Wyoming Reunion: Digging up the Past
Greetings from the chair

I hope the fall season finds you doing well. The year has been good for the department and there are many interesting and important items to report.

As always, field camp figures prominently. In fact, in most years I put the discussion of camp toward the end, as not to overshadow the other news. This year, however, there are so many exciting developments related to camp that I just have to plunge in right away. First of all, as I write this letter in August, it is barely over a month since our Alumni Days even atshell. This is the second time we’ve done a camp reunion. The first was in summer 2002 and was instigated and organized under the direction of our previous Chair, Paul Spy, audience attendance at that time, between alumni, faculty, staff, family, and friends, was close to 140. Those of you who were there know what a wonderful time we had, which is why we decided to do it again. Not surprisingly, attendance this time was down somewhat, but still close to 100. Most importantly, it seemed just as exciting, fresh, and new as the first time around (see our web site for photos and more information about the event - http://www.geology.iastate.edu). No question, we will continue to do these in the future, probably about every five years. I’d like to thank all of you who attended and I particularly want to thank those from the department who helped to organize and run the event – Jane Dawson, Deann Frick, Mark Madison, and Martin Helmeke, as well as the field trip leaders, Carl Vondra and Erik Krøle. All the trips were great, but particularly memorable was the visit to a newly completed excavation of a subadult. Compressions in the Jurassic Morrison Formation Companianus was a spectated, similar to in the Apatosaurus but smaller (growing up to about 60 feet in length). We’ve included a photo here, but there are considerably more on our web site.

Those of you who were at the reunion in 2002 know that we celebrated the naming of the field station after Carl Vondra for his long service to the camp (he began teaching there in 1964 and served as director from 1985 through 2003). What we did not advertise at the time, however, was that the renaming was not yet official. This is because ISU policy stipulates a waiting period before a university building or facility can be named after a retired employee. Happily, we have now passed that time limit, and, by vote of the Iowa Board of Regents, the camp is now officially known as the Carl E. Vondra Geology Field Station. I do not need to tell you how much Carl has contributed to the field camp, specifically, and the department, in general. The renaming represents just a small token of our appreciation for these efforts.

As you may have heard, the University has also decided to change the name of the department to the College of Liberal Arts and Sciences (CLAS). I will be the first to admit that this change is long overdue, and I think the name change will be good for the department.

I am also pleased to announce that the recent Alumnus of the Year Award is being given to Erik Krøle, who was a member of the first class of geology majors at ISU. Erik has made many contributions to the department, and I am pleased that he has been recognized for his contributions.

In conclusion, I would like to thank all of you for your continued support of the department. I look forward to seeing you at our next reunion.

Best wishes,

[Signature]
Greetings from the chair

One of the most exciting pieces of news to report about field camp relates to our campaign to raise funds to renovate the buildings. This effort began in earnest a year ago with a goal of $500,000. We did not start from zero, as many of you have long been giving generously to the field camp fund. Between our existing funds and significant early gifts from Bruce Bowen and Don and Barbara Herold, we quickly reached a balance of $310,000. At this point, even Tom and Poviine Smith, Tom and Evinne have long been great friends of the department and have had a particularly keen interest in camp. They noted their total goal versus the amount we had in hand, and decided to give us the difference for $50,000 to achieve our goal. When we began this effort only a year ago just how quickly we would reach our goal. At this level, we expect to be able to build a new shower house with flush toilets and separate sites for men and women, as well as a new main building with kitchen, dining room, classrooms, and staff quarters. To replace the student cabins will take additional funding, we are getting close to the $120,000, but we're optimistic considering the fantastic support we've received so far. Tom, Evinne, Bruce, Don, Barbara, and everyone else, thank you so much.

The fundraising campaign for the field camp facilities provides a convenient lead-in to announce a very important recent gift from Jim and Denise Becht of Houston. Jim received his B.S. from our department in 1969 and recently retired as President of Scott Resources. Jim and Denise have donated $315,000 to endow an undergraduate scholarship fund (Beck Family Scholarship). The goal of the scholarship is to help the department recruit the best undergraduate students, with particular emphasis on providing assistance to students attending field camp. Student fees to attend camp are now close to $2,000. The contribution is the balance of tuition and fees is the loss of income because students can't work while in camp is considerable, and in fact, so are the contributions to the capital campaigns for the field station are critical, as is the role that maintains the financial infrastructure for attending camp.

