

# HOOSIER GEOLOGIC RECORD

Alumni Newsletter of the Department of Geology

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December 1989

## MESSAGE FROM THE CHAIRMAN

As usual, there are a number of changes that have taken place in the Geology Department since our last issue of the Hoosier Geologic Record. We are especially pleased to introduce a new member of the Geology Faculty to you. **Mike Savarese** joined us this summer as an assistant professor. He will be teaching invertebrate paleontology, micropaleontology, and historical geology. Mike has just received his Ph.D. from the University of California - Davis. He also has B.S. and M.S. degrees from the University of Rochester. Mike's research has been with experimental study of hydrodynamic properties of invertebrate skeletons, especially archeocyathids (Do you remember what those are from your G-411 class?).

Two special events took place at the Field Station in Montana this summer which are especially noteworthy. **Tom Ehrlich**, President of the University, and his wife **Ellen** visited during early July. We have had visits by deans and a governor in the past, but this is the first time for the university president. The Ehrlichs enjoyed their visit and we think were favorably impressed by what they saw at the westernmost campus of Indiana University. We also had our first reunion of former I.U. students at the Station. **Lee Suttner** tells me that everyone enjoyed the occasion for reminiscing and returning to a few of the "haunts" which were so much a part of their lives as many as 40 summers ago. Lee is already considering having another reunion for field station veterans who graduated from other universities as well as those from I.U.

Three of our faculty received teaching awards during the past year. **Lee Suttner** received one of the I.U. President's Awards for outstanding teaching. He was honored along with other teaching award winners at the annual I.U. Founder's Day ceremonies last April. In April, **John Droste** received the Professional Journalism Society's Brown Derby Award as the most popular professor on campus. John also received an award for his outstanding teaching from the Eastern Section of the AAPG this fall during their annual meeting, which was held on the I.U. campus at the Indiana Memorial Union. **Mike Hamburger** was selected by the I.U. geology majors as the recipient of the Sigma Gamma Epsilon - Texaco teaching award as the outstanding teacher on the I.U. geology faculty for the year.

We have mixed results on enrollments this year. Our graduate enrollment is actually up slightly this year to 63 from 56 last year. Our graduate committee had an especially productive year in recruiting a number of excellent new graduate students. Our undergraduate enrollment is down slightly to 38 from 39 last year. This continues a trend which has been in effect since the early 1980's. Although the number of majors is down, the number of jobs in geology seems to be increasing. Jobs in environmental geology seem to be most abundant. Petroleum companies are doing more hiring. We had seven major companies conducting interviews in the Department this fall.

During the coming year and further into the future we face many challenges. We must continue to strive to make our undergraduate and graduate teaching programs among the best in the country. We must continue to improve our research productivity. Also, we must work hard to increase our number of undergraduate majors. We need to do increasing maintenance and modification of the aging Field Station facilities. We will work to provide our students and faculty with the most up-to-date research and teaching equipment and facilities available. With continuing help from our alumni as well as the University, we should be able to meet these challenges.

Best regards,

Bob Dodd

### STUDENT AWARDS

Numerous awards were presented to outstanding undergraduate and graduate students at our annual spring awards ceremony. Current scholarship and fellowship holders were also recognized. Student awards for the past year are given below.

#### Undergraduate:

Senior Faculty Award- **Matthew Slagel**, Lafayette, IN  
Honors Division Scholarship Award- **Matthew Slagel**, Lafayette, IN  
Honors Division Scholarship Award- **Deborah Zervas**, Flossmoor, IL  
Chevron Scholarship in Geophysics- **Brian Tanner**, Bloomington, IN  
Chevron Scholarship in Geology- **Ross Vandrey**, Indianapolis, IN  
William Tarr Award (Sigma Gamma Epsilon)- **Ross Vandrey**, Indianapolis, IN  
Junior Award- **Brian Towell**, Bloomington, IN  
College of Arts and Sciences Alumni Association and  
Department of Geology Honors Award- **Alice Nightengale**, New Albany, IN  
Beginning Geology Major Award- **Eric Shock**, Tipton, IN  
Charles Deiss Field Station Scholarship- **Tim Gemmer**, Fort Wayne, IN  
Field Station Scholarships-  
**Christopher Carlson**, Evanston, IL  
**Matthew Manka**, Noblesville, IN  
**Debra Petersen**, Fort Wayne, IN

**Linda Pride, Evansville, IN**  
**Michael Stewart, Bloomington, IN**  
**Brian Tanner, Bloomington, IN**

Graduate:

Graduate School Fellowship- **John Holbrook**, Denton, KY  
Shell Oil Fellowship- **Christopher Carlson**, Evanston, IL  
Chevron Fellowship in Geophysics- **Paul Anderson**, Pequot Lakes, MN  
NSF Graduate Fellowship- **Marcie Horowitz**, Philadelphia, PA  
Grassman Fellowship- **Thomas Dombrowski**, Deltona, FL  
NASA Graduate Fellowship- **Katherine Freeman**, Potomac, MD  
Oil Dri Corporation Fellowship- **Roland Merkl**, Ansbach, West Germany  
Graduate Minority Fellowship- **Glenn Hieshima**, Mill Valley, CA  
Graduate School Alumni Association  
and Department of Geology Honors Award- **John Webster**, Allen Park, MI  
Outstanding Associate Instructor- **Daniel Petzold**, Northlake, IL  
Estwing Company Award- **Thomas Dombrowski**, Deltona, FL  
Cumings Award for Indiana Research- **Brad Markisohn**, Indianapolis, IN and  
**David Hirt**, Kent, OH  
John B. Patton Award (Survey/Department Research)- **Clay Harris**, Evansville, IN  
External Grants-in-Aid of Research-  
Sigma Xi- **Wesley Boberg**, Warwick, RI  
Graduate School- **Thomas Dombrowski**, Deltona, FL  
Sigma Xi, GSA, and AAPG- **John Holbrook**, Denton, KY  
GSA- **Marcie Horowitz**, Philadelphia, PA  
GSA, Sigma Xi- **John Webster**, Allen Park, MI

#### DEPARTMENTAL NEWS

Office and laboratory renovation on the fifth floor of the Geology Building is essentially finished. By early November, **Abhijit Basu**, **Enrique Merino**, and **Lee Suttner** had all moved into fifth floor offices. **Vishnu Ranganathan** had moved to the fourth floor. We now have consolidated the faculty in sedimentology and hydrogeology on the fifth and fourth floors, respectively.

Last year we expressed to you our grave concern relating to the library budget crisis. A departmental committee chaired by Gary Lane and with faculty consensus made some tough choices involving the discontinuation of some serial publications. As we indicated a year ago, the monograph budget was almost non-existent. Since that time, two things have happened to help alleviate that crisis: 1) Our alumni and friends contributed nearly \$7,000 to the special John B. Patton Memorial Library Fund for purchase of books. 2) The University, with support from the State of Indiana, has given the I.U. Libraries a much higher priority in this year's budget. As a consequence, for the present, we do not have to eliminate any more serial publications, and our monograph allocation is sufficient that we should be able to acquire some books that we were unable to purchase last year as well as meet our

new needs during the coming year. Our sincere appreciation goes out to those of you who made contributions last year which helped us through the library crisis.

