I hope this newsletter finds you well! The Department of Geology has had a busy year. In December we hired a new tenure-track hydrogeologist—Dr. Sarah Vitale of the University of Connecticut. We are pleased to have her join our faculty this fall! In addition, Responsible Mining, Water Resources, and Earth Resources certificates were approved to expand educational opportunities for STEM and non-STEM majors.

Students and faculty continue to conduct research expanding the knowledge of our natural world. Students (with faculty mentors) have been researching topics such as diffusion in quartz and tourmaline crystals (Ihinger), garnets in rhyolite (Hooper), soot and nanoparticle geochemistry using TEM (Hooper), sustainability behaviors of students in Davies Center (Clark), VMS geochemistry (Lodge), Precambrian greenstone belts in Ontario (Lodge), Neogene basin analysis in Argentina (supported by Mahoney’s three-year NSF grant), surface- and ground-water quality in western Wisconsin (Mahoney and Sellwood), petrography of frac sand cements in Wisconsin (Mahoney and Syverson). Not only this, but four students presented research results at GSA-Denver where one student won a best poster award, three students at the Council on Undergraduate Research Posters on the Hill event in Washington, D.C., nine students at the AIPG meeting in Eau Claire, and four students at AWRA. It’s been a great year for research!

The Responsible Mining Initiative [RMI] continues to expand student educational opportunities. Our 2nd Advisory Board meeting with stakeholders was held on May 9th to discuss curriculum and potential partnerships. Fifteen external stakeholders from industry and government agencies (including seven alumni) attended this valuable input session. In addition, MSHA 24-hr New Miner training was offered to seventeen students and three faculty over spring break. Dr. Stephen Sellwood (UWEC ’99), who has taught our hydrogeology sequence for the past two years, accepted a hydrogeology position at TRC in Madison. He did a great job continuing the tradition of a strong hydro program at UWEC! We wish him the best and thank him for his dedication to our hydrogeology program.

Our efforts to enhance internship and scholarship opportunities have been a resounding success. This summer twenty students will have paid internships with mining companies, environmental consulting firms, conservation organizations, and governmental agencies. In addition, $35,000 in scholarships and grants were awarded at the spring banquet thanks to generous alumni and corporations. These opportunities are helping to differentiate our program from others in the Midwest (see included stories).

Donations of alumni and friends continue to be extremely important to our program. Budget cuts forced us to move Field Camp I from spring tuition to Winterim tuition, leading to a major increase in field camp expenses. For this reason, we began an “Adopt a Field Camper” campaign in an attempt to defray some of these costs (see separate news item). Even as we have received several large corporate gifts, 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 visit us!
FIELD CAMP UPDATES

FIELD GEOLOGY I UPDATE – (NEW MEXICO) AND CHANGES IN FIELD CAMP CURRICULUM

By Robert Hooper

Field Camp 1 (FC 1, Geol 470) continues to be based out of the Black Range Lodge in beautiful Kingston, NM (pop. 31). This year FC I was offered January 2-20 with a somewhat compressed schedule because of the university’s academic calendar. Twenty-three students and four instructors completely filled the Black Range Lodge for 19 days. Even though we had a compressed schedule, we never had a weather issue. Most days were sunny with high temperatures in the 60’s and very light breezes – ideal weather for field work in the mountains. We added a side field trip to Kilbourne Hole—a maar volcano in the Potrillo Volcanic Field in extreme southern New Mexico. The maar volcano crater is littered with unaltered mantle and lower-crustal xenoliths brought up in an explosion that breached the recent basalt flows of the Rio Grande Rift. Students had a great time trying to climb out of the crater with 35kg olivine-rich samples of the Earth’s mantle! But, don’t worry, there’s more xenoliths still out there to be found. We also got a literal taste of some of the local culture at the taco stands just north of the Mexican border.

After considerable faculty discussion about the role of both field camps in the geology program, the department decided to make some changes in the curricula of both field camps to better reflect the needs of today’s students. Bob Hooper and Scott Clark took on the job of reworking the FC 1 this past year. Working with Rob Lodge, who is now the lead instructor for FC 2, we developed a scaffold-based approach to integrate new experiences into the field program while placing more effort on the quality of the science. Students at FC I now generate their first geologic map without GIS and instead place more emphasis on solid field techniques.

We have also enhanced the use of paleontology for making unit calls and placed more emphasis on scientific interpretation and good field techniques. After their first FC 1 mapping project, we have inserted a field day back in the previously mapped field area with the instructors to examine the correct placement of geologic contacts, discuss unit assignments, and evaluate how to deal with simple geologic structures in field settings. Students found this day back in the previously mapped field area to be one of the most instructive days during the entire field experience.

We strongly recommend that students are not overwhelmed with too many newly required skills, additional mapping skills are then added as projects proceed so at the end of FC 1 they are making professional maps using ArcGIS. By the end of FC 2 in Montana, students have fully integrated both field skills and office skills including the use of tablets in the field to record project data. This year’s students appeared to respond well to how FC I went: 95% of them reported a positive FC 1 experience. While the instructors are happy with the scientific rigor of field camp experiences, we will continue to modify activities as deemed necessary to further enhance student learning during future field camp offerings.

FIELD CAMP II UPDATE – MONTANA

By Robert W.D. Lodge

The 2017 Field Camp II in southwestern Montana enjoyed sunny skies during their capstone experience. The weather hovered around 80+ degrees the whole trip and rain gear wasn’t required (but packed in backpacks anyway). Instructors Robert Lodge and Phil Ihinger and teaching assistants Rachel Fillet (‘16) and Dan Brennan (‘16) brought a whopping 22 students to Whitehall, MT. Somehow we crammed them all into the Iron Wheel Guest Ranch – and one camping trailer. We were truly impressed how this large group of students came together to discover their capabilities as budding geologists. They all worked hard, acted professionally, and produced some amazing maps. They even remained in high spirits despite relentless heat, sweat, and several rattlesnake sightings. As instructors, we were lucky to have this group of students.

John and Sherry at the Iron Wheel Guest Ranch were once again tremendous hosts. Each year they let us take over their home and we are so thankful that we can continue to come back – it’s truly a perfect place to host a field camp like ours. Even with 26 mouths to feed, John and Sherry prepared their signature elk dinner the last evening and received a round of applause from the group. Another highlight of the trip was the tour of the Butte Cu-Mo Mine currently operated by Montana Resources. Mine geologist Amanda Griffith led an
amazing tour and students loved the ride in the little yellow school bus around the mine. The history of mining in Butte gives the students an exceptional opportunity for students to learn about the impacts of mining – both positive and negative. Next year we promised to bring to bring some good ol’ Wisconsin cheese to the staff at Montana Resources!

STUDENTS PRESENT RESEARCH ON CAPITOL HILL

By Brian Mahoney

The Council on Undergraduate Research sponsors an annual Posters on the Hill event in Washington, D.C. to showcase the impact of undergraduate research to members of the U.S. House and Senate. The event is highly competitive, with only 60 abstracts out of the 350 submitted selected for presentation. Geology students and faculty from UW-Eau Claire were honored to present Surface Water and Groundwater Chemistry of Western Wisconsin: Establishing an Environmental Baseline. The research team included Samantha Bartnik, Carly Mueller, and Adam Wiest, with faculty mentors J. Brian Mahoney, Steve Sellwood and Laurel McEllistrom. The project is designed to document regional variations in water chemistry to establish a baseline that can be used to develop meaningful environmental regulations in the region.

Karen Havholm, the Assistant Vice Chancellor for Research (and Geology Professor) joined the research team on its journey to Washington, D.C. The research team included students from Wisconsin (Bartnik and Wiest) and Minnesota (Mueller), so group members spent two days describing their research to four senators (Klobuchar, Franken, Johnson and Baldwin) and House Representatives from Milwaukee, Green Bay and Andover, MN. Everything happens in a frenzy in Washington, D.C., so the group spent time running from one appointment to the next, waiting for a free moment of time from a congressperson or staff member, then giving a rapid-fire description of the project and the importance of undergraduate research. The students did a great job, and got quite polished on the presentation by the time we met Senator Baldwin on the last day. Adam Wiest was even practicing his speech on an 11-year-old middle school student waiting for the Senator!

The trip was very interesting, and the research team made both the Department of Geology and UW-Eau Claire look most impressive. Such high-quality research experiences are one thing setting us apart from other institutions and the reason UWEC received CUR’s 2016 Award for Undergraduate Research Accomplishments. See a full description of the students’ experience on the Geology website under “News + Events.”

RESPONSIBLE MINING SEMINAR OFFERED

By Kent Syverson

A Responsible Mining Seminar (Geol 491, 1 credit, instructor Kent Syverson) was offered for the first time during Spring 2017. Fifteen students enrolled in the weekly two-hour seminar, which was suggested by Advisory Board members in 2016. Excellent speakers from mining, environmental consulting, and regulatory agencies expanded students’ understanding of mining and environmental issues. These included seminars about water, wetlands, air, reclamation, valid sampling, administrative codes, permitting, and cultural issues. The seminar also included segments about professionalism (networking and dealing with difficult issues in the workplace) and communication (technical writing and preparing expert testimony for public hearings).

Companies/agencies presenting talks included Smart Sand (Todd Lindblad ’13 and Nick Matula ’15), Badger Mining (Andy Chikowski and Anna Bradley), WDOT (Nick Schaff), WDNR (Roberta Walls and Jason Treutel, two seminars), SEH (Darrell Reed), Eau Claire City/ Cty Health Dept. (Audrey Boerner ’11), Chippewa County Land & Forestry (Dan Masterpole), and Weld Riley (John Behling and Anders Helquist). Thanks to all speakers, including several alumni, who contributed their expertise to enrich this seminar! The seminar, which is required in the Responsible Mining certificate (see separate story), will be offered each spring semester. If you or your company might be interested in participating in the seminar, please contact Kent Syverson.

