Garrett and Cheri Towell. Son Brian is now working in Denver, Colo., for GeoGraphix Inc. as a geologist, support specialist. He married Sydney Cooley of Muncie, Ind. at Red Rocks, Chapel in Morrison, Colo., on Aug. 5, 1995. Finally, after 31 years of eligibility for the award, Dave was voted the 1994 recipient of the department’s Screwball of the Year Award. It just goes to show that if you never give up, just keep trying, you might eventually achieve your ultimate goal in life.

Charles and Dorothy Vitaliano were among the eight Americans who participated in midsummer 1994 in a two-week seminar on the volcanoes of Kamchatka. The seminar was organized by East-West Discovery, an Hawaiian-based group, which, along with appropriate Russian institutions, is promoting various tours to Siberia. The Russian contingent, bringing this seminar to a total of 15 or so, was mainly from the Institute of Volcanology in Petropavlovsk. After a couple of days in Petropavlovsk, the group flew by helicopter to Karymskiy Volcano, where they camped in the caldera for five nights and then flew to Geyser Valley for a day trip before returning to Karymskiy. The next day, it was off to Ksudach Volcano, a complex of five calderas for four more nights, and finally back to Petropavlovsk for visits and lectures at the institute. Many spectacular volcanoes were seen and photographed from the air during the several flights.
Awards & grants

Undergraduate
- Senior Faculty Awards
  Priya Ganguli, Terre Haute
  Margaret Streepey, Georgetown
- N. Gary Lane Award (beginning major)
  Terry Arcuri, Bloomington
- Minority Achiever’s Program Scholarship
  Amanda Hopkins, Valparaiso
- Chevron Geophysics Scholarship
  David Wilson, Losantville
- Honors Division Undergraduate Research Award
  Margaret Streepey, Georgetown
- Shrock Scholarship
  Priya Ganguli, Terre Haute
- Junior Professional Development Award (society membership and journal)
  Melissa Buciak, Palos Heights, Ill.
- William Tarr Award (Sigma Gamma Epsilon)
  David Wilson, Losantville
- Outstanding Student Paper Award at Northeastern Section GSA Meeting
  Margaret Streepey, Georgetown

Field Station Scholarships (IU students)
- Charles Deiss Field Station Scholarship
  Amber Pickett, Fishers
- Field Station Scholarships
  Jen-chieh Hsieh, Taipei, Taiwan, R.O.C.
  Katrina Nell, Bronx, New York, N.Y.
  Richard Stotts, Danbury, Conn.

Graduate
- Ewing Award and Outstanding Academic Achievement
  Lindsey Leighton, Lee, Mass.
- Department of Geological Sciences Outstanding Academic Achievement Award
  Christopher Dintaman, Bloomington
- Outstanding Associate Instructor
  Craig Rankin, Avella, Pa.
- College of Arts and Sciences Graduate Fellowship
  Scott Dreher, Champaign, Ill.
- Chevron Oil Company Fellowship in Geophysics
  Alex Krueger, Clinton, Mich.
- Shell Oil Company Fellowship
  Christopher Amato, Queens, New York, N.Y.
- Geochemistry Fellowships

Degrees awarded

Bachelor of Arts
- Clair, Deborah; Indianapolis (5/95)
- Finta, David L.; South Bend (5/94)
- Hopkins, Amanda; Valparaiso (5/95)
- Lagenour, Christopher; French Lick (8/94)
- Meiss, Stacey; Fort Wayne (8/94)
- Williamson, Brad L.; Nashville (5/94)
- Wright, Andrea; Bloomington (8/94)

Bachelor of Science
- Becker, Jennifer L.; Bloomington (5/94)
- Bonafair, Tim M.; Batesville (5/95)
- Burton, J. Wesley; Bloomington (5/95)
- Callis, Joseph; Madison (8/94)
- Cherkoff, Darren; Bloomington (5/95)
- Elkinston, Claire; West Chicago, Ill. (8/94)
- Ellis, David; Bloomfield (5/95)
- Fisher, Joseph; Warsaw (12/94)
- Fisher, Christopher; Hammond (5/95)
- Ganguli, Priya; Terre Haute (5/95),
  Honors, Thesis: “High Pressure Sani-
  ferent Ar/40Ar Results from Mesozoic
  Rhylite Dikes near Lake Gaston, N.C.
  and Va.”
- Ingle, Stephanie; Indianapolis (12/94)
- Kline, Randy; Kendallville (8/94)
- Klug, Jennifer; Richland, Mich. (8/94)
- Pahmeier, Ann; Westphalia (5/95)
- Schmoll, Aaron; Porter (8/94)
- Streepey, Margaret; Georgetown (5/95)
- Strength, Dana A.; Valparaiso (5/94),
  Honors with Distinction, Thesis:
  “Concentrations of Major Elements in
  Limestone/Marlstone Couplts as an In-
  dicator of Cretaceous Environmental
  Conditions in the Sergipe-Algoas Basin,
  Brazil”
- Szpakowski, Scott A.; Portage (5/94)
- Voednerhaar, Eric; Evansville (12/94)