I can't tell you how much we appreciate the many ways in which you remain active with and contribute to the department. We are also extremely proud of your many great successes since leaving the department. It is also gives me great pleasure to announce our alumni awards. You may recall that a few years ago our college (Liberal Arts and Sciences) created an annual awards program, which allows departments to choose one or two graduates per year as Distinguished Alumini. The recipients are recognized at a college-wide ceremony hosted by the Dean during fall homecoming. Our inaugural awards for this program (2005) were Thure Cerling, Distinguished Professor of Geology, Biology, and Geophysics at the University of Utah, and Dick Maltby, retired Vice Chairman of the Board for Ocean corp. and current Board member for the Russian company LUKoil. We were highly honored that both Thure and Dick were able to come to campus to accept their awards. You may have seen the articles about Thure and Dick in last year's Yarce (past issues of the Yarce can be viewed at https://www-usc-atlas.com/uncalumni). For 2006, the faculty selected Roger Larson of the University of Rhode Island as the recipient of the Geology Distinguished Alumnus Award. Very sadly shortly after our vote, we learned that Roger had passed away due to complications from treatments he had received for cancer many years ago. We were very shocked that Roger's widow, Jane Grenier, was able to travel to RI with her son to accept Roger's award posthumously at the college ceremony. A very moving tribute to Roger has been written by his colleague Jan Landau of the Rosenstiel School of Marine and Atmospheric Science at the University of Miami. The full version was published in the December, 2006 issue of Oceanography (http://www.aslo.org/geomorphophysicsissue/issue_1099_1094_b/b9_4109_1094_1094_jl.pdf), and a condensed version appearing in the September, 2006 newsletter of the International Ocean Drilling Program (http://www.sed.ucsd.edu/podp/2006/09/08_ch_09_roger_larson.pdf).

With the above review of past recipients, I am now pleased to announce the Geology Distinguished Alumnus Awards for both 2007 and 2008. Normally we select recipients just one year at a time. However, in this case, we went an extra year in the advance because of the opportunity to recognize the awardees not just at the college ceremony, but also at the field camp reunion. For this year, we will be presenting the award to Dick Iverson of the U.S. Geological Survey. Dick is a world-renowned researcher in landslides and debris flows, with particular expertise in volcanics hazards. You may recall that Dick was profiled in last year's Yarce, along with Dick Maltby and Thure Cerling. Dick will be coming to Ames this fall to accept the award. As alluded to above, for 2008 we have chosen Rick Chamberlain and Howard White at co-awardees. When mentioned earlier, we stressed Rick and Howard's ongoing contributions to field camp. However, it is equally important to note that Dick and Howard have both led extremely successful careers in industry.

As already indicated, in 2005 we recognized Dick Maltby as the Geology Distinguished Alumnus Award. This year, Dick has been chosen to receive the Liberal Arts and Sciences (LAS) Citation of Merit award, which is a college-wide award. LAS has over 50,000 living alumni, yet gives out only about a dozen or so awards per year, so you can see that these are extremely difficult to get. Other graduates of our department, recently honored by LAS are Tom Smith (Citation of Merit, 2002) and Lynne Wainberg (John V. Aronoff Discovery Award, 2006). Our alumni account for about 1% of the total graduates of LAS, yet have received 5% of the college awards in the past half-decades. This is really quite amazing.

As you know, we typically hold a number of alumni events during the course of the year. The first this year will be our Geology Society of America Meeting in Denver, which is scheduled for Oct. 28-31. Normally we do not have a spot at the large alumni get-together. The problem with this event is that it tends to draw only from those who are attending the meeting. However, we're looking into alternative off-site venues that might do a better job of drawing from the broader base of alumni in the Denver area, probably for the evening of Oct. 30. We'll keep you posted by email (if you haven't been receiving emails, you can get on the mailing list by sending your address to Delyn Fisk at dfisk@ias.uci.edu). We also expect to meet with many of you at the AAGG meeting in San Antonio this April. In fact, between the field camp reunion and the AAGG meeting in Texas, we probably will not schedule a separate Houston get-together for this year.

Now that I've covered camp and alumni items, let me turn to some news from the department. This past year was a good one in terms of faculty awards. Last summer after the Yarce went to press, we learned that Ken Winker was selected to receive an LAS Master Teacher Award. This year the college selected the awardees a bit earlier than last year, so I am also able to announce that Carla Cervato has been chosen as an LAS Master Teacher for the 2007-2008 academic year. Typically 5 faculty awards are given per year by LAS, which amounts to roughly one award per year for each college. In addition, Carla Cervato participated in workshops helping other faculty members to improve their teaching skills.

