Geology Department Newsletter

GRAND VALLEY STATE UNIVERSITY
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"Educating students to shape their lives, their professions, and their societies"

January 2009

Greetings from the Chair,

The near constant presence of students on the first floor of Padnos Hall and the high demand for our Earth history, mineralogy, and petrology courses attest to the growth in the Department and interest in geosciences and science teaching as careers. The Department is working through the challenges of how to best accommodate more students into individual classes and offering more sections of specific courses. These are good problems to have and evidence that students appreciate what the Department has to offer.

I sadly note the passing of one of our students. **Brad Doane** of Hudsonville was in his second year of the Earth Science program and part of a strong cadre of mineralogy students. It was easy to see that Brad was going to be a great teacher. More importantly, Brad was a caring and giving person who gave selflessly to others. Brad is missed by his peers and those of us fortunate enough to know him.

There have been some staffing changes for the academic year. I'm delighted to say that **Kevin Cole** is back to full-time teaching and starting a new research project. **Ginny Peterson** is on sabbatical and doing a multitude of interesting things. We were joined by **Linda Davis**, recently of Stockton College in New Jersey, who is covering mineralogy and petrology and has started research projects with students. Our steadfast visiting professor, **Laura Sherrod**, a graduate of Western Michigan University, is near the end of a three-year contract. Laura has provided excellent teaching and guided students in interesting research and professional presentations. She will be missed. **Lindsay Waddell** of University of Michigan is joining us as a new visitor this semester.

One task **Ginny Peterson** completed was a summary of the Department's first Advisory Board meeting early in the year. In addition to the entire faculty, thirteen geologists from academia, oil and gas companies, environmental firms, and K-12 education joined us for an afternoon of discussion. **Ed Warner** described the experience of establishing a similar board at Colorado State. We appreciate the insights the Board provided and we are making progress in implementing their recommendations. One immediate outcome was greater internship opportunities for our students.

We have new equipment for faculty and student research. With funds from the Provost and the Geology Development Fund we purchased a new spinner magnetometer (see New Equipment). We should have all the

Integrated Science students describing crystalline rocks near Catherine Cove, Lake Superior (photo by **Steve Mattox**).

of the equipment by the end of the winter semester. A well maintained and running scanning electron microscope (SEM) has been donated to the college from a local pharmaceutical company. We have requested funds from the University to purchase a new X-ray diffraction unit.

I am happy to say the Provost has approved a search for a new Geoscience Education position. This is in response to new state mandates concerning the training of K-8 teachers. Although the individual will be dedicated to interdisciplinary courses we are already planning ways for them to make a wider contribution to the Department and all students. Faculty members have been active generating new course options. **Pablo Llerandi-Román** and **John Weber** offered an introductory field camp based in the Caribbean. **Pat Colgan** tapped his experiences to offer a new Engineering Geology course. Faculty members have also secured funds for research, most notably this year is **Figen Mekik**. Figen received a National Science Foundation grant to support student research in establishing proxies for past chemical conditions in the ocean. The current pool of our majors are especially vibrant and active, conducting research, attending national meetings, presenting their work, and building a strong geology club. One geology student, **Esther Posner**, received an award at the North Central GSA meeting in Evansville, Indiana. These students make our work a pleasure. If you haven't contributed or updated us in the newsletter please do. It's always wonderful hearing from you.

All the best in 2009,
Steve Mattox

"Grand Valley State University is a public institution with a local, regional, and state commitment, and a global perspective. We are dedicated to providing our students with the highest quality undergraduate and graduate education. "

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Geology Faculty and Staff

Steve Mattox –Associate Professor & Chair

Kevin Cole – Associate Professor
Patrick Colgan – Associate Professor
Linda Davis – Visiting Assistant Professor
Larry Fegel - Affiliate Faculty
Kelly Heid – Adjunct Instructor
Tom Hendrix – Emeritus Professor
Dick Lefebvre – Emeritus Professor
Pablo Llerandi-Román – Assistant Professor
Figen Mekik – Associate Professor
Bill Neal – Emeritus Professor
Ginny Peterson - Associate Professor
Peter Riemersma – Associate Professor
Laura Sherrod – Visiting Assistant Professor
Norm TenBrink – Emeritus Professor
Becky Touchett – Adjunct Instructor
Patricia Videtich – Professor
Lindsey Waddell – Visiting Assistant Professor
Peter Wampler – Assistant Professor
John Weber – Associate Professor

Greg Wilson – Instructor & Lab Coordinator
Linda Noel – Academic Department Coordinator
Janet Potgeter – Department Secretary

Currently there are 74 Geology & Geochemistry majors, 8 minors, and 14 Earth Science majors, and 30 minors. There are currently 220 students in the Integrated Science Program (pre-service teachers).

2008 Department Graduates

B.S. Geology
Emily Brehm
Joy Gryzenia
Jason Heivlin
Eric Hojnacki
Naoma Leonard
Sarah Nagorsen
Jason Stewart

B.S. Earth Science
Nicole Harris
Adam Schmidtendorff
Emma Torreson
Stephen Meek

Integrated Science – Earth Science Emphasis
Megan Couturier
Matthew Rabakon
Alison Schoonbeck

Esther Posner (Geology) and **Jason Hernandez (Earth Science)** were voted outstanding majors for 2008. Congratulations to Esther and Jason!

Geology Club News

2008-2009 Geology Club Officers
President - **Esther Posner**
Vice-President - **Katie Carlisle**
Secretary - **Christine Barzsewski**
Treasurer - **Mallory Morell**
Social Events Coordinators - **James Barr, Chris Denison**
Resale Manager - **Nathan Noll**

GVSU's Geology Club takes rocks seriously. Our organization is growing, gaining positive recognition on campus, and striving to meet the professional, social, and recreational needs of our students. Highlights from 2008 include an unforgettable caving trip led by **Kevin Cole** near Bedford, Indiana, several rock and mineral sales, Geology Pictionary, and a Geology-theme Halloween costume contest. We also hosted three guest lecturers, sent over a dozen students to professional geology conferences, hosted two awesome field trips, and plan to continue gaining momentum into 2009.

We are pleased to have earned financial support from the Student Senate in addition to rock and mineral sale fundraising to send ten undergraduate geology majors to the Geological Society of America Joint Annual Meeting in Houston and four more students to the American Geophysical Union Fall Meeting in San Francisco. The Geology Club of GVSU meets every Monday at 4pm.

Geology Club members on a caving trip to Bedford, Indiana (From left to right **Kevin Cole**, **Emma Seeley**, **James Barr**, **Michael Stockoski**, and **Esther Posner** (photo by **Michael Stockoski**).

Faculty and Staff News

Faculty and staff letters were edited in order to fit in the given space this year. Sorry, but this year's limit was 400 words!

Kevin Cole and **Susan Jansen** "Things are going much better this year thanks to the strong help and support from the Department, GVSU, Mary Free Bed and Susan. I started last spring by going to the Lake Superior conference with former student **Chad Kotke** who now works for the DEQ. We enjoyed a field trip to the Aquila Mine, a manganese prospect and looked at many drill cores. While daughter Rachel was in Germany we took the opportunity to hike Michigan starting with Pictured Rocks, proceeding to Isle Royale and the Porcupines. We went through many bottles of beer and deet!! It was a treat to find lovely hikes so near to home. On our annual trip out west we climbed Mt. St. Helens, collecting samples of pumice and taking photos for class use and scrambled through a lava tube called Ape Cave. We had a short trip to the inland waters of British Columbia enjoying crabbing, shrimping and fishing. We left Rachel out west to start her college career at Reed. Yes she is that old now. Fall semester I started back to work part-time and full-time in winter semester. It has been a rough road back, but I am doing what I love to do. I am studying landslides with **Alex Frye** and will hopefully be making measurements in the Seattle area over spring break. This summer, I plan on taking a group of students to the Canadian Rockies (anybody interested?) I am also planning another trip in California including 140 miles of hiking."