As mentioned elsewhere in this newsletter, the past year has been a good one in terms of honors to individuals. **John Droste** received two teaching awards, the Brown Derby Award and the Outstanding Educator Award of the Eastern Section of the AAPG. **Lee Suttner** received a President's Award at the Honors Day Ceremony in May. Two graduate students received best paper awards at the Eastern Section of AAPG Meeting in September. **John Guthrie**, doctoral student, was awarded the best student paper award for his paper, "Organic Geochemistry and Correlation of Paleozoic Source Rocks and Trenton Crude Oils, Indiana." **Denver Harper** (PhD,'89) was recognized for presenting the outstanding paper in coal geology by the Energy Minerals Division of the Eastern Section of AAPG. In May, **Mary Iverson** (Student Records) and **Jim Tolen** (Drafting) were honored by the Personnel Department and the Geology Department for each of their 25 years of outstanding service. In addition, Mary received one of the two Staff Merit Awards in the clerical/ technical area. She was presented her award by Vice-President **Kenneth Gros Louis** in ceremonies honoring her and previous recipients on October 27. Also, in October, **Kay Strahm**, Field Station Secretary, was recognized at a reception in the Department for her 20 years of service to the University.

Computing and electronic communications capabilities in the Department have expanded substantially in the past year. All faculty, students, and secretaries now either have or can have access through microcomputer workstations and Ethernet transceivers to the campus academic information environment. This not only provides electronic mail services and access to a large VAX computer cluster, but also the availability of an enormous amount of information and other resources. The Sun computer networking system in the Department also now provides file serving capabilities including hard disk back-up on magnetic tape.

**Paul Anderson**, doctoral student in geophysics, is working with the newly established Scientific Visualization Center at IU on a project whose goal is to develop new techniques for visualizing seismic data collected using three-component sensors and/or areal arrays. Equipment for this center was funded by University Computing Services, but the program is interdisciplinary. The idea is to bring people from a variety of the sciences together with people in the Computer Science Department who are experts in graphics to develop new tools for visualizing scientific data. **Dennis Gannon**, Director of the Center, states that the long term goal is to develop a software package that sets the standard for a new generation of scientific visualization tools. Our project is actually the first one that has been started at the Center and is progressing well.

During the past year, a proposal to the National Science Foundation written by **Al Rudman** was funded at the level of \$16,000 (\$8,000 by NSF and \$8,000 by the College) for the purchase of a portable seismic reflection system for undergraduate teaching.

We were particularly pleased to see those of you who attended our alumni receptions at the April meeting of AAPG in San Antonio and the November meeting of GSA in St. Louis. These receptions are an aspect of national meetings that all of us look forward to each year. Be sure to come gather with us whenever you attend AAPG or GSA meetings. As mentioned elsewhere in this newsletter, the Department

was a co-sponsor of the Eastern Section of the AAPG Meeting held in Bloomington in September. Nearly twenty undergraduate and graduate students worked for the local committee in a variety of roles mainly as projectionists, slide center helpers, etc. and played an important part making this an especially successful sectional meeting of AAPG.

There have been a number of personnel developments in the biogeochemical laboratories. **Jeff Gelwicks** has completed his Ph.D., working on microbial processes in lacustrine sediments, and has joined the research staff of Merck, Sharpe, and Dohm in New Jersey. **Brian Popp**, who has been a post-doctoral fellow in biogeochemistry for three years, is leaving in January to accept a faculty position at the Department of Geology and Geophysics at the University of Hawaii. **Alan (Jay) Kaufman** will complete his Ph.D. in November and has accepted a post-doctoral appointment at the Department of Earth and Planetary Sciences, Harvard University, where he will be associated with **Andy Knoll** and **Stein Jacobsen**. **Eric Lichtfouse** will be joining the biogeochemistry group as a post-doctoral fellow in January. He is just completing his Ph.D. in organic geochemistry at the Universite' Louis Pasteur, Strasbourg, France. **Martin Schoell**, a director of geochemical research at Chevron, spent all of August in Bloomington working with our group on problems of special interest to Chevron. **Anders Ahlberg**, from **Gonzalo Vidal's** group at the University of Lund, Sweden, will be visiting for a few months during the coming year.

The past twelve months have seen the Department present four Richard Owen Awards, two for 1988-1989 and two for 1989-1990. These awards are presented to alumni of the Department who have distinguished themselves in either industry/government or academia. Last year's recipients were **George E. Erickson** (MA,'49), Geologist, U.S. Geological Survey, Reston, Virginia. On December 5, 1988 he presented a colloquium address on the geology and origin of the Chilean nitrate deposits. The second recipient was **Robert Boyer** ( MA,'54), Dean of the College of Natural Sciences of the University of Texas, Austin. He received his Owen Award on January 30, 1989 and delivered a talk on the copper deposits of easternmost Indonesia. The two Owen Award recipients for this academic year have already visited Bloomington this fall. **Daniel Tudor** (BS,'55;MA,'57;PhD,'72) President, Chevron Geosciences Company, Houston, Texas, addressed a colloquium on examples of seismic analysis in the petroleum industry on September 18, 1989. **Ronald Perkins** (PhD,'62) was given an Owen Award on October 9, 1989 and presented a talk entitled "Default Sedimentation: An Emerging Concept in Carbonate Deposition." All of us are proud of the accomplishments of these distinguished alumni and extend our congratulations on their receipt of the highest honor that can be given by the Department of Geology.

The Department of Geology Alumni Council held its annual meeting in Bloomington on January 13-14, 1989. The first day began with a welcome by **Maxine Watson**, Associate Dean for Graduate Education of the College of Arts and Sciences who discussed the reorganization of the College of Arts and Sciences and the Graduate School and other administrative matters including the scheduled introduction of responsibility-centered budgeting on the Bloomington Campus. This was followed by presentations on activities in the Department by **Bob Dodd** (general), **Lee Suttner** (Field Station), **Norm Hester** (Geological Survey), and **Gary Lane** (Library). Lunch was held in the University Club and included members of the Council, a number of

faculty, and Dean Watson. In the afternoon, the Council toured some of the Department facilities and then met with the Graduate Student Advisory Committee. After a coffee break with faculty, **Susan Green** of the College met with the Council to discuss fund raising efforts. The day was topped off with our annual potluck dinner at the University Club. Saturday, the Council met with Chairman **Bob Dodd** and then by themselves. The members joined a number of faculty for lunch at Nick's where several small groups discussed Departmental matters of mutual interest. Council members attending from beyond Bloomington included **Marcia Engel, Wayne Fowler, Dick Gibson, Frank Kottowski, Ellen Lake, Ann Petricca, Frank Pruett, Jayne Sieverding, Tom Straw, John Utgaard, and Steve Young**. A photo of these Council members along with Bloomington members is included below. We very much appreciate and value the contributions that this group makes to the Department.

