

Geology Department Newsletter



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"Educating students to shape their lives, their professions and their societies."

December 2014

Greetings from the Department Head!

Many changes are in the works here. Perhaps the most visible change is the building of a new science building across Campus Drive from Padnos. The building should be completed and occupied, primarily by the Biology and Cell and Molecular Biology Departments next fall and Padnos and Henry will get remodeled next summer as those departments leave. We have been working hard to plan for that remodel and design the space to best serve our growing needs. This time next year we expect to be in remodeled space in Padnos and we anticipate a lot of disruption during the summer; moving rocks is one of the lesser joys of updating a Geology department.

Last year our search for a new Geochemistry faculty member was successful; we hired **Dr. Tara Kneeshaw**, who taught for 3 years at California State University, Fullerton and then as a visiting faculty member at GVSU for 3 years. We are happy to have Tara as a member of the tenure-track faculty and teaching Geochemistry. I must also report that **Heather Miller** resigned from our faculty. Her husband, Matt, received an offer from his firm that was too good to refuse to start an office in Austin, TX. Heather has been a valued member of our department and is missed. We wish her well as she pursues new directions. We are currently in the process of searching for two new faculty members. We are seeking a Geoscience Education faculty member to fill the position vacated by Heather. We are also participating in a search for a new Geosciences faculty member in the Honors College; the hire will have a 2/3 commitment to teaching in the Honors College and 1/3 in Geology. This is a great opportunity to increase our interaction with Honors students and programs. For several years the department faculty have discussed making revisions to our curriculum in response to

evolution of the geosciences profession, changes in the nature of information, and increases and changes in the department faculty. Our discussions parallel those taking place in departments across the country and our challenges and aspirations are similar to those discussed at the Summit on the Future of Geoscience Education that Steve Mattox and Ginny Peterson attended in January of 2014. With encouragement from an external consultation, we made a commitment last year to complete those discussions and agree on a revised curricular structure. Our intent is to maintain our strengths (including field-based and project-based instruction) and increase flexibility in the major programs, including addition of an Environmental Geology emphasis. We are in the process of submitting the changes to the university curricular review system with a goal of implementation starting in Fall 2016. This year **Steve Mattox** received the Neil Miner award from the National Association of Geoscience Teachers for exceptional contributions to the stimulation of interest in the Earth sciences. This is the premiere teaching award from NAGT, awarded at the GSA meeting in Vancouver. Steve is the second GVSU faculty member to receive this award. **Tom Hendrix** received it in 1994 (see article on p. 15). **John Weber** was elected as a Geological Society of America Fellow this year and was recognized in a ceremony at the GSA meeting in Vancouver. In February 2014, **Figen Mekik** received the GVSU Distinguished Contribution in a Discipline Award in recognition of her outstanding accomplishments in research and professional service.

Several students participated in funded research and internships over the summer. Three students were supported by Norman and Helen Gibson Geology Field Study Scholarship to support their summer research; **Karen Musser** (mentor: Ginny Peterson), **Zack Remtema** (mentor: John Weber), **Brittany Ward** (mentor: Pat Colgan). **Eric Armstrong** was awarded a Michigan Space Grant Fellowship (mentor: Ginny Peterson). Three students, **Ashley Brady**, **AJ Barrette** and **Nick Coliainne** worked on Campus research projects (mentors: Peter Wampler and Tara Kneeshaw) supported by GVSU facilities funds. All of these students presented their results at the GSA meeting in Vancouver. **Cole Vickers** conducted research mentored by Figen Mekik and supported by her NSF research grant. Earth Science students **Claire and Christina Sobolak** and **Shannon Donaldson** were mentored and supported by internal and NSF grants to Steve Mattox.

--Ginny

GEOLOGY FACULTY AND STAFF UPDATES

Kevin Cole (colek@gvsu.edu) Once again we had a year full of teaching, hiking, geology, travel and family. On Spring Break Susan and I took 7 members of the Geology Club for a one week hiking and camping trip to Big Bend National Park in Texas. It was nice to go from a blizzard to 80 degree weather and clear skies. Hot springs-pour offs-slot canyons and a half day in Mexico were all new experiences for them. We all enjoyed ourselves so much the GEO Club is planning a similar trip for next spring break.

In June we headed west to explore the Sierras. We hiked through a lot of white granitic rock, collecting samples and pictures as we went. We collected water samples from Mono Lake and halite slabs from the Bonneville Salt Flats. We met up with my daughter Rachel, currently living in Oakland and recently married, in the Desolation Wilderness-did some collecting (mostly porphyritic rocks but some granite with garnet and sphene), hiking and photography. Other places we visited are the Mammoth Lake region where the Earth fissures that developed due to a rise in magma in the area also caused the release of large amount of CO₂ into the soil which resulted in the demise of many trees.

And, of course, we visited Yosemite! We backpacked portions of the John Muir and Pacific Crest trails.

In Washington we visited the Oso landslide twice, a very stark reminder of the Earth's forces. At our second visit, after all the remains had been found, we saw crews re-sculpting the landscape.

We met up with Steve Mattox and 3 of my former students at Mt. Bachelor. They were working on a lesson plan related to volcanic hazards. We returned from the west with our son Sean who has transferred from Whitman College to Washington University in St. Louis to study engineering.

This year is a record enrollment for Mineralogy, 39 students! We had 8 vans traveling to Bancroft.

Fortunately we had flawless weather, no rain, and a good time collecting and camping. We were only stopped by the police once!!

We also enjoyed the pre-GSA field trip to the San Juans with the Peters and students, including alumni **Kat Barnard**. GSA in Vancouver was great with the exception of no cell phones. It was enjoyable to visit with alumni and see their accomplishments.

Patrick Colgan (colganp@gvsu.edu) This past year was another good one for Kelly and me. In winter of 2014 I taught geophysics (GEO470) for the second time. It was a challenging winter to do field geophysics, but we enthusiastically got out there and the students completed team projects in seismic refraction, ground penetrating radar, total field magnetism, and soil magnetic susceptibility. We also did projects in gravity and paleomagnetism in the laboratory. **Ginny Peterson** led a discussion and a lab on seismic reflection methods. In spring I presented a paper at the Michigan Academy of Sciences meeting. I also organized and ran the session as chair of the Geological Sciences section as I have done for the last several years. **Katelyn Braunschneider (B.S. Geology & Earth Sciences 2014)** and geology major **Chris Vanderlip** presented oral presentations summarizing their results. Chris presented X-ray diffraction and grain size data for samples from a nearly continuous ~43 meter rotosonic core of glacial sediments drilled in Ottawa County to bedrock. Katelynn presented her results about macrofossils and radiocarbon ages from the same core. During the summer, I worked with geology major and McNair Scholar **Brittany Ward** on a project studying Silurian dolomites in Upper Michigan at Seul Choix Point. We examined the rocks and fossils and did some oxygen and carbon isotope analyses in order to correlate the rocks with the better dated section in Eastern Wisconsin. Brittany did an excellent job in the field and the lab, and she recently presented her work at the 2014 GSA meeting in Vancouver Canada. Kelly and I spent some time in July exploring out west in Nebraska, Utah, Colorado, and Kansas (see Kelly's description). Highlights were fossil collecting and a raft trip on the Green River at Dinosaur National Monument. At the end of the summer, Kelly and I spent a couple of serene weeks at the cabin on the north shore of Lake Michigan. My father came up from Florida and stayed with us to enjoy a cool Michigan summer. Fall brought me back to reality teaching a big section of Exploring the Earth (GEO111), and a full section of geomorphology (GEO320). So it has been a truly great year, with both ups and downs, but overall the ups have far outweighed the downs. Hope everyone is healthy and happy in the coming year!

Larry Fegel (fegell@gvsu.edu) I learned something this past summer. Don't visit the department while Ginny is working on the schedule. Seriously, I have really enjoyed my return to teaching this semester. Ginny needed someone to teach the hydrosphere course and I

was happy to do so. It has been a great group of students and we were able to spend considerable time in the field learning about watershed management and the hydrosphere in general. We had a three-day field trip to Mammoth Cave. We stopped at Falls of the Ohio State Park to observe the fossil beds and at a road cut in Kentucky to collect Mississippian fossils.

I shall now go back to my retirement. Ice fishing season will soon be here and I intend to spend considerable time on the ice. Mary Kay has yet to comprehend the many esoteric benefits of ice fishing. Somehow, sitting for hours on ice waiting for a fish to take a lure does not appeal to her. I will also spend more time with the grandchildren. Next July, Mary Kay and I will be going to Glacier National Park with our son, Matthew, and his family.

