The Redbeds

The Annual Newsletter of the
Department of Geological Sciences
Rutgers, The State University of NJ
Color version is posted http://geology.rutgers.edu/
Vol.9: January 2005
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Geology Museum Open House, Saturday January 29, 2005 (See back page)
Development Fund receives $10,000 donation!

Welcome to the 2005 Redbeds

The Redbeds is the Annual Newsletter of the Department of Geological Sciences, Rutgers, The State University of New Jersey. The Redbeds was reincarnated by then Chair Michael Carr eight years ago and has since grown into a detailed report on research activities, students, awards, funding, and comings and goings in our department. Sent to over 700 alumni, the Redbeds is our primary means of informing alumni, friends, and colleagues of our most recent accomplishments. This issue has exciting new developments in the department, listing major awards, new hires, alumni news, and the plans for a new Earth, Oceans, and Planetary Sciences building to be built on Cook.

Dennis V. Kent Elected to the National Academy of Sciences
Contributed by K G. Miller

The National Academy of Sciences announced in April 2004 that Professor Dennis V. Kent was elected a member, joining Distinguished Visiting Professor William A. Berggren as our second NAS member. Dennis has received numerous other kudos, including the Rutgers Board of Trustees Award for Excellence in Research for the Year 2003-2004. Election to the NAS is one of the highest honors in Geological Sciences.

Dennis is a former Interim Director of Lamont-Doherty Earth Observatory and a world renowned expert in paleomagnetism and its applications to stratigraphy, global climate change, geological time scales, and behavior of the earth's magnetic field. His research interests are diverse, spanning the globe and the geological column.

Dennis's work on magnetic field behavior and rock magnetism are innovative and ground breaking. He is well-known for his work on only on the Earth's magnetic field and rock magnetism, but also time scales, astrochronology, and global climate change and I focus my comments on these topics.

Dennis is the godfather to the modern geological time scale. Working with Bill Berggren, he published the first truly integrated Cenozoic magnetobiostratigraphic time scale in 1985. As first noted by Sir Nicholas Shackleton, the 1985 paper represents the first testable time scale because each point on the scale could be verified by magnetobiostratigraphic correlations. Working with Felix Gradstein, Dennis Kent constructed the sea-floor portion of the Mesozoic time scale also published in 1985. The "Old Testaments" of 1985 stood the test of time for 10 years, much longer than the 2-3 year shelf life of current papers and ideas. The 1985 time scales became frayed in the early 1990's and by 1992 Cande and Kent revised the geomagnetic reversal portion of the Late Cretaceous and Cenozoic scale. This formed the basis for the modern Berggren/Kent time scale published in 1995 with fellow Rutgers faculty members Carl Swisher and Marie-Pierre Aubry, and the Gradstein et al. (1995) time scale. Our concept of "deep time" owes heavily to the contributions of Dennis Kent. Next to Bill Berggren as the Supreme Keeper, Dennis is the "High Priest of Time."

Some of his most intriguing work has been on cycle stratigraphy, astrochronology, and global climate
change. His studies with Paul Olsen in the Triassic-Jurassic Newark Basin of New Jersey on Milankovitch-scale climate variability that provided the first concrete evidence of the operation of these cycles in “deep time.”

The tremendous discovery that the Cretaceous/Tertiary (K/T) boundary mass extinction was linked to an impact might not have happened without the influence of Dennis Kent. In 1977, he published a seminal paper that demonstrated that K/T extinctions occurred in much less than the 0.5 million years (i.e., Chron C29r). This prompted the Alvarez team to measure Iridium as a proxy for time represented in the famous Apennine K/T boundary sections. The rest is history…

Dick Olsson Awarded Cushman Award
Contributed by K G. Miller

Richard “Dick” Olsson stands as one of the most important of modern planktonic foraminiferal specialist. Along with William Berggren, Isabella Premoli Silva, and Hanspeter Luterbacher, Dick provided us an unprecedented view of latest Cretaceous to Paleocene planktonic foraminiferal biostratigraphy. Through the 1960’ and 1970’s, he contributed dozens of papers on planktonic foraminiferal biostratigraphy, paleobiogeography, evolution, and paleoceanography. While on sabbatical at ETH Zurich in 1971, he conducted fascinating studies on wall structure and ontogeny of foraminifera that stand as hallmark achievements. Living and working in New Jersey, he also became the Dean of New Jersey Coastal Plain stratigraphy; by the 1980’s, he was a leader in applying sequence stratigraphic concepts to the coastal plain, using benthic foraminifera to infer sea-level and paleoenvironmental changes. In the 1990’s, he returned to the roots of his first paper and focused his research on understanding the nature of the Cretaceous/Tertiary boundary.

