Geology Department Newsletter

Educating students to shape their lives, their professions and their societies.
www.gvsu.edu

December 2015

Greetings in 2015! Things are beginning to look different in the department and on campus. A beautiful new science building across Campus Drive from Padnos houses the Biology Department and many new labs and classrooms. Remodeling of Padnos Hall of Science and the Geology Department facilities is taking place in stages; during the past summer several rooms were remodeled and more work is planned. A summary of completed and anticipated changes lies within the pages of this newsletter.

We continue to see increases in enrollment in many of our major classes. Last year and again this year we have had nearly 40 students in the Mineralogy and Petrology classes and nearly 30 in Structural Geology, and more than 30 in seminar (there are not enough seats in the class for all the students and faculty). It is exciting to have all these new students.

We have seen a few changes in staffing in the last year. We welcomed a new tenure-track faculty member into the department this fall, following a search last year. **Caitlin Callahan** has research expertise in Geoscience Education and came to us from a post-doctoral position at Michigan State University following completion of her Ph.D. (Geoscience Education) at Western Michigan University. In addition, she earned a M.S. from the University of New Mexico (Petrology) and a B.S. from Smith College. Caitlin's primary teaching responsibilities will be in courses aimed at pre-service teachers, mainly Earth Science and Integrated Science majors. **Pablo Llerandi-Román** is on leave from GVSU during the current academic year in order to pursue opportunities in Puerto Rico and is working at the University of Puerto Rico, Río Piedras. After 3 years in a visiting faculty position at GVSU, Dominike Merle-Johnson took a teaching position Montgomery County Community College in Pennsylvania – we wish her luck in her new job! Ryan Vannier returned for a second year in a visiting position in the department. We have two new visiting faculty members this year, Trisha Smrecak and Kevin Thaisen. Please check out the reports from specific faculty and staff in the newsletter for more details.

We are also in the process of searching for a new Affiliate Faculty member in the department. Affiliate faculty positions can continue for a longer term than a visiting faculty member. Unlike tenure-track faculty the Affiliate responsibilities are mostly in teaching without expectations of research activity. The person we hire will primarily help with the many hundreds of students we connect with in our introductory classes.

Several students participated in funded research and internships over the summer. Six students were supported by Norman and Helen Gibson Geology Field Study Scholarships to aid their summer research; **Reece Elling** (mentor: John Weber), **Logan Knoper** (mentor: Tara Kneeshaw), **Katy Reminga** (mentor: John Weber), **Sara Thurkettle** (mentor: Pat Colgan), **Thomas Valachovics** (mentor: Pat Colgan), and **Sara VanGoor** (mentor: Steve Mattox).

Karen Musser (mentor: Ginny Peterson), **Brian Schrotenboer** (mentor: John Weber), **Cole Vickers** (mentor: Figen Mekik), and **Brittany Ward** (mentor: Figen Mekik) were awarded Michigan Space Grant Fellowships this year.

We enjoyed several distinguished speakers this fall. **Andrew McCarthy** (GVSU Geology Alum – 2000) was honored as the Geology Department Distinguished Alumni in Residence; his visit on October 21-22 included a talk on *Unconventional Petroleum Reservoirs*, and conversations with students and faculty. **Adrian Borsa** visited the department as part of the Earthscope Distinguished lecture series on October 5 and talked about What EarthScope's Plate Boundary Observatory can tell us about water resources in the western United States. **Ed Warner** gave a talk on October 22 on *Thinking Outside the Box. The Three W's: Water, Wildlife and Warming*.

Our endowments continue to grow and support students. As noted above, the endowed Gibson Scholarship supported four students; the endowed Tremba Scholarship recognized eight of our top students; the field camp endowment supported 15 students attending field camp; and the Lefebvre fund recently provided support for a summer field trip to the Upper Peninsula.

--Ginny

Geology Faculty and Staff Updates

Caitlin Callahan (callahac@gvsu.edu) I am delighted to join the Geology Department this fall as a faculty member in Geoscience Education. GVSU holds a special meaning for me because one of my first geology professors at Mount Holyoke College in Massachusetts was **Dr. Al Werner**, a GVSU Geology Department alum (class of 1979)! Prior to my start at GVSU in mid-August, I spent the last two years at Michigan State University as a Postdoctoral Research Associate, and before that completed my doctorate at Western Michigan University. Outside my academic efforts, my time in Michigan has been enhanced by playing with several different concert bands. I have been playing tuba since middle school, and music is a significant source of joy in my life. Indeed, the musicians I've met here in west Michigan have been incredibly welcoming and supportive since my arrival in 2008. Thus coming to GVSU has been exciting not only for the opportunity to join the community of students and faculty here in the Geology department, but also for the opportunity to continue to be part of the musical community of which I've become so fond.

In terms of my academic research, for a long time I have described my interests by saying that instead of studying rocks (which I did as an undergraduate and Master's student), I now study how people think, learn, and teach about rocks. More specifically some of my research efforts address questions related to the development of expertise in geoscience, to the use of a methodology whereby people think aloud their thoughts while solving different problems in geology, and to the impact of mentoring on career development and sense of belonging in the Earth System Sciences community.

This fall I am teaching two classes. One course is a section of Exploring the Earth (GEO 111) at the Pew Campus downtown. The small class size at that location has enabled me to implement a course design based largely on guided-inquiry. I am also teaching a section of Integrated Life Sciences for K-8 Teachers (SCI 225) at Allendale. From both classes, I am learning a great deal. In particular, I enjoy the challenge of developing well-worded questions, the kind that will help guide a student to an answer rather than reveal the answer directly. Also this fall, I have been working with **Andy Sparks**, an Earth Science major, on a geoscience education research project as part of his enrollment in GEO 485. Andy is exploring questions related to students' response to feedback on exams; we are planning to collect data early next semester.

Kevin Cole (colek@gvsu.edu) For the third spring break in a row we drove with members of the geology club to Big Bend National Park. This year's drive was a little more exciting due to the winter storms and icy road conditions which extended deep into Texas. We reached the base of the Chisos Mt's at midnight, temperature 32°, and started our accent into the mountains. When we reached the Chisos Basin, elevation 5400', it was a welcome 68°. We took many hikes including a trip to Mexico but left a day early when we woke up to high winds, dense ground fog 510' visibility and snow on the cacti!

In the summer we hiked in the Sierras Kings Canyon National Park, and backpacked with our daughter Rachel, who currently lives in Oakland and works with the homeless. We saw a lot of blindingly white granite!! We also went to the Bristle Cone pine forests in NV and CA. It was our first visit to Great Basin NP where we walked to an ice glacier and a rock glacier.

We concluded our trip out west with a trip to the Canadian Rockies, reminiscent of past geology trips. We took our son Sean, currently at Washington University in St. Louis studying physics and engineering, and met up with family from Michigan. We backpacked into Mt. Robson and the Tonquin Valley in Jasper National Park along with many other hikes. The park is becoming more crowded and expensive but we had great weather (thank-you Bill Stephen's!) and had a great time. The glaciers aren't doing too well though.

We arrived back in Michigan just in time to take a pre-semester field trip to the UP. We had 5 students along and 3 faculty (Trish, Ryan and Kevin). We visited the back 40 project (Volcanic Massive Sulfide), hiked in the Porcupines, toured the Keweenaw Peninsula and stopped at many outcrops as well as the *Seaman Mineral Museum a*t Michigan Tech. We camped at alumni **Tom Dykstra's** farm near Ontonagon. We camped amongst chickens and ducks and horses and ……. For the second year in a row the Mineralogy class is quite large, 36. We drove 8 vans to Bancroft. That meant 7 vans parked along the side of the road near an outcrop! Larry Fegel and Jon Burr joined us, their insights and knowledge were welcome. We had good weather and a bonus, no one yelled at us or called the police! The large mineralogy classes trickle through the system which means large petrology and structure classes.