In October, the Department again participated in the Physics, Astronomy, and Geology Open House for high school science teachers and their students. **Bruce Douglas** and **Michael Savarese** organized our part of the program with help from numerous faculty, staff, and students. **Mike Hamburger** presented a talk on the use of seismology in the monitoring of underground nuclear tests. The day's activities culminated with **Gary Pavlis'** seismic demonstration; a small explosive charge was detonated in Dunn Woods, and the resulting seismic waves were recorded with a seismometer. In addition, the Department featured a slide show choreographed to music and a 100 foot long geologic time line. Tours and demonstrations were also staged in the Geology Building. Despite the Department's strengthened efforts this year and the high attendance (approximately 1000 persons participated), we felt our presence could still be improved and are, therefore, planning ahead for next year. We're hoping this program and others like it will stimulate greater interest in geology at both the high school and undergraduate levels here in Indiana.

#### GEOLOGIC FIELD STATION

The summer of 1989 marked the 40th anniversary of the Geologic Field Station in the Tobacco Root Mountains of Montana. Two sections of G429 were offered, although for the first time in over 20 years the total enrollment in the two sections dropped below 100 reflecting the sharp national decline in numbers of geology majors. In addition to G429, G111-G112 (Introduction to Geology) and G690 (Advanced Graduate Field Research Seminar) were also taught at the Station. The research seminar, co-taught by Professors **Chris Schmidt** of Western Michigan University and **James Evans** of Utah State University, was entitled "Kinematic and Mechanical Evolution of Two Rocky Mountain Foreland Structures." Structures in the northeast Wind River Mountains of Wyoming and the Madison Range in southwest Montana were mapped by the seminar. Field work was supplemented with detailed microstructural analysis at the Station. Results of the seminar will be presented orally at the Rocky Mountain Section meeting of the Geological Society of America in Jackson, Wyoming next May.

Approximately thirty people enjoyed the reunion of Indiana University alumni of the Field Station which was held in mid-August. The group spent a leisurely Saturday on a hike and picnic lunch near Sailor Lake. (See picture below.) On

Sunday, they visited the London Hills and Pole Canyon final study areas. Because many celebrated a long Saturday night at the Borden in Whitehall, Sunday's hiking in the final study areas did not range much beyond 50 yards from the vehicles; nevertheless, vehicular access to both London Hills and Pole Canyon permitted everyone to get panoramic views from high vistas. Alumni visiting included

**Melody Holm**  
**Bill Glover**  
**Tom Straw**  
**Arch Girdley**  
**Don Wirth**  
**Pat Buchanon**

**Peggy Wang**  
**Wayne Fowler**  
**S. R. Hollensbe**  
**Mike McLane**  
**Charles Vitaliano**

**Meg Saunders**  
**Jim Sukup**  
**Jackie Van Dyke**  
**Jim Frobieter**  
**Gary Anderson**

As mentioned above by **Bob Dodd**, another highlight of the summer at the Field Station was the visit over July 8-10 of Indiana University President **Tom Ehrlich** and his wife, **Ellen**. On Saturday, **Lee Suttner**, **Gary Hinton**, and **Bob Dodd** gave them a tour of the facilities and the beautiful South Boulder/Tobacco Root setting. Sunday, the Ehrlichs joined the faculty and students for the final independent field exercise. After the introduction to the exercise for the students, Lee equipped Tom and Ellen with stereoboards and air photos and gave them a morning tour to look at the geology in the area and an insight into how our students do geological field work. (See pictures below.) Afterwards, Lee took the Ehrlichs to the Madison valley for lunch at Ennis. Later, they joined the students, faculty, staff, and families for the traditional bridge party to celebrate completion of the final field exercise and gear up for the last evening of work culminating in the completion of final study area reports. Everyone very much enjoyed having Tom and Ellen at the Station. We know that they had a most enjoyable visit and appreciated learning in some detail about the nature of I.U.'s geologic field facility of which we are justifiably proud.

**Gary Hinton**, with able help from his wife, **Mary Sue**, continues to maintain our excellent facilities and grounds at the Station. Painting of nearly all buildings was completed last winter. This fall, we are renovating our 40-year old septic system which was beginning to show signs of failure. Major renovations at the Field Station over the last five years have been made possible through generous support by industry and alumni, as well as university funding. Just recently, we learned that the University is going to give us assistance in the remodeling of the resident manager's house.

The competition for students for field programs in geology is great, and we continue to seek alumni support in our efforts in recruiting. Last year we awarded nearly 60 scholarships totalling over \$8,000 as a means of attracting outstanding students from across the nation. This scholarship program also is largely funded through alumni contributions to the Judson Mead and Charles Deiss endowments. On behalf of the students who have benefitted from the scholarships, we express appreciation to all who have given to these two funds.

## INDIANA GEOLOGICAL SURVEY

The Indiana Geological Survey, the Department of Geology, and the Indiana-Kentucky Geological Society were the hosts for the annual meeting of the Eastern Section of the American Association of Petroleum Geologists held September 10-14, 1989 at the Indiana Memorial Union on the Bloomington campus. **Brian Keith**, Head of the Basin Analysis Section of the Geological Survey, was general chairman. **Charles Zuppann** and **John Rupp**, geologists in the Petroleum Section of the Survey, were the oral program chairman and the poster program chairman, respectively, for the meeting. Charles is also an officer of the Indiana-Kentucky Geological Society, which is affiliated with the national organization of the AAPG.

The meeting was attended by approximately 400 scientists and exhibitors who participated in technical sessions, a symposium, and field trips that focused on the geology of the eastern United States and especially on the Illinois Basin. More than 80 scientific papers were presented in technical sessions dealing with basin analysis, coal, applied sedimentology, tectonics and sedimentation of the Illinois Basin, reservoir studies, structure/tectonics, and geochemistry. A special one-day symposium on Mississippian oolites of North America attracted prominent geologists from throughout the United States as speakers and participants to discuss this subject of vital interest to petroleum geologists, especially those working in the Illinois Basin.

Besides the technical sessions and the symposium, two day-long field trips gave participants first-hand experience in viewing important aspects of Indiana geology. The first trip, led by Geological Survey geologists **Erik Kvale**, **David Fishbaugh**, **Lloyd Furer**, **Henry Gray**, and **Allen Archer**, examined tidal influence in a Lower Pennsylvanian fluvial-dominated depositional system at Turkey Run State Park. The second trip, led by **Donald Carr**, Indiana Geological Survey, and **Ralph Hunter**, U.S. Geological Survey, examined the geometry and depositional environments of Ste. Genevieve oolite bodies in southern Indiana.

Other Indiana Geological Survey and Department of Geology personnel involved in the local committee arrangements included **Stan Keller**, **Dan Sullivan**, **Gary Lane**, and **Dave Towell**.

## FACULTY RESEARCH GRANTS

A substantial number of research grants to faculty are currently in progress or will soon begin funding. Included are the following:

- A. Basu** (NASA) - Petrologic evolution of lunar and meteorite parent body regolith.
- J. Dunning** (NSF) - Chemical weakening of geologic materials.
- J. Dunning** (Partners in Applied Research) - Measurement of electromagnetic fields using small inductive pickup coils.
- J. Dunning** (Partners in Applied Research) - Ceramic research.
- M. Hamburger** (USGS), (with **G. Pavlis** - Spatial and temporal patterns of seismicity in the Garm region, USSR: applications to earthquake prediction and collisional tectonics.