Dick received an A.B. from Rutgers College in 1953 and a Ph.D. from Princeton in 1958. He attended the Yellowstone-Bighorn Research Association field camp in Red Lodge, MT, was a planktonic foraminiferal specialist on Deep Sea Drilling Project Leg 5, worked as a consultant for Humble/Esso, and was co-discoverer of the Ambrosia Lake Uranium deposits. He returned to the Banks of the Old Raritan in 1960 and served for 21 years as department chairman (1975-1976 and 1977-1996). He still managed to crank out 36 papers while attending to this time-consuming task. His research interests include planktonic foraminiferal biostratigraphy and phylogeny, foraminiferal paleoecology and paleobathymetry, sequence stratigraphy of passive margins, and the K/T boundary.

After retiring in 1996, he only redoubled his research efforts, generating 23 papers on a diverse series of topics. Central amongst these is the effort put into the monumental Atlas of Paleocene Foraminifera. Leading a team that spans generations of foraminiferal workers, Dick and company have produced a seminal work the Atlas of Paleocene Foraminifera, with the Atlas of Eocene foraminifera near completion.

Dick’s service to the scientific community and Rutgers University are notable. He led the Department of Geological Sciences as it transitioned from a small, teaching-oriented department to a large, research-oriented one with integrated ties to the Institute of Marine and Coastal Sciences. During his career at Rutgers, he shepherded 17 Masters degrees and 22 Ph.D. students, many of who had led distinguished careers in industry. Some of his most famous students were undergraduate honors students, including Bob Sheridan, Gene Gaffney, and Ken Miller. He served on eight
different advisory committees to the state of New Jersey on diverse issues of Radon, low-level radioactive waste, flood control, and groundwater pollution. He organized the Atlantic Margin Energy Conference in 1981 and the Northeast GSA meeting in 1989.

Still, it remains Dick’s legacy that he is amongst the best planktonic biostratigraphers, with experience ranging from the Cretaceous through the evolution of the first forms in the Danian to the modern ocean. You could rely on him to provide precise and reproducible biostratigraphic data. He has an uncanny eye. His efforts were critical to developing the taxonomic base that is the foundation of planktonic foraminiferal biostratigraphy.

Dick was awarded the Cushman Foundation for Foraminiferal Research Award at the November 2003 GSA meeting.

George McGhee Invited to the Vatican Observatory
Contributed by G. R. McGhee

Rutgers' Geology faculty member Dr. George McGhee was invited to the Vatican Observatory in late June of 2004. The Vatican Observatory is located in the Castel Gandolfo, the Summer Palace of the Roman Catholic Pope, in the volcanic highlands of Italy, southeast of the city of Rome. The purpose of the Vatican Observatory conference was to explore various models of biological evolution in nature, particularly the phenomenon of evolutionary convergence.

The Pope has had a long interest in biological evolution, and has even officially stated the Roman Catholic position that evolution is "not a mere theory", in contrast to the many fundamentalist Protestant churches that deny the fact of evolution. While biological evolution itself is a fact, the causes of biological evolution remain theoretical. The most widely held theory as to the cause of evolution is the theory of natural selection, proposed by the English geologist and biologist Charles Darwin in his now famous book, The Origin of Species. Although the theory of natural selection is now over a century and a half old, scientists continue to debate how much of evolution is due to natural selection, and how much is due to non-Darwinian evolutionary mechanisms like genetic drift.

The most famous paleontologist and essayist of the twentieth century was the late Dr Stephen Jay Gould of Harvard University. He forcefully argued for a view that most of evolution is entirely a process of chance, and that evolution has no predictable direction or outcome. In contrast, the scientists assembled at the Vatican Observatory examined an opposing view, a view that maintains that much of evolution is highly constrained and is in fact predictable, at least to a degree. The phenomenon of evolutionary convergence supports this point of view, as opposed to Gould's view that the course of evolution is entirely unpredictable. Perhaps the most famous example of evolutionary convergence seen in the geologic record is the amazing morphological similarity between fast swimming cartilaginous fishes like sharks, bony fishes like swordfish, extinct marine reptiles like Ichthyosaurus, and living marine mammals like the porpoise or dolphin. Twice in the history of life, two separate groups of four-legged land animals have returned to the sea, lost those legs, and re-evolved fins and flippers. This is an empirical observation, not a theory. We have the fossils of the ancient reptilian ichthyosaurs from the Mesozoic, and we can observe the living mammalian porpoises in the Earth's oceans today. Although very different animals, they look astonishingly like fish because they have convergently evolved morphologies that work well for fast swimming in the sea.