As Thanksgiving and Christmas approach, I do want to extend a very heart-felt thank you to all who made my time at Grand Valley so enjoyable. I am also thankful for family, friends, and faith. I wish you the best as you move forward with your education and careers. Take care and God bless.

Kelly Heid (heidke@gvsu.edu) It has been a busy fall in the Geo111 labs. To enhance the content we are giving our students a genuine experience of how geoscientists make observation in the field. So far we have taken the students to Aman Park, Grand River Park and are heading to the Gypsum Mine in November. The Geo203 Weather for Pre-service Teacher's is presently in the middle of exploring the dynamics of unstable air parcels, humidity and precipitation.

The theme of this past summer was fossils. Pat and I headed out west, where our first fossil stop at the Ashfall Fossil beds in Nebraska took us 12 million years back in time. This facility is a hidden gem. A large barn has been built over the remains of rhinos, horses and other assorted animals that died around a watering hole after a volcano erupted in Idaho. They have a very nice display and the student interns are very happy to stop and chat about the work they are doing and the different types of fossils that have been found on the site.

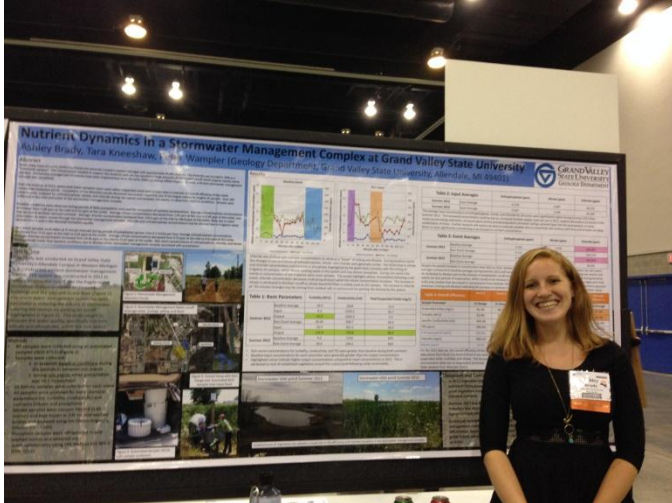
Stop two at Dinosaur National Monument's Quarry Hall in Utah took us back 149 million years. The barn is much quieter than I remembered from my first visit in the early 70's. The paleontologists working the site were still jack hammering away on the Morrison Formation to revealing the bones present in the exposure. Along with the dinosaur fossils, the park has beautiful petroglyphs and pictographs in the valley.

Before leaving we decided to try and beat the 102°F heat by white water rafting through Split Canyon. The final fossil stop was in Hayes, Kansas to see the famous fish within the fish fossil at the Sternberg Museum of Natural History and do some collecting at few local spots. We checked out some exposures of the Niobrara Chalk and Dakota Sandstone from the Cretaceous Period. Collecting fossils in Kansas is fun but this should be considered an extreme sport in July when temperatures reach 104°F.

Tara Kneeshaw (kneeshta@gvsu.edu) This last year has been a monumental one for me in so many ways!! In the spring I accepted the position of Assistant Professor of Environmental and Aqueous Geochemistry in GVSU's Geology Department and I couldn't be more thrilled and thankful for the opportunity! I taught "Living with the Great Lakes" over the summer as well as the "Groundwater Sampling and Monitoring" week of Western Michigan University's Hydrogeology Field Camp. And then, in the midst of it all, I got married in August! Josh and I had a beautiful wedding under a 150 year old Giant Northern Catalpa tree and then headed off for a quick honeymoon in North Carolina.



Over the last few months I have settled in to both married life and the new tenure-track position and am happy to report that all is going great. In addition, Peter Wampler and I have continued to work with students on ravine research and this year we had 3 students (**Ashley Brady, Nick Colaianne, and Andrew (AJ) Barrett**) present their results at the annual GSA meeting in Vancouver, BC, Canada.



Ashley Brady

I continue to teach Environmental Geology but I am also currently teaching geochemistry. This year we offered geochemistry with a lab and it has been really fun coming up with new lab activities and spending time getting to know our majors better. The new position has also afforded me the opportunity to purchase some new equipment and work on building a nice research space.....so many exciting things this last year!

Pablo A. Llerandi-Román (llerandp@gvsu.edu) *Hola.* I am back from a sabbatical year in Puerto Rico (three weeks in Savannah, Georgia, hosted by Prof. Chester Jackson, Georgia Southern Univ.). I am currently enjoying teaching SCI 225, our integrated earth and life science course with an emphasis on the nature of science and climate change. I had a lot of fun this past year working on projects related to field-based geoscience education, in-service teachers understanding and application of coastal geohazards knowledge, and structural geology of a thrust-and-fold belt in SW Puerto Rico. Ruperto Chaparro, director of the Sea Grant Program of the Universidad de Puerto Rico (UPR) Mayagüez, and Profs. Glorymill Santiago, José Candelaria, and Ángel Acosta of the ISMuL Program of the UPR-Arecibo, hosted me during the sabbatical. I presented my research at the Universidad de Puerto Rico (UPR) Mayagüez, Río Piedras and Arecibo

campuses on four occasions, and taught a short geoscience and pedagogy course to in-service teachers at the Universidad Interamericana de Puerto Rico, Arecibo. In addition, I talked to high school students in Morovis and taught the geoscience section of an eight-grade STEM program sponsored by ISMuL, UPR-Arecibo. My daughter Yulaiza was one of the students in the STEM program. Seeing her snorkel in mangrove channels, hike through forests, collect and analyze rock samples and organisms, build robots and rockets, and exploring caves in the Puerto Rican karst was really special. Also, seeing Katsí (my other daughter) so happy, developing solid friendships, and excelling at school in Puerto Rico, and observing Sebastián (my son) play with his cousins and neighbors every day in the sun, and being so happy and positive made the sabbatical year a fantastic experience. On top of that, the opportunity of sharing experiences with my siblings and parents, and with Miriam's siblings and parents, most of them living in the same city, was very significant for all of us.

There were so many other good experiences that it is hard to list them all. The connections that I made and the networking were invaluable. My contributions were key for some of these programs, including the fact that I am still in touch with workshop participants and am serving as an informal mentor for some undergraduate and graduate students of the UPR. I also learned a lot from my colleagues in Puerto Rico, in the field, in the classroom, at the beach, and during conversations over campfires. I hired and mentored an undergraduate research assistant from the UPR, Mr. Kenneth Ramos. This was an experience that proved to be enriching in terms of my continuous development as a faculty mentor. I also visited the field with Bill Neal and Dave Bush (Univ. of West Georgia) during a Sea Grant symposium in the island in January 2014. Importantly, I was able to escape the infamous 2013 Michigan winter. I swear that this was not planned, but I was happy to be working in the sun and feeling *la brisa del mar* instead of shoveling snow.

Today, I am still adjusting back to life in Michigan, in a positive way. It is great to witness the change that Grand Rapids has undergone. The city feels more cosmopolitan and diverse; more people are in the streets enjoying the art, architecture, restaurants, and overall environment. I have new friends in town and already have been to several social gatherings. I have been traveling and enjoying intellectual and culturally rich environments in Vancouver (GSA – presented two research papers) and the National Conservation

Training Center in West Virginia (invited to a workshop by the AAAS). Overall, life is good and I am happy for the past experiences and for being back in Michigan and GVSU. *Hasta el próximo año.*

Stephen Mattox (mattoxs@gvsu.edu) I continue to grow the network of high schools offering a dual-credit physical geology course. Last May 157 students were enrolled in seven high school courses and 66 earned college credit. Next spring we will be testing students in about 12 high schools. It is rewarding to see the efforts of this rare handful of excellent teachers benefit these students and elevate our science. I am a Co-PI in a new LARGE project with my colleagues at Michigan Tech. The project is funded by Dow Educational Foundation and is designed to transform middle school Earth science education here in Michigan. I also received an NSF follow through grant to support many GVSU science education faculty as we strengthen our Integrated Science endorsement. I traveled to Las Vegas (cheap airfare) with Earth science major **Claire Sobolak** and two other students to visit three volcanic centers (Long Valley, Newberry, and Mount Hood) and shipped home a dozen boxes of samples. I spent a week working in da UP with 7th graders from North Park Montessori. My summer travels included three weeks out West. I am humbled to receive the National Association of Geology Teachers' Neil Miner Award. The award recognizes an individual for "exceptional contributions to the stimulation of interest in the Earth sciences".
http://nagt.org/nagt/awards/2014_dr_steve.html.

