Letter from the Chair 2014 — It’s been a great year!

I hope this newsletter finds you well! This academic year has been a time of many changes in the department. Dr. Geoffrey Pignotta assumed the new Field Geology Coordinator position. Geoff brings many years of field camp experience to this position. In addition, we conducted a search for an economic geologist and recently hired Dr. Robert Lodge, a volcanogenic massive sulfide expert from the Ontario Geological Survey. Robert will add important ore genesis and Precambrian geology expertise to our department. We also purchased a new XRF.

Last November the department received a $451,000 UW System Economic Development Incentive Grant to start the Responsible Mining Initiative [RMI]. This two-year grant is intended to remodel space for an economic geology lab, develop paid internship opportunities for our students in industry, fund scholarships for our students, teach workshops for high school teachers and students, and develop a responsible mining major at UW-Eau Claire (see separate article). This summer three students will have paid RMI internships with Smart Sand (Tomah) and Unimin Corp. (Mankato, MN, and Tunnel City, WI). It has been fun to see enthusiastic (and nervous) Geology students dressed up for internship interviews on campus! Mae Willkom (x1998, Hydrogeology, now at WDNR) also participated in a Mock Interview event for our students. In addition, Unimin has pledged $25,000 annually for scholarships and grants (see included story). We view these things as signs of exciting times ahead.

Students and faculty continue to conduct research expanding the knowledge of our natural world. Students (with faculty mentors) have been researching topics such as quartz crystal geochemistry and the metamorphic history of the Swiss Alps (Ihinger), soil density and bedrock-surface measurements using geophysics (Grote), salt in snow melt runoff (Grote), measuring variability of standards using TEM (Hooper), geologic conceptions and communications (Clark), Neogene basin analysis in Argentina (supported by Mahoney’s new three-year NSF grant), Cambrian stratigraphy in Montana (Mahoney and Pignotta), origin of greenstone belts in Minnesota (Pignotta), petrography of frac sand cements in Wisconsin (Mahoney and Syverson), and lava flow geochemistry in Oregon (Castonguay). Not only this, but nine students presented research results at GSA-Denver (also site of a great UW-Eau Claire alumni gathering) and seven students presented at NC GSA-Lincoln. It’s been a great year!

The campus continues to change. The new education building, Centennial Hall, opened in January 2014. This made many high-quality classrooms available, a welcomed addition to our campus. In addition, the new building helps define a nice mall area.

Donations of alumni and friends continue to be extremely important to our program. Even as we have received several large corporate gifts this year, the smaller, undesignated gifts from alumni and friends commonly provide the department with the flexibility to send students to present research results at regional and national conferences, fix equipment, support our field program for undergraduates, and fund valuable scholarships to defray rising tuition expenses. Alumni who send job announcements and speak for our Earth Science Seminar Series help our students see the world beyond the campus walls. Thanks for your support! If you are ever in the Eau Claire area, please stop by and visit us!
FIELD CAMP I – NEW MEXICO
By J. Brian Mahoney

The 2014 edition of Field Camp I was the largest New Mexico field camp we have ever held. It was a distinct challenge to coordinate (and grade!) 23 students, but Mahoney and Pignotta managed it with the help of Scott Clark, newcomer Sammy Castonguay (Phil Ihinger’s sabbatical replacement) and T.A. Ellen Buelow. We always had four instructors in the field attempting to track down the twelve different teams, despite their best attempts to elude us!

The Black Range Lodge was once again our fine home base, and the students loved learning about the history of Kingston and working on the geology of the southern Rio Grande Rift. Some of them could do without the cactus spines, but everyone returned in good health. We had the pleasure of having a Chino mine tour led by our very own Olivia Iverson (x2012), who now holds a full-time position as a mine geologist for Freeport McMoRan at Chino. Olivia also visited us in Kingston and joined us in the field as a bonus instructor! The mine tour was once again fantastic, and it was a good learning experience for all.

One of the highlights of the trip was an impromptu music night on our last evening of the trip. Robby Prescott did an awesome job of leading a group of musicians including Mike Chang, Greg Burgess, Andie Holm and Gary, the masseuse and handyman from the Black Range Lodge. The music was most impressive, the company quite fun, and the setting simply wonderful. A good time was had by all!!

FIELD CAMP II – MONTANA
By J. Brian Mahoney

Field Camp II was once again held in southwestern Montana, home to beautiful scenery, wonderful people and some of the most spectacular geology on the continent. Geoff Pignotta, Brian Mahoney, Sammy Castonguay, and TA April Leistikow accompanied 19 students to Whitehall, Montana, for the three-week field geology course. Our field camp numbers continue to increase, and we are coming very close to using the authentic teepee in the front yard of the Ironwheel Guest Ranch to accommodate the group. Everyone was in great spirits, although a bit nervous about the repeated warnings about frigid, wet weather this year. Perish the thought! This was the first year in memory where every day was in the 70’s and we lost exactly two hours to an afternoon thunderstorm. Geoff was particularly happy to not have to take students through Lewis and Clark Caverns because of snow for the first time since 2008. Stunning weather!

The group handled the rapid pace, complex geology, and somewhat stressful situations like total professionals. The concept of ‘process not product’ seemed to sink in, and tremendous geologic advances were made by all. The annual mine tour of the Golden Sunlight was again a highlight. This year the mine tour was a bit different, as it followed the Rocky Mountain/Cordillera GSA field trip to the Golden Sunlight led by Mahoney, the mine geologist, and a local economic mineralization expert. They published a paper on the geology and mineralization of the deposit that should be the last word on the subject for quite a while! We have been linking our field camps to summer research experiences with students in southwest Montana for a number of years, and these studies are beginning to provide some crucial data about the geologic evolution of southwestern Montana. It is good to see our work bearing fruit!
Thirteen intrepid students joined Mahoney and Lori Snyder on an eleven-day tour of Guatemala and Belize for the 2014 Spring Break trip. The main focus was to examine a cross-section across the northern Central American arc system, which at this latitude crosses the North American/Caribbean plate boundary. The trip combined spectacular geology, warm weather, and the fascinating culture of both Guatemala and Belize into an awesome experience. The trip started with a fascinating cultural experience in the ancient city of Antigua, Guatemala, where we explored the colorful markets, got a fantastic introduction to the rare jade industry, and participated in the historic Lent tradition where hundreds of locals laid intricate floral arrangements on the cobblestone streets in front of a colorful procession of congregants honoring the season.

The following day took us to Vulcan Pacaya, where the group wandered across twelve-day-old, smoldering lava flows. At Vulcan Fuego, we hiked into deep canyons filled with pyroclastic flow deposits and examined the seismic stations at the Fuego Volcanic Observatory at Panamache, a small rural village on the flanks of the active volcano. A discussion with village elders about the need for medical facilities prompted the group to raise $650 upon return to the States as a donation to assist the village. The group left a lasting impression on Panamache!

The excursion into the back arc had us examining the plate boundary and jade-bearing ophiolite fragments along the main bounding structures, in addition to spectacular pyroclastic deposits. Very cool rocks!

We took a couple of days to absorb the Mayan culture, touring the ruins at Tikal and the not-to-be-missed ATM ceremonial cave in Belize. Then it was off to Tobacco Caye on the Mesoamerican Reef of Belize to investigate the stunning biologic diversity of the largest carbonate complex in the western hemisphere. The snorkeling was fantastic, and Lori and others were able to feed stingrays in the island shallows. An amazing trip, and thanks to all the participants for their interest and enthusiasm!
1. Kelsey Franko using GPR to study soil compaction, Eau Claire.
2. A misunderstanding of the field assistant concept! Students Matt Edgar and Tim Molitor at field camp in Montana.
3. Basaltic lava for sale! (Guatemala trip).
4. Amy Rasmussen studies mineralogy of frac sand cements, Eau Claire.
5. Seismic research in Eau Claire. Presented by Ryan Conway and Travis Lindberg at NC GSA-Lincoln.
6. From field research in Switzerland (Scott Wipperfurth) to presentation (7, Aleisha Johnson and Scott).
7. Ellyn Swenson and Chris Stovern using analytical transmission electron microscopy (ATEM) to study nanoparticles, Eau Claire. LTS Photo.
8. Smell the purple lupine? April Leistikow researches Belt Supergroup rocks, Montana.
9. Some of the UWEC Geology students presenting at national GSA-Denver. Eight students were first authors on posters and one student gave a talk—an amazing showing!
Geology 303
Field Trip 2014

By Robert Hooper

This year 13 students were introduced to the Rockies during Geology 303 (Rocky Mountain Field Studies). Given the annual progression of the calendar, this was the earliest possible start date, May 20th. This represents my 25th offering of the course. The huge snowpack in the northern Rockies last winter and the early starting date meant significant snow covering some of the field areas. While snowpack made some projects more difficult, the actual weather was superb. No rain marred the trip except for the first and last day.

