UNIVERSITY OF PITTSBURGH

ALUMNI NEWSLETTER

1987-1988

DEPARTMENT OF

GEOLOGY AND PLANETARY SCIENCE

The cover illustration is taken from an educational software program written by Professor Victor Schmidt to accompany the Planet Earth telecourse. During a sabbatical stay at Dartmouth College last winter, Professor Schmidt produced six interactive simulations of geophysical concepts designed to run on the Macintosh computer. The programs demonstrate the following concepts: sea-floor spreading (from which the diagram on the cover was reproduced), paleomagnetism, radioisotope decay and dating, the Coriolis effect, the concept of a numerical model, and location of earthquake epicenters. They will be distributed in 1988 through Kinko's Courseware Exchange and are aimed at the undergraduate level.

A WORD FROM OUR NEW CHAIRMAN

Dear Alumni:

We have a new computer jockey in the department: Ed Lidiak! As he forewarned in last year's Newsletter, Ed has returned to full-time teaching and research. During the early part of Ed's sixteen year term he established an environment in which the department was able to reunify after the turbulent events of the sixties. More recently Ed provided steadfast leadership as our department was scrutinized and evaluated. As a result of his efforts and abilities, we are well situated to make advances as we respond to initiatives proposed by Dean Koehler and Provost Weingartner, both of whom have been recently appointed.

Enrollment in geology courses for majors is still very low, about half of our past average undergraduate class size. This situation mirrors the national trend. Low enrollment persists in spite of gradual improvements in the energy industry as well as the heightened awareness of the need for geologists trained to deal with a broad range of environmental problems.

Some writers predict that by the mid-1990's, the demand for natural resources and the retirements of many academicians, hired in the mid-sixties, will combine to provide abundant new positions and perhaps outstrip the supply of recently-trained geologists. In short, now is very likely a good time for young people to consider geology as a profession. For these reasons we are attempting to stimulate the interest of high school students in our profession. Our faculty recognizes the need to recruit both undergraduates and graduate students vigorously and we intend to implement appropriate actions. We believe that our academic programs are significantly above average as indicated by the successes of so many of you, our graduates.

You have also contributed significantly toward helping us meet challenges and take advantage of opportunities through your moral and financial support. I recognize that the future will present new challenges and opportunities. I hope that I will earn your support as Ed has done in the past. Our department has carefully modified its direction and is following a path that we think will lead to our goals of excellence in teaching and research. I am optimistic that the next few years will be exciting and stimulating for me. My hope is that the progress toward the goals of the department will be clearly marked.

I believe that the research, educational and professional activities described in the following pages are indicative of vigorous, striving faculty and student body. If you have comments or suggestions, please give me a call at (412) 624-8783.

Cordially,

Tom Anderson

Tom Anderson

****

HARRY JAY WERNER

(1921-1986)

On December 12, 1986, the geologic profession lost one of its most avid practitioners and dedicated educators. Harry Jay Werner* died quietly in his sleep in Marathon, Florida, where he had been in semi-retirement for the past eight years.

Harry J. Werner was born June 7, 1921, in Brooklyn, New York, and grew up in nearby Long Island. He entered Syracuse University on an athletic scholarship in 1940, but his studies were interrupted by World War II. Harry served as a pilot in the Marine Corps and was decorated for meritorious acts in aerial flight in the Marshall, Palau, and Ryukyu Islands. Harry claimed the distinction of being one of the last (actually he claimed to be the last) pilots shot down by the Japanese at the close of the war.

Following his discharge in 1946, Harry returned to Syracuse University to complete his undergraduate education, and received his A. B. degree in geology in 1947. Harry then enrolled at Washington University, and received his M. S. degree in geology in 1949. He decided to continue his education at Johns Hopkins University, and the next few years would prove to be busy ones. He worked under Robert Bloomer doing extensive field mapping in the Blue Ridge area of Virginia. In addition, he worked as a part-time geologist for the Virginia Geological Survey. Bloomer moved to Saint Lawrence University, Canton, New York, in 1951, and Harry joined him as an assistant professor of geology. It was at Saint Lawrence that Harry developed his great love for teaching geology. Harry was active as a field geologist, doing extensive mapping in the Newfoundland area, as well as consulting to various oil and gas concerns; but teaching was his first love. In 1955 he accepted a fellowship from General Electric, and returned to Syracuse where he received his Ph.D. in geology in 1956.

Harry joined Pan American Petroleum (now Amoco) in 1956 as a senior researcher. Much of his Pan American work was concerned with research on the sedimentation of the Bahamas area and the northern Gulf of Mexico, all of which was under his direct supervision. His own research was not limited to Holocene sedimentation; he worked on the Michigan basin, as well as the sediments of the Permian of west Texas. During a field trip to west Texas, he startled passengers on an overflight by assuming control of the plane and flying sideways up and down McKittrick Canyon to give the field-trip participants a better view of the rock sequences.

Upon leaving Pan American, Harry joined the staff at the geology department at the University of Pittsburgh. This began a 16 year association as educator and research geologist. He was one of the first geologists to see the value of studying the Holocene carbonate environments of the Bahamas. When a carbonate field trip at the 1964 Geological Society

of America convention was filled, Harry chartered a plane and led his own trip. He not only provided technical expertise, but he also helped fly the plane. With all the many contributions he made to the field of geology, his greatest love was always teaching.

Harry equally enjoyed all facets of teaching at a major university. Whether supervising a PhD candidate's research, explaining the universal stage to an undergraduate (he called it mental gymnastics), or teaching an introductory geology class, Harry was always at ease. His introductory classes were filled to overflowing because word had gotten around that here was a professor who could make geology come alive. A great many geologists were started in their career paths in that class.

An enthusiastic group of graduate and undergraduate students received both geologic and life guidance from Harry, giving them solid foundation for careers in and out of the oil industry. When you asked Harry for advice, you always got the truth - not what you wanted to hear, but what you needed to hear. He provided more than instruction. Harry motivated people to do their best and become professionals.

In 1979, Harry retired from the University of Pittsburgh. He and his wife, Shirley, moved to Marathon Key in Florida. Living aboard their sailboat, the Corsair (named after his World War II plane), they sailed the Florida Keys and Bahamas they both loved. Although retired, Harry could not leave his life work. He was active as an oil and gas consultant, and at the time of his death was teaching an introductory geology course at a local junior college.

Harry lost his first wife, Helen, to cancer in 1965. He married again in 1974, and Shirley was to be his friend and partner for the rest of his life. In addition to Shirley, Harry was survived by his three children- daughter Jayne, and sons Richard and Thomas.

Harry was quoted as saying "As for me, if I can get through to a few people, through my work and actions, and help make better citizens out of that few, then I know that I have contributed something to society." Harry J. Werner reached more than a few, and each of us he reached is better for the experience. He was an outstanding geologist, but first he was a teacher-a teacher in the truest sense of the word.

Robert B. Lieber

*permission for reprint from author Robert B. Lieber, Houston, Texas and American Association of Petroleum Geologists.

FACULTY NEWS

THOMAS H. ANDERSON

If, as I noted in the last Newsletter, 1986 was characterized by new experiences and projects, 1987 has been more of the same.

On July 1, I assumed the duties of departmental chairman. After about one week I realized the magnitude of the feat accomplished by Ed Lidiak during his sixteen year tenure. I hope that I can do a comparable job in terms of quality if not in duration!

