Alumni Newsletter
2000-2001

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Thanks to Todd Bowers, Dolly Chavez, and Candy Weller
for their help in putting this newsletter together

On the cover:

High-temperature deformation within the lower plate of the Ruby Mountains metamorphic core complex, northeastern Nevada (south of Elko). Layering represents a foliation that transposed bedding and lithologic contacts. Thinner lithologic layers display shorter wavelength (parasitic) folding. Lighter layers are orthogneiss and quartzofeldspathic gneiss, darker layers are amphibolite. Reference: Dallmeyer, R.D; Snoke, A.W; McKee, E.H., 1986, The Mesozoic-Cenozoic tectonothermal evolution of the Ruby Mountains, East Humboldt Range, Nevada; a Cordilleran metamorphic core complex: Tectonics, v. 5, p. 931-954. Photo by Jeff Amato.

HAROLD B. ROLLINS

In the spring of 2000 I geared up to take over the chairmanship of the Department. It was panic time, as I attempted to "debrief" Tom regarding the myriad duties I knew I was about to assume. I officially took over the Chair's duties on June 30, 2000. Although the year has been at times both challenging and yes – even frustrating, I greatly appreciate the help and support of my colleagues in the Department.

Some "perks" of the past year included, this spring, a visit to the Department by John Seitz, a former Pitt Geology major who is now President and Chief Operating Officer of Anadarko Petroleum Corporation. John charmed and impressed both faculty and students during his visit. In fact, we have had a very busy spring with numerous invited speakers, including applicants for the two positions we advertised earlier in the year – one in sedimentology/stratigraphy and the other in planetary science. As of this writing, we have filled one of these positions, and I am delighted to report that Dr. Mark Abbott will join our Department this fall as an Assistant Professor. Mark was an Adjunct/Research Assistant Professor at UMass and his research specialty is reconstruction of paleoclimates using proxy records from lake cores. Mark is involved in field research in Bolivia, Peru, Ecuador, Venezuela, New England, Alaska, Yukon Territory, Ellesmere Island, Greece, etc., etc. Whew! Mark adds a significant and complementary research dimension to our Department, investigating the history of climate change. In order to acquire high resolution sediment dating, Mark will set up an accelerator mass spectrometer facility in the Department.

Another very positive event of the past year was the promotion of Brian Stewart to Associate Professor with tenure.

Our undergraduate majors still number well over one hundred, and are skillfully advised, guided, and counseled by Mark Collins and Charlie Jones. Our majors continue to be successful finding jobs and going on to graduate schools, and this is, in no small way, a result of a great increase in the number of very successful internship and undergraduate research opportunities uncovered and developed by Mark and Charlie. Thanks to an initiative by Charlie and one of our undergraduate majors, John Boulanger, we now have a successful undergraduate teaching assistant program where our majors can literally learn geology by teaching fellow students in our Geology Laboratory (Geol. 0055).

There have been so many retirements in the last few years that our Department is experiencing a wholesale faculty "turnover". Over the last year Ed Lidiak and Mike Bikerman retired, Jack Donahue is on medical disability (but doing well), and Bruce Hapke retired in August, 2001. In the face of these changes, we are struggling with the challenges of rediscovering and redefining ourselves. The newcomers to our Department (in addition to Dr. Mark Abbott) include Dr. Mike Ramsey, a volcanologist and remote sensing specialist, Dr. Chen Zhu, a hydrogeologist and expert in groundwater modeling, and Dr. Charlie Jones, who teaches several of our core courses and advises our Geology and Environmental Geology majors.

It is true that one virtually needs a scorecard to keep abreast of these changes, but our new website (http://www.geology.pitt.edu) does a marvelous job of documenting this, thanks to Mike Ramsey and Bill Harbert, among others.

Not all the changes have involved personnel. We are involved in a complicated move from Engineering Hall into clusters in SRCC building. Soon, we will have consolidated ourselves into the 1st, 2nd, 4th, and 5th floors of SRCC, with some presence still on the second floor of Thaw Hall. So, when you come to visit the Department - look for us there!

I am looking forward to the challenges of next year, anticipating nearly the same degree of unpredictability as I experienced this year. Hey, why not?

Anderson continued

4. Driving to Hermosillo, Sonora. Spending two days (Thursday and Friday, Jan. 18-19) reviewing dissertation drafts for Juan Carlos Barrigan (Univ. of Texas, El Paso) and Jose Luis Rodriguez (National University of Mexico). I serve on the dissertation committee of each.
5. Driving to Deming, New Mexico. Joining Dr. Jim McKee and Dr. Mary Beth McKee for reconnoiter of Little Hatchet Mountains, New Mexico (Jan. 21), Cerro Aguila, Chihuahua (Jan. 22); Sierra Santa Rit, Chihuahua (Jan. 23); Sierra Potrillo, New Mexico (Jan. 24). Drive to Fort Stockton, Texas.
6. Continue to Houston, Texas. Visit Franco Corona (Exxon) and meet Dr. Dave Becker for study of seismic lines across Playa del Rey oil field.
7. Return to Pittsburgh.

At the Northeast GSA meeting I participated with Patti Campbell and her students in a presentation entitled "Ductile shear zones in the basement complex of the Blue Ridge anticlinorium in central Pennsylvania; Implications for the evolution of the northern Blue Ridge."

At this time I am working on wrapping up a paper with Jim McKee and Norris Jones, on "Melange in northern Mexico." Paul Coyle is providing able assistance as he embarks upon his own research having to do with the controls, structural and otherwise, on iron ore deposits in beds of the Appalachian Plateau. Two other manuscripts that summarize interpreted U/Pb isotopic ages of zircon from Jurassic and Precambrian rocks in Sonora, Mexico are in the works. The Jurassic is close to completion; the Precambrian has a way to go. Ann Vander Schrier is continuing work with Nye County in the Yucca Mountain region and we hope that she may begin fieldwork soon. Interspersed throughout the year were several trips to Los Angeles and a few to Nevada. The Los Angeles work began last year as part of an extensive team effort to address the geological context of natural gas seepage at a large development site near the Los Angeles airport. This work is conducted under the auspices of the City of Los Angeles, Department of Building and Safety. Hopefully, improved guidelines for building in areas of gas seepage may emerge from this work.

With great sadness, I transmit the news that Jim Kradyna unexpectedly died at his home in New York this past Fall. He suffered an aneurysm while alone. He had spent a very successful field season in the Adirondack Mountains and was prepared to begin writing his dissertation. His desire to do geology was special and I very much miss his enthusiasm, commitment and especially his friendship.

Back to the keyboard.....Cheers, Tom Anderson

Papers - In Press or In Review:

Campbell, P.A. and **Anderson**, T.H., 2001, Structure and kinematics along a Jurassic plate boundary transform, The Mojave-Sonora Megashear, northwestern Sonora, Mexico: *Geology, in review.*

Marzolf, J., and **Anderson**, T.H., 2001, Mesozoic stratigraphic constraints of displacement of the Caborca Terrane: *submitted to Geology, reviewed, currently in revision.*

Abstracts:

Lidiak, E.G., **Anderson**, T.H., and Jolly, W.T., 2000, Tectonostratigraphic evolution of southwestern Puerto Rico [abs.]: The 31st International Geological Congress, Rio de Janeiro, Brazil.

MICHAEL BIKERMAN

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The first year of retirement was very busy. Right after the official 1 May 2000 retirement I went back to work on my Academic Dean appointment for the Fall 2000 Semester at Sea [SAS] voyage. As this was progressing well with the faculty all having been hired and various logistical and academic problems being worked out, I was rather suddenly asked to vacate my old office after 30 years and

Bikerman continued

Articles:

Prellwitz, H., and **Bikerman**, M., 2000, The Petrography and Geochronology of the Masontown, PA Kimberlite Intrusion: A Summary: 2000 Guidebook of the Conference of Pennsylvania Geologists, 65th Annual Field Conference of Pennsylvania Geologists: Pittsburgh at the Millennium: The Impact of Geoscience on a Changing Metropolitan Area, p. 50-55.

ROSEMARY C. CAPO

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I've enjoyed another action-packed year as my research group and research interests continue to expand. My current students and I continue to benefit from collaborations with former students. Recent PhD student Chuck Whipkey (now an assistant professor at Mary Washington College) and I have another paper on Hawaiian soil carbonate in press in the Journal of Sedimentary Research. Bill Winters finished his MS on the hydrogeology of the Irwin Coal Basin – he's now with Moody & Associates and will work with new student Liz Bryant and me on extending our geochemical modeling work. My AMD research started with former MS student Ted Weaver, now with Hedin Environmental and working on resource recovery of AMD iron oxides. Current PhD student Candace Kairies, working with DOE/NETL researchers, is characterizing AMD precipitates. She's presented her work at several national meetings in the past year. PhD student Sherry Stafford has expanded her interest in iron from local AMD to Precambrian paleosols in Canada, Finland and Australia as part of our Astrobiology research collaboration with Penn State. She and MS student Amanda Reynolds presented their fossil soil findings at GSA in Reno and the NASA-NAI meeting in Washington DC.

Technician Brian Games keeps everything going and flowing – this year, in addition to a water analysis project in my Environmental Geochemistry class; he helped with numerous lab projects for Brian Stewart and my graduate Analytical Geochemistry class.

Last, but not least, daughter Emma sailed through 2nd grade at Liberty Elementary while logging in a lot of frequent flier miles on field expeditions with her parents. Her continuing education classes include lessons on tree recognition from T.A., and molluscan and pelecypod appreciation from Bud Rollins.

Articles:

Capo, R.C., Whipkey, C.E., Chadwick, O.A., and Blachère, J., 2001, Reply: Pedogenic origin of dolomite in a basaltic weathering profile, Kohala Peninsula, Hawaii: Geology, v. 29, no. 6, p. 564-565.

Capo, R.C., Winters, W.R., Weaver, T.J., Stafford, S.L., Hedin, R.S., Stewart, B.W., 2001, Hydrogeologic and geochemical evolution of deep mine discharges, Irwin syncline, Pennsylvania: Proc. W. Virginia Surface Mine Drainage Task Force Symposium, p. 144-153.

