

# HOOSIER GEOLOGIC RECORD

Alumni Newsletter of the Department of Geology

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December, 1985

## A LETTER FROM THE CHAIRMAN

Dear I.U. Geology Alumni,

First, let me apologize for the tardiness of the newsletter. I had hoped that we could mail it in November, but including the photos that some of you sent in took longer than I had anticipated, as did the printing, so it is coming to you during the Holiday season and I wish all of you a safe and happy Holiday.

This is an important year for the department as it sees departure through retirement of several professors and vigorous recruiting efforts to replace them. This month, December, 1985, Warren Meinschein retires as Professor of Organic Geochemistry. We will have a retirement luncheon for him on Dec. 6. He and Mary are moving to Texas just as soon as the semester is over. We all wish them a most sincere and warm thanks for their years here at IU.

On June 30, 1986, John Patton, Bob Blakely, and Mary Beth Fox will all retire. Although Mary Beth is officially a Geological Survey employee she has continued to be a great help to the department in alumni contacts, job interviews and employment requests. We are definitely going to miss her expertise and interest in these affairs. We will probably have a joint Survey/Department retirement party for all three of them sometime in early June, before most of the faculty scatter to various outposts for the summer.

We are actively recruiting for three assistant professor positions although we will hire only two this year, one will be postponed until next year. These positions are in organic geochemistry to replace Warren Meinschein and to join John Hayes in this area. A second position will be in hydrogeology, which continues to attract large numbers of graduate students and in which we need additional help to teach and supervise research. This position essentially is that occupied by Bob Ruhe, who

retired last year. The third position is in mineralogy for replacement of Kase Klein. We were unsuccessful at filling this slot last year. We are looking especially for someone who does research in the physical, structural, crystallographic side of mineralogy. We have set up separate search and screen committees for each position and we will make offers to the two best candidates that we can find. The College has asked that we postpone one hiring for a year.

Separately, the department and the Department of Natural Resources are jointly recruiting for a new State Geologist and Director of the Indiana Geological Survey to take over from John Patton. A joint search committee has been formed of myself and Bob Shaver representing the University and Maurice Biggs, Assistant State Geologist, and William Andrews, Deputy Director of the Department of Natural Resources. We will interview applicants and make recommendations to the Director of the Dept. of Natural Resources, James Ridenour, who will make the final selection. So, the interview circuit and guest lectures will be operating hot and heavy this coming Spring term.

Last Spring the department established a new award for outstanding alumni achievements. We have named this award the Richard Owen award, after the first geologist on the IU faculty, and after whom Owen Hall is named. Because the award is new and this is the centennial of the founding of the department, we decided this year to make 5 awards. One aspect of the award is that each awardee is asked to come to Bloomington and to give a special lecture at the time he or she receives the award, with the department paying the expenses for the lecturer. The first such lecture was given in October by Robert R. Shrock. It was a truly inspiring lecture on "Why I Became a Geologist". Bob is as hale and hearty as ever. There will be two special Owen lectures this spring. Ross Taylor, of the Australian National University, will be here in late March and John Patton will give the final colloquium of the year in early May. In addition to these three recipients, two other awards were made to Bill Thornbury and Marion M. Fidler, neither of whose health will permit them to present a lecture. This coming year we plan to announce two awards--one in industry and one in government and academics.

The recent lack of employment opportunities in industry has surely caused a decrease in our undergraduate enrollments. However, we are trying hard to take advantage of smaller class sizes by doing a better job of training those students we do have. Most classes in the core courses, like structural geology and mineralogy, are averaging between 20 and 30 students. This year, for the first time since I have been here, we will have had at least two days of field trips in each one of the core courses. These include a trip to Cumberland Gap and the Pine Mt. thrust in structural geology, which was initiated last year; a trip to the Ozarks in petrology, which was also started last year; and a new trip this year in mineralogy to the fluorspar district in southern Illinois. New local trips in physical geology were also worked up. There has been a lot of enthusiasm among the

undergraduates for this new schedule of trips. I hope that this field training will help make our students' experience in Montana at the field station even more meaningful.

There are undoubtedly more items I could mention because the department seems to change a great deal each year. We have, for instance, finally put to pasture the old white carryall we had and have bought a brand new pickup truck to take its place. Our sedimentology group took a field trip to California last year, with funds provided by Sohio and are talking about going to Italy this Spring. Haydn Murray is the new IU Faculty representative for the Big 10 athletic conference. I could go on but this will give you the idea that we continue to evolve and change each year. All the best to all of you.

Sincerely,

Gary Lane, Chairman

#### DEPARTMENTAL NEWS

Patty Byrum, in the main office, had back surgery in September and was off work for five weeks.

Ardella Held and Anne Turner joined our secretarial staff this year. Welcome aboard, girls!

Jeremy Dunning was appointed Associate Dean in the office of Research and Graduate Development.

It was just a hoax! Don Hattin returned from his trip to East Germany to find out that he had defected to that Communistic country. 'twas a surprize to him, but he is used to having his students pull this sort of trick on him.

William Farrand, Fellow, Institute of Advanced Studies, is in residence for Fall of 1985. He is a Professor of Geology and Curator of the Museum of Anthropology at the University of Michigan. His main field of interest is Pleistocene geology and his visit will be of great interest to the members of the Quaternary Studies Group, as well as to members of the departments of anthropology, biology, classical archaeology, and geology.

The Graduate School Curriculum Committee recommended approval of the request for a new course, G524 "Carbonate Facies and Environments" that will be taught by Brian Keith.

Warren Meinschein plans to reside in Onion Creek, Texas after his retirement--but not to grow onions, so he says!

Terry Stigall, geology technician, was in an auto accident. She suffered severe injuries and will be unable to work for some time. We will miss her.