Researchers (L-R) Carly Mueller, Sam Bartnik, and Adam Wiest presenting at CUR Posters on the Hill event, Washington, D.C.

Blugold crew in front of US Capitol.
ADOPT A FIELD CAMPER CAMPAIGN
By Kent Syverson

UWEC Geology alumni tend to have fond memories of field camps in New Mexico, Montana, and perhaps even Wyoming. Solving complex geological problems, battling cacti, and long, grueling days spent amidst spectacular scenery—truly geologists have more fun! However, paying for field camp is becoming increasingly difficult for students. Budget cuts at the state level recently required us to move Field Geology I from spring semester to Winterim. This increased tuition costs by ~$1100. The new cost of our six-credit field camp sequence is still much less than other universities’ field camps even after this increase, but rising costs are becoming a challenge for students. To help defray some of these costs, the department has decided to offer alumni and friends an opportunity to Adopt a Field Camper!

The Myers/Willis Geology Field Camp Scholarship fund was set up to defray field camp expenses for UWEC Geology majors. This is fitting because Drs. Paul Myers and Ronald Willis were instrumental in developing our field camp program. Dr. Paul Myers, Ric Kopp (’75), and Curt Peck (’77) have pledged $9000 in memory of Professor Emeritus Ronald Willis, who died in a tragic car accident in July 2015. This money will match any donations to the Myers/Willis Scholarship fund to Adopt a Field Camper.

Have you benefitted from your UWEC field camp experiences? Please consider a donation of any size to Adopt a Field Camper and provide grants and scholarships for Field Geology I and II students. Because of generous matching money, your donation will have twice the impact for all students attending field camp. By early June $2400 has been raised, which when matched provides $4800 for future field campers. This is a great start!

MIN/PET I FIELD TRIPS
By Robert Hooper

The UP trip for Min/Pet I was the first weekend in October. It was a little different this year because the forest service roads and campgrounds in northern Wisconsin were closed after a huge July storm wiped out most bridges in Ashland and Iron counties. Even some of the state highways were still closed at the beginning of October. The lack of bridges made the travel more challenging, but what can you do if there’s no bridge? The old road up to Mt Whittlesey is completely gone and probably will not be replaced making the trip up to see the classic exposure of the Banded Iron Formation a long uphill walk, but at least it’s through the maple forest in full-color display. We had great weather in the UP with mostly sunny skies, highs in the 70’s and lows around 50°F. We made it all the way up to the Porcupine Mountains, camped on the Lake Superior shoreline, and even went swimming in Lake Superior. The Black Hills in mid-October was almost identical weather, making swimming in Sheridan Lake possible, if not a little chilly, and that’s three years in a row of perfect Black Hills weather. Sometimes I’m a complete fan of global warming!

There are so many excellent outcrops to use for teaching that both Min/Pet field trips seemed too short (at least to me). I think my favorite this year was the Tomahawk Golf Course volcanic diatreme where we found that the ash flow tuffs contain beautiful 3cm, euhedral sanidine phenocrysts just lying in the crater. Apparently this volatile-rich explosion actually threw the phenocrysts into the air and they rained back down on the surrounding landscape. You have to look closely, but the phenocrysts weren’t that hard to find once you knew what to look for. We also found a new location in the Black Hills where the metamorphic rocks contain 10cm euhedral pink-andalusite crystals. This produced a feeding frenzy for new rock hounds! We stayed at the Hanna Campground (fondly referred to as Icebox Canyon) again this year. Hanna CG is at the top of Spearfish Canyon and it wasn’t even cold at night. There are so many fond, memories associated with that campsite over the past thirty years or so!

Geology students continue to learn best in the field. We are making the best of the Mineralogy and Petrology field trips so that students continue to have fond memories of those ultimate learning and bonding experiences.

The certificates include 1) a Responsible Mining certificate designed primarily for comprehensive Geology majors. Students will develop a broad foundation by taking additional geology, biology, environmental science, environmental policy and ethics, and statistics courses, 2) a Water Resources certificate intended for students who plan to enroll in a Master’s degree program in Water Resource Management, students interested in careers in environmental policy or environmental law, and STEM majors interested in broadening their understanding of water-related topics, and 3) an Earth Resources certificate intended for non-STEM students. This certificate seeks to provide a broad, evidence-based, academic overview of earth resource issues. It should be ideal for Business, Communication, Economics, Geography, Journalism, Political Science, and Public Relations majors who might need to communicate with scientists, engineers, politicians, and advocacy groups about environmental issues.

MIN/PET I FIELD TRIPS
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2017 GEOLOGY BANQUET

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 95 students, parents, faculty, and stakeholders assembled for the event on May 13th at the Eau Claire American Legion.

The men eat with Unimin’s Kris Benusa (UWEC ’12).

Are they thinking about starting a food fight?

The Tollefson family with Phil Ihinger.

Even the youngsters enjoy the banquet!

Jane Williams’ family with Smart Sand internship sponsors.
1. What kind of rock samples are those, Sam Helmuth? Field Geology II, Montana.

2. Ray Fliflet presents her award-winning sandstone cement poster at GSA-Denver.

3. Maile Olson, Sam Helmuth, and Rob Lodge study Precambrian rocks near Thunder Bay, Ontario, to better understand their economic mineral potential.

4. Field Camp I students in New Mexico just don't work as hard as they once did…!

5. Betty Walter and her team conduct waste stream research to promote sustainable practices, Davies Center, UWEC.

6. Paying respects to the folded BIF at Tower Soudan, northern MN.
7. Lundin Mining intern Jake Tveite prepares for his underground shift at the Eagle Mine, UP Michigan (summer 2016). Jake is now a full-time Production Geologist with Lundin Mining.

8. Steve Sellwood and his students present research results (and network with professionals) at the American Water Resources Association conference in Elkhart Lake, WI.

9. Going home—on the road again after three weeks in New Mexico.

10. MinPet I students hiking during the Black Hills, SD, field trip.

“The faculty investment in field-based learning and student immersion experiences at both the lower-division general education level and the upper-division level for majors is greater than in any geology program I know. That this happens at a State University is amazing.”

Dr. Paul Link, Idaho State University, External Reviewer 2012
SECOND GEOLOGY/RMI ADVISORY BOARD MEETING HELD

By Kent Syverson

On May 9, 2017, the UWEC Geology/Responsible Mining Initiative (RMI) Advisory Board met for the second time. Fifteen outside stakeholders (including seven alumni) from Wisconsin, Minnesota, and Idaho discussed curriculum, attended a poster session with our geology student researchers, met Responsible Mining Initiative interns, and toured the ICP-MS laboratory.

The Board's conclusions? Board members were pleased with the hiring of a tenure-track hydrogeologist, the educational value of the academic certificates, and impressed with the quality of the collaborative research conducted by Blugold geology majors (the poster session is always a highlight for attendees). Much time was spent discussing the curriculum and how the department and stakeholders could raise money to defray increasing field camp expenses.

We thank all the professionals who attended the Advisory Board meeting. Attending such an event requires valuable time from people who are very busy with important projects, so we are grateful for their investment in our program. Participants included Nick Bartol (Badger Mining Corp.), Greg Beckstrom ('84), Audrey Boerner (Eau Claire City-County Health Dept., '11), Ken Bradbury (State Geologist) and Jay Zambito (WGNHS), Mark Ciardelli (Foth, '04), Dale Kerner (Haley & Aldrich, '96), Todd Lindblad (Smart Sand Inc., '13), Vince Matthews (Director Emeritus, Colorado Geological Survey), Michele Maxson Reed (SEH Inc.), Tina Pint (Barr Engineering, '99), Bob Servais (Mathy Construction, '04), and Roberta Walls (WDNR).

HOFFMAN CONSTRUCTION SPONSORS MSHA TRAINING ON CAMPUS

By Brian Mahoney

In partnership with Hoffman Construction, the Responsible Mining Initiative offered the second Mining Safety and Hazard Administration (MSHA) 24-hour New Miner Training over spring break. Seventeen students and three faculty participated in the three-day course. Gary Kaas of Hoffman Construction led the course, and his years of experience as a Safety Officer in mining and construction provided an outstanding background for the training, including a Badger Mining site visit in Taylor. Pete Fasching of HeartQuest Trainers provided an intensive, hands-on, first aid course to complete the training. The course was excellent and will be an outstanding addition to participants' resumes. We hope to make this training an annual event. Thanks to Hoffman Construction for sponsoring this training session.

Three interns attend Frac Sand Conference in San Antonio, TX

By Kent Syverson

Kent Syverson and three UWEC Responsible Mining Initiative (RMI) interns attended the 5th Annual Frac Sand Supply & Logistics Conference in San Antonio, TX, October 13-14, 2016. Interns (L to R in photo) included Morgan Kubishak, Jane Williams, and Andrew Faris, and they were the only undergraduate students among the 300+ registrants! Interns helped the meeting organizer, Mr. Pete Cook, with meeting setup/logistics in return for free registration and lodging at the Marriott Hill Country Resort (a fancy place). We all participated in a field trip to a sand transload facility in the Eagle Ford. It was a great learning/networking opportunity for all. Thanks to Pete Cook and the Petroleum Connection for sponsoring the trip for the RMI interns.

Geology and Responsible Mining Initiative Advisory Board, 2017.
RESPONSIBLE MINING INITIATIVE UPDATE

By Kent Syverson

In November 2013, the University of Wisconsin System awarded UWEC Geology a $451,000 Economic Development Incentive Grant for the Responsible Mining Initiative (RMI). This grant was awarded to prepare highly qualified graduates for work in the mining industry, the environmental consulting industry, and in regulatory agencies such as the DNR.