Kevin Cole and son Sean in the Canadian Rockies

Patrick Colgan (colganp@gvsu.edu) 2015 was a year of travel for me. During the winter of 2015 I took my second sabbatical leave in 20 years as a professor. I enjoyed 3 weeks at WMU in February examining ~1000 feet of Quaternary sediment cores; there is some very interesting sedimentology in glacial units of Michigan! In March, I drove to Middlebury College in Vermont and focused on writing a manuscript, while snow fell outside. Middlebury College with the Adirondacks visible to the west and the Green Mountains to the east is as pretty as a postcard. In April, gave talks at the Wisconsin Geological Survey in Madison, and at UW-Eau Claire while catching up with research colleagues. Also got to tour and see the impacts of frack-sand mines in NW Wisconsin. Very interesting, as I learned that more than 100 train cars of highly processed sand can be injected into a single hydrofrack-well. The product of my sabbatical was a paper now in press in *Quaternary Research* titled, "Athens Subepisode (Wisconsin Episode) non-glacial, and older glacial sediments in the subsurface of southwestern Michigan, USA". The paper was co-authored with me by two of our recent geology graduates **Chris Vanderlip** now at Memphis State working on a M.S., and **Katelynn Brauschneider** now at Peerless Midwest Inc. The paper should be online by the time this newsletter comes out.
In June and early July, I worked with **Sarah Thurkettle** sampling inland dunes in Ottawa County for optically stimulated luminescence (OSL) dating (done by new collaborator Will Amidon at Middlebury). We now have some very interesting new OSL ages on these dunes that indicate they are about twice as old as the big coastal dunes. I also enjoyed time in the field with **Tom Valachovics** examining deep kettles and bogs in Muskegon County. We collected 3 complete 4-5 meter long peat cores and obtained a bottom radiocarbon age of ~5,000 yr BP. I also trained **Alex Rarick** to do XRD analysis of clay minerals of glacial units for correlation and provenance studies.
Kelly and I enjoyed three weeks in May exploring the island of Hawaii for the first time. In July, we followed the Oregon Trail from our home town of Kansas City, west to visit my sister and my nieces in Bend, Oregon. Highlights along the way were fish fossil collecting in the Fossil Lake member of the Green River Formation (~52 Ma) and alpine hiking above tree line in Wind River Range, Wyoming and in the Strawberry Mountains of central Oregon. At the end of the summer, Kelly and I spent a couple of serene weeks at the cabin on Lake Michigan at Seul Choix Point. Fall brought me back to the reality. Of course, most of the semester so far, I have been sick as my sabbatical must have weakened my immune system. So it has been a great year. Hope everyone is healthy and happy in the coming year!

Kelly Heid (heidke@gvsu.edu) I am really enjoying my Geo111 sections this fall. Another crop of freshman to introduce to the exciting field of Geology. I have several new majors in the class and I am hoping a few more student gems will fall in love with the field and switch majors. Along with teaching I will be a co-presenter at the Fall Science Update teacher workshop this November. Our "Go with the Flow" workshop will focus on sharing simple activities that will help demonstrate the dynamics of ocean and air currents with a group of forty 6th through 9th grade teachers.
On a personal note, Pat and I are celebrating our 25th wedding anniversary this year. In honor of the big milestone I made an executive decision during last winter's second Polar Vortex season that we needed sunshine. We started the celebration early by taking a trip to the Big Island of Hawaii. So along with being about to thaw out completely we were very lucky to be there to see the lava lake and fountaining in Kailua's caldera. I also spent some time snorkeling in

Kealuakekua Bay just off the Captain Cook monument. I also have a new favorite beverage – POG. That's POG not to be confused with GROG.

Tara Kneeshaw (kneeshta@gvsu.edu) Never a dull moment, another eventful year is well underway! I received a catalyst grant late last Spring to do some preliminary research on residual hydrocarbons in Kalamazoo River sediments impacted by the 2010 Enbridge pipeline break, a break that spilled diluted bitumen from Canada's Athabasca oil sands and resulted in the largest inland oil spill in US history. Geology major, **Kayla Lockmiller**, worked with me all summer collecting and analyzing samples and we're looking forward to finishing analyzes this Fall and pursuing future research in this area.
In between research endeavors and teaching part of WMU's Hydro Field Camp this summer, Josh and I managed to steal away for some quiet camping time in Northern Michigan before moving into a new house the weekend before classes started (as I said, never a dull moment)! While the move didn't put me much closer Allendale we now have 18 beautiful acres of woods, wetlands, and ponds. I hope to bring future classes there to conduct field hydrology and geochemical experiments. Speaking of hydro, I am teaching geohydrology for the first time this Fall. While it's been challenging getting material ready, I am really enjoying it and looking forward to having it be a part of my regular teaching rotation. Cheers to another productive and exciting year everyone!

Stephen Mattox (mattoxs@gvsu.edu) The high school exam program continues to grow. Last spring 186 students were enrolled in nine high schools and 92 earned college credit. Two new teachers are joining this year and two more are in discussion. Three of these new schools are close to GVSU and will potentially send us majors. It's rewarding to see the University of Michigan awarding credit. Earth science student **Christina Sobolak** has been supported by the last of our NSF dollars and has been involved with all aspects of the grant.
I spent a month of the summer on the MiSTAR project with my colleagues from Michigan Tech. We worked with middle school teachers to develop inquiry-based lessons/modules that are Michigan-centric and aligned with NGSS. The project is funded by Dow Educational Foundation.
A NSF InTeGrate grant allowed the Integrated Science faculty to meet over the summer and add physics to the chemistry education course and biology to my existing GEO 319 course. Another goal of the grant is better communication with the geologists and students at GRCC an MCC. We have even started running joint fieldtrips.
Earth science student **Claire Sobolak** tested a new integrated lab design for teaching the basics of volcanoes to my GEO 201 students. The data shows significant learning gains. Claire presented at a meeting of the National Science Teachers Association in Chicago and we will chip away at a publication. Claire was supported by a GVSU FTLC grant. Earth science student Sarah VanGoor traveled to the UP where we collected a variety of metamorphic rocks. She is using the materials to design a new lab. Sarah was supported by Norman and Helen Gibson Field Study Scholarship.
My summer travels included three weeks in Iceland, London, and the south coast of England. Many of your alums that started at GRCC will be happy to know that Tari has been hired there full-time.

Figen Mekik (mekikf@gvsu.edu) Greetings from the Ocean Goddess (aka Ms. Frizzle)! This year was full of exciting moments, mostly with the four bright and industrious research students working in the Mekik Lab: **Brittany Ward** (aka boron woman), **Cole Vickers** (the man who handles hot carbon!), **John Howlett** (heavy metalist –Mn and Fe in forams that is), and **Cody Garnsey** (foram lifter and weigher). Brittany, Cole and John will be presenting their research at AGU in San Francisco in December 2015, Cody in December 2016. They will also meet a former student of the Mekik lab there presenting the graduate work she did at the City University of New York, **Sarah Clark**! She just finished her Master's degree at CUNY in paleoclimatology! Speaking of former Mekik lab denizens, **Jenna Newman** is finishing her master's degree at Texas A&M! Yes, you guessed right, in paleoclimatology. I am very proud of all members of the Mekik Lab, past and present. As our special code of lab ethics states we never, ever, under any circumstance speak ill of a foram; and our lifelong mission is to conquer the world one foram at a time.
And a quick reminder of the six basic tenets of geology for our alums:

1. Poop always rains down.
2. The seas come and the seas go.
3. No rock is accidental.
4. Tectonics stops for no one.
5. Poop is a vehicle.
6. The Coriolis effect is the answer to everything.

Happy year to all!

