



# NEWSLETTER

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October 2008

Edited by Jack Berkley

## **Greetings from the Chair...**

Hurricane Ike – or its remnants -- rolled into our fair village a few weeks ago and left us with downed branches and overturned lawn chairs. But the Department of Geosciences is still standing and going strong. We have around forty student majors and are taking active steps to attract more. I recently designed and sent over to the Admissions Office a full color brochure expounding upon the myriad of opportunities bursting onto the Earth Science scene. In addition to the expansion of activity in the petroleum sector, last spring I saw firsthand evidence of the resurgent metals industry at the annual Lake Superior Geological Association meeting at Marquette, Michigan (May 5-11). Kennecott is on the verge of opening "The Eagle Project", a major massive sulfide mine near Marquette that has projected reserves valued in the billions of dollars. I participated in a field trip to the "BIC" prospect, a similar mafic-ultramafic mass still in the exploration stage. These finds plus skyrocketing international metals prices have spurred a "gold rush" in the Lake Superior area, unknown

since the late-60s to early 80s boom of the last century. Target metals include the usual copper-nickel, but also gold, platinum and platinum-group metals. Industry executives with whom I conversed told of high-paying jobs going unfilled. Qualified B.S. majors capable of telling greenstone from granite are being hired straight out of college at six-figure salaries. I was made to understand that these stories are not unfounded rumors.

Armed with this confirmation of the revival the commodities industry, our department should be poised for an upsurge of enrollment growth in the near future. In addition to recruitment efforts, we are also co-participants in a grant proposal to NSF designed to lure "STEM" (Science, Technology, Engineering & Math) students to Erie's shores with full blown academic scholarships. The exaggerated salaries mentioned above will likely gravitate toward highly committed and talented students, the targets of that grant proposal.

A final note about Hurricane Ike: [Duck Mittlefehldt \(1973\)](#) informs us that his Houston (Clear Lake) home is intact after the storm, and presumably his employer Johnson Space Center will endure as well. Ike was no match for the Duck.

**Jack Berkley, Chair**

## Faculty News...

### Gordon Baird

In the period Sept 08 – Sept 17, 2007, Gordon presented a paper on earlier discoveries in Morocco at the Sub-commission on Devonian Stratigraphy (SDS) conference and field trip which was held in the old silver mining town of Eureka, Nevada. Later that September, he was involved with two field trips associated with the NYSGA conference in Cortland, NY including one that involved a boat crossing to the famous Staghorn Point coral exposure along Skaneateles Lake.

In March, the joint Geological Society of America/American Association of Petroleum Geologists convention was held in Buffalo and Gordon chaired a session on the Ordovician Taconic Orogeny and was involved with additional presentations.

A new ongoing venture is the remapping of latest Devonian rock units with Directed Study students Justin Schwab and Katie Dvorak. Although the “oil lands” of northwest Pennsylvania (Meadville, Titusville, Warren areas) saw the start of the classic oil industry, the beginnings of subsurface geology science, and continuing drilling activity to the present, the surface geology has remained poorly understood and contentious. Work started in May, 2008 has already yielded publishable surprises as well as some “pretty cool fossils”. Gordon hopes to link all sections between Meadville and Titusville by the start of Pennsylvania deer hunting season in November, and to publish the new stratigraphy in the coming year.

Geology Club is alive and well; students attended the NYSGA2007 (Cortland) and 2008 field conference (Lake George) and visited Panama

Rocks Park in the fall. In March, 2008, the club visited Mammoth Caves, Kentucky and went to the new Creation Museum in Florence, Kentucky. They learned that – contrary to their Fredonia instruction – dinosaurs and humans did, in fact, coexist only a few thousand years ago.

### Walther Barnard

Walt maintains his status as the senior member of our department, and bears the honor of “Mace Bearer” (longest continuous service) during commencement events on campus. His newly developed “Geology of National Parks”, a physical geology course centering on the national parks, has proved a major success. He continues to add to his intense work on the genealogy of the Barnard family and to update his treatise *Mauna Loa--A Sourcebook; Historical Eruptions and Exploration, vol. 3, The Post-Jaggar Years (1940-1991)* published on CD. Walt is looking forward to a well-deserved sabbatical during the spring 2009 semester.