The RMI continues to have a positive impact on students. A new internship MOU was signed with Mathy Construction (Onalaska, WI), and we are excited about potential collaborations. Three new Geology academic certificates were approved (Responsible Mining, Water Resources, and Earth Resources certificates, see separate story), and these will expand educational opportunities for STEM and non-STEM students. This spring 17 students obtained MSHA 24-hr new miner training on campus—a great resume builder for those wishing to work in mining, environmental consulting, or a regulatory agency. Here are two other telling statistics: Geology scholarships and grants in 2013 ($2500) vs. 2017 ($35,000), and the number of paid internships in 2012-13 (4) vs. 2016-17 (20, a new record). Some 70% of the 2017 internships are in hydrogeology, environmental geology, and environmental conservation, and the rest are in nonmetallic or metallic mining/exploration. Unimin Corp. recently hired last summer’s Blugold intern, Andrew Faris, to fill a permanent position a week after his graduation.

This bodes well for the future as other interns graduate.

These successes have required much work to build relationships with industry. In May, we held our 2nd Geology/Responsible Mining Initiative Advisory Board meeting on campus. Fifteen external stakeholders attended the event and we obtained valuable feedback about our curriculum (see separate story). Faculty have attended professional meetings in Minnesota, Wisconsin, Toronto, and Texas to network with potential stakeholders. Lots of work, but it has been exciting to see students benefit from these new opportunities (see separate articles about internships, scholarships, and donations). Thanks to all partners with the Responsible Mining Initiative!

The Responsible Mining Initiative is providing amazing opportunities for our students. The scholarships reduce student debt. The internships provide a valuable window to the working world. When these are added to field experiences and our already strong collaborative research program, the Dept. of Geology is offering an undergraduate education not available at other universities. This is preparing our STEM graduates for the work force and graduate school. If your company might want to partner with the RMI through an internship, donation, or speaker, please contact Kent Syverson or Brian Mahoney.

ALUMNA SANDY (WALSH) CHAMBERLAIN ESTABLISHES DR. JOHN R. BERGSTROM SCHOLARSHIP

By Kent Syverson

Our first UWEC Geology graduate, Ms. Sandy (Walsh) Chamberlain ('68), visited the Geology Department in March. She received a tour of facilities, visited with some Geology students, and enjoyed an Earth Science Seminar. It was great meeting her! In addition, she decided to establish a scholarship in memory of her Geology mentor, Dr. John R. Bergstrom.

In Sandy’s words, “Over the years, I have reflected on how I could best honor a man who was a wonderful mentor to me, as the Geology Department became a unique career choice. While working on many different projects at the USGS-Menlo Park, CA, it became apparent that he had prepared me very well for the job market and challenges requiring thinking outside the box. I have now spent the past 30+ years at Monroe Community College-Damon City Campus working with students who are underrepresented, marginalized, members of the African-American and Latino/Latina communities, non-traditional students, ESOL students, and those who had to take Transitional Studies classes in math and English to prepare them adequately for college-level classes. I have enjoyed building bridges across the educational divide on a daily basis—the very thing Dr. Bergstrom did with me. Both of us were energized mentoring students into success. This stimulus has led me to honor his memory via a scholarship for Geology majors with his name on it. I invite everyone who would like to join me in supporting this effort to feel free to add to the principle so that students can receive the support they deserve.

Underground tour at Tower Soudan mine, northern MN.

Sandy (Walsh) Chamberlain during her visit to UWEC.

LINKEDIN GROUP FORMED

By Paula Sumpter (pmsumer@gmail.com, ’83)

UWEC Geology Alumni & Friends are on LinkedIn! We have created a UWEC Geology Department Alumni & Friends group on LinkedIn and invite you to join. The group can be found at: https://www.linkedin.com/groups/8413978. Please use this networking tool as a place to create and maintain professional relationships, post and locate jobs and internship opportunities, and discuss timely issues in geology with students, faculty, and alumni. You’re among friends, so make yourself at home and begin a discussion or join an existing one. Guidelines for posting to the group are located under the Rules section on the group home page. Please address any questions and/or suggestions about this forum to the group manager, Paula Sumpter. Also, please join the UWEC Geology Facebook group to keep up to date on recent happenings and photos!
**SCHOLARSHIPS**

**2017 UNIMIN SOPHOMORE GEOLOGY SCHOLARSHIPS ANNOUNCED**

For the fourth year, Unimin Corp. has funded merit-based scholarships for geology majors who will be taking Mineralogy-Petrology in the following fall semester. Four $2500 scholarships were awarded for the 2017-18 academic year. The pool for this scholarship competition was extremely strong. The recipients (L to R in photo) include Daniel Weber (Sturgeon Bay, WI), Makayla Chandler (La Crosse, WI), Emily Finger (Heleenville, WI), and Regan Jacobson (Park Falls, WI).

**2017 UNIMIN FRESHMAN GEOLOGY SCHOLARSHIPS ANNOUNCED**

For the fourth year, Unimin Corp. has funded a merit-based, annual scholarship for high-potential incoming freshman who are majoring in Geology. This year six recipients were selected, and each will receive $1000. This year’s winners are Jacob Erickson (Maplewood, MN), Ryan Heyman (De Pere, WI), Steven Jonas (Watertown, WI), Abbie Mitiku (Stone Lake, WI), Chelsea Moran (Little Falls, MN), and Trevor Nelson (Hammond, WI). Congratulations to these recipients, and we look forward to their arrival on campus this fall!

**MYERS/WILLIS FIELD CAMP SCHOLARSHIPS ANNOUNCED**

Myers/Willis Field Camp Scholarship fund (est. 2006) is intended to lessen the financial burden of field camp for excellent students who also have financial need. The fund also honors the contributions of Dr. Paul Myers and Dr. Ronald Willis, geology professors at UWEC who worked very hard to establish a strong field component in our young geology program. Adam Wiest (Green Bay, WI), Jane Williams (Ingleside, IL), and Carter Boswell (Crystal, MN) are recipients of this year’s Myers/Willis scholarships (L to R in photo). Each student will receive $700 to defray expenses for Field Camp II in Montana. Congratulations!

The Geology Dept. hopes to offer Myers/Willis scholarships and grants to more students each year as the fund balance rises. We encourage all alumni who have benefited from our field experiences over the years to contribute to this fund. In addition, this is a great way to honor Paul and Ron for their dedication to our field program! See page 8 for information about the Adopt a Field Camper program.

**MUELLER WINS BECKSTROM GEOLOGY MAJOR SCHOLARSHIP**

This year’s recipient of the Beckstrom Geology Major Scholarship is Carly Mueller. Carly, a hydrogeology major from Andover, MN, is a Campus Ambassador, a geochemistry researcher with Brian Mahoney, and an environmental intern this summer with Rio Tinto in California.

This $1000 scholarship, established in the fall of 2005 by alumnus Greg Beckstrom (’84), is awarded annually to a comprehensive geology major who has completed Mineralogy-Petrology I. The awarded must have an excellent academic record and a demonstrated financial need.

**FAIRMOUNT SANTROL RESPONSIBLE MINING SCHOLARSHIPS ANNOUNCED**

Fairmount Santrol has once again funded three scholarships for rising juniors in our program (i.e. those completing Sed/Strat). The recipients of the $1000 scholarships (L to R in photo) are Melissa Hackenmueller (Albertville, MN), Fairmount Santrol’s Aaron Scott (center), Samantha Kleich (Tomahawk, WI), and Derek Lindquist (Ramsey, MN, not pictured). Thanks to Fairmount Santrol for supporting our students!

Fairmount Santrol is a leading provider of high-performance sand and sand-based products used in the oil and natural gas industry, as well as in the foundry, building products, water filtration, glass, and sports and recreation markets. Fairmount Santrol embraces the principles of sustainable development. Fairmount Santrol hopes its support of the Responsible Mining Initiative will provide young geologists with opportunities for experiential learning that will greatly enhance their undergraduate studies and prepare them for fulfilling careers.

**SCHOLARSHIPS**

Myers/Willis Field Camp Scholarship recipients $700/student, Adam Wiest, Jane Williams, and Carter Boswell.

Carly Mueller with donor Greg Beckstrom.

Unimin Sophomore Scholars.

Fairmount Santrol scholars
INTERNSHIPS

One goal of the Responsible Mining Initiative is to provide practical work experiences for our undergraduate students through paid internships. We now have four Responsible Mining Initiative internships with Fairmount Santrol, Smart Sand Inc., and Unimin Corp. where Blugold geology majors are given preference over students from other universities!

Our efforts to enhance internship opportunities have been a resounding success. One student continued his GIS internship with Unimin Corp. and recently accepted a full-time position with Unimin. This summer 20 students will have paid internships with metallic and non-metallic mining companies, environmental consulting firms, governmental agencies, and conservation groups. This large number of paid internships is highly unusual for an undergraduate geology program.

SMART SAND
Oakdale, WI
Claudia Moore | Geology Intern

USGS/NAGT SUMMER CO-OP FIELD PROGRAM
Idaho Falls, Idaho
Samuel Helmuth | Geology Intern
(one of 53 interns nationally)

WGNHS
Trempealeau, WI
Adam Wiest | Geology Intern

MINNESOTA DOT
Twin Cities, MN
Melissa Hackenmueller | Hydrology Infrastructure Intern

JUNEAU COUNTY LAND AND WATER RESOURCE CONSERVATION
Mauston, WI
Ashley Thompson | Environmental Intern

NATIONAL PARK SERVICE
Yellowstone National Park, WY
Maria Delgado Gomez | Social Service Aid

NATURAL RESOURCE TECHNOLOGY
Milwaukee, WI
Samantha Bartnik | Environmental Intern

WISCONSIN DOT
Eau Claire, WI
Olivia Alloy | Environmental Intern
STATELINE ENVIRONMENTAL CONSULTING SERVICE, INC.
Antioch, IL
Alexandra Cook | Environmental Intern

LEAGUE OF CONSERVATION VOTERS (summer and fall)
Eau Claire, WI
Riley Feldschneider | Environmental Policy

PIERCE COUNTY LAND MANAGEMENT
Durand, WI
Eli Fredrickson | Land-use intern

AQUILA RESOURCES
Menominee, MI
Maile Olson | Geology Intern (metallic mineral exploration)

AQUILA RESOURCES
Menominee, MI
Regan Jacobson | Geology Intern (metallic mineral exploration)

CEDAR CORPORATION | Menomonie, WI
Colton Sander | Environmental Intern
pictured with Cedar Corp's Wendy Sander
Greetings to everyone! As with each time I write this note, it seems that the past year has flown by. At the start of the year, I was sure that I’d be able to stay on top of things and then … reality hits – just as it always does. Oh well.