During my first 100 days, there has been a vigorous, refreshing exchange of information and ideas between our department and the university administration. I believe that this exchange has significantly altered the perception of our department. Some other milestones passed during the year are: 1) Caron O'Neil and Joe Chepega both completed their Masters' Theses. Caron is working with the Pennsylvania Geologic Survey; Joe worked for Santa Fe Mining until they curtailed their operations in the Pittsburgh area. Mark Evans and Patti Campbell continued with their projects on opposite sides of the Blue Ridge. Mark has finished much of his field work and is in the process of writing and performing strain analyses on oolitic rocks. Patti has carefully mapped a shear zone in crystalline rocks. Out west, Mary Beth Kitz is tackling fiercely-deformed Jurassic-Cretaceous rocks in Sonora; whereas Allison Frey has continued mapping faults in the Cascades of Washington.

During the winter I continued my co-operative field work with Jim McKee and Norris Jones of the University of Wisconsin-Oshkosh. We worked on Jurassic rocks, in the State of Zacatecas, northeastern Mexico, which have been deformed into a fold nappe. The project is exciting and stimulating for a structural geologist.

During the Geological Society of America Meeting in San Antonio, Jim Norris and I organized and chaired a symposium on basement rocks of northern Mexico. It provided a good vehicle for fruitful scientific exchange among Mexican and U. S. geologists.

My teaching responsibilities included courses in structure, plate tectonics, beginning geology and regional geology.

As the 1987-1988 year progresses I am sure that impressions from my new vantage point will crystallize. I am optimistic about the future.

Please feel welcome to drop by or call if the opportunity presents itself.

MICHAEL BIKERMAN

This past year has been a very busy one for me. After the interesting field work in Canada which I reported on last year, it was time to prepare my paper for the 1986 Geological Society of America annual meeting in San Antonio, Texas. This done, I could turn my attention to the 22nd Annual meeting of the Northeastern Section of the GSA, for which I was General Chairman. With the unstinting cooperation of many of my colleagues, including students and alumni of this department, we brought off a successful meeting last 4-7 March, at the Hilton Hotel. The weather cooperated beautifully, and the post meeting "field trip" on the Gateway Clipper, narrated by Helen Delano of the Pennsylvania Geological Survey, was a perfect end to a good meeting. Many of our out-of-town attendees commented favorably on the ambience of the meeting, and of the city. When the press of paper work resulting from the meeting died down (at times I wondered if it ever would!) I returned to science, completing a long pending paper for New Mexico Geology, and doing my part on two manuscripts I am co-authoring with my Canadian colleagues.

During the summer I spent two very productive weeks in the field in my New Mexico area, assisted by my son David, who as some of you are aware is a Pitt alumnus in Mining, and at present is completing his PhD at Columbia. Quality time with an adult child is its own reward. Later on I returned to the LaRonge area of central Saskatchewan for a short week of collecting samples for isotopic analyses both at Pitt and in Canada. This year I went alone, and worked with Dave Thomas and his "lean mean mapping machine" crew. We flew in to several of the small lakes north of LaRonge, using both an Otter and a Beaver float plane on occasion. Again the weather cooperated, and I was even able to take a swim in Otter Lake without contracting pneumonia! On the way home I stayed a couple of days in Ottawa completing the two manuscripts mentioned earlier.

This fall I went to Phoenix for the 1987 GSA National Meeting and presented an invited paper to a Geochemical Society Symposium. Phoenix was hot, smoggy and one evening even smelly - not as I remembered from the 1960's.

The argon laboratory is undergoing some renovations, with new pumping systems being installed on the ex-Gulf mass spectrometer, and its fusion system. Also we are in the last stages of computerizing the data collecting system, a long needed improvement as any of you who have reduced charts can well agree. Should you care to visit the laboratory, we will be happy to show you around.

At the present there are no new graduate students in the laboratory, and the existing ones are continuing their work. Andy Sabin completed his MS last year, and hopefully there will be another completion this year.

The last item of (good) news is that after many years I am giving up the seminar arranging for the department to our new chairman, Tom Anderson. I encourage all of you to continue to attend, and to participate in the seminar program as before, to make his job as pleasant as possible, and I thank all of you who have been involved for your assistance in making the seminar program as successful as it has been.

WILLIAM A. CASSIDY

I guess I wouldn't know what to do with myself if I couldn't go south for the winter (south to Antarctica, that is). Last December and January (the southern summer, by the way) was my 11th field season on that continent and once again it was great fun. We went back by LC-130 cargo plane to the now abandoned Beardmore Camp. A small building had been left behind and we were able to use that for shelter and storage. The next day we put all our goods and chattels on Nansen sledges and moved due south in the teeth of the wind, to Lewis Cliff Ice Tongue, a stretch of exposed ice with a lot of meteorites scattered about on the surface. We hadn't been able to recover them all during the previous year and had left a lot behind, so I knew we would have a successful season.

Along the way we passed last year's campsite, located off to the west a few miles. This site had been the scene of historic events before we occupied it - it is found near Coalsack Bluff, the location of the first-ever discovery of vertebrate fossils in Antarctica. Field teams from Ohio State and the American Museum of Natural History, among others, had used it as a base during a couple of field seasons while they worked at Coalsack Bluff. Jim Collinson, of Ohio State, told me later that the snowflakes used to blow in under the wall at one side of their jamesway hut, slide along the floor, and blow out on the other side. He said you could pretty well gauge the weather outside by how fast the snow was moving. When we reoccupied the site the old generator shack was still standing, there were some vertical posts with electric wiring still running up them, a lot of fuel drums buried to their tops in snow, and a cache of food. Among the food items were many large cans of mandarin oranges and grated cheddar cheese. We ate these with relish, leaving some of our food items behind at the end of the season. Nailed to a post at the edge of the camp was a faded old sign with the letters barely legible: "Hard Times Camp."

It seemed an appropriate name, but it derived from an unexpected source. During their first season in this base camp they had only one movie to show, and they showed it over and over. The name of the film is "Hard Times."

Last season we gave the camp only a passing glance before moving on to a new site, closer to the meteorite stranding surface at Lewis Cliff.

We had a mad Dutchman with us last season, a radiochemist from the Netherlands named Louis Lindner. Louk (short for Louis) had brought his own windmill. It was quite heavy and was accompanied by a Nansen sledge full of storage batteries. It took us two days to set it up and get it running. The sledge full of batteries acted as a 24-volt electrical supply for our three tents. We had radiant heaters, two electric blankets, and immersion heaters for boiling water. We were all set to live in luxury, but various facts soon became clear. The immersion heaters couldn't be used to melt snow because there wasn't enough surface contact, and they melted themselves down instead. One electric blanket had to be used to keep the batteries warm, and the two of them running at the same time used all the available current. The space heaters were quite large and took up too much of the

limited floor space of the tent while generating only a fraction of our heating needs, so we had to run the gasoline stoves anyway. The experiment was an interesting one, but one I would not wish to repeat. I gained a new appreciation of the large amount of energy already concentrated in a gallon of Coleman fuel vs. the small amount available by concentration from diffuse sources such as the wind and sun.

Johnny Schutt, my crevasse expert, characterizes our meteorite searching as "a big Easter-egg hunt, designed for adults." I don't know why he says that - we usually act pretty child-like when we find one. Be that as it may, we were out one day, skimming the snow surface and skittering along the ice patches on our snowmobiles, searching for meteorites, when we saw some big rocks in the distance. Thinking we had found some really big ones, we cruised over and were disgusted to find that the "rocks" were old, spent, aircraft JATO bottles. "JATO" stands for jet-assisted take-off. These apparently had been used by LC-130s taking off from Hard Times Camp, many years before. After they burn out they are jettisoned; these had sat around on the ice for years, waiting for us to find them, and be disgusted. It sure is getting hard to "go where no man has gone before," even in Antarctica!