In contrast to Gould's view that the course of evolution is entirely unpredictable, McGhee predicts that if large, fast-swimming organisms exist on Europa – swimming in the seas under the ice-covered surface of this moon as it orbits Jupiter far away in space – that these animals will possess fusiform morphologies; that is, that they will resemble a shark, a swordfish, an ichthyosaur, or a porpoise.
Drilling at Cape May Zoo and Cape Charles, VA
Contributed by K. G. Miller

The Coastal Plain Drilling Project continued in 2005 with the drilling of a 700-ft corehole at the Cape May Zoo, Middle Township, NJ. This project is a collaboration between Rutgers (lead institution, Ken Miller, co-chief scientist; Jim Browning, staff scientist), and the NJGS (Peter Sugarman). The NJGS funded all drilling costs for the borehole which targeted 19 Ma and younger sequences and aquifers. The USGS Eastern Regional Mapping Team (Gene Cobb, III, head driller) drilled the corehole in fall 2004. The Ocean Drilling Program will publish the site report in 2006 as a supplement to Leg 174AX; Previous site reports from this leg (Bass River, Ancora, Ocean View, Bethany Beach, and Fort Mott) are online at www-odp.tamu.edu/publications/174AXSIR/174axsir.htm.

Located between the Leg 150X Cape May and Leg 174AX Ocean View boreholes, the Cape May Zoo corehole provided the most fossiliferous Miocene section to date, with the prospect for excellent Sr-isotopic age control.

G. Gohn (USGS, Reston), K. Miller, C. Koeberl (University of Vienna) and U. Reimold (University of the Witwatersrand) have been funded $900,000 by the International Continental Drilling Program (ICDP) to drill a 2+ km borehole at Cape Charles, Virginia to investigate the Chesapeake Bay Impact Structure; a crater resulting from a late Eocene (37.7 Ma) impact. The USGS is matching this with $400,000 and additional NSF funding to Miller is pending. We will begin drilling in August 2005 and should finish by November. Then the real work begins.

Core Library Upgrades
Contributed by J. Wright

The Department of Geological Sciences now has a cold storage facility for cores and other geologic samples that require cool and constant temperatures. This facility complements our existing core collection, which houses 11,818 ft of coastal plain cores (ODP Leg 174AX) and 42,000 ft of Newark Basin cores. The cold storage capability is important, providing our faculty and students direct access to material that, in the past, would have been sent to other institutions such as Lamont-Doherty Earth Observatory or Woods Hole Oceanographic Institution. At present, over 400 m of marine sediment cores from two cruises are now curated at 40°F year round.

The benefits of adding the cold storage facility were immediate. Besides being an ideal temperature for storing beverages, cores collected recently from two cruises to the North Atlantic (Jim Wright/Greg Mountain and Yair Rosenthal) are now archived at Rutgers University. The refrigerated container is located near the Green Building so that cores can be easily opened for study. Sam Henderson and Lauren Neitzke are working with these cores to complete their Master’s degree. Finally, we are also using these cores in our Marine Geology and Paleoceanography classes, allowing students hands on experience in sampling and analyzing sediment cores.

Field Studies in Central America
Contributed by I. Saginor

Although Rutgers' geologists have been working in Central America for decades, there still remain many important locations that have yet to be sampled. In August of 2004, graduate students Fara Lindsay, Michael Reilly, and Ian Saginor set off with almost as many GPS units as people to investigate a pair of volcanoes rising from Lake Nicaragua that form the Isla de Ometepe. Accessible by ferry, Ometepe is home to Concepcion and Maderas, the two southernmost volcanoes within the active Central American volcanic arc. Maderas had never been sampled before by anyone, in part due to its remote location and thick cover of vegetation. The samples collected from Concepcion on the northern side of the island compliment work done by Borgia and van Wyk de Vries by providing additional geographic coverage and adding lavas to the suite of tephras that had been previously collected.
When the analyses from Concepcion and Maderas were added to already existing Central American data, a saw-toothed shaped geochemical zoning emerged that correlates with the physical segmentation of the active volcanoes. The physical segmentation of the arc can be easily seen on maps and in fact was first described over 150 years ago; however this is the first time geochemical analyses have been able to clearly indicate these segments.