Besides my regular teaching load of Earth Science and Water Resources, I was in Montana with Geoff Pignotta for the first two-thirds of last summer’s Field Camp II, and spent Field Camp I in New Mexico with Bob Hooper this past January. As always, I truly enjoy being at field camp. How could you not enjoy it when you have excellent TAs, interested and engaged students, great weather, fun moments, and wonderful geology? Regarding our Earth Science course, I feel I should update you on what I see as a step in the wrong direction regarding the future of public education in Wisconsin. Back in 1994, Karen Havholm designed our Earth Science course to meet the needs of elementary education majors. Until this past year, the course continued to be taught with that same goal. However, over the past few years, the Wisconsin Dept. of Public Instruction has decreased the number of math and science requirements necessary to obtain an elementary education teaching license. Those changes led the College of Education to reduce its science and math requirements, which in turn forced us to change how we teach our Earth Science course. Moving forward, the class will continue to cover Geology, Astronomy, Meteorology, and Oceanography, but it will no longer have the explicit goal of presenting the material in a way that directly connects to the needs of future elementary school teachers. Lessening of the number of science courses required for future teachers will not help teachers gain the knowledge and confidence that are necessary to properly introduce children to the world of scientific reasoning. In a time when the nation needs to encourage and support STEM (Science, Technology, Engineering, and Math) education, Wisconsin is making it less likely that children will be exposed to positive and engaging STEM experiences when they are young.

Getting back to the dumpster-diving research… Eight students (including five Geology majors: Anna Brickheimer, Sam Kleich, Ricky Mataitis, Ashley Thompson, and Betty Walter), Karen Mumford (Watershed Institute), Kate Hartsel (Housing Sustainability Coordinator), and I conducted waste stream audits at the Davies Center. At the end of the 2015-16 academic year, there was a stir on campus because we all learned the waste being placed in the compost bins was not being composted but was being added to the landfill waste stream before it left campus because it was too contaminated with non-compostable items. Over the summer, I was involved with efforts to improve messaging on what waste goes into the compost, recycling, and landfill bins, and to change the products (plates, cups, containers, etc.) provided in Davies so proper waste disposal isn’t as complicated. To see if those efforts had an impact, our group analyzed lunchtime waste four times throughout the school year. The sampling involved collecting the waste in each bin and then tallying every single discarded item. We found we have a long way to go to educate and motivate people to adopt sustainable behaviors. Our work has led to a new and improved marketing campaign that will roll out over this summer. Next year we will build on our momentum, dive into more waste, and redouble our efforts to change behaviors. I hope this newsletter finds you well, and I wish you the best.

Publication:
KAREN HAVHOLM  
Assistant Vice Chancellor of Research  
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This year I was lucky to be included in the department’s search for a new hydrogeology faculty member. It was fun to work more closely with the department for a little while, and also to see the good pool of candidates interested in our position.

We look forward to welcoming Sarah Vitale to campus in the fall. The big news related to my work in the research office is that UW-Eau Claire was selected for the top national award for its undergraduate research programming. This is only the second year that the Council on Undergraduate Research has given this Award for Undergraduate Research Accomplishment (AURA). They select one from each of three kinds of institutions annually, and we won in the Master’s-level competition. This is the result of the many, many years of faculty and students doing successful research, with support of the institution and of all students who pay the differential tuition, which helps support student-faculty research work.

The big event in our family is that our son-in-law completed his Master’s degree in geostatistics. He developed a more sophisticated model for predicting ore-body parameters from core data and tested it on a constructed dataset. He is still officially a student for the rest of this semester, and is applying his model to a real ore body dataset. The rest of us continue in our jobs. My husband’s nonprofit company, which provides residential care and intervention for at-risk teens, is in great demand and they have opened new locations in additional small Wisconsin towns. Our daughter is in that last stage of her ore geology Ph.D., the painful writing stage, and looks forward to finishing up in the next year.

ROBERT HOOPER  
Professor  
hooperrl@uwec.edu

It has been a very busy year here in the Geology Department with a full slate of courses and a large number of students involved in undergraduate collaborative research. The Mineralogy and Petrology course that I teach in the fall is still the gateway into the geology major, and it’s fun to expose students to their first real taste of field work. Enrollments stay strong throughout the major. I had 28 students in Min/Pet I, and that makes for quite a busy field-trip experience. I still really enjoy teaching my Physical Geology class in the spring, although this year the weather for the local field trips was generally wet and cold. The students still thought it was a great experience to get outside and see more about Wisconsin geology. In January I also took on the lead role in the Geol 470 (Field Geology I) course in New Mexico, and it was great to get back into teaching field camp.

“Being able to teach geology in the field is what still makes teaching so rewarding after 34 years at UWEC.”

Robert Hooper, Professor

I had four students doing research this year in the electron microscope laboratory. Charlie Plazik is continuing with a project using the Transmission Electron Microscope (TEM) to study aggregation-based crystal growth of iron oxide nanoparticles and the impact that crystallization has on metal sequestration; Samantha Kleich started a TEM project to examine metal contents in nano-spherical soot from the Central Valley of California; and Billy Fitzpatrick is using the TEM to study nano-particles in groundwater from mining districts. Billy developed his own project to see if the groundwater in mineralized areas can be used to prospect for deeply buried metallic ores. In addition, Rachel Lair started a project this spring to examine the mineralogy and geochemistry of garnet-bearing rhyolites in the Black Hills of SD. It turns out these high-silica rhyolites are not exactly what they seem to be in the field. The rhyolites contain an unusual mineralogy including garnet and olivine (fayalite) phenocrysts, and abundant thorium-rich monazites. These are definitely not your average crustal-melt compositions. If research goes well this summer, we are hoping to take some of these research projects to the national meetings of either GSA or AGU.

If teaching and research wasn’t enough, I have resumed my dedication to service to both the university and the local community. I spent a great deal of time working along with John Tinker trying to convince local politicians that building homes with septic systems on one-acre lots on top of a fractured sandstone aquifer was a guaranteed recipe for groundwater contamination. It turns out that not every politician cares as much about public health issues as they should and that money always seems to trump good judgement. We did make some progress on this front and were able to stop one irresponsible development plan. However, more work needs to be done to make sure geology is up front in making good policy decisions regarding responsible development. What really suffered this year due to my busy schedule was my road-biking, downhill skiing, scuba diving and continued study of the Lesser Antilles, so I may have to redouble efforts to have some more fun. I will have to try to find a better work-life balance in the coming year or else I might have to give up the work because I’m unwilling to give up having fun! It is really nice to connect with alumni, so please consider stopping by campus if you are in town visiting friends and family.

PHILLIP IHINGER  
Professor  
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Greetings, Great and Fabulous Alumni! I write this news update inside the Iron Wheel Lodge in Whitehall, MT, having just inked in my office copy of the Rustler’s Gulch mapping exercise (complete with three gorgeous patches of Kev!). What a tremendous experience in which to finally participate! Rob Lodge led a fantastic camp, and our world-class TAs Rachel Fliflet and Dan Brennan helped to make the whole experience a delightful and seamless one. I can’t wait for next year, when I can hone in on one last questionable ridge where I offer a slight alternative to the ‘canonical’ interpretation (is anyone surprised?).

Meanwhile, my research group will be very busy this summer.

“We are submitting three abstracts to the Seattle GSA meeting. Who else amongst you will be attending?”

Phillip Ihinger, Professor

Kyle Tollefson ('17) will be lead author on a study that describes, for the first time, the causal mechanism for generating color variations in watermelon tourmaline; Eric Brinza ('17) will be lead presenter on a study of the role that Dauphiné twinning plays in controlling diffusion...
rates of hydrous contaminants in quartz crystals; and Billy Fitzpatrick (’18) will be presenting FTIR results that document diffusion ‘down’ through the base of Alpine quartz crystals. Their amazing work was featured at this year’s annual CERCA celebration in the form of two Provost Symposium talks; way to go guys! In addition this summer, Jackelyn Anderson (’19) and Tyson Noffke (’19) are initiating a new study on the sourcing of Native American colored glass trade beads using infrared spectroscopic analyses. The micro-FTIR facility never sleeps!

Meanwhile, my lovely wife Patricia is writing her book on French heroes of the American Revolutionary War; Ghislaine (now 27) is pursuing a certificate in editing at UC-Berkeley; Mati (now 16) is looking at colleges (sadly, anywhere but Eau Claire L) while continuing to run in varsity track and crosscountry; and Evie (now 12) is enjoying her outdoor wilderness survival course (she will be learning to sail this summer, as well). I hope to see you all very soon, either in Seattle or here in Eau Claire on your next visit. Cheers to you!

ROBERT LODGE
Assistant Professor
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Third year under my belt and I’ve now been here long enough to watch some of my research students graduate and move onward and upward.

“There is a sense of pride when these students that I have worked alongside with, especially during the struggle of my first year at UWEC, are becoming successful professional geoscientists.”

Robert Lodge, Assistant Professor

Zach Zens (’16) worked as a mud logger in Ohio and is now headed to New Mexico Tech for graduate studies. Sam Helmuth (’17) has a well-deserved field-based internship with the USGS-NAGT Summer Cooperative Field Training Program in Idaho. Nate Jackson (’17) is starting a job at a sand mine in New Auburn, WI. Go get ‘em guys! Make UWEC proud.