Currently I have three graduate advisees, as follows:

Bob Witkowski, who is doing a Ph.D. thesis titled "The Cosmic Dust Increment to the South Pole Atmosphere,"

Ralph Harvey, who is doing an M.S. thesis titled, "Distribution Patterns of Antarctic Meteorites," and

Suzanne Traub, who is not yet doing a thesis, but is interested in geochemical concentration mechanisms at planetary surfaces.

My best regards to you all.

ALVIN COHEN

A paper entitled "In Throes of Death Stately Cairngorom Brings Forth Bachannalian Amethyst" was presented at the Eighth Friends of Minerology-Mineralogical Society of America - Tucson Gem and Mineral Society-Symposium on Quartz, February 15, 1987, at Tucson, Arizona.

Two graduate students are working on Ph.D. theses concerning defect structure in Topaz. John J. Duck completed his Master's thesis entitled "An Investigation of Factors controlling The Partitioning of Trace Germanium and Gallium between Topaz and Quartz."

GARY H. COOKE

It will come as no suprise to anyone that the Fulbright people were not interested in sending me to Iraq this year. But I did wind up in Peru with Jack Donahue as a consolation prize. The field work was a mix of geoarchaeology and coastal stratigraphy and we brought back plenty samples to keep me busy through the winter.

Much of my work in the last few months, and for the forseeable future, involves the interaction between the Geology and Anthropology departments with U-PARC Analytical Services group. They have a lot of nice equipment that the departments are slowly but surely gaining access to. Those who take Analytical Geochemistry (winter term) will have a lot of new toys to play with.

Once again, the Clarion River canoe trip was a big success and a good time was had by all. It looks like it may become a regular event. See you in the Spring!

MAURICE DEUL

The continued slow growth of industrial activity coupled with low prices for petroleum, a 20 percent excess productive capacity for the coal mining industry and a natural gas glut all contributed to a lack of interest in the geology of fuels and a decline in funds for research. It is uncertain when this situation will be reversed but there are no near-term prospects for a change in domestic mining activity.

A new course offering "ORGANIC GEOCHEMISTRY" had to be withdrawn last winter because of a lack of interest and a perception by some students that the course would be too rigorous. Professor Sharkey and I will try it again this Winter, 1988 term.

Coalbed gas is now recognized to be an important "unconventional geologic" source of supply. In November the U. of Alabama School of Mines and Energy Development, the Gas Research Institute and Mine Safety and Health Administration are sponsoring the 1987 Coalbed Methane Symposium. I served on the Symposium Organizing Committee and reviewed the papers, 40 of which will be presented. Most of the papers will deal with significant production for the Piceance, San Juan and Raton basins in New Mexico and Colorado and in the Alabama Black Warrior Basin. Much of the early development work on methane production for coalbeds was conducted in the Northern Appalachians but there is almost no activity in that area now so I convened a session at the October 12-13, 1987 Society of Mining Engineers regional meeting in Pittsburgh that addressed the problem of lack of interest in this area.

JACK DONAHUE

The 1986-87 interval has been a very busy time. I traveled to three different meetings. First, a GSA Penrose Conference on Archaeological Geology held on St. Simons Island, GA in December. Then in May, the Society for American Archaeology annual meeting in Toronto where I served as a discussant in a Symposium on geoarchaeology of the Andes and the Pacific coast in Peru. Finally in August, I attended the INQUA meeting in Ottawa, Canada where Paul Goldberg, from Hebrew University in Israel, and I had organized and chaired a session on the environmental setting of archaeological sites. I also was involved in two different stints of field work. In October, I spent a week doing field work at Danger Cave and other prehistoric sites in Utah. These are archaeological sites which are located along the shores of Lake Bonneville, the precursor of Great Salt Lake. In July, I spent several weeks in southern Peru working on a extensive marine terrace associated with the Ring Site, a 10,000 year BP shell midden.

I am presently teaching two new courses during the fall term. Stephen Kennedy and I are giving a special topics course on diagenesis where we are delving into the aspects of diagenesis in sandstones, limestones and shales. I am also teaching geomorphology which has not been given since Norm Flint retired. I only hope I will teach as fine a course as he did.

The journal Geoarchaeology continues to take a significant amount of my time. Volume 2 is now complete and I have just finished sending the material for the first number of Volume 3 to the publisher in New York.

My research is now largely in geoarchaeology with the heaviest commitment being to sites in the northeast United States, primarily Pennsylvania. We are just beginning a project where we will examine terrace distribution along with Monogahela and Youghgiogheny Rivers to see if we can predict where buried archaeological sites will be.

My best wishes to all of you for a good year.

BRUCE HAPKE

This past year the Cary-14 spectrophotometer was overhauled and modernized. This instrument is one of the work-horses of the department, and over the past 20 years has measured the spectra of an incredible number of materials, including Apollo lunar samples. Those of you who remember this instrument will recall that its electronics consisted of vacuum tubes and that it took about one-half hour to obtain a spectrum and several days to reduce it. All of the old electronics have been replaced with modern solid state devices and a computer has been added for on-line data processing. It still takes one-half hour to measure a spectrum, but it is reduced and plotted instantly!

This year saw the initiation of three major projects. For the past decade I have been developing the theory of light scattering by a planetary regolith for use in geological remote sensing. I am finally systematizing the theory and putting it all together in a book on reflectance spectroscopy to be published by Cambridge University Press. One of the major quantities in the theory that is poorly understood is light scattering by irregular particles. A graduate student, Audrey Williams, has begun a systematic study of this topic for her Ph.D. dissertation. Another graduate student, Deborah Domingue, is applying the light scattering theory to Voyager images to study the surface of Jupiter's satellite Europa.

CHIAO-MIN HSIEH

The summer of 1987 I was invited by three institutions in China which are located in quite different areas. First I lectured at the Institute of Quandong Nationalities at Canton for about a week. The Institute has about one thousand students with 400 facultys. It is a rather new institute with good spirit. They are training the local political leaders.

The National Commission of Education in Peking arranged a visit to the Yeuber University at Yenji of Jilin province which is a borderland between the USSR and North Korea. The majority of the inhabitants are of Korean descent. Historically the area was the native land of the non-Chinese Khutan and JurChen. In the 17th Century, the JurChen set up the state of Manchu and later conquered all of China, establishing the Ching Dynasty which lasted until 1911. During the Republic period, large scale migration from China proper took place. Under the Japanese puppet state of Manchukuo in the 1930's its railroads and power stations were developed. Since 1949, the population of the area has doubled, industries have expanded and agriculture has intensified. Nearby is the famous mountain called Changpai, which means "always white" with an elevation of 3,000 feet whose summit contains a crater lake known as Tien Chih or Lake of Heaven. The area has thick forest cover and is one of China's major forest areas. Lumbering and coal mining are the principal branches of the hill land economy.

The Yanbian University has a Department of Geography with 8 faculty with specilizations of Geomorphology, cartography and economic geography. Two subjects can be conducted well due to the local environment, one is to study the physical geography of Changbai Mountain and the other is to study the historical geography of the region. The University authority intends to invite me to take the leadership in raising the standard of educational excellence in earth science for the University.

The third invitation I received is from Normal University of Fujiang in the Southeastern part of China, where I lectured for a week and received a warm reception, especially from the Department of Geography.

After my lecture, the University sent me by car to visit Amoy for a one day journey. I took the opportunity to visit the well-known Amoy University which has established sister relationships with John Hopkins University and the University of Wisconsin. I tried to establish some support between our University and with that of Amoy.

ANDREW SHARKEY

My major research interest is still in the physical and chemical properties of coal and how these properties relate to coal combustion and the conversion of coal to liquid and gaseous fuels. For the past year I have been investigating the effect of surface oxidation on the physical properties of coal.

Activities related to mass spectrometry are continuing in both the Geology and Planetary Science Department and Chemistry. I am on the program committee for the Pittsburgh conference on Analytical Chemistry and Applied Spectroscopy. Last year this conference attracted over 30,000 attendees.

