

UNIVERSITY OF PITTSBURGH

DEPARTMENT OF GEOLOGY AND PLANETARY SCIENCE



ALUMNI NEWSLETTER

FALL 1982

Department of Geology and Planetary Science
University of Pittsburgh

Alumni Newsletter

Fall, 1982

Dear Alums,

The new Fall Term has begun and we are literally bulging at the seams with undergraduate majors and departmental graduate students. The total number of students has approximately tripled in the past 10 years, and there are now about 75 undergraduate and 75 graduate students active in the department. Those of you who were students here in the 1960's and 1970's may recall that a typical upper-level class contained anywhere from five to twenty students. That has changed dramatically; consider, for example, the current enrollment in the following courses: 85 in Physical Geology (Geol 15), 64 in Mineralogy (Geol 101), 35 in Igneous and Metamorphic Petrology (Geol 103), 55 in Structural Geology (Geol 111), and 50 in Well Logging (Geol 147). We really do not have the space or the equipment to handle all of these students very efficiently but are trying our best. To help alleviate the shortage of equipment, the University allocated an additional \$20,000 for the purchase of microscopes and related items which are now in hand.

The faculty remains active in teaching and research. During the past academic year faculty and students published over 60 papers, technical reports, and abstracts. Research expenditures from external research grants and contracts totaled \$283,000. The Department awarded 20 Bachelor of Science degrees, 9 Master of Science degrees, and 2 Doctor of Philosophy degrees.

The Department currently has 12 full-time faculty members. We hope to add an additional faculty member in the area of coal geology during the coming year. We are pleased to have Dr. Momin Hoque with us for a year as a Visiting Professor. Dr. Hoque, who received a Ph.D. in our Department in 1965, is on sabbatical leave from the University of Nigeria where he is a Professor of Geology. Several of our regular faculty will be on sabbatical leave during the current academic year. Bruce Hapke is spending the academic year at the NASA Ames Research Center, and Jack Donahue will take a year's sabbatical beginning on January 1. In addition, Bud Rollins is spending the Fall Term at sea teaching in the University's Semester-at-Sea Program.

On the industrial front, the Department is a charter member of the Appalachian Basin Industrial Associates (ABIA), a consortium of 10 leading university geology departments (Alabama, Johns Hopkins, Kentucky, North Carolina, Ohio State, Pittsburgh, Syracuse, Tennessee, Virginia Polytech, West Virginia) in the Appalachians. Jack Donahue of our Department is a co-director. The consortium offers bi-annual seminars that are designed to provide new or relocated employees with an update and overview of geologic information in the Appalachians, make faculty research available to industry, and focus university research on areas of industrial interest. ABIA is completing its first successful year and has as industrial participants Amaco, Arco, Chevron, Consolidated Gas, Conoco, Exxon-USA, Gulf, Phillips, and Sohio. For more information, please contact the Department.

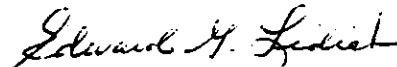
It is not all work and study. We continue to hold an annual Fall picnic and a Christmas party for all students, faculty, and staff. Attendance at both events has been excellent. The Geology Club also remains active, not only in continuing to sell rock and mineral kits for Rocks 80 and operating the coffee machine, but also in sponsoring periodic Friday afternoon

"happy hours" (note the plural) and in helping to organize field trips to interesting places. In addition, field trips associated with physical geology, geomorph and ig pet/structure are held regularly. Incidentally, you may be interested to know that Storming Norman actually led a trip recently in which it did not rain!

We greatly appreciate the support you have given us in recent years. With the general budget cutbacks that have been taking place your help is beneficial in maintaining and improving the quality of our programs. I specifically want to acknowledge the generous contribution of \$5,000 from Dr. Javaid Alvi (Ph.D. 1967) which permitted us to replace a burned-out X-ray tube. His generosity is greatly appreciated.

I invite all of you to visit the Department and I hope that you are pleased with our progress and future directions. We value your support and welcome your suggestions.

Sincerely,



Edward G. Lidiak
Chairman

News of the Faculty

Thomas Anderson

The most notable change for me during the past year has been the surge of interest in geology by many students who wish to pursue careers in geology. As graduate studies advisor, it is very evident that more and more people are becoming aware of the opportunities and challenges which exist in geology and related fields such as geochemistry, geophysics and planetary science. Recent crises in energy supply which stimulated a boom in excellent employment opportunities is partly responsible for the increased student interest. Most recently, the stabilization of oil prices has slowed demand for new employees and many newly trained undergraduates are therefore choosing to pursue graduate studies.