My research program has exploded into collaborative research involving a small army of students: Maile Olson, Kaelyn Blotz, Lucy Horst, Regan Jacobson, Bruno Mers, Will Howard, Eli Fredrickson, and Chase Friedemann. Topics range from ore petrography and hydrothermal alteration at Wisconsin VMS deposits (Flambeau, Eisenbrey), compilations of historical data of the Crandon-VMS deposit, and komatiite hosted Ni-Cu deposits in Ontario, Canada. It has definitely been a productive year for the economic geology research team. Students even nominated me for an Emerging Mentor of Research, Scholarship, and Creative Activity award through ORSP. Thanks team!

I am still teaching Physical Geology, Structural Geology, and Economic Geology. This year was the first time that I had full enrollment in every introductory and upper-division class. Just as I was feeling comfortable, I decide to switch to newer textbooks! I feel like the students are getting better courses now and I feel a little better about the quality of education I am providing. Students continue to get a healthy dose of awesome Precambrian geology all over the Upper Midwest. UWEC alumni Jake Tveite (’16) and Pete Raymond (’11) gave the Economic Geology class an underground tour of the Eagle Mine near Marquette, MI. The Structural Geology class had its annual tour through the Archean Superior Province in northeastern Minnesota. The underground train tour in the Soudan Mine Underground State Park was a hit. This year we got an once-in-a-lifetime tour of the construction of Minnesota’s tallest bridge near Virginia, MN, where we learned about some of the geotechnical considerations during infrastructure development. My Physical Geology class remains a critical but fun class to teach. Some of these students have never heard geology before…sadly…but emerge interested in the geosciences and some even switch majors.

At home, my beautiful, loving wife Cassie continues to raise our two adorable little girls, Hillary and Claudia, while Daddy “teaches wocks at wook” (that’s what Hillary tells our neighbors what I do). I just can’t believe that my little Hillary is starting pre-K next year! Claudia is talking and causing trouble with her big sister. They are quite the team and keep their parents busy!

J. BRIAN MAHONEY
Professor
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It must be that time of year once again… grades are posted, spring has sprung, summer field work plans are set, and Kent is stalking me about a newsletter blurb… [Editor’s note—somebody has to do it…!] It has been yet another busy year, on both the professional and personal front. As always, time flies. The Department keeps moving forward, and the number of interested and engaged students in the classroom, doing research, and working on internships is truly impressive. Students and faculty in the Department continue to be enthused and motivated, even while the University continues to be in a seemingly constant state of turmoil and uncertainty. We all hope for a return to our traditional focus on high-quality education in the UW System, but it might not happen any time soon unfortunately.

I am keeping myself busy with collaborative student/faculty research. Giving nine (9) presentations at GSA-Denver was probably a bit of overkill, but we have lots of exciting projects to describe. Ray Filiflet won best poster award (against graduate students!!) for her work on diagenesis in Cambrian sandstones of the upper Midwest. Sam Bartnik, Carly Mueller and Adam Wiest presented our research on surface water and groundwater chemistry in western Wisconsin, which generated quite a bit of interest. My colleagues and I presented our work from Argentina, British Columbia, Montana and elsewhere. These projects involve numerous colleagues from the US, Canada and Argentina, and many UWEC geology students, who are indispensable to the projects. All of these projects are ongoing, but it is clearly time to get several publications out, which is the goal for the next academic year.

I maintain an active (overly active?) research program. Spent the month of January doing fieldwork in Argentina, examining Paleogene and Neogene basins along the high spine of the Andes in northwest Argentina, laying the groundwork for our next NSF proposal. I have been examining gold mineralization in western Honduras, analyzing epithermal deposits first recognized by the Spanish in the 1500’s. Something a bit unnerving about climbing around in 500-yr-old tunnels, total darkness, just you and the bats. But kind of cool as well! We are keeping our fingers crossed for a positive result of our most recent NSF proposal to examine Neoproterozoic-Cambrian strata along the western Cordilleran margin, an ongoing project of ours for several years.

Closer to home, the research that Kent Syverson, a number of students, and I have been doing on Cambrian strata, including diagenetic and
geological and geochemical studies, has been most interesting. We are currently running a large project on surface water and groundwater chemistry in order to establish an environmental baseline that can inform the regulatory framework. We are also working on new breakthroughs in Rare Earth Element geochemistry with Elemental Scientific, which will revolutionize the way REE geochemistry is conducted, and UWEC will be the lead academic institution! Stay tuned for details!

I have had a number of adventures this year, to be sure. Took a group from Stanford on a tour of the southern Canadian Cordillera to kick off a new PhD project looking at orogenic exhumation of the Coast Plutonic Complex. The group included luminaries such as Jim Monger and Jim Haggart of the Geological Survey of Canada, so it was awe-inspiring to spend two weeks bantering about the geology of the Cordillera! Lori and I spent three weeks in South Africa where we attended the International Geologic Congress in Cape Town. We had an emotional tour of Johannesburg to try to understand the everlasting impact of apartheid. Quite a trip! We also had a couple of fun trips to Las Vegas over Christmas to see a friend perform in Cirque de Soliel and to explore the desert, and a visit to Nashville to explore Civil War battlefields and get a taste of a truly rowdy, music-crazed city!! The rolling stone gathers no moss!

Hope this note finds everyone well. Please keep in touch, as there is nothing more rewarding than connecting with alumni. That keeps us motivated! All the best.

“... We took a week-long geologic field trip by canoe down the Orange River, visited the spectacular Kruger National Park (think lions, elephants, giraffes, wildebeests...)."

Brian Mahoney, Professor

“...The students at UWEC continue to be the very best part of my position here as they continue to motivate me to be a better teacher and scientist.”

Lori Snyder, Senior Lecturer and Undergrad Program Coordinator

Away from campus, my year was very enjoyable. It began with a month in South Africa, where the 35th International Geological Congress was held in Cape Town. The IGCP is held every four years in a different country, and has become quite an event. It began with a month in South Africa, where the 35th International Geological Congress was held in Cape Town. The IGCP is held every four years in a different country, and has become quite an event. We had an emotional tour of Johannesburg to try to understand the everlasting impact of apartheid. Visiting Soweto was an eye-opening experience. After a very busy year, I am not teaching this summer and am looking forward to local outdoor recreation and homeownership fun before another foray overseas. More next year! My best to all of you.

GEOL 122 (Future of Global Energy) online was offered in the January Winterim and completely filled. This was the last time that GEOL 122 will be offered in a three-week format as UWEC is moving to a 4-week Winterim next year. The continued success of our students and alumni is very gratifying and...

LORI SNYDER
Senior Lecturer and Undergrad Program Coordinator
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LORILIE STEINKE
Academic Department Associate
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Greetings from Eau Claire! I have now completed my 25th year in the department. The university just celebrated its centennial, so I guess I am now firmly ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! The firm is ingrained in the history of this place! I still enjoy teaching college students very much! 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and other educational opportunities for our students. I am thankful for industry stakeholders who have assisted our students. The 2nd Advisory Board meeting held in early May was extremely valuable—I am encouraged by the strong commitment of our stakeholders.

I have begun working on a manuscript to publish research from Maine. This summer I will work with student Carter Boswell to crunch the data from my projects with Andy Thompson and Jeff Olson, as well as numerous other Maine Geological Survey projects. My goal is to become more GIS-savvy! I am still actively consulting in the Wisconsin sand industry, and I have been learning many things about Texas sand as well. I presented a talk about Wisconsin and Texas sand at the AIG conference in Eau Claire this spring.

My family and I had a good year. My wife and I celebrated our 25th wedding anniversary, and we now have three kids in college. We stayed rather close to Eau Claire during the summer. We attended the Syverson family reunion in northwestern MN and somehow found a time for all of us to camp on the North Shore of Lake Superior. I attended a UMD hockey game at the Target Center, and then watched my Bulldogs march into the NCAA championship game where they lost an exciting game to Denver Univ. That was fun!

I will be around Eau Claire much of the summer. We attended the Syverson family reunion in northwestern MN and somehow found a time for all of us to camp on the North Shore of Lake Superior. I attended a UMD hockey game at the Target Center, and then watched my Bulldogs march into the NCAA championship game where they lost an exciting game to Denver Univ. That was fun!

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

EMERITUS FACULTY NEWS

JOHN TINKER, Professor Emeritus
tinkerjr@triwest.net

I send a warm hello to all current and past students and faculty of the UWEC Geology Department. My hello will be short but sincere because I have much work to do. I am still consulting in hydrogeology, and I maintain two farms. One farm is in Wisconsin and the other is in North Dakota. Last fall, I did have time to hunt in North Dakota with my wife Christine, grandson Austen, and dog Scout. The weather, badlands, and Little Missouri River were beautiful.

I hope all is well with each of you and your families and friends. Work hard, stay healthy, and smile at least twice a day. If you have a bad day, go outside and observe some geology. Keep in touch with Dr. Syverson and the department. I sure do like reading about your experiences in the department.

Paul and Welthy Myers again renounced Vermont winters and retreated to the lush tropical paradise of Boquete, Panama, from early January to early May 2017. In fact, Boquete is so lush that our friends and relatives come to “visit” in droves. No complaints. What’s not to share? Our “vacation” included a January Flower Festival, a February Jazz and Blues Festival, and scintillating social-cultural events beyond counting. However, one event towers far above the rest in my memory. I have called it, “My Bridge Encounter; Caldera River, Boquete, Panama, 2/17/17.”

From direct personal experience, I affirm that survival in Panama requires quick reflexes and a lot of free help. Here’s why. While searching for a famous volcanic rock exposure in Caldera River Canyon, my “explorer” friend, George, and I took a route which should have taken us there. Just north of Boquete, we unexpectedly came to an unmarked “bridge”. I edged up the steep ramp at 5 mph because I could not see the river or any deck beyond it. As we topped the ramp, the front of the rental car dropped with a crash, and we knew instantly we were in trouble. Then, as we moved to get out, the car rocked ominously on the edge. Gingerly, we both slid out onto the bridge ramp and looked at the car with a horrible sinking feeling. How would we ever get the car back up on the bridge? I went to a nearby hotel and called the rental place for help. Meanwhile, a neighbor pulled up in his rusty red pickup and offered to pull us back onto the bridge. “I’ve got a chain, and I can pull you outa there in a jiffy,” he said in almost perfect English. Meanwhile, the four rental service guys arrived and started “investigating” as a crowd of “supervisors” gathered as if from nowhere. After the rental owners and their two mechanics “weighed all extraction possibilities”, they decided to go ahead with the “cable pullout” as offered by our generous riverside neighbor.

