



Base camp at 17,000ft in the Little Ice Age moraines of the Quelccaya Ice Cap, Cordillera Vilcanota, Peru.

A LETTER FROM THE DEPARTMENT HEAD

FACULTY NEWS

**New Faculty:**  
 Stan Stevens Page 3  
**Faculty Notes** Page 4

**Retirements:**  
 Rutherford Platt Page 8  
 James Hafner Page 8

ALUMNI NEWS

**Alumni Notes** Page 9

**Alumni Spotlights:**  
 Celine Suarez, BS '01 Page 12  
 Mark Serreze, BS '82; MS '84 Page 12  
 William Nechamen, BS '83 Page 13  
 James Bradbury, PhD '05 Page 13

IN MEMORIAM

Andrew Wyse, BS '83 Page 11  
 Gerald Williams, BS '76, MS '79 Page 11  
 Barry Timson, MS '72 Page 11

AROUND THE DEPARTMENT

Qian Yu research trip Page 3  
 Geo majors go to Iceland Page 7  
 News from the State Geologist Page 16  
 Student Research and Awards Page 17

DEPARTMENT GIFTS

Thanks to our Donors Page 18  
 Giving Opportunities Page 19



Dear Geosciences Alumni,  
 Hello from Amherst. I (Mike Williams) took a nine-month break from the Department Head position, and Laurie Brown stood in for the 2007-2008 academic year. Laurie was a fantastic Department Head, guiding the department through another visible, productive, and successful year. This update comes from both of us. There's lots happening around the department in terms of faculty research, student research, building renovation, retirements, hiring, and much more. Details on many of these items are in the newsletter, but we will hit some of the highlights here.

We had a superbly successful search for a new geographer this year. I am thrilled to report that we have hired Dr. Eve Vogel as our newest human geographer. Eve is coming from the University of Oregon where she has recently finished up her Ph.D. Eve's research focuses on the politics, political economy, institutions, ideals, and environmental impacts of river development and conservation. She has studied the balance between power producer and conservation interests and between local and national interests especially with respect to electric power generation. Her dissertation was on the Columbia River, and she plans future comparative work on other river systems, beginning with the Connecticut. She's broadly



interested in conservation and development, legal and political geographies, environmental history, and the ideas and practice of regionalism. Eve is already an experienced and excellent teacher, having taught a number of courses at all levels. Eve will be a great addition to our department. We can't wait until she arrives this fall.

We also had a successful search for a sedimentologist last year, but sadly, our new faculty member was unable to accept the position in the end. Now (summer '08), we are interviewing candidates and finishing up a new search and will hopefully have a new sedimentologist in house by sometime next year. If not, we will just have to recruit John Hubert back out of retirement. From the way he seems around the department, John should be good for at least another ten years of teaching and field work. We have already cleaned out the old sedimentology lab. It has been renovated and remodeled, and the new lab

furniture is in. We now have a completely renovated thin section and rock crushing lab, also equipped with a new large cold room for core storage. We are ready now for the cores that Julie B-G will be bringing back from Lake-E in Russia and materials from many other projects as well. By the way, the USGS just finished drilling through a critical section of the Lake Hitchcock varved clay in Sunderland, and those cores are in the cold room. One of the great things about having our own cold room is that the research materials are in house and thus available for graduate and undergraduate student projects.

Pete Robinson was back for the NEIGC conference last fall. I think he has been to more than fifty of them, literally! He is still living in Norway but also still working on maps of Massachusetts geology. Don Wise, George McGill, John Hubert, Tony Morse are all retired but are all as active as ever around the department.

Sadly, both Jim Hafner and Rud Platt have joined the ranks of the retired. Both intend to stay active in research and both will stay involved with the department (see article). It is a big loss for the geography program, but we wish them both the best. One piece of good news is that Stan Stevens has been hired as an Associate Professor in geography (see page 3). In addition, we hope to begin a new faculty search for one more geographer this year. Stay tuned. The real challenge is keeping up with the retired faculty around here.

Although our ultimate goal is to build a new building someday, hopefully a green building, we continue to clean, paint, renovate, and generally prop up Morrill. We have a new mass spectrometer in the stable isotope lab and a new SEM. Sheila Seaman has installed a new FTIR (Fourier Transform Infra-red Spectrometer) to look at water in minerals among other things. We will be adding cathodoluminescence capability to the microprobe and SEM. The geosciences are always changing, and we have to keep changing too. We will be outfitting a new seminar/classroom this summer. AND the best news of all, we will be adding one new van to our aging fleet this summer. Our vans are still our most important classrooms! Stop by and visit if you are in the area.

We are anxious to hear from our alumni. We would love to share your advice and experiences with our graduate and undergraduate students. We'll share stories about the faculty too if they aren't too embarrassing. How about sending your best Don Wise story? We are also continuing our (new) tradition of featuring several alumni in each newsletter. This time, we have

#### TEACHING WITH AUTHENTIC DEEP-SEA CORE DATA: LESSONS FROM "SCHOOL OF ROCK"

In 1985, I was invited by the newly hired education director at Joint Oceanographic Institutions, Leslie Peart, to develop and lead a sea-going, hands-on discovery expedition for Earth science teachers and informal educators. The goal was to expose educators to (1) the nature of scientific ocean drilling research, which depends on inquiry, technology, and teamwork; and (2) the wealth of data collected and discoveries made during four decades of scientific ocean drilling (beginning with the Deep Sea Drilling Project – DSDP in 1968, the Ocean Drilling Program – ODP, and now the Integrated Ocean Drilling Program – IODP). The School of Rock (SOR) was born with the help of co-instructor Kristen St. John (James Madison University) and supporting educational and technical professionals from JOI and IODP. The 11-day expedition aboard the research drilling-vessel JOIDES Resolution from Victoria, British Columbia to Acapulco, Mexico was the first time JOI had used a transit between ports, and between drilling expeditions, for the sole purpose of education and outreach. The School of Rock was sponsored by JOI in alliance with Texas A&M University and the Lamont-Doherty Earth Observatory of Columbia University, who jointly operate and staff the JOIDES Resolution (the JOI alliance is now part of the Consortium for Ocean Leadership). Since the initial expedition in 1985, other instructors and sup-



port personnel have joined the team. We have conducted mini-workshops at national meetings, museums, and college and university campuses. During the summers of 2007 and 2008, week-long SOR workshops were held at the Gulf Coast Repository of the IODP in College Station, TX, while the JOIDES Resolution is in dry-dock. The plan is to include sea-going SOR workshops again in the future. The SOR instructors have developed many hands-on, active-learning activities at the college/university level for use at the workshops and in our own classrooms. Topics include: testing the seafloor spreading hypothesis, deep-sea core description (lithostratigraphy), age model development (biostratigraphy, magnetostratigraphy, and orbital cyclicity), the Paleocene-Eocene Thermal Maximum (a 4-part exercise), geophysical methods used for site selection and studies of global sea level change (seismic stratigraphy), and down-hole logging, to mention a few. The teachers and informal educators who participate in the SOR workshops then develop age-appropriate materials for their classrooms or museums. These materials are available online and the list of activities continues to grow (<http://www.oceanleadership.org/materials/activities>).

four featured alumni. If you have nominations for future featured alumni, or if you would consider being featured yourself, just drop us a note.

Don't forget, the new 2009 calendars will be out in the early fall. They highlight department faculty and students and are automatically given to anyone who contributes to any of the department funds. They can also be purchased directly from the department office.

Please visit the department webpage ([www.geo.umass.edu](http://www.geo.umass.edu)) if you have a minute and visit us in person if you get to Amherst.

Mike Williams and Laurie Brown

#### JOE HARTSHORN

It is with great sorrow that we relay news of the passing of our beloved professor Joe Hartshorn. Joe died May 5th, 2008 in Sarasota Florida. Joe was a passionate teacher, colleague and friend to so many, and the gift of his life to us all will live on in our memories and in the students he nurtured. In collaboration with Joe's family, including Pat Cohen his loving partner, the Dept of Geosciences has set up the "Joseph H. Hartshorn Memorial Fund". Contributions can be made by sending us a check to "UMass-Amherst" with "Joe Hartshorn Fund" written in the note line. In the next issue of this Newsletter, we will provide a much larger article about Joe's contributions and legacy. If you would like to contribute to this article, please let us know.

If you're a science teacher, or know a science teacher, who might be interested in these activities or participating in a future SOR, please contact me ([mleckie@geo.umass.edu](mailto:mleckie@geo.umass.edu)).