I am also serving on the Advisory Board and am co-program chairman of the Pittsburgh Coal Conference sponsored by the Chemical Engineering Department.

STEPHEN KENNEDY

A lot of my research involves laboratory analysis using computerized techniques. However, I look forward every year to my field work, recently on St. Catherines Island, GA. This past summer Bud Rollins and I spent a month on the island, collecting various samples, etc. The paper with Ron Pinkoski concerning source of sediment in an ebb tidal delta on St. Catherines Island came out in the Journal of Coastal Research. With additional data from Eric Smith we presented a paper at the Pittsburgh sectional GSA meeting concerning the origin of the sand comprising the central core of the island. Present work is expanding the data base for these two problems and also addressing the problem of grain orientation. I spent several days dripping blue dyed epoxy on beach, washover and dune sand. These samples will be analyzed for grain and magnetic orientation.

In the past year several students and I have submitted manuscripts using fractal analysis as a shape descriptor. Recep Akgunduz and I submitted a manuscript to Sedimentology describing "A two-element fractal analysis of sand grains." Wei-Hsiung Lin finished his thesis on multifractal techniques. We presented this at the Pittsburgh sectional GSA and the ABIA meeting. This has been submitted for publication in the Journal of Sedimentary Petrology. For comic relief, Wei-Hsiung and I also submitted a manuscript to Geoarchaeology presenting preliminary results of the fractal analysis of projectile points. To wrap up the fractile fairy tales for the year, Tony Barnosky and I are working on a project involving the analysis of the shape of mammal teeth.

In addition to his fractal paper, Recep is finishing his thesis on the effects of shape sorting by waves outside the zone of breaking waves. He has helped complete the work for a tool to determine from sedimentary deposits if transport was by suspension or traction. It seems that shape sorting occurs with suspended transport, but not traction. Bob Botterman is hoping to show the use of quartz shape analysis to monitor the extent of quartz overgrowths in cemented sedimentary rocks. Fehmi Arikan is working away on his project concerning quartz overgrowths as a possible source of silt size sediment.

As far as the future goes, I have submitted proposals for several projects including "Continuous holocene climate history as determined by rates and sources of lacustrine sedimentation in Taylor Valley, Antarctica" with Tom Davis (U. Mass.), "The role of competitive interaction: Critical evaluation using the fossil record" with Bud Rollins, and "The fractal geometry of pores for reservoir evaluation." I don't know if these will be funded and am reminded of a quote from Gauss - "Prediction is difficult, especially the future."

There are some new things in courses also. I am getting my feet wet this term teaching Geology 83 - Oceanography. I dove right in at the beginning but have been spending a lot of time treading water. The enrollment this term is 269. Jack Donahue and I are also teaching a new course this term in Topics 301 on diagenesis.

I started this entry talking about computers and would like to note that Vic Schmidt has returned from sabbatical leave during which he wrote six very nice computer programs. I wonder, though, if the root of sabbatical is from the Latin sabbat "a midnight assembly of diabolists to renew allegiance to the devil through mystic rites and orgies." When can I apply for sabbatical?

EDWARD G. LIDIAK

This year marks my return to full time teaching and research now that my tenure as chairman is over. Ever since July 1, when I stepped down as chairman, coming to work has been sheer joy--nothing to worry about but my own projects. Furthermore, beginning January 1, I shall be on sabbatical leave for six months.

I continue to be involved in DOSECC (Deep Observation and Sampling of the Earth's Continental Crust). The goal of this program is to drill a series of very deep holes into the continental crust of the United States for scientific purposes. Similar programs are already underway in the USSR and in West Germany. The program offers unique opportunities to study rocks and geological processes that are not otherwise accessible.

My research activities have been largely concentrated on aspects of Precambrian rocks and on granite petrology. My students have been working in the Arbuckles of Oklahoma and in the Blue Ridge/Piedmont of the Appalachians. This past year two students received their graduate degrees under my supervision. Papu Maniar completed the Ph.D. and is now a post-doc at Princeton, and Phil Piccoli completed an M.S. and is now in the Ph.D. program at Maryland. I have been working on two manuscripts for Decade of North American Geology. One is now completed and the other is nearing completion. Then on to new projects. I hope all of you are doing well.

VICTOR SCHMIDT

During this past year I took my first sabbatical, and found it a delightful and invigorating experience. It had little to do with paleomagnetism, but instead was involved in the production of six educational computer programs for the Macintosh to accompany the Planet Earth telecourse. The programs deal with radioisotope dating, the Coriolis effect, the concept of numerical models, locating earthquake epicenters, paleomagnetism, and sea-floor spreading. They will be distributed nationally by Kinko's Courseware Exchange early in 1988 and will be priced at around $5 per program.

I chose to spend the sabbatical at Dartmouth College in Hanover, New Hampshire, with Noye Johnson and Chuck Drake as my sponsors. My family really enjoyed our sojourn in Hanover, and I'm pleased to report that the winters there are spectacularly beautiful, very cold, and provide for delightful skiing!

This term I'm concentrating on getting out a couple of major papers on my work in cave sediments and on setting the stage for future work in rock magnetism. To this end we are forging ties with Bill Soffa in Materials Science, who has a well-equipped lab for the purpose. In cooperation with Soffa, we now have available to us a new Princeton Applied Research vibrating-sample magnetometer with hot and cold stages that permit hysteresis measurements to be made from liquid-nitrogen to 900°C.

WALTER PILANT

My beloved COMPAQ bit the dust just about a year ago. I was without a computer for a whole two months. My friends and colleagues were accusing me of going through "withdrawal" symptoms. It was tough, let me tell you. However, I found an 8mhz "clone" to replace it and now I whip along twice as fast. I'm drooling over the new 386 models and ... someday ... I'll have flames painted on the sides of the computer.

On a more serious note, Janet Kotcher finished her M.S. thesis:

The Phase of a Seismic Wavelet and Its Relationship to Least-Squares Filtering Errors

As you can almost tell from the title, this one needed many hundreds of units on the DEC-10 and VAXes.

For those of you who think "number crunching" is just a theoretical exercise, John Panian has put together Hilbert transforms, fast Fourier transforms, and sophisticated plotting packages to get:

A Possible Explanation for Foreland Thrust Propagation

This is the subject of his thesis, and John will be giving his results at the national GSA this Fall in Phoenix. [For those of you who remember the DEC-10, for better or for worse, it has been downsized over the last 18 months or so and will be phased out (they say) in December '87.]

Back at the personal computer, I have made significant improvements in the two packages for interactively (on IBM compatible micros) working with data obtained from structural geology. They were exhibited at the SE GSA meeting in Pittsburgh and at the SE GSA meeting in Norfolk. A lot of people were interested and picked up diskettes containing both programs. I have submitted the StereoNet program to Computers and Geology and hope to submit the DownPlunge projection program later this year. However, at the meetings there was much less interest in this second package. It looks like there will have to be some education in "downplunge projection" first before there will be an increase in interest.

HAROLD B. ROLLINS

During the past year I have continued my work on a number of projects reported in the last newsletter. The research on El Niño, for example, has broadened into a large-scale cooperative effort, involving Dr. Thomas DeVries of Oregon State University as well as Uwe Brand (Brock University), Daniel Sandweiss (Cornell University) and my wife, Judith. We hope to obtain funding for a research project that will trace the history of major El Niño events along coastal South America.

In August, Stephen Kennedy, Judith and I were joined on St. Catherines Island, Georgia, by Richard Busch (A Pitt PhD) and Ron West, both of Kansas State University. We continued our work on relict marsh sediments and were able to complete detailed stratigraphic and paleoecological analyses of a palimpsest surface quite similar to some in the Carboniferous of the Midcontinent and the Appalachian Basin. Our work on the Island was supported by the E. J. Noble Foundation, administered through the American Museum of Natural History.