After 15 straight days of sunshine, some students decided that carrying raingear was too much to expect. During the last hike in Yellowstone, a quick thunderstorm erupted while we were on the top of Mt. Everts. For those not familiar with the location, Mt. Everts overlooks Mammoth Hot Springs and has a spectacular exposure of the Huckleberry Ridge Tuff from the 2.1-million-year-old caldera overlying Cretaceous sandstone and shale. It is always a learning experience to be caught in an alpine meadow during a thunderstorm – your only protection is to retreat from the summit, wear your raingear, and get as low as possible. The strategy works best if you actually bring your raingear! Actually, it didn’t even rain the last day, but instead we were pelted with pea-sized hail for about 15 minutes. The alpine meadow actually turned white from the hail, but it quickly melted and the flowers were again in control of the scenery.

Wildlife was very cooperative this spring except for the wolves of Yellowstone which have been significantly reduced by hunting just outside the park boundaries. Grizzly bears have definitely made a comeback in Grand Teton National Park where black bears used to be the dominant predators. Now it is more common to see grizzly bears in and around Jackson Hole--especially females with their cubs.

It is always fun to see the students’ progress from being tenuous about hiking in real mountains to becoming confident in their abilities to handle tough terrain. Most actually learn to enjoy the accomplishment of hiking to some of the most spectacular outcrops in the Rockies. Many non-majors view this as the trip of a lifetime. Geology majors, however, know this is just the start of one of the best professions in the world. I like to tell early geology majors that geologists often work where other professionals vacation, and that geologists often vacation in places most other people can’t afford to visit. There has to be some reward for all of the long hours spent in the laboratories trying to describe rocks. I really do feel blessed to be able to help eager young students explore the world. Teaching geology has to be one of the best professions in the world.

INTERNSHIP CORNER

One goal of our program is to provide practical work experiences for our undergraduate students through paid internships. Three of our students participated in internships during summer 2013, and four students have been placed in internships this summer. (Three internships with Unimin and Smart Sand Inc. are through the Responsible Mining Initiative where Blugold geology majors are given preference over students from other universities!)

ANASTASIA BURNS (2013)
Reclamation/Environmental Geology intern
InterTech Environmental and Engineering, LLC
Laramie, Wyoming
Currently: Accepted permanent job with InterTech

IAN FREEMAN (2013)
Geology (non-metallic mining) intern
Fairmount Minerals
Menomonie, WI
Currently: Accepted permanent job with Fairmount Minerals.

JOSHUA OLSON (2013)
Hydrogeology/Environmental Geology intern
Barr Engineering
Minneapolis, MN
Currently: Starting graduate school in hydrogeology at UW-Madison

SAMANTHA TAYLOR (2014)
Geology Intern (metallic mining)
Freeport McMoRan Copper & Gold
Bayard, NM

NICHOLAS MATULA (2014)
Geology Intern (non-metallic mining)
Smart Sand Inc.
Oakdale, WI

RYAN CONWAY (2014, Environmental Affairs, Mankato, MN)
JUSTIN POIRIER (2014, Geology, non-metallic mining, Tunnel City, WI)

Unimin’s Chris Axness with the 2014 Unimin Corp. interns, Justin Poirier and Ryan Conway
The spring Geology banquet is a fun time to eat a fine meal, present awards, recognize graduating seniors, say goodbye to classmates after another year, and reminisce about field trips gone by! This year a record crowd of 145 (vs. last year’s 90) students, parents, and faculty assembled in at the American Legion in Eau Claire for the event.
Karl Beaster (2001). Karl writes, “Sarah and I still live in our 1912 house in Duluth and enjoy projects when time and resources permit! Summers are worth the wait and we love taking the kids hiking, canoeing, camping and fishing in the Northland. The year 2013 saw trips to the BWCA, Stockton Island in the Apostle Islands, and fishing area lakes. My girls are ages 9 and 6. I like to volunteer in their classrooms. It is rewarding to witness their amazement when I tell the class that a billion years ago Lake Superior was a bubbling pit of lava caused by the earth splitting apart. Their expressions are priceless! I still intend to make it back to Kingston to stay in the straw bale house at Black Range Lodge.”

John Beck (2007). John is an engineering geologist at Call & Nicholas, Inc.


Greg Beckstrom (1984). Greg writes, “In early 2013 I joined AMEC E&I as an area Vice President overseeing business operations in North Dakota, Minnesota, Wisconsin, Iowa and Illinois after spending more than 20 years with Golder Associates. I have a daughter who is now a freshman at the UMN and a son who is a freshman in high school.”

Angela Berthold (2012). Angela received the Outstanding Graduate Teaching Assistant award in the Geological Sciences at UMD.

Melissa Boerst (2012). Melissa writes, “I am currently working for ALS Minerals - Geochemistry. Over the last few months I have changed roles within the company. I went from working in client consulting services to being the Reno lab preparation department manager. Now I am starting a new sample preparation branch lab in Tucson, AZ. It is a new adventure to start a new lab from the bottom up. I invite anyone to visit the new lab!”

Anastasia Burns (2013). Anastasia reports, “Last summer I worked as a reclamation field technician intern at InterTech Environmental and Engineering in Laramie, WY. My job was to conduct quantitative and qualitative surveys of vegetation around natural gas wells. I used GIS software to document reclamation progress towards bond release. I definitely enjoyed the opportunity, and this spring I accepted a permanent Environmental Technician position with InterTech in Wyoming.”

Ryan Dayton and Kari (Niss) Dayton (2004). Ryan writes, “Kari and I actually have some credible news items. We were married in 2004 just before we left Eau Claire to spend two years in the Peace Corps in Guatemala. We then moved to Duluth where I received my MS in geology while Kari painstakingly supported me through real work. We left Duluth so I could take a job as a petroleum engineer with the State of North Dakota. I worked there for nearly two years before we moved to Oklahoma and Kari got a job as a Geological Technician with Chesapeake Energy. I also accepted a geologist position at Chesapeake Energy where we have both worked for almost three years. Kari was recently accepted into the geology program at Oklahoma State University where she’ll be pursuing her own MS this spring on top of working full time at Chesapeake and carrying our first child. Expected arrival is in June of this year.”

“I still intend to make it back to Kingston to stay in the straw bale house at Black Range Lodge.” Karl Beaster (2001)

Greg Durocher (1982). Greg is with the USGS Science Information Services Alaska office. He reports, “The USGS jumped on the Social Media bandwagon several years ago, and I was asked to be one of the “USGS Ambassadors” to Twitter and Facebook. As of this January, we have about 72,000 FB followers and nearly 348,000 @USGS Twitter followers. My goal is to hit a half-million before retiring! There is always interesting stuff being posted on our Social Media sites — see http://www.usgs.gov/socialmedia/.”

Brian Dwyer (1999). Brian is a data acquisition manager at Watershed Sciences in Corvallis, Oregon.

Matthew Edgar (2013). Matt is a Geo-Technician in the LA Basin for E&B Natural Resources.

James Engelhardt (1997). Jim reports, “Things are going well with me. I am currently working from my home near Ladysmith and have spent much of the last four years as an Environmental Inspector for the maintenance digs along the Enbridge pipeline in northern WI. Surprisingly, I haven’t been that involved in the frac sand craze because of the availability of pipeline work.”

Corrie Floyd (2011). Corrie writes, “For the last two years I have been working as a Geoscientist with Barr Engineering in Minneapolis. Diverse projects in 2013 have taken me from the oil sands in Alberta to participating in a major vapor intrusion investigation around Minneapolis. I encourage students and alumni to visit our website www.barr.com frequently for new job postings! Outside of work, my year was topped by getting married to the bravest lady in the world.”