Patrick Colgan – "I enjoyed the winter semester working on a new project during a sabbatical leave. I began researching relict permafrost and periglacial features in North America and am

especially interested in how they can be used for paleoclimate reconstruction and their implications for carbon cycle changes between glacial/interglacial transitions. In March, I served as co-chairman and presented a paper at the Michigan Academy of Science meeting held at Western Michigan University. **Sarah Nagorsen (2008)** and **Peter Wampler** presented an excellent paper there (thanks for representing GVSU there!). In March, **Kelly Heid** and I hosted Robert Bindschadler of NASA, an internationally recognized glaciologist and Antarctica expert, as part of the International Polar Year Celebration sponsored by the Department and the Regional Math & Science Program. In April, we went to Florida to visit my parents and get some sun. Kelly and I even got to collect fossils while in Florida (mainly Miocene and Pliocene shark and ray teeth). In the summer, we had some perfect days at the beach, and I started a new project using tree-rings to work out drought records in Western Michigan. In the fall, I had a busy semester teaching environmental geology to 140 students, a full geomorphology class of 20, and a small engineering geology class (a new course). The geomorphology class produced another excellent set of student research projects. One thing I am particularly proud of is that ALL of our Geology/Earth Science majors and minors do science before they graduate. I am pleased to have survived for another year and I hope the New Year brings happiness to all."

Linda Davis – "I made it from New Jersey to Michigan in early August and hit the ground running. The mineralogy course was quite an experience: we took the annual trip to Bancroft, Ontario, with **Kevin Cole** leading and **Greg Wilson** and **Ginny Peterson** helping. We had fabulous weather (well, mostly) and collected incredible specimens. The class really bonded on this early field trip, and then bonded further soon after due to a horrible tragedy. The class lost a friend when **Brad Doane** was killed in a car accident shortly after we returned. The Department and the University were incredibly supportive. This young man made an incredible difference in his life: the number of people at the multiple viewings and at the funeral was very sobering. We put together an album filled with pictures of Brad to give the family, and some of the students fine-tuned Brad's Bancroft collection to give to Brad's little brother. The GEO 111 class was enormous, but fun to teach. We used a feature called GeoTour that utilized Google Earth extensively for weekly assignments – what an incredibly useful tool to entice students to study our Earth. I took several days this first semester to lobby Congress during the first Geosciences Congressional Visit Day. I went at the behest of the Association for Women Geoscientists, yet was able to visit some of the Congressional Offices with the President and Vice-President of GSA! What an experience! I also attended one of the SERC teaching workshops sponsored by the National Association of Geoscience Teachers and the National Science Foundation: we met at Carleton College and learned about metacognition – learning how we learn, so that I can better teach students how to study and learn more effectively. Finally, I took a student to the American Geophysical Union meeting in San Francisco, where we presented a poster on the changes to National Parks brought on by climate change that will negatively affect our visits and pleasure in the parks."

Larry Fegel – "On the personal side, Mary Kay and I became grandparents. Actually, we became grandparents three times with one granddaughter and two grandsons. Grandchildren are wonderful. My teaching continues to center on GEO 202, Hydrosphere for Preservice teachers; GEO 203, Atmosphere for Preservice Teachers, GEO 111, Exploring the Earth, and GEO 100, Environmental Geology. This past summer, **Peter Riemersma** and I taught the second installment of the field version of 202. We took a group of students on a trip through northern Michigan. We made it to Mackinac Island and had a great time bicycling throughout the island looking at old shoreline features. We had a fantastic tour of the Soo Locks. We also visited Tahquamenon Falls, Pictured Rocks, the iron country around Marquette, and Seney Wildlife Refuge. Seney Wildlife refuge was a highlight for most people as we had the opportunity to spend a day in the wetlands with Dave Olsen, a wildlife biologist. We had a great time on top of Sugarloaf one night using the department's new electronic star finders. The Sky Scout is a hand-held unit that can locate and identify most objects in the night sky. Peter and I will offer the class again this summer with a few changes. This has been a year of completing commitments. After eight years of helping design the programs for the Outdoor Discovery Center in Holland, I have mostly ended my work there. I still help them out when they need help with a geology-oriented class. I have also completed the curriculum development projects for Kent Intermediate School District. The high school earth science curriculum has been published along with the K-7 science curriculum and the high school physical science essentials course. I am now serving on an advisory board to help with the reorganization and redesign of Blandford Nature Center. My contributions will be in the areas of site development and program design. Starting in mid January, I will be helping the American Meteorological Society to develop a new online course – Earth's Climate System. I will primarily serve as a reviewer and advisor for the project. I am looking forward to traveling to New Orleans in March with a group of integrated science majors. We will attend the National Science Teachers Conference. **Greg Wilson** and I will drive to New Orleans with thirteen students."

Pablo and **Ginny** both gave presentations at the International Geologic Congress in Oslo, Norway in August, 2008. Here they are in front of the Opera House in Oslo.

Kelly Heid "This will be my fifth year as an adjunct with the Department and I'm happy to say that I'm still enjoying the experience. Working with the students in the Exploring the Earth introductory geology labs continues to be rewarding. This year I decided that I wanted to be back into the classroom more and so I will no longer be working for the Regional Math and Science Center doing K-12 outreach. I still plan on helping with the huge Regional Science Olympiad Tournament that GVSU hosts, but I'm giving up the teacher workshops and administrative duties as a Program Coordinator. This change has allowed me the opportunity to teach an Environmental Geology class at Grand Rapids Community College. I'm looking forward to spending more time with my students and less time in front of a computer. "

Pablo Llerandi-Román "¡Saludos! I am beginning my fourth semester at GVSU and I am having a great time. I continue teaching courses for the Integrated Science major and have taken my students to the St. Francois Mountains region in Missouri for two

consecutive semesters (thanks to **John Weber** who guided me during our first visit). My students are getting excited about geoscience education research and are becoming more active in developing ideas for research projects. **Michelle Frasco** and I coauthored a geoscience education report in which we explore teachers' conceptions of barriers when teaching geoscience. This report was part of the Student Summer Scholars program and we are finishing an updated version for publication. There are four other students working on research projects related to virtual field trips and multicultural geoscience education. It was also a pleasure writing an article with **Steve Mattox** and **Larry Fegel** in the *Journal of Geoscience Education*. I spent the summer working and visiting great geological sites. **John Weber** and I taught an introductory field camp in Trinidad and Puerto Rico. Eight geology majors and two students from the University of Puerto Rico completed the course. Later, I spent a week teaching middle and high school students about geoscience and Earth's processes in Puerto Rico. We visited geologically significant sites in the Northern Karst Belt and Central Igneous Province, and I even went into the waters of Río Tanamá to measure hydrologic parameters with the students. Finally, to end an exciting summer, I presented my dissertation research at the International Geologic Congress in Oslo, Norway, and spent three days near Stryn hiking the Bodalsbreen and Kjenndalsbreen glacier valleys. On the personal side, I continue learning about the socio-cultural and arts scene in Grand Rapids with my participation in the Latino Community Coalition of Grand Rapids. I am also meeting new friends through my wife **Miriam Soto-Santiago**, who's already "connected" in the city. Our daughters **Yulaiza** and **Katsí** are excelling in school. Yulaiza (8 years old) won an award for the best writer and continues working hard in Odyssey of the Mind (she wants to be a physicist). Katsí is dancing ballet and with 5 years of age she is already reading and writing in Spanish and reading in English. Miriam is enjoying her voluntary work as a breastfeeding counselor for Latinas and will be teaching Spanish at North Park Montessori soon."

Steve Mattox – "It has been a busy year with planned activities and with taking advantage of opportunities as they arise. I enjoyed writing a journal article with **Pablo Llerandi-Román** and **Larry Fegel** for a special issue of the *Journal of Geoscience Education*. Equally rewarding was guiding two sets of students from the "Earth Science for Secondary Education" class through research projects that were published. There were also fun collaborations with Integrated Science students that led to submitted manuscripts or presentations at meetings. The quality of our students is impressive and they continue to be a positive reflection on GVSU and the Department. I ran a trip to Hawaii for students where we warmed ourselves on fresh lava as the sun rose behind the ocean entry. Our caldera hike was shortened because of the new vent that spewed great volumes of gas and some ash (but glowed spectacularly at night). We also drilled many basalts and plan to become proficient at using the magnetometer to address research problems in Hawaii. I'm involved in a Michigan Tech project to bring more and better Earth Science to Grand Rapids Public Schools. On a personal note, I was fortunate to visit the Galapagos Islands as part of GSA Geoventures tour. I met great teachers from across the country and snorkeled with sharks, penguins, and seals and walked fresh lava on impressive shields."