In March I delivered a paper at the Society of American Archaeologists meeting in Toronto, reporting on the results of our research on growth increment and stable isotope analyses of bivalves affected by the 1982-83 El Niño. These results were published in the summer issue of the journal Geoarchaeology. Dan Sandweiss, Judith and I also have a review article in press (DNAG volume) dealing with the use of mollusks in coastal archaeology. Dave Brezinski (another Pitt PhD) and I also have a paper in press (the journal Lethaia) documenting an antagonistic relationship between platyceratid gastropods and crinoids from the Mississippian of Chestnut Ridge, Pennsylvania. We also presented our results at an invited symposium on predator-prey relationships in the fossil record (Northeast G.S.A. mtg.). Richard Jones (currently finishing his PhD in geology at Pitt), Barry Cameron, and I also presented a paper at the Northeast G.S.A. meeting, detailing some of the results of Richard's work on Plum Island, Mass.

I have several graduate students who are working on a wide variety of geological problems: Brian Sherrod (diatoms from some Mass. cores), Cynthia Venn (forams and ostracodes from St. Catherines Is.), Wendy Brindle (fusulinids in the Applachian Basin), Yu Jianxin (recognition criteria for 6th-order transgressive/regressive events in the Upper Pennsylvanian Ames Limestone), Richard Jones (mentioned above), William Wood (Devonian palynology), Debbie Weible (Mississippian foraminifera), and David Linsley (Devonian stratigraphy).

Bikerman, M., 1987. Observations on the Geochemistry of the Mogollon-Datil Volcanics: Geol. Soc. America Abs. w. Prog., 19(7), 588.

Bikerman, M., 1987, Review of Mysen, B.E. (Ed) Magmatic Processes: Physiochemical Principles: The Geochemical Society: in Geophysics 52 (10) p. 1449

Bikerman, M., 1987, K-Ar Dating in the La Ronge Domain - sampling: in Summary of Investigations 1987, Saskatchewan Geological Survey; Sasketchewan Energy and Mines, Misc. Rept. 87-4.

Lipschutz, M. E. and W. A. Cassidy (1986) "Antarctic Meteorites: A Progress Report," EOS 67, 1339-1341.

Cohen, A. J., 1987. In Throes of Death Stately Cairngorm Brings Forth Bacchannalian Amethyst. Eighth Friends of Mineralogy-Mineralogical Society of America - Tucson Gem and Mineral Society-Symposium on Quartz. Feb. 15, 1987, 10 Page abstract.

Buis, P., Cooke, G.A., and Bikerman, M., 1987, The Dispersion of Ore Elements into the Surrounding Country Rock of the Sterling Hill Mine, Ogdensburg, New Jersey, in the Proceedings of the 1987 Conference of North American Tectonics.

Cooke, Gary A., 1987, Reconstruction of the Holocene Coastline of Mesopotamia, Geoarchaeology, V2, #1, pp. 15-28.

Maniar, P. and Cooke, G.A., 1987, A Method for Quantitative XRD Modal Analysis Aplicable to Felsic Igneous Rocks. American Mineralogist, vol. 72, pp.433-437.

Adovasio, J.M., Shaunessy, K.J., Johnson, W.C., Donahue, J., Bouldurian, A.T., Athens, W.P., Dirkmaat, D., Carlisle, R.C., and Pedler, D.R., 1987, Archaeology at the Howarth/Nelson Site (36FA40) Fayette County, Pennsylvania. 58th Annual Meeting, Society for Pennsylvania Archaeology, Greensburg, PA.

Donahue, J. and Adovasio, J. M., 1987, Sandstone Rockshelter Development in Eastern North America: Application to Archaeological Sites. 12th International Congress, International Union for Quaternary Research, Ottawa, Canada.

J. Wagner, B. Hapke and E. Wells, 1987. Atlas of Reflectance Spectra of Terrestrial, Lunar and Meteoritic Powders and Frosts from 92 to 1800 nm. Icarus, 69, 14-28.

Hsich, C. M., 1986, "In Memory of the Great Geographer Xu Zia-ke" Symposium on Xu Zia-ke, the Ancient Geographer of China --- To his Birth Quadru-Century, Nanjiang, China.

Kennedy, S. K. and Lin, W. H., 1987, Analysis of Pore Space Using Fractal Geometry: Appalachian Basin Industrial Associates Meeting.

Kennedy, S. K. and Pinkoski, R., 1987, Source of Tidal Creek Sand on a Tide Dominated Barrier Island, St. Catherines Island, Georgia-Fourier Shape Analysis: Jour. Coastal Res., vol. 3, no. 4, p. 475-483.

Kennedy, S. K., Smith, E. A., and Pinkoski, R., 1987, Some Aspects of the History of St. Catherines Island, Georgia: Northeastern Sect. Geol. Soc. Amer., Abs. with Prog., v. 19, no. 1, p. 23.

Lin, W.-H and Kennedy, S. K., 1987, Development of Multifractal Analytic Procedures for Quantification of Shape: Northeastern Sect. Geol. Soc. Amer., Abs. with Prog., v. 19, no. 1, p. 26.

Kennedy, S. K. and Lin, W.-H., 1986. FRACT-a FORTRAN Subroutine to Calculate the Variables Necessary to Determine the Fractal Dimension of Closed Forms: Comput. and Geosci., v. 12, p. 705-712.

Ehrlich, R., Kennedy, S. K. and Brotherhood, C.D., 1987, Respective Roles of Fourier and SEM Techniques in Analyzing Sedimentary Quartz: in : clastic Particles - Scanning Electron Microscopy and Shape Analysis of Sedimentary and Volcanic Clasts, J.R. Marshall (Ed.) Van Nostrand Reinhold Co., New York, p. 292-301

Kennedy, S. K. and Lin, W.-H., 1987, Analysis of Pore Space Using Fractal Geometry: Proc. Appalachian Basin Industrial Associates, Spring Meeting, V. 12, p. 239-257.

Kennedy, S. K. and Pinkoski, R., 1987, Source of Tidal Creek Sand on a Tide Dominated Barrier Island, St. Catherines Island, Georgia-Fourier Shape Analysis: Jour. Coastal Res., vol. 3, no. 4, p.475-483.

Benacquista, F., Lidiak, E. G., and Pilant, W. L., (1986), "Metamorphic and Rock Magnetism of the Lower Chilhowee Group, Potomac Water Gap, Northern Blue Ridge," Abstract; GSA, North-Central Section, 20th Annual Meeting, April 24-25, p. 279.

Piant, W. L., and Benacquista, F., (1986) "Atypical 'Type' Sections in the Northern Blue Ridge Anticlinorium. Abstract; GSA, North-Central Section, 20th Annual Meeting, April 24-25, p. 319.

Pilant, W. L., (1987) "PC-interactive Stereo Net Plotting." Abstract; GSA, Northeastern Section, 22nd annual meeting, March 4-7, p.52.

Pilant, W. L., (1987), "PC-interactive Downplunge Projection Plotting." Abstract; GSA, Southeastern Section, 36th annual meeting, March 25-27, p. 123.

Fierstien, J., and H. B. Rollins, 1987. Observations on Intertidal Organism Associations of St. Catherines Island, Georgia. II. Morphology and Distribution of Littorina irrorata (Say). American Museum Novitates, No. 2873: 1-31.

Busch, R. M., R. R. West, and H. B. Rollins, 1987. Comment and Reply on "Sea-level Curve for Pennsylvanian Eustatic Marine Transgressive-Regressive Depositional Cycles Along Midcontinent Outcrop Belt, North America". Geology 15: 276-278.