*Contributed by Mark Leckie*

## STAN STEVENS HIRED AS ASSOCIATE PROFESSOR OF GEOGRAPHY

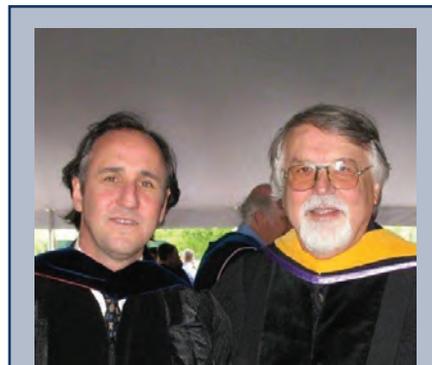
Stan Stevens, a geographer who has been teaching in the Department for 10 years on an ad hoc basis, has now been hired on a long-term, half-time basis. Stan earned three degrees at the University of California, Berkeley, where his advisors were the renowned geographers Barney Nietschmann and James Parsons. He brings expertise in political ecology, cultural ecology, environmental history, and inter-



national conservation policies to the geography program's new emphasis on environmental geography. Stevens is internationally recognized for his research in the Mt. Everest region of Nepal, where he has worked closely with Sherpa communities in and around Sagarmatha (Chomolungma/Mt. Everest) National Park for twenty-five years on collaborative research projects and as an adviser to Sherpa leaders, national park

administrators, and NGO staffs on conservation and indigenous rights issues. He has also long been active in international efforts to link indigenous rights and conservation through his work with IUCN's (the World Conservation Union) World Commission on Protected Areas and its Commission on Environmental, Economic, and Social Policy. He is the author of *Claiming the High Ground: Sherpas, Subsistence, and Environmental Change in the Highest Himalaya* and the editor

and main contributing author of *Conservation Through Cultural Survival: Indigenous Peoples and Protected Areas*.



Alan Marcus, Ph.D. Geography, and Professor Richard Wilkie at commencement, May 2008.

## QIAN YU TRAVELS TO GULF OF MEXICO FOR CARBON CYCLING RESEARCH

In August 2007, Qian Yu and her graduate student Weining Zhu went on an 8-day cruise in the Gulf of Mexico and collected ground truth data for carbon cycling research. Jointly with other 9 scientists from UMass-Boston in an Office of Navy Research funded project, the field experiment was to measure the chromophoric dissolved organic matter (CDOM) in the low flow period of the Mississippi River Plume and Atchafalaya River Plume. By deploying an instrumented undulating vehicle starting at the mouth of the Mississippi, the cruise explored several cross-shelf transects from 20 m isobaths to 2000 m isobaths and provided high-resolution 3-dimensional mapping of CDOM and sediments. Frequent discrete samples were also collected and analyzed

in a wet lab on the research vessel (RV Pelican) for relating CDOM with dissolved organic carbon. These inherent

optical properties (IOP) of the naturally produced and terrestrial CDOM as it enters the ocean. Qian measured apparent optical properties (AOP) using

acquired several satellite images for the study area during the field data collection. After careful calibrating between IOP and AOP measurements, she aims to estimate riverine carbon flux from satellite and in situ data. Her study will help to investigate various biological, chemical, physical, and optical processes that may affect CDOM in the Mississippi River Plume. The Mississippi River drains 40% of the terrestrial area of the US. Therefore, this research is very important for studying the carbon cycle at the land-sea interface at a large scale.



optical properties (IOP) of the natural water body are valuable to examine the sources, behavior, and fate of biologi-

cally produced and terrestrial CDOM as it enters the ocean. Qian measured apparent optical properties (AOP) using a hyperspectral radiometer from immediately above the water surface every 3 seconds (9 meters interval). She also

## FACULTY NOTES

**Laurie Brown** has continued her paleomagnetic studies in South America with continued interest in back-arc lava flows of southern Patagonia. The last three Januaries have seen field trips to Santa Cruz province, Argentina – two with **Chris Condit** as field assistant, one with undergrad **Hossanna Lilydahl-Schroder**. Other interests in Patagonia now include the ICDP drilling project PASADO, an international program to drill a maar lake in the Pali Aike volcanic field in southernmost Patagonia. Laurie submitted the US proposal for funding this massive paleoclimate study to NSF this spring and she has her fingers crossed. When not in South America Laurie continues her active collaboration with Suzanne McEnroe and Pete Robinson at the Norwegian Geological Survey in Trondheim. She spent 6 weeks in Norway last year on collaborative fieldwork and lab studies at NGU, concentrating on ancient rocks with large negative remanent anomalies. Laurie has several active grad students including one studying secular variation of Patagonian lavas and another working on magnetic properties of basalts as sources of Martian magnetic anomalies. On the teaching front Laurie continues to teach Geophysics and Paleomagnetism, as well as the undergrad Geologic Mapping course. Last year saw her turn at the mega-Intro Oceanography course – still popular among the non-science majors. In her free time Laurie is associate department head for Geology, and last year took a short turn at being Department Head, giving **Mike Williams** a well-deserved break from those arduous duties.

**Julie Brigham-Grette** has

been especially busy this past year or so and to her delight, things won't let up for a while. After several years of field work, numerous proposal submissions and political visits to Moscow, the Lake El'gygytyn Drilling Program has finally been funded. "Lake E" as we all know it, is a large lake system lying inside a 3.6 Myr old meteorite crater located 100



Julie B-G sizing up pipes used for moving hydrothermal waters during a site visit with the ICDP in April 2007.

km north of the Arctic Circle in Chukotka, Northeast Russia some 250 km from the nearest road or airport. In collaboration with Martin Melles at University of Cologne, Pavel Minyuk in Magadan Russia and Christian Koeberl, University of Vienna, the international group will now conduct drilling at the lake in spring of 2008, and February to May in 2009. Funding to the tune of \$6.5 M for logistics and another \$3M for science is being provided as part of the International Polar Year from the International Continental Drilling Program, the US National Science Foundation (Division of Earth Sciences (EAR) and the Office of Polar Programs (OPP)), and the German Ministry for Science and Education. The objective is to collect a continuous record of Arctic climate change over the past 3.6 Myr. Research on pilot cores and other site survey work was recently published in 11 papers in the January 2007 issue of

the Journal of Paleolimnology. **Rob DeConto**, **Steve Burns**, **Laurie Brown** and **Steve Petsch** are also involved from UMass. **Kenna Wilkie** is the first of several PhD students to be recruited to the project. Meanwhile, **Beth Caissie** (MS '06) continues her PhD work on the sea ice history of the Bering Strait region and **Zach Lundeen** (MS '05) finished his work in the Chukchi Sea and is now in a PhD program at Univ. Utah. **Caitlin Majocka** (MS '06) who worked on Lake E sediments is now employed with the Mass. Dept of Environmental Protection in Lawrence.

Other good news is that the Research Experience for Undergraduates Program on Svalbard has new funding from NSF for 2008-2012. The program led by **Steve Roof** (PhD '95) of Hampshire College is a collaboration including me, Al Werner (Mt Holyoke College), **Mike Retelle** (PhD '85; now at Bates College) and Ross Powell (Northern Illinois University). Over the past 3 yrs the program has been a complete success given that nearly all 20 of the participating undergrads from around the country are now in graduate programs. This includes **Luke Trusel** (BS '06) at Northern Illinois University and **Eric Helfrich** (BS '07) at Northern Arizona University.

**Stephen Burns** continues to focus his research on using speleothems to study climate change. Together with former Post-doc **Francisco Cruz** (now on the faculty at the University of Sao Paolo), I am studying variations in the South American monsoon system, which affects climate all across the tropics in Brazil and beyond. Ph.D student **Steve Gaurin** is using speleothems from Bermuda to study climate

variations in the North Atlantic region over the past 2000 years. In particular, we are interested in extending records of the North Atlantic Oscillation and Atlantic Multidecadal Oscillation beyond the instrumental record of the past 150 years. Prof. **Rob DeConto** is also involved as we are also modeling how Atlantic Ocean temperature variations affect climate in Bermuda to help interpret our speleothem records. I also continue to work on samples collected several years ago from Oman and Yemen and hope someday to be able to continue our fieldwork in Yemen.

In other news, the Stable Isotope Laboratory has expanded to include a second instrument, which is dedicated to analyzing the isotopic ratios of individual organic compounds, or biomarkers. This instrument will allow us to tackle a whole new range of paleoclimate questions. One important application will be to the sediments of Lake El'gygytyn, in Siberia. These sediments (see the work of Prof. **Julie Brigham-Grette**) contain a 3 million year record of high latitude climate change, but



Ivo Karmann and Francisco da Cruz doing fieldwork on speleothems in Brazil.

without the usual sedimentary recorders of climate. By using, for example, the hydrogen isotope ratios of organic compounds that are produced by aquatic phytoplankton, we

## FACULTY NOTES

can trace changes in the isotopic composition of the lake water, which is controlled by regional temperature and humidity.