After leaving Ometepe, we headed northwest to a narrow corridor of weathered volcanic domes separating the Tertiary volcanic front from the active volcanic centers to the west. Although only about 20 miles wide, this zone, potentially, represents several million years, during which the volcanic front either experienced a significant decrease in output or shut off entirely as it migrated westward. This explains the comparatively low topography of our study area and also why no samples dating from about 1-5 Ma have ever been recovered. Our goal was to recover samples that were erupted during this period, if they exist; a task made more difficult by the high degree of weathering the area has experienced. If these samples yield dates within this missing time range, we can begin to investigate how the chemistry of the erupted material changed as the volcanic front swept across western Nicaragua and perhaps also understand why the arc experienced such a downturn in production during this time. Although no professor accompanied us on this trip, we were able to collect dozens of samples and make it home with only minimal damage to ourselves and to the rental vehicle.

Below: Graduate student Fara Lindsay in Nicaragua.

Below: On the shores of Lake Nicaragua.

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Honors Studies
Contributed by J. Wright

On May 5th, 2004, Lauren Neitzke and Kathryn Rose jointly presented their honors projects to the department Abrupt Climate Changes and Thermohaline Circulation during the last Glacial Cycle. Lauren and Kathryn were hired initially to help with the processing of North Atlantic cores collected by Jim Wright and Greg Mountain, and Pat Manley (Middlebury College). Lauren and Kathryn’s interest in the science was piqued as they saw the cores split and the initial results. Some cores showed spectacular color changes, highlighting the large climate changes preserved. Lauren and Kathryn took responsibility for different aspects of the work, which grew into Honor’s projects under the supervision of Jim Wright.

Kathryn focused on the Gardar Drift (eastern flank of the mid-Atlantic Ridge). Her key finding was that during the penultimate interglacial (120 ka Isotope stage 5e), the deep ocean current originating in the northern North Atlantic was stronger than the present day. Lauren studied two cores from the Eirik Drift, at the southern tip of Greenland. Lauren showed that the during the interglacials, the strong North Atlantic Deep water prevented deposition along the southern flank of the sediment drift, while sediments accumulated at >10 times the normal rate on the northern flank. During glacial intervals, deposition was uniform for much of the Eirik Drift.

Lauren and Kathryn shared the Vinton Gwinn Prize (see kudos). Lauren has continued in the graduate program in our department, while Kathryn moved on to University of California, Davis to work with Howie Spero.
The department continued to grow with the hiring of two new faculty members. Dr. Ying Fan Reinfelder is a hydrogeologist that will join us as a tenure-track Assistant Professor joint with the Department of Environmental Sciences, Cook College. Ying has been teaching Hydrogeology and the graduate course Geological Modeling for several years, has two Ph.D. students in our department, and was recently awarded a major NSF ADVANCE grant. We are delighted to have found her a permanent position and are especially happy that this position will be joint with Cook. Ying provides a unique perspective bridging both departments and her joint hiring signals a new era of cooperation between the Faculty of Arts and Sciences (FAS) and Cook College. This is the first fully split position in recent memory and the executive deans of FAS (Holly Smith) and Cook (Keith Cooper, interim) had indicated that the future lies in such cooperative appointments.

Dr. Katja Fennel is a biogeochemical modeler that will join us as a tenure-track Assistant Professor joint with the Institute of Marine and Coastal Sciences. Katja will teaching the new co-listed (Geological Sciences and Department of Marine and Coastal Sciences) 120 Introduction to Oceanography along with undergraduate and graduate courses in biogeochemistry. Katja has been working with Paul Falkowski (joint Geological Sciences-IMCS Professor II), Mimi Katz (Assistant Research Professor, Geological Sciences), and Jim Wright (Assistant Professor, Geological Sciences) on modeling of biogeochemical cycles from the Archean through modern oceans.