### Ann Deakin

As a member of the Montclair State University Department of Earth & Environmental Studies Review Team, Ann visited (April 2 – 3) and produced, with Dr. Allen Burton of Wright State University and Dr. Ken Kodama of Lehigh University, a report reviewing the Department of Earth & Environmental Studies. She also conducted a field trip of physical geography (May 10 – 11) of the Erie lake plain and escarpment for Aquinas College (Grand Rapids, Michigan) with geography students enrolled in GY 490, Advanced Techniques & Topics (in Geography). In addition, Ann mapped Forest Hill Cemetery for the Fredonia

Preservation Society who is making a map of trees planted for the Town of Pomfret bicentennial celebration. Three students (T. Acker, P. Lawless, and T. Worthington) assisted the crews planting the trees on April 19 and GPSed the locations where the trees were planted. They will create a preliminary map for the Town.

She has also been busy attending and taking students to conferences including the GIS/SIG 17<sup>th</sup> Annual Spatial/Digital Mapping Conference (22 April) in Rochester. She took 8 students to this conference. Also, seven students accompanied her to the 23<sup>rd</sup> Annual New York State GIS Conference (1-2 October) in Albany, one of whom presented a paper.

### **Gary Lash**

Gary continues to work on the Middle and Devonian shale succession of the Appalachian Basin. This work is focusing on the fracture mechanisms and history of the shale, especially the organic –rich units, as well as the subsurface stratigraphy of these deposits. The latter entails an analysis of geophysical well logs that have penetrated the Marcellus Shale in New York, Pennsylvania, Ohio, West Virginia, and Maryland. In addition, he is involved in an investigation of the burial/thermal history of the Appalachian Basin with the staff of Platte River Associates. Late in 2007, Lash's work, carried out in conjunction with Terry Engelder of Penn State, attracted national attention when their reserve estimate of the Middle Devonian Marcellus Shale (50 trillion cubic feet technically recoverable natural gas) was announced via a Penn State press release. This report was quickly picked up by the UPI and AP, which resulted in further press interest. Over a two week

period, Lash was interviewed by The New York Times, The Washington Post, New Yorker Magazine, CNN Money, The History Channel (appearance in the documentary "Crude: The History of Oil"), WNYC, The Buffalo News, and many other local serials and news agencies. Lash and Engelder presented research results at the 2008 national meeting of the American Association of Petroleum Geologists (AAPG) held in San Antonio, Texas; their paper was awarded a President's Certificate (essentially the second place oral presentation award).

Moreover, Lash was invited to discuss fracturing of the Marcellus Shale and its potential influence on natural gas exploration at a meeting of the AAPG unconventional reservoir research group, which was also part of the San Antonio meeting.

In May, Gary led the two-day spring fieldtrip of the Pittsburgh Association of Petroleum Geologists through the Middle and Upper Devonian shale succession exposed from Dunkirk to Rochester. The trip was attended by more than 50 geologists, principally oil and gas geologists. Results of his work on fracturing of the Marcellus Shale (principally, our interpretation of the fractures having formed at peak burial depth rather than upon exhumation of the Appalachian Plateau) will be published in the Geological Society of America Bulletin and the Bulletin of the American Association of Petroleum Geologists later in 2008 and early 2009.

Most recently, Gary has entered into a working relationship with Chief Oil and Gas, LLC, one of the principal operators in the Marcellus Shale play of the Appalachian Basin.

### **Kim Weborg-Benson**

As a member of the Science Education Partnership (SEP), Kim submitted a new course proposal to be used as a graduate level content course. Jack Berkley added his revisions and submitted the proposal for as Geo 505 Earth Science in Chautauqua County. This is a field-based, graduate-level course with lessons introduced in the classroom followed by hands-on exploration at sites across the County. GEO 505 is also an ideal course for both elementary and secondary teachers in any science pursuing professional certification and will fulfill a content need for the proposed MAT program.