Kelsey Franko (2014). Kelsey is an assistant geologist at Agrium in Idaho.

Ian Freeman (2013). After Ian’s internship with Fairmount Minerals last summer, he took a permanent position within Fairmount last September at their new sand mine in Jordan MN. He runs the quality control lab and has been helping with mine start-up efforts.

Michelle Forgette (2008). Michelle writes, “Great to hear from the UWEC Geology Department. I absolutely love to hear from everyone and I really enjoy reading the newsletter. Oh how I miss walking through the halls of Phillips Hall and seeing all the professors.”

Dawn Gabardi (1993). Dawn Gabardi is a Senior Geologist and Project Manager for ARCADIS, with more than 15 years of project management, technical, and environmental consulting experience. Her work involves soil and groundwater investigations and remediation.

Katy Grant (2014). Katy is an assistant geologist at Agrium in Idaho.

Abby (Graves) Sanderson (2004). Abby is a Geologist/Hydrogeologist III at Brown and Caldwell in the Columbus, Ohio, area. She reports, “I manage long-term groundwater monitoring programs at client sites and act as an agent to manage hazardous and non-hazardous investigation derived waste. I also manage project teams in the field and office to efficiently complete field work and reporting efforts.”

Kristen Gunderson-Inden (1995). Kristen writes, “I have been working as an Environmental Engineer at Charter Steel in Saukville, WI, for over two years now. I have a one-year-old son who was using my rock specimen collection as teething toys – his favorite was a hunk of BIF I collected on a trip to the Porcupine Mountains in the UP. That won approval from mom and his great uncle and aunt who are PhD’ed petroleum geologists (I guess I married into a good family).”

Alexandra (Guy) Strand (2007). Alex is a Senior Software Tester with Landmark Graphics, a division of Halliburton, in Highlands Ranch, CO. She is working on the Earth Modeling team. She tests data analysis, kriging, simulation and other techniques to simulate reservoirs. Her software career began with Maptek (also in Colorado).

JR Guy (2010). JR is an Engineering Geologist at Call & Nicholas, Inc. in Tucson, AZ. He was in Peru for two months doing some geo-mechanical core logging for a huge mining push back at Cerro Verde in Arequipa.

Doug Hallum (1996). Doug writes, “Paula and I are doing great (a little hectic now)! We’re packing our staging materials in the old house (Seward), and moving to a really cool place in Duluth where I received my MS in..."
North Platte in late February. I have two funded research projects just ramping up this field season. It should be an interesting year.*

Sergius Hanson (1972). Sergius is the president and environmental engineer at E-21 Engineering Inc. in Denver, CO. He has worked in construction, demolition, civil engineering, environmental engineering, and project management throughout the USA.

Mark Jirska (1974). Mark received his M.S. from UMD and a PhD. from UI of MN. He is now a senior scientist at the Minnesota Geological Survey focusing on Precambrian geology.

David Kawatski (2008). David reports, “The year 2013 was one of traveling the U.S. spreading the good news about the work I will soon be doing in Asia. One enjoyable trip was a visit back to Eau Claire—it was great to see everyone! It would be great to get in touch before I leave the country!”

Tony recently received a job as a geologist with Smart Sand Inc. near New Town, ND as a lab technician/core driller for Mathy Construction in the La Crosse area.

Josh Olson (2013). Josh writes, “I got back from Europe about a week ago, and it was definitely a crazy trip. I was able to grab a few interesting rock and sand samples that I brought back with me. For some reason, my brother Jesse thought I was getting a little too excited about rocks. I will be attending grad school at UW-Madison this fall to specialize in hydrogeology.”

Will Ostrenga (2012). Will is a geologist at Rangefront Geological in Elko, Nevada.

Duane Paul (1984). Duane reports, “I am currently a Senior Associate Hydrogeologist with AMEC where I have been for the past 17 years. I have conducted and managed numerous site investigation and remediation projects for water and sanitation districts, landfill facilities, chemical manufacturers, petroleum companies, airports, and industrial manufacturing companies. Every day brings a new set of opportunities and challenges and that is what I like best about the environmental consulting industry. My words of wisdom for those exploring geoscience career opportunities is to develop a passion for what you do and go for it. Communications and business coursework in your educational curriculum are highly recommended. On a personal note, I was voted least likely to move to California, where I have been a resident for the past 24 years. My wife Cindy (UWEC 1988) and I have three boys ages 21, 19, and 14.”

Sarah (Prindiville) Engelhardt (2004). Sarah writes, “After a wedding in 2011, buying a house and getting a dog (Black Lab/German Shepard) in 2012; we thought we’d add to our family in 2013. Not only do I now have a 15-yr-old stepdaughter, but I also have a son who was born in October. I’m looking forward to a quiet year, taking some short trips around Wisconsin, and enjoying the time with my family.”

Tom Rasmussen (1983). Tom writes, “I am currently for working for AMEC (Global Engineering Firm with 29,000 employees) as a Sr. Program Manager. I have been running an Architect/Engineer Contract for the US Air Force for the last five years. During this period, the program managed approximately 200 individual projects, ranging from site investigations at Ramstein Air Base in Germany, to ground water modeling at Lajes Air Field in Portugal, to investigating perfluorocompounds at 39 sites in the US, to upgrading a remote power plant in Alaska, master planning in Afghanistan and performing a heat plant study in Japan. The broad-based education I received at UWEC was perfect for the consulting business.”

David Risch (1978). David writes, “On July 1, 2011, I finally retired after 31 years working in the oil industry. I started my career in 1982 as a geophysicist with Phillips Petroleum in Bartlesville, OK. In 1988, I moved to Houston to work for Geco, a seismic company bought by Schlumberger. In 1996 I took a job as exploration geophysicist with BHP (a giant Australian mining company with a small oil and gas division). Over the years I had many opportunities for overseas and domestic business travel and usually a one-week-long field course somewhere in the world. Most of my work entailed regional geologic interpretations from seismic and well data with a focus on identifying new properties for acquisition. Sandy (also retired from the oil industry) and I are very busy with volunteering, attending museum and geological lectures, tinkering with our hobbies, camping and canoeing, and traveling.

“I was voted least likely to move to California, where I have been a resident for the past 24 years.”

Duane Paul (1984)

Jared Schmidt (2000). Jared is an Environmental Scientist with CB&I in LaCrosse, WI.

Chad Underwood (1996). Chad writes, “2013 was another busy and successful year as the construction industry continues to gain strength in the upper Midwest. Our kids are in first grade this year in the Hudson, WI, school district. Alison continues to do some substitute teaching, so she has been busy too. A highlight of my year was the honor of talking to three 1st grade classes about rocks and minerals. The kids spent about three weeks on this unit, so they were full of questions and curiosity. I brought in my personal rock collection and quickly found that the mica that I collected from the Eta Pegmatite in the South Dakota was by far a favorite amongst the kids. However, I’ll now have to make a family trip to the Black Hills to replenish my mineral supply because the kids had fun peeling apart the layers of mica and destroying my collection!”

Chuck Walter (1990). Chuck has had a varied water resources career in Florida since graduation and is currently the Regional Administrator for the South Florida Water Management District (Orlando Area). The SFWMD has a wide range of water resource management responsibilities; ecosystem restoration, flood protection, and Everglades restoration.
NEWS FROM FACULTY AND STAFF

SAMMY CASTONGUAY, Associate Lecturer
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Greetings UWEC alumni! My first year here at UWEC has been a wonderful experience. I am continually amazed at the high level of student scholarship and excellence in teaching. It is hard to believe a whole year has passed since I read the job announcement for this position! My former graduate advisor (Dr. Marli Miller, UWEC faculty member from 1994-1996) and new faculty member Dr. Jim Watkins (UWEC 2005) from University of Oregon gave glowing recommendations about the program here, and I enthusiastically accepted the position. I arrived here with a warm welcome from this great department.

I taught Geol 110 both semesters and have enjoyed educating general education students about earth systems, geologic time, and the mineral resources that drive our civilization. I tagged along with Bob Hooper on the Min/ Pet field trips in the fall and learned a great deal about Wisconsin geology. This encouraged me to initiate a research project on the local Precambrian rocks. Exciting! I continue to work on projects in my main field areas: multiple phase deformation in Death Valley, CA, and volcanotectonism in the High Lava Plains of eastern Oregon. I am making use of the bodacious instrumentation here, and have recruited several bright young students for research projects: Forest Friedrichs (2015), Chase Friedemann (2017), Peter Sawall (2017), and Alex Woodworth (2017). Forest presented his research at the annual on-campus CERCA and the North-Central GSA meeting. Geoff and Brain asked me to be involved in both field camps, and those mapping areas sure are interesting!