Research studies in conjunction with a fine group of graduate students have been actively pursued in northwestern Mexico and in the western Appalachian Basin. For many years in cooperation with Professor Leon T. Silver of California Institute of Technology, I have studied the geology of northwestern Mexico in order to gain insight into the tectonics of continental margin processes. In this region both convergence (subduction) and transform faulting (e.g. San Andreas Fault) have intermittently occurred during the last 200 million years. A significant result of our research has been the identification of a major crustal discontinuity, that we postulate is an inactive transform fault. Mapping by Pitt graduate students has contributed to our understanding of the geological relationships along this great fault. As much as 800 km of left-lateral displacement may be recorded along this postulated transform fault which probably extends across northern Mexico from California to the Gulf of Mexico. Offset along the Mojave-Sonora megashear is closely related to the breakup of Pangaea and the evolution of the Gulf. In northwestern Pennsylvania, considerable interest has been generated by a recently completed study of the Tyrone-Mt. Union lineament. This work by Mike Rodgers was performed in conjunction with Gulf Research. Several additional related projects in cooperation with industry have been initiated.

I have been involved in productive team-teaching efforts with Vic Schmidt, Norm Flint, and Jack Donahue in courses having to do with plate tectonics and regional geology. These relatively new courses are additions to my schedule which also includes courses in structural, field, and introductory geology. Again this past summer I had the opportunity to teach a segment of the field camp sponsored by the Yellowstone-Bighorn Research Association which has its headquarters in Red Lodge, Montana. This camp includes large groups of students from Princeton, Amherst, and Franklin and Marshall College as well as representatives from many other schools in the northeast. In addition to Y.B.R.A., our students have participated in other camps throughout the U. S. Our undergraduate student group can take considerable pride in their fine academic performances.

My own education has benefitted significantly from the opportunity to participate in national meetings of the Geological Society of America and the American Geophysical Union. I was privileged to be invited to an intensive week-long Penrose Conference, sponsored by the Geological Society of America, on the topic of Permo-Triassic orogeny in the western Cordillera of North America.

Michael Bikerman

My research efforts over the years are still in potassium-argon dating of volcanics and assorted crystalline rocks. Most of my effort continues in southwestern New Mexico, though several other areas have been worked on in conjunction with others.

Teaching loads reflect our considerably expanded enrollment in the major courses: Physical Geology (90 students). Historical (shared with Dr. Rollins this term - 45 students), Economic Geology of Ore Deposits (18 students) and Isotope Geology (a graduate course with 5 students). Dr. Flint's Economic Geology of Nonmetallic Deposits, and my Ore Deposits classes still are offered on alternate Winter Terms.

The department seminar program continues to meet on Thursday afternoons at 4:00. Each term I manage to arrange for 14 speakers (or more when we have "double-headers") with help from my colleagues and friends--a group to which I welcome any of you.

Aside from trips to my field area in New Mexico, my family joined me on a trip to France for 1980's 26th International Geologic Congress in Paris. That trip included a drive from Scotland (to visit the Scottish Universities Research and Reactor Centre where we had been on my 1973/74 sabbatical leave, and the Hunterian Museum of Glasgow University) to London (to visit the superb Geological Museum of the Institute of Geological Sciences). The museums were visited to see what was being done in geological exhibits, so that the Geologic Time exhibit which I am working on with Dr. Mary Dawson of the Carnegie Museum will be as up-to-date as possible.

William Cassidy

Some of you may remember my antarctic meteorite project because you had to endure double lectures in mineralogy for half a term so that I could depart on schedule during November. This year I went south for the winter for the sixth year in a row. The project continues to be highly successful: so far we have recovered more than 1100 meteorite specimens and there's no end in sight. Among last season's finds was a small unique stone consisting almost entirely of anorthite: it even had anorthite glass chondrules. Such a meteorite type had not been known previously--it may be our first meteorite anorthosite. Another interesting specimen was a 20-kg iron that looked as if it had been a perfect cube before entering the earth's atmosphere. It had been ablated only on one face, therefore if we measure how much is missing from the original cube we can put a maximum limit on the ablated mass. This should be quite useful because ablation parameters are not well known, and ablation parameters are usually used to calculate how much has been lost due to ablation.

Our meteorites are shipped to the Johnson Space Center, in Houston, where they are processed by the same nice people that gave us the lunar samples. From NASA/JSC they are sent out to research scientists in many countries. As a result, the antarctic meteorite bibliography now numbers more than 300 titles and is growing rapidly. I have a graduate student researcher, Karen Wells, extracting data from the published material and recording it in a computer program. Eventually we will be able to search the files for common attributes or common groups of attributes that can tell us something about the origin(s) and past histories of meteorites.

During August I attended the Fourth International Symposium on Antarctic Earth Sciences which was held in Adelaide, South Australia. It had been 27 years since I had been there, and it was a curious experience finding colleagues from the early 50's who had married, had children, and in some cases had been presented with grandchildren since we had last roamed the Outback. It was curious because I am still a boy, but they had all aged considerably.

My mineralogy students this year are working just as hard as ever so that I will be able to leave again during November for the ice. The class is of record proportions: 64 students! I await next year's registration with some trepidation.

Alvin J. Cohen

It is now almost twenty years since I joined the department. At least two of my former doctoral students are now full professors.

Recently (1980/81) I have started teaching courses in hydrothermal ore geochemistry and petroleum geochemistry.