Master of Science
- Ahmad, Nadeem; Multan, Pakistan (8/94), “Sedimentologic Evolution and
  Three-Dimensional Facies Architecture of the Salem Limestone, Illinois Basin”
- Austin, Amanda; Cincinnati, Ohio (8/94), “A Hydrogeochemical Study of the
  Illinios Central Groundwater Basin,
  (continued on page 16)
Staff news

Candace Franz is one of the newer members of the geological sciences support staff. She works for Professor Emeritus Haydn Murray in the clay mineralogy research area. She arrived in Bloomington with her husband, Burvee, who is a graduate student in the department's hydrogeology program, in August 1994, following their honeymoon trip to Costa Rica. She is completing a master's degree in fine arts, which she began at Ohio University, and is looking forward to taking classes at Indiana University. Candace enjoys studying art and traveling and hopes to visit the great museums of the world.

Grant Estey assumed the duties of resident manager of the Geologic Field Station in Montana on May 8, 1995. Grant is past co-owner of Eagle's Perch Custom Building and Design Co. of Whitehall, Mont. Previously, he served in the U.S. Navy (1972-1976), including two tours in Vietnam aboard the U.S.S. Meyerhoff. Grant also attended the University of Alaska. His wife, Lisa (Brezovich), worked as a teenager in the field station kitchen. Grant and Lisa have two delightful children, Andrew (3) and Haylee (1). The Estey family was a big hit with students, faculty, and staff this past summer!

Patty Byrum celebrated 11 years in the department last February. She has been working as the administrative secretary in the chair's office for the past four years. Her position includes the title Scheduling Officer for the department, and she helps to direct the work involved in setting the class schedules for each semester, including the summer sessions. She is responsible for the payroll, and so is considered a very important person in the department!

Patty's family is nearly grown, and this past March she became the proud grandmother of Katie Lynette Byrum, daughter of Brian and Gina Byrum. Brian graduated in May from Indiana State University and began his high school teaching career this fall. Patty's older daughter, Carla, was married this past May at a ceremony in Martinsville. Younger daughter, Kim, is a senior at Martinsville High School.

Student news

(continued from page 15)

Monroe County, Indiana" (research paper)

- Boyd, Julie; Kingwood, Texas (6/95), "Polyemorphism of the Bronson Hill Terrane: A 100-m.y. Age Gradient in "Ar"/Ar Hf-Stable Ages"
- Davis, Cara L.; Honolulu, Hawaii (2/95), "Geochemical and Carbon-Isotopic Stratigraphy of Cretaceous Marine Sediments in a Core from the Maracaibo Basin, Western Venezuela"
- Dull, Kathleen A.; Huntington (9/94), "A Gravity Investigation of the North Boulder Basin, Southwest Montana"
- Gellis, Christopher; Sterling Heights, Mich. (11/94), "Stratigraphy and Parasequence Analysis of the Dakota Formation-Graneros Shale Transition in Upper Cretaceous, Central Kansas"
- Lewis, Jennifer J.; Landisville, Penn. (2/95), "Tectonic History of the Wabash Valley Fault Zone Using Seismic Reflection and Stress Regime Data"
- Millard, Clayton; Genesee, N.Y. (4/95), "Characterization of a Posey County Clay for Use As a Compacted Clay Liner"
- Monk, S. Mark; Middletown, Md. (8/95), "Distribution and Characterization of Organic Matter in Sediments of the Suna Monica Basin, offshore California"
- O'Malley, Patrick; Montevideo, Minn. (11/94), "The Influence of Subtle Tectonic Movement along Basement Rooted Lineaments on Deposition of the Lakota Formation, Northeastern Wyoming"
- Way, Nathan J.; Bloomington (5/94), "Correlations of the Upper Jurassic-Lower Cretaceous Nonmarine and Transitional Rocks in the Northern Rocky Mountain Foreland" (research paper)
- Weng, Xiuja; Nanning, Jiangshu Province, P.R. China (8/95), "Mineralogy, Morphology, Geochemistry, and Selected Physical Properties of the Twiggs clay in the Georgia Kaolin District."
- Ziegler, Barbara J. (Grehl); Nanuet, N.Y. (8/95), "Application of Fluid Transport Design Theory to Sponge Functional Morphology"