Stewart, B.W., **Capo**, R.C., and Chadwick, O.A., 2001, Effects of precipitation on weathering rate and base cation provenance in volcanic soils, Kohala Peninsula, Hawaii: Geochimica et Cosmochimica Acta, v. 65, no. 7, 1089-1099.

Winters, W.R., **Capo**, R.C., Wolinsky, M.W., Weaver, T.J., and Hedin, R.S., 1999, Geochemical and hydrogeologic evolution of alkaline discharges from abandoned mines, in Proceedings from the Sixteenth Annual International Pittsburgh Coal Conference, October 11-15, 1999. CD-ROM, ISBN 1-890977-16-0, section 6-5, p. 1-36.

Papers - In Press or In Review:

Whipkey, C.E., **Capo**, R.C., Hsieh, J.C.C., and Chadwick, O.A., 2001, Development of magnesian calcite and dolomite in Quaternary soils on the island of Hawaii: *Journal of Sedimentary Research, in press.*

Collins continued

(While you're there, it's a few clicks over to the remodeled Geology website: www.geology.pitt.edu.) The ES website is a work in progress, so any suggestions you may have are welcomed. Make sure you take a look at the "Opportunities" section, which highlights links to internships and career opportunities.

On a personal note, I'd like to thank the many people who have made both this major and my job an exciting and challenging endeavor. Drs. Rollins, Anderson, Stewart, and Capo have been instrumental in our students' continuing success, and Todd Bowers, Candy Weller, and Dolly Chavez have attended to administrative duties cheerfully (albeit sometimes through gritted teeth). The addition of Dr. Charlie Jones as the new geology advisor has also made life better for the department.

Articles:
"Up Close, At a Distance" Pitt Magazine, March 2001.

DAVID A. CROWN *dcrown@pitt.edu*

In an effort to find a new format for letting everyone know of the events of the past year, here is my top sixteen list for the year 2000-2001 (in no particular order):

1. Presented invited lectures at Edinboro University, Duquesne University (Technology Forum of the Spectroscopy Society of Pittsburgh), and Southern Methodist University, as well as at the 33rd Vernadsky Institute-Brown University Microsymposium (held in Houston).
2. Attended and presented research results at the 2000 Fall Meeting of the American Geophysical Union (San Francisco; Co-chair of Water on Mars session), the 32nd annual Lunar and Planetary Science Conference (Johnson Space Center, Houston), and the annual NASA Planetary Geologic Mappers' Meeting (Albuquerque).
3. Taught *Geology of Mars* graduate seminar and team-taught *Geologic and Environmental Hazards* with Mike Ramsey during fall semester, 2000.
4. Study of color and morphology of lava flows on Jupiter's moon Io [Piatek et al., 2000] published in *Icarus*. I have also collaborated on a new proposal to examine data from recent Galileo Mission encounters with Io.
5. Study of lava domes on Venus [Stofan et al., 2000] published in *Journal of Geophysical Research*; geologic mapping studies of the Guinevere Planitia Quadrangle of Venus continue.
6. Hard-working, productive group of graduate students: Jeff Byrnes continues to conduct Ph.D. research on Hawaiian and Venusian lava flows, Ph.D. student Scott Mest is analyzing Martian fluvial systems, and Tim Pierce will complete his M.S. in August, 2001 on Martian debris aprons and pursue Ph.D. work at the University of Texas.
7. Scott Mest was awarded a NASA Graduate Student Researchers Program Fellowship through Goddard Space Flight Center (GSFC) in Greenbelt, MD. Scott's project, which may receive up to three years of NASA support, involves geologic studies of relict Martian watersheds and implications for the climate history of Mars and will allow him to work with the Mars Orbiter Laser Altimeter (MOLA) team at GSFC.
8. Regional analysis of Reull Vallis and surrounding highland terrain on Mars [Mest and Crown, 2001a] is in press in *Icarus*. Related U.S. Geological Survey map publications in press and in review [Mest and Crown, 2001b,c] will be published as *USGS Geologic Investigations Series* maps.
9. New three-year geologic mapping grant awarded from NASA's Planetary Geology and Geophysics Program to study additional areas within the ancient cratered terrain of Mars.

Crown continued

Gregg, T.K.P., **Crown**, D.A., and Sakimoto, S.E.H., 2001, Evolution and erosion of Tyrrhena and Hadriaca Paterae, Mars: New insights from MOC and MOLA [abs.], in Lunar and Planetary Science Conference XXXII, Abstract 1628, Lunar and Planetary Institute, Houston (CD-ROM).

Mest, S.C., **Crown**, D.A., and Harbert, W., 2001, Highland drainage basins and valley networks in the eastern Hellas region of Mars [abs.], in Lunar and Planetary Science Conference XXXII, Abstract 1457, Lunar and Planetary Institute, Houston (CD-ROM).

Mest, S.C., Harbert, W., and **Crown**, D.A., 2001, Application of geographical information system Arc/Info grid-based surface hydrologic modeling to the eastern Hellas region, Mars [abs.]: American Geophysical Union, Boston, MA.

Pierce, T.L., and **Crown**, D.A., 2001, Morphologic and topographic analyses of Martian debris aprons using Mars Global Surveyor datasets [abs.], in Lunar and Planetary Science Conference XXXII, Abstract 1419, Lunar and Planetary Institute, Houston (CD-ROM).

Stewart, B.W., Cardell, G., Taylor, M., Capo, R.C. and **Crown**, D.A., 2001, *In situ* geochronology of planetary surfaces: Application of the rubidium-strontium isotope system [abs.]: Eleventh Annual V.M. Goldschmidt Conference, Abstract #3891. LPI Contribution No. 1088, Lunar and Planetary Institute, Houston (CD-ROM).

MARK A. EVANS

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The past year has been a busy, yet productive one. I recently returned from the European Geophysical Society meeting in Nice, France where my collaborators and I presented the results to date regarding our work on paleo-remagnetization in the central Appalachians. The papers were well received, even though the results are controversial in that they challenge some of the basic assumptions of paleomag interpretation in deformed rocks.

On a more local note, the two grad students working with me, Gina Hobbs and Kristen Lydy, have gotten off to a good start on their projects. We just returned from a field session in West Virginia where we worked with our collaborators from Lehigh and Oklahoma Universities. The Microanalysis Laboratory on the 4th floor SRCC is now up and running. This lab includes petrography, fluid inclusion microthermometry, reflectance microscopy, UV microscopy, and digital analysis and image acquisition capabilities, and cathodoluminescence. This lab is available as a research center for the entire department.

Over the next year I'm looking forward to completing a project examining the effect of fluids on deformation in the Sierra Madre Oriental of Mexico. This is in collaboration with Mark Fisher at Northern Illinois University. I am also planning on doing a grad-level course on Geofluids in the fall term.

Articles:

Evans, M.A., Elmore, R.D., and Lewchuk, M. T., 2000, Examining the relationship between remagnetization and orogenic fluids: central Appalachians: Journal of Geochemical Exploration, v. 69-70, p. 139-142.

Elmore, R.D., Kelly, J., **Evans**, M.A., and Lewchuk, M.T., 2001, Remagnetization and orogenic fluids: Testing the hypothesis in the central Appalachians: Geophysical Journal International, v. 144, p. 568-576

Harbert continued

has resulted in the hiring of two dynamic and energetic new faculty members. Such open and encouraging "consensus building" within our department has been a refreshing and upbeat change from previous years. For myself these two years have been very busy.

I returned from a second field season of 9 weeks in the Kamchatka Peninsula region of Russia. During the 1999 season I did not break my leg! There were very many Grizzly bears in the region of Kamchatka in which we worked. Highlights included intense sampling, very difficult over-land 25 kilometer marches, dangerous crossings of bays and rivers, Russian helicopters and macho pilots, and the usual non-stop thrills of "Kamchatka Adventure Kamp." The scientific results of the collaborative Russian/German and University of Pittsburgh research are now being written up for publication but were presented in an American Geophysical Union I co-chaired with my German friend and colleague Christoph Gaedicke of BGR in Hanover (December, 1999). Our new paleomagnetic data show that the tectonostratigraphic terranes we sampled are far-traveled in the Late Cretaceous, but unlike all previous paleomagnetic data, appear to possibly have docked with the Eurasian plate in the Eocene. We have an excellent overlap sequence also sampled of Miocene age. It was a great pleasure to meet with my friends in San Francisco, especially Ralf Freitag and Boris Baranov. Following this meeting I worked intensely in the Paleomagnetic Laboratory finishing up sample measurements, including a few final all-night thermal demagnetization sessions.

The Paleomagnetic Laboratory was repaired in a major way during 1999. With a grant from the Instrumentation and Facilities Program of the National Science Foundation I replaced the Cold Head and cryogenic cooling unit. This was a lot like working on an old car. The Cold Head pumps heat out of the Superconducting Rock Magnetometer (SRM) in two steps, from 4.2 deg. K (the temperature of the liquid Helium) to a 15 deg K region, to an 80 deg K region and then to the new cryogenic cooling unit. The lab has been working well with working visits by Dr. James Reynolds of MagStrat Incorporated, who hired numerous undergraduate students, and Ira Suskowsky, now an Associate Professor of Geophysics at the University of Akron. I was happy to hear that a colleague of Ira's from Slovakia was awarded a grant allowing use of University of Pittsburgh Paleomagnetic Lab in her research visit to the United States.

Teaching during these last two years has been enormous for me. I have been teaching two or three classes a term plus up to 8 independent study courses related to our rapidly increasing Undergraduate Certificate in GIS. Michael Ramsey has taken a major share in maintaining the computer laboratory infrastructure of the department and we have been receiving one-day-a-week support from our University of Pittsburgh computer support group to help us. Professor Michael Ramsey is a new faculty in our department and has is an expert in volcanology, remote sensing, computer programming and computer systems of all sorts. Mike and I were awarded, from the Sloan Foundation, funding to build a new, non-thesis, Professional Masters (ProMasters) degree in Geographical Information Systems. This grant has significant amounts of funds that are being used to purchase infrastructure such as computer systems, software, and GPS hardware long needed in our department. Mike and I attended a planning meeting organized by the Sloan Foundation with Dr. Steve Husted from the Dean's Office. This program should begin either next winter or the following Fall. Please check the web site Mike has created at http://www.geology.pitt.edu for details regarding this new program. Dr. Mark Collins and Dr. Charles Jones are also critical and active in networking our students with GIS experience into challenging and rewarding Internship opportunities. Mark has really crafted something wonderful with the local Pittsburgh Wet Weather program and water authority!