**M. Hamburger** (NSF) - Tectonics of subduction zone terminations: a case study in northernmost Tonga.

**D. Hattin** (NSF) - Upper Cretaceous cirripeds of the central Great Plains: taxonomic, biostratigraphic, and paleoecologic analysis.

**J. Hayes** (DOE), (with **L. Pratt**) - Organic geochemical and tectonic evolution of the Midcontinent Rift system.

**J. Hayes** (NASA) - Origin and history of organic compounds using isotope ratio monitoring gas chromatography mass spectrometry.

**J. Hayes** (NASA) - Isotopic biogeochemistry.

**J. Hayes** (NSF) - Isotopic biogeochemistry of biomarkers and paleobarometry of CO<sub>2</sub>.

**J. Hayes** (Amer. Chem. Soc.) - Carbon isotopic studies of organic diagenesis.

**J. Hayes** (Chevron) - Development and application of new techniques in petroleum geochemistry.

**S. Manchester** (NSF) - Systematic affinities and biogeographic relationships of fossil floras for the Eocene Clarno Formation of Oregon.

**P. Ortoleva** (NSF) - Mathematical modelling of metamorphic differentiation.

**P. Ortoleva** (NSF) - Oscillatory zoning in pyroxenes: ion probe, field, and modeling studies.

**G. Pavlis** (Dept. of Interior) - Seismotectonics of the Central Calaveras fault.

**G. Pavlis** (NSF) - Crustal imaging through geotomography and wavefield migration of reflected head waves: application to the Kentland dome.

**G. Pavlis** (USGS) - Discrimination of space-time clustering in central California earthquake sequences.

**G. Pavlis** (USGS), (with **M. Hamburger**) - Spatial and temporal patterns of seismicity in the Garm region, USSR: applications to earthquake prediction and collisional tectonics.

**G. Pavlis** (NSF) - Appraisal of relative earthquake location errors.

**L. Pratt** (Shell Develop. Co.) - Production and migration of hydrocarbons in rift-basin lacustrine systems.

**L. Pratt** (DOE), (with **J. Hayes**) - Organic geochemical and tectonic evolution of the Midcontinent Rift system.

**L. Pratt** (NSF) - Geochemical and stable isotopic study of the C<sub>org</sub>-S-Fe-Mn system in anoxic paleoenvironments.

**L. Pratt** (Chevron Oil Field Research Co.) - Research in the field of sulphur in organic compounds.

**V. Ranganathan** (Texaco), (with **J. Labarr**) - Dynamics of fluid flow around Bay St. Elaine salt dome, south Louisiana.

**V. Ranganathan** (Amer. Chem. Soc.) - The dynamics of groundwater flow associated with perched brine plumes above salt domes.

**E. Ripley** (NSF) - Distribution and genesis of platinum group elements in the Dunka-Road and Babbitt Cu-Ni deposits, Duluth Complex, Minnesota.

**L. Suttner** (NSF) - Regional tectonic-stratigraphic analysis of a late Jurassic - early Cretaceous cordilleran foreland basin.

**L. Suttner** (Amer. Chem. Soc.) - Environmental controls on the petrology of sandstone in a Pennsylvanian fan-delta.

**R. Wintsch (NSF)** - Geochemical assessment of mass transfer volume and volume change during slaty cleavage development.

**R. Wintsch (NSF)** - Fault mechanics: the role of mineral reactions in fault rocks.

**R. Wintsch (NSF)** - Thermochronology applied to the metamorphic and tectonic history of the Merrimack, Nashoba, and Hope Valley zones, southeastern New England.

#### **DEPARTMENT OF GEOLOGY FACULTY AND STAFF**

**Professors:** Abhijit Basu, James Brophy, Roy Christoffersen, David Dilcher, J. Robert Dodd (Chairman), John Droste, Jeremy Dunning, Michael Hamburger, Donald Hattin, John Hayes, Norman Hester, Noel Krothe, N. Gary Lane, Enrique Merino, Haydn Murray, Greg Olyphant, Lawrence Onesti, Peter Ortoleva, Gary Pavlis, Lisa Pratt, Vishnu Ranganathan, Edward Ripley, Albert Rudman, Michael Savarese, Lee Suttner, David Towell (Assoc. Chairman), Robert Wintsch

**Research**

**Scientists:** Michael Dorais, Bruce Douglas, Alan Horowitz, Steven Manchester

**Librarian:** Lois Heiser

**Administrative Assistant:** Sarah Burton

**Staff:**

Gary Bayer, Thin Section Preparator  
Patty Byrum, Senior Secretary, Business Office  
Ruth Droppo, Faculty Secretary, Third Floor  
Mark Gilstrap, Analytical Chemist  
Janice Harste, Faculty Secretary, Fourth Floor  
Eric Hartke, Drafting Technician  
Gary Hinton, Resident Manager, Field Station  
Mary Iverson, Student Records  
Mary LaRue, Faculty Secretary, Fifth Floor  
Charles Miller, Machinist  
Kim Schulte, Senior Secretary, Third Floor/Main Office  
Kimberly Sowder, Drafting Technician  
Terry Stigall, Electronics Technician  
Kay Strahm, Secretary, Geologic Field Station  
Steven Studley, Electronics Technician  
James Tolen, Draftsman

**Professors**

**Emeritus:** Robert Blakely, Judson Mead, Robert Shaver, Charles Vitaliano

## FACULTY NEWS

**Abhijit Basu** delivered an invited talk, chaired a session, and made the closing summary at the BSRG meeting on provenance held this year in London. He is also serving on the Lunar and Planetary Sample Analysis Team of NASA. Recently, he claims to have discovered a good bar and grill in Houston with the aid of **Rich Adams** (BS,'73), **Cecilia Armstrong** (BS,'88), and **Keith Meyerholtz** (MS,'88), as well as the 15-year version of Laphroig.

**Dave Dilcher** has brought added distinction to himself and Indiana University with his recent election to the National Academy of Sciences. Congratulations Dave!

**Bob Dodd** has completed the second edition of his book co-authored with **Bob Stanton** of Texas A&M, Paleoecology, Concepts and Applications. It should appear in print in early 1990. Bob also attended a conference in London in May on sea level changes on active plate margins where he and Bob Stanton gave a paper on cycles in the Mesozoic strata of California.

**John Droste** received the Brown Derby Award from the I.U. chapter of the Society of Professional Journalists this past April. This award, first given in 1937, goes to the "most popular professor on campus" as determined by that organization. This is truly a prestigious award which is given to just one professor per year on the Bloomington campus. On top of the Brown Derby Award, John also was given the award as outstanding educator by the Eastern Section of the AAPG at their annual meeting held in September at I.U. We're proud of you, John!

**Mike Hamburger** and **Gary Pavlis** are co-investigators on a project related to verification of nuclear testing treaties in the U.S.S.R. funded by IRIS (The Incorporated Research Institutions for Seismology). Mike has also been involved in organizing a multidisciplinary seminar on the nuclear arms race, now including participants from nine academic departments at I.U. and several community groups. He gave a related talk to the Science Technology and Society Center entitled "Seismic verification of nuclear testing treaties." Mike is on the advisory committee for a new multi-disciplinary center at I.U. on the nuclear arms race, the MacArthur Center on Global Change and World Peace. He also has been invited to give a talk at the International Symposium on Geodesy and Seismology held this fall in Yerevan, Soviet Armenia.