Doctorate

- Bennett, Steven W.; Cedar Falls, Iowa (12/94), "Eolian Processes in a Coastal Dune Environment, Indiana Dunes National Lakeshore"
- Chen, Yuating; Jilan, P. R. China (11/94), "CIRFA: A General Coupled A Bettion-Transport Model and Simulator"
- Guthrie, John M.; Madison (11/94), "Organic Geochemistry and Carbon Isotopic Compositions of Strata in the Upper Ordovician Maquoketa Group and Oils in Ordovician Reservoirs from the Illinois Basin"
- Iqbal, Mohammad Z.; Dhaka, Bangladesh (8/94), "A Study of the Infiltration Processes Responsible for Contamination of Groundwater by Fertilizer-Derived Nitrate and Other Chemical Compounds in the Karst Aquifer of Orange and Washington Counties, Indiana"
- Lakey, Barbara L.; Ashland, Ohio (5/95), "Identifying Subsurface Storage Compartments Contributing to Karst Spring Discharge Through the Use of Major-ion Chemistry and Oxygen and Deuterium Isotopes in the Upper Lost River Drainage Basin, South-Central Indiana"
- McDonald, Susan K.; Freedom (10/94), "Subcritical Fracture Propagation and Its Application to Compound Earthquakes"
- Mellors, Robert J.; North Royalton, Ohio (5/95), "Two Studies in Central Asian Seismology: A Telesismic Study of the Pamir/Hindu Kush Seismic Zone and Analysis of Data from the Kyrgyzstan Broadband Seismic Network"
- Ramos, Emmanuel G.; Quezon City, Philippines (5/95), "Seismicity and Magma Intrusion Processes at Pinatubo Volcano, Philippines"
- Yuan, Jun; Zhejiang, P. R. China (5/95), "Clay Mineralogy and Its Influence on Industrial Uses of Some Kaolin Clay Deposits from South China and Eastern Washington-Idaho, U.S.A."
The advisory board of the department met in Bloomington on Feb. 24-25, 1995. George Nevers was installed as president and Malcolm Boyce as vice president. New members of the board for 1994-95 are Michael Cowen, Helen McCammon, Glenn Thompson, Jerome Thornburg, and Kenneth Vance. Other members of the board are Stanley Anderson, Robert Blakely, Robert Boyer, Marcia Engle, Richard Gibson, Michael Graham, Stephan Graham, Richard McCammon, Judson Mead, Ann Marie Petricca, Frank Pruett, Christopher Smith, Thomas Straw, Daniel Sullivan, Daniel Tudor, and Steven Young.

The chair's report on the status of the department was presented by John Hayes. He noted that enrollments in our classes showed an increase of 42 percent in the ratio of credit hours to teaching full-time equivalent (rising from 225 to 320 over the previous year). This should help considerably our teaching productivity as measured by the College of Arts and Sciences. In a second important matter, John presented a progress report on the new interdepartmental program in environmental sciences. It now has been essentially developed and is being advertised to incoming students. Finally, he reported on the architectural plans for lecture hall renovation, which was subsequently completed during summer and fall 1995.

A report on undergraduate affairs was contributed by Bruce Douglas, chair of the Undergraduate Studies Committee. Bob Wintsch, chair of the Graduate Studies Committee authored a companion report and Lee Suttner, director of the Geologic Field Station, and Lois Heiser, librarian, submitted reports on activities under their direction. Individual standing committees of the advisory board reported on their activities during the past year and on plans for the future. The Educational Planning Committee, chaired by Steve Young, organized and helped sponsor a forum titled 'Employment Opportunities in the Geosciences: How to Get There (and Stay There) from Here.' The format of the forum, held on the day before the board meeting, consisted of brief presentations by five members of the advisory board followed by a question and answer session and then more informal discussion over pizza. The forum was intended to allow experienced professionals the opportunity to pass on impressions, insights, and information to the next generation of geoscientists.

The Development Committee, chaired by Stan Anderson, arranged two alumni socials, one in Houston and the other in San Francisco. The major effort of the committee was with the 1994 Campaign for Equipment for Environmental Geosciences at Indiana University. Contributions, matching contributions, and pledges from alumni surpassed $25,800. These funds are being used to help procure monitoring instrumentation, field equipment, and computers necessary to launch the new environmental sciences program. Other funding sources have been and will be added to keep the program viable. Dan Tudor, George Nevers, and Stan Anderson planned and coordinated this second formal fundraising attempt by the advisory board. Other board members and alumni participated, and we thank each and every one for their efforts in making this campaign successful to the benefit of the department and its students.

As usual, an informal highlight of the two-day session was the annual Friday evening potluck dinner with faculty, their spouses, and friends, held again at the University Club in the Indiana Memorial Union.