During 2001 I was happy to be invited by the National Science Foundation to take part as a "Reality Expert" in planning GIS-related activity for the Arctic during a week-long meeting in Seattle. This was a very exciting meeting and allowed much networking with other colleagues from the circum-Arctic region. Please check our report at www.arcus.org for details.

Harbert continued

Harbert, W., Tsukanov, Nikolay, Freitag, Ralf, Gaedicke, Christoph, Alexeiev, Dmitriy, Baranov, Boris, Skolotnev, Sergey, Kramer, Wolfgang, Seifert, Wolfgang, 2000, Paleomagnetism of the Kamchatka Peninsula, Russia [abs.]: American Geophysical Union, Fall Meeting, EOS, p. 954.

Mest, S.C., Crown, D.A., and **Harbert**, W., 2001, Highland drainage basins and valley networks in the eastern Hellas region of Mars [abs.], in Lunar and Planetary Science Conference XXXII, Abstract 1457, Lunar and Planetary Institute, Houston (CD-ROM).

Mest, S.C., **Harbert**, W., and Crown, D.A., 2001, Application of geographical information system Arc/Info grid-based surface hydrologic modeling to the eastern Hellas region, Mars [abs.]: American Geophysical Union, Boston, MA.

Sasowsky, I.D., Crowell, B., Walko, S.M., LaRock, E.J., **Harbert**, W., 2000, Clastic sediments in a long-term Karst trap, valley and ridge, central [abs.]: Abstracts of the 2000 Annual Meeting, Society of American Archaeology, Abstract 50281.

Zimmerman, S.B. and **Harbert**, W., 2000, Application of a GIS technique to mapped lineaments from SAR data, in Lunar and Planetary Science Conference XXXI, Abstract 1452, Lunar and Planetary Institute, Houston (CD-ROM).

CHARLES E. JONES

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I greatly enjoyed my first year at Pitt. It is refreshing and invigorating to be in a department moving in a very positive way toward developing and enhancing its research excellence. There are a lot of ideas and enthusiasm about changing how we do things in order to better reflect the interests and priorities of the new people and to better accomplish our overall goals as the department moves forward. The constructive air of this department makes coming to work a joy!

I was hired primarily to do what I can to help the department better meet the needs of the undergraduates. This is a fun job! The first thing I did was create an undergraduate advising web page that covers everything from picking a major to getting into graduate school or getting a job. I wanted to lay everything out at the beginning, so that students know what they have to do to achieve certain goals. I then instituted an e-mailing list for job and internship opportunities. A single bulletin board is just not an effective way of broadcasting information, especially once the school year is out! So now anyone wishing to announce an opportunity for our undergraduates, graduates, or alumni can just send me a message (e-mail: cejones@pitt.edu). If you'd like to be put on the mailing list, just drop me a line!

This year was the first to use undergraduate teaching assistants (UTAs) in the physical geology labs. This program, introduced to me by undergraduate John Boulanger, has been wildly successful from the point of view of the UTAs, students taking the labs, and me. It provides experience in planning and delivering lectures (I give feedback so that lecture styles can improve), it provides a lot more individual instructional help while the students are working out their labs, and it gives me more lines of feedback when it comes to improving the content of the labs. It is a great way to run a lab!

There are four main works in progress. First, I got University money to develop a web page that features the sorts of geologic images that are shown in introductory geology classes. This gives students the chance to study the images and learn to discern those features that suggest, for example, a creeping slump in progress. It also makes it easier for faculty to include slides as parts of exams. Second, I am working to improve the atmosphere of the lecture halls by purchasing interesting, attractive, and instructional posters. We need such basic things as periodic tables and world maps

Lidiak continued

Articles:

Lidiak, E. G., and Denison, R. E., 1999, Geology of the Blue River gneiss, eastern Arbuckle Mountains, Oklahoma, *in* Sinha, A.K., ed., Basement Tectonics 13, Kluwer Academic Publishers, v. 7, p. 139-153.

Papers - In Press or In Review:

Jolly, W.T., **Lidiak**, E.G., Dickin, A.P., and Wu, T., 2001, Recycling in the Puerto Rican mantle wedge, Greater Antilles island arc: *The Island Arc, in press.*

Jolly, W.T., **Lidiak**, E.G., Dickin, A.P., and Wu, T., 2001, Secular geochemistry of central Puerto Rican island arc lavas: constraints on Cretaceous tectonism in the Greater Antilles: *Journal of Petrology, in press.*

Abstracts:

Lidiak, E.G., Anderson, T.H., and Jolly, W.T., 2000, Tectonostratigraphic evolution of southwestern Puerto Rico [abs]: 31st International Geological Congress, General Symposium 17.6: Caribbean Plate Tectonics, Origin and Evolution, Rio de Janeiro, Brazil, August 2000, p. 193.

Lidiak, E.G., Denison, R.E., 2000, Geochemistry of diabase dikes, eastern Arbuckle Mountains, Oklahoma [abs.]: Geological Society of America Abstracts with Programs, v. 32, p. A-34.

Lidiak, E.G., Anderson, T.H., Jolly, W.T, 2001, Geologic evolution of the Bermeja Complex, southwestern Puerto Rico [abs.]: IV Congreso de Geologia Y Mineria Geomin 2001, Habana, Cuba, March 2001, p. 16.

Proenza, J.A., Lewis, J.F., Melgarejo, J.C., Gervilla, F., Jackson, T., Jolly, W.T., and **Lidiak**, E.G., 2001, Peridotites and chromitites in eastern Cuba, Jamaica, Hispaniola and Puerto Rico [abs.]: IV Congreso de Geologia Y Mineria Geomin 2001, Habana, Cuba, March 2001, p. 16.

MICHAEL RAMSEY

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I have now completed one full year in the Geology and Planetary Science Department here at the University of Pittsburgh. It has been both exciting and, at times, quite a lot of work. However, despite putting in those "new professor work hours" coupled with flying over 75,000 miles for research, I have still managed to find the time to get to know both the University and the city. I am finding that they are exciting places that offer a lot. Although Arizona (my recent home for the last ten years) geology can not be beat, western PA offers just as much in the way of outdoor fun and a learning environment for students.

My graduate and post-graduate research has focused primarily on thermal infrared remote sensing for mineral identification and mapping of volcanic surfaces. However, in the past year my remote sensing research has broadened to focus on urban growth and environmental issues, eolian/desertification topics, the dynamics and geomorphology of desert brush fires, as well as a much more intense study of monitoring active volcanoes from space. The primary goal of my volcanology research is to understand how volcanic domes grow and ultimately collapse to form deadly pyroclastic flows. I am currently on the science team of the NASA-Japanese satellite instrument called ASTER. The data returned from ASTER are being used for a large array of science goals from sea surface temperature measurements and coral reef health to volcanological monitoring and natural hazard reduction. I recently returned from the spring American Geophysical Union (AGU) meeting in Boston, where I presented work that I and others from the University of Hawaii and the Alaska Volcano Observatory have done examining the eruptions of the Soufriere Hills Volcano (Montserrat) and Bezymianny Volcano (Russia) in the later half of 2000. We observed never before seen eruption plumes and pyroclastic flows using ASTER data. These results were also described at a NASA press conference and featured in several University of Pittsburgh publications.

Ramsey continued

Abstracts:

Ramsey, M. and Arrowsmith, R., 2000, Mitigating Future Fire and Flood Hazards in Arid Urban Regions: Initial Analysis of Brush Fire Scars With the New ASTER Instrument [abs.]: American Geophysical Union.

Ramsey, M, Harris, A.J.L., and Dehn, J., 2001, Thermal anomaly monitoring of the ongoing eruptions at Soufriere Hills Volcano, Montserrat and Bezymianny Volcano, Kamchatka: First results from the new ASTER instrument [abs.]: American Geophysical Union Spring meeting (May 29-June 2, 2001).

Ramsey, M.S., Mapping the City Landscape From Space: The Advanced Spaceborne Thermal Emission and Reflectance Radiometer (ASTER) Urban Environmental Monitoring Program, Invited (U01: Earth Sciences in the Cities special session): Am. Geophys. Union EOS Transactions, 81:19, p. S11, 2000.

Stefanov, W.L., **Ramsey**, M., and Christensen, P.R, 2001, Fugitive dust generation, transport, and deposition in the Nogales, Arizona region using Enhanced Thematic Mapper Plus (ETM+) Data [abs.]: American Geophysical Union Spring meeting (May 29-June 2, 2001).

Stefanov, W.L., Christensen, P.R., and **Ramsey**, M., 2001, Remote sensing of urban ecology at regional and global scales: Results from the central Arizona-Phoenix LTER site and ASTER urban environmental monitoring program [abs.]: American Geophysical Union Spring meeting (May 29-June 2, 2001).

Stefanov W.L., **Ramsey**, M.S., and P.R. Christensen, Monitoring urban land cover change: An expert system approach to land cover classification of the Phoenix metropolitan area, in Abs. of the Ecol. Soc. Am. Ann. Mtg., pp. 387-388, 2000.

Wessels, R.L. and **Ramsey**, M.S., 2000, Multi-sensor/Multi-wavelength Data Fusion Over Steep Volcanic Terrain: Analysis Challenges in the Next Era of Remote Sensing [abs.]: American Geophysical Union, v. 15.