## New Laboratories for Biogeochemistry and Isotopic Mass Spectrometry:

About 3000 ft<sup>2</sup> of space on the third floor are being remodeled to provide a new home for John Hayes' biogeochemical research group (housed up until now in the chemistry building) and to establish a new departmental facility in isotopic mass spectrometry. The project should be completed during February 1986. It involves complete remodeling of laboratories and offices at the east end of the third floor and extensive renovation of a former teaching lab in the southwest corner of the third floor.

The departmental mass spectrometry center will combine the resources of the Hayes and Ripley research groups and will thus allow high-precision analyses of the stable isotopes of carbon, hydrogen, nitrogen, oxygen, and sulfur in just about any kind of sample--organic or inorganic. Between them, these groups have accumulated a total of six mass spectrometers, five of which, together with maintenance and office facilities, will be housed in the new center, which accounts for 1100 ft<sup>2</sup> of the total space in the remodeling project. The use of these instruments has always been available to members of other research groups. But, the aim of the new center is to facilitate broader use and improved management and maintenance of this now-considerable resource.

The total cost of the remodeling, around \$350,000, comes from university funds. This is a very nice "windfall" for the department, but it is important to realize that the flow of funds is by no means one way. The research groups using these facilities have a long-term record of total annual funding levels--around \$300,000. The annual "overhead" (allowance to the university by external funding agencies for cost of research operations) developed by these groups is thus around \$95,000.

### **DEPARTMENT OF GEOLOGY STAFF (1985)**

Secretarial: Jeanette Hartgraves, Administrative Assistant  
Patty Byrum, Receptionist  
Mary Iverson, Student Records Secretary  
Kay Kinder, Field Station Secretary  
Ardella Held, Faculty Secretary  
Anne Turner, Faculty Secretary  
Karen Walker, Faculty Secretary  
Betty Lucas, External Programs Secretary

### Other Staff Members:

Gary Bayer, Thin Section Preparator  
Mark Gilstrap, Analytical Chemist  
Jack Haddan, Laboratory Technician  
Alan Horowitz, Research Scientist

Brendan McMahon, Research Scientist  
Charles Miller, Machinist  
Terry Stigall, Geology Technician  
James Tolen, Draftsman

Faculty:

Chairman, N. Gary Lane

Professors: Basu, Brophy, Dodd, Droste, Dunning, Hattin, Hayes, Krothe, Lane, Meinschein, Merino, Murray, Olyphant, Onesti, Patton, Pavlis, Ripley, Rudman, Shaver, Suttner, Towell, and Wintsch.

Professors--emeritus: Mead, Thornbury, and Vitaliano; Ruhe, retired.

Geology Librarian: Lois Heiser.

**NEW ALUMNI AWARD ESTABLISHED BY DEPARTMENT**

The first Richard Owen Award, established by the Indiana University department of geology, was presented October 21, 1985 to Robert R. Shrock, professor emeritus of geology at Massachusetts Institute of Technology.

The Richard Owen Award was established this year to mark the 100th anniversary of the geology department at Indiana University. Richard Owen is the man for whom Owen Hall, one of the first buildings on the present Indiana University campus, was named. The building was re-dedicated on October 18 in honor of its 100th anniversary.

The award will be given annually to two distinguished alumni of the department--one from academia and one from industry. It will be given in recognition of outstanding contributions to the geological sciences and meritorious service to the profession.

Because of the centennial celebration, IU geologists decided to give five Owen Awards during this academic year. The other recipients will be S. Ross Taylor of the Australian National University in Canberra; William D. Thornbury, professor emeritus of geology at IU; M. M. Fidler of Salt Lake City, Utah; and John B. Patton, professor of geology at IU, State Geologist of Indiana and director of the Indiana Geological Survey. Each recipient will be invited to lecture at IU when receiving his award.

**FACULTY GRANTS**

Hayes, John M.	Chevron	\$173,000	Development and Application of New Techniques in Petroleum Geochemistry
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Hayes, John M.	Finnigan	\$ 71,000	Support of Post-doctoral Fellow for Assistance in Development of IRM-GCMS
Krothe, Noel	U of Wash.	\$ 44,115	Examination of Sulfur Isotopic Composition of Columbia River Basalts and Interbeds
Lane, N. Gary	Chevron	\$13,708	Chevron Fellowship
Lane, N. Gary	Shell	\$ 10,000	Shell Fellowship
Manchester, S.	NSF	\$ 40,785	Early History of Juglandaceae--A Multiple Organ Paleobotanical Investigation
Merino, Enrique	Am Chem	\$ 51,980	Petrographic, Analytical and Kinetic Study of the Diagenesis of Mesozoic Arkoses, Connecticut
Pavlis, Gary	NSF	\$ 43,000	Controlled Source Geotomography
Suttner, Lee	Sohio	\$ 10,000	Sedimentary Geology Program

#### FACULTY NEWS

Abhijit Basu is maintaining his usual routine--busy, busy, busy! His NASA grant was renewed and he has started a new NSF grant to study earth sediments. Basu gave a NATO Lecture in Italy that was published this year. He also presented talks at various international meetings including one in France. This winter he plans to present two talks in India. Besides organizing a workshop for NASA he is consulting with Los Alamos Scientific Laboratory on a lunar base project. Even with this busy schedule, Basu finds time to serve the Indiana Chapter of Sigma Xi and will represent IU at the national meeting this year.

Robert Dodd is working on the diagenesis of the Mississippian carbonates of southern Indiana.

John Droste continues with subsurface studies of middle and upper Mississippian rocks in Indiana. Together with Bob Shaver, he wrote up Indiana and Ohio portions of the chapter on the Michigan Basin for the GSA-DNAG volume on geology of the North America craton.

Donald Hattin attended a research symposium Cycles and periodicity in geologic events, evolution and stratigraphy at Princeton University on May 8-9, 1985 where he presented an invited paper. He also attended Foreland Basin Research Symposium in Fribourg, Switzerland from September 2-4, 1985, and presented a paper both orally and as a poster. Dr. Hattin was a Visiting Professor at Ernst-Moritz-Arndt-Universitat, Greifswald, colloquia and five other lectures.