Figen Mekik – "This is my 10th year at Grand Valley! 2008 was a great year for me because I got to publish with some of our students, received a new NSF grant to hire and work with more students on climate change, started giving public talks on global warming, and on a personal note, actually got a trophy for dancing a mean cha-cha! **Lisa Raterink (2006)** and I published our paper in *Paleoceanography*, and **Nathan Noll** and I are working on another paper we anticipate submitting to *Earth and Planetary Sciences* very soon. It is truly very rewarding to publish with undergraduates! I already hired many able, intelligent and enthused students to work for our new project with the new NSF grant. **Michael Wicker** will be setting out to test the deglacial deep sea ventilation hypothesis with a new dataset he will generate, **Sarah Clark** will weigh tiny forams to investigate if there really is a deglacial carbonate preservation maximum, and **Jonathan Cutting** and I are starting a new venture in quantitative modeling of foraminifera habitat preferences. I anticipate all of these projects will also result in publication within the next year or so. As far as my scientific career goes, I was invited as colloquium speaker at Dalhousie University and the Lamont Doherty Earth Observatory of Columbia University this past year. I also became the Secretary and Program Committee Member for the Paleoceanography/Paleoclimatology Focus Group at the American Geophysical Union (AGU). I am very excited about this because it gives Grand Valley great visibility at AGU (a professional organization with over 55 thousand members 35% of which are international). I am working with scientists at Lamont and the University of Bristol on one publication and with scientists at the University of British Columbia and Dalhousie University on another. So it looks like 2009 will be busier than 2008."

Exploring the Earth students at Aman Park, estimating stream discharge (photo by **Peter Riemersma**).

Bill Neal "2008 began with a work trip to Northern Ireland, and then a family vacation in Oaxaca, Mexico where we saw some interesting archaeological sites. In the spring we did another Western U.S. loop trip from Arches and Canyonlands, to Black Canyon of the Gunnison, Ouray, Mesa Verde, Ship Rock, Petrified Forest, Meteorite Crater, Sunset Crater, and Joshua Tree, on our way to a grandson's high school graduation (He's now a freshman at the University of Arizona). Made a couple of additional trips to California, Indiana, and finally did the boat tour of Pictured Rocks in Lake Superior. I enjoyed seeing several alums at the GSA meetings in Evansville and Houston (Sorry I missed the Lentini field trip.). On the family front, our daughter Julie moved back to Allendale and now works at GVSU – a few of you alums will remember Julie from Historical Geology in whatever year that was ["old" entitles one to forget details]. That was a tough semester for me because that class had the daughter of the Geology Chair, the son of the Chemistry Chair, the son of a GVSU administrator, and my daughter --- so I was as nervous as a cat in a fur factory. Never could figure out why all of Julie's classmates kept showing up at our house to study??! Professionally, I'm still doing some writing including abstracts at the Houston GSA meeting, and finally the coprolite paper with **John VanRegenmorter (2005)** and **Pat Videtich** was published; also have a few co-authored projects in press or in progress with a goal that they will be in print by next year. In addition to writing, I've

reviewed a number of journal articles, helped supervise a student project or two, and spent a fair amount of time just clearing the daily screen of spam! Mostly I putter around the department and enjoy watching the success of our faculty and students who continue to build and maintain a strong department with quality programs. Occasionally in the daily e-mail flotsam there is something from an alum or two which makes my day! In Beachboys' tradition: 'Be true to your school.'"

Students explore the Gulf Coast during the GSA Meeting in Houston Texas (photo by **Peter Riemersma)**

Ginny Peterson "I am writing this at the mid-point of my year-long sabbatical. A focus of my sabbatical is to learn the technique of dating monazite using the electron microprobe, working with colleagues at the University of Massachusetts, Amherst. I hope to use this technique along with modern tools of metamorphic petrology to better understand the uplift history of the mafic and ultramafic rocks in the southern Appalachians that have been the focus of my research for several years. We decided to stay situated as a family in western Michigan while I pursue this project, which means I have done a lot of traveling. I made trips to Massachusetts to do some analytical work in June and did some field work in western Massachusetts in October. A highlight of my year was a month in Europe. I gave a talk at the International Geologic Congress meeting in Oslo, Norway and participated in a post-meeting 10-day field trip across the Caledonides, starting in the low grade rocks to the east in the vicinity of Östersund, Sweden and working our way west into Norway and generally into higher grade rocks through Trondheim and fjord country. The field trip included ~35 participants from all over the world and exposed us to a daily spectacle of amazing rocks that told us a story of the orogen and a beautiful landscape. Among the more amazing rocks were the purple-bright green garnet peridotites that revealed a story that began in the deep mantle in the Archean. The trip gave me much to consider as I work on my Appalachian rocks. On the way to Norway, my family (**Jon Burr** and **Casie**) joined me for a trip to Italy. Highlights included a walk through Pompeii, hiking along the rim of Mt. Vesuvius, swimming into the Blue Grotto on Capri and walking ancient Rome. I have also participated in several meetings this year. **Andrew DeWitt** and I presented a poster at the SEGSA meeting in March and I gave a talk. I attended GSA in Houston and gave an invited talk at the AGU meeting in December, so it has been quite a busy year. For those of you who know my family, Jon recently took a job with Sylvan Energy, working with Tim Cowan in their office in Grand Rapids. Casie started high school and is now driving with a learners permit."

Peter Riemersma "I continue to teach large introductory general education courses, each with over 100 students. I am still able to learn all my student's names after a couple of weeks of staring at their photographs! **Larry Fegel** and I taught for the second time our summer field course "Hydrosphere in the Great Lakes" for integrated science students. Highlights of the trip were observing an enormous ship barely fit through the Sault Locks (a couple of feet clearance on each side) and cliff diving into Lake Superior (I went off the edge this year). I shared one of my favorite educational activities concerning bottled water at the GSA meeting in Houston and I coordinated a student field trip to the coast. I also received a small grant to identify internship opportunities for our students with local and regional companies. Eight Grand Valley students enjoyed a full day field trip to the Gulf Coast during the GSA Meeting in Houston, Texas. This second annual GVSU student field trip examined the barrier island near Matagorda and the eroding Sargent Beach. I appreciate the support of locals **Sheryl (Hoving) Lentini (1977)** and **Mike Lentini** who helped plan the trip and identify areas that were accessible two weeks after Hurricane Ike. We ended the trip with a great Texas barbeque dinner and a coastal experience to add to our list of field sites."

Laura Sherrod "I enjoyed teaching a variety of courses in 2008, including Geophysics in the winter semester. Over half of the students from that course participated in an additional field survey with me during the summer. **Cameron Ross**, **Miguel Merino**, **Anthony Rodriguez**, and I performed a ground penetrating radar survey to locate graves at the Carlton Township Cemetery in Hastings, Michigan. Records for this cemetery had been lost in a fire during the 1950s and it was unknown how much of the five acre area could be considered available to accommodate new burials. To prevent problems, the cemetery was closed in 1959. The township supervisor asked for help to identify any areas that could potentially be used within the cemetery. The field work took two days and Cameron and Miguel chose to continue the project in the Fall Semester by processing and analyzing the data. Our results will be presented at the 2009 Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP). Also during the summer, I submitted a portion of my dissertation for publication. I eagerly await the results of that review of my fine scale groundwater monitoring through the use of resistivity probes and a data logger. I have excavated the field equipment at my research site and plan to reinstall it, after doing some lab work with it, when I find a more permanent home. I met some faculty from other departments at the summer FTLC workshop on Teaching Portfolios. This workshop gave me a more in depth perspective of teaching here at Grand Valley. It was a worthwhile investment of time and energy. During the Fall Semester of 2008 I was given the opportunity to teach Hydrosphere for pre-service teachers. I thoroughly enjoyed the experience and learned a lot about teaching in the process. We took a field trip to Falls of the Ohio and Mammoth Cave National Park. The Introduction to Caving tour (crawling on hands and knees and even a few belly crawls) was the highlight of the semester for all. Finally, Ross Reynolds and I set up a few gravity base stations on campus this fall. These were used to compare the physics students' measurements of gravity with the true value of gravity. These base stations could be useful for future gravity projects in the region."