I greatly appreciate that the nomination originated from the Michigan Earth Science Teachers Association and that several kind people wrote supporting letters. It is wonderful to be the second GVSU awardee, after Tom Hendrix in 1994. Thanks to Ginny for coordinated the letters and her citation at the meeting.

Figen Mekik (mekikf@gvsu.edu) Greetings. It's been an eventful year! I spent the fall of 2013 at Princeton on sabbatical. I am working on nitrogen isotopes in foraminifers with my colleagues there. But I was happy to come home in the winter. That's got to be a sign that I am becoming a true Michigander. After lots of travelling over the summer, this fall started out with a bang with a new collaboration I developed with the Rosenstiel School of Marine Science at the University of Miami. But, as always, the best part of all this is that I get to collaborate with undergraduate researchers here at home on all these projects. Last year **Jenna Newman** finished her project with me and then was accepted to

graduate school at Texas A & M (in paleoceanography!!) with funding for a full four years! Of the new student researcher crew, **Janell Williams** made an educational powerpoint on how foraminifers carry geochemical information of past seas in their shells. This powerpoint will soon be published on my professional web page.

Anthony (Cole) Vickers is giving new meaning to radiocarbon dating and is modeling the influence of sediment redistribution and bioturbation on age discrepancies. And our most recent recruit, **Brittany Ward** is all over boron. Boron isotopes that is from foraminifer shells which she is using to test the deglacial global ocean alkalization hypothesis! I also had the pleasure of being the colloquium speaker at three different universities throughout the year: Northern Illinois University, University of Miami and Texas A & M University. And most recently, I have been elected as the President-elect of the Paleoclimatology Focus Group of the American Geophysical Union. Yup, it's been quite the year!! Have a wonderful year y'all and keep in touch!

Dominike Merle-Johnson (merled@gvsu.edu) Hola! It is my third year at GVSU and I feel blessed to have this experience and opportunity to meet awesome people. I had the opportunity to teach geo courses, from small to large sections, and do various fieldtrips in the area. We went to the Kent County Recycling Center, Waste Water Treatment Plant, the GVSU Ravine Romp, and the



Winter 2014 Environmental Geology in the Grand Rapids Gypsum Mine

gypsum mine. I had and continue to have an excellent time seeing students enjoy and learn geology indoors and outdoors, making connections with what they see and what they learned! During summer, my husband, beloved daughter and I drove to Chicago to meet some of my sisters in law visiting from Colombia!!! We had a short, but very heartwarming time together.

Heather Miller (hmill@txdlc.net) - “Older and wiser voices can always help you find the right path, if you are only willing to listen.” – Jimmy Buffett.

Well, it's been a different kind of year. I began this year on my fifth year at GVSU and I ended this year in Texas. It was a difficult decision but we decided to move our family home to Texas as Matt opened up a new office for TEG (a Michigan civil engineering company) down here in Austin. I miss my GVSU family and students, but I know things are carrying on without me there. Despite our decisions, I had a great year at GVSU continuing to work with pre-service teachers and helping them to prepare for their own classrooms down the road. I have kept in touch with many of my former students had have happily seen them succeed in either going into the College of Education or graduating and now teaching in their own classrooms. It makes me proud to have been a part of their lives.

Last fall I attended GSA and presented my research on student conceptual understanding of the greenhouse effect, which was a success. I am now working with colleagues to get this research out as a journal article. I also continued to take students on the Angus cruises onto Lake Michigan and Spring Lake. In addition, I made trips to Rosy Mound and to Mammoth Caves with the students in Hydrosphere. It was a pleasure to be able to take students on field trips where they learned, not only about the geology of the region, but they were able to form life-long bonds and experience things that they will continue to share for years to come.

Although I am now in Texas, I am continuing to work with West Michigan middle school science teachers on the STEAD grant, which will continue for the next two years. I am also representing GVSU at the annual AGU conference in San Francisco in December. I was asked to be the guest speaker at the session on Climate Literacy: Overcoming Barriers, Research Outcomes, and Best Practices for Supporting Education and Informed Decision Making. I am proud to continue to work with and represent GVSU so far from West Michigan.

The kids are now 8 and 6. Mason is in 3rd grade and playing baseball. He is now our 3rd base star. Logan is in 1st grade and enjoying gymnastics. Matt and I continue to take the boys on adventures to explore and learn about the world around us. While we do miss our friends in Michigan we have enjoyed being so close to family here in Texas. If you are ever in central Texas, please look us up; we would be happy to meet you out at one of our favorite BBQ places for some Texas hospitality.

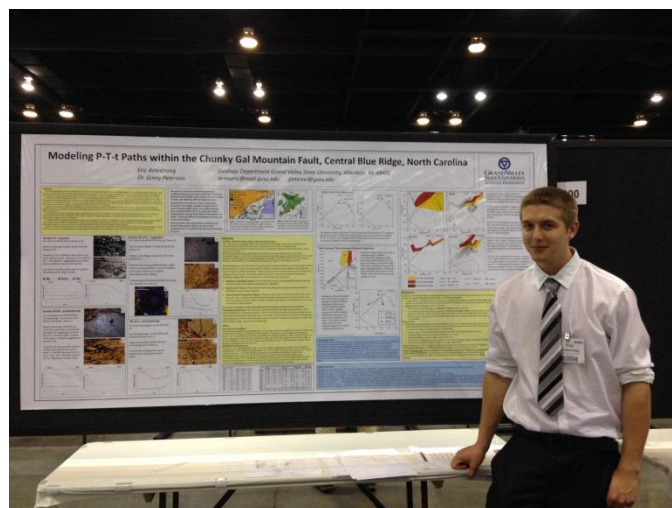
Bill Neal (nealw@gvsu.edu) December 2014 marks the end of a decade of retirement – and I don't know where all of that time has gone, but 2014 has been a productive year professionally. January started a cold, snowy winter, but I escaped in February to Puerto Rico for a Sea Grant meeting and a few days in the field looking at beaches with colleague **Pablo Llerandi-Román** and Dave Bush (Univ. of West Georgia). Have continued working with those gentlemen and Chester Jackson (Georgia Southern Univ.) on the project of the impact of sea-level rise on the offshore isles/cays of Puerto Rico. Although I'm the minor player in the project, a lot of time was spent on the Final Report as well as a poster presented at the October GSA meeting in Vancouver, BC. My writing efforts have slowed a bit, but this year was one where I did several peer reviews of manuscripts for journals, reviews of proposals, and published two book reviews in journals. Coastalcare.org published (on line) “Beaches of Sleeping Bear Dunes National Lakeshore, Michigan” as the October Beach-of-the-Month, co-authored with colleague **Greg Wilson**. Other travel included a spring trip to the Duke Marine Lab., Beaufort, NC, for the dedication of their new Orrin Pilkey Marine Laboratory building. Then in June it was off to California for a family graduation party (grandson from college, granddaughter from high school, and granddaughter from jr. high). In July, a family contingent spent two weeks in Canada visiting the Bruce Peninsula, Manitoulin Island, and returning via Sault Ste. Marie (the old Niagara Escarpment and Ordovician-Silurian Carbonates). Mary and I attended the GSA meeting and vacationed a bit in Victoria and the Pacific Northwest. As usual, we enjoyed seeing alums and former faculty (Ben Edwards), and are now impressed by knowing people in all stages of their careers (e.g., **Jim Walters** recently retired; **Ron Green**, a GSA Fellow in the prime of his career [who owes me a beer]; and **Elizabeth Koeman**, finishing her Ph.D. and ready to enter the Geowork World. The highlight of the meeting for me was to attend the awards ceremony where **Steve Mattox** received the NAGT's Neil Miner Award (kudos to Steve for this outstanding recognition). Some of you will remember that **Tom Hendrix** was recognized similarly as an outstanding teacher some years ago. I've always hoped that association with such talent would rub off which may not be the case, but I've learned much from both of these great teachers. And I should mention that your department remains a leader in undergraduate education as evidenced by the high level of professional participation in such meetings,

including students who were well represented at GSA both in attendance and as presenters. But time is marching on, and my new perspective is that now when alums visit the department, it is with their college-bound children (e.g., **Adam Wygant** and daughter; **Sheryl (Hoving) and Mike Lentini** and their two daughters)! And once again I quote the Beach Boys 'Be True to Your School'."