Noel Krothe spent his sabbatical leave (spring and summer 1984) in Italy working on research concerning oxygen and sulfur isotope studies in the thermal karst areas of central Italy. His current research includes isotopic studies of ground water in coal and karst terrains of Indiana. Additional research projects include characterization of secondary minerals and sulfur isotopes in Columbus River Basalts. Dr. Krothe was elected as President of the Indiana Water Resources Division for 1984, 1985.

Gary Lane was recently appointed to the Smithsonian Institution's scholarly studies program review committee--he has been a Smithsonian research associate since 1970. Nice honor, Gary! Dr. Lane has also been nominated as President-Elect for The Paleontological Society--election to be held in August 1986 at the Incoming Council Meeting in San Antonio.

Brendan McMahon has recently joined our professional staff. He came to us from California where he worked as an Analytic Geochemist. Brendan did his graduate work at the University of Massachusetts. We welcome him and his wife, Pamela, and their two daughters, Melissa and Sunny.

Enrique Merino used his sabbatical leave (1985-85) working with Egyptian geologists of the National Research Center to the Sinai Peninsula, the Gulf of Suez, and Upper Egypt. Then, he moved on to France where he worked at the Lab for Geochemistry of the Earth's Surface of the University of Poitiers, gave a series of seven invited lectures at the Universities of Strasbourg (France), Basel and the Federal Technological Institute (ETH)-Zurich (Switzerland), and Oslo (Norway), as well as at the Institut Francais du Petrole (Paris) and the Norsk-Hydro Petroleum Research Lab at Bergen (Norway). Most of the lectures dealt with his joint research on geochemical self-organization in sedimentary rocks. He also participated in the 1985 seminar on laterites organized by the European Laterite Network, Delft University of Technology, Holland. Next year Dr. Merino will give a major invited lecture at the International Symposium of Geochemistry of the Earth's Surface and Crystal Growth in Sedimentary Environments--held in Spain.

Haydn Murray has kept himself busy with the following: finished his service as a Counselor of GSA, as Chairman of the Department, and as member of the Board of Directors of the Society of Mining Engineers. In June 1985 appointed by President Ryan to be Indiana University Faculty Representative for Athletics to the Big Ten Conference--an important position because athletics at each Big Ten school is controlled by the faculty. Another big task--active in the "Campaign for Indiana" which is a 5-year program to raise \$203,000,000 for Indiana University. Dr. Murray is one of nine faculty members appointed as an "Executive on Loan" to make contacts and solicit contributions for this important activity, so you may be hearing from him over the next five years. All funds contributed to the Department of Geology count toward the monetary goal established by the Indiana University Foundation. Besides these time-consuming tasks, Dr. Murray spent his 1984-85 sabbatical working on a book on clay minerals, two weeks in Argentina evaluating kaolin in Patagonia, and three weeks in China surveying and evaluating several industrial mineral deposits. (Wonder where he gets the energy!)

Larry Onesti, the new geomorphologist in the department, recently presented a paper on slush avalanche activity in the Central Brooks Range, Alaska at a meeting of the International Glaciological Society at the Institute of Low Temperature Sciences in Sapporo, Japan. He also participated in workshops at the Langhou Institute of Glaciology and Cryogeology, Academia Sinica, People's Republic of China and visited the Institute's glacier station in the Tianshan Mountains in western China. This fall he will present two papers, one on "Slush Avalanche Release Mechanisms" in the Wissfulhjack in Davos, Switzerland; the second on "Sediment Yield Variation in Arctic-Alpine Watersheds" in Fairbanks, Alaska at the American Water Resources Association meeting on Arctic Hydrology.

John Patton is serving as a geological consultant in a group appointed to study and make recommendations for the preservation of The Alamo. Phase I involves directing groundwater away from the foundations of the building. Phase II requires replacement of much of the mortar and resetting or replacement of some of the stone, which he is to select. Along with serving on the Research Committee and Energy Resources Committee of the Interstate Oil Compact Commission, the Natural Building Stones Committee of the American Society for Testing and Materials, the Indiana Energy Development Board, Centennial Committee (Chairman) of the Indiana Academy of Science, University Heritage Committee, Historic Preservation Committee, Cornelius O'Brien Lectures Committee (Chairman) and Natural Areas Committee (Chairman) of the University, and External Relations Committee (Chairman) of the Department of Geology, he is Historian for the Association of American State Geologists. After nearly 40 years, during which time he served as a faculty member, as Chairman of the Department of Geology for 12 years, as Associate Dean for Research and Advanced Studies for 2 years, as Head of the Industrial Minerals



Section of the Indiana Geological Survey, and State Geologist and Director for 27 years, Dr. Patton will retire on June 30, 1986.

Gary Pavlis currently has three funded research projects: (1) NSF project involving a novel method of earthquake location that allows partial method for including information about three-dimensional seismic velocity structure, (2) NSF project developing a unique crustal imagery technique using refraction for shots, and (3) joint NSF project with A. Ayden (Purdue) funded by the U.S. Geological Survey beginning in January 1986. He has also been actively involved with a major new initiative in seismology for the Incorporated Research Institutes in Seismology (IRIS). Dr. Pavlis is a standing committee member for the IRIS data center and also chairman of two subcommittees. Finally, he serves as Associate Editor for the Journal of Geophysical Research.

Robert Ripley attended the annual GSA meeting in Orlando, Florida, in October 1985. He co-authored four papers for GSA. Currently he is working on two NSF research projects: (1) Genesis of Cu-Ni Ores in the Duluth Complex, Minnesota, and (2) Genesis of Sediment-Hosted Copper Deposits in South Central Kansas.