Norm TenBrink "Our year started with an 11-day cruise to Hawaii. We spent two days on each of the islands, and had a wonderful time with two other Michigan couples who also live in Green Valley, AZ. Geological wonders like Hawaii are even more fun to explore when retired because I can just look and learn as a geological tourist without any explaining. Retirement is good! For the rest of the "winter" we explored at least one new mountain trail each week, and shared good times with visitors and friends. One special visitor

was GVSU alum **Larry Austin (1974)** with his wife, Mary, and son, Robbie. We always enjoy sharing their adventurous lives, their love of the outdoors, and a passion for birding. Another highlight of the year was a visit from **Greg Wilson (1983)**. Greg drove up to our Hamlin Lake cottage and spent the whole day with us. It was great to catch up on what's happening at GVSU, and to share so many memories of good times. As we talked about all the field trips and summer field courses that Greg and I shared, it made me sharply aware that I do really miss those very special times with students in the field. The real "high-water mark" of the past year was the 12 inches of rain that hit Hamlin Lake in a few hours on June 12. What a storm and flood! The lake rose by 3 feet, inundating my new dock, floating away our old wooden dock, and depositing tons of flotsom and jetsum on our shore. Andy at age 34 is now a full-time, geologist with a mining resource development consulting firm in Reno. He loves the job, and it lets him work with, develop, and teach the latest computer technology for mining development and exploration. Andy is an avid biker, kayaker, and skier. Ryan at age 31 is in his 5th year teaching science in, California. Ryan also coaches wrestling, hosts winery tours, explores caves, and seeks out hidden hot springs. Ryan really wants to move to Colorado. He toured Colorado last summer, and hopes to land a job there by next fall. If anyone has any connections in Colorado that might lead to opportunities, please give me or Ryan a call. (520-549-7083 for me, and 925-785-2467 for Ryan). Life is good, and Arizona sunshine makes it even better! Best regards."

Pat Videtich "I taught Sedimentation-Stratigraphy, Exploring the Earth, Environmental Geology, and Geochemistry. Sed-Strat in winter 2009 will be especially challenging with 22 students, which breaks the old record by five students! Our numbers are growing! At GSA in Houston in October, two students gave posters on results of research that began as Sed-Strat projects; **Jason Heivilin (2008)** reported on growth bands on corals from Belize and **Nathan Noll** with Bill Neal) on more work in the gypsum mine. The long awaited paper **John Van Regenmorter (2005)**, Bill, and I wrote on fossils from the gypsum mine was finally published in the *Michigan Academician*. **Jo-Ann Webb-Franklin (2005)** and I recently submitted a grant proposal to the Michigan Space Grant Consortium to get middle school students out into the field. So if it is funded, we will be busy this summer introducing inner city kids to water in streams and sand at the beach. If alums are interested in helping either in the classroom, or in the field, please let us know! At GSA in Houston I had a good time chatting with our ever-increasing number of GVSU alums who attend the conference. Plus, alum **Cheryl (Hoving) Lentini (1977)** and her family graciously entertained a few of us aged alums at their home. Thank you Cheryl, Mike, and girls! Speaking of alums from yesteryear, I enjoyed receiving an e-mail from long-lost alum, **Doug Thorpe (1974)**! He also sent some entertaining photos, some are included in this newsletter. I encourage other alums we haven't heard from in years, or decades, to drop us a line. We would love to hear from you. This year for fun I went to Greece, which was mostly a land excursion, but included a four-day cruise, my first real cruise ever. And perhaps my last because when leaving Crete the Captain hit the wharf! Oops! The resulting five-foot gash in the hull (above the waterline at least) prevented us from going to Santorini, the island I most wanted to visit! Oh well, now I have a reason to go back sometime, but I think I will fly to Santorini. In the meantime, if you have thoughts about cruising the Mediterranean, drop me a line and I will tell you which cruise line to avoid."

Peter Wampler "The highlight of my year was a trip to Haiti during the summer with **Andrew Sisson**. As part of a Student Summer Scholar project we sampled and evaluated the water quality and quantity of springs in the mountains surrounding the City of Verrettes, Haiti. Our trip was initially delayed by food riots, but we eventually made it a month and a half later. The results of our study were sobering in that much of the water the rural residents of Haiti depend would not be considered safe to drink in the U.S. Several springs had water quality that would not even be acceptable to touch, according to EPA standards. I also returned to the Salmon River to work with the Idaho Geologic Survey on mapping Quaternary river terraces with students **James Barr** and **Paul Bourdon**. We had time while we were there to raft down a portion of the Snake River and explore amazing scenery and geology with a legendary geologist who has worked in the area for decades. I continue to work with facilities and colleagues at GVSU to better understand storm water runoff and to develop more sustainable practices. Several of the new buildings completed during 2008 incorporated storm water best management practices developed in cooperation with the Storm Water Advisory Group (SWAG). One large rain garden, located near the new turf building, has been fitted with three web-based water quality monitoring devices to evaluate the effectiveness of the rain garden. Data from these gauges will be fed into an information kiosk so that visitors to the building can learn more about the purpose and effectiveness of this storm water structure.

Peter Wampler and student **Andrew Sisson** in Haiti doing a water quality study of rural water supplies (photo P. Wampler).

John Weber "Family life continues to be the highlight in my life. We watched **Teya Li** grow from an infant to a toddler since last year! And Sarah, who has temporarily given up her career as a physical therapist to be a stay-home mom, is happy to be back to part-time yoga teaching again. My winter teaching load was 4 classes: Exploring Earth, Plate Tectonics, Global Tectonics, and Readings in Geodynamics. No time to do much else but teach, but I managed to help organize the Underground Railroad Conference on campus. We ended the semester with a trip to Provence, France. We spent a weekend with a French colleague and his family and together toured the Maritime Alps. A highlight was seeing the Messinian deposits related to rapid flooding of the Mediterranean Basin. **Pablo Llerandi-Roman** and I ran GVSU's first field camp in the summer. We did geology for 3 weeks with a group of 10 GVSU and UPR students in both Trinidad and Puerto Rico. I then spent most of the summer working with McNair Research Fellows **Chris Denison** and **Anthony Rodriguez**, and MSGC (NASA) Fellow **Esther Posner** on their research projects. I finished the summer by teaching the geodesy segment of an NSF-funded Integrated Solid Earth Sciences workshop for 25 international PhD students at Colorado College and visiting the Southwest Research Institute. In the fall, I attended the GSA Meeting with student **Alex Snider**, who presented our poster, and **Anthony Rodriguez**, who presented his Trinidad GPS poster at

a job fair. While in Houston I also visited Shell's Bellairs Research Lab. With my co-authors, I then worked on and submitted 3 papers for publication: one on paleoseismology work on the active Central Range Fault in Trinidad, one on GPS work on Trinidad's active tectonics, and one on GPS work in the Central Mediterranean. My mentees listed above plus **Keisha Durant** and **Heather Brusnahan** presented posters at the West Michigan Undergraduate Research Conference, where I also gave a keynote talk. Heather and Esther also presented our work at the MSGC meeting in Ann Arbor, and Anthony presented at the AGU Fall Meeting in San Francisco. I also led Structural Geology and Earth History trip to Baraboo, WI for about 50 students, gave a Michigan Basin Geological Society talk at MSU on impact craters, and submitted my portfolio for promotion to full professor – thanks again to all of you who helped with letters of support! "

Greg Wilson – "I continue to enjoy teaching GEO 111 and in the Honors program. The department space was remodeled last year and with student help we keep working on the organization of departmental materials. Last May I took of mixture of Geology/Honors students to the Canyonlands region and despite unseasonably cold weather it was a great experience. I am looking forward to taking a similar group back there again this year (May 09). I enjoyed visiting the **TenBrinks** at Hamlin Lake last summer, and even was treated to a tour of the local flood damage. My family is doing well. Luke is enjoying life as a High School Junior and Cooper is majoring in Spanish at Kalamazoo College."