**Don Hattin** continues as the GSA representative to the North American Commission on Stratigraphic Nomenclature. In July, he presented an invited symposium paper at the International Geological Congress in Washington, D.C. During June, Don taught G-575, The Geology of Tropical Marine Environments, this being his tenth trip to San Salvador. A recently published paper, coauthored by **Victoria Warren** (BA,'81;MS,'85), resulted from field activities by many participants in this Bahamas course.

**John Hayes** reports that in September, graduate student **Kate Freeman**, post-docs **Brian Popp** and **John Jasper**, and **John Hayes** traveled to Paris to give papers at the International Meeting on Organic Geochemistry. John has received support from the offices of the Dean of Faculties and the College of Arts and Sciences in developing a new course entitled, "Development of the Global Environment." This course begins with the formation of the solar system and development of the planets, then focuses on evolution of the earth's oceans and atmosphere and the effects of

biota on the surface environment. The variations of the earth's environment are followed as revealed by the geologic record. The course is intended for students not majoring in geology and is offered at a level appropriate for honors students and for advanced students in the sciences. It has attracted an enthusiastic enrollment of 34 students in its first offering.

**Gary Lane**, after giving the presidential address for the Paleontological Society at the GSA meeting last November in Denver, continued to serve as a member of Council of the PS and attended the Council meeting in Spokane at the spring meeting of the combined Rocky Mountain - Cordilleran Sections. Gary also took part in a two-day workshop on fossil crinoids at the Smithsonian Institution during the International Geological Congress in Washington, D.C. in July.

**Haydn Murray** completed his year as President of the Society of Mining, Metallurgy, and Exploration in March 1989 and is presently on the Executive Committee as immediate Past President. He also completed his year as President of the Illinois-Indiana Section of the American Institute of Professional Geologists and is a candidate for National President-elect for 1990. Haydn traveled to Brazil in March and July to evaluate industrial mineral prospects. He and six graduate students attended the International Clay Conference in Strasbourg, France, the last week in August. Indiana participants authored and co-authored eight papers. Haydn continues as the faculty representative for I.U. to the NCAA and Big Ten Conference, and this year he chairs the faculty representatives and the Joint Group which includes the faculty representatives, the athletic directors, and the women's athletics administrators.

**Peter Ortoleva** has been awarded a prestigious John Simon Guggenheim Foundation Fellowship for 1989. Peter will continue his research on geochemical self-organization. Congratulations Peter!

**Gary Pavlis** and **Mike Hamburger** are participants in the Eurasian Seismic Studies Program a large effort funded by IRIS. A major reason for the project is to do basic research in seismology with seismic arrays in the Soviet Union to better understand wave propagation effects in that area of the world. This represents a fundamentally new opportunity to evaluate whether or not it is feasible to monitor underground nuclear testing using seismic stations in the Soviet Union. The results of this work may have a major impact on future negotiations of treaties on limiting nuclear testing. The program also represents a unique opportunity to study earthquakes in a tectonic environment that doesn't exist in the U.S.: a continental collision zone.

**Ed Ripley** presented a paper at the International Platinum Symposium, Espoo, Finland in August. He also organized a three-day symposium entitled "Ore Deposits: Modelling their Geologic, Geochemical, and Isotopic Framework" held at the International Geological Congress in Washington, D.C. in July.

**Vishnu Ranganathan** has had an enjoyable first year at I.U.. He introduced a new course last spring, "Hydrogeology of Sedimentary Basins" and is thinking of another new course down the road titled "The Hydrosphere and Man", an offering for non-majors. He also now has a VAX 3100 workstation for his modeling research and plans to teach graduate students in hydrogeology the benefits of modeling with interactive graphics.

**Lee Suttner** continues to receive teaching honors. At the annual Indiana University Founders Day ceremony on April 16, President **Thomas Ehrlich** presented Lee with one of the annual President's Awards for outstanding teaching. Congratulations go out to Lee for this latest honor.

**Dave Towell** is serving the final year of his current term on the Bloomington Faculty Council. He chairs the Student Athletes Subcommittee of the Student Affairs Committee. In July, he trekked to Alaska where he visited, among other places, the Kenai Peninsula, Denali Park, and the central interior as far north as the Yukon River via the pipeline road. He especially appreciated the hospitality of **Dave Millen** (MA,'75), current doctoral student in geophysics and a summer intern for BP in Anchorage, as well as **Jim** and **Dean Brown** of Wasilla. Jim taught in the Department of Geology at IUPUI and at the IU Geologic Field Station in the late 1960's and early 1970's before returning to his native Alaska. Dave also had hoped to see **Milt Wiltse** (MA,'66;PhD,'68) in Fairbanks, but Milt was doing field work in the Brooks Range essentially the entire summer. Finally, as editor of this newsletter, Dave appreciates your personal contributions and suggestions.

**Charles Vitaliano** presented an invited paper at the Third International Congress on Thera and the Aegean World in Santorini, Greece.

**Bob Wintsch** has returned after spending a very rewarding sabbatical at the U.S.G.S. in Reston, Virginia where he worked on  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of minerals from various fault blocks in eastern Connecticut.

## STUDENT PROFILES

We think that profiles of several of our graduate students with somewhat unusual backgrounds and experiences might be interesting to our readers. With that in mind, we offer the following short personal sketches.

**Marcie R. Horowitz**, from Philadelphia, Pennsylvania is a second-year doctoral student in geochemistry and National Science Foundation Graduate Fellow who earned her M.S. degree in geology from Bryn Mawr College in 1988. Prior to that, she earned a law degree from the University of Pennsylvania in 1981. At Penn, she was editor-in-chief of the Law Review and received the Goldstein Prize for the best paper in the field of labor law. She practiced corporate law for four years, but during this time began to pursue, in an informal way, her growing interest in science and nature. In 1984, she enrolled in her first college level science course and continued to study science at night over the next year and a half, taking courses at Temple University. In May 1985, she left her legal practice and began the full-time study of geology at Bryn Mawr College. Next year, she will hold a Graduate School Fellowship.

**Michael E. Murat**, from Florissant, Missouri is our Chevron Fellow in Geophysics this year. Michael earned (magna cum laude) a B.S. degree in Geophysics and a B.A. degree in Russian from St. Louis University in May 1988. He was admitted to our graduate program for the fall semester 1988, but delayed his matriculation by one year to accept a Fulbright Scholarship to study at Warsaw

University and the Polish Academy of Sciences where he did paleomagnetic research on the South Shetland Islands of West Antarctica. While in Warsaw, Michael was privileged to meet both Polish Solidarity Party leader **Lech Walesa** and U.S. President **George Bush!**

**Emmanuel G. Ramos** of Quezon City, Philippines is a new masters student and research assistant in geophysics. After receiving the B.S. Degree in Geology from the University of the Philippines in 1977, Emmanuel was first employed as a remote sensing geologist in a government agency assigned to study satellite remote sensing applications. In 1983, he transferred to the Philippine Institute of Volcanology and Seismology and mapped active volcanoes. Since 1985 and until he left for I.U. on a study leave, he was involved in and recently coordinated the volcano monitoring and eruption prediction activities of the Institute. Experiences include geological work in Papua New Guinea and Taiwan, a short survey of earthquake prediction techniques in the Peoples Republic of China, and volcanological observations at Sakurajima Volcano in Japan, and Mt. St. Helens and Kilauea Volcanoes in the U.S. He also took a cruise on the research vessel Moana Wave of the Hawaii Institute of Geophysics. His wife and three children remain in the Philippines while Emmanuel pursues graduate work in geophysics and adds a deeper perspective to his views of Philippine volcanoes, earthquakes, and island arc processes.