Albert Rudman centers his research activities on generation of theoretical (synthetic) seismograms. Most of his work is in cooperation with the Hawaiian Institute of Geophysics. He plans a sabbatical in 1986-87 in Hawaii working in Neil Frazer's laboratory on synthetics, heat flow and earthquake station analysis. Negotiations are proceeding for a visit to the Eotvos Institute of Geophysics in Hungary.

Robert Shaver has been elected to Honorary Membership in the Society of Economic Paleontologists and Mineralogists. The formalities are to take place next spring at the AAPG-SEPM meeting in Atlanta. His research activities in Silurian stratigraphy, paleogeography, and paleoecology seem to have graduated from the real-research stage into the invited-rehash-symposia stage, considering four invitations within the past year. "Some persons say it is because I am one of the few persons still around who actually saw things happening during the Silurian." Dr. Shaver never loses his sense of humor! In April 1986 Dr. Shaver will present a paper "Midcontinent Silurian Paleooceanography" at the Paleontological Society symposium, North-Central Section, Geological Society of America meeting at Kent State. He organized the Indiana part of the midwestern volume of GSA's Centennial Field Guide and authored or coauthored three articles (DNAG program). In February 1985 he, with John Droste, gave an invited paper on "Comparative stratigraphic framework for Silurian reefs--Michigan Basin to surrounding platforms" at a symposium sponsored by the Subsurface Laboratories, University of Michigan on Ordovician and Silurian rocks of the Michigan Basin. He also presented an invited paper at the GSA meeting in Orlando, Florida, October 1985 on "A case history: Silurian reefs of northeastern North America, one of the great fossil reef

systems," aegis the GSA's History of Geology Division's symposium on history of investigations of recent and ancient reefs. He and John Droste plan to give an invited paper on "Paleoceanography of the Late Silurian seaway on the midwestern craton" sponsored by the Paleontological Society's symposium on Paleozoic seaways of the North American craton, North Central GSA, Kent State University, spring 1986.

Charles Vitaliano (Professor Emeritus) is Chairman of the Archaeological Geology Division of the GSA for 1985-86. He and Mrs. Vitaliano (who is Adjunct Professor of Geology at IU while continuing to work for the USGS) participated in a People-to-People Citizen Ambassador program in mining and economic geology in South America in May and June. Iron and gold mines in Brazil and silver-lead-zinc mines in Peru were visited and techniques of mining and economic-geological mapping were discussed with mining engineers in those countries. Professor Vitaliano is currently working with Prof. David F. Hess of Western Illinois University on the mineralogy and petrology of the Tobacco Root batholith in Montana.

Robert Wintsch has recently completed a research project "An Investigation of Mylonite Genesis in Southeast New England" funded by NSF. He has been a fellow of GSA, and of the Geological Society of London since 1983.

#### STUDENT AWARDS--1984-1985

Chevron Award (undergraduate)	Gregory Hirth Kenneth Kudrak	\$1,000 1,000
Senior Award	Gerald Michael	Compass
Junior Award	Gregory Dipple	\$400
Outstanding Assoc. In'str.	Gregory Berkhouse Ann Petricca	\$50 50
A&S Alumni Award	Todd Thompson Tim Salter	\$50 50
Estwing Award	Alan Laferriere	Hammer/Pick
Shell Fellowship	James Szpakowski	\$7,500
Chevron Fellowship	Sally Szpakowski	\$7,000

#### DEGREES CONFERRED

The following degrees were conferred in May 1985.

Bachelor of Science in Geology - December 1984  
 Ronald L. Buck, Otterbein  
 Timothy J. Canfield, New Waverly

James R. Fitch, Davis, California  
Michael E. Herrmann, Bloomington  
Kevin G. McHugh, Carmel  
Joe A. Schmidt, Evansville

Bachelor of Science in Geology - May 1985

Steven Andersen, Park Ridge, Illinois  
A. Winter Bottum, Columbus  
Roderick T. Hackler, Bloomington  
James G. Hirth, Columbus, Ohio  
Kenneth E. Kudrak, Kokomo  
Lisa K. Mazor, Lafayette  
David M. McNabb, Fort Wayne  
Gerald Michael, Anderson  
Kurt E. Oppenheimer, Otterbein  
Thomas M. Skirvin, Bloomington  
Mark W. Spivey, Fairfax, Virginia  
Steven Stanford, Portage  
Thomas L. Troup, Elkhart  
Mark P. White, Bloomington  
David L. Whitmore, Indianapolis

Bachelor of Science in Geology - August 1985

Scott C. Chesman, Pearl River, New York  
David P. Elliott, Newburgh  
Deanna E. Gage, New Albany  
Lirt A. Georgesen, Evansville  
William J. Johnson, Mitchell  
Eric R. Wells, South Bend  
David M. Whiteman, Bloomington  
Andrew Wishart, Indianapolis

Bachelor of Arts - December 1985

John Reel, Indianapolis  
Linda M. Vance, Richmond

Bachelor of Arts - May 1985

H. Clay Atchley, Bedford  
Michael J. Drake, Anderson  
Justine O'Connor Garza, Bloomington  
John R. Henmueller, Fort Wayne  
Jeffrey R. Lembke, Indianapolis

Bachelor of Arts - August 1985

Cynthia A. Daniels, Decatur  
Robert K. Enoch, Bloomington

**RECENT STUDENT THESES**

Al-Alawi, Jomaah Abo-Ultraheem Awad, Ph.D., "Petrography, Sulfide Mineralogy and Distribution, Mass Transfer, and Chemical Evolution of the Babbitt Cu-Ni Deposit, Duluth Complex, Minnesota."