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Judy and I ventured to St. Catherines Island in March to continue work on the taphonomy of bivalves, supported by a grant from the E.J. Noble Foundation, administered by the American Museum of Natural History. This was the first time in some years that we were not accompanied by a student, or two - or three. Although my research productivity suffered because of the extra duties of the Chairmanship, a paper was published in January with John Harper (a former PhD student of mine and still, as he has been for years, head of the Pittsburgh section of the PA Geological Survey Oil and Gas Division) dealing with the evolution of bellerophontid gastropods. I am still involved with Dan Sandweiss' group researching the history of El Nino. We had a paper come out in the July, 2001 issue of *Geology*. Bob Prezant, Ron Toll and I have a paper in press documenting the marine invertebrate biodiversity of St. Catherines Island. In November I accompanied Alec Stewart and Ed McCord of the Honors College on a reconnaissance visit to the Cook Ranch, just north of Laramie, Wyo. We were working on the prospect of facilitating the donation of this huge ranch (over 100,000 acres) to Pitt, Carnegie Museum and the University of Wyoming, as a field station. Arrival in Laramie coincided with a 2-3 foot snowfall and subzero temperatures, making the ranch tour an adventure in snowmobiling the famous Morrison Formation.

I have, and am hopefully not neglecting too much, several graduate students in various stages of research. Lee Beatty is actively fighting the "evolutionary arms race" with the Pinecrest bivalves of Florida. Chris Westenberger is puzzling over the phosphate nodules in the Ames Limestone. Bill McCaughtry ponders aspects of evolutionary theory while Danielle Deemer works with Bill Korth, a former Pitt PhD, on the taphonomy of fossil rhinos from Kansas. Lara Homsey is studying the palynology at an archaeological site and Rob Templeton works on the depositional environments of some of the western PA hydrocarbon zones.

Stewart continued

with collaborators from Carnegie Mellon University and the University of Rochester. Finally, I recently received word from the University that I have been granted tenure, which certainly puts a nice exclamation point on an exciting year! I appreciate the support of everyone in the department since arriving here, and look forward to many more rewarding years ahead.

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Abstracts:

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Capo, R.C., Stafford, S.L., Kairies, C.L., **Stewart**, B.W., Hedin, R.S., 2001, Strontium and neodymium isotopic composition of coal mine drainage as a tracer of subsurface geochemistry [abs.]: Applied Isotope Geochemistry Conf. IV, Pacific Grove, CA.

Reynolds, A.C., Capo, R.C. and **Stewart**, B.W., 2001, Geochemical and Isotopic Investigation of Paleozoic Paleosols Formed Under Varying Redox Conditions [abs.]: 2nd General Meeting of the NASA Astrobiology, Carnegie Institution of Washington, Washington, D.C., p. 298-300.

Stafford, S.L., Capo, R.C., **Stewart**, B.W., Marmo, J. and Ohmoto, H., 2001, Neodymium Isotope Investigation of a Precambrian Weathering Profile: Hokkalampi Paleosol, North Karelia, Eastern Finland [abs.]: 2nd General Meeting of the NASA Astrobiology Institute, Carnegie Institution of Washington, Washington, D.C., p. 301-304.

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Zhu continued

My son, Gregory, started the daycare in January. At one year old, he makes a statement every day by not waving goodbye or having eye contact with mommy and daddy when we drop him off. Not even once! However, as soon as we leave the room, he starts to wear a smile, and we are told that this smile is on his face all day long. From the Director down, he is known as "the happy guy." He keenly observes the moods of the teachers and cheers them up when they are not happy.

I must have spent so many long hours in my office lately to finish the book that our janitor, Frank, was worried. Frank quizzes me to see whether I have spent any full nights in the office, which I never have. Frank tells me that I need to spend more time in the "first place," my home, than the "second place," my office. "You cannot put the cart in front of the horses," he says. He told me his life story. He emigrated from Italy in 1960s, with no money and no education. But he has always put his family first. Even with an income that is barely above the poverty line, he sent his two children to private schools. His twenty some years of work at Pitt finally paid off when both of his children went to Pitt for free. Sadly, Frank is assigned to another building due to union rules, despite 14 petition letters from faculty and staff. I surely miss the conversations with him. For the book that kept me away from home, it is fittingly dedicated to my wife of 13 years, Lei Gong, and my children, Agnes and Gregory.

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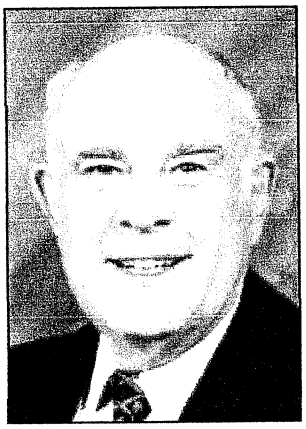
KUIPER PRIZE FOR 2001 GIVEN TO BRUCE W. HAPKE
AMERICAN ASTRONOMICAL SOCIETY'S DIVISION FOR PLANETARY SCIENCES (DPS)



Bruce W. Hapke, professor of planetary sciences in the Department of Geology and Planetary Science at the University of Pittsburgh, has been selected to receive the Kuiper Prize for the year 2001 by the American Astronomical Society's Division for Planetary Sciences (DPS).

Hapke researches the interaction of electromagnetic radiation with planetary surfaces. This interaction underlies the field of remote sensing, which is the science of learning about an object without physically touching it. Because spacecraft - both manned and unmanned; have landed on tiny fractions of the surfaces of the moon, Mars, and Venus, almost everything we know about the planets in our solar system is obtained by remote sensing.

Hapke's remote sensing theories are widely used by planetary scientists to analyze data obtained by instruments aboard spacecraft and attached to telescopes. Most of the spacecraft images published in newspapers and magazines have first been processed using Hapke's theories. He has taken part in several NASA missions, including the Apollo missions to the moon, the Mariner 10 missions to Venus and Mercury, and the Viking landings on Mars, and has published more than 100 papers in professional books and journals about the surfaces of planets.

The Kuiper Prize is the most distinguished award given by the DPS, an international society of professional planetary scientists. The prize recognizes outstanding contributors to planetary science, and is awarded annually to scientists whose achievements have most advanced our understanding of the planetary system, according to the DPS.

The prize is named in honor of Gerard P. Kuiper, widely regarded as the founder of modern planetary astronomy. Previous winners include Carl Sagan, James Van Allen, and Eugene Shoemaker. Hapke will be awarded the prize at the annual meeting of the DPS, which will take place in New Orleans in November.

Hapke was born in Racine, Wis., and earned a bachelor of science degree from the University of Wisconsin at Madison and a doctorate from Cornell University. During the Korean War, he served as a commissioned officer on active duty with the U.S. Naval Reserve. He was a senior research associate in the Center for Radiophysics and Space Research at Cornell. He has been a member of the faculty of the department of geology and planetary science at Pitt since 1967.

[Reprinted from the Pitt Campaign Chronicle, v. 2, no. 6, February 12, 2001, John Fedele]

MARK COLLINS GIVEN THE "GOLD" AWARD IN THE 'BEST ARTICLES OF THE YEAR' CATEGORY – FOR THE ARTICLE "SHADES OF SPEECH" IN THE PITT MAGAZINE

CHARLES E. JONES NAMED TO FACULTY HONOR ROLL

Charlie Jones has been named to the Faculty Honor Roll. The Faculty Honor Roll is a way for students to commend the teachers that have inspired and helped them. In order to be placed on the honor roll, the student must take the time to fill out the nomination form and write an essay on why that professor deserves to be honored. It is a venue through which the University of Pittsburgh can honor the best of the best, those who have taken that extra step towards building special relationships with their students. All the faculty who were named to the Faculty Honor Roll will be acknowledged at a reception sponsored by the Student Government Board.

the growing numbers of earthquakes and other signs of unrest at Galeras.

"Between '89 and '91, the volcano was going crazy, all the indicators of activity were going crazy," says John Stix, an associate professor at McGill University who first visited Galeras in 1989.

With relatively little known about the threat posed by the volcano, Mr. Stix teamed up with two other Galeras researchers to organize an international workshop for January 1993 aimed at attracting more people to study Galeras. The other two conveners were Arizona State's Mr. Williams and Marta Lucía Calvache, who headed the Colombian geological survey's volcano observatory in Pasto.

The workshop drew top researchers from around the world, who participated in lectures along with trips to the mountain to lay the foundation for future work.

At first, about 50 people signed up to visit the crater of Galeras, but the leaders knew that it would be unsafe to bring such a large group there. The route into the crater descends a precipitous slope where a person must hang onto a rope and can easily kick rocks onto those below, Mr. Stix explains. Moreover, volcanologists prefer to spend as little time as possible in craters, and big groups travel extremely slowly, he says. "Dealing with that kind of number in a crater is just insane."

So the leaders limited the field trip to the dozen or so scientists who were going to conduct actual research in or near the crater.

The irony of the conference's timing was that Galeras seemed to be going into hibernation in the months leading up to the January meeting. Just a half-year earlier, the volcano had been all fire and fury. In July 1992, enough gases accumulated inside the mountain that they erupted through a giant plug of rock -- called a lava dome -- that covered much of the volcano's crater. Galeras blew its cork, much like a shaken champagne bottle.

Then it went nearly silent. The number of earthquakes dwindled, and the volcano exhaled markedly less gas than previously. Mr. Stix says, "I remember thinking in late '92 and [early] '93, 'What's going on here? Is the volcano on a path of returning to quiescence or not?' That was one of the main questions on everybody's mind."

As visitors arrived for the conference, the seismometers at the Pasto observatory were picking up clues that could answer Mr. Stix's question. The mountain was trembling with small, unusual earthquakes that left a screw-shaped trace on the recording paper of the seismometers. These tremors were so-called long-period quakes, ones that resemble a low rumble more than a shrill whistle. And they vibrated the ground with a tone much purer than most other earthquakes.

At the time, though, nobody in Colombia knew how to translate those messages from the volcano. "It was not clear to us that this signal was a signal of an impending eruption, although we were worried about that," says Fernando Gil Cruz, a seismologist at the Volcanological and Seismological Observatory in Manizales, Colombia. Only later, after the disaster, would Colombian seismologists recognize the importance of the tremors that they dubbed "tornillos," the Spanish word for screws.

There was one person who might have spotted the danger at the time, but he was sitting thousands of miles away in his office at the U.S. Geological Survey in Menlo Park, Calif. A seismologist who specializes in studying long-period earthquakes, Bernard Chouet had traveled to Galeras in November 1991 and had collaborated with Mr. Gil Cruz. After watching the volcano in action, he hypothesized that deep long-period tremors could signal that the volcano was becoming plugged, building up pressure that could lead to an eruption.