At present there are three graduate students in my group doing research in radiation effects in smoky, rose or synthetic germanium-doped quartz. Eventually we hope to develop a better method than liquid inclusion techniques for a temperature-pressure marker using natural impurity-doped quartz. Another Doctoral candidate is exploring similar phenomena in pure and impurity-doped SnO_2 (cassiterite) in order to learn more concerning the properties of this important economic mineral.

In July 1982, I attended a Gordon Conference in New Hampshire on the Origin of Life. The important geochemical significance is that life probably started as an organic substrate using clay mineral surfaces such as kaolin as a template.

I recently visited Clare College, Cambridge University (U.K.) for an invited NATO Advanced Research Workshop on "Coherence and Energy Transfer in Glasses" during September 12-17, 1982. About fifty scientists from NATO countries had been invited. The Proceedings will be published by Plenum Press.

Since this July I have had two papers accepted for publication.

My latest Doctoral student, Jeffrey K. Wagner graduated in the Spring of 1980. His thesis is entitled "Reflection Spectroscopy of Stony Meteorites in the Vacuum Ultraviolet Spectral Region." This work resulted in four papers given at international meetings, one in Canada, one in Germany and two at Annual Lunar Science Conferences in Houston, Texas. Jeffrey is now a faculty member at a Bowling Green State branch campus in Ohio, teaching planetary science and geology.

For about five years I have been teaching evening wine appreciation courses in the "Pitt Informal Program." These consist of one wine-tasting class a week for six weeks and all have been on the white wines of Germany or comparing white wines of Germany, France and California. It is a relaxing and popular hobby to teach these courses to the general public.

Jack Donahue

The last year, 1981-1982, has been a very busy and productive year for me. In terms of teaching, I have been mainly involved with advanced undergraduate and graduate courses. The joint appointment I now hold in the Anthropology Department also means that a number of the courses are cross-listed with Anthropology. The courses I generally teach now are Sedimentation and Stratigraphy, Regional Geology (with Tom Anderson and Norm Flint) and Geoarchaeology (with Jim Adovasio in Anthropology) at the advanced undergraduate level, and Sedimentary Depositional Environments, Carbonate Petrology, Sand and Sandstones and Perspectives on the Pleistocene (with Jim Adovasio) at the graduate level.

Four of my masters' candidates completed their degrees last year. Jim Knapik and Jim Robinson both did research in coal geology. Bill Hayward completed a subsurface stratigraphic study in western Pennsylvania. Femi Olaniyan completed a study on sedimentation within a rockshelter from Mississippi. In addition, Diane Beynon completed her Ph.D. in Anthropology with a dissertation on the geoarchaeology of Meadowcroft Rockshelter.

In terms of meetings, I was chairman for the first meeting of the Appalachian Basin Industrial Associates (ABIA) which was held in Pittsburgh. This industrial-academic consortium is going well with nine industrial members and ten universities. In the summer of 1982, the department was able to partially fund graduate student and faculty research with funds derived from ABIA. In November, I gave two papers at the GSA meeting in Cincinnati. In December, I gave a paper at the American Schools of Oriental Research in San Francisco. In April, I was co-author on six papers at the Society of American Archaeology Meeting in Minneapolis. Finally, this August, I gave two papers at the International Congress of Sedimentology at McMaster University, Hamilton, Ontario. The 1981-1982 year also saw the publication of five papers, mainly in geoarchaeology.

My present research is somewhat varied. In geology, Chris Laughrey and I are doing a study on diagenesis in the Medina-Tuscarora. This work will be presented at the ABIA meeting in October. Bud Rollins and I, along with four graduate students (J. Hill, T. Kuntz, J. McCullough and J. J. Pawling), are doing a study on the Middle and Upper Devonian gas shales in the Appalachian Basin. As a part of the above work, Dave Krinsley at Arizona State University and I are exploring the use of the back scatter SEM as a new way of looking at sandstones and shales. I am also working with Vic Schmidt on the paleomagnetism of Mammoth Cave sediments. In addition, Basim Al-Qayim is just in the throes of completing his Ph.D. on a study of depositional environments of the Ames limestone.

In geoarchaeology, I am presently involved in contract studies done by the Cultural Resource Management Program in the Department of Anthropology for the U. S. Army Corps of Engineers and the U. S. Forest Service. We are presently completing field and laboratory studies in North Dakota, Mississippi, West Virginia and Kentucky. Close to home, we are also examining water wells from middle 1800's that were exposed during the present subway construction in downtown Pittsburgh.

I will be taking a sabbatical leave starting January, 1983, and plan to remain in Pittsburgh in order to complete my portion of two books. The first is the final report on Meadowcroft Rockshelter at Avella, Pennsylvania and the second is the summary of three seasons of field work (1977, 1979 and 1981) on Early Bronze Sites in the Dead Sea Valley, Jordan. In conjunction with the Dead Sea work, I have been invited to present a paper at Crown Prince Hassan's Second International Conference in Amman, Jordan in April, 1983, and definitely look forward to that. 1982-1983 promises to be just as busy and productive as last year.