- Al-Jassar, Tariq J., Ph.D., "Oxygen Isotope Systematics of the Babbitt Cu-Ni Deposit, Duluth, Minnesota."
- Ballard, W. Turpin, M.S., "Sedimentology and Controls on Drainage Development in the Glaciofluvial White River System, Northeast-Central Indiana."
- Beier, Joy Ann, M.A., "Petrologic Analysis of Beachrock San Salvador Island, Bahamas."
- Berkhouse, Gregory A., M.S., "Sedimentology and Diagenesis of the Lower Cretaceous Kootenai Formation in the Sun River Canyon Area, Northwestern Montana."
- Burke, David A., M.S., "Oxygen Isotope and Thorium Values of Arkansas Bauxite and Baulitic Kaolins."
- DeCelles, Peter G., Ph.D., "Sedimentation and Diagenesis in a Tectonically Partitioned, Nonmarine Foreland Basin: The Lower Cretaceous Kootenai Formation, Southwestern Montana."
- Ebbott, Kendrick Alan, M.S., "Hydrogeochemical Ground-Water, Reconnaissance in Washington County, Indiana."
- Feldman, Howard Randall, M.A., "Paleontology and Paleocology of the Salem Limestone (Mississippian) in Central Kentucky."
- Flores, Richard J., M.S., "Sedimentation Model for the Crestone Conglomerate Member of the Sangre de Cristo Formation (Pennsylvanian-Permian), South-Central Colorado."
- Floyd, Larry Wayne, M.S., "Stratigraphy and Paleocology of the Curlews Limestone Member of the Tradewater Formation (Pennsylvanian-Desmoinesian) in Northern Christian County, Kentucky."
- Hokanson, Neil B., M.S., "Separated Earthquake Location and Its Application to the Calaveras Fault."
- Janssen, Janelle L., M.S., "Origin of Vermicular and Platy Kaolinite Crystals in Georgia Kaolins as Explained by  $^{18}\text{O}/^{16}\text{O}$  Isotopic Ratios."
- Kelly, Stuart Mackenzie, Ph.D., "Paleocology and Paleontology of the Indian Springs Shale Member, Big Clifty Formation (Middle Chesterian) in South-Central Indiana."
- Loretto, Thomas McLean, M.A., "Spectral, Pseudo-Autocorrelation, and Cepstral Analysis for Pn-pPn and Pn-s Pn Delay Time Recovery."
- McGrath, Dennis J., M.A., "n-Alkane Distributions in Natural Gases: Evidence for Migration in Ground Water."

- Maples, Christopher G., Ph.D., "Paleontology, Paleoecology, and Depositional Setting of the Lower Part of the Dugger Formation (Pennsylvanian-Desmoinesian) in Indiana."
- Merkel, Roland S., M.S., "Petrographic and Depositional Characteristics of the Hymera and Danville Coal Members in Southwestern Indiana."
- Peters, Janet, M.S., "Ontogeny and Taxonomy of Some Pennsylvanian Crinoids from the Millersville Limestone Member (Bond Formation) Missourian in Coles County, Illinois."
- Petricca, Ann M., M.S., "Sedimentology and Diagenesis of the Interbedded Carbonate and Siliclastic Rocks of the Big Snowy, Amsden, and Quadrant Formations, Tobacco Root Mountains Region, Southwestern Montana."
- Pfau, Gerhard Edmund, M.A., "Separation and Deconvolution of Vertical Seismic Profiles."
- Price, Robert C., M.S., "Shallow Coal Bed Delineation with Resistivity Mapping in the Illinois Basin."
- Reazin, David G., M.A., "Ice-Contact Sedimentation of the Paskerton Moraine, North-Central Indiana."
- Ryan, Ruth M., M.A., "Chemical, Isotopic, and Petrographic Study of the Sulfides in the Duluth Complex Cloud Zone."
- Saturni, B. Anthony, M.S., "Depositional History of the Middle Valmeyeran Ramp Creek and Harrodsburg Limestones of Southwest Indiana."
- Saunders, Margaret M., M.S., "Geologic and Isotopic Investigation of the South Willow Creek Gold Prospect, Madison County, Montana."
- Schubert, Christopher E. Kohler, M.S., "A Computer Analysis of the Coal Resources of Clay County, Indiana."
- Smith, Stephen C., M.A., "Characteristics of Underclays and Roof Rocks Associated with the Springfield (V) Coal in Southwestern Indiana."
- Totten, William B., M.S., "Subsurface Stratigraphy of the Ste. Genevieve Limestone (Valmeyeran) and Associated Units, Owen County, Indiana."
- Warren, Victoria, M.S., "Petrography and Environmental History of the Vienna Limestone Member (Upper Chesterian) of the Southwestern Indiana Outcrop."

Webster, John Robert, M.S., "Petrochemistry and Origin of the Plagioclase Gneisses of the Killingworth Dome, South-Central Connecticut."

Weiss, Garrett D., M.S., "Dissolved Methane in the Columbia River Basalt Groundwaters Beneath the Hanford Site, Washington State."

#### DEPARTMENT OF GEOLOGY ALUMNI COUNCIL--1985-88

The following alumni are members of the department Alumni Council for 1985-86:

Honorary Members: John B. Patton, Robert R. Shrock, and William D. Thornbury

Members: Wayne Fowler, Arthur Fritz, Richard Gibson, Ray Pheifer, and Thomas Straw

1986-87: William Ausich, Donald E. Hyer, Douglas W. Reynolds, Daniel Tudor, and Larry Woodfork.

1987-88: Janet Borgerding, Wayne Bundy, Marcia Engle, Lester Logue, and Frank Pruett.

Ex Officio Members (Bloomington): Abhijit Basu, Robert Blakely, N. Gary Lane, Chairman, and J. Robert Dodd.

#### ALUMNI DINNER IN DENVER

The first IU Department of Geology Alumni Dinner was held in April 1985. Drs. John B. Patton and Lee J. Suttner attended.

Scott and Susan Gorham organized the event and the following 35 alumni had a great time.