My wife, Laurie, and kids, Oshen and Neva, survived the tough winter and we are ready for some summer adventures in and around Wisconsin! Plenty of mushroom hunting, roadside geology, and camping soon to come.

SCOTT CLARK, Assistant Professor
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Greetings everyone! With final grades submitted, my fourth year as an Assistant Professor is nearly complete. My teaching load for this year consisted of Earth Science (Geol 106) for elementary and special education majors in both the fall and spring semesters, and Water Resources (Geol 308) in the spring semester. I spent about ten days with Brian, Geoff, and all the students at Field Camp I in New Mexico. Great geology, great weather, and spicy meals always make for a good time. I continue to enjoy teaching Earth Science, but wish that winter would make a courteous exit so we could get out into the field more during the spring semester. This was the second time that I have taught Water Resources and we tried something new. Near the end of the semester, the classroom became a mock county board meeting. Three-person teams presented arguments for obtaining a county permit or counter-arguments attempting to persuade the board members to vote against the permitting of a frac sand mine in Eau Claire County, a taconite mine in north-central WI, a water-intensive beef farm in Dunn County, and a fracking well in SE Kansas. As a first-time effort, this activity seemed to go over well. I am looking forward to making modifications and trying it again next spring.

Looking back, this has been a very good year for research collaborations with students - four of whom graduated this year. Xia Her and Ellen Buelow started working in my lab in November 2011. Joel Smith has been in the lab since February 2012, and Andie (Andrea) Holm started working in the lab in October 2012. Ellen and Xia have been great in the lab, and both are currently writing their research findings in a format suitable for submission to a peer-review journal. Joel saw his project through to fruition, and we sent a white paper to the Charles Darwin Foundation in the Galapagos last December. The CEO of the foundation was pleased with Joel’s work and posted information from the report on the organization’s Facebook page. All three presented their work at this year’s annual GSA meeting in Denver. I also gave a talk at GSA on the role of extreme weather in the media’s attention to climate change. Andie contributed to the data collection for that project, and she was a co-author on the GSA presentation.

As far as future research directions, Mitch Lassa and I have started to work on a project in which we hope to learn what people know and perceive about an important issue impacting many counties in Wisconsin: frac sand mining. Once we learn what people do and do not understand about sand mining, we can target educational outreach efforts to help people become better informed about the topic. Mitch is also building on our previous weather-climate change research by exploring trends in what scientists have said, as recorded in news reports, over the past 25 years. As I said, it’s been a good year and I am excited to see what the coming year brings.


KATHERINE GROTE, Associate Professor
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Greetings, alumni! I can’t really believe I’ve been at UWEC for ten years already, but I got a pin from administration to that effect, so I guess it’s true. The academic year 2013-2014 has been a whirlwind coming back from sabbatical and trying to catch up on backlogs in my upper-division courses and providing hydro opportunities for the unusually large number of majors in the program right now. I taught Hydro I and Engineering Geology and Geophysics in the fall, with substantial overloads in both classes. I decided never to do that again - the students were great, but I was exhausted! In the spring, we tried to meet the course demand by offering Hydro I and Hydro II simultaneously. I enjoyed getting to know so many geology students, but there were some challenges trying to rearrange Hydro I material to get the outside labs to work in the spring. On the good side, we performed our spring slug tests in comfortable weather, which has never happened before during my time at UW-Eau Claire!

Teaching kept me quite busy this year, but fortunately I had a team of motivated students who helped keep the research program going. Kelsey Franko worked with me last summer on a project using different geophysical techniques to estimate soil density, and she presented the results of her research at national GSA in Denver. I also supervised a project monitoring chlorides in surface water and groundwater from road salting around Eau Claire; Kate Beaton, Mike Chang, and Tanner Bakke collected data and presented their results at the Wisconsin Ground Water Association annual conference (and won first place for undergraduate posters!) and at North-Central GSA in Lincoln. With the extra cold winter, we sometimes had the problem of samples starting to freeze before we finished measuring, which made us think wistfully of field work that can be conducted in the summer! My third research project last year was with seniors Ryan Conway and Travis Lindberg, who collected many seismic surveys and several micro-gravity surveys at the WRR Environmental facility south of town to try to determine the bedrock topography as part of a DNAPL remediation effort. This research was partially inspired by getting new seismic equipment last year; it was fun to learn how to use a modern seismic system and software. Ryan and Travis did an excellent job and presented their results at WGWA and NC GSA in the spring.

On the home front, the family continues to do well. Our three children keep us very busy, but also entertained. I continue to enjoy...
amateur soccer, kids’ books, and jumping on the trampoline in all types of weather. (The kids think it’s fun to see the snow bounce.) Last summer we continued our efforts to have our kids hike as many national parks as possible, with a two-week “canyons” tour in the southwest. Our biggest adventure was when my oldest son and I hiked happily down the Grand Canyon, then spent the rest of day trudging back up. More adventures are planned for this summer.

As always, I love hearing from alumni and learning what is happening in your lives! Please keep the emails coming, and stop by if you are in Eau Claire!

KAREN HAVHOLM, Assistant Vice Chancellor of Research
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Another year gone by! Centennial Hall opened and they recently took down the last construction fence on central campus. You will be amazed by the change to the look of the campus when you visit. Unfortunately a lot of trees had to go, but new ones have been planted. We held our 22nd Student Research Days, now part of CERCA (Celebration of Excellence in Research and Creative Activity) at the end of April/beginning of May and were happy that it didn’t snow like it did last year during the event on May 2!

We have been to Edmonton, once in summer and once in winter, to visit our daughter who is in graduate school there. She has jumped through all the hoops and is taking one last class and working on her dissertation in economic geology. Teck is supporting her research into zinc ore formation, so she has run into Tom Wipperfurth on controlled pressure-release in a cold-seal experimental apparatus. The students were able to complete their studies despite me being on sabbatical in California, a great testament to their initiative and independence. I will miss them greatly as they move on to the next stage of their careers in geology.

Meanwhile, my family continues to grow up. Ghislaine is finishing her degree at Macalester, Mati has graduated from middle school, and Evie (age 9) is eager to play soccer and softball whenever she can. Tricia is looking forward to her sabbatical, which begins when I return to the States!

J. BRIAN MAHONEY, Professor
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This was a banner year, to be sure. It was incredibly busy, full of different research activities, excellent field experience and outstanding adventures! Started the year right with a new three-year grant from the National Science Foundation for Neogene basin analysis in Mendoza, Argentina. The NSF project linked with an International Fellowship grant from ORSP, which allowed Ellen Buelow, Sam Taylor and Brian Nehring to spend three weeks in Mendoza in August. The crew presented a geology short course describing earthquakes, volcanoes and plate tectonics to over 200 middle school students before we spent a couple of weeks doing field work with our Argentinian colleagues. It was a fine start to what promises to be a great project!

Our string of EMDAP projects continues unabated. This year the USGS funded us to map the Ermont quadrangle west of Dillion, Montana. Sam Taylor, April Leistikow, and Mark Green helped Geoff Pignotta and myself map the quadrangle for several weeks. Fold and thrust belt geology involving the Belt Supergroup and overlying Paleozoic rocks gave us some difficult problems to sort out. We lived in the lap of luxury, staying at the KOA in Dillion. Hot showers and WiFi. Spoiled rotten. Sam and April did a great job presenting the map at GSA-Denver.

FACULTY NEWS (continued on page 11)
An old colleague of mine, Brad Burton, contacted me in October with a problem. His petroleum exploration company was scheduled to run $20 million of seismic lines across the southern end of the East African Rift Valley, but had virtually no bedrock geologic information. This led to two ten-day trips to Ethiopia in December to gather as much information as possible. The study area is 40,000 km² with exactly one road in the entire block. The area was extremely remote, incredibly beautiful, and culturally fascinating. Two weeks of serious helicopter work led to the shipment of forty 50-kilogram metal sample boxes back to the department for U-Pb zircon and (U-Th)/He apatite analyses, and geochemical and petrologic studies. The analytical work kept myself and several students busy for most of the spring semester, and resulted in important findings that significantly reduced the prospective target area. I am hoping to continue the project and develop a collaborative relationship between UW-Eau Claire and the Ethiopian University in Arba Minch.