Ginny Peterson (petersvi@gvsu.edu) This has been a year of interesting professional opportunities and new research directions. In the depths of our cold and snowy winter **Steve Mattox** and I were invited to participate in the "Summit on the Future of Undergraduate Geoscience Education" in the warm climes of Austin, TX. This group of ~ 200 educators worked to create a vision to address common issues within the geoscience community related to curriculum, pedagogy, and broadening participation. The summary report is at (http://www.jsge.utexas.edu/events/files/Future_Under_grad_Geoscience_Summit_report.pdf).

I was elected as a Geoscience Councilor for the Council on Undergraduate Research (CUR) and participated in council meetings in Washington, DC in the summer and at the GSA meeting in Vancouver. I was also invited to serve as a Visiting Workshop Facilitator for the NAGT Travelling workshops program, which is also part of the SERC Building Strong Geoscience Departments initiative (<http://nagt.org/nagt/profdev/twp/index.html>). I spent several days in Northfield, MN this summer to participate in workshop development and facilitator training. These activities have offered me the opportunity to engage with leaders in the geoscience community and gain external perspectives and ideas that should benefit our students and department. I continue to work on characterizing the T-P conditions, timing, and nature of deformation within the Chunky Gal Mountain Fault in North Carolina. The rocks are interesting and have a complex story to tell. Recently we made some advances in using thermodynamic modeling to determine the changes in temperature and pressure with time during fault movement. This was initiated with **Carlene Gilewski**, who presented her research at the SE GSA meeting in Blacksburg, VA. She is now pursuing an MS degree at the University of Kentucky and working on rocks near my dissertation area. **Eric Armstrong** is continuing this work and was supported by a Michigan Space Grant Fellowship last summer. Together we explored some minimization

models and taught ourselves to use MatLab with both successes and many challenges.



Eric Armstrong at GSA, Vancouver

In addition, I started a collaboration with a colleague at Washington and Lee University (Jeff Rahl) who was an REU student of mine several years ago. He has an EBSD detector on an SEM that allows rapid measurement of crystallographic orientations and we have done pilot studies using it to measure olivine (a seminar project by **Lauren Chan**) and quartz. The quartz study was done by **Karen Musser** using samples from the Chunky Gal Mountain Fault. She was supported by a *Norman and Helen Gibson Field Study Scholarship*. Both Eric and Karen presented the results of their research at GSA in Vancouver this fall.

Not a lot new on the family front. Jon and I did take a really nice week vacation, based in Boulder, CO with our daughter Casie (now 21!), in part to celebrate our 30th anniversary! We had fun hiking, rafting, and just relaxing. To slow down creeping age we have committed to hard exercise every day – mostly at about 5:30 AM, so my capacity to stay up late has been reduced, but I am feeling great!

Janet Potgeter (potgetej@gvsu.edu) It has been another busy and productive year in spite of the incredibly long 2013-14 winter. My family didn't take any far away vacations this year. However, probably due to the long winter and many hours of watching HGTV, I did a major kitchen remodel at home and that turned out pretty well. Both kids, Molly and Troy, are at GVSU now. Molly is in her third year Pre-Med. As proof he was listening to his parents all those years, Troy started his freshmen year as a Geology major! The GEO department is looking forward to a year of change in 2015, mostly in the form upheaval and some

relocation, but it will all be beneficial in the end. After GV's newest science building opens next summer, Biology will move there and the remaining science departments in Padnos Hall move to take up the empty spaces. There will be a fair amount of remodeling in our area, and planned to be move-in ready by mid-August, we hope. Happy holidays! I wish you all the best in 2015!

Peter Riemersma (riemersp@gvsu.edu) Big events were part of my classes this year, with a "Mock Trial" as the grand finale in my Geo 300 class (Earth and the Environment) and 160 student "Creative Projects on Invasive Species in the Great Lakes" in my Geo 105 courses- both events took advantage of space in our new library.

I taught Geo 312 – Sedimentation and Stratigraphy for the first time in winter semester. I implemented **Pat Videtich's** Kentucky Project with SSD posters and field trip to northern Kentucky, near Cincinnati (my hometown). Videtich and I also presented a poster on the Kentucky Project approach (examining hand and thin section samples before going to the outcrop) at the annual GSA conference in Vancouver. Teaching the class reminded me of how much I love sedimentary rocks (M.S., Utah, 1987). Thanks to Videtich for all her help and patience!

This summer I helped develop and organize the Third Annual Community Field Day, "Things That Swim". We had over 120 community members work on outdoor projects or visit one of the educational activities that were set up. A highlight was an educational twist on the normal duck race where participants had to estimate stream velocity and travel distance in order to predict the **time** that the winning duck would cross the finish line to win a prize. The event attracted a lot of media attention including the Fox News, Advance, Miranda, and GVNow.

This was my second (and last) year as Vice President of the Tulip City Gem and Mineral Club in charge of arranging programs and speakers for the monthly meetings. I arranged for GVSU student 2013 *Norman and Helen Gibson Field Study Scholarship* winner **Chris Vanderlip** to speak to the club on "The Shape of the Great Lakes Landscape, Glacial Geology at the Surface and Below".

On other fronts, **Peter Wampler** and I arranged a four day field trip for 13 students to the San Juan Islands before the Annual GSA Conference. I continue to assist students in traveling to the MI AIPG meetings. I coordinated an Earth Science Week populated with

returning alumni and in celebration of a decade of chili contests had a real chef as a judge (see story). I was the Allendale Middle School Science Olympiad coach for two events this year (Rocks & Minerals and Dynamic Plant), the teams two most successful events at the state competition. For our annual rock adventure, my son Dakota (now 12) and I collected amethyst in Thunder Bay Ontario, found tiny agates along Lake Superior and used metal detectors to look for copper in the Keweenaw.

Molly Sherwood (sherwom1@gvsu.edu) This has been an exceptional year for me as both a professor and student. I began 2014 with my first experience teaching GEO 100. It was a great learning experience, and I have really enjoyed being back at Grand Valley. I liked it so much, I agreed to teach GEO 100 again fall semester. I hope to continue teaching in future semesters as class sections are available. I really enjoy working with students and helping them to understand our planet and its processes. And just maybe I can convince a few to become geology majors!

As a student, I was fortunate to have my thesis work published this year (Sherwood, M. K. and D. P. Cassidy, 2014. Modified Fenton oxidation of diesel fuel in arctic soils rich in organic matter and iron. *Chemosphere*. 113, 56-61.) It was the culmination of a lot of hard work, and I am so grateful to have gone through the process of publishing. Happy Holidays and all the best in 2015!

Ryan Vannier (vannierr@gvsu.edu) Hello! I am new to the Geology Department at GVSU having joined for the fall and winter semesters of 2014-2015 as a visitor. I have greatly enjoyed my time at Grand Valley so far and have been busy teaching GEO 111 (Exploring the Earth) and GEO 103 (Oceans). The previous summer was also a busy time as I was occupied with completing my graduate work at Michigan State University with a group of scientists I will sorely miss. However, I have much to look forward to as I become familiar the local geology which appears to be easily adopted as a natural laboratory for my GEO 111 students. I have really enjoyed getting to know some of the department's senior students in the seminar class. The experience reminds me of how exciting it is for these students to have obtained that college degree with all the graduate school and employment opportunities unfolding before them. All in all, it's been a busy yet enjoyable year, and I look forward meeting my new crop of students in the coming semester.



Ryan Vannier

Patricia Videtich (videticp@gvsu.edu) The biggest new I have is that I'm checking out retirement by not teaching this fall! It's pretty nice! But I must say it may be a bit difficult to get back in the groove for teaching winter 2015! Speaking of winter, many of you know about, or lived through, the horrendous winter we had. How horrific was, winter 2014, you ask? GVSU had 3½ snow days! Really! GVSU, 3½ snow days! As you all know, that's unheard of! Plus, two of those days were the first two days of the semester. All those cancelled classes made for some very challenging teaching. Believe it or not, it's much easier to simply teach the classes than to figure out how to work around so much missed class time. During that brutal winter I taught Geology 103, Oceans, for the first time. So I was at least able to talk about warm, tropical seas and forget the cold and snow at least momentarily. Hopefully, winter 2015 will be a kinder, gentler winter. Late in the spring and early summer I spent a considerable amount of time rewriting a Council on Undergraduate Research (CUR) booklet titled "How to Get a Tenure-Track Position at a Predominantly Undergraduate Institution". I have three co-authors from three different universities and fields including a professor of English, so it was interesting to see the world of academic hiring from a much different perspective. We still need to edit the text after the

outside reviewers get done with it, but it should be published in 2015.

regret to report that the summer program for middle school kids alum JoAnn Webb and I ran called FRESH (Field Research in Earth Science Happenings) is no more. In short, there got to be too many legal issues involving transportation of K-12 kids, a required contract with Grand Rapids Public Schools, etc. But we ran the Program for five summers, so we did get quite a few kids out in nature. I was invited to the high school graduation party for one of the kids who took part in FRESH for three years, so it was really nice to see him all grown up and heading for college!