Cheri Bahrke, Dorothy Bauder, Ron Belak, John Bollenbacker Liz and Clyde Cody, Diane Corbett, Nancy Darnell, Doug Duncan, Edith and Hollis Fender, Holly Gardner, Susy and Scott Gorham, Mary and Stan Hamilton, Pat and John Hickman, Norm King, Ellen Lake, Michael McLowe, Beth Moore, Irene and Fred Moose, Martha Read, Ken Riggs, Scott Rogers, Peggy and Hal Schmidt, Bruce Smith, Janet and Nat Tilander, Janet and Jerome Thornburg, and Scott Uttley

Count them! 35 in all plus Dr. Patton and Dr. Suttner. Everyone had such a good time that they are already looking forward to getting together for the next dinner.

## ALUMNI NEWS

1942

WILLIAMS, Frank H. (B.S.41). Semi-retired and living in Hemet, California.

1947

KOTTLOWSKI, Frank E. (B.S.47;M.S.49;Ph.D.51). Director, New Mexico Bureau of Mines and Mineral Resources, Socorro and President of the Association of American State Geologists; also elected honorary member of AAPG in April 1985.

1949

DAVENPORT, John E. (B.A.49). Retired from the USAF in 1977, and enjoying life in the Nation's capital.

KLINE, B. Dale (B.A.50;A.M.52) Retired May 31, 1985 from Chevron Oil Company after more than 33 years of service.

1950

ERIKSEN, George E. (A.M.49). Received a distinguished service award "for exceptional achievements in the Geological Survey's mineral resource programs, especially in the field of foreign technical assistance" from the U.S. Department of the Interior in April 1985.

1955

CRAMPTON, Janet W. (B.S.55). Now working as a senior-editor for GEOTIMES and EARTH SCIENCE at the American Geological Institute in Alexandria, VA.

1958

CARTER, James R. (A.B.58). Now Assoc. Dir. for Research and Development, University of Tennessee Computer Center, and Assoc. Prof., Geography Dept., University of Tennessee, Knoxville. Also serving as Director, American Congress on Surveying and Mapping and Co-Chair of the Joint Education Committee of the American Society of Photogrammetry and Remote Sensing; Member of the U.S. National Committee to the International Cartographic Association. Consultant to the Great Smoky Mountains National Park on Geographic Information Systems; Visiting Professor at Universidad de Santiago de Chile in 1981 and 1981, and at Temple University in 1984.

CRANE, Ronald C. (A.M.58;Ph.D.60). Now with Chevron Overseas Petroleum of San Francisco; received the A. I. Levorsen Memorial Award for the Pacific Section for his paper titled "Cretaceous Oilstostrome Model, Brooks Range, Alaska."

RAMSEY, John D. (B.S.58). Medical Doctor in Kendalville, IN, but still maintains an interest in geology.

1959

STEINKER, Don Cooper (B.S.59). At present, Professor of Geology, Bowling Green State University in Ohio. Serving as Vice President, Sigma Gamma Epsilon. Assoc. Managing Editor, Journal of Paleontology.

LANEY, Robert L. (M.A.60;). Staff Hydrologist, Water Resources Div., (ground water), U.S.G.S., Reston, Virginia.

SKELTON, Lawrence H. (B.A.60). Active in many fraternal, civic, and genealogical groups; has traveled extensively in S.E. Asia, including a 5-year stay with his family in Thailand and the Philippines.

WRIGHT, Richard A. (B.A.60;M.A.61). Now a professor of geology at San Diego State University. Working on the San Diego County Planning Commission.

1963

BUBB, John (Ph.D.63). Working with the Exploration Technical Assessment Group, evaluating and assessing all exploration projects, including new acreage acquisitions, within Exxon Corporation worldwide. Still tries to visit family and friends in Indiana at least once a year.

1964

BORK, Kennard B. (M.A.64;Ph.D.78). Elected President (1985-86) of the East-Central Section of the National Association of Geology Teachers. In October 1984 he presented an invited paper at the "Symposium on the Enlightenment and Earth History: 18th-Century Theories of the Earth."

DOHENY, Edward (A.M.64;Ph.D.67). Director, Engineering Geology Program at Drexel University, Philadelphia, Pennsylvania. Recently elected to Chi Epsilon, the Civil Engineering Honor Society--an unprecedented honor for a geologist.

LINEBACK, Jerry A. (Ph.D.64). Working for Robertson Research in Houston. Recently spent a month in Africa negotiating with the ministries of 7 East African countries.

1967

PLOGER, Sheila W. (M.A.67). In 1984, husband changed jobs forcing a move to their new home in Potomac, Maryland--a long move from Santa Barbara, California.



1968

HANLEY, Thomas B. (A.M.68;Ph.D.75). Now Assoc. Prof. at Columbus College in Georgia. Will be co-leading a GSA field trip in conjunction with Orlando meeting, dealing with the geology of the Bartletts Ferry and Goat Rock Faults and Uchee Belt of the southern Appalachian Piedmont. Worked this summer as an I.P.A. at Fort Benning on a geographic information system.

MASON, Jack Lee (MAT68). Director of Secondary Education at Emory and Henry College in Emory, Virginia, teaching Physical Geology, Historical Geology, and Oceanography; supervising student teachers and teaching various methods courses.

1969

ORGILL, James R. (B.A.69;A.M.71). Staff Geophysicist with Chevron Oil Company of Spain.

1970

JAMES, Calvin (Ph.D.77). Elected secretary/treasurer of the El Paso Geological Society for 1985-86.

PORTER, Elise (A.M.70;Ph.D.83). Elected vice president of the El Paso Geological Society for 1985-86.

1971

KOEHLER, Steven W. (B.S.71;A.M.73). Owner of S. W. Koehler Company, Grangeville, Idaho.

MEYERS, James H. (M.A.69;Ph.D.71). Chairman, Dept. of Geology, Winona State University, Winona, Wisconsin; continues to teach G429 in Montana.

1973

GERRISH, Harlan W. (M.A.73). Working with Geological Services, Inc., Fairfield, Illinois.

