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Indiana University College of Arts and Sciences-Graduate School

# HOOSIER GEOLOGIC RECORD

Alumni Newsletter of the Department of Geology

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October, 1986

## A LETTER FROM THE CHAIRMAN

Dear I.U. Geology Alumni,

As a special feature of this year's newsletter you will find an additional enclosure with this letter. This is the text for Professor John B. Patton's talk upon his reception of the Richard Owen award to distinguished alumni this past May. The text provides a summary of the history of the Department of Geology and the Indiana Geological Survey. This bonus is part of the departmental effort to celebrate our centennial, 1886-1986, as is the establishment of the Owen Awards.

This year's Owen awardees are Dr. Frank B. Kottlowski of the Bureau of Mines and Mineral Resources, Socorro, New Mexico, and Dr. Paul D. Proctor, of Provo, Utah.

This past year has been a very busy one in the department. We ultimately added three new faculty members to the department. Professor Norman Hester is the new State Geologist and Director of the Indiana Geological Survey. Dr. Lisa Pratt, currently with the U. S. Geological Survey in Denver, is a new Associate Professor of organic geochemistry. Dr. Roy Christoffersen, from Arizona State, Tempe, is the new Assistant Professor of Mineralogy. We tried very hard, but were unable to hire a new faculty member in hydrogeology. This appointment has now been postponed for one year due to budgetary restraints in the College of Arts and Sciences. We should begin recruiting for this position in July, 1987.

The dreary state of the petroleum industry continues to affect our students, enrollment and employment. This year three companies will be here for interviews and there is no guarantee that any of them will have any jobs in their pockets. Our graduate student enrollment has stabilized at about 70 students and we now have between 20 and 25 geology majors in each class year. From those we talk to there is not likely to be any noticeable improvement in the short term.

We did not get very many responses from you sending in the enclosed sheet for Alumni News, consequently this edition of the newsletter doesn't contain much information about your fellow students. Please send in this sheet so that we can do better with the next edition.

The very poor employment situation for many of you has drastically affected the number of alumni and the amount of money that comes in to the department from alumni gifts. Each of the past two years the total amount has decreased appreciably. If any of you have not made a donation to the department and are inclined to do so, this would be an excellent time to make a contribution.

This will be my final year as chairman. I have so notified the College and they should choose a new chairman, internally, sometime this Winter. I have enjoyed the challenge of being chairman and I hope that I have had a positive impact on the teaching and research in the department. I find that the time taken as chairman has affected my own research output and that is one reason why I am stepping down. I also find that I am beginning to run out of new ideas after three years and thus, I believe that it is time for someone else with some fresh ideas to take over.

All the best to all of you,

Gary Lane, Chairman

#### STUDENT AWARDS

Ten undergraduates received awards this Spring. Gregory M. Dipple and Cathleen A. Reas, seniors, received Chevron Scholarships this past year. Dipple was also honored with the outstanding senior faculty award, an inscribed Brunton compass paid for by the faculty, as well as the Deiss award to attend the summer field station. Christine F. Heavilon was named the outstanding junior student. This year she is a member of the Undergraduate Affairs Committee of the department.

Field Station scholarship recipients were William Gaddis, Christine Heavilon, Cathleen Reas, James Struhs and Dietrich Whitesides.

Among the graduate students the following awards were presented. Randy Bayless (lower division classes) and Tom Dewers (upper division classes) received Outstanding Associate Instructor awards. Lisa Spahr received the Estwing Award and Roger Hettenhausen received the Chevron Oil Geophysics Fellowship.

Bob Pruett was awarded the Shell Oil Fellowship and he also received the Gerald V. Henderson Industrial Minerals Division Scholarship. Courtnee Smith received a Field Station Scholarship. This year's recipient of the Shell Oil Fellowship is David Hirt.

## DEPARTMENTAL NEWS

The Exmin Corporation of Bloomington made a gift of a Sharp 19 inch color television set and a Pioneer VP700 Video Disc player. There are two discs in the library; one on Earth Sciences and one on Astronomy, the latter purchased by the Swain Hall library.

The Department now has a new thin section machine for student use in preparing thin sections for their thesis research. We also have new Kroy lettering machine for student use in preparing graphs and figures. A small room has been set aside as a drafting facility for graduate student use.