As always, it was nice to see alums at the geology picnics and those who stopped by the department. And it certainly was nice to have four alums give talks for Earth Science Week. Thanks to Peter Riemersma for getting such accomplished speakers! Y'all do us proud! Finally, I recently enjoyed a long telephone conversation with Julie Hewlett, an alum who dates back to my era. Which era that is shall remain unwritten. Please keep coming by, alums, we love seeing y'all.

Speaking of alums, I couldn't make it to GSA this year, so I missed seeing everyone at "the GVSU pole" on reunion night. I couldn't make it because Colby dog was getting to be an old dog at 14 and had old dog issues. So I couldn't with a good conscience leave him with anyone. November 14, I had to have him put to sleep. Very sad, but it was time. I know many of you enjoyed seeing Colby when he occasionally snuck into the lab on the weekend. And, believe me, he enjoyed all the love and attention he received from you all. The little guy will be missed.

Peter Wampler (wamplerp@gvsu.edu) I continue exciting and rewarding work on sustainable safe water solutions for Haiti (www.gvsu.edu/haitiwater). At the 2014 Geological Society of America conference in Vancouver British Columbia, I co-chaired a session on Water Contamination and Treatment in Developing Countries. In the session I presented research that we have been doing with what we are calling In-situ filtration (ISF) wells. I also presented remote sensing research that I recently published with lead author, current Geology student **Chris Churches** and two other co-authors entitled "Evaluation of forest cover estimates for Haiti using supervised classification of Landsat data" (<http://www.sciencedirect.com/science/article/pii/S0303243414000300>)

I continued to do research on storm water runoff in the ravines near GVSU with colleague **Tara Kneeshaw** and students **Andrew (AJ) Barrett** and **Nick Colaianne**. (See photo on last page.) We learned that sediment and erosion patterns are more complex than we previously thought, and there may be a significant component of accelerated erosion that is pre-development of GVSU. In May of 2014 I travelled to Haiti with Modern Languages colleague Dan Golembeski. Dr. Golembeski was studying the linguistics of signage in Haiti and I was installing two more ISF wells and monitoring the ISF wells installed in 2013. We had a great trip and came back excited to pursue a study abroad for GVSU students. I hope to submit this proposal in late 2014.



Students at Chinese caves on Sucia Island during Pre-GSA field trip

Lastly **Peter Riemersma** and I took 13 students from GVSU on a pre-GSA field trip to the San Juan Islands of Washington State. We had a great time together, learning about geology, kayaking, observing wildlife, and exploring these amazing islands.

John Weber (weberj@gvsu.edu) 2014 involved lots of teaching as usual: my regular GV classes, the UH-YBRA summer field camp in Montana, and a 1-week "mini BP field camp" in Azerbaijan. We took Teya Li out of school (3rd grade now) this year and spent the entire month of May in South Korea, where Sarah spent the first 18 years of her life. This was by far our best family trip ever. To avoid too much frenzy, we smartly decided to spend the 4 weeks in just 4 cities. The real highlights were Gyeongju, truly a museum without walls, and Jeju

Do island, both in the south of the country. We ended the trip in Seoul, where I gave 2 research talks and started some new collaborations with faculty in the geology departments at Korea University and Yonsei. Back at home, work in Trinidad continues, and we have finally gotten our Ozarks neotectonics project flying. GV student **Zack Remtema** presented some nice Ozark's results at GSA this year; his work also made it into an invited GSA talk that Steve Marshak gave. It was fun to see old friends, students, and colleagues at the GSA meeting, and it was also a real honor to be elected and inducted as a GSA Fellow this year.

Greg Wilson (wilsong@gvsu.edu) It has been a busy year. I continue teaching the Honors Geology course, and with the assistance of a group of dedicated student workers, we are keeping the Geology labs running. We are excited about the new science building. We are busy planning for the new spaces and remodeling of some of the older spaces in Padnos. We will have lots to move and move again over the coming year as they hope to do most of the changes over the summer. At home, my wife continues with her cancer treatment. We have received amazing support from friends, and wish to thank the Grand Valley Community for their support in dealing with Becky's treatment. Cooper is at home and working as an interpreter (Spanish) at local Health agencies. Luke is working as an aviation mechanic at the Greenville Airport. Our most exciting news this year is that Bode James Wilson was born to Luke and Ashley on November 18!

2014 Geology Department Faculty and Staff

Ginny Peterson - Associate Professor & Head

Kevin Cole - Associate Professor

Patrick Colgan - Professor

Lon Cooper - Adjunct Instructor

Larry Fegel - Adjunct Instructor

Kelly Heid - Affiliate Faculty

Tom Hendrix - Emeritus Professor

Tara Kneeshaw - Assistant Professor

Pablo Llerandi-Román - Associate Professor

Stephen Mattox - Professor

Figen Mekik - Professor

Dominike Merle-Johnson - Visiting Assistant Professor

Bill Neal - Emeritus Professor

Janet Potgeter - Department Coordinator

Peter Riemersma - Associate Professor

Molly Sherwood - Adjunct Instructor
 Norm TenBrink - Emeritus Professor
Ryan Vannier - Visiting Instructor
Patricia Videtich - Professor
Peter Wampler - Associate Professor
John Weber - Professor
Greg Wilson - Instructor & Lab Coordinator
 Currently there are 82 Geology, 5 Geochemistry majors,
 and 18 Earth Science majors, and 11 Geology minors.
 There are 121 students in the Integrated Science
 Program (pre-service teachers served by our faculty).

"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."

2014-2015 Geology Club Officers

President: Natalie Renkes, renkesn@mail.gvsu.edu
 Vice President : Kayla Lockmiller,
lockmilk@mail.gvsu.edu
 Secretary: Sam DeYoung, deyousam@mail.gvsu.edu
 Treasurer: Brittany Ward, wardbri@mail.gvsu.edu
 Events Coordinator: McKenna Smith,
smithmck@mail.gvsu.edu
 Risk Management Officer: Cole Vickers,
vickersa@mail.gvsu.edu
 Faculty Advisor: Dr. Kevin Cole, colek@gvsu.edu
 Degrees were awarded to the following students in
 2014 (Through August 2014)



B.S. in Geology

Katherine M. Beck
 Kaitlyn P. Bertram
 Katelynn N. Braunschneider
 Karl F. Campbell
 Lauren E. Chan
 Joseph M. Cherluck
 Christopher E. Churches
 Joshua J. Ehlich
 Devin M. Gerzich
 Bradley J. Morsink
 Jenna M. Newman

Michele A. Poterek
 Stephen M. Pratt
 Andrea H. Rasche
 Kenton A. Shaw
 Benjamin R. Steavenson
 Shelby R. Van Zalen
 Christian M. VanWyngarden

B.S. Earth Science Teaching
 Joseph L. Spadafore

See group photo of grads on last page.

2014 STUDENT AWARDS AND SCHOLARSHIPS

Edward L. Tremba Geology Scholarship is awarded on the basis of merit to upper class students who have demonstrated excellence in academic performance, intellectual ability, and potential for significantly contributing to the geosciences program.

Karl Campbell
 Lauren Chan
 Christopher Churches
 Joshua Ehlich
 Steven Ossim
 Joseph Spadafore
 Shelby VanZalen

The Norman and Helen Gibson Geology Field Study Fund Scholarship is awarded to support undergraduate geology students in conducting scientific research.

Karen Musser
 Zackery Remtema
 Brittany Ward

Geology Student Field Camp Fund provides support to students who will attend field camp.

Katie Beck
 Ashley Brady
 Katelyn Braunschneider
 Lauren Chan
 Joe Cherluck
 Chris Churches
 Devin Gerzich
 Erik Hascall
 Saray Morales
 Bradley Morsink
 Steve Ossim
 Michelle A. (Zooey) Poterek

Steve Pratt
Kenton Shaw
Shelby Van Zalen
Christian VanWyngarden

Geology Department Scholarships (2014-2015)

Outstanding Geology Major

Chris Churches

Tulip City Gem & Mineral Club Scholarship is awarded to students chosen by the Geology faculty, and who have shown significant leadership and service.