The mechanics and rental owners climbed into the back of the car and rocked it as the pickup driver pulled with his truck. Suddenly the car lurched backwards onto the bridge, and a loud cheer went up (mostly from George and me). The rental company owners then insisted on my driving the car to their shop in town where, after close inspection, it was proven to be damage-free. Miraculous! We were lucky.

“[Last year] Christine and I did travel to Iceland and Sweden on a seven-day trip. Iceland is a geologic wonder.”

John Tinker, Professor Emeritus

Paul Myers, Professor Emeritus
UNIMIN, UW-EAU CLAIRE CONTINUE PARTNERSHIP ON RESPONSIBLE MINING INITIATIVE

Unimin Corporation continues to invest approximately $50,000 annually in UW-Eau Claire’s Responsible Mining Initiative. For the fourth year, Unimin has committed resources to fund one paid summer internship, seven $1,000 scholarships for first-year geology students, four $2,500 scholarships for sophomore geology students, $10,000 for intern scholarships, and $10,000 in grants to be distributed to UW-Eau Claire geology field camp II students. Over the past four years, Unimin Corp. has donated $110,000 in cash to our program. We thank Unimin Corp. for its continued investment in our program!

Unimin’s interns gain valuable work experience and apply knowledge from the classroom. Such experiences can give students an advantage when searching for jobs after they graduate. This year’s intern has been placed at Unimin’s Tunnel City, WI, mining operation. In addition, Unimin has benefited from the skills of highly motivated young people who might work for Unimin in the future. This spring former Unimin intern Andrew Faris (’17) was hired full time by Unimin Corp. within a week of his graduation. He was greeted at the Geology banquet by Unimin’s Kris Benusa (UWEC ’12).

The scholarships have reduced student dependence on loans. The freshman scholarships have helped us recruit students into our program. The quality of our incoming freshman class is extremely high, and Unimin Corp.’s commitment to the Responsible Mining Initiative has contributed in a positive way. It will be exciting to see this class become involved in collaborative research and internships!

Unimin Corporation is one of North America’s leading producers and distributors of non-metallic industrial minerals, including quartz, feldspar, nepheline, calcium carbonate, clay, kaolin, lime, and limestone. Many of its products are the essential raw materials of nearly every manufacturing process. For more information visit www.unimin.com.

“UWEC’s Responsible Mining Initiative, a program that like BMC emphasizes environmental responsibility, is a curriculum that Badger Mining is proud to continue to support.”

Nick Bartol, Associate at Badger MINING

This is the fourth $5000 donation Badger Mining has supplied for equipment. Badger Mining Corp. also has hosted a mine visit associated with our MSHA safety training class and participated in our Advisory Board. Thanks to Badger Mining Corp. for supporting us as we us train the next generation of geologists (and non-geologists as well)!
EARTH SCIENCE SEMINAR SERIES

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!

10/21/16 | Dr. Leilani Arthurs, Assistant Professor, University of Nebraska-Lincoln, “The Science of Geoscience Education Research.”

11/04/16 | Bridget (Wolfe) Osborn ’09, HR Green, Inc., “Geology and Engineering: The Dynamic Duo.”


11/29/16 | Dr. Stephen Sellwood ’99, UWEC Dept. of Geology, “Groundwater modeling to evaluate the effects of drainage ditches on water levels in Wisconsin’s central sands.”

12/02/16 | Dr. Chris Gellasch, Assistant Professor, Uniformed Service University, “Evaluating the impact of leaking sewers on urban public supply wells using geochemical, microbiological, and geomechanical methods.”


12/09/16 | Dr. Xiangli Wang, Yale University, “Groundwater Uranium Contamination and Remediation.”

02/10/17 | Dr. Harry M. Jol, UWEC Dept. of Geography, “The Horror and Hope of the Holocaust: An Earth Science Perspective from Lithuania.”

03/03/17 | Dr. Kerry Keen, Dept. of Geology & Env. Sci, UW-River Falls, “Finding Geology and Hydrology in All the Right Places—Semesters Abroad in Europe.”

03/10/17 | Owen Palmequist, Producer/Science Writer, NOVA, “Getting It Right: Science and the Screen.”

03/31/17 | Dr. Daniel Griffin, Dept. of Geography, Univ. of Minnesota, “Tree Rings and Climate Extremes: Frontiers in Data Development and Paleo Reconstruction.”

04/07/17 | Dr. Carrie Jennings, Research and Policy Director, Freshwater Society, “A Slippery Slope: Precipitation Driven Landslides in Minnesota.”

AWARDS

EXCELLENCE IN GEOLOGY AWARDS IN 2016-2017

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 2016-2017 are Samantha Bartnik and Anna Brickheimer.

Samantha is a native of Cedarburg, WI. She conducted research with Dr. Brian Mahoney on several projects involving geochemistry and water quality. She has presented this research at GSA-Denver, Posters in the Rotunda in Madison, and most recently at the CUR Posters on the Hill event in Washington, D.C. She was a Myers/Willis Field Camp Scholarship recipient in 2016 and TAed Field Geology I in January 2017.

Anna is a native of Cedarburg, WI. She conducted research with Dr. Brian Mahoney on several projects involving geochemistry and water quality. She has presented this research at GSA-Denver, Posters in the Rotunda in Madison, and most recently at the CUR Posters on the Hill event in Washington, D.C. She was a Myers/Willis Field Camp Scholarship recipient in 2016 and TAed Field Geology I in January 2017.

She UWEC. She is currently an environmental intern with Natural Resources Technology, Milwaukee. She will be attending graduate school on a fully funded TA at New Mexico State University to specialize in sedimentology.

BRINZA WINS THE EXCELLENCE IN SERVICE AWARD IN 2016-2017

The Excellence in Service Award recognizes the exceptional service a geology major has done for the department. The winner of the Geology Excellence in Service Award for 2016-2017 is Erik Brinza.

Erik, a recent graduate from Elk River, MN, has managed the Geology Department website for several years. In addition, he designed the full-color, tri-fold Geology brochure used to recruit new students and donors. Erik has also conducted research on diffusion in crystals for several years. We will all miss Erik next year!
CONGRATS, GRADS!

2016-17 Geology graduates on a cool, rainy day.

RECENT GEOLOGY GRADUATES
Fall 2016, Spring & Summer 2017 (unofficial list)

Bartnik, Samantha  
Biegel, Mitchum  
Brickheimer, Anna Mary  
Brinza, Eric Michael  
Brunner, Elizabeth Anne  
Charneski, Jacob Thomas  
Farb, Logan Patrick  
Faris, Andrew Jacob  
Fredrickson, Eli Thomas  
Friedemann, Chase Alexander  
Helmut, Samuel Levi  
Hennessy, Brenna Barbara (minor)  
Jackson, Nathaniel Ray  
Karlovich, Catherine Marie  
Lutze, Alex James  
Roloff, Kyle Evan  
Sortedahl, Sarah Victoria (minor)  
Williams, Jane Bridget  
Wingren, Conor John

CONGRATULATIONS, CLASS OF 2016-17!
Please stay in touch! Make sure we have your email address.
Andy Alf ’79. Andy is the owner of Alf Geologic Consulting, LLC in Austin, TX.

Jacob Boer ’08. Jacob writes, “I completed basic officer training and was commissioned in the US Air Force last June. I am at Vandenberg Air Force Base in southern California learning to be an intercontinental ballistic missile operator. After my training is complete I will be going to Minot, ND, to start pulling alerts on the Minuteman III weapons system to continue providing America with a reliable nuclear deterrence. I am always a resource for any current students or alumni who have any questions about my career path.”

Audrey Boerner ’11. Audrey is a project manager for the Eau Claire City County Health Department. She manages the nitrate sampling and outreach program. She also collaborates on healthy housing initiatives and has begun supervising environmental public health interns.

Daniel Brennan ’16. Dan is a graduate student and TA at Idaho State University. He writes, “I am preparing for an awesome summer geologic mapping in the Salmon River Mountains of central Idaho! Special thanks to U.S. Geological Survey (USGS) for the EdMap grant and DigitalGlobe for the imagery grant. Can’t wait to share my findings!” Also, Dan was a TA at our Field Camp II course in Montana this summer.

Nicole Butkus ’11. Nicole is a Laboratory Assessor at the AASHTO Materials Reference Laboratory (AMRL) in Maryland. She travels around the USA working with asphalt, aggregate, soils, and geotechnical laboratories so they may become AASHTO or ASTM accredited.

Taylor (Crist) Pierce ’12. Taylor writes, “It has been another great year. I am working as a geological engineer for an environmental consulting firm, Bay West (St. Paul, MN). I work on a wide range of projects and have improved my skills. A large federal project has proven to be quite challenging, but very rewarding. In addition, I am studying to take the Principles and Practice of Engineering (PE) exam in April. My husband, a transportation engineer (civil engineering background), passed the PE exam in October.

Jody (Brandrup) ’00 and Dan Dahman ’99. Jody and Dan report, “We relocated to Lake Elmo, MN, in 2015 with our son River (4). Jody made a career move early this year to a company called Nuvectra after ten years with her previous company. She has been traveling a lot, but we hope it will slow down in the upcoming months. Dan is approaching 12 years at Ecolab within the Regulatory Affairs department and manages compliance in the food, drugs and cosmetic portfolio of the company. River keeps us--he loves going on “outdoor adventures” and exploring. His constant testing of the world around him makes us think he will be in the sciences someday! We took him to Disneyland and met with Dan’s family. River and his 12 cousins dressed up in different Disney character costumes and experienced the magic of Disney and the other theme parks for the week. It was truly special family time, but we think the next vacation needs to be in the mountains where the only mouse is the one trying to gnaw through our packs for the trail mix!”