Bill Neal (nealw@gvsu.edu) - Life has its good years and bad years – the past year has been a bit heavy on the down side with the loss of colleagues' spouses and my wife's accident. Winter was a time of mourning, and then on July 3rd Mary was hit by a car on a parking lot and suffered a severely broken ankle (ironically, about 5 weeks after her sister had been run over on a parking lot in Indiana). However, she is doing very well in her progress on the long road to recovery. And our life has been brightened by the arrival of a new great-grandson, and the marriages of two of our grandkids (I guess they are no longer 'kids'). And the one marriage brings a dowry of 4 more great-grandchildren, so our family grew by leaps and bounds! Travel was curtailed a bit this year, but we drove to North Carolina in the teeth of a winter storm for Sharlene Pilkey's memorial service, then south again for the Southeastern GSA in Chattanooga, plus several trips to Indiana. Fall travel was curtailed, but we hope to be 'on the road again' soon!

Another bright side is that with the remodeling of Padnos Hall, my office was moved from the inner-sanctum to the second floor, and I now have a window to look out of after 11 years of that 'walled-in' feeling. A view of blue sky and greenery does lead to day dreaming, but my thoughts are geologic. Writing projects continue, albeit slower, co-authoring two articles for Coastal Care's beach-of-the-month, a poster for Southeastern GSA, and one for the GSA meeting in Baltimore. Co-operative writing with GVSU colleagues (Pablo Llerandi-Roman, and John Weber) as well as with long-time associates Orrin Pilkey, Dave Bush, and Chester Jackson, is what keeps me interested; as do the activities of the department (e.g., Science Olympiad, Student Scholarship Day, Earth Science Week, and the new Student Chapter of AAPG)! Evolution continues with the remodeling, and faculty changes – it is always a bit sad when people move on, yet encouraging to know they are moving on with their careers, and will be part of our continued networking. New colleagues are a plus, bringing new ideas and experience to draw on for students and colleagues. And contacts with alumni are always interesting, particularly visitors to campus (e.g., **Mark Wallenga** and his brother; **John and Erin Van Regenmorter**; **Kevin Weiss**; **Andy McCarthy**; et al.), although keeping in touch by phone and e-mail is important too. You are the measure of a collective effort of many people, and for the same reason I encourage you to continue to support the various department development and scholarship funds. In the meantime, Ya'all keep on rockin.

Ginny Peterson (petersvi@gvsu.edu) It has been a year of continuing projects for me. As department head I have been active with large projects related to remodeling of geology department spaces, hiring of new faculty, and moving our proposed curricular revisions into the system for approval. I continue to explore research problems in the southern Appalachians. Last summer student **Karen Musser** and I continued our work using Electron Backscatter Diffraction (EBSD) analysis to measure quartz crystallographic preferred orientation (CPO) to better characterize deformation within the Chunky Gal Mountain fault. She was supported by a Michigan Space Grant Fellowship. This has been fun work and the results to date have been interesting and complex; we hope to get a paper written next semester summarizing the results of her research. I have proposed to take a sabbatical leave during Winter 2017 to continue my work with EBSD with an added focus on measuring CPO of olivine from the Buck Creek dunite body. I am busy writing grant proposals to support this sabbatical project as well as continued work integrating the constraints from CPO analysis of deformation with continued petrologic analysis of the fault.

Our most fun news on the family front is that our daughter, Casie is finishing her senior year as a health sciences major and intends to apply to Physical Therapy programs. She worked as a physiotherapy intern in Newcastle, Australia last summer and managed to explore parts of the country as well as take a short trip to New Zeeland. Jon and I kept our travels this year closer to home.

Janet Potgeter (potgetej@gvsu.edu) Season's greetings! 2015 has been a year of changes in the department. There are new spaces and new faces, but never a dull moment.

My husband, Merle, and I had an awesome vacation in the Maritimes and Maine during July. The guided tour was full of great surprises. We saw miles of beautiful coastline, breathtaking national parks and fascinating historic sites. Of course, the geology is incredible: I couldn't stop myself collecting souvenir red sandstone pebbles from the beach on Prince Edward Island, and just a small chunk of the Hopewell Rocks at low tide.

The kids are doing fine and continue to bring joy and challenges to our lives.

Thank you for staying in touch! I wish everyone a happy 2016!

Peter Riemersma (riemersp@gvsu.edu) I enjoyed teaching Sed-Strat for the second time and organized another big Mock Trial grand finale for Geo 300 in the winter. This summer I participated in the First Annual Earth Educator's Rendezvous in Boulder, Colorado. The workshops inspired me to replace my Geo 100 textbook readings with videos/website readings and BB quizzes. I also got some hiking in the mountains done with colleague Greg Wilson. I lead my Geo 112 students this fall on a four day field trip to Missouri this fall where we enjoyed spectacular weather and a wide variety of rock types and geology. I coached "Fossils" for the Allendale Middle School Science Olympiad team and helped to sign up **Brittany Ward** and **Cole Vickers** as Science Olympiad coaches for the "Can't Judge a Powder" event.

I travelled through miles of gypsum mine tunnels with **Zach Curry**, who presented a poster of his seminar project (mudcracks in the gypsum mine) at the north-central GSA meeting in Madison, WI. An instrumented site at Allendale Middle school was the focus of Jessika Lynn's project (monitoring of road salt impact during snow melt off), that she presented at the annual GSA meeting in Baltimore.

This summer I helped develop and organize the Fourth Annual Community Field Day, "Things That Pollinate". We had over 150 community members work on building solitary bee houses and visit several of the educational activities that were set up. A highlight of the event was the unveiling of the bee hive that we installed at the school. The event attracted a lot of media attention including Fox News, Advance, Miranda, and GV Now.

For our annual rock adventure, my son Dakota (now 13) and I travelled to New York and collected trilobites at the Penn-Dixie quarry, quartz crystals at Herkimer, and a variety of minerals (i.e. tremolite, blue calcite) during a Tulip City club field trip lead by esteemed mineral collector Dr. Steve Chamberlain.

Trisha Smrecak (smrecakt@gvsu.edu) - Greetings from Allendale! My name is Trisha Smrecak and I am a new visiting faculty member of the Geology Department. I hail out of the Bay City area originally and after traveling across the Midwest in search of fossils I've come to rest back in Michigan for a while. I'm finishing up my Ph.D at Michigan State and am settling in among the other faculty, students, and staff here at GVSU. Campus is beautiful in the fall, and senior seminar is full of engaged students. I'm enjoying teaching sections of Environmental Geology and am learning a lot teaching the Geosphere course for pre-service teachers with Steve Mattox. I participated in an excellent pre-semester field trip with Kevin Cole, Susan Jansen, Ryan Vannier, and a number of students. We had a great time visiting the Porcupine Mtns, a mine still in the research and funding stages, and a number of collecting localities. I recently co-organized an occasional conference at my Alma Mater and facilitated an amazing panel on geology and gender. Interesting perspectives I will enjoy sharing with everyone at GVSU, and made some contacts for potential job opportunities I hope to send future GVSU grads toward. I'll be headed to GSA in a few short weeks to present my research on Michigan Basin fossils and to mentor a former student of mine at MSU, and bringing home with me samples to lead a workshop at the Fall Science Conference at GVSU in November. If you're at GSA or planning on attending the Fall Science Conference, please stop by and say hi!

Kevin Thaisen (thaisenk@gvsu.edu) - Instead of an update from last year, let me introduce myself. I grew up in southern Minnesota where I played a lot of hockey, golf, and volleyball and was surrounded by corn and soybean fields for as far as the eye could see. Needing a topographical change, I ended up at the University of Texas in Arlington. Sadly, Texas is pretty much as flat as southern Minnesota. After graduating from there I went to work for the Naval Oceanographic Office in southern Mississippi. As it turns out, southern Mississippi is the definition of flat topography. After five years of riding around on boats and travelling extensively around the northern hemisphere, the irony of being on a flat ocean with mountains beneath me became too much. Well that, and President Bush said we were going back to the Moon and on to Mars and I wanted a shot at one of those seats. So I went to Indiana University to pursue a Master's degree where I worked on glacial and fluvial features within the West Candor Chasma region of Mars and did a considerable amount of flume-based sedimentation experiments. Did you know that Indiana has been flat for millions of years? After Indiana, I went to the University of Tennessee to work on the Moon, with meteorites, and do a little diamond exploration (unfortunately all lab based). Tennessee finally provided me with a view with some mountains, and it was nice. Then I spent a couple years at the University of Minnesota in Duluth doing a post-doctoral research appointment where I was involved in generating surface maps of the Niobe and Aphrodite regions on Venus. And now I'm here continuing my adventure and never-ending pursuit of a

view with mountains (something that I admittedly don't appear to be very good at). But if you'd ever like to take space, planets, oceanography, or geology please don't hesitate to stop by my office or say hi in the halls.