Rollins, H. B., D. H. Sandweiss, U. Brand, and J. C. Rollins, 1987. Growth Increment and Stable Isotope Analysis of Marine Bivalves: Implications for the Geoarchaeological Record of El Niño. Geoarchaeology 2 (3): 181- 197.

Rollins, H. B., D. H. Sandweiss, and J. C. Rollins, 1986. Documentation of Large-magnitude El Niño Events Using Mollusks from Coastal Archaeological Sites. American Geophysical Union, Chapman Conf. on El Nino, Guayaquil, Ecuador, Oct. 27-31, published abstract, p. 29.

Rollins, H. B., D. H. Sandweiss, J. C. Rollins, and U. Brand. 1987. Recognition of Large Magnitude El Niño Events Using Andean Coastal Shell Middens. Contributed abst., Symposium on Geoarchaeology of the Andean coast: Recent advances, Soc. Amer. Archaeology, Mtg., Toronto, Canada, May 6-10, p.115.

Sandweiss, D. H., H. B. Rollins, and J. B. Richardson III. 1987. Geoarchaeology of the Santa-Chao Region, Northern Peru: Alterations in Landscape, Climate, and Human Occupation. Contributed abst., Symposium on Geoarchaeology of the Andean coast: Recent advances, Soc. Amer. Archaeology, Mtg., Toronto, Canada, May 6-10, p. 116.

Rollins, H. B. and D. K. Brezinski, 1987. Reinterpretation of Crinoid-platyceratid Interaction: New evidence from the Chesterian of Southwestern Pennsylvania. Geol. Soc. America, Northeast Sectional Mtg., Pittsburgh, Pa., March, 1987, abst., p. 54.

Jones, J. R., H. B. Rollins and B. W. Cameron, 1987. A Chronostratigraphic Framework for the Pollen and Core Stratigraphy at Plum Island, Massachusetts. Geol. Soc. America, Northeast Sectional Mtg., Pittsburgh, Pa., March, abst., p. 22.

University of Pittsburgh Faculty and students underlined

ALUMNI NEWS

ROBERT J. BODNAR - (B.S., 1975)

Robert is currently affiliated with Virginia Tech as Assistant Professor of Geology. In 1986 he received Society of Economic Geologists Lindgren Award; named Presidential Young Investigator Awardee in January of 1987.

ROBERT CARMICHAEL - (Ph.D., 1967)

Robert is Professor of geophysics in Geology at the University of Iowa. He served as geologist on the Pitt-administered Semester-at-Sea ship cruise in the Spring of 1983. He is the editor of the recent 3-volume set "Physical Properties of Rocks" (CRC Press), will help run (collaboratively, with University of Iceland) a new Fulbright-sponsored Summer Geology program in Iceland in 1987, and still wears a Pitt tie.

JOANNE DANIELSON - (B.S., 1979)

Joanne is presently employed with Shasta College in Redding, CA with the title of Instructor in Geology, Chemistry, Physical Science and Earth Science. She is also doing consulting work with USGS on gold deposits of Klamath Mountains; still operating dairy goat ranch and raising pack donkeys with her daughters Dana and Julie.

NANCY T. DUERRING - (M.S., 1984)

Nancy and Burton live in Evans City, Pa. where Nancy is employed by Baker/TSA Inc., in Coraopolis, PA., as a Geochemist working in environmental geology/ geochemistry/ hydrology.

JOHN R. EBRIGHT - (M.S., 1948)

The Ebright's have three daughters and reside in the Bradford Woods area. John retired from CNG Development Company in January of 1986 where he was the Manager of Farmout Development writing proposals of company oil and gas leases. He is contemplating a move to the western suburb of Cleveland, Ohio within the next 12 months.

PAUL ETZLER - (M. S., 1981)

Paul is a Geologist with the Geospector Corporation as a Geologist with duties in remote sensing-image processing analysis. Petroleum exploration, Michigan Basin, MGA, still doing a little research in planetology. Paul sends information on Barry Rava who is located in LaFayete, La. and recently "tied the knot".

STU HIRSCH - (B.S., 1972)

Stu and Pamela along with their children Jacob, Amanda and Jessica, live in Houston, Texas where he is affiliated with Standard Oil Production Company. Stu's position is Project Leader-flexure trend project, offshore Gulf of Mexico. He coordinates regional geological investigations of the offshore deep water flexure trend in preparation for developing prospects for purchase in future OCS lease sales. Prior to this position he served as district geologist (offshore) and as a staff geologist to the executive vice president of exploration with Standard.

Stu sends us information that Daniel F. Balsinger works for Standard Oil as Chief Geologist in Houston at the headquarters office located in Houston, Texas also.

KEN ICHIKAWA -
Ken earned his Master's degree from the University of New Orleans and is presently residing in the New Orleans area working for Chevron.

TERESA KAKTINS - (B.S., 1978)
Teresa and her husband Uldis live in Johnstown, PA with their daughters Mara and Kaija. She is the owner of Barron Hill Consultants and informs us that she received her M.S. from Penn State University in May of 1986.

JAMES E. LACEY - (M. S., 1960)
James and Elsa and their children Michael and David live in the Houston Texas area where James is employed by Texaco as a Senior Research Associate. He writes that his duties are in a supervisory capacity developing computer-oriented petroleum exploration techniques.

STEPHEN D. MASTOVICH - (B. S., 1978)
Stephen and his wife Susan are in Louisville, Colorado where he is presently employed with Diamond Shamrock Exploration Company as a Geologist. His duties are exploring for and developing oil and gas reserves in the Powder River Basin in Wyoming.

HENRY L. POLLAK - (Ph.D., 1972)
A Research Scientist at the University of California, Santa Barbara, Mathematics Department is where Henry is presently employed. He does investigations into the fundamental theory and structures of nonlinear, irreversible processes. He reports that he is sorry, but does not have either a spouse or children. He has news of Stan Cisowski's marriage to Elvie, who is Filipina. It is now a mixed Polish-Filipino outfit. Elvie is making Pirozhki and Stan is swearing in Tagalog and by the time this newsletter reaches everyone, there will be a little Pollak.

FREDERICK J. RINGEL, JR. - (B. S., 1979)
Fred is presently living in the Washington, PA area working for Mayview State Hospital. He is a Residential Services Aide working with retarded adults. He recently graduated from C.C.A.C. Center-North Campus with high honors in Nondestructive Testing and is still looking for a better job.

J. F. SARG - (B.S., M.S., 1971)
Rick works for Exxon Production Research Company as a Supervisor of the Carbonate Facies Section supervising 13 professionals and 2 technicians. He participates in research program on carbonate stratigraphy, facies, and diagenesis.

JEFF STRAUSSER - (B.S., 1976)

Jeff and Beth have two children, Katherine and Matthew. He is employed by Enron Corporation as General Manager of Fuel Operations. Jeff was selected to be in Who's Who in the South and Southwest (1986-1987). He has written several papers on energy consumption and production in the United States. He received his Master of Business Administration from the University of St. Thomas, Houston, Texas, in 1985.

W. N. TINDELL - (B.S., 1948, M.S., 1950)

Bill is a Petroleum Geologist primarily involved in oil and gas investments. He is involved in the exploration for and production of crude oil and natural gas in West Central Texas for 37 years. During the past 10 years he drilled or caused to be drilled 207 wells in West Central Texas, Oklahoma and Australia. Of these 136 wells are still producing. He was honored as "Oilman of the Year" in 1983 by the West Central Texas Oil and Gas Association, was honored with the "Petroleum Industry Award" by the Abilene Chamber of Commerce in 1984, and was listed in "Who's Who in the South and Southwest 1986-1987." Chairman of the board and chief executive officer of Westico Energy Company.