Kim is also proposing a new course designed to recruit new students to our Science and Science Ed programs. This course, tentatively titled "Science Connection", is a one credit hour course that would be offered to high school juniors and seniors who have shown an interest and aptitude in their high school science courses. The course would be worth one credit hour from SUNY Fredonia upon completion. The "Science Connection" is between SUNY Fredonia, high school seniors and third or fourth grade students at the same school.

Kim is also serving as the Science Education Partnership Outreach Coordinator and organized our first Science Day. The project, as part of the Patrie Science Teaching Initiative, brought 50 fifth grade students to the college for four hours to tour the science facilities and get lessons, demos, and activities in Geology, Biology, Chemistry, Physics and visit the Planetarium. She coordinated the cooperation of instructors from each of the disciplines, as well as numerous student volunteers from various science

education programs. The event was very successful and will serve as a model for two proposed science days for 2008-2009.

Kim has also revised the Sci 325 course (science for Childhood Ed. students) to design and implement an after school science enrichment program for area elementary schools. This semester served as a pilot program for next year. Last spring semester she traveled to Chautauqua Lake Central School on three separate occasions with the program teaching general weather

In addition, Kim was also a working member of the Science Team for the Math-Science Challenge (August).

### **Mike Wilson**

Mike reports that he was appointed by New York State Energy Research and Development Authority (NYSERDA) to several review teams, especially their Independent Expert Review Team (IERT) to review the 2008 DOE Draft Environmental Impact Statement for closure of the West Valley site. He also served this past year on the Chautauqua Lake Management Commission.

Mike also kept busy by attending approximately 25 meetings of Chautauqua Lake Management Commission and its committees, and another approximately 10 meetings of the Chautauqua County Water Quality Task Force. He also continued a second year of work with the Citizens' Alliance of Not-for-profits conducting a full cost accounting study of the West Valley Nuclear Site. He also worked on INDS curriculum development for the SUNY Fredonia Environmental Science program, and currently coordinates that program.

Mike continues to maintain the Water Net project and web site with Dawn Shermet (soon to be married and off to other pastures). That web site ([www.fredonia.edu/org/waternet/](http://www.fredonia.edu/org/waternet/)) now contains several whole documents important to the water supplies and resources of the county. Dawn and Mike spent much time in 2007 monitoring a severe drought and reporting results to the state and county health departments, while in 2008 the weather was wetter in the north county, but still very dry near Jamestown.

## ***OTHER NEWS...***

### **CAMPUS GAS WELL UPDATE**

In July 2007 crews completed drilling the first ever gas well on the Fredonia campus, and possibly the first ever drilled on any SUNY campus (see images on photo pages). In spring of 2008 two more wells were drilled at the College Lodge. With NYS currently reeling from the financial news from Wall Street, and with energy costs soaring, we can certainly benefit from having our own natural gas supply.

### **NEW STEM BUILDING UPDATE**

After much time and work was expended last academic year to plan the new Science, Technology, Engineering, and Mathematics (STEM) building addition (to be attached to Houghton), not much progress has been made since then. The administration has delayed the choosing of an architectural firm to take on the final planning stage. As current and future occupants of the "old" Houghton Hall, we in Geosciences are breathing a measured sigh of relief. Reason? Current plans include an eventual "gutting" of the Houghton

interior, presumably to bring it in line with modern state codes and to establish design conformity with the addition. That gutting stage would require us to temporarily vacate Houghton for other offices, presumably in Jewett Hall, then return to much diminished (in terms of floor area and function) Houghton offices and labs. We suggest that the building interior could simply be modernized and otherwise refurbished to meet 21<sup>st</sup> century standards – without seriously altering the current floor plan. Might save some bucks for the taxpayers as well.

## ***ALUMNI NEWS...***

**Joan Alessi** (B.S. 1975) informed us that after 30 years in IT she has switched careers to teaching HS Science. She writes, "I love it. I am teaching Biology, Astronomy, Physics and Geology. Having a great time. I love the kids and often think of all of the good times, and things I learned in Fredonia! Sara and I have been trying to organize a '75 Geology class reunion for some time. Our classmates are all very busy running the world's resources. Maybe it is time for another Geology Dept. reunion. I am still in touch with many of my classmates from '75 and friends from '73."