Katherine Beck

Bradley J Morsink

Christian VanWyngarden

Indian Mounds Rock and Mineral Club Scholarship

gives support to a research active rising senior.

Eric Armstrong

Chris Vanderlip

MAS4 Scholarship:

Kayla Lockmiller

Michigan Space Grant Fellowship:

Eric Armstrong

McNair Scholar:

Brittany Ward

Svalbard Research Experience for Undergraduates (REU):

Steven Ossim

Middle Tennessee State University Research Experience for Undergraduates (REU):

Sarah Van Goor

Geology Department Scholarships

Eric M. Armstrong

Brian Schrottenboer

Kayla E. Deciechi

Kayla A. Lockmiller

Steven R. Ossim

Renkes, Natalie G

Anthony C. Vickers

Brittany M. Ward

Zackery Remtema

Sam DeYoung

Grace J Robinson
Danielle Wilcox

Student Research and Activities

Three geology students, **Ashley Brady, Andrew (AJ) Barrett, and Nick Colaianne** collaborated with Peter Wampler and Tara Kneeshaw on a study evaluating the nutrient and sediment dynamics in the Grand Valley's new storm water management complex and the campus ravine geosystem. Their research was supported by funding from GVSU's Facilities Department and they recently had the opportunity to present their results at the annual Geological Society of American conference in Vancouver, B.C. AJ also worked part-time as a summer intern with alum John Vrona (GEO, 1977) at Wolverine Oil and Gas.

Supported by a NASA grant, geology student **Chris Churches** processed GPS data from Trinidad at the PSU Geodesy Lab, then presented his results at the 2014 GSA. The new high-precision GPS data that Chris analyzed allowed us to determine that the Central Range Fault is likely creeping rather than locked.

What are the impacts of a week-long geology fieldtrip of 7th-graders learning? That is the basic question Earth science major **Shannon Donaldson** is evaluating using both qualitative and quantitative data. She is collaborating with Steve Mattox.

Geology student **Zack Remtema**, spent one week in the field mapping, measuring, and studying the kinematics and chronology of a brittle damage zone related to the Ste. Genevieve Fault in Missouri. Zack's work was supported by the Norman and Helen Gibson Geology Field Study Fund. Zack presented his work at the 2014 GSA, and his results were also included in an invited talk given by Steve Marshak.

Earth science student **Christina Sobolak** is collaborating with Steve Mattox on the High School Advanced Geology project. Christina is generating new educational resources, writing exam questions, meeting with teachers across the state, and interpreting past results. She is supported by a NSF grant.

Claire Sobolak, an Earth science student, is working with Steve Mattox to improve our GEO 111 and GEO

201 labs. She is collecting data on the level of student engagement and increases (hopefully) in learning as the students integrate hand samples, topographic maps, Google Earth, and geologic maps to better understand types of volcanoes, materials, and hazards. Claire is supported by a GVSU Faculty Teaching and Learning grant.

Grants

Mattox, S., National Science Foundation, Collaborations for Building Michigan Geology Talent with Sandra Rutherford (Eastern Michigan University) as PI. \$134,978. Final year of three.

Mattox, S., National Science Foundation, Integration of Earth Science Content across Science Teacher Preparation Courses at GVSU, \$41,252. Year 1 of 3.

Steve Mattox was awarded a Grand Valley State University Pew Scholar Teacher Grant to Design Geology Interactive Exercises. Winter-Spring 2014. Steve received \$4,800 for the project.

Two Grand Rapids Pioneer Geologist Educators

The November 16, 2014 Grand Rapids Press ran separate feature articles on two of the best modern pioneer geologists and public educators of west Michigan. Their careers crossed paths and had important connections to the early days of the Grand Valley Geology Department. "This Lady Rocks" featured Mary Jane Dockeray, now 87, who has just authored a memoir "Rock On, Lady...". Mary Jane is best known for her drive and success in the establishment of the Blandford Nature Center, but she is also a pioneer in that she earned her geology degree at MSU in a time when women geology majors were a rare item. And even as a student she began working at the Grand Rapids Museum, a job that would help inspire her to follow a career in environmental conservation education. Her book is available from the Blandford Nature Center (ph. 616-735-6240) for \$25. On a sadder note, the second article was a tribute to Weldon "Frank" Frankforter who passed away at age 94 on the 4th of November. Frank was a vertebrate paleontologist, with B.S. and Master's degrees from the University of Nebraska, and had an impressive publication record. He is best known, however, for his long career with the Grand Rapids Public Museum from 1962 to 1988, most of that time as Director. Frank led

in many of the innovations that make the museum one of the best attractions in west Michigan; the focus on science, a planetarium, emphasis on historic preservation and ethnic history, including Native American history. Frank was a strong supporter of the geology program back in the days of Jim Zumberge, Johnny Lucke, and Dick Lefebvre. And he and Mary Jane Dockeray were colleagues at the Museum. No doubt some of the department's older geology alums will remember these two outstanding geologists.

Growth in High School Advanced Geology Courses in Michigan

From Professor Stephen Mattox

In 2000 I received a phone call from GVSU alum Chris Bolhuis, an Earth science teacher in Hudsonville. He asked if his students could take a test to earn college credit for physical geology. I made some calls and GVSU was supportive. I surveyed my peers on the topics covered in the course and constructed a test that includes multiple choice questions, short essays, hand sample identification and interpretation and a topographic maps test. I would visit Chris' class in the spring and give the test over two days. Within a few years nearly 90% of his students were passing. By 2013 more than 50 students had selected geology or Earth science as a major. Chris's teaching and students continue to be successful and it is common to have many Hudsonville grads thriving in the department. In 2008 I received a small NSF grant to expand the program. I travelled to many departments around the state, shared the test (it pass muster!), and smoothed over any concerns. We reached agreements with eleven colleges and universities that now award credit to students that pass the exam.

In 2011 I submitted a second NSF grant to expand the program to elevate geology in Michigan high schools and add diversity to the geoscience work force. Last May, 157 students were enrolled in seven high school courses and 66 earned college credit. Next spring we will be testing students in about 12 high schools. Seven of these schools have diverse student populations. GVSU alum Jason Hunter, teaching in Grand Haven, has students that do well on the exam and continue on to be geology majors. Likewise, Brett Bittrick in Holland is new to the program and demonstrating success. It is personally rewarding to have the support of GVSU and geology faculty from across the state. In the last week I met some of these students as they presented at GSA. I sent an email to the chair at MTU and he replied with a

photo of several students visiting his campus that planned to become majors. This program and the collaborations we have built, especially with excellent high school teachers, are adding geology majors to programs across Michigan, especially at GVSU.

Students, Faculty and an Alum Unite for a Pre-GSA Field Trip

Professors Peter Riemersma and Peter Wampler organized and lead a four day pre-GSA 2014 field trip for 13 students and alum **Kat Barnard** (GEO 2007) to the San Juan Islands in the state of Washington. During the field trip they examined such geologic features as ultramafic ophiolites and glacial polishing in Anacortes, pillow basalts on Lopez Island, fossiliferous marine shales, fluvial sandstones and honeycomb weathering on Sucia Island, and geodes at Walker Valley.



Highlights included ferry trips, hiking, kayaking, boating, and sharing home cooked dinners at our waterside rental house. Marine wildlife included harbor seals, eagles and sea lions. Some support for this trip came from the GVSU Student Organization and Richard H. Lefebvre Geology Field Education Fund. In addition, several students received support to attend the meeting from the GVSU office of Undergraduate Research and Scholarship.

Spotlight: Geo 300 Mock Trial

Riemersma's version of this Geo 300 general education theme course is centered on using the book "*A Civil Action*" to explore interfaces between science, citizen action, public health, and the U.S. legal system. The book deals with the legal struggle of families in Woburn, Massachusetts who sued two corporations, alleging that

improperly handled industrial chemicals were captured by two city groundwater wells and that prolonged ingestion of the groundwater caused leukemia and other health problems. As part of the course students constructed geologic cross-sections, water table maps, contaminant plume maps and estimate the velocity of groundwater flow using actual data from the Woburn site.