We are moving decisively toward a new joint Earth, Oceans, and Planetary Sciences building (EOPS) to be built at Cook. This building will be a ~110,000 sq ft gross/60,000 sq ft net “green” building with state-of-the art laboratory facilities. It will house Geological Sciences (Geological Sciences will occupy ~45% of the space) and provides expansion space for IMCS. Looking at IMCS and Geological Sciences, it is not clear which is more cramped. We are currently renovating closets to serve as offices! The architects have met with us, costs have been estimated, and plans have been drawn (see sketch on first page). The EOPS building is one of the top two academic buildings to be built at Rutgers and a bond issue is being planned. Yet, getting the building will take time. The bond issue probably cannot go this year for economic reasons and it will take 4-5 years to build the building, so think 2011. Though it will take time, the EOPS building is the sin qua non for making Rutgers a leader in Earth, Oceans, and Environmental Sciences.

Geological Sciences will continue to grow and interact with the departments of Marine and Coastal Sciences, Environmental Sciences (including the nascent Atmospheric Sciences program), and Ecology and Evolution. A summit held in early Jan. 2005 with members of IMCS, Geological Sciences, Environmental Sciences, Atmospheric Sciences, Ecology and Evolution, and the Cook dean produced a plan to work together at the graduate level. Preliminary plans are to establish a Division of Earth, Oceans, Environment, and Ecology that will serve as a joint recruitment and clearinghouse for graduate applications. It will allow Rutgers to present a clear and coherent picture of integrated graduate studies in these disciplines. It will not adversely affect traditional students; for example, our graduate program will continue to set its own guidelines, maintain its own resources, and determine its own destiny. Yet, this graduate division will encourage and foster interdisciplinary studies and attract new resources. We will work hard to have professional and social interactions amongst these programs, with geologists and geophysicists interacting with modelers, ecologists, environmental geochemists, biogeochemists, atmospheric scientists, and microbiologists, fluid dynamicists, and others from these 4 departments.

The number of Geological Science majors is steady at 25. Though we would like to see the major grow back to 35-40 students, we have established Geological Sciences as a major teaching force in the university. We continue to teach more and more students, with over 3000 students per year. The Executive Dean of FAS is quite pleased with the number and quality of instruction. There are not many universities in the country that place its top-tier of professors (including NAS members) on the front lines of 100-level instruction. We do so with great success.

Old traditions continue, with the annual Christmas party at the museum and students in the field (3 students attended YBRA this year) and new traditions have begun. Our spring party has morphed into a graduate students poster session over beer, followed by a cookout on the now quite pleasant Busch green.

We participated in a survey of selected Geoscience Departments as part of an NSF-funded study at New Mexico State. Some of the facts are illustrative. Surveys were solicited from 66 departments, with 19 responding. I highlight our comparison with our cohort-school UC Santa Cruz and with other major flagship state universities (Oregon, Tennessee, Alabama, Oklahoma). Some highlights:
1) Our faculty size is approaching the correct size; our FTE count 17 (“lines”) translates into 28 faculty (13 full-time lines, 7 shared, 4 research, 2 annuals, and 2 emeriti).
2) We lead in undergraduate teaching (3000)!
3) Our number of majors is adequate (same as Tennessee)
4) We are under-supported by the university for graduate support (9TA’s and 3 Fellowship versus 19 @UCSC, 20 @Oregon, 27@ Alabama) and need to enlarge the graduate program with more support.
5) The only worrisome statistic is our alumni support. We are next to last. We need to improve our communication with alumni and foster closer ties.

The growth of Geological Sciences at Rutgers is a result of hard work and support from the administration, the faculty, students, and alumni. Rutgers Geological Sciences continues to distinguish itself as a major center for global biogeochemistry, volcanology (see article by Saginor), paleoceanography, paleomagnetism, radiometric dating and time scales, Quaternary Studies, meteoritics, and structure and evolution of rift and drift basins. Come visit us, hear a seminar, and join us for pizza or a beer.