Ryan Vannier (vannierr@gvsu.edu) It is now year #2 as visiting faculty for me at Grand Valley, it has been a wonderful experience for me so far – not just in terms of working with the students, but also some of the projects I have been involved with and in expanding my own teaching capabilities. This has been a banner year for the quantity of students in senior seminar and I have had the opportunity to work with three great students on projects related to my PhD dissertation. Two of the students I am working with are looking at a class of compounds called polycyclic aromatic hydrocarbons (PAHs) which are considered pollutants of concern for the potency of potential adverse health impacts. We are interpreting PAH watershed pollution histories with radiometrically-dated lake sediment cores with the potential for the data to yield some interesting results. Another student has been busy performing literature review on interpreting pollen and stable isotopes in peat cores collected from local bogs. It has been a lot of fun working with all the students and will surely be a bummer to see this crowd graduate and move on. Apart from that, I have been working with the Educational Technology department on putting together prototype online and hybrid geology course work. I find myself much more interested in the subject matter than I had anticipated as we look at educational studies regarding how students learn in an online setting and ways to maximize learning through a variety of media. I find much of what I have learned is easily applied to my face-to-face classes I have been teaching at Grand Valley. I look forward to this next semester as I will have a chance to finally put together some prototype course websites and I have even gone so far to acquire my own domain name. So look for ryanvannier.com in the future!

Patricia Videtich (videticp@gvsu.edu) Hello everybody! The biggest news I have is that I'm still checking out retirement, so I am not teaching this fall semester! But I will be teaching winter semester. I took advantage of my time off and went to France for a couple of weeks in mid-September. A highlight of my trip was visiting Omaha Beach and the American Cemetery there. Such moving places! It's hard to imagine what went on there. Of course, some sand and cobbles from Omaha Beach somehow fell into my pockets! In November I am going to Vietnam. I am really looking forward to seeing Vietnam but am bracing for all the anti-American propaganda that I will see and hear.

In May I went to the North-Central Section GSA Meeting in Madison with Peter Riemersma and Zach Curry (GEO 2015). We also took a trip (or two) to Baraboo. I hadn't been there since I was a student at Grand Valley State Colleges, which, of course, was decades ago. Much was familiar although it seemed like Van Hise Rock was a little shorter, which is strange because I don't think I've grown since then. Anyways, it was nice to see "the Rock", the Baraboo Quartzite, Devil's Lake, and Parfrey's Glen again. Parfrey's Glen especially holds a special place in my heart because that is where I saw my first conglomerate "in the wild" – I remember being so thrilled!

One huge task I had to tackle in the summer was cleaning out my lab (271 Padnos), which a number of you spent a lot of time in either working on your Geochemistry (GEO 445) labs, or working on a research project. Between my impending retirement and the Padnos Hall remodel, it was time to give up the space. I couldn't believe how much valuable stuff was in that lab! Between giving some lab supplies away and Greg Wilson's help with finding some temporary storage space, I eventually managed to empty the lab, but it wasn't easy, either physically or emotionally. For me, many memories of hardworking, eager geo students were contained within the walls of that lab!

Again this year I helped freshman move into the dorms. But this time I spent some time at Copeland House so I could check out my ol' freshman dorm room, 342 Copeland. Imagine my shock and dismay when I discovered my old room is now a toilet! GVSU expanded the bathroom and demolished my room in the process! I haven't yet decided if I should tell my ol' roommate that our Freshman-year haunt is now a toilet! Nor have I figured out why today's freshmen need a larger bathroom than what we had!

The booklet three co-authors and I rewrote for the Council on Undergraduate Research (CUR) titled "How to Get a Tenure-Track Position at a Predominantly Undergraduate Institution" should be published very soon, if not already. So if you, or someone you know, is looking for an academic position, you might check out the booklet for some practical advice.

As usual, it was great seeing many of you this year when you came to a geo picnic or stopped by the department! I am going to GSA in Baltimore this year and hope to see

a number of you there, and, if not there, then in Denver next year. I wish you all the best in 2016!

Peter Wampler (wamplerp@gvsu.edu) 2015 has been a full year of expanding research and horizons. In May 2015 I took six students and a colleague from Colorado to Haiti for a 15 day trip to install wells and explore parts of Haiti I have never been to before. This group of intrepid students served as my "guinea pigs" for a 2016 faculty-led study abroad trip to Haiti that was recently approved by the International Education Committee (IEC). This unique program will allow students from all disciplines to contribute their energy and ideas to solve real world problems in Haiti. It will create a collaborative environment so that different majors can contribute their unique perspectives and skills. Service learning placements will be tailored to the interests of the participants.

Ghana Study Abroad Students from GVSU, overlooking Shai Hills near Accra, Ghana.

I was busy most of the summer serving as the faculty director for 15 students who travelled to Ghana, West Africa for 7-weeks. We travelled throughout Ghana and engaged in many interesting and rewarding water-related projects while we were there. I hope to return either this summer or next summer to continue some of this work.

A colleague from the GVSU Public Health Program, Dr. Azizur Molla, and I are working on a paper summarizing household radon in Kent and Ottawa Counties. Part of this research has involved obtaining new radon gas concentration data from a gypsum mine in Grand Rapids. Preliminary monitoring results from the mine are very interesting and warrant follow up which will be occurring in late 2015 and 2016.

John Weber (weberj@gvsu.edu) 2015 was another busy year professionally and for the family. Teya Li is now in 4th grade & Sarah is busy learning and teaching Iyengar yoga. I am playing my guitar a lot and am having fun learning from two very accomplished musicians. Professionally, I enjoyed giving several talks and leading a field trip at the 20th Caribbean Geological Conference in Trinidad; together with GVSU undergraduate research colleagues **Chris Churches** & **Kenton Shaw**, published a paper on a big earthquake in Tobago in *Tectonics;* and with new Korean colleagues published a paper in *Geomorphology* on the tectonic geomorphology of the eastern Korean rift flank. I taught in Montana and Azerbaijan again this summer, and continue to serve on the board as VP at YBRA - check out our new website: www.ybra.org. In the department, I arranged and hosted a variety of external speakers, including GV distinguished alum **Andrew McCarthy**, Barry Katz, Adrian Borsa, Davis Schmidt, and Ed Warner. I also helped GV AAA Studies bring Donald Kinsey to campus to talk to & show us about his life in music: "From the church to the Wailers: the movement of black music". I hope that you are all well and happy, and leading productive and fulfilling lives.

Greg Wilson (wilsong@gvsu.edu) It has been an exciting year of change. The new Kindschi Hall of Science was completed and dedicated this Fall. Over the spring and summer Biology moved over to the new building, and Padnos was reorganized. Geology gained some new spaces and remodeled some of our older spaces, a process that will continue into next year. I am deeply appreciative of the assistance provided by students who have helped to shift materials from one area to another, including most of the Department's Lane cabinets of rocks and minerals. 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, although some are in new spaces. Over the summer Peter Riemersma and I were able to attend the first Earth Science Educators Rendezvous in Boulder, Colorado in mid-July. While we were in Colorado we were able to do some hiking in the Aspen area and Rocky Mountain National Park. At home we are adjusting to Becky's absence, which has been eased by support from family and friends. Cooper continues to work in the area, finding jobs that use his Spanish speaking skills. Luke is working as an aviation mechanic at the Greenville Airport. Luke and Ashley's son Bode is celebrating his first birthday,

and now that he has managed to walk is expected to start skiing soon.