There is good news to report on the budget front. The first half of the budget was disastrous, with significant cuts in state funding coming just about every year. This was compounded by overall enrollment declines, with the consequent loss of tuition revenue, due to a decrease in the number of high school graduates within Iowa. We lost two faculty positions during this period, not to mention several teaching assistantship lines. Last year, state funding finally stabilized, and this year the university actually saw some growth in state funding. Furthermore, enrollments (and thus tuition revenues) are up, thanks to very aggressive recruiting efforts by the university. Unfortunately, for the past few years capital and staff raises have been coming from one-time money. Thus, most of the funding increase for this year went to making that part of the budget permanent. Consequently, despite the budget increase, our college actually lost about 10 faculty lines this year (about 2% of the total). The good news is that our department did not have any open lines this year, so we were not at risk. Furthermore, we're recently heard from the college that we will be allowed to conduct a search during the 2008-2009 academic year for a new faculty position in stratigraphy/decimation. Although this means a little bit of a wait, it really is fantastic news.

Let me finish up by saying a few words about funding. As already noted, field camp facilities and scholarships for undergraduates are a major concern for us. Besides these areas, our single most important need is in support for graduate students. As a result of the state budget cuts discussed above, our budget line for graduate support has taken a very major hit in recent years. Thus, we do not have enough assistantship lines and the salary level of these lines is not as competitive as it should be. We presently have several funds for graduate support and new named scholarships can always be added. For now, however, let me direct your attention to the George L. and Carl E. Vondra Graduate Fellowship. This fund now has over $106,000. Currently the earnings are being used to supplement the salaries of several graduate students whose primary support comes from teaching or research assistantships. However, if we can double the endowment in the Vondra fund, we can provide one semester per year of scholarship support (including full tuition) that would allow the student to work entirely on their own research. This would be a wonderful rewarding tool.

As always, thanks for your support. We look forward to seeing many of you during the year. Please drop in if you pass through Ames.

Carl E. Jacobson
Geology Field Camp named in honor of long-time director

The photographer was looking for a specific place to take a photo at what became Carl Vondra's favorite spot at the Wyoming field camp was.

"Every inch of this camp is his favorite spot," Vondra's daughter Cynthia quietly replied.

Vondra didn't dispute the statement and the Board of Regents, State of Iowa, has recognized Vondra's dedication to the camp when it renamed the Department of Geology and Atmospheric Sciences' facility near Shell, Wyo., in honor of the eminent Distinguished Professor.

The camp is now known as the "Carl F. Vondra Geology Field Station."

"This is the perfect way to honor Carl for his committed service as director of the camp from 1965-2003 and for his many other invaluable contributions to the Department of Geology and Atmospheric Sciences," said Carl Jacobson, professor and department chair. "Nothing I can say can come close to expressing the amount of influence Carl has had on the field camp and its many students."

Iowa State has operated the field station in northeast Wyoming each summer for a course in geology field concepts and methods since 1957. The course is now co-taught with faculty from the University of Nebraska-Lincoln, which is Vondra's alma mater.

Vondra joined Iowa State's geology department in 1963 and began teaching at the field camp a year later. He assumed the post of director in the summer of 1965 and continued in this position until his retirement from Iowa State at the end of July 2003. After his retirement, Vondra continued on as camp director through the summer of 2003.

During his time as camp director, Vondra supervised all aspects of the station, ranging from routine maintenance of its infrastructure to the course curriculum.

"Carl transformed the camp from a small operation that served only a few students each year to one of the nation's best-known field camps, which has served as many as 60 students from Iowa State and other universities each summer," Jacobson said. "There is no question that this field camp is the single most formative part of the geology undergraduate curriculum."

"The camp is what it is because of the efforts of Carl Vondra. No faculty member in the history of our department has contributed in so many different ways."

The field station is home to Vondra and his family. "It was like a vacation for me," Vondra said. "Although it was quite a bit of work, it was a welcome change from the normal routine of campus and Ames."

During his tenure as the field station's director, Vondra continually upgraded the physical structures at the camp. Three of the main buildings are original structures used by the U.S. Government during its stay of Japanese-Americans during World War II.