The clastic sedimentologists went on a two week field trip to western Ireland this Spring as soon as classes were over. The trip was supported by a Sohio Company grant to Dr. Lee Suttner. Dr. Abhijit Basu was primarily responsible for organizing the trip.

This Fall the paleontology group had Dr. Lucy Edwards of the U. S. Geological Survey in Reston, Va for a week to give talks and a workshop on statistical methods of correlation in biostratigraphy. The visit was supported by the Galloway/Perry Fund in the Department.

Jeanette Hartgraves, administrative secretary for the past 14 years, accepted a promotion to another position within the university. She became the administrative secretary to the Director of Athletics on this campus.

Sarah Burton, joined our staff in May; she replaced Jeanette Hartgraves.

Jane Isaacs, replaced Anne Turner in late August as secretary to the faculty on the fourth Floor. Welcome to the Department, Jane!

### DEPARTMENT OF GEOLOGY STAFF

Secretaries: Sarah Burton, Administrative Assistant  
Patty Byrum, Senior Secretary, Business Office  
Ardella Held,, Faculty Secretary, 3rd Floor  
Jane Isaacs, Faculty Secretary, 4th Floor  
Mary Iverson, Student Records Secretary  
Kay Kinder, Geologic Field Station  
Karen Walker, Faculty Secretary, 5th Floor

Staff: Gary Bayer, Thin Section Preparator  
Gene Hinton, Montana Field Station Manager  
Mark Gilstrap, Analytical Chemist  
Charles Miller, Machinist  
Kimberly Sowder, Technician  
Terry Stigall, Technician  
Steve Studley, Technician  
Jim Tolen, Draftsman

Research Scientists:

Alan Horowitz  
Steve Manchester  
Brendan McMahon

Faculty: N. Gary Lane, Chairman

Professors: Abhijit Basu, James Brophy, Roy Christoffersen,  
Robert Dodd, John Droste, Jeremy Dunning, Michael  
Hamburger, Donald Hattin, John Hayes, Norman Hester,  
Noel Krothe, Gary Lane, Enrique Merino, Haydn Murray,  
Greg Olyphant, Larry Onesti, Gary Pavlis, Lisa  
Pratt, Edward Ripley, Albert Rudman, Robert Shaver,  
Lee Suttner, David Towell and Robert Wintsch.

Professors Emeritus:

Judson Mead, John Patton, William Thornbury, Charles  
Vitaliano

Geophysicist Emeritus:

Robert Blakely

Librarian: Lois Heiser

THE GEOLOGY LIBRARY

Our Geology Library has now grown to 80,000 volumes, 16,000 microforms, and over 300,000 maps. The past few years have seen generous campus support for building library collections and we have had continued cooperation from the Indiana Geological Survey for our domestic and foreign exchanges.

BUT WE CAN STILL USE YOUR HELP

The number of Earth Science journals proliferates and books as well as journal prices continue to rise. While we can maintain traditional purchases, it requires extraordinary funding to purchase large volume sets, journal backfiles and non-book materials. Too often we do not purchase these because our funds will not stretch far enough.

YOU CAN CONTRIBUTE TO A GEOLOGY LIBRARY SPECIAL PURCHASE FUND:

By having such a fund, we could make available items such as THE PLANET EARTH (video series), the forthcoming MAKING OF A CONTINENT (video), and others. We could purchase specialized Earth Science computer programs which would enable our students to be better prepared to compete in the business world. In addition, we could purchase microformat back-up copies of several journals that are deteriorating because they were published at the turn of the century on high acid paper.

YOUR HELP CAN KEEP OUR LIBRARY ONE OF THE BEST!!

If you want to make a donation to the library please send a check to the department made out to: IU Foundation. Department of Geology Library.

#### ALUMNI NEWS

Charles Siemers is a visiting professor in sedimentology this fall at the Wuhan College of Geology, Wuhan, People's Republic of China. Siemers is president of Sedimentology, Inc., Boulder, CO.

One of AAPG's Distinguished Lecturers this year will be Thomas J. Schull, division manager for Chevron USA Midcontinent division in Denver. His title is "Oil Exploration in Nonmarine Rift Basins of Interior Sudan".

Tom Dobecki (PhD, 1972) writes that he is associate professor of geophysics at Colorado School of Mines in Boulder, and Director of the Cecil H. Green Geophysical Observatory. He is currently doing research on groundwater geophysics and seismic risk.