This year **Piper Gaubatz** served as acting program head while **Julie Graham** was on medical leave. Following discussions among students and faculty during the fall and early spring semester, the geography faculty undertook a set of new program initiatives during the spring semester. Particularly important and appreciated by students have been efforts

to increase opportunities for faculty and students to share our research and to talk geography and more informal interaction among faculty and students. This spring we held a dinner for new graduate students and established what are hoped will become ongoing program "traditions": a bi-weekly informal "brown bag" lunch talk series featuring presentations by faculty and grad students, a monthly faculty colloquium where faculty read and discuss each other's work, and a monthly faculty-student dinner in the Common Room followed by a "World on Wednesday" film and discussion. This spring's films engaged with issues of oil development in the Arctic National Wildlife Refuge, the abandonment of California's state-mandated electric car program, and Indian efforts to defend sacred places in the West. Brown bag talks included presentations on Nepal's Maoist revolution (**Stan Stevens**), Shanghai's recent



The now-semiannual department chili cookoff.

transformations (**Piper Gaubatz**), bicycling as an alternative means of transportation (**Ted White**), doing fieldwork on migration between Brazil and the U.S. (**Alan Marcus**), and doing fieldwork in Guatemala (**Brian Konz**).

**Jim Hafner** has retired from the Geoscience Department, but will remain in-residence as an Emeritus Faculty member. He will be continuing his interests in support of the Eastern Mindanao Biodiversity Archiving project in the Philippines, working as an ad hoc consultant with the Mekong Commission, and finishing some long delayed writing projects. He sends his sincerest thanks to the many students he has been privileged to work with over the years, and his appreciation to all his colleagues in the Geoscience Department for their support, encouragement and friendship. Those relationships are the most valued and rewarding experiences of his career at UMass Amherst. Many thanks!!

**John Hubert** retired September 1, 2006, and now has an office off the student common room in 254 - near the coffee pot! Still active, John has finished a paper on Scoyenia trace fossils in the Sugarloaf Arkose in the Deerfield basin. He is writing another on the interplay of tectonics and sedimentology recorded by the Sugarloaf Arkose, involving

fieldwork with **Jim Dutcher**, supervision of a Master's thesis with **Matthew Walsh**, and lively discussions with **Don Wise**. Mary Alice uses a cane walking, but otherwise is doing well.

**Bill McCoy** is continuing work on loess of the last several glacial cycles of Central and Eastern Europe (in collaboration with former UMass Geology Master's and Ph.D. student, **Dr. Eric Oches**, now at the University of South Florida). Bill's most recent work focuses on loess in Hungary and Serbia. He is also hoping to initiate new work on amino acid paleothermometry of interglacial travertines in Europe. The many thick, interglacial travertines preserve abundant mollusk shells that should contain an interesting record of interglacial paleoenvironmental conditions.

**S. A. Morse** writes: It's (not) been a quiet year in Room 12, my home town. We have had three diligent scholars in the back rooms, including **Calum Hetherington**, now departed for Canada, and **Nancy Price**, enroute to Maine. The steady-state characters, **Greg** and **Chris**, are hammering away on their theses. Defying all predictions, I taught the Bulk Earth course again in Fall '06,

to a fine group of a baker's dozen students and a few stray faculty, and learned more about the Earth into the bargain. I determined the melting relations at 5 kb in a new

ternary system, fayalite-albite-anorthite, and constructed an Mg-Fe olivine-plagioclase diagram relevant to the origin of syenites and trachytes. I was pleasantly rewarded for past crimes by receiving, from colleagues at UCLA, a Goldschmidt Conference abstract on the Formation of 4.5 Ga Continental Crust that defends my 1987 paper on the origin of earliest planetary crusts. With many friends and colleagues, including **Peter Robinson** and Suzanne McEnroe, I attended the first Frontiers of Mineralogy Conference in June, in Cambridge, England, and gave two papers, on the syenite work and on internal reservoirs in large magma bodies. We keep on skiing, mowing, and farming.

**Steven Petsch** joined the Department of Geosciences in 2002. He is a biogeochemist, meaning he studies chemical signatures of the interaction of living organisms and their geologic environments. One focus of Steve's research is to

understand the process of biological methane generation deep within ancient sedimentary rocks. Natural gas is a common and valuable energy resource composed primarily of the gas methane, and is extracted from sedimentary basins all



A colony of Bryozoa, *Pectinatella magnifica*, Puffers Pond, Amherst.

around the world. In many places, methane is generated through high heat and pressure alongside oil. However, more and more methane within sedimentary rocks is recog-

## FACULTY NOTES

nized as a biological product, that is, the result of biological activity occurring deep underground where microorganisms can live off of organic compounds in sedimentary rocks, producing methane as a by-product. Steve's work has included methane reservoirs in the Antrim Shale of Michigan, the New Albany Shale in Indiana and Illinois, coals in the Powder River Basin of Wyoming and San Juan Basin of New Mexico and Colorado, cyclothems of the Forest City Basin in Kansas and Missouri, and coals and shales in the Wilcox Group of Louisiana. In each of these settings, Steve and his group are finding living microorganisms occurring deep underground, along with molecular signatures of coal or shale biodegradation and economically significant accumulations of natural gas.

**Stan Stevens** continued his research and activism on Indigenous peoples and conservation issues. He was appointed to the IUCN (World Conservation Union) CEESP (Commission on Environmental, Economic and Social Policy) (he has been an appointed member of IUCN's World Commission on Protected Areas since 1991. He is now active in two inter-commission IUCN groups, TILCEPA (Theme on Indigenous and Local Communities, Equity, and Protected Areas) and TGER (Theme on Governance, Equity, and Rights).

Among his projects this past year have been an analysis for IUCN of the government of Nepal's policies on community-managed protected areas ("Community Conserved Areas") and a paper on "Theorizing Protected Areas: Fourth World and (Post)colonial Perspectives on Conservation Enclosures, Commons,

and Liberation Ecologies" for the annual meeting of the Association of American Geographers in San Francisco. He chaired two sessions on Indigenous Peoples and Protected Areas: Conservation Through Self-Determination at the AAG annual meeting and also gave five invited campus talks on themes which included political ecological and protected area theory, the significance of Nepal's civil war for conservation and Indigenous rights, environmental historical and political ecological research in China, and cross-cultural research ethics for fieldwork with Indigenous peoples.

This summer he traveled to Nepal to continue advising Sherpa leaders and NGOs on Indigenous rights, the implementation of a new national park management plan for the Mt. Everest region, and community-based conservation.

**Richard Wilkie** had an extremely busy year as the Geography Graduate Program Director. He had a July 2007 publication-- "Time Realities and Memories of Place" in 2048 (Die Planung / A Terv, 2048 No. 247.) - part of a three volume publication set in the years: 2012, 2036, and 2048. The three volumes were funded by the German Federal Cultural Foundation and the Secretariat for Futures Studies (Berlin) and NextLab (Budapest). Sixty International scholars wrote pieces in the three volumes, which also will be republished in the years

which they represent--2012, 2036, and 2048. In addition, Richard was invited to a special symposium sponsored by the AAG (Assoc. of American Geographers and the University of Virginia Charlottesville, entitled, "Geography and the Humanities" in late June. His paper was entitled, "Light and Landscape: Visions of Place through Qualities of Light."

**Qian Yu** has a couple of new projects on track. Her research is more centered on remote sensing of DOC flux to coastal water. In addition to riverine CDOM concentration, she extends the research to study carbon sources from terrestrial ecosystem. This new research links her experience in remote sensing and spatial modeling



Hatice Poyralzi making ice cream with Don Wise holding down the bucket at the 2007 department picnic.

to understand the relationship between watershed biophysical characteristics and carbon flux to coastal environment. Because hydrological property plays an important role in carbon transport process, she and her post-doc, **Hongming He**, quantify the carbon dynamics in

watershed and in stream flow by using SWAT model. She enjoyed the three research cruises for remote sensing of DOC in Hudson River and expects upcoming cruise for Mississippi River in late August. Her first Ph.D student **Weining Zhu** starts assisting her in this project. These field data will keep her busy for a while. In a collaborative project with USGS, she endeavors to monitor and

assess aquatic biomass in Assabet River Impoundment using high resolution remote sensing.

**Richard Yuretich** has spent the past few years focusing on two main projects. He has been the director of an NSF-funded multi-disciplinary project examining the conditions at Davis Mine, an abandoned pyrite mine, in Rowe, Massachusetts. Some of you may remember the place from geochemistry field trips! Working in conjunction with faculty and students from environmental engineering and microbiology, the project is documenting the natural processes that may be helping to contain the acidic drainage. We will make recommendations about ways to correct the problem in an environmentally-friendly manner. All told, there have been over 40 people involved in this project, which is now in its closing year.

The second project, supported by NASA, promoted the teaching of Earth System Science in middle- and secondary-schools. Over the past 3 years, some 90 teachers from around the country have come to UMass Amherst for two weeks during the summer to learn basic principles of mapping, spatial analysis (GPS and GIS), environmental issues, and engage in science research. The goal is to have them use Earth Science examples when teaching any science subject.

In addition to his usual teaching responsibilities, Richard is on the Council for the National Association of Geoscience Teachers (NAGT) and is an Associate Editor for the Journal of Sedimentary Research. He was on sabbatical in Spring, 2008 and now begins a temporary assignment as program director at NSF.