Departmental Field Trips 2008

In March, **Ginny Peterson** and **Pat Videtich** led off with a five-day field trip for petrology and sedimentation and stratigraphy classes to the Appalachians. **Pablo Llerandi-Román** led a trip to the St. Francois Mountains (Ozarks Region) in Missouri for GEO 201.

During the summer, **Steve Mattox** led a two-week trip to Hawaii for geology and integrated science majors. **Larry Fegel** and Peter **Riemersma** led a summer field course *Hydrosphere in the Great Lakes* for integrated science students and current teachers. During the eight-day field trip they went *underneath* the Soo Locks and visited such locations as Manitoulin Island near Sudbury, Ontario and the Tilden Mine in the Upper Peninsula of Michigan. **John Weber** and **Pablo Llerandi-Román** led a three-week field course in Puerto Rico and Trinidad during the summer.

In September, **Linda Davis** and **Kevin Cole** led the mineralogy class on a 4-day trip to Bancroft, Ontario. **Greg Wilson** and **Ginny Peterson** went along to help. Awesome minerals were had by all. **Pat Colgan** led four half-day field trips for environmental geology students. Students took tree cores from oak trees along the ravine slopes during these trips. Students also learned about the environmental history of the campus ravines.

In October, **Peter Riemersma** and eight Grand Valley students enjoyed a full day field trip to the Gulf Coast during the GSA Meeting in Houston, Texas. This second annual GVSU student field trip examined the barrier island near Matagorda and the eroding Sargent Beach. **Pat Colgan** led a day field trip for geomorphology students to study West Michigan glacial and eolian history including stops at Green Mountain Beach, Glen Shores, Michigan, and lunch at Crane's Orchard in Fennville, Michigan.

In November, **John Weber** led students in his structural geology and historical geology classes on a weekend trip to the Baraboo Hills of Wisconsin. **Laura Sherrod** took the Geo 202 students (Hydrosphere for Teachers) on a three day trip to the Falls of the Ohio and Mammoth Cave National Park. **Greg Wilson** went along to help. **Pablo Llerandi-Román** led another trip to the St. Francois Mountains (Ozarks Region) in Missouri for GEO 201.

During the year, Geo 202 students went with **Laura Sherrod** on many trips to places like the lakeshore, Angus Cruises, gypsum mine, water treatment facility in Grandville, water filtration facility, Aman Park etc. **Pat Videtich** and **Laura Sherrod** also led numerous students on multiple gypsum mine tours for their 100 level classes. **Kelly Heid** and Peter **Riemersma** led several trips to Aman Park for Exploring the Earth Labs.

Geology students at the GSA Meeting in Houston, Texas. From left **Katie Carlisle**, **Kate Amrhein**, **Kat Barnard (2007), Christine Barszewski** (photo by **Pat Videtich**).

Undergraduate Research Projects 2008

Sarah Nagorsen (2008) completed a project with **Peter Wampler** on stream temperature. This resulted in an oral presentation at the Michigan Academy meeting, and a manuscript entitled, *Hyporheic flow in two small streams in West Michigan*.

Anthony Rodriguez completed a project with **John Weber** on neotectonics in Trinadad as part of the McNair Scholars program. This resulted in a manuscript entitled. *Global Positioning System (GPS) Determination of Motions, Neotectonics, and Seismic Hazard in Trinidad and Tobago*.

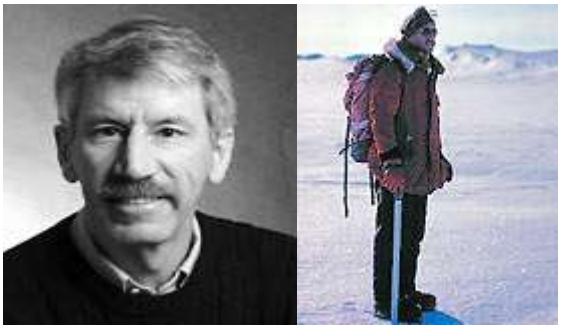
Chris Dennison worked on a project with **John Weber** on fission track dating and exhumation as part of the McNair Scholars program that resulted in the following manuscript entitled, *Apatite Fission-Track Thermochronology, Northern Range, Trinidad (and Paria Peninsula, Venezuela)*.

Other students working on research projects this past year include:

Heather Brusnahan
Andrew Sisson
Esther Posner
Andrew Dewitt
Jason Heivilin
Nathan Noll
James Barr
Paul Bourdon

Guest Speakers in 2008

International Polar Year Celebration (March)



In March, **Robert Bindschadler** of NASA gave a talk on Antarctica Research and Climate Change to over 250 people as part of GVSU's celebrated of the International Polar Year. Thanks to **Kelly Heid** for organizing his visit and the Regional Math and Science Center for sponsoring the IPY Celebration.

"**Robert Bindschadler** has been an active Antarctic field researcher for the past 25 years. He has led 14 field expeditions to Antarctica and has participated in many other expeditions to glaciers and ice caps around the world. He maintains an active interest in the dynamics of glaciers and ice sheets, primarily on Earth, investigating how remote sensing can be used to improve our understanding of the role of ice in the Earth's climate. He has advised the US Congress and the Vice President on the stability of ice sheets and ice shelves and served on many scientific commissions and study groups as an expert in glaciology and remote sensing of ice. Some of the more significant awards he has received are: Fellow of the American Geophysical Union (2001); Goddard Senior Fellow (2000); Excellence in Federal Career (1989); the Antarctic Service Medal (1984) and the NASA Exceptional Scientific Achievement Medal (1994). He has published over 130 scientific papers, numerous review articles and has appeared on television and been heard on radio commenting on glaciological impacts of the climate on the world's ice sheets and glaciers. He currently is the Immediate Past President of the International Glaciological Society, chairs the West Antarctic Ice Sheet Initiative, sits on both the US and International Planning Groups for the International Polar Year and is an Editor for the Journal of Glaciology." (taken from NASA web page)

Earth Science Week (October)

In October, Earth Science week kicked off with an inspiring lecture by **Steve Mattox**, Chair of Geology entitled, *Twenty years, four continents, and twelve jobs: Insights on finding a career in geology*.

Steve Forman of the Department of Earth and Environmental Sciences at the University of Illinois at Chicago gave a talk entitled, *Landscape response to megadroughts in the western U.S. in the past 2000 years: Potential land-atmosphere-ocean connections.* This talk was also sponsored by the Geology Club.

Judy Visscher and **Dan Nally** of the Holland Board of Public Works Gave a talk entitled, *Underground sequestration of coal-fired power plant carbon dioxide emissions.*

Jim O'Connor of Van Manen Petroleum Group in Grand Rapids, Michigan gave a standing room only talk entitled, *What's up with gasoline?*

The highlight of Earth Science Week was the 2008 Birdsall-Dreiss GSA Distinguished Lecturer **Larry McKay** of The Department of Earth and Planetary Sciences of the University of Tennessee. Larry gave two talks entitled, *Chattanooga Creek: How 30,000 tons of coal tar brought together scientists, social workers and a community* and *Germs and Geology: Emerging Issues in Waterborne Pathogen Research.*

"Larry McKay is the Jones Professor of Hydrogeology in the Department of Earth and Planetary Sciences at the University of Tennessee (UT). This endowed position was created with a donation from Donald Jones (UT grad 1959) and his wife, Flo, to provide diverse opportunities for UT students in the growing fields of hydrogeology and environmental geology. Dr. McKay received a Bachelor's degree (1981) in Geological Engineering from the University of British Columbia and a PhD (1992) in Earth Sciences from the hydrogeology program at the University of Waterloo, both in Canada and carried out post-doctoral research at the Geological Survey of Denmark in 1992." (taken from UT Website)

Thanks to **Peter Riemersma** for organizing another very successful Earth Science Week Lecture Series!

Geology Club Lectures

Brad Sageman (of Northwestern University) presented *Recent Advances in the Study of Cretaceous Ocean Anoxic Events*.

Seth Stein (of Northwestern University) presented *Giant Earthquakes in the Midwest: Hazards, Hype, and Hard Choices*.

Ginny Peterson gave an interactive talk on her recent research and field trip through Norway while on a sabbatical.

GVSU alums and faculty at the first advisory board meeting in January (photo by **Peter Riemersma**).