The year involved several excellent trips of both the geologic and personal kind. Over spring break Lori Snyder and I led a group of students on a geologic cross-section across the northern Central American arc system in Guatemala and Belize (see attached description). Field camps I and II went off without a hitch, thanks to the efforts of myself, Geoff Pignotta, Scott Clark, Sammy Castonguay, Ellen Buelow, and April Leistikow. Lori and I also managed to recreate a bit, spending a week on the island of Roatan off the coast of Honduras, where the people were wonderful, the scenery beautiful, and the snorkeling outstanding!

All in all, a very busy and productive year! Hope all is well with you and yours!


GEOFFREY PIGNOTTA, Field Geology Coordinator
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This past year has been a busy one, as is typical here in Eau Claire and abroad. I have really enjoyed teaching all of my classes this year and have had wonderful students — both majors and non-majors. Lots of field time as usual with great field trips to Minnesota in the fall for field camp preparation and for economic geology. Also another great year for both Field Camp I and II this year, with remarkable weather experienced in Montana for Field Camp II and only an hour or so lost to rain this year. It was great to have interacted with the many alumni this year in Eau Claire and abroad. GSA-Denver this year was fantastic with so many UW-Eau Claire alumni attending the Geology party. It was much fun at the meeting with so many of our current students presenting their work. It was a fantastic showing for UW-Eau Claire Geology!

Last summer I started a great new project in northern Minnesota in collaboration with Dr. George Hudak (Minnesota Natural Resources Research Institute). The project involved student Kelly Schwierske. We investigated a 2.7 Ga arc volcanic complex in the Wawa-Abitibi Terrane. Kelly compiled several preliminary maps and we will be co-authors on a Minnesota Geological Survey map for the Lake Vermillion State Park. As part of this research, we also co-led a 45-participant field trip through Lake Vermillion State Park during the May 2014 Institute for Lake Superior Geology meeting. Kelly also presented her work at the conference and did an excellent job talking about our data during the field trip through the park. In addition to the new research in Minnesota, we continued work in Montana last summer. This summer I will spend more time in Montana working on an EDMAP project with Brian Mahoney, Lori Snyder, and four students in the Dillon area. We’ll complete part of the Eli Spring quadrangle looking at the fold and thrust belt there. I’ll also spend some time in the Boulder batholith sampling and thinking about its thermal and structural evolution.

Lastly, on a personal level things are going quite well. I’ll have July and August in Eau Claire, and the summer 2013, full-time during the school year, for UW-Eau Claire Geology! The Future of Global Energy, and it was quite a challenge for all involved. The course has since been offered twice (Winterim and Summer 2014) and has matured into an fulfilling educational experience (in addition to still being extremely intense). Combined with teaching Geol 115 in summer 2013, full-time during the school year, and co-leading a Geol 343 spring break trip to Guatemala and Belize, there has not been much room for other activities. However, I was able to thoroughly enjoy one week of total relaxation on Roatán, Honduras, over the holidays.

The campus has (and is) going through some changes with new buildings, a new Liberal Education (LE) Program replacing the General Education (GE) program, and a new Chancellor. And I know you have all read about the Responsible Mining Initiative and the welcoming of a new faculty member within the Department. In all, I am pleased to be back. Eau Claire itself changes slowly, with some new construction and business turnover, but is still a nice, quiet city with its own charm. We would love to see you if you are in town! As always, I send my best.

LORILIE STEINKE, Academic Department Associate
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Another year has flown by in the Geology Department! I continue to stay busy here coordinating field trips, helping our students, and taking care of whatever challenges pop up on a daily basis. It is so wonderful to get updates from our alumni whether it is a phone call, a visit to the department or on Facebook.

This year my youngest daughter, Margo, graduated from high school. She will be a freshman at St. Cloud State in the fall. Morgan will be a junior at UW-Eau Claire. Both are doing well and I am very proud of both of my girls. I just have to figure out what to do with all my “spare” time now that the girls are both done with high school!

KENT SYVERSON, Professor
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Greetings from Eau Claire! I have completed my 22nd year in the department. As you can tell from my chair’s letter, these have been exciting times in the department.

This past year I taught Geomorphology and Oceanography. As always, I am enjoying my time in the classroom. This coming fall I will teach Glacial Geology once again.

My fall semester was a whirlwind, as usual. In October I was asked by administration to write a UW System Economic Development Incentive Grant proposal to develop a responsible mining program. The catch? The deadline was only ten days away…. Thus, Brian Mahoney and I burned the midnight oil and managed to submit
a respectable proposal. We were notified of the award on November 1. Then Brian, Katherine Grote, and I began seeking industry partners for the Responsible Mining Initiative…. Thus far the response of industry has been very favorable, and this is encouraging. We will be looking to expand connections with the environmental consulting industry during the coming year because that is another important part of the Responsible Mining Initiative.

Brian Mahoney and I supervised students Amy Rasmussen (x2013) and Jacob Haas (x2014) in studying the mineralogy of frac sand cements. Jacob presented his research at the Posters in the Rotunda event at Madison, and in April he also presented the research at NC CSA in Lincoln, NE, where he won an undergraduate poster award (3rd place). The sand cement project will continue into the next academic year. It also was fun to visit with Zach (x2011) and Audrey Boerner (x2011) and Doug Hallum (x1996) in Lincoln.

Summer 2013 was quite busy. I worked on chair’s duties and was very involved with the Wisconsin industrial sand industry. Most of my work has been providing expert testimony at permitting meetings and performing third-party project evaluations for investment firms. Students continue to get excellent jobs in the Wisconsin sand industry.

My family and I stayed rather close to Eau Claire during the summer. My second daughter graduated from high school, got a job, and then left for college. My son and I spent time hiking/camping in Porcupine Mountains State Park and visiting the historic Quincy Copper Mine near Houghton. My wife is finding life at home quieter with both girls in college!

I will be around Eau Claire much of the summer. If you are around, please stop by to visit the department!

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**EMERITUS FACULTY NEWS**

**Paul E. Myers, Professor Emeritus**

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I’m writing this from Florida, where Welthy and I are camped out avoiding the tail end of a “Vermont winter from hell.” We’re making arrangements to quit the hercules and finally move to Florida where “solar” really means sunshine. The stellar event of our lives this year was a two-week northern Tanzania safari during which our small group traveled off-road in land rovers and camped in tents. The trip included guided treks in the Kilimanjaro Highlands, Tarangire National Park, Ngorogoro Caldera, and the vast Serengeti. Volcanoes and rift valleys dominate the landscape, and the plains are home to hundreds of animal species, including a huge assortment of birds of all sizes and colors. We even visited Oldupai Gorge - home of early Man (yes, that’s the correct spelling). East Africa cannot be imagined: it must be experienced. Future travel plans include trips to western U.S. via Eau Claire in summer and Burma in December. Things are happening fast in our lives these days. We hope to catch up eventually. Happy Trails, Paul & Welthy Myers

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**John R. Tinker, Professor Emeritus**

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I send a warm hello to all current and past students and faculty of the UWEC Geology Department.

I hope geologic time and processes have been good to you over the last year. I live on a hilltop near a ground water divide and far from a floodplain. Wisconsin has few earthquakes. In short, I try to live in harmony with geologic processes.

As I stated last year, I am impressed with the new Davies Center and the lower campus at UWEC. It is open, impressive, and a joy to visit. I get to visit the campus when I need to use the library, see past co-workers, or interact with my grandson who is enrolled for a course at UWEC and the CVTC. Yes, geologic time continues, and I do have a grandson that old.

I continue to garden, raise chickens, hunt, and maintain my place in the country. Walking my dog and cutting wood for the winter is an excellent wellness program. Christine and I traveled to Paris in April 2013, and we have a trip to San Francisco planned for Spring 2014. Paris was beautiful but had way too many people, narrow streets, and rotaries. I can find my way in the woods without a compass, but I was immediately lost in the close spaces of Paris. We were on a tour so I did not have to lead the way.