## GEOSCIENCES MAJORS GO TO ICELAND

Hiking on a glacier and on a brand new basaltic lava flow were two of the high points of a Five-College geology field trip to Iceland during early August, 2006. Seven Geosciences majors, including Dean Bebis, Evan Gearity, Renee Mackey, Jose Molina, Andy Piermarini, Karen van Wagner, and Caleb Worthman, participated in the field trip, led by five faculty members, including Sheila Seaman from UMass. We hired a huge bus with a slightly threatening giant of a driver named Borkur, and two cooks, Solla and Hatha, to take care of logistics.

The days were long and mostly lovely, the campsites were scenic, and the food was tasty and plentiful. We drove the magnificent ring road, the only road that circumnavigates Iceland, from Reykjavik in the southwest to the Krafla volcanic complex in the northeast, where we hiked through volcanic rocks so young that a major geothermal energy facility is built on the steamy ground. We



soaked in the local geothermal spa and, on the following day, drove 100 km into the interior of Iceland to visit Askja, where, in 1875 an eruption left the 12 km Oskuvatn crater, now filled with dark, cold water, and the smaller Viti crater, a popular swimming hole now filled with blue, warm water. On the next day we set out on the Sprengisandur, one of the two roads that cross the interior of Iceland. The edges of Iceland are very green and lush, with few trees but lots of fields and quaint, ancient farms. The interior of Iceland is almost devoid of vegetation. The Sprengisandur passes close to Vatnajökull, the largest glacier on Iceland, that has generated major floods when volcanic eruptions take place under the ice. We hiked in rhyolitic ash mountains at Landmannalaugar, and on and around glaciers at Skaftafell, two of Iceland's spectacular national parks. We visited Thingvellir, where the mid-Atlantic rift is exposed on land, also the site of the first Parliament, established in 930 A.D.

The many joys of the trip were summarized in a poem written by Karen Van Wagner, who graduated in May 2008. The poem should be sung to the tune of "Walkin' in a Winter Wonderland"!

### WALKIN' ROUND THE MID-ATLANTIC RIDGE.

KRAFLA SINGS, ARE YOU LISTENING?  
AS YOU WATCH, YOU'LL HEAR HER HISSING!  
A WONDERFUL SIGHT (THOUGH IT DON'T  
SMELL QUITE RIGHT)  
WALKIN' ROUND THE MID-ATLANTIC RIDGE.

BUBBLING LAKES AND CLAYISH MIRES  
BLACK LANDSCAPE FROM KRAFLA'S FIRES  
THE WALK WORKS YOUR LEGS, THE VENTS  
REEK OF EGGS  
WALKIN' ROUND THE MID-ATLANTIC RIDGE.

IN THE MEADOWS YOU CAN SEE BASALT  
FLOWS;  
LOOKING DOWN THE BIG FISSURE IS SWELL!  
BUT IF YOU STAND DOWNWIND FROM IT,  
THEN YOU'LL KNOW  
THE ORIGIN OF LAVA'S REALLY HELL!

LATER ON, IF YOU WANNA,  
WE CAN SOAK IN A NATURAL SAUNA  
DIVERGENCE OF PLATES REALLY IS GREAT  
WALKIN' ROUND THE MID-ATLANTIC RIDGE.

IN THE DISTANCE YOU'LL SEE VATNAJÖKULL  
PEERING SOUTH FROM ASKJA'S CRATER RIM  
IF GRIMSVÖTN'S LAKE FLOODS, TAKE TO HIGH  
GROUND  
'CAUSE THAT'S ONE RIVER NO ONE WANTS TO  
SWIM!

SHOULD YOU SEE LAVA FOUNTAINS,  
STAY AWAY FROM ACTIVE MOUNTAINS!  
AND IF YOU SHOULD DARE TO BREATHE  
SULFURED AIR  
COME WALKIN' ROUND THE MID-ATLANTIC  
RIDGE!

## RUD PLATT RETIREMENT

Longtime department member Rud Platt "retired" last year and is now Professor of Geography Emeritus. He has moved his Ecological Cities Project to an off-campus office at 1 Short Street in downtown Northampton, closer to where he and Barbara live in Florence. The Ecological Cities Project began in 2000 as a reflection of Rud's longtime interest in cities, water, and hazards. It has combined teaching, research, and outreach on how urban communities at all scales are reinventing themselves to be more green, more healthy and safe, more equitable, and more people-friendly. The program has co-organized six regional conferences and produced an edited book and companion DVD film: *The Humane Metropolis: People and Nature in the 21st Century City* (University of Massachusetts Press and Lincoln Institute

of Land Policy, 2006). At least a dozen UMass grad students have participated in Ecological Cities research activities, and many more have taken Rud's Ecological Cities seminar. He has also given public lectures around the country.

A series of regional workshops is now in progress based on the themes of *The Humane Metropolis* under the auspices of the Lincoln Institute of Land Policy, a well-known land use research center in Cambridge, MA. The first of these was held in Pittsburgh in March, 2007 with Joy Abbott (Mark Abbott's wife and Rud's former grad student in Regional Planning) as local facilitator. The second was held in Riverside, California on January 24, 2008, with the next one to be held in Baltimore.

Rud is also being appointed a Senior Fellow with the Institute for Sustainable Cities of

the City University of New York (CUNY) and expects to continue his research and writing on greening initiatives in New York,

Chicago, Los Angeles, Portland, Oregon, and elsewhere.



Rud Platt presented a copy of his book, *The Humane Metropolis*, to Chicago's Mayor Richard M. Daley in Portland, Oregon on June 28 where both were speakers at a regional greenspaces conference.

## JIM HAFNER RETIREMENT

After a long and rewarding career at the University and the Geoscience Department, Jim Hafner retired in June 2007. He will remain as an Emeritus Faculty member working with graduate students and continuing research activities with the Eastern Mindanao Biodiversity Archiving project in the Philippines, in the Mekong River Basin of Southeast Asia, and finishing some long delayed writing projects. This issue of the Newsletter provides an opportunity to express his gratitude to the many students he has been privileged to work with over the years, and his appreciation to all his colleagues in the Geoscience Department for their support, encouragement and friendship. Those relationships are the most valued and rewarding experiences of his career at



UMass Amherst. Many thanks!! After joining the University faculty in 1970 he helped frame

the Geography BA, M.S. and Ph.D. programs in the Geoscience Department, often serving as Geography Graduate Program Director. As Director of the Asian Studies Program at the University he helped to create the recent undergraduate Certificate Program in Asian/Asian American Studies and a similar Five College program. Jim's career often involved him in numerous research and program development consultancies with the U.N. Mekong Committee, U.S. Foreign Service Institute, the Ford Foundation, and the Thailand-U.S. Educational Foundation among others. Much of his teaching and research activities focused on exploring issues in rural social and economic

change, population mobility and the political ecology of resource management in the context of the development process. Those interests often involved work with U.S. Federal Agencies, International Development Agencies, and universities in Southeast Asia to develop basic research and training programs in that region. In 1972-1973 he worked as a Research Consultant at the Social Science Research Institute, Chulalongkorn University in Bangkok, Thailand. Later in 1975-76 he held a post as a Geographic Consultant to the United Nations Mekong Committee as part of an international research team studying questions of population displacement and resettlement in the impact area of the proposed Pa Mong Dam on the Mekong

*Continued on page 15*

## ALUMNI NOTES

## 1950s

**Don Goodwin** (BS Geology, 1958) writes "It's always a pleasure to get the update from the UMass Amherst Geology Department. The amazing changes from small department there when I went to school to the "empire" just boggles me. I graduated in 1958. **Chris Alex** (BS Geology, 1958) and myself were the first recipients of the L.R. Wilson award—and the graduating seniors numbered about seven. This particular letter is a special one for me. Your new Asst. Prof., David Boutt, is working with my daughter, Laurel Goodwin, on a paper—kind of nice for me to have her reach out to my old alma mater—especially in the same field."



Gail Ashley, Rutgers University, received the 2nd Annual Distinguished Alum award from Acting Department Head Laurie Brown in February.

## 1960s

**Walter F. Brown** (BS Geology, 1960) has retired from teaching astronomy, geology, and chemistry at Northampton High School. He now substitute teaches at Northampton High until mid December or January when he retreats south—sometimes to Arizona and Texas, other times to Florida. Hiking, biking and canoeing are still his favorites.

**Sherman Clebnik** (BA Geology, 1965; PhD Geology, 1975) writes, "With the end of the Spring semester and another academic year, I've started the annual cleanup of the office—all the stuff that somehow didn't get tossed or filed previously. I came upon the Geosciences Dept. newsletter from last summer among the items put off to the side. As one who was at UMass Amherst when I was, it was poignant to come upon the obituaries. Tom Rice was the person with whom I had my first geology course—physical geology—when I began my freshman year in Fall 1961. When I became a senior, Charles Pitrat was then a newly hired professor with whom I had my paleontology course.