Current Graduate Students

Mark Baum, F, Ph.D., Structure
Joseph Boesenberg, P, Ph.D., Meteoritics
Louise Bolge, P, Ph.D., Petrology
Claire Condie, P, Ph.D., Volcanology
Ryan Earley, F, M.S., Geophysics
Jennifer Elder Brady, P, Ph.D., Structure
Amber Granger, F, M.S., Structure
Ashley Harris, F, M.S., Stratigraphy
Sam Henderson, F, M.S. Paleoceanography
Alissa Henza, F, Ph.D., Petrology/Geophysics
Alicia Kahn, F, Ph.D., Paleoceanography
Andrew Kulpecz, F, M.S., Stratigraphy
Brian P. Lettini, P, M.S. Geochemistry
Fara Lindsay, F, Ph.D. Geochemistry
Cynthia Liutkus, F, Ph.D., Sedimentology
Katherine I. Milidakis, P, M.S. Volcanology
Svetlana Misintseva, P, M.S., Stratigraphy
Godwin Mollel, F, Ph.D., Quaternary Studies
Donald Monteverde, P, Ph.D., Stratigraphy
Lauren Neitzke, F, M.S., Paleoceanography
Aimee Pusz, F, M.S., Paleoceanography
Michael Reilly, F, M.S., Petrology
Eric Roman, P, Ph.D., Hydrogeology
Ian Saginor, F, M.S., Petrology
Bill Savarese, P, M.S., Petrology
Michael E. Serfes, P, Ph.D., Geochem./Hydro.
Jane Uptegrove, P, Ph.D., Geophysics
F = Full time (15); P = part time (12);
13 MS, 14 Ph.D.

Kudos, External Funding, and Comings/Goings

The Department of Geological Sciences awarded the 2004 Vinton Gwinn prize to Kathryn Rose and Lauren Neitzke; they each received $250 from the Steven K. Fox Student fund.
A report on sea-level change in NJ authored by undergraduate Alissa Stanley, Ken Miller, Peter Sugarman (NJGS/RU), and Mike Aucott (NJDEP) was released at a press conference held on the beach in Belmar, NJ by the Governor of New Jersey, the DEP Commissioner Bradley Campbell, the Honorable Representative Frank Pallone, and the Mayor of Belmar.
Graduate student Cindy Liutkus was awarded 850 Euros (~$1075) from the International Association of Sedimentologists for her PhD research. This funded a field season in Utah in summer 2004.
Graduate student Alicia Kahn was awarded a dissertation award of $1080 from the Grad School, an Amherst Graduate Fellowship in Geology and Paleontology, and a 2004 SEPM Mobil Foundation Student Grant from the North American Micropaleontology Section.
Graduate student Andrew Kulpecz received a summer internship with Shell Oil in Houston to work with the regional framework studies team.
Graduate student Alissa Henza received a GSA’s Graduate Student Research Grant of $1000 for summer research.
Graduate students Andrew Kulpecz and Ashley Harris were each awarded $1500 fellowships from the Society of Professional Well Log Analysts.
Graduate students Jennifer Elder Brady and Mark Baum were each awarded $1200 Grants-in-Aid by the American Association of Petroleum Geologists (AAPG) for their research.
Ben Cramer was one of 5 finalists for the 2004 Council of Graduate Schools/University Microfilms International Distinguished Dissertation Award in Math, Physical Sciences, and Engineering. Ben will join us as a part-time post doc.
Dennis Kent received the Rutgers Board of Trustees Award for Excellent in Research for the Year 2003-2004, was elected to the National Academy of Sciences (see headline article), and was appointed the Chairman of the
Joint Oceanographic Institutions (JOI) Board of Governors. JOI is the US corporation that oversaw DSDP and ODP and is overseeing the US Component of IODP.

Paul Falkowski received the Vernadsky Medal from the European Geophysical Union in 2005. This medal has been established by the Working Group (IWG) on Biogeosciences in recognition of the scientific achievement of Vladimir Ivanovich Vernadky. It is reserved for scientists for their exceptional contributions to biogeosciences in general. He was also invited to serve on the Terrestrial Planet Finder - Interferometer Science Working Group (TPF-I SWG).

Ken Miller, Greg Gohn (USGS, Reston), C. Koeberl (University of Vienna) and U. Reimold (University of the Witwatersrand) have been funded $900,000 by the International Continental Drilling Program to drill a 2+ km borehole at Cape Charles, Virginia to investigate the Chesapeake Bay Impact Structure, a crater resulting from a late Eocene (37.7 Ma) impact. The USGS is matching this with $400,000 and additional NSF funding to Miller is pending.

Alumni News

Please send alumni news to Ken Miller kgm@rci.rutgers.edu

Rusty Gilbert ('77 BS Geology) of Chevron-Texaco interviewed Rutgers students at Princeton; Chevron-Texaco made 3 offers. Graduate student Mark Baum will join Chevron-Texaco and Alicia Kahn will intern.

Daniel Deocampo (GSNB) was hired as a tenure-track Assistant Professor in the Department of Geology California State University – Sacramento.