New member profile

Michael T. Cowen received his BS degree in 1957 and MA degree in 1958, both from Indiana University. He has spent a long and successful career as a petroleum geologist and producer and lives in Grand Rapids, Mich. Michael is especially interested in the current and future plans for the Geologic Field Station and has many good memories of the three summers he spent there with now-retired Professor Wayne Lowell. Michael and his wife, Helyn, have four children, Elizabeth Topp, Timothy Cowen, Kathleen Czworka, and Annerarie Cowen.

Attending the 1995 meeting of the IU Department of Geological Sciences Alumni Board are, from left, front row, Sarah Burton, Steve Graham, Bob Boyer, Susan Green, Glenn Thompson, Robert Blakely, and Steve Young; back row, Ken Vance, Jud Mead, Michael Cowen, George Nevers, Dan Sullivan, Stan Anderson, Frank Pruett, Mike Graham, Tom Straw, Dick Gibson, Dan Tudor, Jerry Thornburg, Lee Suttner, Mal Boyce, and John Hayes.
M. W. Boyce, MA’56, retired on Aug. 1, 1994, as exploration vice president for Chevron Overseas Petroleum Inc. after a 38-year career. At the time of Mal’s retirement, he was responsible for overseeing COP’s international exploration activities, which include operations in Angola, Congo, Nigeria, and Papua New Guinea, among others. In 1971, he was named manager of Chevron’s North Sea exploration activities, based in Holland. During his tenure as manager, several oil fields were discovered and developed, including the giant Ninian Field in the British North Sea. Mal and his wife, Sylvia, live in Lafayette, Calif., and have two sons.

John Boyer, BS’86, is a geologist with STS Consultants of Salt Lake City, where he has been involved with projects concerned with both engineering and environmental geology. John was recently accepted as a member of the American Institute of Professional Geologists.

Denise (Tetter) Chew, BA’80, has become president of Enviro-Equipment Inc., a corporation that rents specialized environmental monitoring equipment to geologists and engineers. Denise and Brian Chew, BA’80, live in Pineville, N.C. Brian is a senior hydrogeologist and environmental manager for Law Engineering Inc.

Nancy (Paredes) Ellenberger, BS’84, is currently employed with the Defense Mapping Agency in Washington, D.C., and is married to Mark Ellenberger, an analyst with the Department of Defense. They enjoy life in Eldersburg, Md., with their two daughters.

Alan Laferriere, MS’81, PhD’87, continues in his position as a senior exploration geophysicist with Exxon Exploration Co. Al is currently carrying out work with the Trinidad Group.

J. David Lazor, MA’68, PhD’71, continues to work oil and gas prospects, and his wife, Barbara, is still working at the Houston Museum of Fine Arts. Dave led a group of geologists and friends on a nine-day rafting/biking trip through the Grand Canyon in summer 1994 and plans a 6-1/2-day trip at the end of May 1996. Daughter Jennifer is studying at the College of Wooster and son Michael is living in the Houston area.

Alice (Nightengale) Luhan, BS’90, is environmental coordinator for Total Petroleum Inc., Denver, Colo. Alice manages and initiates remediation of all environmental issues for the retail stores. In August 1994, she married geographer David Luhan, who works for D.P. Associates at the Rocky Mountain Arsenal. They make their home at 4761 Yates Court, Broomfield, Colo.

Richard B. McCammon, PhD’59, was presented with the Krumbein Medal, the highest award given by the International Association of Mathematical Geology, at the 1994 fall meeting held at Mont Tremblant, Quebec. He also has recently received the U.S. Geological Survey Meritorious Service Award, the highest second honor from the U.S. Department of Interior. This award is given for significant contributions to the earth sciences and to management and administration of the scientific programs of the USGS and to recognize the many outstanding accomplishments and dedication of its employees. Dick’s recognition was for his fundamental scientific contributions and leadership in the field of quantitative mineral resources assessment. He developed the quantitative methodology for the National Uranium Resource Evaluation Program, a national effort to evaluate domestic undiscovered uranium resources. Dick and his wife, Helen, and two children, Catherine and Ian, live in Bethesda, Md.

Dennis J. McGrath, MA’84, is Indiana state director of the Nature Conservancy, a private, nonprofit organization that acquires land to preserve important natural areas. Dennis also is chair of the Indiana Heritage Trust, which has similar purposes and utilizes funds from APB: Missing persons

Mail has been returned recently for the following people. If you have information regarding the whereabouts of anyone on this list, please drop us a line.