2015 Geology Department Faculty and Staff

Ginny Peterson - Associate Professor & Head
Caitlin Callahan – Assistant Professor
Kevin Cole - Associate Professor
Patrick Colgan – Professor
Kelly Heid - Affiliate Faculty
Tom Hendrix - Emeritus Professor
Tara Kneeshaw - Assistant Professor
Pablo Llerandi-Román – Associate Professor
Stephen Mattox - Professor
Figen Mekik - Professor
Bill Neal - Emeritus Professor
Janet Potgeter - Department Coordinator
Peter Riemersma - Associate Professor
Trisha Smrecak – Visiting Instructor
Norm TenBrink - Emeritus Professor
Kevin Thaisen - Visiting Instructor
Ryan Vannier - Visiting Instructor
Patricia Videtich - Professor
Peter Wampler - Associate Professor
John Weber - Professor
Greg Wilson - Instructor & Lab Coordinator

Currently there are 101 Geology, 9 Geochemistry majors, and 19 Earth Science majors, and 9 Geology minors. There are 123 students in the Integrated Science Program (pre-service teachers served by our faculty).

2015-16 Geology Club Officers

President: Natalie Renkes, renkesn@mail.gvsu.edu
Vice President : Katy Reminga, remingak@mail.gvsu.edu
Secretary: Kayla Lockmiller, lockmilk@mail.gvsu.edu
Treasurer: Brittany Ward, wardbri@mail.gvsu.edu
Events Coordinator: Logan Knoper, knoperl@mail.gvsu.edu
Risk Management Officer: Cole Vickers, vickersa@mail.gvsu.edu
Social Media Coordinator: McKenna Smith, smithmck@mail.gvsu.edu
Faculty Advisor: Dr. Kevin Cole, colek@gvsu.edu

GVSU_GeoClub@Hotmail.com.
Join us on Facebook.

"Grand Valley State University educates students to shape their lives, their professions, and their societies. The university contributes to the enrichment of society through excellent teaching, active scholarship, and public service."

Degrees were awarded to the following students in 2015 (Through August 2015):

B.S. in Geology
Eric M. Armstrong
Andrew J. Barrette
Zachary N. Curry
Kayla E. Deciechi
Erik P. Hascall
Saray A. Morales
Rachel L. Moran
Steven R. Ossim
Zackery Remtema
Christopher A. Vanderlip
Barrette Walquist

B.S. in Geochemistry
Ashley P. Brady

2015 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.

Eric M. Armstrong
Andrew Barrette
Ashley Brady
Kayla E. Deciechi
Zackery Remtema
Christina Sobolak
Claire Sobolak
Christopher Vanderlip

The Norman and Helen Gibson Geology Field Study Scholarship is awarded to support undergraduate geology students in conducting scientific research.
Reece Elling
Logan Knoper
Katy Reminga
Sara Thurkettle
Tom Valachovics
Sara VanGoor

Geology Student Field Camp Fund provides support to students who will attend field camp.
Eric Armstrong
Andrew Barrette
Zachary Curry
Kayla DeCiechi
Yolanda Hamilton
Evan Lavery
Jessika Lynn
Rachel Moran
Matt Raymond
Zackery Remtema
Natalie Renkes
Brian Schrotenboer
Mitch Slachter
Lydia Spears
Christopher Vanderlip

Outstanding Geology Major
Eric M. Armstrong

Outstanding Earth Science Major
Christina Sobolak

Tulip City Gem & Mineral Club Scholarship is awarded to students chosen by the Geology faculty, and who have shown significant leadership and service.
Kayla Lockmiller
Natalie Renkes
Anthony Cole Vickers
Brittany Ward

Michigan Space Grant Fellowship:
Karen Musser (Mentor: Peterson)
Brian Schrotenboer (Mentor: Weber)
Anthony Cole Vickers (Mentor: Mekik)
Brittany Ward (Mentor: Mekik)

Indian Mounds Rock and Mineral Club Scholarship gives support to a research active rising senior.
Karen Musser
Brian Schrotenboer

Geology Department Scholarships
Adam Canute
Sam DeYoung
Tiffany Gentner
Kayla Lockmiller
Natalie Renkes
Brian Schrotenboer
Cole Vickers
Brittany Ward
Christopher Weaver

Patricia Hossink with 2015 Norman and Helen Gibson Field Study Scholarship award winners: Tom Valachovics, Patricia Hossink, Katy Reminga, Sarah VanGoor, Logan Knoper at the GVSU Scholarship Dinner

Student Research Activities

Karen Musser was supported by a Michigan Space Grant Fellowship last summer to collect and evaluate crystallographic preferred orientation information for quartz grains within the Chunky Gal Mountain Fault using Electron Backscatter Diffraction (EBSD) analysis. Her results suggest interesting variations in strain within the fault at the micron scale. She presented the results of her research at the GSA meeting in Baltimore.

Sara Thurkettle collected sand samples for dating inland dunes in Ottawa County with Prof. Colgan this past summer. She also described soil profiles developed in the dunes. Her work was funded by a Norman and Helen Gibson Geology Field Study Scholarship. The samples were then sent to Middlebury College for dating using the optically stimulated luminescence method. A sample of wood was also sent out for radiocarbon dating. Preliminary data show that the dunes are ~11,000 to 13,000 years old.

Tom Valachovics studied kettles and a peat bog in Muskegon County with Prof. Colgan this summer. He collected three complete peat cores and is currently studying them. Tom also obtained a basal radiocarbon age on the lowest peat sample and it shows the peat has been forming since ~5,000 years ago. He also examined the glacial sediments around the kettle in order to determine the origin of the kettle. Tom's work was funded by a Norman and Helen Gibson Geology Field Study Scholarship.

Alexander Rarick helped out Tom and Sara with their summer research despite the bugs early in the field season. Alex also learned how to prepare clay samples for X-ray diffraction analysis. He helped prof. Colgan run samples this past summer and helped produce some excellent analyses.

Student Presentations and Publications (2015)

Brady, Ashley, Kneeshaw T., and Wampler P., 2015, Water Quality of Storm Water Management Complex at GVSU, Michigan Academy of Science Arts & Letters Annual Conference.

Colgan, P.M., **Vanderlip, C.V.,** and **Braunschneider, K.N.,** 2015. Athens Subepisode (Wisconsin Episode) non-glacial, and older glacial sediments in the subsurface of southwestern Michigan, USA, *Quaternary Research*, v. 84, 382-397.

Curry, Zachary, and Peter Riemersma, 2015, "Characterization and Analysis of Michigan Formation Mud Cracks in Kent County Michigan, North central Geological Society of America Meeting, Madison, Wisconsin.

Knockenhauer, K., Bennett, J., and Weber, J., *in revision-to be resubmitted*, Lichenometric Dating of Possible Fossil Talus Deposits, Devil's Lake State Park, Wisconsin, *The Lichenologist*.

Lynn, Jessika, and Peter Riemersma, 2015, Monitoring of Road Salt Impact during Snow Melt off and rainfall events at Allendale Middle School, Michigan, Geological Society of America Annual Meeting, Baltimore, Maryland

Musser, K., Peterson, V.L., and Rahl, J.M., 2015, Macro- to Micro-scale Partitioning of strain and kinematics within the Chunky Gal Mountain Fault, Blue Ridge Province, southern Appalachian Mountains. Geological Society of America Annual Meeting, Baltimore, Maryland.

Piccard, Keith, Rybczynski, Stephen, and Peter Riemersma, 2015, "Wading Into Ecology: An inquiry lesson on stream ecosystems", in review for Science Scope.

Sobolak, Christina, and Mattox, S., 2015, Exploring Sedimentary Rocks of the Michigan Basin, Michigan Science Teachers Association 62nd Annual Conference Program, p. 26.