These assignments were used as "exhibits" in a mock trial before a jury of GVSU students and a local trial attorney judge. It is the interplay between formulating opinions based on scientific reasoning and quantitative analyses and the presentation and defense of those opinions before a judge that make this course unique and challenging.

Alumni and Faculty Speak for Earth Science Week

GVSU celebrated Earth Science Week a little early this year so that faculty and majors could go to GSA in Vancouver. Over 260 attended one of five Earth Science Week talks. Our guest speaker events were extra special as four of the five presenters were alums. The topics included:

"Trinitite: a geological clue used to unravel mysteries in nuclear forensics"

Ms. Elizabeth Koeman (GEO 2011), University of Notre Dame

"Stream Channel Morphology in the Missouri Ozarks and Perspectives on Graduate School and Employment"

Mr. Andrew DeWitt (GEO 2010)

Environmental Resources Management, Holland, Michigan

"Tracing Ocean Motion in Earth's Past"

Professor Figen Mekik

"Michigan's Regulatory Response to Hydraulic Fracturing"

Mr. Adam Wygant (GEO 1993), Supervisor, Permits and Technical Services, Office of Oil, Gas, and Minerals, Michigan Department of Environmental Quality

"The Science of Beer and the Role of Earth Science"

Mr. Jacob Brenner (GEO 2009), Head Brewer, Barfly Ventures. Grand Rapids, Michigan

Other Guest Lecturers in 2014

Brian Russel Frost, New Ventures Manager, Anadarko International Oil and Gas Company. *Frontier Basin Exploration: a Work in Progress.*

Robb Gillespie, Ph.D., Western Michigan University. *Chaos, Order and the Nature of Geology – Is the Present Really a Key to the Past?*

Figen Mekik, Ph.D., Grand Valley State University. *Deglacial Ocean Alkalization, Productivity and Other Secrets Foraminifers Keep.*



10th Annual Chili Cook-off



To help celebrate the 10 year anniversary of the Geology Chili Contest, GVSU Fresh Food chef Paul Mixa and two of his colleagues picked their favorite and served it to the "masses" at campus dining . Returning alumni took the grand prize, GVSU Chef's Choice, for their Mango Habanero chili, that chefs described as "smoky and sweet, a great balance of many flavors". Fifteen chilis were entered this year, eight made by Geology students, along with three desserts and three side dishes. Twelve judges and more than 75 participants tasted the entries.

2014 Chili Cook-off Award Winners

GVSU Chef's Choice: Andrew Heyboer (GEO 2011) & Jody Wycech (GEO Min 2012)

Best Overall Chili: Jody Wycech & Andrew Heyboer

Best Student Chili: Kaitlynn Braunschneider

Silver Certificate Student Chili: Brittany Ward

Most Popular Chili: Andrew Alder

Best Vegetarian Chili: Brad Morsink

Hottest Chili: Kevin Cole

Most Geological Chili: Dakota Riemersma

Most Geological Dessert: Kathy Agee

Best Side Dish: Janet Potgeter



Peter Riemersma and a hungry GV student.

Geology Faculty Receive Awards in 2014

Steve Mattox, professor of geology, was selected to receive the 2014 Neil Miner Award from the National Association of Geoscience Teachers, recognizing his "exceptional contributions to the stimulation of interest in the earth sciences."



Steve Mattox relaxes with 1994 Neil Miner awardee, Professor Thomas Hendrix.

He received the award at the NAGT banquet at the Geological Society of America meeting in October in Vancouver.

http://nagt.org/nagt/awards/2014_dr_steve.html

Figen Mekik, professor of Geology, was selected to receive the College of Liberal Arts and Sciences Distinguished Contribution in a Discipline Award. In 1982 Grand Valley State University instituted awards to recognize distinguished contributions in a discipline. This award is given to a member of the faculty (tenured or tenure-track) whose performance in scholarly or creative activities, or whose contributions through service to professional organizations, is clearly outstanding. The basis for this award is demonstrated research, scholarly, or creative accomplishment or service through professional organizations.

John Weber, professor of geology, was inducted as a Fellow in the Geological Society of America during the October GSA meeting. A member of the Geological Society of America is elected to fellowship in recognition of distinguished contributions to the geosciences. The nomination was based on Weber's important research contributions as well as his undergraduate teaching and mentoring.

Alumni Updates

Jim Schulz (GEO 1977) Retired in 2010 from a long and fulfilling career with the U.S. Army Corp of Engineers. Best wishes Jim!

Will Armstrong (GEO 1985) New employer: Tri-C Resources, Houston, TX.

Peter Barten (GEO 1993) Loves surfing off the coast of Oregon. Works in home inspection and construction.

John Maier (Earth Science 1993 & 2001) Pharmaceutical R & D at Corium in Grand Rapids.

Molly Sherwood (GEO 1994) Environmental Compliance Manager for the Kent County Department of Public Works; Molly has been a part-time instructor

Nicole (Heller) Rottet (GEO 1998) Independent Consultant at Rodan and Fields Dermatologists.

Andrew McCarthy (GEO 2000) Senior Geologist, Concho Resources, TX.

Mary (Osmolski) Olson (GS-GEO 2001) Teaching 5th grade in Northern Michigan, and as an adjunct for CMU's Elementary Education Integrated Science program. Married with two boys, ages 6 and 4.

Amie (Morgan) Anderson, Ph.D. (ESCI 2003) Dean of Human Services, Baker College & Interim Dean of General & Developmental Education.

Ryan Sleeper (GEO 2005) Environmental Scientist at URS Corporation.

Kory Konsoer (GEO 2006) Just completed his Ph.D. from the University of Illinois and started a new position as Assistant Professor of Geography and Anthropology at Louisiana State University.

Samantha Konsoer (GEO 2006) GIS Manager for Kenny Construction, a subsidiary of Granite Construction, Inc.

Ryan Mengle (GEO 2006) Director of Sterile Processing and Purchasing, United Hospital System.

Kat Barnard (GEO 2007) Kat is finishing her Ph.D. at Portland State University. We saw Kat at GSA in Vancouver where she presented results of her research.

Carson Klemp (GEO 2007) Senior Geologist at Freeport-McMoRan.

Kirk Perschbacher (GEO 2007) Project Geologist, Brownfield Planner at Lakeshore Environmental, Inc. Kirk recently helped out with the Majors Fair at GVSU and is active in the Alumni Association

Jason Heivlin (GEO 2008) Production Worker, International Paper.

Sarah Nagorsen (GEO 2008) "I edit USGS geologic maps and technical manuscripts before they are approved for publication. At first glance, it sounds like an easy, robotic job (since the papers are post-peer review), but I often get opportunities to work with the authors/scientists to improve content if needed. So far, I have helped publish a few Open-File reports. Very soon, I will help publish a set of 11 seafloor maps and a large SIR on gold mineralization in Africa.

There is no shortage of material to work on... I do lament that it's not field work, but it is fun reading about and editing a broad range of topics. Also neat that I get to mix my passion for writing with science. "

Kate Amrhein (GEO 2009) just started a job as a Interdisciplinary Physical Scientist for US Department of Energy, Office of River Protection, in Richland, WA.

Alex Koning (GEO 2009) " I'm currently in my fifth year of teaching science in Garden City KS. In 2011 I was selected to be a part of the NSTA New Science Teacher Academy (<http://www.gctelegram.com/news/science-teacher-alex-koning12-16-10>).

Just this year I won the Finney Country Crystal Apple award for outstanding educators (<http://gctelegram.com/news/11-22-13-Crystal-Apple-award-winners>). " Congratulations Alex!

Andrew DeWitt (GEO 2010) Project Geologist with Environmental Resources Management in Holland

Nathan Noll (GEO 2010) Congratulations to Nathan and wife Amanda who welcomed son Corbin into the world on August 13! Nathan is with the Groundwater Permits Unit, Michigan Department of Environmental Quality.

Anthony Rodriguez (GEO 2009) Subsurface Coordinator at BG Group.

Liz Carr (GEO 2010) "I got a job as a remote geo steerer so I basically will be steering wells from my house or wherever I want to live. I'll be keeping my 12hr shift but have 15 days on and 15 days off. Today I got trained via a skype type situation, we talked but instead of seeing her I saw her screen and what she was doing. Then before everyone on the remote team switches to the night crew we call into a conference and everyone explains what happened on their well etc. it's actually extremely well thought out and organized and while working out on the rigs I never thought remote geosteering was a good idea. I always thought it could never work as efficiently but I was surprised at how well it works."