Two of these buildings serve as living quarters for the students, while the third contains the kitchen, mess hall, library, and camp director's quarters. Many of the field station's improvements over the years came courtesy of Vondra as he searched high and low for bargains for the kitchen and other buildings to improve the camp environment for the students.

"I enjoyed my experience as director of the field station very much," he said. "It was really the high point of my life here at Iowa State."

"The camp may not have my name on it, but this camp belongs to everyone who helped build and came here summer after summer. This is their camp."

In retirement, Vondra continues to serve the department. He travels annually to Houston, Texas, to meet with Iowa State geology alumni and is engaged in the department's efforts to raise funds to replace the current buildings at the field station with more modern facilities.

Vondra was the chair of the Department of Geology and Atmospheric Sciences from 1994-97. He is a current member of the College of Liberal Arts and Sciences' Dean's Advisory Council and received the LAS Distinguished Service Award in 2002.

Chris Harding builds interactive geoscientific virtual environments that use 3D vision, touch and sound

Chris Harding wants to not only observe but also touch and hear data in virtual environments.

His NSF-funded project is researching natural and intuitive ways for geoscientists to interact with virtual scence.“I use the shape of a geological surface with a virtual finger tip and to change that shape by deforming it via a virtual tool,” Harding says.

Harding combines geoscience research and teaching with growing field of virtual reality — especially the combination of vision, touch and sound, so-called “multimodal” interaction. In addition to his appointment in the Department of Geology and Atmospheric Sciences, he is a member of the Human Computer Interaction (HCI) program and the Virtual Reality Applications Center.

As a teenager, Harding was interested in technology and was fascinated with computer programming. But science was also an interest of his. "I wanted to see if I could combine my interests but never thought this would be possible in a university setting," he said. "I can't be classified as a traditional geologist but I'm not a true computer scientist either. I'm not a specialist in any one area and never expected to get an opportunity for an academic career."

He was involved in virtual reality work at both Shell and Exxon, where he worked with large stereo displays (virtual theaters), scientific visualization and interactive systems.

Then he became aware of ISU's HCI program and was amazed that initiatives are being done. He says that the combination between the geosciences and virtual reality is a natural extension of the ways geoscientists work with 3D data.

"Geoscientific tasks carry a special set of problems and need different approaches. Many geologists already use computer programs to explore and visualize 3D geoscientific data, sometimes even in a VR system, but when they want to express a new spatial idea they instinctively grab a pen and start drawing," he said. "I'm trying to show geoscientists a new way to directly and manually interact with their data, similar to sketching and constructing shapes on paper, but in 3D. From my geoscience background I can speculate what types of typical interactions and tasks we can propose to improve on by using a haptic VR system. Once the system is built, we will have the practitioners test it and evaluate its usefulness."

Using the Omni Phantom device to touch a virtual surface, various types of force effects are generated, such as hardness or friction. His interactions are deliberately based on everyday tool-object interactions such as deforming clay or drawing or cutting paper because the user will already have that skill.

His "piece of paper" is actually a huge digital elevation model or a fault plane. Harding says few people have had to think about how deforming this rather abstract 3D model should feel. The specifics of a multi-sensory interaction technique are even more specialized by what works effectively for humans in virtual reality.

"This can be different from how reality works,” he says. "I think one needs to acknowledge that a novel form of creativity comes into play when developing these new
Igor Beresnev, Professor

I took a sabbatical leave for the semester of Spring 2007. I had decided not to leave on any fun trips but instead concentrate on the projects that I was fortunate to get funded during the year. Both are for the total duration of three years, one came from the Petroleum Research Fund and one from the National Science Foundation. They are on related subjects: I continue to explore physical foundations of the technologies of enhanced petroleum recovery with the help of acoustics and vibrations, and also try to delve deeper into the related physics of oil drop explosions. All of these projects are highly competitive and I am trying to find the best way to develop an acoustics based theory of the bubble up to the liquid surface, a rigorous calculation of the physical process and the conditions allowing the so-called oil ‘snap-off’ to occur. It turns out that the channel geometry plays a pivotal role in deciding whether the oil will coat the bubble or get lost in the process. It is a common observation of thin cylindrical streams of water, for example, flowing down from a faucet, which tend to break up into aerodynamic droplets. I have been addressing this problem and have had some success in designing a viable way of breaking up the flow into droplets. Another example is that all of the air-foil models are based on the flow of thin layers of oil. I have submitted these theoretical results to the Physical Review and the Journal of Fluid Mechanics.