Sobolak, Christina, and Mattox, S., 2015, Using Information Literacy to Evaluate Aspects of Hydraulic Fracturing, Michigan Science Teachers Association 62nd Annual Conference Program, p. 30.

Sobolak, Claire, and Mattox, S., 2014, An Integrated Approach to Teaching the Geology of Hawaiian Shield Volcanoes, Michigan Science Teachers Association 61st Annual Conference Program, p. 37.

Sobolak, Claire, and Mattox, S., 2015, Using Hand Samples, Geologic Maps, and Google Earth to Teach the Geology of Hawaiian Shield Volcanoes, National Science Teachers Association national conference, p. 77.

VanGoor, Sarah, Lebkuidher, M., and Lobegeier, M., 2015, Assessment of water quality through the study of thecamoebian populations in Todds Lake, Rutherford County, TN. Geological Society of America Annual Meeting, Baltimore, Maryland.

Vanderlip, C.A. and Colgan, P.M., 2015. Stratigraphy and Lithology of Tills in the Hemlock Crossing Core

Ottawa County, Michigan: Insights on Till Provenance and Lobe History. Geological Society of America *Abstracts with Programs.* Vol. 47, No. 5, p.80.

Weber, J., Geirsson, H., Latchman, J., **Shaw, K.**, La Femina, P., Wdowinski, S., **Churches, C.**, Higgins, M., and Norabuena, E., 2015, Tectonic inversion in the Caribbean-South American plate boundary: GPS Geodesy, Seismology, and Tectonics of the Mw 6.7 April 22, 1997 Tobago earthquake, *Tectonics,* v. 34, n. 6, 1181-1194.

Alumni and Faculty Speak for Earth Science Week, October 12 – 16, 2015

GVSU celebrated Earth Science Week with 5 invited speakers:

Ms. Katelynn Braunschneider, GVSU 2014
Peerless-Midwest, Inc.
(Ground) Water, Water Everywhere… A Day in the Life of a Hydrogeologist and Case Study: Oxford Township, Michigan

Dr. Peter Wampler, Professor of Geology
Grand Valley State University
Wrestling with Wells and Water in Haiti – Sustainable Safe Water Solutions

John Scholtz, Director, Ottawa County Parks and Recreation Commission
Creating a Greenway on the Grand River

Dr. Kevin Thaisen, Visiting Professor of Geology
Grand Valley State University
Revelations of our solar system: New knowledge from recent missions

Dr. Timothy Fisher, Department of Environmental Science, University of Toledo, Chair
How Coastal Sand Dunes in the Great Lakes Region Fulfill Our Needs

Other Guest Lecturers in 2015

David Schmidt, EarthScope Speaker Series, University of Washington. *The Silent Life and Quivering Fits of the Cascadia Subduction Zone.*

Barry Katz, Chevron Fellow and AAPG Distinguished Lecturer. *Petroleum Geology: an Insider's Perspective.* and *Anatomy of a Source Rock.*

Dr. Adam Borsa, EarthScope Distinguished Lecturer. *What EarthScope's Plate Boundary Observatory can tell us about water resources in the western United States.*

Dr. Andrew McCarthy, 2015 GVSU-Geology Distinguished Alumni, Senior Geologist, Concho Resources, Midland, TX. *Exploring for Unconventional Onshore Petroleum Reservoirs.*

2015 Alumni in Residence, Andrew McCarthy

Ed Warner (Independent Oil/Gas Operator, Wyoming/Colorado and Philanthropist; see https://en.wikipedia.org/wiki/Jonah_Field
Thinking Outside the Box. The Three W's: Water, Wildlife and Warming.

Public Panel and Discussion:
Dr. Andrew McCarthy, and **Ed Warner.** *Petroleum's (Oil/Gas') Future: How Long Are Its Legs and What is Our Energy Future?*

11th Annual Chili Cook-off

The Numbers
15 Chilis submitted (8 student chilis)
5 desserts
4 side dishes

A respectable 70 Participants (name tag count)
~12 Judges (two judges were representatives from campus dining)

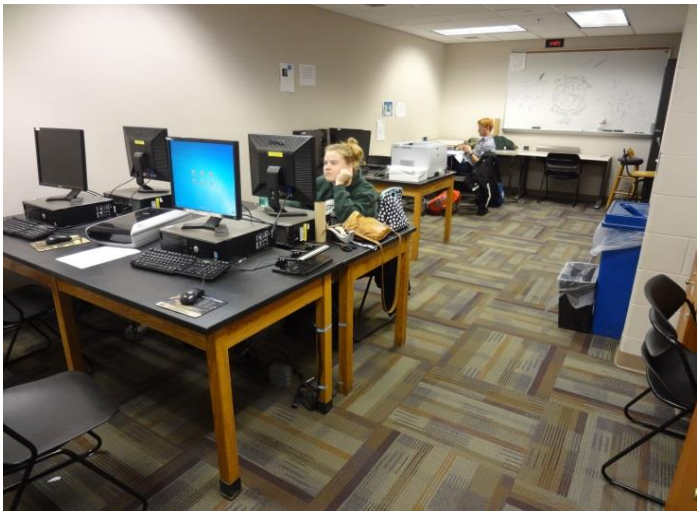
2015 Award Winners
Best Overall Chili was a tie: Peter Riemersma and Greg Wilson
Best Student Chili: Katy Reminga and Sam DeYoung
Silver Certificate Student Chili: Tristen Holst
Most Popular Chili: Waverly Ferguson
Best Vegetarian Chili: Sarah Barrette
Hottest Chili: Kevin Cole
Most Geological Chili: Dakota Riemersma
Most Geological Dessert: Kathy Agee Dessert
Best Side Dish: Ryan Vannier Side Dish
The 2016 Chili Contest will be on February 1.

Geology Department Remodeling: The Big Reveal!

We thought it would be interesting to give you an idea of some of the changes to the Geology Department facilities from last summer. One of the biggest changes is that we have moved teaching of our introductory teaching labs from Padnos 128 to Padnos 142 (formerly a Physics lab room). The room is larger and we have improved spaces for supporting materials and displays. See the two photos below.

This allowed us to convert Padnos 128 into a computer teaching lab with 24 student computers. A resource that will support teaching in several of our classes. See below.

We moved the student research room from its old place in the inner corridor to Padnos 115, which was our old computer lab. It still has several computers for student use and an area dedicated to food and more social activities.



Our lab support space was upgraded and centralized and we have plans to modify the small support spaces between our teaching labs (PAD 122 and PAD 128) into a student course project space with lab benches, water, hoods and good work spaces to support a variety of work on course projects. In the works: creation of shared faculty research spaces aimed at serving specific functions. We now have a Geochemistry research lab, a Sedimentation research lab (the old sedimentation teaching lab), a Science Education research lab, and are working toward Geophysics, Materials and X-ray, Geodesy, and Microscopy research labs as the remodeling continues. We also will be moving the rock preparation lab to the old greenhouse support room and hope to get the flume set up in the basement so that it can be more easily used.

GVSU home to new AAPG Chapter

Thanks mostly to the hard work of **Chris Vanderlip** (B.S. 2014, now at U Memphis) on November 15, 2014, 25 GVSU Geology majors were inducted into the AAPG Student Chapters Program as the "Grand Valley State University Student Chapter of AAPG". Officers for this academic year include **Brian Schrotenboer, Katy Reminga, Sam DeYoung,** and **Cody Garnsey**. Faculty advisors are John Weber and Bill Neal. Activities to-date included a visit from **Adam Wygant** of the Oil/Gas Division at the Michigan DEQ, a visit to Goodale Enterprises, who manage the Grand Rapids-Walker oil field, and an upcoming visit to the WMU Michigan Basin geological repository.