Acker, John R.
Applegate, Terry Allen
Ashley, H. Clay
Babij, Peter O.
Baciu, Nick
Balogh, David Russell
Barrett, Harvey Benton
Beckman, Richard John
Bert, Charles H.
Bian, Liang Qiao
Blevins, Owen Martin
Blumenthal, David Alan
Cakrepa, Alfred P.
Coppinger, Garre Alan
Crevello, Robert Charles
Crites, William Henry
Eikenberry, Stephen Edward
Falls, David Michael
Finta, David Louis
Furui, Hussein Saleh
Forbes, Dorothy
Frederick, Daniel Lee
Freed, Richard Alan
Gan, Tiang Liong
Gibbons, Melissa Jane
Golden, James Edward
Guerrattaz, John Anthony

Hays, Ruth Rohrer
Hinchman, Walter Jerry
Holsten, Jeffrey Neal
Jackson, James Milton
Jameson, Jeremy
Kellams, Peter Hill
Kerr, Timothy
King, Norman Ralph
Kleschen, Mary Zeta
Kordesh, Kathleen Marie
Kuhn, Bradford Dean, III
Lee, Howard William
Mansfield, Thomas Doyle
Martin, Herman L.
Meisenhelder, David Michael
Miller, Michael Hallenbeck
Myers, Sally Ann
Nelson, Marc Edward
Nelson, Warren Lee
Newton, David Anthony
Reardon, Morgan Leonard
Kutz, Mark E.
Scott, Andrew Robert
Silvers, Eric Richard
Smith, Bruce Carlton
Spangler, Michael Alan
Stephens, Ann Kovalchik
Stover, Jack Wendell
Valko, Kurt William
Vance, Linda Marie
Warner, Stephen Charles
Webb, Myron Dale
White, Dianne Lynn
Wilson, James Clay
Indianapolis's environmental license plates.

John C. Mackey, BA'74, is president of Mackey-Tanner Petroleum Inc., which drills and produces oil and gas properties in the Illinois Basin. He and his wife, Christina, and four children, Jennifer (18), Joseph (15), Cynthia (13), and Elizabeth (7), live in Bloomington.

Michael McLane, MA'68, PhD'72, of P.T. Geoservices, Jakarta and Bandung, Indonesia, is the author of a new book, *Sedimentology* (Oxford University Press), a comprehensive overview of this field.

Christopher Maples, MS'85, PhD'85, was awarded the 1994 Schuchert Medal of the Paleontological Society. This honor is presented annually to the most distinguished paleontologist under the age of 40.

Doug Montgomery, BS'82, has relocated to his home town of Seymour, where he operates Montgomery Environmental Inc. Doug and his wife, Martha, have purchased an historic home and Geo-Science at Penn State and the other with Eric Barron for SEPM.

Arthur N. Palmer, MA'65, PhD'69, received the Kirk Bryan Award of the Division of Quaternary Geology of the Geological Society of America at the 1994 annual GSA meeting in Seattle. Art was specifically honored for his 1991 paper published in the GSA Bulletin, "Origin and Morphology of Limestone Caves." This paper was the first in the 36-year history of the award to be concerned with caves or karst. It was also so relevant to groundwater hydrology that several persons nominated it for GSA's Meineke Award. In 1980, Art established the Water Resources Program at State University of New York at Oneonta. Last year, he was named Distinguished Teaching Professor.

Melissa Perucca, MS'88, continues her work with the Defense Mapping Agency in St. Louis, Mo. She is currently on a 12- to 15-month assignment near London, where she is helping to train British specialists to use new mapping equipment that she helped develop.

Thomas G. Plymote, BS'76, MA'78, is associate professor of geology at South.
Texas, and after returning to the geology at Ball State University, St. Mark Schult, PhD'94, has a teaching position with the University of Maryland Overseas Program. He will be teaching armed service personnel in Japan, China, and elsewhere in the Far East.

Larry Skelton, BA'60, is manager and geologist in charge of the Kansas Geological Survey Well Library in Wichita, Kan. Larry, who participated in the IU R.O.T.C. program, pursued an Air Force career from 1960 to 1981, retiring at the rank of lieutenant colonel. His duty stations included bases in Florida, California, Grenland, Texas, the Philippines, Mauritius, and Mississippi. In 1977, he earned an MBA from Texas A&M University and the Goldschmidt Medal for geochemistry from the Geochemical Society. He is a member of the American Chemical Society. Larry teaches part time at Cowley County Community College, lectures on geology to local groups, leads field trips, and maps the geology of Cowley County. He and his wife, Mary, have two sons, Harold and John, both of whom are married and live in Wichita.

Phyllis (Scudder) Snow, MA'58, works as a geologist/hydrogeologist for the Flathead Valley Community Band and Glacier Orchestra. She plays the bass and trombone and she plays the violin, flute, and piano.