The project provided funding to recruit two new Ph. D. students: Wen Deng started in January 2007; he is building a computational fluid-dynamics simulation tool to help us to understand the acoustical phenomena associated with our theories. Alireza Valaei, scheduled to arrive in August 2007, will focus on the experimental verification of the theoretical predictions. He will work together with our NSF grant cookies and the US National Science Foundation (NSF) grant. At the beginning of the academic year, Alireza will join our research team to work on the development of acoustical models and acoustical theories.

Our goal is to build the ultimate understanding of the microscopic oil-recovery process in petroleum reservoirs, when the vibrations or acoustics are applied.

Ani Bayrak, our third new student, who started in August 2006, keeps working on her M. S. thesis on a different subject. She is trying to extract the improvement in the oil recovery process. She has published one paper in the Geophysics journal. Several years ago, she published an article predicting this possibility. However, it has never been experimentally verified. This is an opportunity to validate the method. If we are successful, this important, currently non-observable parameter of an earthquake source will become available from seismological data.

Because of my sabbatical, I taught only one course this year. In the spring semester, I taught Exploring Seismology with the help of my sabbatical students. In the fall, I taught Geology and the geological characteristics of the mid-continent. In the course, I taught my students the basics of petroleum geology and the history of the oil industry in the United States. I also taught my students the history of the oil industry in the world. I was able to speak to two weeks with the field camp students this summer. We had a strong group of 23 students this year, representing a number of universities throughout the country. With the help of Mark Rice, I led a student exercise in the southern Wind Rivers on an Alaskan metamorphic rocks. The ca. 2.7 Ga convergent plate boundary exposed in the Wind Rivers is considered one of the best preserved Alaskan convergent plate boundaries in the world. Students were exposed to spectacular ductile deformation features, including stretched pillow basalts.

Cynthia Cervato, Associate Professor

It is time to look back at another year for the Verve. This academic year I returned to the full teaching load with the support of a faculty member, and I am teaching the course on Meteorology. So far, I have attended the spring meetings of the American Meteorological Society and the annual meeting of the American Geophysical Union. I am looking forward to the starting the semester again in one month.

This year I started my 3-year term in the Center for Excellence in Teaching and Learning (CETL) program. This year I will be the faculty chair of this excellent group of faculty and staff dedicated to improve the learning experience of our students, one of the most productive university committees one can serve on.

In February, I traveled to Houston for a meeting hosted by ConocoPhillips, who are the sponsors of the Ocean Drilling Program (ODP) funded by the National Science Foundation. I also attended the conference on the ODP legacy data. Both projects are in collaboration with my old friend Bill Ryan, Director of Ocean Drilling and marine geologist at Columbia University.

The National Science Foundation - Division of Undergraduate Education - is also going to fund another project. Our proposal for the Undergraduate Education Program, which is a proof-of-concept collaboration with Geoff Bohling (NASA Geophysical Survey), the award will allow us to develop a web-based environment for interactive instruction in the geological aspects of petroleum reservoir characterization, employing a virtual subsurface closely linked to the geological characteristics of the mid-continent, in the fictional setting of Short County, Kansas. We plan to use this instructional environment to fill the current gap in petrophysical instruction and training for geology undergraduates. Initially, we will focus on the development of a web-based system to provide an interactive environment for teaching petrophysical concepts. The system will be used to develop interactive modules for teaching petrophysical concepts, which will be integrated into the undergraduate curriculum.

Jane Pedrick Dawson, Senior Lecturer

It was great to see so many of you at the alumni reunion in Wyoming. I just think that the next time we gather at the field station, there will be flahs all over.

I was able to spend two weeks with the field camp students this summer. We had a strong group of 23 students this year, representing a number of universities throughout the country. With the help of Mark Rice, I started a student exercise in the southern Wind Rivers on an Alaskan metamorphic rocks. The ca. 2.7 Ga convergent plate boundary exposed in the Wind Rivers is considered one of the best preserved Alaskan convergent plate boundaries in the world. Students were exposed to spectacular ductile deformation features, including stretched pillow basalts.
It has been an eye-opening experience for me to discover how non-science students can misconstrue and distort fundamental scientific concepts.