Norman Flint

Greetings to all you alumni both close to home and in far-away places. I spent most of last Winter preparing for a world voyage as academic dean in Pitt's new Semester-at-Sea program. That voyage is now history. We had a successful educational cruise from March 4 to June 13, leaving Port Everglades, Florida and returning to Seattle, Washington after visiting 11 different countries for an average of four days each. As you will notice in another part of the Newsletter, Bud Rollins of our department will be a faculty member on the Fall voyage, and will teach three geology courses on board the ship.

I have now resumed my teaching duties and other activities in the department. This term it's a graduate course in Applied Geology which involves a good deal of field work and the geologic assessment of field problems in the realm of economic geology, environmental geology, and engineering geology. I am also teaching a course in the Geology of Energy Resources in the interdisciplinary graduate program in energy resources, administered by the Engineering School. This is the first Fall Term in many years that I have not taught the Physical Geology course required for geology majors.

Jim Krushin, a graduate student whom I deserted during my world voyage will finish his M.S. degree this Fall. His thesis on landslide hazards in Indiana Township (Allegheny County) will add an important segment to the large-scale mapping (1 inch to 200 feet) we are doing in that northeastern part of the county. Information provided by these studies is being used effectively by municipal authorities as a guide in land development.

Bruce Hapke

For the past decade, Professor Bruce Hapke has been studying the factors which affect the way the surfaces of the earth and other planets reflect sunlight. When the Apollo Missions brought samples of the moon to earth, he measured the effects of radiation on the optical properties of lunar soil. As the Apollo Program wound down he turned his attention to other planets. He was a member of the Television Science Team of the Mariner 10 Spacecraft studying the clouds of Venus and the surface of Mercury. He was a member of the Television Team of the Viking Landers which obtained the first photographs from the surface of Mars. He was a guest scientist on the International Ultraviolet Explorer Satellite, which he used to measure the ultraviolet reflection spectra of areas on the moon. He was a guest scientist on the Voyager I & II Spacecraft Mission for the study of the satellites of Jupiter.

Because of the recent budgetary problems of the Federal Government the number of spacecraft missions to other planets has decreased drastically. At the same time studies of the surface of the earth from orbiting satellites have greatly increased. Hence the subject of remote sensing of planetary surfaces has become more and more important. Lately, Dr. Hapke has been engaged in the development of theoretical equations which describe the spectral reflection of sunlight from soils.

In 1982/83, he is on sabbatical leave at NASA Ames Research Center in California where he is developing his equations further and applying them to Voyager spacecraft images of Saturn and its moon Titan and to Landsat pictures of the earth.

Edward Lidiak

I am now completing my twelfth year as departmental chairman and cannot believe how the years have seemed to pass so rapidly. The past year has been fairly typical as I spent most of the year teaching, serving on committees, reading theses, reviewing manuscripts, going to meetings, working with my graduate students, getting some research done, writing papers, and, in my spare time, masquerading as an administrator. (The department seems to run better when I'm out of town).

I continue to teach optical, igneous and metamorphic petrology, various graduate-level petrology courses, and an evening Rocks 80 course. Last Winter I made the mistake of giving one of my long essay-type exams to 35 students in optical. It took me over a month to grade all the papers. Never again. From now on, the students get multiple-choice exams.

Most of my recent research activity has been concentrated in the upper Mississippi embayment where my colleagues and I have been studying the geology and geophysics of the New Madrid rift complex. The rift is a probable reactivated aulacogen that is the most active seismic area in the eastern U.S. The research is supported by the Nuclear Regulatory Commission.

Those of you who are my old golfing buddies may be interested to learn that I have reduced significantly the number of strokes over par per year on my golf game. Alas, I must confess it is not that I play any better, but rather that I don't play as much. Such is life.

I hope to see some of you at meetings.

Walter Pilant

C During the 1970's, student interest in such things as equipotentials, spherical harmonics, matrix propagators, adiabats, and hugoniots waned considerably and turned to matters of a more applied nature. To meet these new interests, I have pretty much dropped seismology and Earth megastructure and turned my attention to the structure and tectonics of the Appalachian Basin. The approach has been from an interpretation of geophysical maps published at a small scale and from large scale ground investigations carried out by myself and graduate students

in interesting portions of the Blue Ridge and Piedmont. Most of this work lies in the realm of applied geophysics, though I have been known to look at a rock or take a few strike and dip readings!

The courses I teach have changed somewhat. I still teach seismology (on rare occasions) and advanced geophysics (more often), but I've also added geophysical data processing and well-logging. This term the latter is a bit overwhelming--four two-hour sections. Lastly, I am still called on to give my "Heretical" view of continental drift and plate tectonics. The students here love to get into heated discussions with someone from the other side.

Harold Rollins

The last few years have been busy ones for myself and my family. As a case in point, for the last several months we have been preparing for a teaching term aboard ship as part of Pitt's "Semester-at-Sea" Program. This is the same program that Norm Flint participated in last spring.