Mr. Chouet says that he wrote a report about this idea and gave it to the Colombian scientists. Then the pattern of activity before the July 1992 eruption matched his predictions, he says. "The model was being followed. It was being confirmed."

He contends that when the tornillos started appearing again two weeks before the 1993 conference, their presence should have raised a red flag for the Colombians. "It should have been obvious," he says. "I'm sure it was. At the very least, I would imagine that they would have been worried."

At the time of the conference, however, Mr. Chouet was not there to examine the records or voice his hypothesis. Scientists with the U.S. Geological Survey were barred from going because the U.S. government determined that political instability in Colombia made travel there too dangerous.

Other volcanologists, however, disagree with Mr. Chouet's contention that the seismic warning signs were clear, especially given that understanding of long-period earthquakes was less

thick blanket of clouds obscured the view, making it seem as if they were stepping off into a void.

Mr. Williams recalls being particularly concerned about the weather and the possibility that researchers might get stuck on the mountain. "I told people to make sure you have lots of food, take a flashlight, take water, because we might get stuck on the volcano. Take rain pants because it's going to get cold," he says.

From the end of the road along the upper edge of the amphitheater, the group descended by rope down the face of a sloping cliff. They crossed a low area called "the moat" and then started to climb the outer wall of the cone.

In the thin air at 14,000 feet, the scientists made slow progress, recalls Andrew W. Macfarlane, an associate professor of earth sciences at Florida International University. Panting from the effort, he reached the top of the cone sometime during mid-morning, while fog still obscured the bottom of the crater.

This was Mr. Macfarlane's first trip into an active volcano, and he was dressed like most of his colleagues, prepared for the cold and rain but lacking any sort of protective gear. Academic researchers, at that time, wore such equipment relatively rarely. Only two researchers on the trip that day had on hard hats, and they were associated with Los Alamos National Laboratory.

Andy Adams of Los Alamos remembers people making comments about his preparations. "Here I am, all dressed up with a hard hat, got a gas mask, safety boots, insulated coveralls, and they're kind of tittering at me."

Before the trip, the Colombian scientists from the observatory had emphasized being quick around the crater, but the issue of speed was not stressed by the people leading the trip, Mr. Williams and Mr. Arlés Zapata.

Mr. Williams did suggest that Mr. Adams -- who moved more slowly than others and had finished his work -- should start back. But the leaders did not hurry the other researchers in the three plus hours they spent around the crater.

In his defense, Mr. Williams says he felt that he didn't need to lecture people. "Among us, we had lots and lots of knowledge. So people respected one another's opinion. I didn't order people about how to behave or what to wear. ... And I don't work for the agencies that have written rules."

Yet it was one of those very rules, imposed by Los Alamos, that saved Mr. Adams's life. He had walked back down the side of the cone and started his way up the wall of the amphitheater when a roar split the air at 1:41 p.m. Sizzling-hot rocks the size of softballs rained out of the sky and pelted him on the head. "I'm a firm believer that I might not be here talking to you if I had not been wearing that hard hat," he says.

His colleagues standing much closer to the crater were not as lucky. Mr. Macfarlane remembers hearing a sound "reminiscent of close thunder or a sonic boom, and for a split second it was not clear to everyone what was going on," he said in a letter written shortly after the blast. He turned around and saw a black cloud shooting up out of the crater. Rocks as big as television sets fell from the sky, and everybody in his group started running down the side of the cone. "The violence of the impacts was incredible, and when the falling blocks hit boulders on the ground, they shattered and sprayed hot, sharp shrapnel. When the blocks split open, they were glowing hot inside, and the fragments would just lie there and hiss."

A rock clipped Mr. Macfarlane just above his eye with enough force to daze him and open a gash. He was eventually hauled out of the amphitheater on a stretcher, his teeth chattering from the cold and shock, his face a ghostly white.

The five scientists standing in the crater or on the crater lip died instantly in the eruption. The blast shredded their bodies so thoroughly that investigators could find only separate parts of a single person, hurled more than the length of a football field from where he had stood. The explosion also claimed a sixth scientist and 3 tourists who were farther from the crater at the time.

No kind of protective gear would have saved any of these people, says Peter J. Baxter, a consulting physician at the University of Cambridge who was at the conference and studies how volcanoes kill. In the Galeras blast, "the bodies that were found were quite badly mutilated, so a helmet would not have helped," he adds.

Yet Dr. Baxter disagrees with Mr. Williams's contention that helmets would not have made a difference to anybody on the volcano that day. He cites Mr. Williams as a case in point: When Galeras blew, a rock flying out of the crater smashed in the skull of the Arizona State scientist. Reeling from the impact and unable to protect himself, Mr. Williams got pummeled by rocks that crushed one leg and nearly severed the other.

Then his mind flashed back to some conversations he had once had with his graduate co-adviser, Mr. Williams, who recounted the lessons of the Galeras disaster. People had survived best in that eruption when they protected their heads from falling rocks instead of trying to run.

Like his colleagues on Semeru, Mr. Ramsey had no helmet so he had to improvise. "I crunched down. Got my face in the dirt. ... So I had my backpack on my back and my camera bag over the back of my neck. A large fragment hit the camera bag and knocked it right out of my hand. I'm pretty convinced that if I hadn't had my bag there, I would have -- at the least -- been severely injured." He ended up with bruises, broken toes, and minor burns.

Those closer to the crater fared much worse. Two of the Indonesian scientists took blows to the head and died, while others suffered a range of injuries. Paul Kimberly of the Smithsonian Institution was knocked out and then bombarded with rocks that caused third-degree burns, broken bones, and a deep wound to the shoulder. Lee Siebert of the Smithsonian suffered lesser gashes and burns.

Eight months later, the Smithsonian scientists have largely recovered and have avoided describing the events on the mountain, they say, out of deference to the dead and to prevent harming relationships with their Indonesian colleagues. The two were willing, however, to highlight their own mistakes in hopes of educating others.

"One needs to make sure that the gain justifies the risk in a situation like that," says Mr. Siebert. "It wasn't necessary to go to the crater. That's one of the lessons of this trip that we would hope that volcanologists would draw."

Aside from lacking helmets or other protective gear, the scientists had not made any plans about what they would accomplish at the crater and what to do in case of any difficulties. "The decision was made somewhat spontaneously, and there was not adequate discussion," Mr. Siebert says.

Part of the problem, says Mr. Kimberly, was that the scientists made their decision in the thin air at 12,000 feet, and language differences hampered communication within the group. Another problem, says Mr. Kimberly, was "the draw due to curiosity," a powerful force for scientists.

The recent accidents force the question: Is it critical for volcano scientists to risk as much time as they do in and around craters?

"A resounding no," answers Mr. Chouet, the USGS seismologist. He uses seismic sensors placed some distance from active craters and says such devices reveal the most about what is going on beneath a volcano. "It is not necessary for people to put themselves close. I think this is more a call to adventure than it is a need for science. ... It's a little bit like a Formula One car racer. You go there and you get your adrenaline rush and you feel really alive."

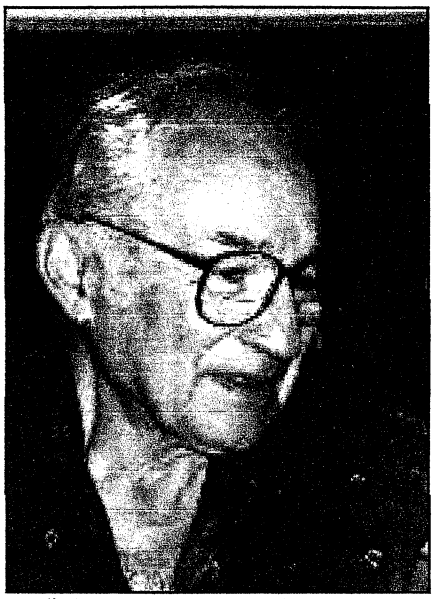
Most other scientists, though, discount that view. "There are some types of data that you're only going to get from sampling in a [volcanic] vent," says Thomas Casedevall, a regional director of the U.S. Geological Survey in Denver, whose research involves collecting gases from craters.

He denies that volcanologists are thrill-seekers and notes that even seismologists can get into trouble. Mr. Chouet himself almost died in 1975 when a 50-hour-long blizzard struck while he was working on the flank of Mount Baker in Washington. Although Mr. Casedevall grants that volcanologists need to be more careful, he says that the risk should be put into context. "From a personal perspective, do I feel safer driving the 2 ½ miles to work or working in an active crater? I think I feel a little more safe working in an active crater because I feel a little more in control."

To reduce the risks of their job, scientists are trying to develop tools to monitor volcanoes from a distance. But such methods can not yet replace the observing powers of a human, says Donald A. Swanson, scientist-in-charge at the Hawaiian Volcano Observatory. He warns against erring too much on the side of caution by placing limits on volcano studies. "You never know what you're going to learn from the research that might enable one to minimize the hazards in the future."

And those hazards hang over the heads of millions of people around the world who live in the shadow of dangerous volcanoes -- a figure that injects a sense of urgency and purpose into the work of scientists studying those mountains.

Mr. Ramsey, who still bears scars from the Semeru eruption, says that the life-saving potential of volcano research far outweighs the risks run by scientists. "If you were doing the observations to clear out the tens of thousands or millions of people in harm's way, I think that's worthwhile."



SAVING THE CANARY

"I have had a sort of romantic adventure with coal for nearly a half century." Maurice Deul, Pittsburgh, PA

The Pittsburgh Coal Mining Institute of America awarded Maurice Deul of Pittsburgh, Penn., the Donald S. Kingery Memorial Award. Duel is the first geologist to receive the award in the 25 years it has been presented. The award recognizes an individual who has helped improve mine safety and health. Duel's leadership in developing a methane drainage program while at the U.S. Bureau of Mines has resulted in advanced technologies and methods that are widely used for detection, dispersion and drainage of coal-bed methane. Duel is a distinguished member of the Society of Mining Engineers and a past chairman of the Pittsburgh Section of the Society for Mining, Metallurgy and Exploration.