Alumni Updates

John Dombroski (GEO 1973) celebrated 40 years in the geology profession as of November 2015. He was with Texaco for 23 years, then worked for small international companies (Circle Oil-Irish, Fortesa-West Africa), and finally a small exploration company that he and two partners started. John says he's 'starting to dial back' and is 'semi-retired' but his company has been active in an A-1 Play in the Michigan Basin for some time, although the drop in oil prices has put the play on temporary hold. John is active in the Houston Geological Society and is an AAPG delegate which in John's words is "giving back to the profession that has treated me so well for 40 years." John reports staying in touch with **Jeff Martin**, his Grand Valley geology class mate. John's wife Julia works for ExxonMobil.

Sheryl Lentini (ES 1977) "Husband, Mike, and I are enjoying our retirement and empty nest in North Carolina. I'd like to say "Hey" to those I know from the Geology Dept. 1974 to 1980."

Greg Kimball (GEO 1978) "Life is good. I am with WSP | Parsons Brinckerhoff in Minneapolis, MN as a Sr. Technical Manager and working the hydrogeology part of investigations and remediation at refineries. LNAPL transmissivities, vapor investigations, and risk assessments keep me busy. Loving the grand kids and playing trumpet are my passionate distractions."

Gregg Swayze (GEO 1982) "I've been busy these last three years conducting research at the USGS in Denver on mapping the Deepwater Horizon oil spill using hyperspectral imaging. Making synthetic water-in-oil emulsions in the lab is a sticky proposition, but worth understanding how changes in their spectral reflectance can be used to remotely determine their oil:water ratio, plume thickness, and coverage within an image pixel. Understanding these parameters allows us to calculate the volume of oil per pixel and thereby provide information to the folks who skim, burn, and disperse the plumes out on the open ocean before they make it to land. Oil volumes also come in handy when assessing the impact to wildlife and their habitats. I'm also working on the spectral detection of amphibole asbestos in attic vermiculite with handheld spectrometers and as time permits mapping my favorite mineral alunite in Cross Crater on Mars. Someday, I hope to convince the planetary community that going to the relict hydrothermal system there is worth a rover mission to look for fossils.
On a more personal note, my nineteen year old son Neal is studying environmental science at Colorado State University while my sixteen year old son Jeff finishes his sophomore year in high school. I would have sent Neal to GVSU if Michigan were closer, however, I did help convince my niece who lives in Michigan to go there. I really value the undergraduate education I got at GVSU. My wife Sheryl and I dream of retiring in the next six years so we can travel and otherwise have more free time to climb, hike, ride, and camp in the mountains and desert."

Dr. Richard Christensen (GEO 1984) Principle Hydrogeologist, ACUITY Environmental Solutions. "I am currently a Principal Hydrogeologist at Acuity Environmental Solutions in Indianapolis. Acuity's primary focus is the remediation of recalcitrant compounds (i.e., metals and chlorinated solvents) in groundwater and soil. For the last year I've been serving as President of MSECA (Midwest States Environmental Consultant's Association) which is comprised of 73 environmental firms situated in the Midwest.
On a personal level, I just got back from a European stint that ranged from Italy to Czechoslovakia to Austria and finally ending with a Lederhosen-fueled Oktoberfest in Munich, Germany!"
For grads, look to www.acuityes.com for employment opportunities!

Steven Benton (GEO 1988) Steve wrote that he's been with the Illinois Geological Survey for 21 years. He sent the following summary of his post-GVSU career. "After graduating from GVSU, I got my MS at WMU (Kalamazoo), and then worked about 3 1/2 years (January 1991 to May 1994) for Groundwater Technology Incorporated (GTI), a private environmental consulting firm, in their Farmington Hills and Grand Rapids offices." After gaining this "good experience" Steve began a search for job opportunities with government agencies. He notes how the approach to a job search has changed. "Today, it's pretty much all on-line, but in 1994, I went to paper journals to find job postings. I also cold-called state geological surveys, natural resource agencies, etc., asking if they had job openings. I also remember filling out paper forms so I could register to apply for Federal jobs, such as with the USGS." His aggressive approach to a job search is still good advice to students and others. He found his match in "a job posting at the ISGS that fit my education and experience." Steve goes on to note that many publications of his Wetlands Geology section (and all sections within the survey), are available through the ISGS website (www.isgs.illinois.edu). To see some of the reports Steve has coauthored, go to publications of the Wetlands Section, click on "Publications" and 'Benton' in the author box. and then "enter." Job openings can also be found on the website (under "Employment"). Note: The ISGS will be hosting the GSA North Central Section meeting in April 2016.

Jason Hunter (GEO 1994) "I am in my 13th year of teaching Earth Science and Geology at Grand Haven High School. I spend my summers working at Hope College doing research work (dunes), curriculum development and, more recently, running a training workshop involving the use of digital photography to conduct long term field studies (data collection and analysis)."

Kathryn Allen-Nyenbrink (GEO-GSCI 2003) "I'm not doing anything Geology related right now...sad I know. But I am working full time doing the dancing gig. I am still working with the Dance Team. The team won their third national title this past May. The team now holds 3 national titles 2011,2013,2015. We are hard at work already preparing for the 2016 nationals. I work full time at Body Language Dance Company in Jenison. Geology is always near the heart so I'm sure someday I will have something to share about that."

Matthew Zechmeister (GEO 2003) "I finished up my PhD from the University of Oklahoma in 2010 published a first author manuscript in a geologic society of London special issue on paleomagnetism and also served as co-author on manuscripts to JGR, Geosphere, and Geology. As for my professional career I have been working for Royal Dutch Shell since 2010, first working Alaska exploration until 2013 when I moved to Gulf of Mexico Miocene Exploration where I worked on prospect evaluation and deep water exploration drilling. Currently I am a Senior Exploration Geologist working on frontier Gulf of Mexico exploration (trying to do what I can to not get laid off during the downturn). I also got married in 2012 to another geologist who works for Conoco-Phillips and had twin daughters (Amelia & Adelaide) in September of 2014. Other than that, not much else, other than enjoying a good microbrew IPA and trying to stay cool in the extremely humid city of Houston (I really miss seasons!)"

Jillian Kurek (GEO 2006) Working on petroleum geology for Channel Energy, LLC in Lakewood, Colorado.

Carson Klemp (GEO 2007) Now Senior Geologist at the Chino Mine with Freeport McMoRan. Carson and wife Brooklyn welcomed their baby girl Dakota Lieschen in March. Congratulations Carson and Brooklyn!
The family also made it to Kevin Cole's house for the Fall picnic. Great time to catch up!

Sarah Nagorsen (GEO 2008) "I've been editing maps of the California seafloor and recently helped the team (based out of USGS office in Santa Cruz) publish maps of the seafloor near San Francisco.
The character of the seafloor under the Golden Gate Bridge is pretty cool because tides push ~2 billion cubic meters of seawater in and out of the San Francisco Bay through the Golden Gate channel. These forces have scoured bedrock at the narrowest part of the Golden Gate channel.
http://www.wired.com/2015/05/new-california-seafloor-maps/
The Golden Gate channel is shaped like an hour glass and tidal currents can flow up to 2.5 meters per second through its narrow center. At either end of the "hour glass," where the channel widens, currents decelerate and drop their suspended sediment load to form large waves of sand up to 7 meters high (see attached image taken from Sheet 4 of map set and news article below)."
http://www.hydro-international.com/news/id7775-New_Maps_of_Seafloor_off_San_Francisco.html
Kate Amrhein (GEO 2009) U.S. Department of Energy, Richland Operations Office. "I work with the Soil and Groundwater Division in remediating groundwater from the Manhattan Project activities at the Hanford Site in southeast Washington State."

Anthony B. Rodriguez (GEO 2009) Consulting Geoscientist at Devon Energy.

Nicholas Spicer (GEO 2009) Construction Field Engineer 2 at CB&I.

Kevin Kane (GEO 2010) Field Engineer at Baker Hughes, Inc., Gulf of Mexico Region, Surface Logging Systems.