Student Scholarship Awardees

Edward Tremba Geology Scholarship - The Edward Tremba Geology Scholarship Fund is supported by your donations and goes to our outstanding Geology and Earth Science majors each year. Students must have a GPA of 3.00 or higher to be eligible for the award.

Nathan Noll	**Michelle Dam**
Esther Posner	**James Barr**
Eric Hojnacki	**Christopher Denison-Williams**
Keisha Durant	**Miguel Merino**
James Barr	**Christine Barszewski**
Jason Hernandez	**Jonathan Cutting**
Sarah Nagorsen	**Anthony Rodriquez**

Tulip City Gem and Mineral Club Award - The Tulip City Award is provided by the Tulip City Gem and Mineral Club and goes to majors who make significant contributions to the Geology Department.

Naoma Leonard **Sarah Nagorsen**

Geology Field Studies Scholarship:

Emily Brehm	**Christine McWain**
Joy Gryzenia	**Curtis Barclay**
Eric Hojnacki	**Abbey Post**
Kevin Kane	**Nathan Noll**

Please consider a gift to one of these departmental scholarship funds. When giving to GVSU, please specify one of these funds or give to the Geology Development Endowment Fund which is used for special needs in the department such as matching funds for equipment or field trips.

In February, we hosted the fourth annual geology chili cook-off with over 60 participants consuming 10 chilis and 2 side dishes. **Alex Frye** won best overall chili and best student chili. Our very own **Greg Wilson** won the most popular and most geological chili categories. The cherry cheesecake by **Joy Gryzenia (2008)** was quickly devoured (photo by **Peter Riemersma**).

Publications by Students and Faculty

Geology students and faculty published numerous peer-reviewed journal articles in 2008. GVSU students are designated with an asterisk.

Bostelman* S., Breimayer* J., Bumstead* L., Butler* K., Check* D., Cooke* S., DeWitt* A., Gray* J., Harris* N., Hazel* M., Hendershot* B., Hernandez* J., Jorgensen* A., Lewis* E., Mathews* I., Mattox S., Mishler* R., Murray* M., Pisz* M., Rickens* A., Rumpz* S., Sauve* R., Schmidtendorff* A., Slider* R., Stempky* A., Stevens*B., Vander Boon* C., & **Verwey G.,** 2008, The Presentation of Science in a Mid-sized Newspaper, a Quantitative Study, *Michigan Science Teachers Association Journal*, v. 53, no. 2, p. 24-28.

Dryer* E., & **Mattox S.**, 2008, Evolution of Horses, *Michigan Science Teachers Association Journal*, v. 53, no. 2, p. 47-50.

Ferrill D.A. & **Weber J.**, 2008, Folded veins and lamination in slate, Photograph of the Month (with explanation), *Journal of Structural Geology*, doi:10.1016/j.jsg.2008.02.014.

Neal W.J., 2008, Using Professional Organizations' Position Statements in Teaching. *Interchange*, v. 15, no. 2.

Mattox S.R., Llerandi-Román P.A., & **Fegel L.**, 2008, Designing and Implementing Earth Science Courses for a New Integrated Science Program for K-8 Teachers, *Journal of Geoscience Education*, v. 56, no. 5, p. 417-421.

Mattox S., Bridenstine* M., **Burns* B., Davis* E.**, **Koning* A.**, **Meek, P., Ritchie**, **M., Schafer, N., Shepard**, **L., Slater**, **A., Waters**, **T.,** & **Wigent**, **A.**, 2008, How Gender and Race of Geologists are Portrayed in Physical Geology Text Books*, Journal of Geoscience Education*, v. 56, no. 2. p. 156-159.

Mekik F.A. & Raterink* L., 2008. Effects of surface ocean conditions on the quantification of deep sea calcite dissolution in the tropical Pacific, *Paleoceanography*, v. 23, PA1216.

Pas* D. & **Mattox S.**, 2008, Digging for Dirt, *Michigan Science Teachers Association Journal*, v. 53, no. 2, p. 44-46.

Peterson V.L. & Ryan J.G., (in press), Petrogenesis and Structure of the Buck Creek Mafic-Ultramafic Suite, Southern Appalachians: Constraints on Ophiolite Evolution and Emplacement in Collisional Orogens. Geological Society of America Bulletin.

Vandyke* K. & **Mattox S.**, 2008, Going for the Gold, *Michigan Science Teachers Association Journal*, v. 53, no. 2, p. 51-54.

Van Regenmorter* J., Videtich P.E., & **Neal W.J.** 2008, Coprolites, Cololites, and Fish Fossils in the Mississippian Michigan Formation, Western Michigan. *Michigan Academician*, v. XXXVIII, p. 21-35.

Weber J., Saleh J., Balkaransingh S., Dixon T., Ambeh W., & Leong T., (submitted), Neotectonics and seismic risk in Trinidad, West Indies, from Triangulation-to-GPS and GPS Geodesy, and implications for infrastructure and exploration, *Journal of Petroleum and Marine Geology*, Special Issue on Caribbean, Paul Mann, Ed.

Prentice C., **Weber J.,** Crosby C., & Ragona D., (submitted), Central Range Fault, Trinidad: Paleoseismic studies along the Caribbean-South American plate boundary, *Geology*.

Weber J., Vrabec M., Stopar B., Pavlovic-Preseren P., & Dixon T., (acceptance pending revision), Adriatic microplate GPS-derived motion and rigidity from stable interior sites, Istria peninsula (Slovenia and Croatia) and Po Plain (Italy), *Tectonophysics*.

Weber J. & Amato J., 2008, Maps, Polyphase (Refolded) Folds, Stereonets, and Complex Fabric Analysis, On the Cutting Edge, Teaching Structural Geology in the 21st Century: serc.carleton.edu /NAGTWorkshops/structure/activities/27636.html.

Weber J., 2008, Mapping extensional crack arrays in asphalt as normal fault system physical analogues, On the Cutting Edge, Teaching Structural Geology in the 21stCentury: serc.carleton.edu /NAGTWorkshops/structure/activities/27635.html.

Presentations by Students and Faculty

Geology faculty and students produced more than two dozen oral and poster presentations at professional meetings in 2008. Student presenters and co-authors are indicated with an asterisk.

Bush D.M., Young R.S., & **Neal W.J.,** 2008, Sea Level is Rising, Storms are a Certainty. Now What? *Abstracts with Programs*, v. 40(6), Geological Society of America Meeting, Houston, TX, p. 400.

Bush D.M., **Neal W.J.**, Young R.S. & Jackson, C.W. 2008, Student-Based, Coastal-Hazards Research in the Caribbean. *Abstracts with Programs*, v. 40(6), Geological Society of America Meeting, Houston, TX, p. 181.

Brusnahan* H., Weber J. & Reynolds R., 2008, Shock-metamorphic effects in lattice structure of sphalerite (ZnS) from polymict impct breccia dikes, Kentland, impact crater, Indiana, West Michigan Undergraduate Research Conference and Michigan Space Grant Consortium.

Colgan P.M., 2008, Holocene alluvial fills in a small tributary to the Grand River, Ottawa County Michigan. *2008 Michigan Academy of Sciences Meeting at Western Michigan State University*, p. 26.

Davis L.L. & Reineke K.A., 2008, Climate change and our National and State Park Pleasures: A first hand view from an undergraduate student, *Eos Trans. AGU*, v. 89(53), abstract ED21B-0619.

Denison C., Weber J., Donelcik R., & O'Sullivan P., 2008, Apatite Fission - Track Thermochronology, Northern Range, Trinidad (and Paria Peninsula, Venezuela), Hazard in Trinidad and Tobago, West Michigan Undergraduate Research Conference.

DeWitt* A., Bueben B., **Peterson V.,** & Ryan J., 2008, Testing the Chemical Fingerprint of Amphibolites from the Central Blue Ridge Cartoogechaye and Mars Hill Terranes, NC Blue Ridge, Geological Society of America. *Abstracts with Programs*, Vol. 40, No. 4, p. 62.

Durant* K. & **Weber J.**, 2008, Deformation bands and their role in hydrocarbon fluid flow across the Los Bajos Fault, Trinidad (West Indies), West Michigan Undergraduate Research Conference.