"I have had a sort of a romantic adventure with coal for nearly a half century," he says. "Two disasters - a gas explosion at the Robena mine [in 1962] and, shortly later, the gas explosion at the Consol No. 9 mine [in 1968] - gave impetus to coal mine safety research, increased support for methane control research and, ultimately, a new Federal Mine Safety Law." [*Maurice Deul helped save lives with his work on methane in mines. Photo Courtesy of M. Deul*]

REPRINTED FROM GEOTIMES – FEBRUARY 2001: SOCIETY PAGE

A PITT DEAN WITH A WORLD VIEW HELPS CHANGE STUDENTS' LIVES

You can't accuse Professor Michael Bikerman of ivy-tower seclusion.

The professor emeritus of geology at the University of Pittsburgh has returned from his second Semester at Sea voyage, sailing around the world to visit 10 countries in 100 days. It was the second trip around the world for his wife, Vi, a retired Beth El Nursery School teacher, and his daughter, Tania, hired as an information specialist, who joined him on the excursion. All three would happily go again.

Last September, the ship left Vancouver with 627 students, 47 adult passengers and 26 faculty members on board, including several other Mt. Lebanon residents: Westminster College student Nick Wells of Arden Lane, Pitt psychology professor Francis Colavita and his wife, artist Harriet Phillips, of Craigview Drive, and adult passengers Fred and Barbara Kraft of Parkridge Lane.

Throughout the semester voyage, Bikerman taught a geology class both in the classroom and "hands-on" in various ports around the globe. In Guilin, China, some students studied limestone erosion [karst], in India, they studied chamockite, a rare black granite, and in Kenya they spent time examining lava flows of the Rift Valley.

Bikerman acted as academic dean on this excursion. That entailed hiring the entire faculty for the trip, a process that took over a year prior to setting sail.

The voyage took place aboard the S.S. Universe Explorer, a floating campus equipped with classrooms, a library, a computer lab, a theater and a student union, as well as a swimming pool, a basketball court and a fitness center.

Bikerman says making such a trip is an amazing, life-altering experience. Part of the program's appeal for Bikerman is that the students have the opportunity to experience the world, not just look at it. Unlike traditional tourists - the kind who stay only in the finest hotels and tour the nicest parts of a town, Bikerman says - they stayed overnight in an untouchable village in India and visited an orphanage in Malaysia. In South Africa, they met Bishop Desmond Tutu. There, although they experienced the unforgettable beauty of the country; they also witnessed the wrenching poverty and the stark racial divide.

GRADUATE STUDENT ENROLLMENT

Fouzan Al-Fouzan
William Lee Beatty
Jessica Bluth
Elizabeth Bryant
Jeffrey M. Byrnes
Paul Coyle
Danielle Deemer
John A. Dembosky, Jr.
Paula Grgich
Melanie Hellman
Gina Hobbs
Barbara H. Homison
Lara Homsey
Candace L. Kairies
Ann G. Kim[Δ]
Sally Kuhn
Erica Love
Kristen R. Lydy
William M. McCaughtry
Scott C. Mest
Jeffrey Mihalik[Δ]
Joseph M. Minervini
Barbara Osgood
Jennifer L. Piatek
Timothy L. Pierce
Amanda C. Reynolds
Steven J. Schatzel
Sherry L. Stafford
Robert Templeton[Δ]
Ann Vander Schrier
Christopher Westenberger
Shawn Wright

[Δ]*Part-time students*

MASTER OF SCIENCE - DEGREES AWARDED

Sharon R. Lauffer-Aho

Fault sets, systems and basins – Yucca Mountains and vicinity

Date: December 2000
Advisor: Thomas H. Anderson
Committee: William Harbert and Edward G. Lidiak
Employment: Geologist, URS Corporation

Garrett E. Sleeman

Holocene depositional history of Bac Ninh Provence, Vietnam: Effects of geomorphic development on site distribution

Date: December 2000
Advisor: Jack Donahue
Committee: Rosemary C. Capo and Harold B. Rollins
Employment: Geologist, The O'Brien & Gere Companies

William R. Winters

Hydrogeologic and geochemical evolution of a bituminous coal basin, Irwin syncline, Westmoreland County, Pennsylvania

Date: August 2000
Advisor: Rosemary C. Capo
Committee: Edward G. Lidiak and Brian W. Stewart
Employment: Geologist, Moody & Associates

Abstracts:

Byrnes, J.M., and Crown, D.A., 2001, Emplacement of venusian lava flow fields [abs.], in Lunar and Planetary Science Conference XXXII, Abstract 1038, Lunar and Planetary Institute, Houston (CD-ROM).

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PENNSYLVANIA SPACE GRANT CONSORTIUM FELLOWSHIP FOR 2000-2001
JEFFREY M. BYRNES & JENNIFER L. PIATEK

Jeffrey Byrnes and **Jennifer Piatek** were awarded the Pennsylvania Space Grant Consortium Fellowship for their outstanding academic record and research in an area related to the NASA space program.

Jeff's proposal was entitled "Lava flow field emplacement on Venus." The study examines the development of venusian flow fields based on lava flow morphologies, flow stratigraphy, and radar-backscatter characteristics analyzed for flow fields imaged by NASA's Magellan radar-imaging spacecraft. This research represents a planetary comparison for Jeff's terrestrial lava emplacement studies that are focused on the 1969-1974 Mauna Ulu flow field (Kilauea Volcano, Hawaii) using field observations and mapping coupled with visible-, thermal-, and radar-wavelength remote sensing analyses.

GODDARD SPACE FLIGHT CENTER/NASA
GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) FELLOWSHIP FOR 2001-2002
SCOTT C. MEST

Scott Mest, a PhD student in the Department of Geology and Planetary Science, was awarded a NASA Graduate Student Researchers Program Fellowship through Goddard Space Flight Center (GSFC) in Greenbelt, MD. Scott was one of five graduate students in the U.S. whose research was selected for up to three years of NASA support.

Scott's proposal, entitled "Evolution of the Martian Highlands: Implications from Drainage Basin Characteristics and Valley Network Morphometry," involves geologic studies of ancient Martian watersheds and provides implications for the climate history of Mars. Scott's research utilizes high-resolution Mars Orbiter Laser Altimeter (MOLA) topographic data onboard the Mars Global Surveyor spacecraft, currently in orbit around Mars, to numerically model the locations of these ancient watersheds using Arc/Info GRID-based GIS. This work, combined with geologic mapping of the Martian highlands also has direct implications for future Mars landing missions.

The Graduate Student Researchers Program (GSRP) attempts to reach a culturally diverse group of promising US graduate students whose research interests are compatible with NASA's programs in space science and aerospace technology, space applications, and space technology. Students are encouraged to actively pursue research or teaching in aeronautics, space science, or space technology after completion of graduate studies.

NASA ASTROBIOLOGY INSTITUTE'S 2001 DIRECTOR'S RESEARCH SCHOLARSHIP
SHERRY L. STAFFORD

Sherry Stafford was awarded the NASA Astrobiology Institute's (NAI) Director's Research Scholarship for 2001. Sherry is conducting geochemical and textural investigations of Precambrian paleosols (fossil soils). Paleosols preserve products of atmospheric-mineral interaction. This record is key to understanding the early composition and evolution of the Earth's atmosphere and the environments in which life developed and evolved. However, many challenges inhibit the interpretation of the Precambrian soil record including difficulty constraining ages, chemical overprinting by diagenetic and metamorphic events, and post-depositional deformation and obliteration of soil textures and structures. To better interpret the terrestrial record of Earth and other planets, Sherry is applying an integrated approach involving field observations, micromorphological study, geochemical analysis, isotopic analysis, and *in situ* laser ablation for mineralogical and matrix analysis. She is focusing her paleosol study on Nd isotopes, rare earth elements, and redox sensitive elements to better constrain the causes and timing of changes in the Earth's atmospheric oxygen levels. Her work addresses major goals of the NAI by exploring the conditions under which life originates on terrestrial planets. This award will allow her to collect samples of Archean paleosols in the Pilbara region of Australia and to participate in the Astrobiology workshop at Macquarie University in Sydney this summer. It will also allow her to continue her paleosol study in Finland and Canada.

B.S. in Environmental Geology

GRADUATES

Erica I. Love*
Christopher T. Markley

CURRENT MAJORS

John R. Boulanger
Christopher J. Ickes
John E. Katras
Kerry L. Morsek
Richard M. Ruffolo
Maureen K. Utz
Zachary Zrimsek

GIS Certificate

GRADUATES

George M. Brown
Morgan E. Callahan
Amanda B. Celo
Nicholas T. Contis
Mara Z. Kaktins
Christopher T. Markley
Christopher S. Park
Kevin R. Perkey
Richard H. Semple
Donald M. Yoder
Zachary Zrimsek

B.S. in Geology

GRADUATES

Edward A. Bolth**
Thomas J. Peterman
Brian G. Ruskin***
Ben J. Senkowicz**
Michael A. Urban*

CURRENT MAJORS

Matthew S. Allis
Kelly A. Bavuso
Carrie N. Blakey
James A. Bleil
Adam P. Britcher
Jeffrey M. Cebula
Stephanie L. Dilts
Filip Gieszczykiewicz
Michael F. Golebiewski
Alex L. Hanko
Erik N. Hoffmann
Paul J. Korom
Gregory G. Laepple
Erin E. Minster
Adam R. Nagle
Nicole M. Nastanski
Jessica M. Oesterling
Stephen R. Pesch
Melissa S. Remaley
Kevin D. Robinson
Marshall W. Smith
Genevieve M. Triantafillou
Robert L. White
Erich V. Zorn

***Summa cum laude*
** *Magna cum laude*
* *Cum laude*

Abstracts:

Boulanger, J., Stewart, B.W., Lowenstein, T., and Capo, R.C., 2001, Sources of water and dissolved solids in Death Valley: A strontium isotope investigation [abs.]: Eleventh Annual V.M. Goldschmidt Conference, Abstract #3876. LPI Contribution No. 1088, Lunar and Planetary Institute, Houston (CD-ROM).

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DO YOU HAVE ANY COOL ROCKS TO SEND US?