THOMAS H. WATSON - (Ph.D., 1970)

He and his family are settled in Mandeville, LA. He has made the transition from Gulf/Chevron in the New Orleans area. Said it was great getting the Alumni bulletin.

GEOLOGY AND PLANETARY SCIENCE STUDENTS

FULL TIME GRADUATE STUDENTS

ADAMS, MIKE
AKGUNDUZ, RECEP
AL-KHUNAIZI, ADIB
ARIKAN, FEHMI
BLEWETT, DAVID
BOTTERMAN, ROBERT
BRINDLE, WENDY
BUIS, PATRICIA
CAMPBELL, PATRICIA
CIL, SERHAT
DOMINGUE, DEBORAH
EVANS, MARK
FREY, ALLISON
GREENIDGE, DARIUS
HARVEY, RALPH
JONES, J. RICHARD
KITZ, MARY BETH
LABAR, WAYNE
LASOTA, KENNETH
LINSLEY, DAVID
PACHARIYANGKLIN, A.
PANIAN, JOHN
REDLINE, ANDREW
RILEY, KEVIN
SHERROD, BRIAN
STORRICK, GARY
THAYER, CYNTHIA
TRAUB, SUZANNE
VENN, CYNTHIA
WASHKO, MARY
WILLIAMS, AUDRY
WOOD, WILLIAM
YU, JIANXIN
YUAN, DING-WEN

PART TIME GRADUATE STUDENTS

BENACQUISTA, FRANK
DUCK, JOHN
EDSALL, ROBERT W.
FEATHER, RALPH
FLAHERTY, THOMAS III
GHOWERI, SUSAN
GRAHAM, FRANCES
GRAHAM, ROBERT
HARTLEY, MICHAEL
HENRICI, AMY
HUANG, GHUANG
MCNAUGHTON, DEBORAH
MOLINDA, TIMOTHY
MURIN, TIMOTHY
ORIENT, JEFFREY
PERRY, DAVID
PROSSER, JAMES
SANTUCCI,VINCENT
SCHATZEL, STEVE
SELFRIDGE,ROBERT
SOUZA, RICHARD
WEIBLE,DEBORA
WETZLER, JEFF
WITKOWSKI,ROBERT
ZEI, ROBERT

UNDERGRADUATE STUDENTS

ALSHENO ALKHALDI, IBRAHIM
BAILEY, PATRICIA
BATCHELER, DOREEN
CONNORS, CHRISTOPHER
CRUMLEY, STEPHEN
DEGROSKY, KEVIN
DIETZ, DAVID
DONAHOE, BARBARA
DORNEY, LINDA
DRAPER, ERIC
GERBER, DEAN
PASCHL, KURT
HACKENBERG, JILL
HOFFSOMMER, CAROL
HUNZEKER, GEORGE
KILBERT, REBECCA
KOPAR, MICHAEL
LINN, JEFFREY
MAHONEY, DAVID
MARK, MARIANN
NEDZA, JOHN
OWSIANY, JOHN
PASTRICK, ALISON
RICKUS, EDWARD
SEVCIK, ROBERT
SHINKO, JOSEPH
SHOUN, DAVID
SIRC, WILLIAM
SMITH, ERIC
SUMROK, JOHN
TIPTON, CURTIS
VOGEL, LYNN
VOGTA, SETON

1986-87 B.S. DEGREES AWARDED FOR UNDERGRADUATE GEOLOGY MAJORS

Todd Douglas Fickel
George Reber Hunzeker, III
Mariann C. Mark
Gregg Christopher Midon
William G. Murphy
Robert Charles Sevick
Daniel L. Swayne

DEGREES AWARDED FOR 1986-1987

MASTER OF SCIENCE

CHEPEGA, JOSEPH - Reconnaisance Geology of Tuape, North-Central Sonora, Mexico.
Thesis Advisor: Thomas H. Anderson
Graduated April, 1987

DUCK, JOHN J. - An Investigation of Factors Controlling the Partitioning of Trace Germanium and Gallium Between Topaz and Quartz
Thesis Advisor: Alvin Cohen
Graduated December, 1986

KOTCHER, JANET - The Phase Shift Wavelet and its Relationships Least Squares Filtering Errors.
Thesis Advisor: Walter Pilant
Graduated December, 1986

KUNTZ, TIMOTHY - The Geology of the Vanport Limestone, (Pennsylvania) In Elk County Pennsylvania
Thesis Advisor: Harold Rollins
Graduated April, 1987

LIN, WEI-HSIUNG - Development of a Multi-fractal Analytic Procedure for the Quantification of Shape and Comparison to Fourier Analysis.
Thesis Advisor: Stephen Kennedy
Graduated April, 1987

MAALA, MOHAMED - Evaluation of Reflection and Transmission Coefficients at a Two-Dimensional Viscoelastic Fluid-Fluid Interface as a Function Angle of Incidence.
Thesis Advisor: Ellis Strick
Graduated April, 1987

MUSTAFA, FADL - Plane Wave Excitation of Rayleigh Waves in Both Elastic and Becker Viscoelastic Half Space
Thesis Advisor: Ellis Strick
Graduated April, 1987

CARON O'NEIL - Characterization of Northwesterly-Trending Lineaments French Creek, Northwestern Pennsylvania
Thesis Advisor: Thomas Anderson
Graduated December, 1986

PHILIP PICCOLI - Petrology and Geochemistry of the Old Granite on Old Rag Mountain
Thesis Advisor: Edward Lidiak
Graduated January, 1986

DEGREES AWARDED FOR 1986-1987

DOCTORATE

ADAMS, WILLIAM – Landsliding in Allegheny County - Characteristics, Courses and Cures
Thesis Advisor: Norman Flint
Graduated December, 1986

MANIAR, PAPU – Contributions to Petrology of Granites: (1) Modal Analysis by Quantitative X-Ray Diffraction (2) Tectonic Discrimination of Granitoids (3) Thermodynamic Activity of Oxides in Granitoids and (4) Petrology of the Proterozoic Granitoids of the Arbuckle Mountains, Oklahoma.
Thesis Advisor: Edward Lidiak
Graduated April, 1987

GSO NEWS

The Graduate Student Organization (GSO) is the governing body for graduate students in the Faculty of Arts and Sciences (FAS). Each department sends its elected representative to the monthly GSO meeting. A meeting is also held monthly within each department. David T. Blewett is the representative for Geology and Planetary Science, and Ralph Harvey of G&PS served as co-president of the overall FAS-GSO. GSO representatives work with and sit on other members University committees to insure that the voice of graduate students is heard regarding matters affecting them.

Issues of recent concern to the FAS-GSO include tax problems for students with teaching and research assistantships because of the new tax laws, and some dissatisfaction with University libraries. Within our Department, GSO was active in organizing the annual departmental picnic. GSO has also been co-operating with the Geology Club and Sigma Gamma Epsilon to discuss matters such as field trips and the use of funds from the coffee machine. The GSO is also considering making small travel grants from GSO funds available to students presenting papers at national or regional meetings.

****

GEOLOGY CLUB

This year begins the third year of Geology Club activities and once again we find ourselves anxiously awaiting final approval of our budget.

Planned activities include a four day field trip to Wallops Island, Virginia for purposes of Marine geology field experience, a trip to North Eastern Ohio to study glacial deposits, various guest lectures and numerous fund-raising projects.

We've recently celebrated the "Earth's Birthday" with an open house of laboratories and demonstrations given by faculty members and graduate students. This was followed by a Career Day Seminar and two student presentations, then we concluded with a party which was complete with birthday cakes and lots of other goodies.