Alumni events

(continued from page 19)

west Missouri State University, Springfield. Since leaving IU, Tom has served in temporary positions as a lecturer in geology at Ball State University, St. Francis College (Fort Wayne), and Southwest Missouri State University. In 1986, Tom received his doctoral in metamorphic petrology/mineral physics/solid earth geophysics from the University of Minnesota.

Jane and her husband, Peter, who also is employed by Chevron have a daughter, Johanna, born in April 1993. Larry Skelton, BA'60, has been transferred to a Western Division Exploration staff position with Chevron USA Production Co. Jane is responsible for many aspects of process improvement efforts involving such areas as business/budgetary planning, coordination of training for division geologists and geophysicists, and special project management. Jane and her husband, Peter, who also is employed by Chevron have a daughter, Johanna, born in April 1993.

Malcolm Boyce, MS'85, was awarded the G.K. Gilbert Award of the Division of Planetary Sciences of the Geological Society of America at the 1994 annual meeting of the society. Previously, Ross received the Bowen Award from the Volcanology, Geochemistry, and Petrology Section of the American Geophysical Union and the Goldschmidt Medal from the Geochemical Society. He is a Fellow of the Australian Academy of Science and a foreign associate of the U.S. National Academy of Sciences. He continues to work at the Australian National University at Canberra with frequent trips abroad.


Victoria L. Warren, BA'92, MS'85, is employed as a senior hydrogeologist by Andrews Environmental Engineering, whose corporate headquarters are in Springfield, Ill. Formerly, Vicki was a senior hydrogeologist with Emcon, but when that company closed its Indianapolis office, she, together with three other former Emcon employees, established an Indianapolis office for the Andrews firm. Her work primarily involves evaluation and remediation of problems related to solisi waste disposal.

William J. Wayne, BA'43, MA'50, PhD'52, and his wife, Naomi, spent six weeks during the summer of 1994 on a cruise from Newark, N.J., to Buenos Aires, Argentina, and returned aboard the MV *Amerantia*. Bill gave a total of 13 lectures on geology and Latin America (and the Caribbean) on the round trip. During the past year, he completed a report for a National Geographic grant and used a six-month Fullbright research award to inventory landslides in the Province of Salta, Argentina. He provided a map and report to the governor of the province, taught a short course in urban geology (in Spanish) at the National University of Jujuy, and returned to the University of Nebraska, Lincoln, in early May.
Many thanks to those who have contributed to the IU Department of Geologic Sciences!

Individuals

Richard L. Adams
Brian H. Beeman
Alexander David
J. Allen
David J. Allen
Deborah D. Allen
James C. Allen
Stanley & Sherry Anderson
Anonymous
A.C. & Rosemary

John & Janet Bubb
James & Evelyn Brophy
John & Mary Droste
Mary Blaney Blakely
Mary Blaney Blakely

Clay Blaney
Richard & Phyllis Boardman
Malcolm & Sylvia Boyce
Robert L. Boyce
Elizabeth & Robert E. Boyer
Simon & Trody Brassell
Bucklin
Richard & Barbara Hill

Lawrence H. Balchus
Abbi & Arlo Basu
William E. Benckart
C.A. & S.S. Bess
Edward J. Belski

Maurice Biggs
Mrs. R. J. Biggs
Robert & Rosanna Blakely
Mary Blaney Blakely

Breedon
H. Beus
Beus

Many thanks to those who have contributed to the IU Department of Geologic Sciences!

Donald W. Moore
Michael C. Moore
Winard H. Heye Pickering
Ardis A. Murray
Haydn & Juanita Murray
Seven & Nancy Murray
Winston & Joan Murray

Iving & Diana Neder
Claire & Harold Nelson
Philip & Sue Nelson

George & Margaret Nevers
Peter & Sandra Obremisky
Joseph W. Oliver
Greg A. Cibik

Philip & Glenna Omanson
James R. Orgill
Robert K. Pabian
Joseph F. Pachur Jr.
Dennis C. Parker

Ronald L. Parsley
Gary & Mary Lynn Pavlis
Dean & Wanda Pennington

Arthur & Sonda Percy
Mr. & Mrs. William C. Perkins
Melissa A. Perucca
Robert & Peggy Peronaffo
Daniel D. Petzold
Ralph N. Pfeifer