Later, when I returned as a grad student, he offered a special course designed for us Quaternary types, "Cenozoic Molluscs." Also as a grad student, I experienced a course presented by John Hubert, (just retired from the department) in "Geostatistics." I never took a sedimentology course with him, but he offered helpful advice to me as I worked on till samples from my dissertation field area.

Upon getting ready to leave UMass Amherst for employment, one of those quirks of fate led me to the position I've held for the last 33 years. Eastern Connecticut State (then) College was starting an Environmental Earth Science major in 1973 and was looking for a 3<sup>rd</sup> person for the department faculty—someone oriented toward geomorphology and glacial aspects. ECSU is located in Willimantic and there I was wrapping up my Ph.D. work on the surficial geology of the Wil-



limantic quad. As you can tell from the time I've been here, it turned out to be a very comfortable fit. As I now am pondering retirement in the near future, I think back to certain of my other UMass professors and would like to extend them a word of credit while they are able to enjoy it.

I was approaching completion of my freshman year in 1962 at UMass—physical geology with Tom Rice, as noted above, and historical geology with Greg Webb. George McGill, accompanied by some of his grad students, was planning a summer of field work in the mountains near Augusta, Montana. He had a splendid idea: take some of these novice geology majors and show them what geologic field study really is by using them as field assistants. So 1 and 2 freshman colleagues spent a summer camped out in the Bob Marshall Wilderness Area, taking strike and dip measurements, carrying rock samples, and amassing a lot of memories from an experience unlike any we had before. It would have been easy for George McGill to have used more experienced majors for field aides. So my hat is off to him for what he did.

Later, when I returned as a grad student, I was part of an enthusiastic bunch of students (**Gail Ashley**, BS Geology, 1963, MS Geology, 1972; **Tom Gustavson**, BS Geology, 1961, PhD Geology 1973; **John Boothroyd**, MS Geology 1972; **Kerry**

**Campbell**, BS Geology 1968, MS Geology 1975 to name some) interested in glacial aspects and studying under Joe Hartshorn. I like to think of that time as a Golden Era of Glacial Geology at UMass Amherst. I fondly recall the Glacial Geology seminars we had that

were held at Joe's home on the outskirts of Amherst. The session began with the academic part, an analysis and discussion of some topic for which we had done the necessary reading. After perhaps a couple hours of that, we would then adjourn into an adjoining room where a spread of food and drinks had been arranged on a table by Mrs. Hartshorn. After the period of hard thinking, we'd stand around engaged in pleasant and light conversation. After all these years, those episodes still are imprinted in my mind."

## 1970s

**Paul Hague** (BA Geology, 1973) retired several years ago after 10 years with Geophysical Survey Systems, Inc. (Salem, NH). He is now assisting in 7th and 8th grade math and science classes at the Henniker (NH) Community School and is active in local conservation activities and the Geological Society of New Hampshire.

**Doug Heath** (BS Geology, 1979) wrote to thank us for the 2007 Geosciences Calendar and attached a photo of him taken in 2004 by the Boston Globe (see above). He was maintaining a datasonde at a stream in New Hampshire as part of a larger study of I-93 road-salt impacts to aquatic habitats and stream quality (this project is still ongoing). He has worked at the Envi-

## ALUMNI NOTES CON'T.

ronmental Protection Agency (EPA) in Boston as a hydro-geologist since 1985 and has been fortunate to have bosses who have allowed him to get involved in a great deal of field work over the years.



Luke Trusel ('06) sampling fresh glacial till on an iceberg, near Ny Alesund, Svalbard.

## 1980s

In September 2007, **Peggy Dillon** (BA Geography, 1983) begins a one-year position as an Assistant Professor of Journalism at Salem State College in Salem, Massachusetts.

**John D. Donnelly** (BA Geography, 1981) writes that he "enjoyed the summer 2006 Geosciences magazine. It's great to hear about my old professors Bradley, Hafner, Platt, and Wilkie."

**Michael Forlenza** (MS Geology, 1982) has been elected to the Board of Directors of the Houston Geological Society (HGS) for 2007 – 2009 ([www.hgs.org](http://www.hgs.org)). The HGS is the world's largest local geological society and was established in 1923. Michael will serve one year the editor elect and one year as the editor for the HGS Bulletin. The objectives of the society are: to stimulate interest and promote advancement in the geosciences; to disseminate and facilitate discussion of geological information; to enhance professional interaction among geoscientists,

and; to aid and encourage academic training in the geosciences.

**Bruce Taterka** (MS Geology, 1987) writes, "I got the calendar today. It looks like there's awesome worldwide fieldwork going on!"

**George Thomas** (MS Geology, 1984) and **Patty Weisse's** (MS Geology 1983) daughter Elizabeth who toddled around Morrill when they were in grad school is now in a Master's program in the Geology Department of SUNY Buffalo. She is working with Jason Briner on climate change. Marshall, their oldest son is working for the National Institutes of Health in Baltimore.

## 1990s

**Rebecca L. (Buswell) Woolley** (BS Geology, 1992) writes, "I am pleased to announce that I have accepted a position with the Massachusetts Department of Environmental Protection (MassDEP) as an Auditor in the Audits/Site Management Group in the Western Regional Office located in Springfield, MA."

**Tom Davidson** (BA Geology/Psychology, 1994) was officially hired as the Earth Science/Environmental Science teacher for Amherst Regional High School. "Now I'm not teaching for someone else, this time it's all me! I'm the lone Earth Science teacher now, there will be other teachers helping cover some sections. It will be up to me to carry the torch!"

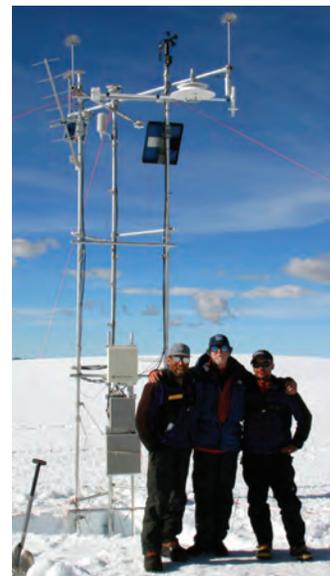
**Sue Howle**, (M.S. Geography 1998) has changed her status as an Environmental Coordinator with the US Forest

Service TEAMS Planning Enterprise in the Green Mountains. She is now part of a "floating" response team which allows her to visit USFS project sites across the country. In September she will relocate to South Carolina to be closer to her family.

**Rick Oches** (MS Geology, 1990; PhD Geology 1994) is a faculty member in the Department of Geology at the University of South Florida. He just completed a sabbatical year at UMass working with Bill McCoy and the Climate Center. Rick said, "As an alum, it's especially nice to see that the program I was once a student in has continued to strengthen and build over the years."

## 2000s

**Jeffrey Blankenship** (Ph.D. candidate) has been hired into a tenure track position as Assis-



Doug Hardy, Ray Bradley & Carsten Braun on the summit of the Quelccaya Ice Cap (~18,560ft): July 2007, to service the high elevation meteorological station (behind).

tant Professor of Landscape Architecture in the SUNY system at the College of Environmen-

tal Science and Forestry, associated with Syracuse University. **Jessica Bloom** (MS Geology, 2005) went to Tibet with her Dad in April 2007. She'd love to keep in touch with fellow alums!

**David Brand** (MS Geography, 2002) has taken a teaching position in environmental studies at Martha's Vineyard High school beginning in September, 2007.

**Matt Cleveland** (BS Geology, 2006) had a six-month job with Schlumberger in New Mexico and has now begun a new job with Groundwater Analytical in Boston. A major aspect of the job is optical microscopy!! He and his family recently took a long trip to Hawaii. He writes, "We had been planning this trip for a many years and had to keep pushing it back due to summer school, jobs, etc. Our trip consisted of island hopping from Oahu to Maui and then the big island where we hiked out to the active lava flow on Kilauea's rift zone. Kilauea's crater was very interesting with steam vents all over the place but Haleakala's crater on Maui was by far more spectacular in its grandeur. My father and I were also able to get up to the top of Mauna Kea at sunset to see the Southern Cross and other southern hemisphere constellations from the vantage point of the Keck Observatory. The trip was a lot of fun and very much like a pilgrimage for me."

**Selby Cull** just got back from the 7th International Mars Conference in Pasadena—it was an amazing 5 days of Mars—Joy! She's working on mapping the landing site for the Phoenix lander right now—it launched in August—and

*Continued on page 14*

## IN MEMORIAM

## ANDREW DOUGLAS WISE

**BS Geology, 1983**  
**July 17, 1959 – July 18, 2006**

Andy was educated in the public schools of Needham and the University of Massachusetts, majoring in geology. He played the trumpet, was an avid skier and cyclist and was a hydrogeologist with Weston & Sampson in Peabody, MA. In 1998, he traveled through the country for six months on a motorcycle, visiting many of the National Parks and finally settling in California where he was employed by Gradlent Engineers, Inc. in San Diego.