Victor Barua F. (MA, 1950) is currently with Southern Peru Copper Corporation in Lima, Peru. He is vice-president for corporate development of the company. His seven children are all married and he now has seven grandchildren.

George E. Ericksen (PhD, 1954) of the U. S. Geological Survey was awarded the Department of Interior Distinguished Service Award this past year.

Harold L. Deane (MA, 1952) passed away this past year.

John Uhl (AB, 1940) passed away in August of this year.

Lisa Mazor (BS, 1985) has been working as the naturalist on Bumpkin Island in Boston Harbor this past summer.

Frank Kottowski (PhD, 1951), Director and Senior Geologist of the New Mexico Bureau of Mining and Mineral Resources, received the American Institute of Professional Geologists Public Service Award in September. He has also received the AAPG's Distinguished Service Award.

#### NEW FACULTY

Norman Hester was appointed the new State Geologist and Director of the Indiana Geological Survey in June. He is also a Professor in the department. Dr. Hester has been an assistant State Geologist in Kentucky and adjunct professor of geology at the University of Kentucky. He did his graduate work at the University of Cincinnati and was with the Illinois Geological Survey, the Kentucky mapping project of the U. S. Geological Survey, and was associate professor of geology at Eastern Kentucky. Most recently he has been director of Hester Oil

and Gas Exploration Co. in Evansville. He and his wife Ruth Ann have two daughters and they have recently moved here from the Evansville area.

Dr. Lisa Pratt will join us in January, 1987, as an Associate Professor in organic geochemistry. She has been with the U.S. Geological Survey in Denver for the past several years. Her research is primarily in the area of basin analysis and maturation of hydrocarbons. She occupies the vacancy created by the retirement of Warren Meinschein. She did her A.B. degree at North Carolina in botany and also did a Masters in geology there. Then she did another Masters at the University of Illinois in paleobotany, with a PhD at Princeton with Al Fischer. Her husband, Bruce Douglas, is a structural geologist, also from Princeton.

Roy Christoffersen is our new Assistant Professor of Mineralogy, replacing Kase Klein. He has most recently been in a postdoctoral position at Arizona State University. He taught for one year in a visiting position at the University of Oregon. He did his undergraduate work at St. Lawrence University and all of his graduate studies at Brown University. His research is primarily in the structural aspects of minerals and in mineral physics. He uses transmission electron microscopy to study minute details of crystal structure.

#### RETIREMENTS

There were three faculty retirements this past year. Warren Meinschein retired from the Department in December. As soon as his Fall semester teaching obligations were completed he and Mary left for Texas. The department held a luncheon for him at the Quail Ridge Country Club just before they left.

At the close of the school year a joint retirement dinner was held at Poplars for John B. Patton, Robert Blakely and Mary Beth Fox. The Department and the Indiana Geological Survey jointly sponsored the event, which was attended by approximately 150 people. In addition to many kind words and messages, John Patton was made a Kentucky Colonel by Wallace Hagan, retired head of the Kentucky Geological Survey, on behalf of Gov. Martha Collins, and also a Sagamore of the Wabash award (second time) by Governor Robert Orr, presented by Bill Andrews of the Department of Natural Resources. Dan Sullivan of the Petroleum Section of the Survey did a top job as Master of Ceremonies.

#### OWEN AWARDS

Three Owen Awards were presented during the Spring semester, 1986. The first was to S. Ross Taylor of the Australian National University, who came to IU in March to receive the award. He gave a talk on the origin of the moon, his primary area of research. He is a native New Zealander and came to IU when Brian Mason was hired as a professor.

The second Owen Award went to John B. Patton, State Geologist. He gave the final colloquium of the Spring term, talking on the history of the Geology Department and the Geological Survey.

The third Owen award went to Marion M. Fidler of Salt Lake City. He received his PhD from IU in 1942 and worked for a while with the geological survey. For many years he was associated with Mountain Fuel Supply Co. in Wyoming and Utah, retiring as Chairman of the Board of Directors in 1976. Dr. Fidler talked about his early days as a geologist and his education and professors at IU. His seminar in March was titled "Some Things I Didn't Learn in College" and was very well received by a large audience.

These are in addition to the two Owen Awards presented earlier in the year to Prof. Emeritus William Thornbury and to Robert R. Shrock.