Sarah Dettloff (GEO 2010) has a new position as Operations Manager at Vulcania Media LLC.

Philip Kenroy (GEO 2010) Staff California Resources Corporation.

Benjamin Matzke (GEO 2010) Field Engineer 1 at Baker Hughes.

Mary Russo (GEO 2010) Staff Geologist at Terracon.

Elizabeth Koeman (GEO2011) is finishing her Ph.D. at University of Notre Dame.

Stephen Shields (GEO 2011) recently started a new job as a Geologist for Parsons Brinckerhoff. Congratulations Stephen!

Kyle Siemer (GEO 2011) Staff Geologist at Wavelet Investments LLC.

Kent Walters (GEO 2011) Field Geologist with Fishbeck, Thompson, Carr and Huber.

Nick Anderson (GEO 2012) Cardno ATC, California.

Kayla Frisinger (GEO 2012) Westshore Consulting, Muskegon.

Neal Ringerwole (GEO 2012) LWD Field Specialist IV at Baker Hughes.

Philip Conrad (GEO 2013) Library Technician Intern at Cape Cod National Seashore.

Laura Donker Knochenhauer (ES 2013) Substitute Teacher at EDUStaff, LLC. Laura married Kase Knochenhauer (GEO 2013) in August. Congratulations!

Joshua Klosinski (GEO 2013) Geologist at Envirocorp Subsurface, a company under Parsons Brinckerhoff.

Kase Knochenhauer (GEO 2013) Salesman at Straight Liquidation, LLC.

Caitlin Leslie (GEO 2013) is working on a Ph.D. at Baylor University. We saw her at GSA in Vancouver where she presented some results from her research.

Rachell Nagorsen (GEO Minor 2013) Engineering Programs Coordinator, City of Walker, Michigan.

Mitchell Schneider (GEO 2013) "Well my graduate school pursuit is on hold for a little while, I got hired by a company called Tetra Tech in the sampling department, doing remediation on the Fox River in Wisconsin. I am enjoying it here though it has only been

a few days, we will be working with sediments 4 to 8 ft. deep and mostly glacial deposits. Looking forward to doing geology in the field and having an impact on the earth.”

August 2014: Mitchell started as a geologist with ACME Geologic Consulting.

Kaitlyn Sterley Eicholtz (GEO 2013) Logging Geologist III at Horizon Well Logging, LLC. Kaitlyn married Travis Eicholtz in May. Congratulations!

Michael Stockoski (GEO 2013) Runs geophysics equipment for construction and engineering consulting company Terracon.

Katelyn Braunschneider (GEO 2014) “I just wanted to give you an update on my job situation. I have accepted an offer at Peerless-Midwest (one of the companies I was interviewing with during the semester) in Mishawaka, Indiana as a Project Hydrogeologist. I will start there the middle of June as soon as I am done with field camp. I just wanted to thank you for everything you have done for me over the past few years, and helping to get me to where I am today. It's professors like you that inspire students to do their best, and I am greatly indebted to you.”

Joseph Cherluck (GEO 2014) Environmental Technician at Golder Associates, Wiidbridge, Illinois.

Christopher Churches (GEO 2014) M/LWD Field Engineer at Halliburton.

Joshua Ehlich (GEO 2014) Graduate Teaching Assistant at Northern Illinois University.

Devin Gerzich (GEO 2014) Research Assistant at University of Wisconsin-Milwaukee.

Jenna Newman (GEO 2014) “I hope everything is going well. I have great news! I went to A&Ms graduate recruitment weekend this week and Matthew told me I was awarded a 2 year fellowship from the ocean drilling program, so I have 4 years funded to go straight through my PhD and he is very willing to take me as a PhD student :) :) :) I wanted to say thank you again, there is no way I would be in this position without you!”

Stephen Pratt (GEO 2014) Started a job as an Environmental Health Specialist with the Mid-Michigan

Department of Health in Montcalm-Gratiot-Clinton Counties.

Kenton Shaw (GEO 2014) Geophysics at Baylor University, and Grad TA in their Geology Department.

Christian VanWyngarden (GEO 2014) Geologist at Acme Geological Consulting, Holland, MI.

*What are you up to these days?
New job? New school? New
city and state? We love to hear
from you! Please stay in touch.*

You can send information about yourself in one of three ways:

1. Email to Janet Potgeter at: geodept@gvsu.edu or
 2. Mail it to us @ Geology Department, Grand Valley State University, 118 Padnos Hall, Allendale, MI 49401, or
 3. 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

Thanks to the generosity of alums, friends, and faculty of the Geology Department we have several endowed funds that help to support our students and further the mission of the department. Once an endowed fund exceeds the \$30,000 level the department can spend up to 5% of the fund each year. In recent years, both the **Norman and Helen Gibson Geology Field Study Scholarship** and the **Richard H. Lefebvre Geology Field Education Fund** have exceeded the endowed level. Information about each fund and guidelines for contributing are provided below. In this challenging economic climate the support from these funds is particularly critical and any support you can provide is very welcome. Information on how to donate can be found at:

https://secure.gvsu.edu/giving/index.cfm?sb_path=giveonline1.

If you have questions about the process of giving, please contact University Development at 616-331-6000 or universitydevelopment@gvsu.edu.

Funds that directly support students:

- ***Edward Tremba Geology Scholarship*** - This scholarship is awarded on the basis of merit to upper level students who have demonstrated excellence in academic performance, intellectual ability, and potential for significantly contributing to the geosciences profession. Students must have a GPA of 3.0 or better.
- ***Norman and Helen Gibson Geology Field Study Scholarship*** - This scholarship honors long-time Tulip City Gem and Mineral Club member, Norman Gibson and his wife Helen. It supports students pursuing geosciences or geoscience education research.
- ***Geology Student Field Camp Fund*** - This fund provides support to students who are attending field camp.

Funds that support the department mission:

- ***Richard H. Lefebvre Geology Field Education Fund*** - This new scholarship will help to support department field trips. The cost of field trips has gone up significantly without an increase in our budget and we have had to resort to passing along those expenses to students. This fund will help us maintain a strong field-based focus to education in the department.
- ***Geology Development Endowment*** - This fund helps with special needs in the department such as matching funds for equipment or outside speakers.
- ***Paul & Florence Miller Mineral Collection*** - This fund was started by Paul Miller, who made a significant donation of minerals to the department. The fund supports additions to the collection as well as displays.

Thank You 2014 Donors

October 2013 – November 2014

(Our list is from the University Development office. Please let us know if your name was not included.)

Mr. Lawrence M. Austin
Mr. Robert M. Bodziak, with match from Pioneer Natural Resources
Mrs. Caryl L. Brintnall
Mr. Michael J. Buboltz
Dr. Kevin C. Cole
Dr. Patrick M. Colgan
Mrs. Patricia Hossink
Mr. Douglas A. Hull

Mr. Jeff Lefebvre
Mrs. Karen K. Like
Mr. Dale A. Mason
Mr. Gary L. Mast
Dr. Stephen R. Mattox
Mr. Michael C. Mroz, The Fabric of America Fund
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Dr. Carolyn G. Shapiro-Shapin
Dr. Virgil L. Sharpton
Ms. Julia Sherwood, Tulip City Gem & Mineral Club
Mr. Chester A. Smith, with a match from General Electric Foundation
Shell Oil Company Foundation (match for Jennifer DeLoge in 2013)
Mr. Richard J. Stolarz
Mrs. Stephanie Surine
Dr. Edward L. Tremba
Ms. Ingrid J. Verhagen
Dr. Patricia Videtich
Mr. James C. Walters
Mr. Greg Wilson

GSA 2014, Vancouver BC

GVSU had a strong showing at the Annual GSA meeting in Vancouver. We connected with several alums at the meeting, including **Kat Barnard, Caitlin Leslie, Ron Green, Elizabeth Koeman and Jim Walters**. Six current students were at the meeting presenting the results of their research and several others attended after participating in the pre-GSA trip to the San Juan islands. Eight GVSU Geology faculty members attended, most presenting research talks or posters. GVSU faculty and students were authors on at least 13 presentations at the meeting.

Don't Be A Stranger! Contact Us:

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Office Fax: 616-331-3740
Electronic Mail: geodept@gvsu.edu
Website: <http://www.gvsu.edu/geology/>
We hope to hear from you soon!



GVSU Alumni Pole in Vancouver



Andrew (AJ) Barrett and Nicholas Colaianne install water sampling equipment in the Grand Valley ravines.



Graduating Class of Winter and Summer 2014