Survivors include his daughter Andrea Lee DeLucia; parents Florence C. Walsh and Richard A. Wise as well as the following UMass Amherst graduates: step mother Geraldine Callahan Wise '61, an aunt

Mary Callahan Whittaker '57, and cousins Meg Whittaker Webster '85 and Rebecca Mardula Zogby '92.

In June of 2007, Richard and Geraldine Wise established the Andrew D. Wise Memorial Endowment Fund. The purpose of the Fund is to provide support to students in the Geology Program for expenses and for departmental programs or items for which other sources of support are not available. Alumni and friends are welcome to make a charitable gift to this fund by making a check payable to UMass Amherst, indicate in the NOTE section of the check Andrew D. Wise Memorial Endowment and mail it to the Geosciences Department.

## GERALD F. WILLIAMS

**BS Geology, 1976; MS Geology, 1979**  
**January 13, 1947 – July 12, 2007**

In the fifth grade Jerry wrote a paper for school in which he stated his wish to grow up to be a geologist and live in Alaska. In fulfilling this goal, Jerry traveled throughout the world as a geologist, working in Africa, the Amazon, and Kuala Lumpur. He moved to Alaska in the early 80's and worked as Senior Program Manager for ENSR, an environmental consulting firm, for the past fifteen years.

A lifelong collector, Jerry started with stamps, coins, and rocks as a boy. His love of Alaska was apparent in his extensive collection of Alaskan art, artifacts, and native crafts. Jerry was also an accomplished maker of bamboo fly fishing rods under the Midnight Sun label. He was an avid fan of New England sports teams, especially the Red Sox and UMass

Jerry will be remembered by his family and friends for his kindness, gentle spirit, and enthusiasm for his life and work. He is survived by his brother and sister-in-law, Don and Jan Williams of Little Compton, RI, nephew Jonathan of New York City, several cousins, and many friends.

## BARRY STURTEVANT TIMSON

**MS Geology, 1972**  
**August 10, 1944 – April 15, 2007**

Mr. Hallowell (Maine), Barry Sturtevant Timson, will live in spirit, forever. Barry was a dedicated public servant, a doctorate in geology, a baker of muffins, a performer of marriage ceremonies, and a good friend to many. Materially, a man of modest means, but in spirit, a billionaire.

He earned his master's from the Geosciences Department at UMass Amherst in 1972 under the guidance of Don Wise. He

launched his career with the Maine Geological Survey and settled in Hallowell.

The Kennebec Journal's obituary remembered his commitment to rebuilding Water Street in Hallowell, Maine after the 1987 flood when others proposed destroying the damaged structures. "Barry held steadfast, and stood thigh deep in water, orchestrating operations as if he were directing the Boston Pops."



Barry Timson



## ALUMNI SPOTLIGHT

WILLIAM NECHAMEN, BS GEOGRAPHY 1983



Bill Nechamen overlooking the Columbia River Gorge.

After leaving Amherst in 1983, I spent three years working as a water resources and water supply researcher for the New York State Senate in Albany. From there, I went to the New York State Department of Environmental Conservation (NYS DEC) where I remain today. I am currently chief of the floodplain management section at NYS DEC. As such,

I'm responsible for working with over 1,470 local communities in New York State to maintain their compliance with the development requirements of the National Flood Insurance Program. My unit also works with FEMA (Federal Emergency Management Agency) and with our in-house GIS unit to update flood maps throughout New York, combining state-wide ortho-imagery and detailed LiDAR collected topography with traditional survey work and hydrological and hydraulic analyses to update flood maps so that they are GIS-compatible, county-wide maps.

I supervise a staff of seven in Albany and work with regional staff throughout New York State to assist local communities, engineering firms, residents and developers,

to meet FEMA's floodplain development requirements, in addition to flood mapping work. We also work with local communities after severe floods to help them determine which structures have been damaged beyond the FEMA threshold of 50% of value because they will need to be elevated, demolished, or moved out of the floodplain.

New York has seen five "100-year" flood events in just the past three years, including some locations that have been hit two or three times. As such, there is a growing awareness about flooding. We hope to take advantage of that awareness and help people to understand that floods are natural events, that they cannot be stopped, but that with appropriate floodplain management, we can learn to live with them.

*Continued on page 15*

JAMES BRADBURY, PHD 2006

It's an eight hour drive from Amherst to Washington D.C., but there are days when it seems like the experience of working as a graduate student in the Climate System Research Center could not be further removed from life as a science and technology fellow on Capitol Hill. My fellowship started in September with an orientation and crash course in science policy in the U.S. government. Orientation was immediately followed by a three week long placement process, which luckily led me to the Office of Congressman Jay Inslee, the Congressional Representative of the first district of Washington State. The fellowship program is administered by the American Association for the Advancement of Science, but my sponsoring societies are the American Meteorological

Society and the University Corporation for Atmospheric research.

The AAAS fellowship program provides an amazing and unique opportunity for 35 outside experts to spend one year working for Committees or individual members of Congress. Additionally, the AAAS network extends to the Executive Branch, where another 120 fellows serve for up to two years in agencies ranging from the Environmental Protection Agency to the Department of Defense. Here on The Hill, I function as just another legislative staff member: drafting legislation, briefing the Congressman, meeting with constituents and lobbyists, tracking daily news and Congressional activity in search of opportunities to advance the Congressman's

agenda through legislative or oversight activities.

As it turns out, Congressman Inslee is very knowledgeable on many environmental and science related issues, including climate change. In fact, he is just finishing a book on the subject of renewable energy technology and he is well known as a national leader on progressive renewable energy and climate policy. One of my biggest projects during this past year was to help Mr. Inslee update and reintroduce his comprehensive signature bill, the New Apollo Energy Act of 2007 (H.R. 2809).

Originally, I was certain that a few months on The Hill would surely destroy the few remaining scraps of youthful idealism that I carried in my bleeding liberal heart. But



the 2006 mid-term election turned the reigns of power over to the Democrats, and there is a remarkable wave of optimism that has brought many forces in Washington in line with Mr. Inslee's progressive agenda.

From where I sit, it seems that three important factors have converged to make the U.S. Congress join the rest of the developed world in recognizing the urgent threat of global warming. The first was the 2006 election, which

*Continued on page 14*

## ALUMNI NOTES CONT.

will get to work mission operations in Tucson when it lands next summer. She is beside herself with glee. She writes: not much else going on: work, run, swing dance, work more. (While I was in Pasadena, I got to swing dance with Bill Nye the Science Guy! He was awesome!)

**Chris Gaffney** (MS Geography, 2002) finished his Geography Ph.D. at the University of Texas (2006). His dissertation ("Dynamic Sites & Cultural Symbols: the stadiums of Rio de Janeiro and Buenos Aires") won the award for the top dissertation in the Association for American Geographers (AAG) Latin American specialty group, and Chris has a book contract with the University of Texas Press to publish. He is teaching adjunct geography courses in the Geography Department at the University of North Carolina while his wife finishes her PhD. there in geography.

**James P. Kirwin** (BS Geology, 2005) is still continuing with his Masters at San Francisco State University and interning at the California State Water Board.

**Joe Kopera** (MS Geology, 2003) writes: I've been working for the Office of the Massachusetts State Geologist (OSG) for the past 4 years. It's been a lot of fun (and a lot of work) helping **Steve Mabee** (PhD Geology, 1992) get Massachusetts' first geologic survey in over 100+ years up

and running, and having the "Zen" job of being a geologic mapper to boot! Life is good. I'm settling in for the long haul at the OSG, and am looking forward to finishing up several outstanding projects this year. I've now been living in the Valley for 7 years, and after a (very) brief stint at the Sirius community, am finally starting to think about settling down and buying a house in the area in the next 2-3 years. I'm still up to all my usual "extra-curricular" activities: I've caught the cycling fever that tends to be ever-present in the department, in addition to being swindled into joining a Morris dancing team (God help us all!).

**Howie Koss** (BS Geology, 2001) began a graduate program at Columbia University. He hit the ground running, and it hasn't slowed since the 17th of January, 2007 (the day he left his job at the Port Authority). "I'm a full-on grad student now. I even have the title Adjunct Lecturer! I'm TA'ing a 101 lab section as well as the 102 (Historical) lab at Queens College, taking an Ocean Sedimentology and Stratigraphy course at Columbia, and all the while trying to get in as much Antarctic reading as I can possibly squeeze in during my bus and train rides criss-crossing the boroughs. I find it all very exciting, challenging and a very welcome change from the sedentary professional life I had been

carrying out the past 5 1/2 years. The name of the game for me right now is to get up to speed as fast as possible because of the prospect of going to Antarctica in October." He recently completed a web-based poster presentation that was a critical examination of orbitally-induced Antarctic ice sheet variations at the Oligocene/Miocene boundary. He looked at using cyclic stratigraphic sequences and oxygen isotope data from cores in the Victoria Land Basin of the Ross Sea as a proxy for predicting future climate change.