#### 1986-87 OWEN AWARDS

The two Richard Owen awardees for this academic year are Dr. Frank Kottowski of the Bureau of Mines and Mineral Resources, Socorro, New Mexico, the awardee in industry and government; and Dr. Paul D. Proctor, Provo, Utah, the awardee in academics.

#### CONFERENCE ON SEDIMENTARY GEOLOGY

In May the Department hosted a conference concerning a decade of global research on sedimentary geology. The conference was planned and conducted by Lee Suttner and Gordon Fraser of the Geological Survey. Approximately 150 attended the weekend conference. Financial support was provided by Standard Oil Production Co., the Department, Exmin Corporation, Exxon Production Research Corp., and the IU Office of Research and Graduate Development. The primary purpose of the conference was to identify sedimentary geologic problems that would benefit from global studies.

#### ALUMNI GIVING

Last year in the Alumni Newsletter we made a specific request from the alumni for an on-line printer. We received an offer of such a printer within a month after mailing out the newsletter and we were very gratified by this gift. This year we are making a specific request for donations to help provide a graphics capability for a PC that is suitable for reproduction for thesis or publication that will be available for all graduate students. We have the PC capability already. We need to purchase a good quality laser printer (either Apple or Hewlett Packard) and appropriate software. The estimated cost for the printer is approximately \$4200 and the software is \$600. If you would like to make a donation towards this effort send us a check made out to the IU Foundation--Department of Geology, and indicate that the check is for Graphics.

## FACULTY NEWS

Ed Ripley, associate professor of economic geology, is currently engaged in study of platinum group mineralization in the Duluth Complex, Minnesota.

Gary Pavlis, assistant professor of geophysics has been conducting seismic tomography experiments around the Kentland Dome this Fall. He has also attended several meetings of the Incorporated Research Institutes for Seismology (IRIS). He is a member of the standing committee on data management.

Jim Brophy, assistant professor of igneous petrology, has recently received an NSF grant that will send him to Alaska this coming summer to study island arc volcanics. He is teaching a section of G-103 this semester for the first time and enjoying it immensely.

Mike Hamburger, new assistant professor of geophysics who joined us in January, 1986, taught the field course in applied geophysics (G423) in the Spring and is teaching a new graduate level Plate Tectonics course this Fall semester. He is in the USSR for two weeks this term and will be starting up a new project on seismotectonics and earthquake prediction in Soviet Central Asia, with a grant from the USGS.

Jeremy Dunning is involved in several investigations involving the strength of natural rock materials. These include studies of surfactants, pore fluid chemistry, and crack propagation. He continues to serve as a dean in the Office of Research and Graduate Development.

Don Hattin and his students continue to study various aspects of the Midcontinent Cretaceous rocks. This includes study of the Greenhorn Limestone, and the Fort Hays Member of the Niobrara Formation.

Alan Horowitz cooperates with Joe Pachut of IUPUI on study of Mississippian Fistulipora bryozoans. He also continues research and interest in pentremitid blastoids and bibliographic indices of Mississippian fossils.

Noel Krothe and Greg Olyphant have started a new study of mine spoil heap pollution of ground waters in the Wheatland, Indiana area. Noel continues studies of sulfur and carbon isotopes of Columbia River basalts.

Haydn Murray was nominated as president-elect of the Society of Mining Engineers this year. He has already received the Distinguished Medal of the Society and the Hal Williams Hardinge Award. He continues research on kaolin deposits in Suriname, Egypt and Argentina. Haydn continues to be our faculty representative for athletics to the Big 10 and NCAA.



Prof. Emeritus Charles Vitaliano is currently chairman of the Archaeological Geology Division of GSA. He is currently pursuing research on the Tobacco Root batholith and the 10-N pluton.

Gary Lane was nominated as president-elect of the Paleontological Society for the 1987-88 year.

Bob Wintsch is on leave the Fall semester, 1986, as a visiting CIC professor at the University of Michigan. He is participating in a seminar on fluid-rock interactions in crustal environments and is doing research on silica-undersaturated metamorphic rocks.

Al Rudman is on sabbatical leave for the academic year at the Institute of Geophysics, University of Hawaii. He continues research on synthetic seismograms and inverse solutions of wave equations.