JONTZ, James. (B.A.73). After serving ten years in the Indiana House of Representatives, elected to the Indiana State Senate in November 1984 from the 7th District, which includes all or parts of nine counties in northwestern Indiana. Serving on the Commerce Committee, Committee on Natural Resources, and Committee on Health, Welfare and Aging--all senate committees

1974

GROVE, Arlen K. (B.A.74;A.M.81). Now Division Geologist, Gulf Coast Region of Ladd Petroleum Corporation.

WAHLMAN, Gregory P. (B.A.72;A.M.74). Paleontologist with Amoco Production Company in the Houston region.

1980

HEINY, Janet S. (B.S.80). Working on Ph.D. at the University of Wisconsin in Madison--hope to finish in February 1986.

1981

WITHNELL, Tony (B.S.1981). Spent three and one-half years teaching high school physics and mathematics in Kenya. Now working towards a Ph.D. in marine geology and geophysics at the Massachusetts Institute of Technology and Woods Hole Oceanographic Institution.

1982

MAY, Michael (B.S.82). After graduation from the University of Kansas with a Master's degree, will commence work as a geologist for Exxon Company in Midland Texas.

THICKSTUN, Thomas R. (B.A.82). Presently working as a geologist with Exploration Logging, Inc. of New Orleans, Louisiana. Planning a 1986 spring marriage on the IU campus in Bloomington.

1984

WARNER, John J. (B.S.84). Currently working as a geologist for Capital Engineering Company in Frankfort, Kentucky. Also doing work for Dickerson Aerial Surveys in Lafayette, Indiana.

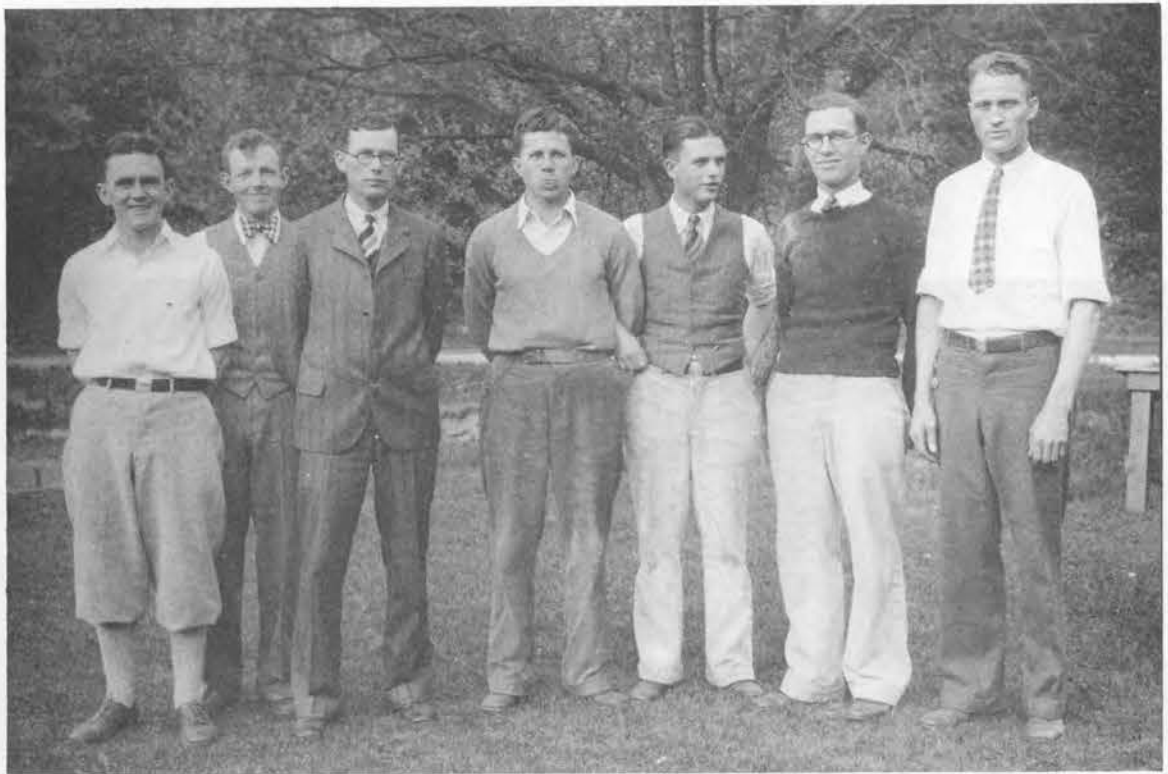
1985

BREWSTER, David (A.M.84). Working as a seismic processor for Western Geophysical Company for the last year. Now an exploration geophysicist in Corpus Christi for Exxon Company.