**Bingjun Zheng** of Shanghai, Peoples Republic of China, is in his second year as a masters student and is a research assistant in geophysics. In the Peoples Republic, from 1956-1961, he studied seismology, mathematics, and physics at Zhongshan University in Canton and Jieling State University in Changchun. In 1963, he joined the Institute of Geophysics of the Academy of Science in Beijing. He also has worked at the Shanghai Seismological Bureau. Bingjun came to I.U. with over thirty years of professional experience in geophysics, having served as project head or project co-head for numerous research projects. He is a member of the Geophysical Society and the Seismological Society of China and received two awards for scientific and technical development in 1983. Bingjun now has been reunited with his wife and daughter in Bloomington.

#### ALUMNI NEWS

**Al Archer** (MA,'79;PhD,'83) has accepted a teaching position in the Department of Geology at Kansas State University where a major target of his cyclostratigraphic approach to sedimentologic analysis will be the renowned Kansan sequences of cyclic Permian strata.

**Ken Bork** (MA,'64;PhD,'67) is currently Chairman, Department of Geology and Geography, Denison University, Granville, Ohio. This year he was co-leader of a field trip at the mid-year SEPM meeting hosted by the Ohio State University. Ken also continues as Secretary of the History of the Earth Sciences Society. He participated in an NSF Chautauqua course on volcanology in Hawaii, and traveled to the cave-art regions of France with his wife, Kay, in celebration of their 25th wedding anniversary.

**Tim Canfield** (BS,'84) is an engineer with Infilco Degremont in Richmond, Virginia. Tim has recently been promoted to the position of project engineer and is involved in the development of waste-water filters for municipal and industrial applications. In June 1989, he married **Jeanne Mashburn**, and they are building a new home that should be completed by the end of 1989.

**Brooke Clements** (BS,'82) has been working as a geologist out of the Bloomington, Indiana office of Exmin Corporation, a world-wide mineral exploration company. This fall he started a masters program at the University of Arizona.

**Clyde Cody** (MA,'77) and **Elizabeth Cody** (BS,'78) report from St. Paul, Minnesota that Clyde continues as a hydrogeologist with Twin Cities Testing Corporation and Liz is working in the Groundwater-Solid Waste Division of the Minnesota State Pollution Control Agency. Her responsibilities are in the Site Investigation Unit which determines whether circumstances at an alleged site have impacted the groundwater or soils.

**James Crisman** (BS,'62) became Reservoir Engineering Manager for Northern Indiana Public Service Company in October 1987. He is responsible for the company's geologic, drilling reservoir engineering, and field operations work pertaining to its underground gas storage projects. Also, James and his brother, Dr. **Tom Crisman** took a seven-day raft trip down the Colorado River in the Grand Canyon last May, and consider it as the trip of a lifetime for geologists.

**Robert Critchlow** (BS,'75) has until recently been Senior Staff Geophysicist with Santa Fe Minerals of Dallas, Texas. He has also served as District Exploration Manager. His principal activity has been exploration for oil and natural gas. Prior to joining Santa Fe, Bob worked for Texaco (1975-1977), Tesoro Petroleum Corp. (1977-1981), and Retamco, Inc. (1981-1983). Bob is married (Ruth) and has two children, Katie and Case. Beginning in October 1989, Bob and his family made their home in Bloomington.

**Roger Cuffey** (BA,'61;MA,'65;PhD,'66) received one of the two Wilson Teaching Awards given by the College of Earth and Mineral Sciences, Penn State University this past April. These awards, established in 1968 and based upon student nominations, are given to honor faculty whose teaching is deemed outstanding by their students. Roger's son, **Clifford Cuffey**, received a student award at the same awards banquet.

**Jody Lyn Cutler** (MS,'87) has joined IEP, Inc., an environmental planning and engineering consulting firm headquartered in Northborough, Massachusetts as Senior Hydrologist, Contamination Assessment and Remediation Division.

**Greg Dipple** (BS,'86) is at Johns Hopkins University working under the direction of Dr. **John Ferry** on a Ph.D. dissertation related to reactions and fluid interactions in ductile shear zones in Scotland.

**Tom Dobecki** (PhD,'72) has recently been promoted to President of LCT, Inc. and lives in Houston, Texas where LCT has opened a second office. Tom is also a section editor (non-seismic methods) for a new SEG book on reservoir geophysics.

**Tom Dombrowski** (MS,'82;PhD,'89) is now working with Georgia Kaolin Company laboratories in Springfield, New Jersey.

**Gene Ebner** (MAT,'66) has worked under Iowa's Phase III program to develop new materials in earth science to be used in the classroom. During the summer of 1988, he developed an audio slide program for use by the Sioux City public schools.

**Mark Filippini** (MA,'81) now manages environmental programs for Harding Lawson Associates of San Francisco, California.

**Jim Friberg** (MA,'68;PhD,'70) was recently promoted to Chief Geologist of Unocal's International Oil and Gas Division, having joined the International Division four years ago as Manager of International Basin Studies. Prior to that time, Jim served in a variety of technical and management positions in Unocal's Science and Technology Division in Brea, California. His home base is Los Angeles, but Jim spends most of his time out of the country.

**Billy Giles** (MS,'87) has been employed by the Indiana Department of Environmental Management since May 1988, not by the Indiana Department of Natural Resources as incorrectly reported in last year's newsletter.

**Humberto Guzman** (MA,'84) has been employed by Mobil since 1983, having spent one year in Dallas before being transferred to his present assignment in New Orleans. Humberto and his wife are the parents of a three-year old daughter.

**Denver Harper** (PhD,'89) is now working in the Coal Section of the Indiana Geological Survey. Denver received the award for the outstanding paper in coal geology given by the Energy Minerals Division (EMD) of the Eastern Section of AAPG at the meeting held in Bloomington in September 1989.

**Gene Heien** (MS,'62) was appointed in July 1988 to Chairman of the Department of Geological Sciences, Ohio University, Athens.

**Michael Hohn** (PhD,'76), Geostatistician with the West Virginia Geological and Economic Survey and Adjunct Associate Professor in the Department of Geology and Geography at West Virginia University, has authored a new book, Geostatistics and Petroleum Geology, recently published by Van Nostrand Reinhold.

**Ralph Hunter** (BA,'57) continues to work with the USGS in Menlo Park, California, but in the past year has managed to return to Indiana and the Midwest to work on shoreline problems around Lake Michigan and on an eolian facies in the Ste. Genevieve Limestone.