We have a great mineral collection (the Smith Collection) and good teaching collections, but we lack a collection of attractive and interesting rocks. Our goal is to set up a museum display of the basic rock types with the primary purpose of education (lots of introductory students wait in the museum area for class to begin) and a secondary purpose of being very attractive and engaging.

Do you have a great garnet schist? A spectacular gneiss? A porphyritic granite? A peridotite? Eclogite? Cross-bedded sandstone? Flow-banded obsidian? Pegmatite? At the moment I think we have enough limestones, but otherwise I encourage you to think about sending us you attractive yet pedagogic rocks. E-mail Charlie Jones (cejones@pitt.edu) if you have any questions!

ARE YOU LOOKING FOR A JOB? DO YOU WANT TO ADVERTISE A JOB?

We have started an e-mailing list with the sole purpose of connecting our students and interested alumni with internships, jobs, and other opportunities. If you'd like to announce a job or internship opening, please e-mail Charlie Jones (cejones@pitt.edu) with your position description and contact information. It will be sent out immediately to our undergraduates, graduates, and what are at the moment a small number of alumni. If you'd like to join the mailing list, just e-mail Charlie Jones (including your relationship to Pitt).

ANNUAL PICNIC

Come one – come all! The Department of Geology and Planetary Science annual picnic will be held Friday, September 7, 2001 from 3:00 to 9:00 pm at the Vietnam Vet's Pavilion in Schenley Park.

Refreshments, hamburgers, hotdogs and veggie burgers will be provided. Games will be held from 3 to 5 with food around 6 p.m. If you'd like to bring a covered dish – that would be great. If you'd like more information, please call (412) 624-8780 or email geology@pitt.edu. Please RSVP by August 31st so that we can bring enough refreshments and snacks for everyone.

GEOLOGY CLUB

(PittGeologyClub@yahoogroups.com, Email: arnst5@imap.pitt.edu)

OFFICERS 2000-2001

President: Erica I. Love
Vice-President: Brian G. Ruskin
Business Manager: Nicole M. Nastanski
Secretary: Adam R. Nagle
Faculty Advisor: Charles E. Jones

Despite a small turnout of members this year, Geology club accomplished a lot and had a great year. The Fall started with final acquisition of the library donated by the former Gulf Research Laboratory in Pittsburgh. Thanks to Steve Pesch, Michael Xu, and a lot more slave labor, the books, journals, and magazines now fill the shelves of the resource room. With donations from faculty and students alike there is now a collection of rocks on display, posters on the walls, and supplies for student use in the resource room.

John Boulanger, Dr. Bud Rollins and Dr. Charlie Jones set up an Undergraduate Laboratory Assistant program. This program and the Geology Club have set up undergraduate office hours in 219 SRCC. If students cannot find their TA or just have a question about the department in general they can stop in the resource room during the office hours and someone should be able to point them in the right direction. The 0055 Physical Geology Lab also stores their lab materials there for student use after class.

The 2nd Annual Fall Picnic/Undergrad vs. Grad-Faculty softball game was a great success. The Undergrads won again, holding on for another year. It was a hard win with newcomers Dr. Michael Ramsey and Dr. Charlie Jones, the new recruits for the faculty, evening the odds. In the final inning the appearance of undergrad Steve Pesch and the heroic base running of John Boulanger began the undergrad rally. The night continued with food and fun all around.

The annual trip to Bancroft, Ontario was a definite success. We stayed in a great house on Baptiste Lake thanks to the efforts of Joey Minervini. The 80's theme party was "totally tubular and like totally radical" with everyone dressed "to the max"! The collecting was pretty good with Lee Beatty bringing home a great apatite specimen from Bear Lake after spending hours in a 10 ft. deep pit and former undergrad Heather Miller bringing out a huge single apatite crystal. Unfortunately Joey Minervini and Chris Westenberger worked very hard all day in the rain in the Bear Lake pit but came up with "not much". Joey had a huge fluorite specimen from another site as a consolation prize. The returning all-star cast of former Geology Club members Evonne Pacinda, Heather Miller, and Andi Borradaile made the trip one to remember.

In an effort to get involved with the community more, the Geology Club teamed up with the Collegiate YMCA. We made monthly trips to Woolslair Elementary School in Bloomfield to teach the kids about geology and have a little fun. Our first lesson was led by John Boulanger on fossils. We had the kids make fossils from Plaster of Paris and seashells. We discussed what geologists do and read some stories to the kids about the earth on our next visit. Our best project was growing crystals. We had the kids take to solutions (one salt and water the other sugar and water) and add food coloring to them. On our next visit we examined the crystals under a microscope and discussed mineral identification. We got some great crystals and great colors. These kids were great to work with and we are looking forward to working with them next year. Thanks to all the Geology Club members who took the time to go to the school and help out (Adam Nagel, John Boulanger, Jen Bible, Brian Ruskin)! Special Thanks to Eylene Love for project ideas and material (thanks mom!).

In an effort to raise money for our spring trip the Geology Club entered a Spirit Contest at the Pittsburgh Women's vs. U. Conn Women's basketball game. Adam Nagle, John Boulanger, and I set out with banners, posters (artwork by Brian Ruskin), and a lot of blue and gold to the game. Our efforts paid off with a third place prize of $75.00.

We finally made it to Mammoth Caves, Kentucky this spring. Thanks to the efforts of John Boulanger, Brian Ruskin, and Steve Pesch we made it to Kentucky. Thanks again to Tom Moutsos without whom we would have spent three nights in the van. The cave was amazing and we had a great time. We have made contacts at the University of Kentucky and met some very interesting park rangers, like Foxy Joe, and are planning a more vigorous trip next spring. We're looking forward to going again; it was definitely worth the long drive. Thanks to Adam Nagle and John Boulanger for helping to drive.

Our Undergrad Computer Lab is now home to five newer computers obtained by Jenny Lee last year. Thanks to Greg Gollinger they are now up and running. Unfortunately, the printer died - c'est la vie. The lab has gotten a lot of use this year and with the help of the computer committee improvements are planned for the future.

We ended 2000-2001 with a great bar-b-q in the SRCC parking lot, which was a lot of fun! Any alumni who have not gotten their Geology T-Shirts (only $8-grey, blue, and green) contact the department. - *Erica Love*

PITT STUDENTS NEED YOUR ADVICE - Please Help Us!

The Department of Geology and Planetary Science is in the process of creating a *Point of First Contact Program* for G&PS students that will help smooth the transition from college to career in today's difficult job market. We want to give our students the best start on their careers we can - ***and we need the help of our alumni.***

The goal of the a *Point of First Contact Program* is to build an extensive database of alumni who are willing to talk to G&PS students about companies and agencies in which they work. The database will only be accessible in the G&PS main office to our students, where they will be able to research the current job market and pursue possible summer internships.

We are asking you to agree to:

- accept a prearranged telephone call from a student, either at home or work
- explain the structure of your place of employment
- provide the name of an individual in your company to whom the student might address a cover letter and resume
- if possible, suggest a 'next step' that the student might follow

We need as many alumni as possible to join this program to make it viable. We are seeking both established and recent graduates in all disciplines. Recent graduates are especially valuable because they have just gone through the process and are able to communicate their job search experience with current students, and well-established alumni have the advantage of experiences and wider personal networks. Please show your support for the Department of Geology and Planetary science by joining this program.

---------- ***Point of First Contact Program*** ----------

I would like to join the program and will talk to undergraduates in:
_____ geology _____ environmental geology _____environmental studies

Name: _____

Job Title: _____

Company: _____

Company location: _____

Company does work in the following fields: _____

Company looks for people with skills in the following field(s): _____

Is company interested in summer interns? YES/NO: _____

If yes, what background should the students have? _____

Students may telephone me at: _____ [work] _____ [home]

FAX: _____ e-mail address: _____

Special requirements to be followed by the student (*e.g.* times to call, fax first, etc):
Comments:

RETURN TO: Harold B. Rollins, Chair, G&PS, 321 EH, U. of Pittsburgh, Pittsburgh, PA 15260-3332.

The Department's Bachelor of Arts in Environmental Studies students continue to do well. We now have around 70 graduates and roughly 85 current students, many with double majors. Late last summer, we sent out our first survey of Environmental Studies graduates. The response to our survey request was very good: 32 replies to roughly 70 requests. A few items are worth noting:

- Nineteen of the 32 respondents are working in the environmental field or are attending graduate school. The vast majority accepted job offers or grad school admission within six months of graduation.
- When asked for suggestions in improving the major, the majority of recommendations dealt with *adding* courses, not decreasing them. (Thankfully, some of the other suggestions have already been addressed, such as hiring a full-time advisor and changing the nature of the writing class.)
- Seventeen of 32 respondents had some kind of internship; not surprisingly, nearly all of those who had internships were now working in an environmental field or were in graduate school. Over the last year, the number of students taking internship credit dramatically increased: six of nine December (2000) graduates had internships, as did 19 of 21 April (2001) graduates.

Much of our success is due to the interest and guidance of the Environmental Studies Advisory Board. We are very grateful for their help and advice.

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Environmental Writer and Photographer

01/25/01 John Stolz, Biological Sciences, Duquesne University, *Community structure in a modern marine Stromatolite.*

02/01/01 Satish Iyengar, Statistics, University of Pittsburgh, *World-wide-web database mining.*

02/08/01 Stephen Kennedy, R.J. Lee Group, Inc., *Rapid characterization of particle composition and texture using computer controlled scanning electron miscroscopy.*

02/15/01 Stephen Hirtle, Information Sciences, University of Pittsburgh, *Community structure in modern marine stromatolite.*

02/22/01 Chris McGlone, School of Computer Science, Carnegie Mellon University, *Utilization of high resolution hyperspectral imagery for automacartographic feature extraction, Digital Mapping Lab.*

03/22/01 Jeffrey Byrnes, Geology & Planetary Science, University of Pittsburgh, *Field observation of Antarctica and New Zealand: Meteorites and volcanoes down under.*

03/29/01 Andrew Harris, Hawaii Institute of Geophysics & Planetology, University of Hawaii, *How the Sicilian volcanoes work: Gas pistoning at stromboli, migratory fumaroles at Vulcano, and Foam Soup at Etna.*

04/02/01 John Seitz, Anadarko Petroleum Corp., Exploration for hydrocarbons in the 21st century.