Again, I say hello. Take care and enjoy geologic time. Just keep out of the way of certain geologic processes.

**Ronald P. Willis (Professor Emeritus)**

Written by Kent Syverson

Ron and Thora Willis at their home in Idaho (2013).

Ron Willis (age 87) is one of the founders of our Dept. of Geology. I still hear many stories from alumni talking about the “good old days” at field camp in the Big Horn Mountains with Ron! For this reason, his name is on our Myers/Willis Field Camp Scholarship. I called Ron in June at his home in Idaho Falls, ID, to see how he and Thora are doing.

I was pleased to hear both of them are doing well. They celebrated their 60th wedding anniversary last September. Ron met Thora when he was mapping in the Big Horn Mountains for his master’s thesis research (Univ. of Wyoming). He came out of the field, went to the bakery in Lovell, and bought a loaf of bread from a cute girl (Thora) who was working in her father’s bakery. He returned two weeks later to complain to Thora that the two-week-old bread had become moldy and he wanted his money back. She refused to refund his money. Somehow this led to a once-every-two-weeks dating relationship when Ron came out of the field and marriage a year later! The “newlyweds” are enjoying life in the house they built in Idaho Falls. They look over potato and hay fields to the beautiful mountains in the distance. They also drive to the Tetons in their new 2014 Kia and spend several days at a time enjoying the beautiful scenery.

Their five children are spread across the country. Andrew Wesley lives north of Salt Lake City and is Director of the Small Business Development Center at Davis Applied Technical College. Patty lives in Salt Lake and serves in the ministry of the South Valley U. U. Society. James is a surgeon. Elizabeth is a poetry professor in the English Dept. at Wesleyan University in Connecticut. David lives in Virginia and works for the government. In addition, Ron and Thora have 15 grandchildren and 7 great grandchildren.

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Ron Willis served on a Landing Ship-Medium such as this during World War II. It was designed to land tanks and 50+ marines at a time on a beach. Photo from http://k1go.com/lsms371/s01.jpg.

Ron told me he joined the US Navy the day he graduated from high school (June 1, 1944 – almost 70 years to the day I spoke with him). For history buffs, you will recognize this as five days before D-Day. Ron worked as a fire control man on an LS-M (Landing Ship-Medium, an amphibious assault ship). This craft was approximately 200 ft long with 54 enlisted men and four officers. His ship landed tanks and 50+ marines at a time on the beaches of Saipan, and later during fighting at Okinawa, Japan. In addition, his ship landed marines and tanks in Nagasaki two weeks after the atomic bomb blast in August 1945. He and the crew were not permitted to go ashore, but the devastation was clearly visible. He was discharged in July of 1946. Ron, thanks for your military service to our country.

Ron retired from UW-Eau Claire in 1992 and moved to Idaho Falls in the year 2006. After retirement, Ron and Thora spent a year and a half living on the Altiplano of Bolivia at 12,000 feet with an agricultural project. Ron did some work drilling water wells and directed the whole program for over a year. A year later they went to Singapore and spent a year and a half traveling in Malaysia, Sri Lanka, and Pakistan working with teachers.

They have not been back to Eau Claire since they left, but sometimes they receive company from Eau Claire. I’ll just say this – if they ever do return to Eau Claire, they will be warmly received!
Josh Olson and Scott Wipperfurth presented the “Excellence in Geology” Award in 2013-2014

The “Excellence in Geology” Award recognizes the academic achievements of the outstanding graduating geology major, both in coursework and in faculty/student collaborative research. The winners of the Geology Excellence Award for 2013-2014 are Joshua Olson and Scott Wipperfurth.

SCOTT WIPPERFURTH

(written by Phil Ihinger)

Scott is a native of Sauk City, WI. He transferred to UW-Eau Claire from UW-Platteville after his freshman year. Scott conducted field and laboratory research on the evolution of crustal fluids in the Swiss Alps with Dr. Phil Ihinger, and will be returning to the Alps on a second research trip this summer. In addition, he has been active in modernizing our high-pressure experimental apparatus, and exploring geochemical clues to the origin of continental crust. He has been productive while here at UW-Eau Claire, having co-authored seven posters at Research Day and one oral presentation at the prestigious Provost’s Symposium. He has presented his research at GSA-Denver as well as the UW System Research Symposium in Milwaukee. In addition, his contributions to the Department in the area of service have been significant, and he is our 2014 recipient of the Department of Geology ‘Excellence in Service’ Award (see separate article).

JOSH OLSON

(written by Kent Syverson)

Josh is a native of Amery, WI, who transferred to UW-Eau Claire from UW-Platteville. Josh conducted research with Dr. Reza Ghanbari in our department. In addition, Josh participated in prestigious hydrogeology internships with the Kansas Geological Survey and Barr Engineering. His work with the Kansas Geological Survey led to a co-authored presentation at the National Ground Water Association meeting in San Antonio, TX. As a junior, he was awarded the top scholarship of the National Ground Water Research and Educational Foundation. Josh also was a Resident Assistant (RA) in the dormitories for a couple of years. Josh has accepted a fellowship to attend graduate school in hydrogeology at the University of Wisconsin-Madison.

UNIMIN CORP. AWARDS MERIT-BASED SCHOLARSHIPS TO FRESHMAN AND SOPHOMORE STUDENTS THIS SPRING

First Unimin Freshman Geology Scholarships Announced

This spring Unimin Corp. established a merit-based, annual scholarship for high-potential incoming freshman who are majoring in Geology. The first three recipients all are from Wisconsin and each will receive $1000. This year’s winners are Lucy Horst (Hartford High School), Kaelyn Blotz (Mukwanago High School), and Allison Bolin (Cedarburg High School). Congratulations to these recipients, and we look forward to their arrival on campus this fall!

First Unimin Sophomore Geology Scholarships Announced

This spring Unimin Corp. established a merit-based scholarship for geology majors who will be taking Mineralogy-Petrology in the following fall semester. Four $2500 scholarships will be awarded each year, and the pool for this scholarship competition was extremely strong. The recipients (shown below, left to right), include Sarah Knutson (Green Bay), Daniel Brennan (Prairie du Sac, WI), Unimin’s Chris Axness, Haillie Passow (Weston, WI), and Kinzey Stoll (Springfield, IL). Can you pick the Blugold football player out of the lineup?
Scott Wipperfurth wins 2013-2014 Annual Award for Service

by Phil Ihinger

The “Annual Award for Service” recognizes the exceptional service a geology major has done for the department.

Scott Wipperfurth successfully managed the Geology Department website, maintained our vehicles for field trips, and served as the President of Geology Club during the past year. Scott will attend graduate school at the University of Maryland, where he will study global geochemical cycles with one of the world’s most renown geochemists, Professor Bill McDonough. In addition to the full support offered to Scott as a research assistant at UMD, he was awarded an extra $5000 in the form of a Dean’s Scholarship to help entice him to move to College Park. We will all miss Scott next year!

Mitch Lassa wins Beckstrom Geology Major Scholarship

by Scott Clark

This year’s recipient of the Beckstrom Geology Major Scholarship is Mitch Lassa (Wausau, WI). This scholarship, established in the fall of 2005 by Greg Beckstrom (UWEC Geology 1984), is awarded annually to a comprehensive geology major who has completed Mineralogy-Petrology I. The awardee must have an excellent academic record and a demonstrated financial need.

During the spring 2014 semester, Mitch began a research collaboration with Dr. Scott Clark. He is working on two research projects: 1) Investigating people’s knowledge and perceptions of the frac sand industry; and, 2) Analyzing the role of scientists’ statements in how the media reports on the connection between extreme weather events, such as frequent, long-term droughts, and the Earth’s changing climate.
Badger Mining Corp. donates $5000 to Dept. of Geology

Badger Mining Corporation recently donated $5000 to the Geology to help buy two reflected-light petrographic microscopes. The Department received a LabMod grant to buy the microscopes, but the grant did not cover the entire cost of the instruments. The reflected-light microscopes will be important for our Economic Minerals class.

Badger Mining Corp. operates two sand mines in Wisconsin -- Taylor (Jackson County) and Fairwater (Fond du Lac County). These mines primarily supply sand for the foundry and the oil and gas industries, but also provide material for filter media, industrial filler, recreational products, field turf, and multiple specialty applications.