I continue to work with Carl Jacobson deciphering the timing of underplating and exhumation of the Felon-Oncoclea-Rand schist in California and western Arizona. We are also interested in the provenance of the schist and iron oxide. We have done geochemical analysis of iron oxide minerals in both the schist and Upper Cretaceous-Paleogene forearc sediments to learn what regions were supplying sediment to the trench, and at what time. In December, I joined Carl and masters student Jim Ross in southern California and western Arizona for two weeks to do field work and collect samples, concentrating on uplifts near Yuma, AZ. This summer (when not in Wyoming!), I have been working on separating zircons from the samples we collected. We now do most of our U-Pb geochronology at the University of Arizona, where the instrumentation allows us to collect large amounts of data in a short time.

My husband Bob is still working as a geologist with the Iowa Department of Transportation. He continues to brew beer, and does well with his entries at the Iowa State Fair. We grew root for beer, and Bob has accumulated a twenty-year supply of firewood through hisAIS. Those of you know Bob and know he never takes a vacation will be surprised to learn that we are taking a two-week vacation to Alaska in August!

DeAnn Feist, Secretary

The past year has been as busy as ever. I don’t think I have ever had so little time to do anything! I have not even had a chance to do things that I really wanted to do. I have been too busy trying to catch up on all my work.

Our Alumni Reunion at field camp was a great success. We have all the planning and preparation that went into the reunion was well worth all the effort. It was great to see those of you that got to attend this year. Those of you that were not able to attend will have to wait until next year’s reunion to see what the next field camp alumni reunion may be.

The past year has been filled with more training sessions and meetings than I really wanted to attend. Some of these meetings were beneficial, but other times are really a waste of time! I just keep plugging away at everything trying to stay ahead.

Our fifth grandchild was born on September 25, 2006 to our son Mike and his wife, Edie. Their daughter is their third grandchild. She has grown up so fast, she is already ready to go to school. She is having a lot of fun with her older sisters (Emily, age 9, and Ally age 5). It has been great to have a baby in the family again. Both Emily and Ally will go to the same school this year (4th grade and kindergarten) so that makes the carpool a bit easier.

Our oldest grandchild, and only grandchild, Curtis, turned 14 last September. He got his driver’s permit and then after completing driver’s education this summer he got his school permit. It’s really scary to think that my grandson is already on the road!

Our family has been busy with a lot of activities. Some days I could catch myself coming and going. I think I’ve seen just about all of the kids.

Steve seems to be better after his procedure to insert his pacemaker/defibrillator. He is less tired than before so that has been good for him.

I always enjoy catching up on the lives of past students. I hope you are having a great year.

Chris Hardling, Assistant Professor

The last year has been the graduation of our first graduate student. However, I have not received a single piece of research from any of the students. I am not considering that our experiments in fluvial geomorphology were underway almost a century ago. Many thanks go to former students Tom Hoyt (Ph.D., 1999) and Jason Thompson (Ph.D., 2000), who have had a hard time publishing their research papers and had to work very hard on writing excellent dissertations.

This year was the first of a three-year funded NSF-Major Research Instrumentation to build a new ring-shear device for my walk-in freezer that will allow laboratory study of glacier sliding and sediment transport. Another important project has been on the melting ice in the Arctic. It has been a success so far and the past year was spent designing the new device with mechanical engineers at the DOE Ames Laboratory. This year was also the first of an NSF-funded, field project aimed at studying the frozen margin of a polythermal valley glacier in Sweden called Svalbard. In July Ph.D. candidate, Pete Moore, and I installed surface grids and borehole instruments in the glacier to document the anomalous ice flow and sediment transport that is thought to occur when sliding, melting ice overrides the bottom ice of the glacier.

We had major help from Tom Hoyt of the Wisconsin Geological Survey and ISU affiliate faculty member Denis Cohen, and Professor Keith Brugger of the University of Minnesota-Morris, who I worked with 2 years ago in the same area. Pete dedicated and these old friends made this project a great success and frequent falls on the ice seem tolerable. Finally, NSF Candidate Jack Shumway completed her field measurements of till particle and magnetic fabric along the south shore of Lake Superior in northwestern Wisconsin. This data indicates that more work needs to be done on the sediment bed, although more heterogeneously than is usually assumed in glacierine models.