Matt Golombek, our Favorite Martian, was the CNN commentator during the landing on January 24, 2004 and appeared on a 3D Mars special. Matt gave a special presentation on Mars to the Rutgers Museum in Nov. and was warmly welcomed by President McCormick.

Tim Ungrady reports “It's been a long time! Enjoyed getting the Newsletter. Glad to see there is a Steve Fox Fund. One unforgettable character. As to the last 25 years, I worked for Exxon (micropaleo) in New Orleans and Houston from 1979 until 1986 and for Brown and Root Environmental in Wayne, PA from 1987 until 1996. Unfortunately, I was not able to find a decent-paying job in geology after a corporate downsizing. I'm now a CPA in Springfield, PA working for Gelman & Pelesh, P.C. That's a career change. I do miss geology, though.”

Dan McHugh reports “just happened across the Department's website, including the alumni page, and thought I should update my bio if not on file with department. I graduated in 1978 with a BA in geology. After graduation and spending two years with Exxon Research in Jersey in the solid state chemistry group I went on to get a law degree in California. During that time my geology connection was acting as landman and helping to secure oil and gas leases and royalties for a small company with production throughout mid-California. Have remained here since and after spending 10 years in private practice, decided to take position and establish City Attorney’s office for the City of Redlands in southern California...and have held that position for next 10 years specializing in land use, environmental and water law. My only personal connection to geology (apart from understanding groundwater basins in connection with water law) is that I have maintained a large mineral collection for past 35 years and probably have half of the Franklin/Sterling Hill ore deposits out here. I am close friends with the Hauck’s and visit Jersey at least twice a year for the Franklin mineral scene. Keep up the good work with the website and “Redbeds.” Say hello to anyone who may remember me.

Ethan Skinner (GSNB, MS 2001) and Nadine Lurie Skinner (MS 2000) had a baby boy in April, Noah Gabriel. Ethan defended his Ph.D. thesis on July 2nd; we wish him well. Then the family will be relocating from Columbus, OH to Houston where Ethan has accepted a job as a production geologist with Shell. Congratulations!

Brenda Ekwurzel (MS 1988) is now with the Union of Concerned Scientists (a non-profit organization of citizens and scientists for environmental solutions) in
Washington, DC. Brenda received her PhD at Columbia and until recently was in the Dept. of Hydrology and Water Resources, at University of Arizona in Tucson, AZ.

Frederic L. Kadey Jr. (1941) reported: “I can not tell you how much I have appreciated receiving the most recent copy of THE RED BEDS. When I was a geology student at Rutgers sixty two years ago. Helgi Johnson and Al Wilkerson were two of my professors and there were only three or four other students in our classes. I can see that things have changed somewhat since then. My Rutgers attendance was appreciated by my father in law (to be) since he and his two brothers also have Rutgers degrees. This is also appreciated by his daughter Brenda – my wife of 52 years. After World War II, I applied to Harvard University and was accepted for my Masters Degree in Geology. I remained an extra year at Harvard as a Teaching Fellow in Mineralogy. My first job after Harvard was in Pittsburgh as petrographer in U.S. Steel laboratory. It was in Pittsburgh that Brenda and I met. After four years in Pittsburgh with U.S. Steel I joined Johns Manville Corporation where I remained for 32 years until my retirement. My last position with J.M. was Exploration Manager in Denver, Colorado. My fieldwork was in non-metallics and specifically to find diatomite and perlite deposits in the main market areas of the world. My staff and I explored on every continent except Antarctica. I’m 84 years old now with diabetes, which limits my energy and my ability to travel. I have kept an interest in the Society of Mining Engineers where at one time I was the President. We have two grandsons, who at ages 12 and 13 are too young for immediate consideration. They are both “A” students and very athletic and show considerable interest in Rutgers. I think it would be great to have a third generation of KADEYs at Rutgers.