**Chris Boron** (B.S. Geology 1995) writes that he is assessing sub-slab conditions in buildings in Binghamton for vapor mitigation systems. He works for GZA, Inc.

**Dale Burrier** (M.S. 1975) is working for Devon Energy doing oil and gas prospect generation in the Gulf Coast. [dburrier@sbcgloabl.net](mailto:dburrier@sbcgloabl.net)

**Alan Cherry** (B.S. Geology 1980) is working in Houston doing oil and gas exploration.

**Paul Fein** (B.S. Geology 1969) donated several mineral specimens from his late father Murray's collection, which we are preparing for exhibit.

**Stephen Gardner** (B.S. Geology 1978) is in Denver working for Whiting Oil and Gas. He is the Regional Geosciences Manager for Michigan and mid-continent.

[stepheng@whiting.com](mailto:stepheng@whiting.com)

**George Kronman** (B.S. Geology 1976; M.S. 1979) is in Houston consulting for Forest Oil and Gas.

**Hannes E. Leetaru** (M.S. 1974), Petroleum Geologist, Carbon Sequestration Team, Illinois State Geological Survey, gave a talk to the department in October 2008 on "Our Energy Future: Wind, Bio-Fuels, Water, Solar, Nuclear, and Coal"

**Bill** (Faculty '65-'81) & **Stacy Metzger** (B.S. Geology, 1979; M.S. 1981) write: Since moving from Fredonia, we have lived in Evergreen, CO, Houston, TX, Casper, WY and Forest Grove, OR. After my career in exploration geology ended, I owned and operated a model train store (Evergreen Roundhouse hence the "Everround" Email address) in Casper and Forest Grove and then finally retired. I am currently a consultant to several model railroad manufacturers. In addition, I devote a significant amount of time pestering Marty Wysocki at work with Emails.

**Stacy** has worn many hats. After a stint as an exploration geologist with Arco, she became a full time Mom. When I retired from Conoco, she decided on a major career change; Optometry. That required that she go back to school and get organic chemistry, micro biology and a bunch of other courses not in her geology program. She selected Pacific University College of Optometry, in Forest Grove, OR, applied, was

accepted, and began 4 years of very intense study. She has been a practicing Optometrist for 11 years. When she graduated, Bill became "Mr. Mom." Our two offspring appear headed for careers in the film industry. David received his MFA in Film last August from Florida State. He and his wife Kristen live in Palmer, AK where she is in graduate school and David is writing screen plays. Megan is in her third year at San Francisco Art Institute studying graphic design. Geology? Well, Megan worked at Canyon Village in Yellowstone last summer. And David's apartment is on the Knik River, summer playground of the Fahnstocks. I guess that is as close to geology as it gets. Many of you will remember my two older sons. Mark lives in Burlington, VT and after a stint in the wine importing business, has returned to the world of hi tech communications. Greg is a systems trainer for a large international construction firm and lives in Jacksonville, FL.

**Dave Rollins** (M.S. Lang. Arts & Geology 1980) is in Ft. Worth, Texas working for Plug Power and Manager of South American Operations.

**Gary Weir** (B.S. Adol. Earth Sci. 1975) lives in Houston with wife (Denee) and three daughters (18, 20 & 24). Retired from BP (Amoco) in 2003. Currently Vice President of Kappa Energy Holdings, with producing properties and exploration acreage in Colombia. [garymweir@gmail.com](mailto:garymweir@gmail.com)

**Marty Wysocki** (B.S. 1978, M.S. 1980) is currently working for Newfield Exploration doing oil and gas prospect generation in the Lower Cretaceous carbonates of the East Texas Basin. "Please have anyone call when in Houston. We would love to see

Fredonia folks and our home is always open to them (and besides we make the best margaritas in Houston!)."