04/06/01 Tim Demko, Upstream Research, ExxonMobil, *Sediment flux, paleoclimate, and sequence stratigraphy: A framework for the sedimentary record of landscape evolution, upstream research.*

04/12/01 Paul Kimberly, Global Volcanism Program, Smithsonian Institution, *Digital projects of the Smithsonian's global volcanism program.*

04/16/01 Cari Johnson, Stanford University, *Sedimentary record and tectonic implications of Late Mesozoic extension, Southern Mongolia.*

04/19/01 David Veblen, Johns Hopkins University, *Transmission electron microscopy: New developments and earth science applications.*

04/23/01 Jeffrey Moersch, Geological Sciences, University of Tennessee, *Synthesis of remote and In Situ Infrared Spectroscopy at the 2000 FIDO Mars rover field test.*

04/26/01 Mark Richardson, Geological & Planetary Sciences, California Institute of Technology, *The Martian water cycle: Past and present.*

04/27/01 Mark Abbott, Geosciences/Morrill Science Center, University of Massachusetts, *Holocene Paleohydrology and glacial history of the central Andes from lake sediment studies.*

Dellagiarino continued

science by mail program with an elementary school on Long Beach Island, New Jersey. (The kids there always seem to keep me on my toes ☺) I'm also starting to get involved with the Chesapeake and Potomac Pitt Club.

Best wishes to all my fellow GPS alums and former professors. If any of you make it down to the Old Dominion or just want to say hi, I can be reached at (703) 787-1526 and electronically at george.dellagiarino@mms.gov. I have to admit, however, that I keep missing Rick Sarg at the AAPG meetings!

TODD FICKEL (BS 1987)

Todd lives in Anchorage Alaska and works on Elmendorf AFB. His work as a project manager for environmental investigations and remediation projects at former Air Force installations requires travel to remote sites, accessible only by boat or float plane. Although the travel is extensive, it rarely interferes with the really important things like hiking over miles of tundra or kayaking in Prince Williams Sound with Orcas and sea otters.

MICHELLE ROGAN FINNEMORE (BS 1985)

Michelle continues to work as Project Manager for Gateway Antarctica, University of Canterbury, in Christchurch, New Zealand. In addition to her work on Antarctic Protected Area Plans and Sites of Special Scientific Interest, she is currently involved in the publication of "GEO-3", a book produced by the United Nations Environment Program on the State of the Global Environment. Michelle also does some teaching at the University including co-ordinating a law course called "The Antarctic Legal Environment" and assists on the Graduate Certificate Course in Antarctic Studies that takes 20 students to Antarctica each year. In her spare time, she is in the fourth year of a law degree and intends on graduating in November of this year.

DARIUS GREENIDGE (PHD 1993)

I have been doing research on silicate minerals at Kanazawa University, Japan for the past year, and intend to continue to do so. The research has taken me from studies of color centers by absorption spectroscopy, to NMR, ESR and advanced X-ray diffraction techniques. Travel to conferences and geologic sites have also been interesting and fun. Not as much earthquake and volcanic activity as the previous year, but that also worries everyone. Even Mount Fuji is said to be preparing for another eruption. Nobody wants that....mainly for aesthetic reasons. The past winter proved to be the biggest snow the city of Kanazawa has seen in 15 years. It had been so long that the people seem to have forgotten how to deal with it, so traffic was difficult. The scenery however was spectacular. Before the onset of apparent global warming, 80 cm of snow in a single fall was common. Not too far into the foothills, the average homes have porch-sized doorways installed on the second floor.....as the snow was sure to accumulate to such a height.

RALPH HARVEY (PHD 1990)

Since winning the Olympic gold medals in Sydney, Ralph has had little time for his other pursuits. The Nobel Prize proved to be an additional burden rather than a blessing; can't get this Hawking or Hasking or whatever his name is to stop calling. The supermodel groupies who were such a problem are thankfully pursuing other targets now that Dr. Harvey's 180,000 acre estate (formerly known as "Rhode Island") is patrolled 24/7 by killer robots designed during collaborations with CMU. Bill Gates and Steve Jobs are still fuming over Dr. Harvey's surprising copyright of the term "PC" late this spring, creating royalty debts totalling more than.....

J. F. "RICK" SARG (BS, 1969; MS 1971)

Rick continues in his position as Stratigraphy Coordinator for ExxonMobil Exploration Co., and is in the midst of a term on the ODP Science Committee (SCICOM). In addition to his duties stewarding the careers and assignments of ExxonMobil stratigraphers, he continues to find time for research in carbonates and evaporites. An article just published in Sedimentary Geology outlines the sequence stratigraphy and economic importance of evaporite-carbonate facies transitions. Recent interest includes forward numerical process-response modeling of sedimentary systems. Rick's oldest son began college this summer at the US Naval Academy where he will study engineering and hopes to become a helicopter pilot.

DAN SCHATT (MS 1997)

Dan Schatt has been promoted to GIS Programmer/Analyst at the Virginia Institute of Marine Science of the College of William and Mary in Gloucester Point, Virginia. The institute serves as the School of Marine Science for the College and also does research and advisory work in all aspects of marine and estuarine science. Dan works with GIS and remote sensing tools on projects related to coastal resource management.

Last year, Dan spent his summer vacation in Russia and Belarus, and plans a more relaxing trip to Mexico this year. He sends his best regards to the Department and his former professors.

CYNTHIA VENN (PHD 1996)

Cindy is an Associate Professor in the Department of Geography and Geosciences at Bloomburg University, where she teaches oceanography and geology classes. She is also a Director and Vice-President for research at the Wallops Island Marine Science Consortium, where she also sometimes teaches summer courses. Cindy continues her research on the pelagic barnacles of the TAO buoy array in the tropical Pacific and the relationship between the distribution of species and environmental changes due to El Nino/La Nina conditions. She was just granted tenure, as well as a sabbatical for the 2001-2002 academic year, which she will spend mostly in the Antarctic. She will be working on the Icebreaker L.M. Gould for part of the sabbatical. In October and November she will join a New Zealand sea-ice research team on the fast ice in McMurdo Sound. There she will investigate the distribution of foraminifera and copepoda in the sea ice, a topic she became interested in during two sea-ice research cruises on the Icebreaker Nathaniel B. Palmer that she had the good fortune to be part of in 1998/99.

MARC R. WAGNER (BS 1999)

Mark is currently a Hydrogeologist for Harding ESE at Novi, MI. Work includes Michigan Dept. of Environmental Quality soil and groundwater contaminant investigations. Mark is currently living in Plymouth, MI and for anyone who is interested the Detroit and Ann Arbor Areas are great and Mark recommends that anyone job hunting to check it out. He is still an avid Pitt Panther fan and has recently purchased season tickets for football games and plans on attending the Notre Dame game in South Bend. Mark is still single but plans on getting engaged in the near future to a Michigan local he met while working in Columbia, SC.

CONTRIBUTIONS

We are very grateful to the individuals listed below. Your generosity is greatly appreciated.

If there are any questions, or concerns, please contact either Todd Bowers at (412) 624-8784, tbowers@pitt.edu or Harold Rollins at (412) 624-8783, snail@pitt.edu. We try very hard not to miss a single donor, but we aren't perfect. If we goof, please let us know. Thanks.

DEPARTMENT GIFTS

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Seitz, John

LEIGHTON FUND

Chevron USA
Samuel Frazier

Contributions to the following funds will be gratefully accepted.

_____ **Norman K. Flint Memorial Field Geology**
This fund commemorates Norm Flint's love of teaching and fieldwork by supporting undergraduate field experiences. Each year numerous scholarships are awarded to support summer field camp expenses, and we would like to increase the size of this fund to support an annual weeklong field excursion aimed at maximizing the exposure of our students to geology in the field. We hope to establish a series of field trips so that students could go every year without repeating an itinerary.

_____ **Frances Dilworth Lidiak Memorial**
Money generated from this account is used for departmental seminars to which outstanding scientists will be invited to present public lectures on topics in the geological and planetary sciences.

_____ **Alvin J. Cohen Memorial**
The family of Dr. Cohen has suggested that donations in memory of Dr. Cohen be made to the Department of Geology and Planetary Science for support of students conducting basic research in fields close to Alvin's interests.

_____ **Henry Leighton Memorial**
The scholarship is established in response to a contribution from Professor Leighton's daughter, Helen Leighton Cannon. A permanent graduate scholarship fund has been established and the scholarship is awarded on the basis of merit and need.

_____ **Harry Werner Oil Finders Endowment**
In an effort to continue to attract Pitt students to prepare themselves to meet the diverse challenges presented during the search for energy resources, Franco Corona initiated the Harry J. Werner Oil Finder's Endowment.

_____ **Museum Renovation Fund**
You may have seen on page 40 a request for attractive and interesting rocks. Here, we ask for money to help renovate the infrastructure of our museum area, which is located right outside the room in Thaw Hall in which many recitations are held. The goal is to create an attractive and educationally compelling exhibit that both helps beginning students learn their basic geology and draws them to pursue more classes within our department. We have university support, Smith Fund support, and we need to raise the remaining one third from our loyal alumni!

_____ **Victor A. Schmidt Memorial Classroom**
In memory of Vic Schmidt and in commemoration of his love of teaching, family, friends and colleagues have initiated a fund to equip a state-of-the-art memorial classroom.

_____ **Unrestricted Departmental Gifts**

_____ **Other (please specify)** _____

NAME: _____

ADDRESS: _____ CITY, STATE, ZIPCODE _____

PHONE NUMBER _____ AMOUNT OF DONATION: $_____

Please complete this form so that we can include your news in the "Alumni News" section next year.

Name_____Degree_____Year_____

Address_____

Email: _____

Spouse's Name_____

Names and Ages of children_____

Company with which you are affiliated:_____

Your Position, Title, etc._____

Your duties_____

Other items of potential interest to classmates: Write on overleaf

Information on other departmental grads? Write on overleaf

Please send to:
Harold B. Rollins
Department of Geology and Planetary Science
321 Engineering Hall
University of Pittsburgh
Pittsburgh, Pennsylvania 15260-3332

or

email Dr. Rollins at
snail@pitt.edu