2004 Colloquia

Spring semester
Feb. 04 - Zoe Finkel, Institute of Marine and Coastal Sciences, “Does size matter? Cope's rule, diatom cell size, and climatic feedbacks in the Cenozoic”
Feb. 11 - Allen Shapiro, U.S. Geological Survey, “Recent advances in characterizing ground water flow and chemical transport in fractured rock: From cores to kilometers”
Feb. 18 - Missy Eppes, University of North Carolina, “Impact of Holocene climate on alluvial fan aggradation: San Bernardino Mountains”
Mar. 03 - Steve Stanley, Johns Hopkins University, “Secular oscillations in the dominant mineralogy of carbonate-secreting organisms driven by tectonically forced shifts in seawater chemistry: Observations and experiments”
Mar. 10 - Dennis Kent, Rutgers University, “What triggered the Paleocene-Eocene thermal maximum?”
Mar. 24 - Klaus Jacob, Lamont-Doherty Earth Observatory, “Hazards, global urbanization, and catastrophic risk”
Mar. 31 - Frank Pazzaglia, Lehigh University, “New views on an old orogen: Post-Triassic evolution of the Appalachians”
Apr. 07 - Dave Robinson, Rutgers University, “New Jersey landscape climatology”
Apr. 14 - Scott Stanford, N.J. Geological Survey, “Late Miocene to Holocene geology of the New Jersey Coastal Plain”
Apr. 21 - Yair Rosenthal, Institute of Marine and Coastal Sciences, “Coring in Indonesia: A paleoceanographic perspective”
Apr. 28 - Rick Fairbanks, Lamont-Doherty Earth Observatory, “Radiocarbon - production, fluxes, and age dating”
May 05 - Klaus Keller, Penn State University, “Are there significant decadal scale trends in the oceanic oxygen budget?”

Fall Semester
Sept. 22 - Peter deMenocal, Columbia University, “African climate change and mammalian evolution during the Late Neogene”
Sept. 29 - Christopher House, Penn State, “Anaerobic methanotrophs in the marine subsurface”
Oct. 06 - Andrei M. Sarna-Wojcik, USGS Menlo Park, “Tephra; the bad, the good, and the beautiful: Application of tephrochronology to geologic studies in the western U.S.”
Oct. 13 - Ann Pearson, Harvard University, “Unraveling the early history of life: Using genetics to understand molecular markers in Archaean rocks”
Oct. 27 - John Tarduno, University of Rochester, “Hotspot motion, scales of mantle convection and the long-term history of the geodynamo”
Nov. 03 - Matthew Golombek, Jet Propulsion Laboratory, “Geology of the Mars exploration rover landing sites: Climate change from wet to dry”
Nov. 10 - Tina Flierdt, Lamont-Doherty Earth Observatory, “The dissolved radiogenic isotope signature of seawater - from million year time-scale records to understanding underlying mechanisms”
Nov. 17 - John Kingston, Emory University, “Laetoli paleoecology reconsidered: An isotopic perspective”
Dec. 01 - Nicholas Lancaster, USGS Reston, “Eolian sand seas - a product of Quaternary climate change in sub tropical latitudes”
Dec. 15 - Katja Fennel, IMCS, Rutgers, “Modeling the role of continental shelf processes in Nitrogen cycling”

How to help us

The Geology Development Fund is the mechanism for directing alumni contributions to the department. To help the Department, please specify the Geology Development Fund on your contribution. Each month,
we get a list of alumni supporters and respond with a thank you (usually). Your generous donations have allowed us to provide summer field camp awards and field expenses for graduate students to conduct their research. Your gifts also have allowed us to leverage University funds to purchase field vehicles for the department.

We are also actively seeking contributions to the Steven K. Fox Student Fund. This fund was created in Steve's memory specifically to support undergraduate and graduate student research, field work/camps, etc. To direct contributions to this fund, specify Geology Department Steven K. Fox Student Fund on your contribution. Theses monies will be used as unrestricted funds to specifically support students, including awards for summer field camps (awards of $500, $500, and $250 were made this year for to attend the YBRA field camp to Alissa Stanley, Elizabeth Hawxhurst, and Aaron Weshnak), partial subsidy for Rutgers field camp, and graduate

student field and meeting support. The donations help us to help support graduate and undergraduate students. Our goal is to convert this fund into an endowed fund once the principal has grown large enough for us to support these activities from the income.

As noted above, alumni contributions to Rutgers Geology were the next to lowest of the 19 peer universities surveyed. We believe that this is changing due to the high profile of our department and your generosity. Last year we received an anonymous pledge of $5,000 to the Fox fund. This year, we are delighted to have had a pledge of $10,000 from an anonymous donor for support of graduate students. We also thank Olivia Cooper Lagina (’77) for a major donation to the development fund. We thank all of you for your contributions. Giving to Rutgers Geology can really make a difference in the lives of our students!

Below Steven Knowlton Fox, Professor (1948-1985)