Dorothy G. Pinnell
Arthure & Sharon Pinsak
Robert & Sheila Pfleger

Ivan L. & Joyce B. Portnoy
Dr. & Mrs. Joseph H. Pratt
Lisa Pratt

Paul D. Proctor
Frank D. & Shirley Priest
Robert J. Pruett

Thom & Becky Puncey
John G. Ramsey

Vishnu Kanganathan
John William Ramsford
Cathleen Ann Reas

Kenneth J. Reis
Bert L. & Phyllis Renertz

Carol M. Boyd
John T. Riddell

Bradley Joseph Ridgely
Gloria Hal Biggs

George Ringer
Edward & Kathleen Ripley

Stephens & Wendy Robbins
Catherine J. Robinson
Joann K. Rodspa

Lawrence & Rosalie Rooney
Scott & Melodye Rooney

Gary D. Rosenberg
Albert Rudman

Mary Runnels
Timothy & Rebecca Salter

Rosanne Buckner Sanislo

Otto Sardi

(continued on page 22)
Report on 1994 fund-raising

Geology Classroom Technology Campaign
Total Contributions: $28,185

This campaign was initiated and led by substantial gifts from members of the advisory board in late 1993. The purpose of this fund-raising project was to raise funds to purchase the requisite equipment to update the teaching facilities in the large lecture room in Geology 126. Not only was the campaign successful, but also, because of the number of contributions, the department received an additional $57,000 in funding through a proposal submitted to the Student Technology Fund. With these combined funds, we were able to convince the university to commit to updating the physical facility itself. Beginning with the fall 1995 semester, we have a classroom that has been repainted, is newly carpeted, and has new student seats. There is accessibility for handicapped students and lecturers who may use this classroom. New electronic equipment has been installed and is being used.

Geology Environmental Geoscience Campaign
Johnson Contributions to date: $26,825

The advisory board members again provided the leadership gifts for this campaign, initiated in December 1994. The success of the campaign, made possible by the generosity of our alumni and friends, was instrumental in securing $27,000 in additional funds from the state of Montana to establish a model demonstration watershed in the vicinity of the Geologic Field Station, which will integrate research and teaching in the general area of hydrogeology and environmental geoscience. A $15,800 award from the Research and University Graduate School was received by the department and field station for the field station project. A coalition has been developed among the university, the state of Montana, and the local water users in Madison County for the study of the Willow Creek watershed near Pony, Mont.

Geology Student Telethon Campaign
Pledges/Commitments: $5,170
$895 (potential from matching programs)

Our own geology students volunteered their time in late March 1995 to conduct the first telethon on campus whose students have undertaken such a fund-raising project. They are to be commended for their efforts and we especially appreciate their dedication and commitment to the department. Alumni who have not chosen to contribute in the past or who have not been approached in the past few years were contacted. We were gratified by the response of many of you. Advisory board member Dick Gibson contributed to match up to $5,000 in contributions collected through this campaign.

We hope that you will consider making a donation to the Department of Geological Sciences. Please make your check payable, with the one exception noted below, to the IU FOUNDATION.

You may specify that your donation go to any of the various funds that are maintained by the IU Foundation for the Department of Geological Sciences. You may specify particular funds: Geological Sciences (general unrestricted); Ralph E. Fasure (geological research in Indiana); Galloway (research/educational needs of graduate students in paleontology, stratigraphy and paleoecology); Don Hart special Field Course (scholarships for special [noncore] field courses); Jackson Mead Field Station (student/faculty support at the field station); Applied Clay Mineralogy Professorship (being established by Hayds Murray); John B. Patton (research in geology in Indiana); William Thornburg (student research in physical geology, with preference for geomorphology and glacial geology); Cummings/Malott (to encourage superior work by staff/students in geological sciences); Charles Deiss (to support scholarships to the field station); Arche Mephone's Student Loan (short-term, no-interest loans to geological majors); Excellence in Geology (undergraduate scholarships, graduate research, summer field training); and the Geologic Field Station Maintenance Fund (improvements to physical facilities). Contributions also can be made to the Geology Library Fund, payable to Indiana University, in memory of John Patton.
Alumni Service Form

Your IU Alumni Association invites you to communicate with us, with IU, and with your fellow alumni by using this Alumni Service Form to keep up your membership in the association, to upgrade your file with Alumni Records, and to send in a class note to this publication. Please use this form to join or renew your membership in the IUAA, as well as to keep in touch with your department or school and to provide us with your change of address. For more information about membership, alumni programs, or activities, call (800) 824-3044.

HOP ABOARD!
Here’s your ticket to membership!

[Table]

- **New membership** □  Renewal □
- **Name**
- **Address**
- **City**  State  Zip
- **Degree(s)**  Year(s)  Soc. Sec. #
- **Spouse’s Name**
- **Degree(s)**  Year(s)  Soc. Sec. #

- **Payment enclosed. Total = $_________** (Check payable to IU Alumni Association)
- **Charge my**  □  VISA  □  MasterCard
- **Fax order (812) 855-8266**
- **Card #_________ Exp. Date ______ Signature _______**

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<th>Membership Type</th>
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<th>Joint Membership (husband and wife)</th>
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* Recent Graduates—you are eligible for this special annual rate if your first IU degree was received within the last three years!