### **FUNDRAISING...**

**Thank you** to all alums who have sent us donations – large and small – recently, and over the years. We appreciate your generosity, without which we could not have supported so many beneficial programs for our students. For example, alumni funds largely support our **Textbook Scholarships** (avg. 16 per year), which rewards high-achieving students (semester GPA 3.25 or higher) with \$300 toward textbook purchases. Alumni funds have also been used to cover student expenses at field conferences (like NYSGA) and other professional meetings, and to sponsor research projects with faculty. Research and teaching materials have also been purchased with your funds. An example is the ten new GPS units we recently purchased, which are being used for student and faculty projects.

**So...Please keep those donations coming! You can mail checks directly to the College Foundation:**

**College Foundation:  
University Advancement  
SUNY Fredonia  
Fredonia, NY 14063  
c/o Ms. Judith Tenamore**

Make sure that you designate your gift for the **Alumni Fund**, Department of Geosciences. OR, you can send it to

**Chairperson  
Department of Geosciences  
SUNY Fredonia  
Fredonia, NY 14063  
Ph. 716-673-3303  
email: berkley@fredonia.edu**

### **MAJOR STUDENT SCHOLARSHIP AWARDEES 2007-2008**

#### **MacDiarmid Award**

(outstanding senior); John C. Kroon, B.S. Geology;

**Willette Award** (outstanding junior), Katherine Brown, B.S. Adolescence Earth Science;

**Barnard Award** (outstanding sophomore) Katie R. Boyle, B.S. Geology, Adam C. Malchoff, B.S. History & Geology, & Alex P. Staunch, B.S. Biology & Geology;

**Mara Award** (faculty select), Charles Polgar, B.S. Geophysics;

**Eikenberg Award** (outstanding pref. female major), Sarah A. Stryker, B.S. Geophysics;

**Spatial Studies Award**, Grant Saunders, Interdisciplinary Studies.



**FINAL NOTE: Please fill out the enclosed card; we'd love to hear from you!**

**And if you know of anyone else who would like to receive this newsletter, please send us their name and address.**



## PHOTO MONTAGE...



- A. Kathryn Brown, Willette winner
- B. Adam Malchoff, Alex Staunch, Katie Boyle, Barnard winners
- C. Sarah Stryker, Eikenberg winner
- D. John Kroon, MacDiarmid winner
- E. Chuck Polgar, Mara winner

...and a few more

**F**



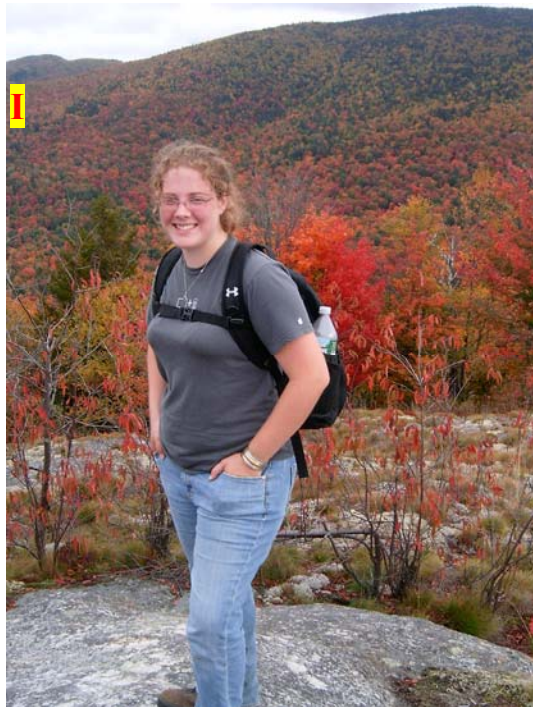
**H**



**G**



**I**



**F.** Drill rig on Gas Well #1 site, near Services Complex, Ring Road, SUNY Fredonia

**G.** Completed well-head, Well #1

**H.** Excavation to widen road behind Houghton (now 2-way) revealing cross bedded sands of a Warren sub-beach – in President Hefner's back yard!

**I.** Katie Dvorak (BS Geology) on Chimney Mtn., near Indian Lake, Adirondacks, Friends of the Grenville Sunday Field Trip (80<sup>th</sup> NYSGA, Lake George)



**POST CARD: attach to this page**