Roseann (Falkenberg) Bowe ’11. Roseann is a Quality Control and Geological Coordinator with Chippewa Sand Company in New Auburn, WI.

Brian Denning ’13. Life has been good for me since graduation. I worked in the oil fields for a couple years and am currently a Network Cabling/AV project manager for an AmeriCom in the Twin Cities.

Matthew Edgar ’13. Matt writes, “After graduating from UWEC, I worked for two years in Los Angeles as a geo-technician for E&B Natural Resources, a large independent oil company. I spent the next two years backpacking/motorbiking/hitchhiking across Asia and Europe. I ended up discovering a new passion along the way--photography and videography. I worked in Turkey for 8 months as a photojournalist and lifestyle/travel photographer. I now run a freelancing business as an architectural photographer, drone pilot, and commercial videographer in the Milwaukee area.”

Andrew Faris ’17. After having a paid internship with Unimin Corp. from summer 2016-May 2017, Andrew was hired by Unimin Corp. immediately after graduation to work in their GIS division.

Beth Fisher ’99. In 2016 Beth completed her PhD in soils at the University of Minnesota-Twin Cities.

Katy Grant ’14. Katy writes, “I work as a geologist for Arcadis in Minneapolis. I spend most of my summers in the field sampling soil and groundwater at local remediation sites. I also go to southeast Idaho a few times every summer to work in the SE Idaho phosphate patch with Kelsey Franko (’14), who works for Arcadis in Helena, MT. Kelsey and I both started our professional careers in SE Idaho, and it’s been great that our jobs bring us together a few times a year! I spend winters working mostly on reports and plume modelling.”

Alan Gustafson ’12. Alan writes, “I am still happily employed at REI Engineering out of Wausau (going on 3 years in August) working on a wide variety of environmental projects.”

Kristen Gunderson-Inden ’95. Kristen writes, “I was happy to visit the Department around Thanksgiving. It was wonderful to catch up with Kent, see the new labs, and visit Bob for a few minutes, too. Still living in Milwaukee. My husband and I are proud parents to Maximilian, now 4. He attends a Montessori school in the Milwaukee Public School system. It is fascinating to see him learn and how well the teaching method incorporates experiences, independence, and exploration into learning the details and the ‘bigger picture.’

Doug Hallum ’96. Doug writes, “The past year has been one filled with blessings! We’ve had tremendous recreational opportunities, including an extended visit from our two youngest granddaughters, a visit from Dad culminating in a successful muzzle-loader deer hunt, and a raucous spring migration of geese and cranes through the central flyway. Paula and I celebrated 15 years of marriage, and our Nebraska “family” saw a son return safely from his tour in Afghanistan. We are professionally blessed as well. Paula continues with a floral design business, and I’ve helped a colleague publish an Extension Circular about petroleum pipelines. Capped the year with my recent appointment to the Nebraska Board of Geologists by Governor Ricketts.”

William Henke ’12. Will received his MBA at the University of St. Thomas and is a Commercial Credit Analyst at Coulee Bank.

Brian Hennings ’99. Brian is a Senior Hydrogeologist for Natural Resource Technology, Inc. in Milwaukee, WI.
**ALUMNI NEWS (continued)**

**Xai Her** '14. Xai completed his MS in Geology at Northern Illinois University and has been teaching English in Japan through the JET Program USA (Japan Exchange and Teaching Program) since last summer.

**Dave Hodek** '95. Dave reports, “Work is good and the family is doing great. Last fall I was asked to be a keynote speaker for the North Dakota Geographic Alliance’s Forestry Institute for Teachers. It was a great experience, even though I confessed as a geologist I once joked that trees were ‘vegetative cover that needed to be removed’ to appreciate the underlying bedrock. Despite that, they invited me back this year to speak and hang out around the evening bonfire!”

**Andie Holm** '14. Andie writes, “I am working at the Midwest Organic Services Association in Viroqua, WI. I am working on the regulatory side of USDA-certified organic farms, producers, and handlers. So far it’s an amazing blend of science and organic agriculture, which is exactly what I wanted for a career!”

**Matt Hostak** '98. Matt writes, “I have been volunteering full time at Habitat for Humanity’s ‘ReStore’ store in Oshkosh. It’s interesting, engaging, and a great way for me to give back to the world a little bit for all that I have been so fortunate to receive. I’m still an avid ‘privy digger’, digging hand-dug excavations behind old historic homes. It’s GREAT exercise and always fascinating to recover artifacts. In short, I’m VERY grateful for everything this life brings, and I’m looking forward to what each new day brings!”

**Cameron Hughes** '12. Cam writes, “I am finishing the 4th year of my PhD at the Univ. of Tennessee-Knoxville where I study conditions of mid-crustal deformation in the central Peruvian Andes. I hope to graduate in May 2018. For my research I’ve been lucky enough spend 4-5 weeks of the summers of 2013 and 2015 in the field near Huaraz, Peru, and part of summer 2014 and winter 2015 visiting Bozeman, MT, for lab work. Last summer I was an intern at ExxonMobil’s Upstream Research Company in Houston where I had a blast learning about the industry and working on a project very different from what I do for my PhD. I’m looking forward to another summer internship with the USGS in Menlo Park where I’ll provide a structural geology framework for geophysical studies of a couple of recent major earthquakes. I currently have a pending GSA grant proposal submitted to visit UWEC for an XRF study, so I hope to be back in the department to visit and continue research in the near future!”

**Matt Hysen** ’11. Matt reports, “I spent two years working for a fellow UWEC alum, Andy Sudbrink (’04), in North Dakota as a Wellsite Geologist. I then took a position in Fort Collins, CO, as a construction materials technician which led to my current position at Martin Marietta Materials. At Martin Marietta we supply aggregates to a wide range of customers. We use our aggregates to produce asphalt and concrete to the everexpanding cities in the Front Range of Colorado and southern Wyoming.”

**Nate Jackson** '17. Nate was hired by Northern White Sands (Chetek) prior to graduation to be a Quality Control Technician. As a person from New Auburn, this is in his backyard!

**Adam Jacobson** ’03. Adam is an Environmental Program Manager at Ingersoll Rand in La Crosse, WI. He is responsible for managing and developing the environmental program as part of the Environmental Health and Safety Department.

**Tony Jones** ’92. Tony writes, “The children are getting older, my car is getting older, and my land surveying equipment is getting older. Good news, though—my wife and I keep our ‘portraits’ in the attic and are getting younger.”

**Bridge Kelly** ’09. Bridget is a Water Supply Specialist with the WDNR in Madison.

**Aaron Kent** ’04. Aaron is a Hydrogeologist with the WDNR in the Eau Claire area.

**Ric Kopp** ’75. Ric writes, “I enjoyed talking with UWEC Geology students during my visit in November—very impressive group. For work, I completed a major acquisition with a company for which I have been consulting and completed seven drilled and uncompleted wells that are excellent producers. In February we kicked off a 16-well drilling program to 2017 with one rig drilling and a second rig coming in May. Starting in June, another four-well drilling program kicks off. I’m already working on 2018 drilling program—surprising what higher oil prices bring to the industry. This winter Jacqueline and I were busy taking the grandchildren skiing every Saturday on the great mountain snow. They are good skiers for 8, 6, and 3-year olds, so they can really wear a person out! Still working part time as a rancher as calving season has kicked off. Hopefully can visit again this summer or fall and see how all are doing in the Department.”

**Mitch Lassa** ’16. Mitch writes, “My USGS/NAGT internship was great! I had a good group of coworkers and learned how to collect and analyze various data at stream gage and groundwater gaging sites throughout eastern New York. I also helped streamline and update databases in the office. After the internship, I traveled to New Zealand with my girlfriend and we volunteered on organic farms and visited several national parks! I have accepted a job with the Montana Conservation Corps. Now I’m trying to coordinate the move out west as I will be based in Bozeman (not too far from Field Camp 2)!"

**Todd Lau** ’11. Todd reports, “After graduation I worked at a copper mine in Tucson, AZ. I am now at the Washington State Geological Survey. I have been working as a geophysicist studying earthquakes, magnetics, and GPR among other things.”

**Kirsten Lee** ‘14. Kirsten is an Environmental Specialist with Cedar Corporation in Menomonie, WI.
April Leistikow ’14. April writes, “I have worked for Halliburton - Sperry Drilling Services for 2.5 years. I was a mudlogger on a deepwater drillship in the Gulf of Mexico until May 2016. The economic situation halted further drilling operations on that rig, so I then went to an office position at our facility in Broussard, LA. From there, I monitor 3 offshore wells at a time on an integrated team for Shell. I collaborate with people who are involved with different aspects of the drilling process and create daily reports of activities and optimizations that could make operations more efficient.”

Taryn Lopez ’03. Dr. Taryn writes, “I just got promoted to the research faculty at the Univ. of Alaska-Fairbanks this past summer and am very happy to finally have a ‘real’ job! What a relief! My husband and I really enjoy Alaska and are happy to stay here.”

Tim Molitor ’13. Tim writes, “I have been employed as an environmental consultant with Braun Intertec in Minneapolis, MN, for the past four years. I spend most of my time performing field investigations for brownfield remediation, phase I and phase II environmental site assessments, and vapor intrusion projects.”

Rebecca Moore ’13. Rebecca writes, “I have recently been working on long-term projects in the San Francisco Bay area including geotechnical field work and air quality monitoring. I enjoy living in Phoenix and working on a variety of projects.”

Joe Nawikas ’05. Joel works for USGS. Check out his recent USGS Open File report about groundwater recharge.