Frasco* M. & Mattox S., 2008, Students' Conceptions and Misconceptions about the Age of Geologic Materials and Character and Timing of Geologic Ages, *National Science Teachers Association*, p. 106.

Heivilin* J.A. & **Videtich P.E.,** 2008, Skeletal Growth Rates in Modern Reef- Building Corals (*Acropora palmata, Acropora cervicornis, Porites porites* var. *divaricata,* and *Montastrea annularis)*: Belize Barrier Reef (abs): Geol. Soc. America Annual Meeting and Exposition Abstracts with Programs, v. 40, p. 148.

Llerandi-Román P.A., 2008, Design, implementation, and assessment of a field-based, constructivist geoscience teacher education institute. Paper presented at the 33rd International Geological Congress, Oslo, Norway.

Mattox S.R., 2008, Earth Science in Print Media, Insights from a Mid-Sized Newspaper: *Abstracts with Programs*, v. 40(6), Geological Society of America Meeting, Houston, TX,, p. 249.

Mekik F.A. & Kienast M. 2008, Comparing changes in sea surface and thermocline temperatures between the western and eastern equatorial Pacific since the Last Glacial maximum. *AGU Fall Meeting, San Francisco CA*.

Mekik F.A., Anderson R., & Ridgwell A., 2008, In Search of the Deglacial Carbonate Preservation Maximum: Why is it Missing? Goldschmidt Conference, University of British Columbia, Vancouver Canada.

Mekik F.A. 2008, Lamont Doherty Earth Observatory of Columbia University, Palisades, New York, Deglacial Deep Sea Ventilation Hypothesis: Where is the Carbonate Preservation Maximum?

Mekik F.A., 2008, Science Café, Grand Rapids, MI: Sea Level Rise: An Unstoppable Consequence of Global Warming.

Mekik F.A., 2008, Dalhousie University, Department of Oceanography: The Great Ocean Carbonate Buffer: Mysteries from the Deep.

Noll* N.R., Videtich P.E., & **Neal W.J.** 2008, New Perspectives on Faunal Analyses of the Mississippian Michigan Formation, Western Michigan. *Abstracts with Programs*, v. 40(6), Geological Society of America Meeting, Houston, TX, p. 371.

Peterson V. & Ryan J., 2008, Constraints on the Evolution and Emplacement of the Buck Creek Complex and other Blue Ridge Ultramafic Rocks, with Implications for Ophiolite Emplacement in Collisional Orogens, Geological Society of America *Abstracts with Programs*, Vol. 40, No. 4, p. 69.

Peterson, V. & Ryan J., 2008, Petrogenesis of the Buck Creek mafic-ultramafic complex, southern Appalachians, USA: Implications for ophiolite evolution and emplacement in collisional orogens. *International Geological Congress*, vol. *33*, Abstract # EUR06603L.

Peterson V.L. & Lord M.L., 2008, Using Intentional Development of Research Skills as a Framework for Curriculum Reform, *Eos Trans. AGU, 89*(53), Fall Meet. Suppl., Abstract ED12A-02

Posner* E., Weber J., & Koeberl C., 2008, Eocene distal impact ejecta (microtektites), Barbados, West Indies, West Michigan Undergraduate Research Conference and Michigan Space Grant Consortium.

Riemersma P.E., 2008, Using clickers to assess learning and engage students in a large lecture general education science class", *Looking for the Light Conference, Pew Faculty Teaching and Learning Center*.

Riemersma, P.E., 2008, Using Bottled Water to Further Student Understanding and Appreciation of Groundwater and the

Environment, *Annual Geological Society of America Meeting, Houston*, Texas.

Ridgwell A.R., **Mekik F.A**. & Schmidt D., 2008, Models are not just for Christmas. *AGU Fall Meeting, San Francisco, CA*.

Rodriguez* A., Weber J., & Schmalzle G, 2008, Global Positioning System (GPS) Determination of Motions, Neotectonics, and Seismic Hazard in Trinidad and Tobago, West Michigan Undergraduate Research Conference, GSA Annual Meeting, and AGU Fall Meeting

Russo* J.C., Mattox S.M, & **Kildau* N.A.**, 2008, Predicting the Timing and Location of the Next Major Hawaiian Volcano, National Science Teachers Association, p. 165.

Snider* A., & **Weber J.**, 2008, The heterogeneous shear model to explain polyphase folding in the Baraboo Syncline, WI, USA Geological Society of America *Abstracts with Programs*, Vol. 40, No. 4, p.?.

Vandyke* K.I., Dreyer* E.K., Pas* D.N., & **Mattox S.,** 2008, Using Trade Books to Teach About Soils, Gold, And The Evolution Of Horses, National Science Teachers Association, p. 112.

Faculty and Student Grants

Colgan P.M., **Llerandi-Román P., & Heid K.L.,** A Summer Workshop for Grades 6-12 Teachers in Earth System Science. NASA Michigan Space Grant Consortium Program (Submitted).

Barclay* C., **Barr* J & Peterson V.,** Fellowship proposals to the Michigan Space Grand Consortium Program to support summer research (submitted).

Mekik F.A. COLLABORATIVE RESEARCH: A Multi-Proxy Search for the Deglacial Deep Sea Carbonate Preservation Maximum. Collaborative with Bob Anderson at Lamont Doherty Earth Observatory. National Science Foundation. OC0825280 (Awarded).

Mekik F.A, Deglacial Water Column Structure and Dynamics in the Eastern Equatorial Pacific Ocean. Grand Valley State University, Research and Development Center, Research Grant-in-Aid Fall. (Awarded).

Peterson V., Expanding my scientific toolbox: Learning a new technique for dating geologic processes and exploring the geology of the Scandinavian Caledonides with application to current research activity in the Appalachian Mountains of North Carolina, NSF ADVANCE-PAID Professional Development Grant (Awarded)

Peterson V., Integrating field observations and a new electron microprobe technique for determining the evolving age of monazite crystals to constrain the exhumation history of the Buck Creek complex and related rocks in the North Carolina Blue Ridge, *GVSU Research and Development Research Grant-in-Aid*, (Awarded).

Peterson V. & **Llerandi-Román P**. Restructuring a core Geology class, Igneous and Metamorphic Petrology (GEO 212), using a Problem-based Learning/Inquiry approach and integrated assessment to improve student learning, GVSU Robert and Mary Pew Faculty Teaching and Learning Center Pew Scholar Teacher Grant (Awarded).

Videtich P.E. & Webb-Franklin* J., Hands-On, Field-Based Earth Science for Inner City, Middle School Students. NASA Michigan Space Grant Consortium Program (submitted).

Andrew DeWitt collects a basalt sample for paleomagnetic study, southwest rift zone, Mauna Loa, Hawaii (Hoagland).

New Department Equipment

The Department received funding from the Provost's Office to buy paleomagnetism equipment to be used in classes and in student research projects. The funds were used to buy a Molspin spinner magnetometer, a Molspin alternating field demagnetizier, an ASC pulse magnetizer, and an ASC thermal demagnetizer. We received the spinner magnetometer and AF demagnetizer during the fall. **Patrick Colgan** and student **Jonathan Cutting** used the equipment in the fall to examine the secular variation record of post-settlement alluvial sediment in the Little Mac Ravine. They found that these sediments do have a strong remanent magnetism (probably as detrital remanent magnetism) that could be used to date the sediments by correlation to historical secular variation curves. **Steve Mattox** and Hawaii Trip students also collected some basalt samples to look at inflation of lava flows. We should receive the ASC thermal demagnetizer and pulse magnetizer this winter so Steve and his students will be able to examine their samples soon.

The Department also purchased a new set of AMS hand augers for use in hydrogeology and geomorphology classes, and hip waders for stream research. We also were able to purchase some water quality equipment. **Peter Wampler** obtained funding from GVSU for a set of balances for the introductory geology labs. We also obtained a used HP large format plotter for the computer/GIS lab.

Some of the equipment on the Department's wish list include:

New X-Ray Diffraction unit

Alumni News

(News received since January 2008)

Jim Walters (1970) was honored at GSA in Houston with a lifetime membership in Sigma Gamma Epsilon, the National Earth Science Honor Society. Jim is a past President and big promoter of the society. Congratulations, Jim!