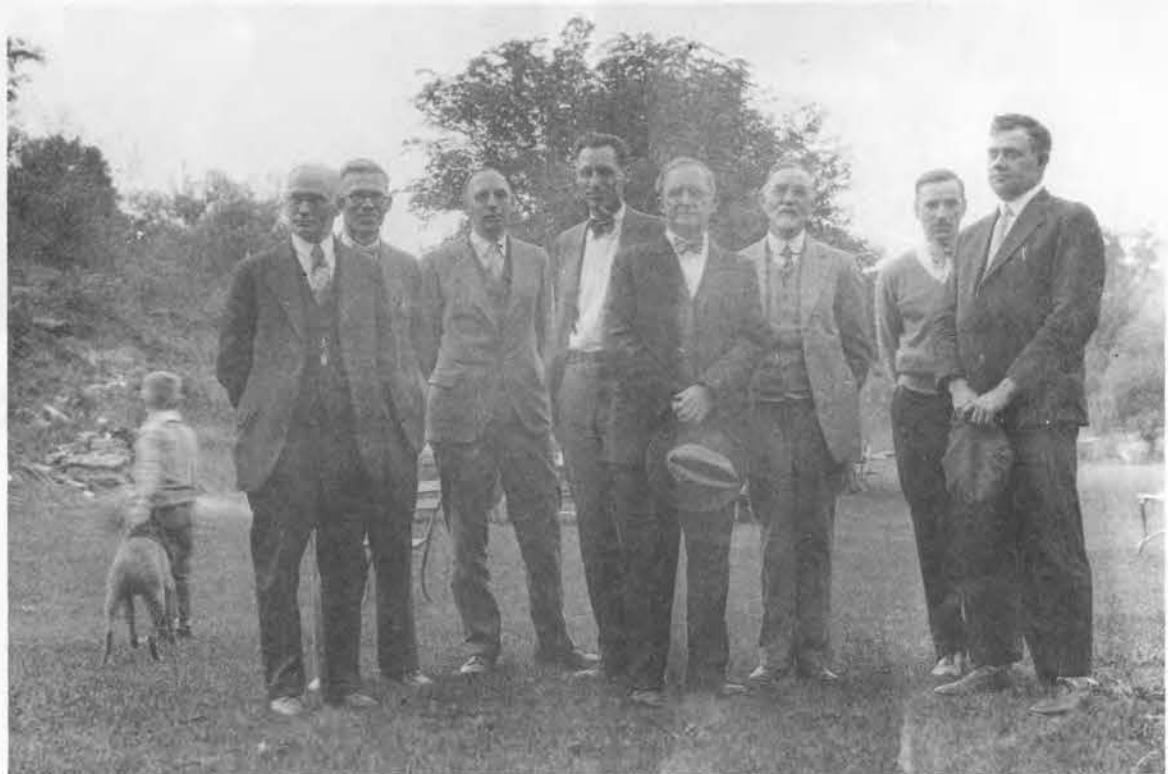
#### Deaths:

REEVES, John R. (B.A.21;A.M.21;Ph.D.23) died January 13, 1984 in Boca Raton, Florida.

WHALEY, Joe (B.S.52;M.S.57) died July 28, 1985. Joe was a native of Bloomington. After serving in the South Pacific with the Army Air Corps during World War II, Joe joined the staff of the Indiana Geological Survey. Joe had many friends and co-workers who miss him very much.



Geology departmental picnic, Cascades Park, 1928. Students (l to r): George Whitlatch, Charles Beard, Robert Shrock, Lester Wise, Paul Simpson, Herman Roerk, and Lewis Childs (photo from Shrock).



Geology departmental picnic, Cascades Park, 1928. Faculty (l to r): E.R. Cumings, Carl Lasmey, S.S. Visher, C.A. Malott, J.E. Switzer, W.N. Logan, R.E. Esarey, Arch Addington.



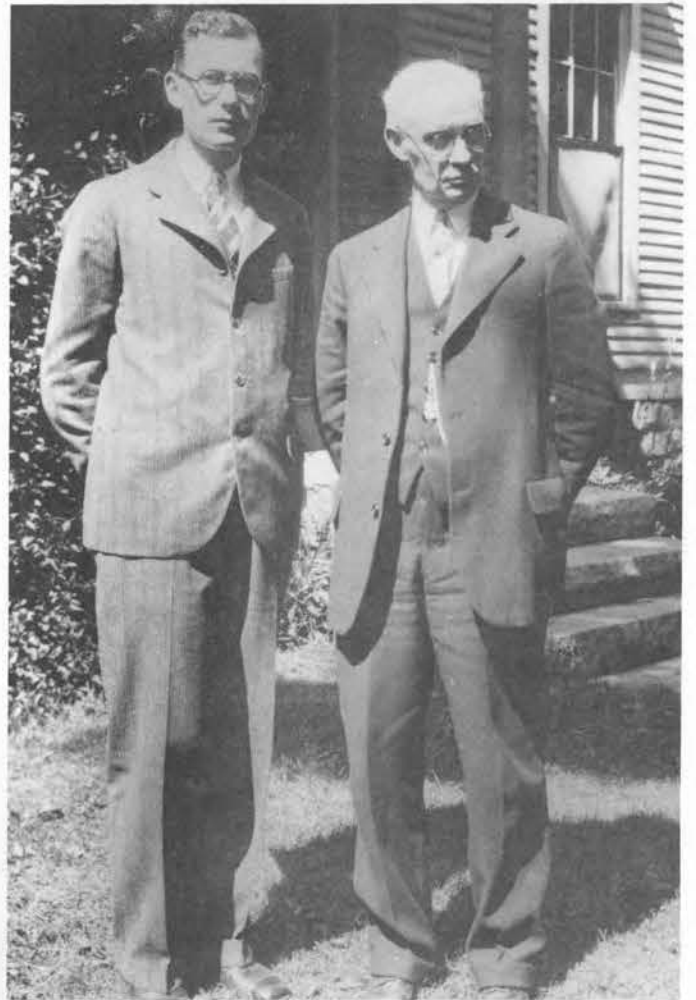
Professor E.R. Cumings in 1928 in front of his house on Second Street, as he always appeared (photo from Shrock).



Professor Clyde A. Malott and R.R. Shrock with the IU beginning geology class on a spring field trip to Madison, IN May 8-9, 1927.



Professor Cumings and Robert R. Shrock all  
toggled up for the 1928 commencement when  
Shrock received his PhD.



Professor Cumings and Robert R. Shrock on  
June 11, 1928 after commencement.



Prof. Charles Vitaliano looking at rafts of amphibolite in the Middle Mountain Gneiss migmatite (photo from T.B. Hanley).



Don Eckerty (BS'65, MA'68) on slabs of Precambrian rocks on Lakeshore Mountain, looking into the Boulder cirque (Hanley).



Geology students on the roof of old Science Hall, Spring 1928. L to r: R.R. Shrock, Helen Fulling, Lewis Childs, Herman H. Roerk, Lester Wise (photo from Shrock).