**Norman King** (MA,'70;PhD,'73) has taken a position as Visiting Associate Professor in the School of Science and Engineering Technology at the University of Southern Indiana, Evansville. He continues as President of Documentation Specialists based in Denver, Colorado, which produces user manuals for computer hardware and software.

**B. Dale Kline** (MA) passed away on Thursday, February 23, 1989 at his home in San Rafael, California after a long illness. He retired from Chevron U.S.A. in 1986 as an economic evaluator and geological consultant for Chevron's western operations. He is survived by his wife of 42 years, **Florence Kline**, three daughters, three sons, a sister, and eight grandchildren. We extend our condolences to his family.

**David Kring** (BS,'84) has finished his Ph.D. dissertation at Harvard University and now has a postdoctoral position in the Department of Planetary Sciences at the University of Arizona, Tucson. He is continuing his petrologic and geochemical studies of chondritic meteorites. Dave also reports that he is thoroughly enjoying the opportunity to see the exciting geology of the Southwest.

**Alan Laferriere** (MA,'81;PhD,'87) is employed by Exxon Company U.S.A. in Houston, Texas where he works in the Eastern Exploration Division and has recently been promoted to Senior Petroleum Geophysicist.

**Larry Lebauer** (MA,'58;PhD,'62) spent four years with Sinclair Oil and Gas (1962-1966) and then joined General Refractories Company where he rose to the position of vice-president and technical director. In 1981, he joined Comerals, Inc. as a vice-president and is involved with the worldwide marketing and trading of refractory raw materials. Larry and his wife, **Ellen**, have now been married for 26 years and have four children. Andrew (24) graduated from Middlebury College and is a software engineer, Robin (22) graduated from Denison University and is now attending Naval Officers Candidate School. Marisa (20) is a junior at Hamilton College, and Ian (18) is a freshman at Bowdoin College.

**Jerry Lineback** (PhD,'64) has been Assistant State Geologist and Hydrology Program Manager for the Georgia Geologic Survey in Atlanta. He is responsible for a staff of 18 persons working in a wide variety of areas including, among others, groundwater flow modeling, underground injection control, fractured rock hydrology, pollution susceptibility mapping, and groundwater resources. Jerry was co-chairman of the local committee for the 1989 Southeastern Section Meeting of the GSA held in Atlanta. The Lineback family resides in Douglasville, Georgia about 20 miles west of Atlanta and has three boys, two in high school considering careers, cars, and girls, and an 11-year old aspiring rock star and sports fiend.

**Patrick MacDaniel** (BA,'72) is employed by BHP Petroleum, Melbourne, Australia as a petroleum geologist with the overseas new venture group (Asia).

**Robert Maliva** (MA,'84) finished his Ph.D. dissertation at Harvard University last year and now has a postdoctoral position at Cambridge University, England.

**Brad Markisohn** (MS,'88) is now working for a consulting firm in Indianapolis after spending last year working with the state government on a review of the Department of Natural Resources.

**James Meyers** (MA,'69;PhD,'71) has visited the Department and worked in the field for several extended periods during the past year in collaboration with Lee Suttner in a grant-supported research project on the depositional/tectonic history of the Wyoming Rocky Mountain foreland basin.

**Roland Merkl** (MS,'85;PhD,'89) is now employed by Sud-Chemie, a large bentonite company in Munich, West Germany.

**Dorian Nicol** (MA,'80) is now working for Chempro in Berkeley, California.

**Linda Nichols** (BA,'78) tragically lost her life riding to work on July 27, 1989 in a bicycle-truck accident in Menlo Park, California. Linda was employed by the Department of Chemistry, Stanford University and attending classes at the University of San Francisco. We extend our condolences to Linda's family and friends.

**Doug Opell** (BS,'81;MS,'86) is currently employed as a geologist with Heritage Remediation/Engineering in Indianapolis. He manages projects involving environmental assessments and groundwater contamination and clean-up.

**Wes Peirce** (MA,'52) has retired from the Arizona Geological Survey and reports that he is now looking for fish amongst the rocks, "an ecological truth: no rocks - no anything."

**Ranard J. (Jack) Pickering** (BA,'51;MA,'52) moved in 1984 from Chief, Quality of Water Branch (where he had been since 1972) to Chief, Office of Atmospheric Deposition Analysis, U.S. Geological Survey, National Center, Reston, Virginia. We appreciate Jack's response to our request for additional information on the photos from last year's edition of this newsletter. (See below.)

**Gordon Pirie** (BS,'58;MA,'61;PhD,'63) moved to Houston in 1985 as senior geologist at the headquarters of Schlumberger Well Services. Previously, he was seven years with Schlumberger - Doll Research in Connecticut.

**Jeff Randall** (BS,'71) received his masters degree in 1974 and Ph.D. in 1983 in groundwater hydrology from the University of Arizona. He has been with the consulting engineering firm of CH2M Hill since 1978 and is currently their Northwest District Groundwater Coordinator in Bellevue, Washington.

**Jayne Sieverding** (MA,'81) continues in her position as a geologist with Chevron U.S.A. After seven years in the Chevron office in Denver, she was transferred in 1988 to the central region office in Houston, Texas, works in exploration, is currently in geophysical training, and is assigned to the southern Oklahoma/Anadarko Basin.

**Phyllis Scudder Snow** (MA,'58) works as a hydrologist and geologist for Flathead National Forest. Her job includes projects in forest planning, water rights, hydrologic and sediment models, water quality, and public relations. She is currently on the executive committee of the North Continental Area of the Western Snow Conference.

**Don Steinker** (BS,'59), Professor of Geology at Bowling Green State University, Bowling Green Ohio, is now Managing Editor, Journal of Paleontology and National Vice-President, Sigma Gamma Epsilon National Earth Science Honorary. His current research is with Pliocene microfossils in Florida.

**Tom Straw** (BS,'58;MA,'60;PhD,'68) is serving his second term as Chairman of the Department of Geology at Western Michigan University. His research and consulting duties involve wetlands hydrology in California, Chicago, Michigan, and Delaware and he is in the third year of a grant-supported study of a major glacial aquifer in the Kalamazoo, Michigan area.

**Dennis Sponable** (MS,'89) and **Bill Swanson** (BS,'86;MS,'88) have recently completed their graduate work at I.U. and are employed by Exxon in Houston.

**John R. (Jack) Taylor** (BA,'49) remains in business in Cincinnati, Ohio, has two sons who have graduated from I.U., and continues to be a staunch supporter of the Department, the University, and I.U. athletics. He is currently working on the "Campaign for Indiana" fund-raising program in Cincinnati. Thanks, Jack, for identifying yourself in last year's photo from the 1948 field camp at Red Lodge, Montana. (See below.)

**Robert Ward** passed away on October 8, 1988. We extend our condolences to **Carol Ward** of La Grande, Oregon and to the rest of Robert's family.

**Victoria Warren** (BA,'81;MS,'85) is now a hydrogeologist with Wehran Envirotech in Middletown, New York, where she has been employed since March 1988. Vicki has been working on landfill design and monitoring, water resource evaluation, and groundwater modeling.