"The goals of the Responsible Mining Initiative are in alignment with one of our corporate values, our Commitment to Environmental Responsibility," said Marty Lehman, Associate at Badger. "We are pleased to have an opportunity to partner with the University in support of our mutual goals."

Thanks to Badger Mining Corp. for supporting us as we us train the next generation of geologists (and non-geologists as well)!

Unimin Corp. commits $50,000 annually to Responsible Mining Initiative

A North American mining company with operations in Wisconsin is investing more than $50,000 annually in a new Responsible Mining Initiative being established at UW-Eau Claire. Unimin announced in April that it will invest the monies in summer internships, scholarships and grants specifically designated for UWEC geology students.

UW-Eau Claire students selected for two summer internships with Unimin will earn $4,500 per month for the summer. One geology intern will work in the company's Tunnel City mining operation, while the second student will be an environmental intern at the company's offices in Mankato, Minn.

"This is an incredible opportunity for our students to gain valuable professional experience while also earning a significant stipend to help them pay for college." said Dr. Kent Syverson, co-architect of the Responsible Mining Initiative and chair of UW-Eau Claire's geology department. "This investment in internships specifically for UW-Eau Claire geology students is a major commitment to our program on the part of Unimin."

The company also has established several scholarships for UW-Eau Claire geology students. Five $1,000 scholarships will be awarded to incoming freshman geology majors, and four $2,500 scholarships will be available to sophomore geology majors. Unimin officials say they expect the internships and scholarships to be offered yearly to UW-Eau Claire geology students.

In addition, the company announced that this year it will give $500 to every geology student who enrolls in the geology department's summer field camp, which takes 20 students to Montana for three weeks of geological field work.

"Unimin is very excited to be part of UW-Eau Claire's Responsible Mining Initiative," Chris Axness, plant manager for Unimin's Tunnel City sand mining operation, said during a campus visit. "With its emphasis on using evidence-based information to minimize environmental impacts from mining, this is exactly the kind of program we want to support."

The company's decision to provide ongoing scholarships and internships specifically for UW-Eau Claire geology students reflects the strength of the university's reputation for preparing its students to succeed after graduation, said Dr. Mike Carney, associate vice chancellor for curriculum, internationalization and immersion.

"Unimin's investment in UW-Eau Claire demonstrates that they see the quality of our geology program and the students it produces, and that those students are great candidates to be their next generation of employees," Carney said.

Through outreach, education and internships, the Responsible Mining Initiative will provide a comprehensive educational program in economic mineral resources, responsible mining practices, environmental protection and governmental regulation, Syverson said.

Modern mining is a highly complex process with many regulations intended to minimize environmental impacts, said Syverson. "It's vital that resources are extracted in an environmentally safe and low-impact manner," Syverson said. UW-Eau Claire's program will give students a comprehensive understanding of modern mining and environmental practices, preparing them for jobs in mining and environmental consulting industries as well as with the DNR, Syverson said.

Expanding the geology department’s paid internship program is among the goals of the mining initiative, and this partnership with Unimin will provide new opportunities for students to gain experience in the mining and environmental industries, Syverson said.

(Continued on the page 16)
“Expanding the geology department’s paid internship program is among the goals of the mining initiative, and this partnership will provide new opportunities for students to gain experience in the mining and environmental industries.”

KENT SYVERSON

“This partnership is exactly the kind of opportunity that we envisioned when we started thinking about the Responsible Mining Initiative,” said Syverson, noting that Unimin is a WDNR Green Tier company. “This is an incredible opportunity for our students. They will gain valuable real-world experience in a growing field and become better problem-solvers as they prepare to enter the workforce.”

The Unimin internships will give students meaningful experience in two different areas of the corporation, Axness said. The intern in Tunnel City will work in all parts of the sand-mining facility, gaining experience in all areas of operation, he said, noting that the Tunnel City plant is the largest and most modern of Unimin’s facilities. The intern will oversee some geological testing, make decisions and communicate with colleagues about a range of issues, all skills that will help them to be more successful working in industry after graduation, he said.

The intern in Minnesota will work in the environmental affairs department, Axness said. That intern will be engaged in environmental studies, researching regulations, and interacting with regulatory and compliance agencies, he said.

“The internships will provide two different but equally rewarding experiences,” Axness said. “We expect students with different strengths and interests to be drawn to each of the positions. The internships reflect the range of opportunities available to young professionals within Unimin and within the mining industry.”

Syverson said he hopes the internships and scholarships will help attract students to the geology program earlier in their college careers and make them more aware of professional opportunities within industry.

Bringing students into the program earlier will help them graduate sooner, Syverson said. It will also more quickly increase the number of graduates who have the skills needed by the mining and environmental consulting industries, which are expanding in Wisconsin and throughout the Midwest, he said.

Axness said Unimin is sponsoring Field Geology 2 this summer with $525 grants to each student because it wanted to do something for geology students who are too far along in their academic programs to benefit from the Unimin internships or scholarships. The summer field camp is the second part of a geology sequence that consists of two three-week field courses. Field Geology 1 is held each winter in New Mexico, while Field Geology 2 students travel to Montana in May.

It’s those kinds of experiences and the faculty-student undergraduate research program that set UW-Eau Claire graduates apart and convinced Unimin to invest in the program and its students, Axness said.

“Says Syverson, "We're thrilled that Unimin sees the value of what we are doing and is supporting our efforts in a way that will immediately benefit our students."
Student Research Day – Spring 2014

The 22nd Annual UW-Eau Claire Student Research Day was held April 30-May 1, 2014, in the new Davies Center on the UWEC campus. This event showcases faculty/student collaborative research occurring on campus. The Geology Department has been very well represented throughout the years, and this year was no exception. All of the students noted below presented posters this year. We are very proud of our students!

Note: Students who presented posters at professional conferences are also indicated. Student travel to conferences was supported with money from the Geology Advancement Fund and the Office of Research and Sponsored Programs.

Kelsey Franko with Katherine Grote

Christopher Stovern and Elynn Swenson with Robert Hooper,

Ellen Buelow, Samantha Taylor, Brian Nehring with J. Brian Mahoney and External Collaborators: David Kimbrough, San Diego State University, Greg Hoke, Syracuse University, Jose Mescua, CONICET in Mendoza Argentina, Laura Giambiagi, CONICET in Mendoza Argentina, Julieta Suriano, Universidad de Buenos Aires, Colegio IGEI International Fellows Program Argentina 2014: Educational Outreach Coupled with Andean Basin Research

Jacob Haas with J. Brian Mahoney and Kent Syverson
Regional Petrographic Analysis of Cambrian Sandstone in Minnesota and Wisconsin: Quantifying Mineralogy and Potential Sources of Airborne Particulate Matter within “Frac Sand” Targets. Presented at NC GSA, Lincoln, NE, April 24-25, 2014. Winner of Undergraduate Poster Award (3rd place).

April Leistikow with J. Brian Mahoney
Tectonostratigraphic Evolution of the Montana Fold and Thrust Belt South of the Helena Salient: Proterozoic/Cambrian Structure and Stratigraphy West of Dillon, Montana

Scott Wipperfurth, Aleisha Johnson and Todd Lindblad with Phillip Ihinger

Aleisha Johnson, Scott Wipperfurth with Phillip Ihinger

Scott Wipperfurth with Phillip Ihinger
Serpentine Dehydration and the Mobility of Europium

Scott Wipperfurth, Gabriel Stuntz with Phillip Ihinger
Controlled Pressure Release in Rapid-Quench Cold-Seal Experimental Apparatus

Kate Beaton, Michael Chang with Katherine Grote
Monitoring the Effects of Road Salting on Chloride Concentrations in Surface Water and Groundwater in Eau Claire, Wisconsin. Presented at Wisconsin Ground Water Association annual conference in March (2nd place undergraduate poster award) and NC GSA, Lincoln, NE, April 24-25, 2014.

Kelly Schwierske with Geoffrey Pignotta and External Collaborator: George Hudak III, Natural Resources Research Institute

Forest Friedrichs with Samuel Castonguay
Geochemistry of the Green Mountain Shield Volcano, Eastern Oregon, USA. Presented at NC GSA, Lincoln, NE, April 24-25, 2014.