Kali (Pace-Graczyk) Anderson ’05. As an environmental project manager at Solas Energy Consulting, Kali oversees compliance and permitting of under-construction and operational renewable energy projects.

Tina Pint ’99. Tina writes, “I’ve been working as a hydrogeologist with Barr Engineering Co. in Minneapolis since finishing grad school almost 15 years ago…man does it go fast! I spend most of my time working with our mining clients addressing water-related issues. I was elected to my company’s board of directors this past year and have been enjoying the challenges and opportunities that presents. I’m looking forward to getting back to campus a few times this spring; it’s always fun to see what is new on campus and in the department!”

Sarah (Prindiville) Engelhardt ’04. Sarah is a geologist at AECOM in Milwaukee. She writes, “This has been another fun and exciting year. My oldest turned 18 and my youngest turned 3. We took a long-awaited family trip to Disney World in September 2016, as this will likely be the last year I can guarantee both kids will be home at the same time—one off to college and the other starting pre-school! As for work, I’ve found my niche in the world of 3D visualizations of complex geology with soil and groundwater contamination. Managing one of the company’s many software programs has been a challenge, but has also introduced me to a number of colleagues around the world. I’m excited to see what the next few years have in store, both at home and at work.”

Herald Schulz ’08. Herald is an Environmental Planner/Project Manager with Arcadis based out of the Milwaukee area.

Chris Stovern ’14. Chris is a CMT Technician at Braun Intertec Corporation in Minneapolis.

Troy Thompson ’85. Troy reports, “I just completed seven years with the US Forest Service as the Regional Hydrogeologist for the Eastern Region. Last June I participated in one of our USFS International Programs (IPs). A USFS mining engineer and I put on a three-day workshop in Colombia about mining and environmental protection for the Colombian government agencies overseeing and regulating mining. Dealing with mining in the USA is challenging, but at least we don’t have to deal with drug traffickers and leftist guerrillas who control a significant portion of their gold mining. I hope to do more IP assignments. I don’t feel that far removed from my days at UWEC, but I’m being reminded I’m no longer that young! My family expanded with the addition of grandchildren (ages 2 & 5). My youngest son (UWEC ’10) got his master’s degree. I am now thinking about retirement in terms of specific years.”

David Tomten ’80. David writes, “I work for the US EPA, Region 10, in Boise, Idaho. Most of my 30 years at EPA has been spent working on mining projects. I’ve worked on projects at all stages of the mining life cycle, from permitting work on proposed mines, to compliance and enforcement at active mines, to the investigation and cleanup of inactive and abandoned mines. I’m a Superfund project manager and lead multiagency teams of scientists and engineers to clean up large mine sites in the western US. A long-time focus is the consideration of projects from a life-cycle perspective, the integration of statutory tools to prevent problems and protect public resources, and strategies to promote responsible mining. An especially interesting project was considering climate change when evaluating the long-term effectiveness and resiliency of cleanup approaches at a mining Superfund site. Over the years, I’ve remained true to my Wisconsin dirtbag roots and still like to run, ski, bike, run rivers, and drink cheap beer.”

Chad Underwood ’96. Chad writes, “It’s been 21 years since I was on the spring break field trip to Death Valley with a close group of UWEC geology students and professors. Since then, I’ve wanted to go back. The geology and landscape of Death Valley National Park is truly amazing to me. Well … I finally got my wish. Our family made the trip in early March. Thanks to some helpful tips from former UWEC Geology professor (and 1996 field trip leader), Marli Miller, we took in some amazing hikes and saw some wonderful sites in and around the park (including a highly-recommended non-geology stop at the China Date Ranch in Tecopa). Marli wrote a great book on Death Valley geology, which includes a road guide, and I highly recommend it to anyone planning to visit the park.”

Sandy (Walsh) Chamberlain ’68. Sandy writes, “I am the online concierge for Monroe Community College. The geology department just received accreditation for an associate’s degree to prepare students for a fouryear program.”

Joel Weber ’15. Joel is studying Geographic Information Sciences at the University of Maryland. He works as a data analyst in support of the development, testing, and production of several single photon sensitive LiDAR sensors at Sigma Space Corporation.

Ron Weegman ’81. Ron writes, “Retired and relocating to Youngsville, LA. Last year the community was voted the friendliest town in America, and we will be near the two grandchildren. We plan to be in our northern Wisconsin lake property during the summers and in southern Louisiana during the winter months. After 36 years in the oil and gas business, it is time to relax. My UWEC Geology degree has enabled me to experience things many only dream about.”

Jane Williams ’17. Jane was hired by Preferred Sands prior to graduation to be an Environmental Scientist.
Dr. James Wilson  | UWEC Geology faculty member from 1976-82. Jim writes, “Paula and I were in Utah for 32 years. I taught at Weber State Univ. and Paula got her PhD at the Univ. of Utah and then was associated with Utah and Weber State in research and adjunct capacities. I did a lot of geomorphology and ground water/water resources teaching and field work in my early years there. Gradually, as the department hired new people, I gave up those areas to younger faculty and focused on mineralogy for our majors and many general education courses to boost enrollment. I discovered, named, and described two new thallium minerals, gillulyite and fangite, at the Mercur Gold Mine, but I was more interested in teaching and curriculum development. As a result, I served on the University Curriculum Committee for many years and was chair for five years, including when we implemented the change from quarters to semesters. We have two boys with graduate degrees in Materials Science Engineering and Statistics. We retired three years ago and moved to Alabama where we spend much time with my mom (99 years old!) and work to improve our original family farm of 248 acres. Hope this finds you well.

**Bridge (Wolfe) Osborn ’09.** Bridget writes, “After UWEC, I got my Geological Engineering degree from UMN. I live in the Twin Cities area with my husband and son, and work as a water resource engineer with HR Green, Inc. I mainly complete hydrologic and hydraulic models to design storm sewer and stormwater best management practices (BMPs). I’m also an active member of the American Council of Engineering Companies (ACEC) and Central States Water Environment Association (CSWEA). Last fall, I got the opportunity to speak in the UWEC Earth Science Seminar Series, and it was awesome to see all the potential our students have! Keep up the good work, UWEC!” [Editor’s note: Bridget, a PE, received the American Council of Engineering Companies’ prestigious 2016 ACEC Young Professional of the Year award. This is a great honor!]

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**STUDENT RESEARCH DAY – SPRING 2017**

The 25th Annual UW-Eau Claire Student Research Day was held May 3-4, 2017, in 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.

**Kyle Tollefson with Phillip Ihinger**

Chemical Diffusion in Watermelon Tourmaline: Parallel versus Perpendicular to C-Axis

**Chase Friedemann, Eli Fredrickson with Robert Lodge**

Comparison of Hydrothermal Alteration Zones Associated with the Flambeau and Eisenbrey Massive Sulfide Deposits, Rusk County, WI. Presentated at AIPG-Eau Claire (May 2017).

**William Fitzpatrick, Eric Brinza with Phillip Ihinger**

Composition of Diffusion Pathways in High-Temperature Metamorphic Quartz

**Lucy Horst with Robert Lodge**


**Adam Wiest, Carly Mueller with J. Brian Mahoney**

Evolution of the Manantiales Basin: Miocene Orogenic Patterns in the South-Central Andes

**Nathaniel Jackson with Robert Lodge**

Lateral Stratigraphic Variations in the Volcanic Lithofacies of the Eisenbrey Zn-Cu-Pb VMS Deposit, Rusk County, WI. Presented at AIPG-Eau Claire (May 2017).

**Samantha Kleich with Robert Hooper**

Metal Content of Soot from Rural and Urban Air Samples, Central Valley of California

**Charles Plaziak with Robert Hooper**

Metal Sequestration during Aggregation-Based Crystal Growth

**Rachel Lair with Robert Hooper**

Mineralogy and Geochemistry of Garnet in Rhyolite, Black Hills, South Dakota

**Kaelyn Blotz, Will Howard with Robert Lodge**


**Maile Olson with Robert Lodge**


**Jackelyn Anderson, Kyle Tollefson with Phillip Ihinger**

Preliminary Characterization of Native American Glass Beads Using IR Spectroscopy

**William Fitzpatrick with Robert Hooper**

Prospecting through TEM Analysis of Metallic Nanoparticles in Groundwater

**Jane Williams with J. Brian Mahoney**

Provenance of the Paleocene-Eocene Oyster Bay Formation, British Columbia

**Carly Mueller, Melissa Hackenmueller, Adam Wiest, with J. Brian Mahoney, Laurel Mc Ellistrem**


**Adam Wiest, Derek Lindquist, Carly Mueller, Melissa Hackenmueller with J. Brian Mahoney, Stephen Sellwood, Laurel Mc Ellistrem**

Wisconsin’s Water: Establishing an Environmental Trace Metal Baseline for Responsible and Reasonable Regulation. Versions of this research presented at GSA-Denver (Sept. 2016), at AWRA-Wisconsin (March 2017), and the Council on Undergraduate Research “Posters on the Hill” event in Washington, D.C. (May 2017), and AIPG-Eau Claire (May 2017).

**Betty Walter, Anna Brickheimer, Ashley Thompson, Katrina Kawak, Richard Mataitis, Samantha Kleich, Lauren Graves, Tabitha Schafer with Scott Clark, Karen Mumford, Kate Hartsel**

Sustainability Behaviors of University Students: An Analysis of On-Campus Waste Disposal Habits
DONATIONS

HOW TO DONATE

The 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.

Due to state budget cuts, alumni gifts to the Geology Department accounts with the 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, 35 individuals and companies donated $47,265 to the Geology Department accounts. Please understand that all gifts, large or small, are greatly appreciated! Please consider giving something back to your undergraduate department.

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THANK YOU

DEPARTMENT DONORS!

The Department thanks the generous donors listed below who have contributed to Geology Department accounts with UW-Eau Claire Foundation from June 1, 2016 through May 31, 2017.

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Donation Slip

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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_______ 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.

Please indicate how you wish your contribution to be recorded:

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