Mark Bishop (1974) "I really appreciate the invites and the news about the department; please keep it coming." Mark lives in Hudsonville, Michigan.

Doug Thorpe (1974) Doug lives south of Denver with wife Debbie. He is currently working in the IT/GIS department for DCP Midstream, a natural gas company (formerly Duke Energy). Before that Doug worked for 16 years in the oil and gas field for Phillips Petroleum. He has two sons Brian (24) and Wesley (20). Brian is a graduate of the University of Colorado and works for the Air force Space Command. Wesley is a sophomore at the University of Northern Colorado. Doug still does some mineral collecting and sent us a few pictures from the early days of the Geology Department (See pictures under "Geology Archives). Doug wrote recently, "I do receive the newsletters and enjoy them very much. I especially enjoyed Roger's description of the early days in the Dept. Except as I recall, I made the thin sections of the 2 week old basalts."

John Freeland (1982) John is an environmental scientist with Environmental Consulting & Technology, Inc. in Ann Arbor Michigan.

Mary Holden (1985) Mary is an environmental consultant and is working on a PhD in Science Education at Texas Christian University in Fort Worth Texas. She is also teaching at TCU and at Tarrent Community College. Daughter Cailin Rae is an active 5th grader, inspiring pianist, step dancer, and marine biologist. Husband Jeff Vick is an engineer and excellent Cajun Cook.

Gregg Swayze (1982) "I've been busy working for the USGS working on ways to apply reflectance spectroscopy to practical and out of this world applications. I'm working on a way to use field spectrometers to identify the sources of attic vermiculite to help homeowners determine if they have asbestos contamination. My other line of work involves finding minerals on the Martian surface. I'm currently working on an explanation for an alunite deposit detected in the Martian Southern Highlands. I think that the alunite may have been deposited in an acidic crater lake about three billion years ago. It's hard to know for sure without a visit but who knows -- maybe there will be a future rover mission to the site. Otherwise, my wife Sheryl and I enjoy watching our two sons Neal (12 yrs.) and Jeff (9 yrs.) grow up. Seems like time passes ever faster with each year. Hope all is well at GVSU."

Bob Brown (1986) is working in a wet chemistry lab for Alcoa/Howmet in Whitehall testing alloy and non-alloy materials on graphite furnace and flame atomic absorption units.

Blaine Campbell (1988) Blaine has returned to Michigan, working for TransCanada Reservoir Services group. Blaine and family live in Traverse City.

Molly Sherwood (1994) "I've been employed as an Environmental Compliance Manager with the Kent County DPW for 8 1/2 years. The big change for me is that in January, I will finally begin my M.S. studies at Western Michigan University. I'm going to specialize in contaminant hydrogeology."

Tony Lupo (1997) Tony stopped by with his twin sons. He "went independent" and is now Vice President (Geophysics) of a small exploration company.

John Van Regenmorter (2005) John completed his M.S. (Anthropology Department) and is working on a GIS certification at Western Michigan University. He received one of WMU's "Graduate Research and Creative Scholar Awards", the only M.S. student to receive the award. Congratulations, John!

Matt Kreuyer (2006) Matt is working at ATC Associates in Grand Rapids doing soil and groundwater sampling, as well a CAD mapping when not in the field.

Andrea Magoon (2007) Andrea is an associate geologist working in the oil and gas industry with Crusader Energy Group in Oklahoma City. She will begin taking some graduate courses at the University of Oklahoma in January.

Carson Klemp (2007) Carson is working as an ore control and exploration geologist for Freeport McMoran at the Santa Rita Mine near Silver City New Mexico. He has also been exploring the Northwest and Southwest U.S. The sudden drop in commodity prices has caused a shutdown in production at the mine, but Carson reports that he is still working on exploration projects and preparing for the next boom in copper prices.

Naoma Leonard (2008) Naoma was in Texas down by the Mexican border near the Rio Grande this year. She is spending the day looking at sand and shale samples, describing them and monitoring the computer programs for gas flares. They are currently drilling for natural gas and she reports that they have found no "sweet crude."

Sarah Nagorsen (2008) "I'm currently working on a M.S. degree in tectonics at Central Washington University, in Ellensburg Washington….It's beautiful out here, but I definitely miss everyone at Grand Valley."

A Call for Alumni Mentors

We just learned from GVSU Career Services about a nice opportunity for those of you working as professionals who would like to help us mentor students entering the job market. Career Services maintains a website that helps students informally link up with and receive advice from professionals (mostly alums) working in specific fields.

The website can be found at: http://www.gvsu.edu/careercontact/.

Right now the site has no Geoscientist contacts listed! Professional Geoscience teachers can be added to the contacts that already exist.

Call for Return or Loan of Fossils from the Gypsum Mine

GVSU students and faculty are still trying to decipher the mysteries of the Michigan Formation exposed in the gypsum mine. Bill Neal and I were talking about all the materials that are likely to be in the basements and garages of our alums, possibly lost to science forever. So if you happen to have fossils or stromatolites from the mine and are tired of carting them around with you, we would appreciate it very much if you would send the specimens to us. Or, if you can't quite part with your samples, but are willing to loan them to us for study and photographs, that would be great too. If you have questions, please let me know at videticp@gvsu.edu. Thank you very much!

From the Geology Archives

John Lucke (First Geology professor at GV), and his wife Virginia at his retirement party. Clare DenBesten is on the left (Photo and caption sent by **Doug Thorpe 1974**).

Some things never change. Notice that the tables, cabinets, and microscopes are the same ones we use today in Padnos 128 lab. "I think **John Domrowski (1973)** is the sleeping beauty" (Photo and caption by **Doug Thorpe 1974**).

Please send the following information about yourself in one of three ways:

Email to Linda Noel or to Janet Potgeter at:
geodept@gvsu.edu

Mail it to us @ Geology Department, GVSU, Allendale, MI 49401

We have an online form for direct electronic submission at:
http://www.gvsu.edu/geology/

Name: (If your name has changed since you were a student here, let us know your previous name also)

Graduation year: _____
Employment/Life status or changes:
Contact information* (address, email, phone)

- Note that we will not post contact information on the web site apart from your city of residence – please let us know if you do not want us to share your contact information with alumni or friends who request it.

Please Support Geology/Earth Science Funding

Years ago Ed Tremba, then a Department faculty member, had the foresight to suggest we start an endowment fund for student scholarships within the department. Sometime later that program was named in Ed's honor and because Ed and the Tremba family made significant contributions to the fund. Alumni and friends of the department also made the Tremba Scholarship Development Fund a reality, and the success of that program led to two additional endowment funds in support of students and the department's growth: the Geology Student Field Endowment Fund (scholarship program), and the Geology Endowment Development Fund (matching funds, equipment, etc.). Since then, two additional memorial funds have been initiated from family gifts: the Paul C. & Florence Miller Mineral Collection Endowment (funds allow additions of minerals, rocks, and fossils to the Department collection) and the Norman Gibson Geology Field Study Program (student support). All such programs must have a minimum balance of $30,000 before the Department receives annual interest to support the program goals. The list below shows general balances as of the close of fiscal year 2008 (June, 08). Only the newest program, the Norman Gibson Geology Field Study Program is short of the $30,000 minimum at this time.

Edward L. Tremba Scholarship Development	>$ 80K
Geology Endowment Development Fund	>$126K
Geology Student Field Endowment Fund	>$ 40K
Paul & Florence Miller Mineral Collection	>$ 55K
Norman Gibson Geology Field Studies Program	>$ 17K

Given the current poor economy, the number of contributors has declined a bit, but we ask alumni, faculty and friends to remember the Department in your annual giving. Those of you who were recipients of Tremba Scholarships or field camp support know how important these programs are to the current generation of students and those to come. No gift is too small! We also acknowledge the long continued support of the Tulip City Rock and Mineral Club for their annual award to field-camp bound students.

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In order to use department resources most efficiently, we would like to give future issues of this newsletter and important news from the GVSU Geology department to you electronically. If you will send your email address to geodept@gvsu.edu, you will receive text announcements and/or links to the latest newsletter. Your email address WILL NOT be shared or used for anything other than GEO Department announcements. Further, the pictures are so much better in color!