My research activities now include a potpourri of paleontological, paleoecological and oceanographic endeavors. I have been actively pursuing my work with Paleozoic snails and other molluscs, mainly working with John Harper, one of my former Ph.D. students.

In addition, I have been actively working with a variety of archaeogeology projects, including the Tombigbee Waterway Project, the Bluestone Reservoir Project, among others. Most of these are in conjunction with other members of Pitt's Cultural Resource Management Program (CRMP). In this regard, I now have a joint appointment with the Anthropology Department at Pitt.

I am particularly excited about some of my work in coastal Peru. I have gathered over the last few months and during a visit to Peru in 1981, considerable evidence supporting a drastic reinterpretation of the East Pacific Ocean circulation pattern 5,000 years ago. We are currently attempting to procure a large grant to pursue certain aspects of this work.

Currently I am advising about 14 graduate students, most of whom are working on various aspects of paleoecology, paleontology and sedimentary depositional environments. I am maintaining an ongoing program in Upper Pennsylvanian paleoecology and biostratigraphy and about 6 graduate students are currently working on topics related to that program.

Victor Schmidt and Takesi Nagata

Since Mike Fuller left the department in 1974, we have rebuilt the paleomag. lab around an extremely sensitive cryogenic magnetometer. Our emphasis has been shifting somewhat from "pure" rock magnetism to more applied work in paleomagnetism.

Our most recent rock mag. students were Dean Clauter (Ph.D., now teaching at New Mexico State at Las Cruces) who worked on the blocking temperature variation in thermoremanence as a function of applied field strength, and Bob Luce (Ph.D., now teaching at W&J) who did a theoretical thesis on magnetization processes in interacting and non-interacting magnetite particle ensembles.

We are just completing an investigation of Carboniferous rocks in the Appalachian Basin. Bruce Cain (M.S., now at Shell), Mike Payne (Ph.D., now at EXXON) and Steve Shulik (Ph.D., now teaching at Duquesne University) worked on this project, which found lots of reversely magnetized paleopoles during some 100 million years recorded in local rocks, but nary a single reliable normally magnetized one! Der-Shing Lee is presently investigating the Greenbrier (Mississippian) limestone in W. VA.

We literally struck pay dirt in Mammoth Cave, KY. Clastic sediments in the various levels of passages of the cave have recorded a very fine polarity magnetostratigraphy that has not only permitted an accurate dating of the cave levels, but may also give us a high-resolution view of what is going on during a polarity transition. In connection with this project, Pat Pontoriero (M.S., now at Gulf Oil) did a rock magnetic analysis of the sediments, and Tom Heinecke is presently tying the magnetostratigraphy of the cave into polarity events recorded in terraces of the Green River nearby.

In our most purely geological project so far, Karen Kluger Cohen has recently completed her Ph.D. in a project in the Sonora desert area jointly advised by myself and Tom Anderson. This was an attempt to test paleomagnetically for the displacements postulated along the Mojave-Sonora Megashear by Anderson and Silver. While not conclusive, the test suggests that the displacements did occur.

Vic had the delightful opportunity to spend part of the summer of 1981 in Tokyo at Professor Nagata's National Institute of Polar Research, studying the magnetism of Antarctic meteorites. Professor Nagata continues to visit us two or three times a year. I wonder how many of our former and present students are aware of the strong role that Professor Nagata played in the early growth of our department? Back during the Litchfield era, he was in fact influential in the hiring of a number of our present faculty.

Ellis Strick

Ellis remains busy teaching oceanography and advanced geophysics courses. He is actively at work on a variety of manuscripts in theoretical geophysics. He sends greetings.

Departmental News

Pitt Geology Club

The Pitt Geology Club is an organization concerned with more effectively communicating geologic information among persons within the university. Membership is open to interested students and faculty. Meetings are held once a week. Officers consist of a president, vice-president, and treasurer who are elected annually. In addition, a student representative is selected to attend departmental faculty meetings and to act as an intermediate between the faculty and undergraduate geology majors.

The club provides the service of buying and selling rock kits required for certain courses as well as purchasing other geologic equipment such as rock hammers, hand lenses and maps. It also maintains a coffee machine for departmental use.

Our endeavors last year were fairly successful. The first term was spent primarily concerned with aiding students in choosing field camps. Several meetings were spent with student presentations of field camps that were attended the previous year. During the second term we had several speakers. The speakers ranged from our own graduate students and faculty to ones in industry from the Pittsburgh area. Topics included P.A.C.'s (Punctuated Aggradational Cycles), Continental Drift, Komatiites, and the Rio Grande Rift.

In the future as funds allow we hope to have field trips as a common activity of the club.

Officers for 1981/1982: President: Karen Downs
Vice-President: Bob Jansto
Treasurer: Vince Ceci
Representative: Frank Benaquista and Kurt Weaver

Graduate Student Organization

The Graduate Student Organization (G.S.O) is the voice of Graduate Students to the Department as well as the rest of the university. We are attempting to make this organization more functional than it has been in the past, and the present group of graduate students is actively working toward this goal. The GSO helped send graduate students to the 7th Annual MidAmerican Student Conference, March, 26&27 at Ohio State University.