**Robert Weidman** (MA,'49) is now Professor Emeritus at the Department of Geology, University of Montana. Bob taught for 34 years at Missoula and was director of the University of Montana's Geologic Field Station at Dillon, Montana. He does continue to teach at the University in the spring and last summer served as program chairman and editor for the 13th Annual Field Conference of the Tobacco Root Geological Society. Bob is remembered by a number of us for his many contributions in the past to our own Montana field program. Thanks Bob!

**Dietrich Whitesides** (BS,'86) is currently pursuing an M.S. degree in Geology at South Dakota School of Mines and Technology in Rapid City, South Dakota. He is also employed as a hydrologist by the U.S. Geological Survey in Rapid City.

**Richard Whitesides** (BS,'58) is in the process of selling his business, preparatory to moving permanently to Mexico (initially to Veracruz). His goal: "semi-retirement with time to travel and who knows what else."

**Dan Wilson** (MA,'62) is currently working for Brooklyn Union Gas Exploration Co. (BUGEXCO). His last three jobs have ended in two buyouts and one restructure. Dan describes long term planning as "two months from now."

**Larry Woodfork** (BS,'64;MA,'65) is now Director of the West Virginia Geological and Economic Survey and West Virginia State Geologist. He also has been elected to serve as the Treasurer of the American Geological Institute (AGI) for 1989-1991.

**Bruce Wright** (BS,'76;MA,'77) has been promoted to District Geologist over both the Onshore and Offshore Gulf Coast Districts with Santa Fe Energy Company, Houston, Texas, a large independent oil and gas exploration and production subsidiary of Santa Fe Southern Pacific Company.

**Signe Wurstner** (BS,'86;MS,'89) began employment as a hydrogeologist with Battelle Pacific Northwest Laboratories in Richland, Washington, in October 1989.

#### ALUMNI COUNCIL MEMBERS - DEPARTMENT OF GEOLOGY

**Abhijit Basu**  
**Robert Blakely**  
**Wayne Bundy**  
**J. Robert Dodd**  
**Marcia Engel**  
**Michael Graham**  
**Stephen A. Graham**  
**Frank Kottowski**  
**Lester Logue**  
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**Frank Pruett**  
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**Robert R. Shrock**  
**Jayne L. Sieverding**  
**Donald Six**  
**W. Thomas Straw**  
**Kim Kodidek Thomas**  
**Daniel Tudor**  
**John E. Utgaard**  
**Steve Young**

We ask for your help in collecting information for future issues of this newsletter. One feature which we would like to add next year would be an alumni list of former residents of 711 E. Cottage Grove, Bloomington. For at least a decade or more, the residents of this house were undergraduate and/or graduate students from the Department of Geology. Many a good time was shared at TGIF parties at that hallowed place. Although it has fallen out of our use, we're sure that many of you are curious as to the names of former residents. We certainly are!

While we are on the subject, perhaps some of you have stories you would like to share about 711 or other memories from I.U. Please write to us. Certainly some would be quite appropriate to share in the newsletter. We are especially eager to

hear stories about some of our more colorful faculty members past and present. A number of you must have entertaining stories about J. J. Galloway, Tom Perry, and Charles Deiss just to name several.

We would be pleased if you could loan us interesting photographs (prints or negatives), especially those showing people from your time in the Department. Depending upon their theme, how many other photos we have, how well they might be printed and reproduced, etc., we might be able to use them, if not next year, then perhaps in a subsequent year. If you do submit photos, please be sure to provide as much related information as you can.

As for photos, thanks go out to those of you who responded to our request for identification of a number of persons in last year's newsletter photos. Jack Taylor (BA,'49) confirms that in Fig. 3 from last year, he indeed is the young man sitting just to the right of and behind Charles Vitaliano. Jack Pickering (BA,'51;MA,'52) correctly notes that we goofed on Fig. 3 in citing the proper year for the picture taken at Red Lodge. It should have been 1948! He also identifies the person at the extreme right in Fig. 7 taken in New Orleans in 1967 as Richard Erd, and it is Brian Mason at the extreme left in Fig. 9. Thanks go to both Jacks for writing to us.

Below are some recent photographs.

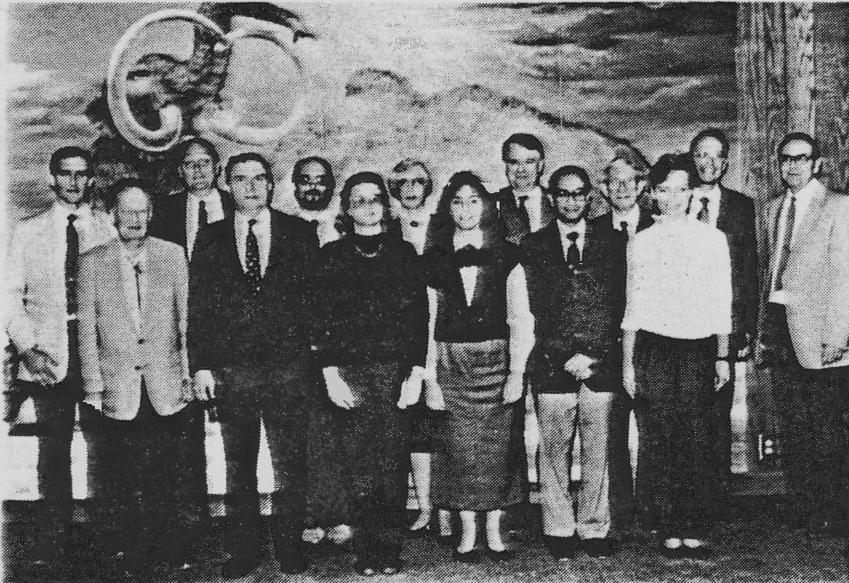


Fig. 1 Alumni Council. January 13-14, 1989. Left to right: Steve Young, Frank Kottlowski, Wayne Fowler, Tom Straw, Dick Gibson, Ellen Lake, Marcia Engel, Ann Petricca, Frank Pruett, Abhijit Basu, Bob Blakely, Jayne Sieverding, Bob Dodd, John Utgaard.



Fig. 2 Lee Suttner (left) discussing with I.U. President Tom Ehrlich the geology at the final independent exercise (i.e. field problem) in G429, southwest Montana, July 1989.



Fig. 3 Left to right: Jim Brophy, Lee Suttner, and President Tom Ehrlich taking a break (and catching their breaths?) during the final field problem, G429, July 1989.



Fig. 4 G429 alumni reunion field trip near Sailor Lake, Tobacco Root Mountains, Montana. Chevy/GMC carryalls come through again!

We hope that you will consider making a donation to the Geology Department. You may do this by making your check payable to:

I.U. Foundation - Department of Geology

You may specify that your donation go to any of the various funds which are maintained by the I.U. Foundation for the Department of Geology. These include the following funds: Ralph E. Esarey, Galloway/Perry, Judson Mead Field Station, John B. Patton, William Thornbury, Cumings/Malott, Charles Deiss, Arch McPheeters Student Loan, and Excellence in Geology Funds. If you would prefer not to specify one of these funds, your contribution will be placed in the Department of Geology Fund which is used for a variety of projects for improvement of teaching and research in the Department. Please note that contributions to the John B. Patton Memorial Library Fund should be made payable to Indiana University rather than the I.U. Foundation.

Mail to: Department of Geology  
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