Say hello to your classmates…

You don’t have to be a member to pass along the latest about yourself. Let your former classmates learn what you’re doing now. We’ll publish your class note in the Hoosier Geologic Record newsletter. (Please fill in as much of the following information as you wish. Its purpose is to keep IU’s alumni records accurate and up to date.)

**IU degree/date(s)________**  **Publication carrying this insert________**  **Date________**

**Name_________________________**  **Last name while at IU________**

**Preferred name_________**  **Student I.D.________**

**Home address_________________**  **Phone_________**

**City_________**  **State_________**  **Zip_________**

**Business title________________**  **Company/Institution_________**

**Company address_________________**  **Phone_________**

**City_________**  **State_________**  **Zip_________**

**E-mail_________**  **Mailing address preference: Home_________**  **Business_________**

**Spouse name________________**  **Last name at IU_________**  **IU degree/date(s)________**

**Your news:_________________________________________________________**

_________________________________________________________
Take a look — this is what we’re all about:

**INDIANA ALUMNI Magazine**
Six times a year the Indiana Alumni Magazine brings IU to your doorstep. Nowhere else will you find chronicled in such detail the achievements and commitment to excellence that define your alma mater.

**School and Campus Alumni Associations**
Each IU campus houses an alumni association office to serve the alumni of that campus. In addition, there are 26 constituent societies for graduates of the schools and departments throughout the university. Alumni publications for these groups keep you in touch with your department or school, former teachers and classmates, and current activities in your profession.

**Alumni Clubs**
The IU alumni club network includes more than 80 clubs around the world, giving alumni opportunities to socialize and interact with fellow Hoosiers. Clubs also conduct community service programs, raise scholarship funds, and assist in recruiting students for IU.

**Mini University**
Co-sponsored by the IUAA and the School of Continuing Studies and held on the Bloomington campus each summer, Mini U offers a diverse curriculum of more than 100 classes taught by IU faculty. With no tests to take and no supplies to buy, many alumni find themselves returning year after year to this fun event.

**Membership Directories**
Every five years, the IUAA publishes a comprehensive directory of all members, with listings indexed by name, profession, geographic location, and graduating class. Directories are sold only to members of the association.

**Priority Points**
Membership in the alumni association is one of only 10 ways to receive priority consideration for IU athletics tickets.

**Class Reunions**
The IUAA sponsors class reunions during Homecoming Weekend and Cream and Crimson Weekend. Reunions bring alumni together to reminisce and make new and lasting memories for the future.

**Hoosiers for Higher Education**
H.H.E. is a grass-roots effort to raise public and legislative awareness about the impact of higher education on the well-being of our state.

**Plus many other alumni-pleasing programs**
Some of these are the catalog of alumni association merchandise, SKILLSearch Job Placement Service discounts, Student Alumni Council, two alumni family camps, and the popular and educational Hoosiers Travel Program.

Please letterfold, tape, and stamp this form — or use an envelope — to return it.

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Post Office Box 4822
Bloomington, Indiana 47402-4822
Geological sciences seniors, graduate students, faculty, staff — 1994

FRONT ROW: Nadeem Ahmad, Huitang Zhou, Glenn Bear, Katrina Nell, Craig Rankin, Rodney Ward, Amber Pickett, Jean Reese, Norman Hester, Enrique Merino, Charles Vitaliano, Volker Bruchert, Debbie Pryor, Carla Whittington, Yutian Wang, Emmanuel Rano, Ana Maria Carmo, Edward Ripley, Terry Stigall
SECOND ROW: Gary Lane, Chris Plesher, David Miller, Lisa Rhaides, Supri Ghose, Sam Hostettler, Lorie Bear, James Brophy, Lee Suttner, Debbie Dawson, Grahame Logan, Kristen Leckrone, Brian Snow, Robert Dodd, Kim Schulte, Lorie Canada
FOURTH ROW: Chris Carlson, John Droste, Donald Hattin, Nathan Way, Michael Savarese, Ruth Droppo, Robert Wintsch, Elizabeth Russell, Colin Harvey, Abhijit Basu, Matthew Cohn, Jeremy Dunning
FIFTH ROW: unidentified person, Ruiliang Wang, Chris Dintaman, Alex Krueger, Simon Brassell, John Hayes, Judson Mead, David Towell, Noel Krothe, Haydn Murray, Robert Shaver
SIXTH ROW: Matthew Paige, Karan Keith, Lawrence Onesti, Eric Feuerstein