This organization has also looked into the problems of our ailing thin sectioning equipment. The students are trying to make their contribution to the department where they can in an organized fashion.

Sigma Gamma Epsilon

The Beta chapter of Sigma Gamma Epsilon was founded at the University of Pittsburgh in 1916. It was an active chapter in the Petroleum Engineering Department until 1965 when interest was lost and the chapter became inactive. The chapter has again become activated because of geology student interest and

is now located in the Department of Geology and Planetary Science. There were 15 students initiated on April 2, 1982, into the society and to commemorate the reactivation of the chapter. Dr. Charles Mankin, National Secretary-Treasurer, was guest speaker at the luncheon for the initiates and faculty.

Officers for 1981/1982: President: John Anderson
 Vice-President: Dave Brezinski
 Secretary-Treasurer: Rich Busch
 Advisor: Dr. Tom Anderson

SEMINARS

<u>Speaker</u>	<u>Topic</u>
Michael Bikerman Pat Pontoriero	Some Southwestern New Mexico Geology Magnetic and Physical Characteristics of Clastic Sediment from the Caves of Mammoth Cave, National Park, Kentucky, U.S.A.
John G. Armbruster	The 1886 Charleston Earthquake and the Appalachian Detachment
Walter Pilant	Magnetic Anomalies & Fracture Zones
Rich Yeager	A Masters in Disaster
Vladimar Adamek	Subsidence Prediction
David Richards	Water Quality of Water Resources in Western Pennsylvania
James Krushin	Land Hazards of Indiana Township, Allegheny County, PA
Jack Donahue	Geologic Reconstruction of two Archeologic Sites SE Dead Sea Valley, Jordan
Chris Laughrey	High Potential Gas Production & Fracture Control Porosity in the U. Dev. Kane SS, Central W. PA
R. E. Samples	The Role of the Geologist in the Modern Coal Industry
John Goscinski	Coal Petrography -- Science of Coal Marketing
Mary S. Robison	Planetary Heating in the Early Solar System and the Possible Role of ⁶⁰ Fe
Richard M. Busch	Detailed Lithostratigraphic and Faunal Distribution Through a Sequence of Punctuated Aggradational Cycles (PAC's) in the Manlius Formation of Central NY State
William N. Poundstone	Innovations in Coal Mining and Coal Mining Technology -- the Past 30 Years
Earl H. Linn	Upper Ordovician Stratigraphy and Sedimentation in the Northern Appalachian Basin
Jeff Kersting	Mt. Simon and pre-Mt. Simon Sandstones
Bob New	Geochemistry of Ash-Flow Tuffs from Southwestern New Mexico
Craig B. Clemmons	Geophysical Logging
Dwight Sangrey	Landsliding in Japan
John Anderson, Jr.	Gastropods of the Appalachian Basin: Evolution and Sexual Habits
Mary Rose Cassa	Onondaga Bioherms of New York State

Richard E. Gray
Louis A. Rancitelli
Der-Shing Lee

Tom Heinecke

Edgar M. Hopkins
Ted Buckwater

Subsidence Engineering
Cosmic Ray Ages of Meteorites
Paleomagnetism of the Mississippian Greenbrier
Formation
A Paleomagnetic Investigation of Pleistocene
Age Sediments From River Terraces in West
Virginia & Kentucky
Plate Tectonics and Oil Exploration
Effects of Waste Disposal From a Flue Gas
Scrubber on the Hydrology of Little Blue
Run Basin, Beaver County, PA & Hancock County,
W. VA

Graduate Student Conference

Four of our graduate students presented papers at the Seventh Annual Mid-America Student Conference, in Earth Science which was held in Columbus, Ohio, March 26-28, 1982. The conference was well attended and Pitt well represented as indicated by the number of speakers from the following universities: Ohio State (5), Akron (5), Pitt (4), Wayne State (3), Penn State (3), Berea (1), Cincinnati (1), Indiana-Gary (1), Indiana/Purdue (1), St. Cloud (1), Wisconsin-Platteville (1).

Pitt students who presented papers are:

- John R. Anderson, Jr. "Pennsylvanian gastropod genera Donaldina, Orthonema, and Streptacis in the Appalachian Basin."
- Richard M. Busch. "Punctuated aggradational cycles (PAC's) and their bearing on paleographic development of the Manlius Formation, central New York."
- Thomas A. Heinecke. "Magnetic polarity magnetostratigraphy as a method in correlating river terraces to cave passages in Mammoth Cave National Park, Kentucky."
- James Krushin. "Geologic hazards of Indiana Township, Allegheny County, Pennsylvania."

Logo and T-Shirts

The logo on the cover was designed by Rich Busch. The logo will be used on this year's version of Pitt's Geology T-shirt. T-shirts are available through Sigma Gamma Epsilon at \$7.00 plus \$1.00 postage and handling charges per T-shirt. Sizes are S, M, L, and XL.