**Mirela Newman** (PhD Geosciences, 2002) changed academic positions. She is now Associate Professor of Geography at Southern Connecticut State University in New Haven, Connecticut.

**George Roberson** (PhD Geosciences, 2006) has been

named a Fulbright Scholar by the Council for International Exchange of Scholars (CIES). CIES offers academics from the USA granting opportunities in 150 countries and awards approximately 160 research grants annually. Roberson's ten month "traditional" Fulbright research grant will support his ongoing cross-cultural inquiry in Tangier, Morocco. Roberson recently launched the project with a paper titled "Visualizing Tangier" at the Annual Tangier International Conference, Dr. Khalid Amine, Director and again at a one day symposium at Abdelmalek Essaâdi University, Tetouan, Morocco.

**Sheila Smith** (BS Geology, 2004) finished her M.S. degree at Texas Christian University. She officially graduated in June. She now has a job at an environmental firm and is checking her options for the future.



PhD candidate Kenna Wilkie examines cores from Lake El'gygytyn stored at the University of Cologne.

## JAMES BRADBURY, CONT.

I already mentioned. The second is public awareness and concern, which has grown steadily in recent years and then peaked with the Academy award for best documentary going to Al Gore's "An Inconvenient Truth." The third factor, which may surprise some of you, is lobbying pressure on Congress from a wide range of business and industry groups. Rather than resisting and opposing this change, many businesses see regulation of carbon emissions as inevitable, and they would much rather play a role in developing a comprehensive economy-wide policy than be forced into complying with a patchwork of regional and state-level regulations. As it turns out, the Regional Greenhouse Gas Initiative in the Northeast and related policies in California have been very important drivers of Congressional consideration of climate policy.

I feel very fortunate to have arrived in Washington D.C. when I did, just as this tide was turning. This has made my experience that much richer and has provided me with many opportunities to actively participate in the process of committee hearings, legislative hearings and developing legislation that will, hopefully, ultimately lead to a much more climate-friendly and sustainable energy policy in this country. As I'm sure you know, there is still a great deal of work to be done. The latest good news for me is that Mr. Inslee has offered me a full time job in his office through the end of 2008. So, I plan to continue working on Capitol Hill at least through the end of the 110<sup>th</sup> Congress.

## HAFNER RETIREMENT, CONT.

River in Laos and northeast Thailand. In the early 1980s he received a Senior Fulbright award as a consultant to the Social Science Research Institute, Khon Kaen University for training on rural development and social science research methodology. That experience led to his recruitment by the Ford Foundation to organize an interdisciplinary, interagency research program to land use change, deforestation and human-forest interactions in northeast Thailand. In the late 1980s he directed the first socioeconomic base-line assessment of Southeast Asian immigrant and refugee needs in the Commonwealth of Massachusetts, a key foundation for subsequent state resettlement policies and programs. More recently he directed a study abroad program in the Philippines for university and Five College undergraduate students and then returned to Southeast Asia in 2001 as director of a US Department of Education study program for US K-12 educators in Cambodia, Vietnam and Thailand. Since 2004 Jim has shifted the focus of his active research to the Philippines. Late in that year he agreed to provide technical support for a Conservation International/CEPF funded biodiversity assessment and archiving project in Mindanao, Philippines. Working with several UM GEO graduate students he has collaborated with the Philippine Eagle Foundation and the University of the Philippines Mindanao to create a GIS-based mapping and computer modeling approach to define and evaluate the distribution and threats to endangered habitats and species in Eastern Mindanao, a biodiversity hot spot in SE Asia. He anticipates a continuing advisory role in that research while joining his esteemed colleagues as a 'back-bencher' in the Geoscience Department. Many thanks to all for a rich and fulfilling career with many wonderful memories.

## WILLIAM NECHAMEN, CONT.

Much of our work involves communication and outreach. In order to assist with that task, in 2000, I helped to form a New York State Floodplain and Stormwater Managers Association, and was its first chair. Today the group has over 270 members across New York State. I've also worked very closely with the nation-wide Association of State Floodplain Managers, which helps relate local and state concerns to national policy makers.

I live in Schenectady, New York with my wife Cheryl and two teenaged daughters, Jennifer and Sarah. Cheryl is a molecular biologist with the state health department and in her spare time works on local energy and food production issues. In all of our limited spare time, we enjoy hiking and cross country skiing in New York's Adirondacks and other beautiful nearby locations. While I have only fond memories of my UMass Amherst days, especially my time at Morrill, I also love living in upstate New York.

## CELINE SUAREZ, CONT.

have anything close to a truly sustainable environmental and socio-economic landscape, but the incremental movements I've seen over the nearly 7 years I've been at this are substantial. Certainly in the last couple years companies have really started to understand the business risks and opportunities associated with their impacts on the environment and their stakeholders, and it's becoming standard procedure to address them. I've learned a lot on the job, but now I am considering a part-time MBA program to increase my knowledge of business/finance and continue to work driving companies toward environmental and social sustainability.

## 2008 GEOSCIENCES DEPARTMENT CALENDAR



**SOON AVAILABLE - 2009 CALENDARS, COMING OUT THIS FALL**  
**FREE** as a gift when you contribute to the Department of Geosciences! Or purchase one for \$15 from 413.545.2286

# NEWS FROM THE STATE GEOLOGIST

BY STEVE MABEE

The Office of the State Geologist has had a productive year. First and foremost, with help from Massachusetts State Representative Anne Gobi and Senator Stanley Rosenberg new legislation was passed on July 25, 2006 greatly expanding the mission and role of the Office. The new language will soon appear in MGL Ch.21A, Section 7B (Ch. 122, Section 14 of the Acts and Resolves of 2006). Right now we are actively working to acquire some state funding for the office. We now have line item in the new Environmental Bond Bill for the State Geologist Office, which probably will not be voted on until the summer of 2008 as part of the state's supplemental budget. So please contact your state representatives and senators asking them to support the State Geologist's line item in the Environmental Bond Bill.

In addition, a five-year business plan was prepared for the University in June 2006 outlining the operation and goals of the office.



Steve Mabee and graduate student from UNH bring aboard a box core with sediment sample from the ~50 m glaciofluvial delta off the mouth of the Merrimack River. Photo by Mark Leckie.



Mark Leckie sampling sediment from the toe of the delta. Photo by Steve Mabee.



Steve Mabee and Rick Ponti plotting up fracture data at Good Harbor Beach, Gloucester summer 2006. Really tough duty? Photo by Dave Newton.



A copy of the business plan can be viewed at <ftp://eclogite.geo.umass.edu/pub/stategeologist/businessplan2006.pdf>. The office now has its own disk space on the Department's server and we are now serving up all our maps on the state geologists web page. Check it out at [www.geo.umass.edu/stategeologist](http://www.geo.umass.edu/stategeologist). Other highlights include:

- A sixth straight year of STATEMAP funding to support continued bedrock geologic and fracture mapping in the Milford, Blackstone and Westford quadrangles.
- Alex Manda, Ph.D. candidate, continues to investigate groundwater in bedrock in the Nashoba terrane. Alex is now in the modeling phase of his project and is linking outcrop-scale fracture measurements with the development of discrete fracture network models.
  - In summer 2007, we completed a season of field work in cooperation with the USGS to log existing bedrock wells in the Nashoba terrane with a standard suite of geophysical tools. The purpose of the work is to acquire in situ hydraulic data on the bedrock and link it to our fracture mapping. This project will support one graduate student and is being funded by the Massachusetts Department of Environmental Protection (MA DEP).
    - The new water well completion report forms that I reported on last year are now in service and being used by water well drillers. The electronic data entry system is now live. This new system will expedite the entry and retrieval of subsurface data as well as improve the quality of the data entered. However, it is not yet available to the general public.
    - Mark Leckie and post-doc Steve Nathan completed their project to examine sand and gravel resources off the north shore of Massachusetts as a source of beach nourishment. They examined the microfaunal distribution and diversity as a proxy of environmental health and a tool for evaluating post-dredging recovery. Results suggest that diversity is highly dependent on nutrients supplied by the Merrimack River. They are collaborating with Duncan Fitzgerald at Boston University.

If you are in the area visiting the department be sure to drop by the office.