Lee Suttner has an American Chemical Society-PRF grant to study environmental controls on the petrology of sandstones in a Pennsylvanian Fan delta in Colorado.

During January, 1986 Enrique Merino spent 2 weeks in the Taodeni Basin in Mali, West Africa studying Proterozoic tillites and sandstones with French geologists from the University of Poitiers. He was keynote speaker for an international meeting on Geochemistry of the Earth's Surface in Spain in March, and spoke at a Penrose Conference on clastic diagenesis in France in June.

Bob Shaver is seriously considering retirement, perhaps within the next year or two. There are also plans for him to become Principal Geologist of the Geological Survey, a full-time job that would drastically reduce his involvement with the department. At the Atlanta AAPG Bob was made an honorary member of SEPM. He will give the keynote address for the Canadian Reef Inventory Conference in Banff in January. He will also lead a group of Chinese geologists through the wonders of Silurian reefs this coming Spring.

Bob Dodd is continuing to work on carbonate depositional environments and diagenesis of Mississippian rocks in Indiana. He is busily working with students to prepare for the Fall, 1987, Great Lakes Section, SEPM field trip that will be here on Middle Mississippian limestones. Perhaps we will see some of you here for that trip.

Abhijit Basu is studying deposition and diagenesis of continental back-arc sediments in southwestern Montana and continues petrologic studies of lunar regolith. He visited India recently and sampled Archaean rocks there in connection with new research.

John Droste continues to pursue subsurface studies of Indiana rocks. He is currently concerned with sedimentation

patterns in Middle and Late Mississippian rocks and the Mississippian-Pennsylvanian unconformity.

Don Hattin is working on several projects in the Cretaceous, including an interregional model for deposition of pelagic rhythmites, carbonate substrates of the Late Cretaceous sea and American chalk deposits.

John Patton was made an Honorary member of the Association of American State Geologists at Long Beach in June. He had been Historian of the society this past year. He gave two talks at the Indiana Historical Society in May. In October he examined old stone structures and monuments in Vermont as the condition may relate to atmospheric pollution. In September IU awarded him a citation for contributions to the field of historic preservation.

If you would like to make a donation to the Department please do so by writing a check to:

I.U. FOUNDATION--Department of Geology.

You may also allocate your donation to any of the endowment funds that we hold with the IU Foundation. These funds include the Cumings-Malott fund, the Thornbury fund, the Galloway-Perry fund, the Mead fund. Simply indicate which fund you want on the check. If you do not indicate a particular fund the money will be used for the general betterment of the department.

Our address is: Department of Geology  
Indiana University  
Bloomington, IN 47405

ALUMNI NEWS FOR NEXT YEAR

PLEASE FILL OUT THIS SHEET AND RETURN IT TO US SO WE HAVE YOUR NEWS FOR THE NEXT NEWSLETTER. IF YOU HAVE A CHANGE OF ADDRESS BE SURE TO INCLUDE IT.

NAME:

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MY NEWS IS:

Please mail this sheet to: Department of Geology, Indiana University, Bloomington, IN 47405.

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Bloomington, IN 47405



Tarr Hole, Silurian, Indiana 1927 (photo from R.R. Shrock).



Field trip, 1947. Ralph Esarey with microphone, J.J. Galloway on right, Charles Vitaliano on left (photo from H.M. Thomas).



IU mineralogy class of 1940 at Elephant Rocks, Graniteville, Missouri (photo by Preston McGrain).



Geology Alumni meeting in Denver, Colorado at AAPG meeting either 1948 or 1949 (photo from James C. McCulloch).



Lee Suttner and graduate students, 1979  
(photo from Peggy Visser).



T311 class, 1974, second summer session  
(photo from Keith Adkins).



San Salvador course, summer 1981. Left to right: Mike Miller, Greg Wilson, Cole Able, Vicky Warren, Joy Bier, Dave Reazin, Dave Brewster (photo from Dave Brewster).

IU Geology Alumni luncheon  
at AAPG meeting in New York,  
1955. Standing, left to right:  
Patton, Reeves, Bradfield,  
Esarey, Armstrong, Dawson, Hie-  
stand, F. Schweers. Sitting,  
left to right: R. Schweers,  
Fidlar, Thomas, Bartle, Mrs.  
Bartle, Galloway, Waters,  
Kline, Sullivan, Murray,  
Mauck (photo from Ray Gibson).