Theses Completed (1981/82)

Cohen, Karen Kluger (Ph.D), Utilization of the Paleomagnetism of Mesozoic Miogeosynclinal and Magmatic Arc Deposition From the North American Western Cordilleran As a Test of the Sinistral Displacement Along the Mojave-Sonora Megasear.

- D'Urso, Gary (M.S.), An Investigation of the Precambrian Rocks of the Point of Rocks Quadrangle Frederick County, Maryland Loudoun County, Virginia.
- Hayward, William (M.S.), Depositional Patterns of Upper Cambrian Through Middle Devonian Stratigraphy of the Greene - Potter Zone in Western Pennsylvania.
- Kersting, Joseph (M.S.), Petrology and Petrography of the Mt. Simon and pre-Mt. Simon Sandstones: Evidence for Possible Precambrian Rifting in the Central Midcontinent.
- Korth, William (Ph.D.), Early Eocene Geology (Northeastern Wind River Basin, Wyoming) and Rodent Paleontology.
- Madar, James (M.S.), Stratigraphic Analysis of Lower Conemaugh Rocks (Pennsylvanian), Indiana and Armstrong Counties, Pennsylvania.
- Marrs, Thomas (M.S.), Lithologic Characteristics and Depositional Environments of the Non Marine Benwood Limestone (Upper Pennsylvanian) in the Dunkard Basin, Ohio, Pennsylvania, and West Virginia.
- New, Robert (M.S.), A Geochemical Study of Ash-Flow Tuffs From the Mogollon-Datil Volcanic Field of Southwestern New Mexico.
- Olaniyan, Olufemi (M.S.), Sedimentation of the Archeological Site 22T5784, A Sandstone Rockshelter in the Bay Springs Segment of the Tennessee Tombigbee Waterway Tishomingo County, Mississippi.
- Pontoriero, Pasquale (M.S.), Magnetic and Physical Characteristics of Clastic Sediment From the Caves of Mammoth Cave National Park, Kentucky, U.S.A.
- Yeager, Richard (M.S.), Geology, Landsliding, and Slope Stability in the Little Sewickley Creek Watershed, Allegheny County, Pennsylvania.

B.S. Degrees Awarded 1981/82

Bajek, David
Benacquista, Frank
Chadwick, Jean-Bruce
Downs, Karen
Ehnot, Michael
Grimshaw III, George
Jansto, Robert
McCamey, Michael
McFarlin, Christopher
O'Neil, Caron

Perry, David
Posney, Karen
Prosser, Jay
Ralph, Stephen
Romesburg II, Charles E.
Romilly, Cheryl
Schindler, Leslie
Spicuzza, Douglas
Weaver, Kirk

Undergraduate Majors (Fall, 1982)

Adams, Michael T.
Andrews, Rhonda
Averre, Alison
Buttenschon, Robin
Button, Donald

Chaffo, John
Chepega, Joseph
DeLucia, Nancy
Dickter, Arthur
Dirkmaat, Diane
Dropkin, Michael
Effiong, A.
Gillen, Timothy
Graham, Robert
Griffin, David
Hags, Ronald
Harms, Gary
Harris, Robert
Harshbarger, David
Hlavay, Jay
Hill III, John
Hurley, Michael
Hutton, Jeffrey
Irwin, Stuart
Janiszewski, Michael
Jasinski, Stephen
Jeffreys, Carl
Johns, John
Linn, Jeffrey
Malek, R.
Mance, Richard
McLaughlin, Laura
Meehan, Rose
Minsinger, Thomas
Morton III, Marvin

Graduate Students

Adekeye, Jacob
Alexander, Tim
Al-Qayim, Basim
Anderson, John
Bajek, David
Basilone, Tim
Brezinski, Dave
Buis, Patricia
Busch, Richard
Ceci, Vince
El-Emam, Mohamed
Glenn, Victor
Grimshaw, George
Hill, Jeff
Ichikawa, Ken
Jorstad, Tim
Jude, Monday
Kuntz, Tim
Lee, Der-Shing

Novelly, Philip
Odasso, Michael A.
O'Hara, Shawn
Panian, John
Perrot, Charles
Pozzuto, Fred
Prosser, Jay
Rapp, Michael
Ritner, Dean
Ritz, David
Robertson, Mark
Robeson, Gary
Sams, Gretchen
Schmidt, Ruthann
Schroettinger, Linda
Selfridge, Robert
Smith, Carol
Stephens, William
Sweeney, John
Szuhay, David
Taylor, Nancy
Thayer, Cynthia
Thompson, Ralph
Tipton, Curtis
Tracey, William
Trombetta, Maria
Vento, Paul
Vittorio, Louis
Werner, Robert
Yusko, Kathleen