We're all looking forward to another year's worth of fun-filled learning experiences and fully intend to rock on!!

SIGMA GAMMA EPSILON

Beta Chapter's been busy this past year and we hope to make this coming year better than ever.

1990 will mark the 75th anniversary of both Beta chapter and SGE itself. In celebration, we are writing a special anniversary issue of "The Compass". It's still in the early stages and all contributions are most welcome.

Fundraising, as always, is in mind and two projects are already underway. We are selling rock and mineral kits to students in the 80s classes and orders are being taken for "Geomorphological Field Manual." We are also planning to sell field notebooks, hand lenses, and other field equipment.

SGE and Geology Club are joining forces this year in organizing field trips and other activities. Among the activities planned:

A post-seminar party as part of a day long, department wide celebration of the Earth's Birthday (Thank you, Bishop Usher) in October.

A fall field trip to Northeastern Ohio, to learn more about glacial geology.

A spring field trip in conjunction with Edinboro and/or Slippery Rock to Wallops Island, Virginia.

And of course, SGE is already planning the third annual department awards banquet (Geoprom!) for March or April. Last year's banquet at the Harley Hotel was a great success (despite the sudden blizzard) and much fun. Dr. Lidiak honored us with a speech concerning his earliest experiences in Geology, after which Dr. Kennedy entertained all gathered with an uproarious slide show. Dave Cercone and Eric Smith tied for last year's W. H. Tarr Award. Please try to reserve a space in your calendar to attend Geoprom III. You should receive your invitation by mid-January.

Lastly, sincere thanks are given to last year's fine leadership. The new officers for 1987-1988 are:

President:	Suzanne Traub
Vice President:	Eric Draper
Secretary:	Patti Bailey
Treasurer:	Becky Kilbert
Historian:	Wayne LaBar
Faculty Advisor:	Stephen Kennedy

****

DEPARTMENTAL NEWS

****

CHRISTMAS PARTY

The Annual Geology and Planetary Science Departmental Christmas Party was held Thursday, December 10, 1987 from 7:00 until 11 p.m. at the Pilant's party room. We continued the tradition of asking people to bring a food dish, be it an appetizer, main dish, dessert or anything in between. It was an opportunity for everyone to make that special dish and impress everyone with your culinary expertise. Refreshments were be provided - alcoholic and non-alcoholic.

If you are interested in attending next year's Christmas Party we welcome you. All you need to do is call the office at 412-624-8780 sometime in mid-November and let us know you plan to attend.

We hope to hear from you!

DEPARTMENTAL PICNIC

The Geology Department's Annual Fall Picnic was held on Friday, September 18, 1987 at the Vietnam Veteran's Pavilion in Schenley Park. One of the picnic's purposes is to allow new graduate students to get to meet faculty and graduate students in a relaxed setting. This year we welcomed two new students: David Linsley and Kevin Riley.

Our luck finally ran out after a few picnics where the weather was nice so we spent the day in warm weather but with on and off rain showers.

Softball, football or even soccer were not suitable for this type of weather, but we perservered and decided that mud volleyball was well suited for the weather. A small contingency played volleyball while the rest of the party stayed inside the shelter.

Everyone brought their own baskets of goodies and the Geology Club kindly provided liquid refreshments.

It was an enjoyable day in spite of the rain and next year we should be guaranteed a nice sunny day. So, if you're interested in attending the picnic next year, give us a call the first week of September and we'll give you the information.

DEPARTMENTAL BANQUET

The second annual departmental banquet was held April 3, 1987 at the Harley Hotel in Monroeville, PA. The banquet, affectionately named "Geo-Prom" was nicely organized by Cindy Venn and Bill Wood was a splendid evening. After a wonderful meal, Dr. Lidiak gave a speech about how geology was perceived when he was a graduate student. He also showed some slides with the last one looking interestingly like a naked, native girl or was it a nicely shaped island? It was hard to tell since he showed that slide very quickly.

After Dr. Lidiak's speech, Sigma Gamma Epsilon presented the Tarr Award two students: Dave Cercone and Todd Fickel. The Tarr Award is awarded to outstanding undergraduate seniors and they are chosen on a number of criteria - grade point average, activities and leadership abilities.

Dr. Cohen presented an award to Mariann Mark, an undergraduate senior, from the American Mineralogical Society for her outstanding work in mineralogy courses.

After all the awards presentations were through, the fun began with the slide presentation. Once again, Dr. Stephen Kennedy narrated the slides and few people escaped a witty ribbing. After the slide show, people headed off for home even though there was a freak blizzard but it only seemed to add to the fun of the evening. Everyone's looking forward to the third annual Geo-Prom. Thanks again to Cindy and Bill for planning such a wonderful party.

****

Seminars Fall 1987

****

DATE		SPEAKER	TOPIC
3 Sept.	Thurs.	M. Bikerman	Introduction
10 Sept.	Thurs.	H. Rollins Univ. Pittsburgh	El Niño effects along Permian coast
17 Sept.	Thurs	Uwe Brand Brock Univ., Ontario	Stable Isotope geochemistry
24 Sept.	Thurs.	Vic Schmidt Univ. Pittsburgh	Personal computer geological applications
1 Oct.	Thurs.	John Miller Columbia Univ.	Paleozoic paleomagnetism in the Appalachians
8 Oct.	Thurs.	Scott Sandford NASA	Interstellar Hydrocarbons
15 Oct.	Thurs.	John Panian - Mike Adams Univ. Pittsburgh	Theses Presentations
22 Oct.	Thurs.	R.P. Briggs Geomega, Inc.	Engineering geology and geologic hazards
29 Oct.	Thurs.	No Meeting	GSA - Phoenix
5 Nov.	Thurs.	Lisa Tauxe Scripps Institute	Paleomagnetism
6 Nov.	Fri.	H. Staudigel Scripps Institute	Igneous geochemistry
9 Nov.	Mon.	Hugh Mills Tenn. Tech.	Geomorphology and Magnetostratigraphy
12 Nov.	Thurs.	Luis Vallejo U. Pittsburgh, Engineering	Ductile - brittle transitions in clay
13 Nov.	Fri.	Bob Bodnar V.P.I.	Geochemistry of fluid inclusions
19 Nov.	Thurs.	Ralph Harvey Univ. Pittsburgh	Thesis Presentation
24 Nov.	Tues.	W. Johns Univ. Missouri	Organic geochemistry
26 Nov.		Thanksgiving	
3 Dec.	Thurs.	Association of Women Geologists J. Hess Univ. Rhode Island	Role of Congressional fellow
10 Dec.	Thurs.	S. Kennedy Univ Pittsburgh	Fractal I

****

HENRY LEIGHTON MEMORIAL SCHOLARSHIP FUND

Professor Henry Leighton (1884-1963) was a faculty member in the Department of Geology at the University of Pittsburgh from 1910 until his retirement in 1949. He served as Acting Chairman of the Department from 1928 to 1930 and as Chairman from 1931 to 1945. He obtained an A. B. degree from Cornell in 1906, and was an instructor at Cornell from 1906 to 1908 and an Assistant Economic Geologist with the New York State Museum from 1907 to 1910. He made numerous professional contributions to the Geology of Pennsylvania in Carboniferous stratigraphy, economic geology, geology of clays, history of the clay-working industry, and the geology of gypsum deposits. He was a Fellow of the Geological Society of America, and a member of the American Association for the Advancement of Science, Sigma Hi, the Pennsylvania Academy of Sciences, and the Society of Economic Geologists, of which he was a charter member.

The scholarship is being established in response to a contribution from Professor Leighton's daughter, Helen Leighton Canon. Mrs. Canon requests that a permanent graduate scholarship fund be established and that the scholarship be awarded on the basis of merit and need.

****