## CONGRATULATIONS TO THE 2007 AND 2008 STUDENT AWARD WINNERS!

### OUTSTANDING SENIOR AWARDS

- Geology:** 2007: Hosanna Lillydahl-Schroeder and Maryellen Loan  
2008: Leah J. Carver, Loryn (Wren) Bruce and Michael W. Novick
- Geography:** 2007: Julie Skala and Rebecca Margolin  
2008: Katherine A. Eagan and Walter F. Ramsey
- Earth Systems:** 2007: Jeffrey M. Salacup  
2008: William J. Guerra
- L.R. Wilson Award for an Outstanding Undergraduate in Geology**  
2007: Joseph Collette

### OUTSTANDING TEACHING ASSISTANT AWARDS

- Geology:** 2007: Jeffrey Salacup  
2008: Matthew P. Walsh and Kathryn J. Murdock
- Geography:** 2007: Ted White  
2008: Janelle Cornwall

### MEMORIAL AWARDS

#### H.T.U. Smith Award

- 2007: Karen Van Wagner, Leah Carver and Jeff Salacup  
2008: Daniel Arnost, Carrie Petrik, and Suzanna Sullivan

#### Elinor Fierman Award

- 2007: Karen Van Wagner, Brandon Fleming, Steven Gaurin and Fariha Islam  
2008: Weining Zhu and Chris Koteas

#### Gloria Radke Award

- 2007: Celeste Asikainen, Beth Caissie, Kinuyo Kanamaru and Eileen McGowan.  
2008: Sean Faulkner, Theresa Poruznick, Erin Dominov and Heather A. Clark

#### Leo M. Hall Award

- 2007: Nicholas Balascio, Jia Chen, Laura Dair, Greg Dumond, Chris Koteas and Alex Manda.  
2008: Joseph Collette, Don Sluter, Kinuyo Kanamaru, Cecily Sharko, Serena Dameron, Nicholas Balascio and Ted White

#### Geography Alumni Award

- 2007: Alan Marcus  
2008: Colleen Kelley



Eric Helfrich receives UMass Alumni Association 2007 Senior Leadership Award.

#### 2008 Student Award Winners.

L-R, front row: Don Sluter, Mike Volinger, Cecily Sharko, Erin Dominov.  
2nd row: Suzanna Sullivan, Carrie Petrik, Wren Bruce, Kat Plourde, Serena Dameron, William Guerra. 3rd row: Leah Carver, Daniel Arnost, Kathryn Murdock, Chris Koteas, Heather Clark, Colleen Kelley. 4th row: Matt Walsh, Sean Faulkner.

Missing: Michael Novick, Katherine Eagan, Walter Ramsey, Janelle Cornwall, Weining Zhu, Theresa Poruznick, Joseph Collette, Kinuyo Kanamaru, Nicholas Balascio, and Ted White.



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*We apologize if we have omitted anyone from this list. We are actively updating our records and will include new names in the next newsletter.*

## GRADUATE SUPPORT – THE CRITICAL CHALLENGE

Perhaps the greatest challenge for the future of the Department is maintaining support for graduate students. The Department currently has 12 University- and Department- supported TA positions. We currently have many more applications to the graduate program than we can support, and many students end up choosing another program because we can't offer support or can't compete with other programs. We feel that developing endowed graduate support is essential for maintaining a strong

and broad graduate program into the future. This is one of our main development goals. Making a contribution to a graduate research or teaching endowment can enable a student to attend graduate school, and provide an opportunity to become a career geologist or to use geology to build a better career in any field. Please consider helping us to endow future graduate positions. And please feel free to let us know if you have ideas for developing enduring graduate student support.

### THE CHARLES PITRAT MEMORIAL ENDOWMENT FUND

After reading Mark Leckie's touching memorial to Charlie Pitrat in the last newsletter, I began to think about how we could honor his memory. One of the best ways that we as friends and alumni can continue to assist the department that helped us so much is financially. The department has several great funds that assist graduate and undergraduate students with research and other expenses, but after chatting with Mike Williams what seems to be lacking is funding to support graduate teaching assistants. We came up with the idea to establish

an endowment fund in Charlie's name that would permanently fund a full TA position. As this newsletter is going to press, the Charles Pitrat Memorial Endowment Fund is being started. I would like to challenge all friends and alumni, especially those who have been touched in a meaningful way by Charlie, to consider contributing to this fund. An even greater challenge I would like to make to all is to consider making a bequest to this fund in your estate planning process. I can't think of a better way to honor Charlie. *Proposed by John Nelson, 1982*

### THE RANDOLPH AND CECILE BROMERY FUND

**The Randolph and Cecile Bromery Fund** is currently growing and will soon be our first endowed Geosciences student support fund. This fund is intended to support students, especially students from diverse backgrounds, and it is also intended to support and enhance student field research. The fund has already helped to support several graduate students; it has partially

supported field excursions, and it has brought guest speakers to the Department. We sincerely thank Bill and Cecile Bromery for their generosity. Additional contributions will shorten the time until proceeds from this fund can support a graduate fellowship and thus be used to attract new graduate students and increase the diversity of our program.

### MEMORIAL FUNDS SUPPORT STUDENT RESEARCH

The Department of Geosciences has five relatively modest Alumni Memorial Funds. The proceeds go directly to students, most commonly helping to support field expenses, attendance at field camp, or other costs associated with student research. Many alumni, at one time or another, have received some support from these funds, and many claim that the funds were critical in allowing them to complete their thesis or senior research. Please consider contributing to one of the memorial funds or possibly make a general contribution in support of student research, visiting lectures, or field excursions.

**Elinor Fierman Memorial Fund**--Established in 1983 by a gift from Jack Fitzpatrick (B.Sc., '76; M.Sc., '78). Elinor Fierman graduated in the class of '76 and went on to Duke University. In the spring of 1977, she was killed by a car while studying roadside geology. This award in her name is given to a student researcher (undergraduate or graduate) with a preference given to laboratory studies.

**Geography Alumni Award Fund**--Established in 1995 from gifts given by Geography alumni, the award is given either to support Geography graduate student research or to any student in the Geography program for other worthy purposes.

**Gloria Radke Memorial Fund**--Established in 1984 from gifts given by family and friends of Gloria Radke, a graduate student interested in Pleistocene geology. At the end of her

first year here, she was killed by a drunk driver on the S-curve by Atkins Farm Stand in South Amherst. This award is given to graduate students in support of field research.

**H.T.U. Smith Memorial Fund**--H.T.U. Smith was Head of the Department from 1956-1969. This award in his name is given to support field work with preference to undergraduate students (including enrollment in a field course).

**Leo M. Hall Memorial Fund**--Leo Hall was Professor of Geology in this Department from 1967 until his death on December 26, 1985. Among many other qualities, Leo was noted for his devotion to field study and to the teaching of field methods. This award in his name is given to graduate students in support of field research.

**Please use the attached envelope or [www.geo.umass.edu](http://www.geo.umass.edu) to contribute on-line.**

**If you are considering a larger gift, please contact Mike Williams ([head@geo.umass.edu](mailto:head@geo.umass.edu)).**

**Alumni support can make a critical difference for students in the Department of Geosciences.**

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## DEPARTMENT HIGHLIGHTS

- In addition to defending his Ph.D. in January, **Alan Marcus** has received two major awards this year, the Terry Jordan-Bychkov Award for the 2008 Cultural Geography Specialty Group Best Ph.D. Paper, and the Best Ph.D. Paper in Ethnic Geography from the Association of American Geographers.
- **Raymond S. Bradley**, Distinguished Professor in the Department of Geosciences and director of the Climate System Research Center, has been elected an External (Foreign) Member of the Finnish Academy of Science and Letters. **Ray Bradley**, **Mattias Vuille**, and **Doug Hardy** were among the Intergovernmental Panel on Climate Change members who were awarded the Nobel Peace Prize along with Al Gore in 2007.
- Ph.D. student **Gregory Dumond** was awarded a prestigious National Science Foundation Postdoctoral Fellowship. He will work at MIT on new techniques for high-precision geochronology.
- Recent Ph.D. student **Scott Marshall** (PhD 2008; advisor: Michele Cooke) will be a new faculty member at Appalachian State University this fall.
- **Kathleen Plourde's** poster presented at the AGU 2007 Meeting entitled "Evaluation of the Effects of Cementation on Specific Storage of Granular Porous Media Using Discrete Element Models" was awarded an Outstanding Student Paper award. This award is given to student authors judged to be the top 1% of student presentations at the meeting.
- **Julie Brigham-Grette** was one of a team of five scientists and Arctic residents who told personal stories of life and research in Polar Regions at POLAR-PALOOZA (PPZA), a public education and outreach project supported by the National Science Foundation and NASA to bring information and insights about the Poles to large public audiences across America through a national science center and museum tour called Stories from a Changing Planet.
- **Carrie Petrik** was one of five students awarded an Angelo Tagliacozzo Memorial Geological Scholarship.

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## KEEP US IN THE FIELD

Field experiences enrich every part of our undergraduate and graduate education. The key is having department vans available so classes can head out into the field during afternoons and weekends. We continue to seek funding for new vans through all possible means. As in the past, alumni gifts greatly strengthen our position. Thanks to alumni donations and a match from our Dean, we will add a new 12-passenger van this summer. Now, it is time to replace another of the aging vans: Van 340 (George) is over 15 years old. *Your contribution will help us keep our field component as strong as ever.*



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Please contact the Department of Geosciences if you have any questions or comments about this newsletter. We plan to publish this on a regular basis, so please let us know if you have suggestions for improvement. We would love to hear from you, please send news updates to: [head@geo.umass.edu](mailto:head@geo.umass.edu).

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