Full Time

Mario, Annette
Olaniyan, Olufemi
O'Neil, Caron
Pachariyangkun, Adisorn
Pawling, Mara Jo
Presley, Susan
Prosser, Jim
Rodriguez, Jose Luis
Santucci, Vince
Souza, Richard
Tisin, Mehdi
Toprak, Selami
Tucker, Mark
Venn, Cynthia
Weaver, Kirk
Weiss, Bob
Wells, Karen
Woessner, Paul
Yuan, Ding-Wen
Zei, Robert
Zell, Paul

Part Time

Adams, William
Behum, Paul
Boe, Carl
Boyer, Charles
Burtell, Steve
Carlson, Michael
Coyle, Paul
Duck, John
Duerring, Nancy
Findle, Patrick
Girol, Vaughn
Izzo, John
Johnson, Shannon
Kollar, Albert
Kotcher, Janet
Krantz, Gary

Krushin, Jim
Lang, Gerald
McCullough, John
Miller, Fred
Molinda, Greg
Murin, Tim
Partlow, Deborah
Posney, Karen
Proksell, Ralph
Ralph, Steve
Sabin, Andrew
Schatzel, Steve
Todd, Sandra
Welsh, Bob
Witkowski, Robert
Zagorski, Bill

Alumni Response Form

On the next-to-last page, you will find a copy of an "Alumni Response" form. We are asking that you complete the form and return it to the Department. In this way, our mailing list will stay up-to-date, and you will receive a copy of the annual Newsletter. Secondly, we are interested, as I am sure many of your old Pitt friends are, in knowing where you are living and what you are doing. We ask you to photocopy and pass the form to any graduates with whom you may be in touch, but who have not received this newsletter.

Departmental Support

We suspect that it is impossible to be a graduate of an American university these days and not be reminded that the university solicits, needs, and appreciates your financial aid in supporting its programs. It may not always be obvious that individual departments such as ours also need and desire your support. We thus request your input, not only financial, but also suggestions for improving departmental curricula, or in directing potential employers to the Department to interview current students. To repeat, the Department benefits from your input and we sincerely request it.

Departmental Funds

Two departmental funds are currently in existence. The first of these is the Unrestricted Departmental Gifts Fund. This fund is a general purpose fund for miscellaneous professional expenses such as equipment purchases and support of faculty and students to present papers at scientific meetings. The second fund, established during the past year, is the Frances Dilworth (B.S.1978) Lidiak Memorial Fund. The purpose of this fund is to support the Departmental Seminar Series, and as additional funds are available, to support graduate student and faculty research projects.

Departmental Field Vehicle Fund

We are also establishing a fund to purchase a field vehicle. We are one of the few large geology departments in the country that does not have a vehicle for use in field trips and field work. The University's budget is such that we must go to outside sources for funds in order to purchase a vehicle.

A large heavy-duty van with removable bench seats would best suit these dual purposes, and we are beginning a fund raising drive among our alumni and local corporations to raise the \$15,000 purchase cost.

In these economically tight times, many of our graduate students do not have personal vehicles. The lack of transportation is a severe hindrance to their field studies. We appeal to our alumni to make donations, in any amount, to the Geology Field Vehicle Fund.

ALUMNI RESPONSE FORM

We ask you to complete this form so that in the next Newsletter we can include a section on "Alumni News." Thanks.

Name _____ Degree _____ Year _____

Address _____

Spouse's Name _____

Names and Ages of Children _____

Company you're affiliated with _____

Your position, title, etc. _____

Your duties? _____

Other items of potential interest to classmates: _____

Any information on other Departmental grads? _____

Please return to: Ms. Cora Sparks, Administrative Assistant, Dept. of Geology and Planetary Science, 321 Old Engineering Hall, University of Pittsburgh, Pittsburgh, PA 15260

FUND RAISING CAMPAIGN

We are now about to undertake a campaign to raise funds for the Unrestricted Departmental Gifts Fund, the Frances Dilworth Lidiak Memorial Fund, and the Departmental Field Vehicle Fund. If you have suggestions that will help raise the money, please give me a call (Ed Lidiak at (412) 624-4700) or write a letter. Of course, contributions from alumni for specific support of the funds will be most gratefully received.

It perhaps should be pointed out that contributions can be sent directly to the Department, or, if you prefer, they can be sent to the University of Pittsburgh as part of the University's annual fund campaign. If you choose the latter method and want the contribution ear-marked for the Department, then you must specify that the funds are for the Department of Geology and Planetary Science. All contributions are tax-exempt and will be acknowledged.

If you wish to contribute, (1) please indicate on the form below to which fund you wish to contribute, (2) fill in name and address, (3) cut form along dashed line, and (4) return form and contributions to Ms. Cora Sparks, Administrative Assistant, Department of Geology and Planetary Science, 321 Old Engineering Hall, University of Pittsburgh, Pittsburgh, PA 15260.

_____ Unrestricted Departmental Gifts Fund

_____ Frances Dilworth Lidiak Memorial Fund

_____ Departmental Field Vehicle Fund

_____ Other (please specify) _____

NAME _____

ADDRESS _____

AMOUNT _____