Nathan Noll (GEO 2010) "I continue to work for the DEQ's Groundwater Permits Unit and am a now also a system administrator for the Water Resources Division database called MiWaters. Amanda and I recently moved into our first house and are expecting our second child next summer. We celebrated Corbin's first birthday August 13th."

James Gregory Barr III (GEO 2011) "After some time as a ski bum in Girdwood, AK I've moved to Park City, UT and soon to Ivans, UT outside of St. George. Hopefully utilize my degree there working in one on the parks. I have a 4 year old son and another on the way in August. Long term goal is to get a Prince William Sound drift net permit for salmon and split my time between AK and UT in the winters."

Elizabeth (Koeman) Shields (GEO 2011) June 2015 was a big month for Elizabeth and **Steven Shields** (GEO 2011)! Elizabeth defended her Ph.D. dissertation at the University of Notre Dame, Elizabeth and Steve got married, and they moved to Hawaii! Are you sure you two couldn't pack a little more into one month?! Elizabeth is a post doc at the University of Hawaii working on a NASA-funded project "characterizing comet dust (nicknamed 'Stardust') for trace element and isotope composition and determining the isotope composition of solar wind". Steve is working for the same company he worked for in Indiana, Parsons-Brinckerhoff, but doing so remotely from Hawaii. Nice! Congratulations Steve and Elizabeth!

Kyle Siemer (GEO 2011) "It has been a very busy year for me indeed! This Fall I started teaching as an adjunct faculty member at Northwestern Michigan College in Traverse City, Michigan. I am currently teaching an introductory geography class, and in the spring I will be teaching an earth science class with a lab. So far my teaching experience has been a great one. I am looking forward to potentially starting up some research projects again now that I am back in the world of academia.
I am a GIS Technician for Grand Traverse County for my full time job, and I work at the governmental building in downtown Traverse City. My 2.5 year stint will a local oil and gas company ended recently due to the current climate of the industry, but I was lucky to find a job in Traverse City where I can use my technical skills.
On top of that I am recently engaged and will be getting married this coming April, 2016. Morgan and I have established a home here in Traverse City, and we look forward to staying here in Michigan close to both of our families."

Erica Dalman (GEO 2012) "I finished my master's degree at the University of Kansas and starting working for ConocoPhillips in Houston, TX."

Hilary (Lenzo) Trojniak (ES 2012) Got married in July! Congratulations Mr. & Mrs. Trojniak! Hilary is teaching in the Kalamazoo area.

Elizabeth Vanderhoef (GEO 2012) Environmental Geologist and Deputy Project Manager at AECOM, Cascade Twp, MI.

Jonathan Vruggink (GEO 2012) Environmental Geologist at AECOM, Cascade Twp, MI.

Jody Wycech (GEO Minor 2012) Jody Wycech is a geoscience Ph.D. candidate at University of Wisconsin-Madison where she recently received the department's Tyler Teaching Award and Twenhofel Award for sedimentary research. This summer, she spent 2 weeks in Italy completing the Urbino Summer School in Paleoclimatology, and received the best student research poster.

Philip Conrad (GEO 2013) Hydrologic Technician at U.S. Geological Survey

Kase Knochenhauer (GEO 2013) Kase is a Realtor at RE/MAX Lakeshore, specializing in residential home purchases, relocation and first time home buyers in the Ottawa and Kent County areas. Call him! He'd love the opportunity to earn your business! (616) 405-8634

Laura (Donker) Knochenhauer (ES 2013) Teaching 7th/8th Science at Eagle Crest Charter Academy.

Mitchell Schneider (GEO 2013) Geologist/Geosteerer at ACME Geologic Consulting, Golden, CO.

Katherine Beck (GEO 2014) In September, I started working as a Soil Conservation Technician in western Iowa for the Natural Resources Conservation Service. As harvest season is in full swing right now, we are busy surveying fields for construction projects - mainly terraces. I will also be assisting landowners and producers in conservation planning to maintain and improve various resources such as soil health, water quality, and wildlife habitat.

Katelynn Braunschneider (GEO 2014) works as a hydrologist for Peerless-Midwest, Inc.

Karl Campbell (GEO 2014) Petroleum Geology Teaching Assistant at Michigan Technological University.

Joseph Cherluck (GEO 2014) Estimating Engineer at Mersino Dewatering, Inc.

Steve Ossim (GEO 2014) Field Geologist at August Mack Environmental, Indianapolis, IN.

Andrea Rasche (GEO 2014) Staff Geologist at SME, Greater Grand Rapids, MI area.

Andrew Barrette (GEO 2015) " I am working full-time as a geotechnician at Wolverine Gas and Oil in Grand Rapids where I started as an intern last summer. In more exciting news, my wife and I are also expecting our first child, a boy, in Feb. 2016! Looking forward to the newsletter to see what everyone is up to."

Kayla Deciechi (GEO 2015) "I am currently working on my Master's in Geological Sciences at Michigan State University. I am a Teaching Assistant at MSU and teach labs on geology. Soon I will be working on research in aqueous geochemistry involving pore-water of inland lakes."

Erik Hascall (GEO 2015) "I have been pretty busy since graduation. Was a Mud Logger in Pennsylvania for about 6 months and now I am working as an Environmental Geologist at Weston Solutions in Okemos, MI. Having worked only 3 weeks for Weston so far, I am not completely sure of my plans for the future, but am excited to be progressing professionally as a geologist and travelling around the country for field work."

Chris Vanderlip (GEO 2015) "I am starting my Master's in structural/tectonics at the University of Memphis, my wife is starting an MFA in creative writing here as well. I have begun collecting data on a possible thrust fault and accompanying deformation in Eocene strata exposed in a creek about an hour north of Memphis."

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 the following three ways:

1. Email to Janet Potgeter at: **geodept@gvsu.edu**

2. Mail it to us @ Geology Department, Grand Valley State University, 118 Padnos Hall, Allendale, MI 49401

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 all of our 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 2015 Donors!

December 2014 – November 2015
(Our list is from the University Development office. Please let us know if your name was not included.)
Mr. Lawrence M. Austin
Mr. Thomas A Baldwin
Mr. Robert M. Bodziak, with match from Pioneer Natural Resources
Dr. Kevin C. Cole
Dr. Patrick M. Colgan
Mrs. Beverly J. Gibson
Ms. Julie K. Hewlett
Ms. Patricia Hossink
Ms. Tara A. Kneeshaw
Dr. Jeff R. Lefebvre
Mr. Dale and Ms. Lynn Mason
Mr. Gary L. Mast
Dr. Stephen R. Mattox
Dr. William and Mary Neal

Mr. Kristopher J. Nolan
Mrs. Suzanne N. Pearce
Dr. Virginia Peterson
Mr. Kirk W. Perschbacher
Dr. Peter E. Riemersma
Dr. Carolyn G. Shapiro-Shapin
Dr. Virgil L. Sharpton
Mr. Chester A. Smith
Mr. Gregory B. Smith
Mr. Richard J. Stolarz
Mrs. Stephanie A. Surine
Dr. Edward L. Tremba

GSA 2015, Baltimore, MD

Ben Edwards, Susan Jansen, Adam Davis, Ron Green , Ginny Peterson, Peter Riemersma, Karen Musser, Alex Kiewit , Caitlin Leslie, Logan Knoper, and Sara VanGoor protecting the pole at GSA 2015, Baltimore.

Field Trips

Mineralogy field trip to Bancroft Fall 2015: Searching for zircon at the Saranac Mine

Petrology trip group shot – March 2015 atop Wilburn Rhyolite

Don't Be A Stranger! Contact Us:
Department of Geology,
118 Padnos Hall of Science,
Allendale, MI 49401
Office Phone: 616-331-3728
Office Fax: 616-331-3740
Electronic Mail: geodept@gvsu.edu
Website: http://www.gvsu.edu/geology/

We hope to hear from you soon!

Geo 112-20 students in awe of historic Mississippi River flood stages in Downtown Ste Genevieve, MO (est. ~1735).