Recent Geology Graduates
FALL 2013, SPRING & SUMMER 2014 (unofficial list)

Ellen Buelow
Anastasia Burns
Kelsey Franko
Kathryn Grant
Olivia Haas
Franklin Heaton
Xai Her
Andrea Holm
Eric Houle
Aleisha Johnson
Kendra Keon
Kirsten Lee
April Leistikow
Lindsey Lepak
Travis Lindberg
Anthony Linhart
Amanda Mauel
Lynn McNinch
Joshua Olson
Amy Rasmussen

Steven Brost with Phillip Ihinger
High Resolution FTIR Spectroscopic Characterization of Hydrous K-feldspar from the Swiss Alps

Ryan Conway and Travis Lindberg with Katherine Grote
Geophysical Investigation of Bedrock Depth at the WRR Superfund Site in Eau Claire, WI. Presented at Wisconsin Ground Water Association annual conference in March (2nd place undergraduate poster award) and NC GSA, Lincoln, NE, April 24-25, 2014.

Jacob Kast with Phillip Ihinger and Kim Pierson
A LabVIEW Program for Controlling Pressure and Temperature in Rapid-Quench Cold-Seal Experimental Apparatus

Mark Green and Patrick Keicher with Harry Jol (Geography)
Aquifer Characterization through GPR and Borehole Analysis, Eau Claire Municipal Well Field, Wisconsin

PRESENTED AT CONFERENCES ONLY

Anastasia Burns with Katherine Grote
Evaluation of factors influencing nitrate concentrations in groundwater in Eau Claire County

Presented at Wisconsin Ground Water Association annual conference in March.

Ellen Buelow and Xai Her with Scott Clark

Xai Her and Ellen Buelow with Scott Clark

Lindsey Lepak with Beth Wennek (UWEC 1999, now Univ. MN), Brian Mahoney, Kyungsoo Yoo (Univ. MN), and Anthony Aufdenkampe (Stroud Water Research Center, PA)
Chemical Weathering in Heterogeneous Schist Bedrock. Presented at GSA-Denver, October 27-30, 2013. (Not presented at CERCA because Lindsey was studying abroad in Korea.)

Joel Smith, with Deborah Freund (Biology) and Scott Clark

Elynn Swenson, with Robert Hooper and Jean Morrison (UWEC 2000, now with USGS)
The Role of Ferrihydrite in the Transport and Bioaccessibility of Ni, Cr, Pb, As and Cd in Water, Soil and Air Particulates in a Variety of Metal Contaminated Environments. Oral presentation at GSA-Denver, October 27-30, 2013. (Not presented at CERCA because Ellyn was studying abroad at the University of Aberdeen.)
The Earth Science Seminar Series continues to bring excellent speakers to campus. It provides faculty and students with the opportunity to interact with other scientists working on a broad range of research topics, and it also allows us to "show off" our department and research equipment to the visitors....! Below are the talks presented during this academic year. Seminars schedules are posted on the Geology website. In addition, if you live in the area and would like to receive e-mail announcements about upcoming seminars, please contact Dr. Scott Clark at clarksco@uwec.edu. If you work for a company that would like to sponsor the seminar series or contribute money to defray speaker costs, please contact us!

UW-Eau Claire Geology parties at GSA-Denver and NC GSA-Lincoln

The Department held a UWEC alumni reunion associated with the national GSA meeting in Denver. The party was held October 27, 2013, at Wynkoop Brewing Co. in downtown Denver to coincide with the Packers/Vikings game, and even some non-Blugold-Geology alumni attended the event. How can you lose associating with Blugold geologists?!

A smaller party was held at the NC GSA meeting in Lincoln, NE, on April 24, 2014. Alumni Audrey and Zach Boemer and Doug Hallum joined faculty and students at the event. A good time was had by all at both events, and we hope to host these get-togethers more frequently!

Dr. Chris Paola, Professor, University of Minnesota, "Basins in a Box: The Small but Amazing World of Experimental Stratigraphy," 9/20/13.
Dr. Chad Wittkop, Associate Professor, Dept. of Chem. & Geology, Minnesota State University-Mankato, "Are siderite (FeCO3) precipitating lakes analogs for Archean oceans and Martian craters?" 11/8/13.
Dr. Kent Syverson, Dept. of Geology, UW-Eau Claire, "So, You’re Interested in Applying to Graduate School?!", 11/22/13.
Dr. Kent Kirkby, University of Minnesota, "North Is Up & Pangaea Came First: Misconceptions We Teach Our Students," 1/31/14.
Dr. Phil Larson, UWEC Alumnus & Assistant Professor at Minnesota State University-Mankato, "Strath development and landscape evolution in small arid watersheds: Case study from South Mountain metamorphic core complex, Arizona," 3/28/14.
Dr. Kent Syverson, Dept. of Geology, UWEC, "The Responsible Mining Initiative in Geology at UW-Eau Claire," 5/2/14.
Donations to the Department

Geology funds with UW-Eau Claire Foundation are used to support a wide range of activities in the Department including student travel to professional meetings, faculty/student field trips, faculty recruitment, and student scholarships. The attached slip is intended to make it easy to contribute to the Geology funds. Please be assured that your gift will be greatly appreciated and it will be used effectively within the Department. In addition to financial support, we also welcome and encourage your support by volunteering to speak to our majors/minors about your job experiences, offering possible job opportunities to our students, or by the donation of equipment or field supplies.

During the past year, 30 individuals/companies donated $47,845 to the Geology Foundation accounts. Please understand that all gifts, large or small, are greatly appreciated! Please consider giving something back to your undergraduate department.

Due to state budget cuts and increasing gasoline prices, alumni gifts to the department’s advancement funds are becoming increasingly critical. Therefore, we have been working with the Foundation Office to learn more about establishing a named lecture series, new scholarships, etc. If you would happen to be interested in establishing a scholarship within the Department of Geology, here are a few basic guidelines from the Foundation Office.

- All gifts to the UWEC Foundation are tax deductible to the fullest extent allowed by law. You may use cash, checks, credit cards, stocks or other tangible assets to fund a scholarship.
- There are two types of scholarships: the annual scholarship, which is funded each year, and the endowed scholarship, where principal is invested and only the income is used for the annual scholarship award.
- A minimum commitment of $500 is required to establish an annual scholarship fund.
- A minimum investment of $10,000 is required to establish an endowed fund; there is no maximum.
- The name of the scholarship is determined by the donor(s). Most name a scholarship after their family or the name of a loved or honored one. Some have endowed scholarships in the name of a favorite professor.

- The donor(s) may help develop scholarship criteria with the assistance of a development officer. Preferences rather than requirements are most often expressed. Preferences may involve academic major, financial need, international study, academic promise, first-year student or upper-division status.
- IRS regulations prevent donors from designating family members as recipients or from selecting the recipients themselves. Donors may be notified of the finalists and will be notified of the recipients.

If you would like more information about establishing an annual or endowed scholarship, please feel free to contact the Foundation Office at 715/836-5630. We ask that if the UWEC Foundation Office calls you asking for a donation, please remember the Geology advancement funds! If you work for a corporation or a geology-related firm, please inquire if your company has a matching program for contributions to academic geology departments.

DONATION SLIP

University of Wisconsin Eau Claire Foundation, Inc.

_____ Yes, I wish to support the Geology Department through my tax-deductible gift of
$__________ (if check is used and enclosed, make payable to UW-Eau Claire Foundation, Inc.)

Name ________________________________ ________________________________

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Please indicate below how you wish your contribution to be recorded:
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Date______________________________

_____ My employer (or my spouse’s) will match this gift. Employer:_________________

_____ I have made plans to benefit the Geology Department through my estate. Please have someone contact me.

_____ Please send me information about how I might make provisions in my estate to benefit the Geology Department.

Mailing Address: UW-Eau Claire Foundation, Schofield Hall 214, 105 Garfield Ave, Eau Claire, WI 54702-4004. Or give immediately by going to http://www.uwec.edu/fndn/giving.htm

Our Geology Department Advancement Fund is the primary support fund for the department. It is used to support a wide range of activities in the Department including student travel to national meetings, special research and instructional equipment, faculty recruitment, and the seminar program. If you choose, your gift can also be applied in part or total to individual scholarship award funds. See information above for minimum commitments for establishing your own scholarship. Undesignated funds will be credited to the Geology Department Advancement Fund.

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