I am teaching in the upper level courses in geomorphology and glacial geomorphology. I am teaching in the upper level courses in geomorphology and glacial geomorphology. I am teaching in the upper level courses in geomorphology and glacial geomorphology. I am teaching in the upper level courses in geomorphology and glacial geomorphology.
As I noted very briefly a couple of years ago, I've also begun a project in Sonora, Mexico. My primary collaborators in this effort are Andy Barth of Indiana University-Purdue University at Indianapolis and Cesar Vicente Peralta of the National Autonomous University of Mexico in Hermosillo. Our work is centered around the town of Caborca, although we're actually studying a swath about 150 km wide that extends to the west coast of Sonora along the Sonora River. We've been spending much of our effort determining how much water remains to be done in this region. We started off with deltal-irrigation studies of Upper Cretaceous foreland basin deposits in order to determine provenance. More recently we've been emphasizing the identification of ancient seismic activity. In many cases it's not even clear whether individual plutons are Jurassic, Cretaceous, or Cenozoic. We'll also be doing some Ar-Ar dating on metolines that may be part of a middle Cenozoic core complex.

In my "Greetings from the Chair" letter I gave a summary of our recent alumni reunion at field camp. I want to reiterate in this more personal space just how much I enjoy going out to Wyoming and seeing all of you. It's easy to forget how special our profession is to have this type of experience. I can't wait until the next one, although it's also scary to think that it will probably come around much faster than we expect.

Our older son, Mark, graduated from ISU in biology a year ago. He's now working in New York City for a company that creates advertising and educational materials for the pharmaceutical industry. This is the company that my wife works for. She manages the Ames office of the company, although she also traveled quite a bit to New York. Our younger son, David, has just begun his last year at ISU in engineering. He's trying to decide between looking for a job versus going to graduate school.

Mark Mathison, Teaching Laboratory Coordinator

We had a busy summer at field camp this year. Martin Helmke is the new Director and he helped continue the great tradition of camp by helping remodel the kitchen and provide extra cooking equipment. The overall condition of the camp was good and the kitchen received a perfect score on the health inspection this year. The food was delicious.

Field camp also saw the Alumni reunion at the end of the field camp session. About 120 people turned out for this event. A great time was had by all with a once in a lifetime chance to see an appreciated skeleton of a Camarasaurus. Special thanks go to alumni Howard and Sherry Litchko for their continued help with projects at camp this summer. We also had the architecture firm of BNIM architects stay at camp for a few days. They spent time interacting with the students and staff to develop plans for the new camp facilities. Some great ideas were generated for facilities that are green and complement the existing setting. Thanks to Tom and Evonne Smith for their extremely generous gift to help with field camp improvements; we have moved closer to the reality of new camp facilities.

I will be going to Egypt with Tom Bown this October. We will be continuing work on one of our favorite sites, the site of Abydos. In 2005, we are excited to be reporting on our 2007 season at the site, which is a very important site in the history of Egypt. On other fronts, I just purchased a condominium on Big Bluestem Court in Ames. It has many passive solar features to it. The next step is getting it back into shape after the disrepair which it was left by the previous owner.

Bill Simpkins, Professor

This has been a busy year on the research front as I made my move into Phase II of the City of Ames aquifer project and supervised ongoing and initiated new projects on buffers and lakes. I spent most of the year completing a 2-D, steady-state, analytic model of the central Iowa region encompassing Polk City to the south to Cambridge and Johnston to the west. The model was used to evaluate the importance of recharge on streamflow in the, i.e., the St. Gabriel and Squaw Creek. We also modeled streamflow trends near the town of tomatoes.

In student news, Evan Christensen (B.A., Gustavus Adolphus College) is in the final stages of modeling the groundwater/lake interaction at Ada Hayden Lake (Halletts Rd.) and has been working on the role of changes in lake levels on the groundwater/lake interaction. He has been working on a model to evaluate the importance of recharge on streamflow in the, i.e., the St. Gabriel and Squaw Creek. We also modeled streamflow trends near the town of tomatoes.

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Carl Vondra, Distinguished Professor Emeritus  
The past year was a rather uneven one for me. During the fall and winter, Georgia and I chatted on the Cyclone football and basketball teams to no avail. All prognosticators suggest that it will be another long season for the Cyclone football team even though we have a new coach. The men’s basketball team will also have another difficult season but the women’s team should do very well.

I spent the spring planning a new course for the “College for Seniors” (ISU and other retiree, fifty-five and older). This will be the “Geology of the Colorado Plateau,” followed by a field trip to the national parks and monuments of the region. The course was approved and will be taught in the spring of 2008.

Georgia and I visited a few places in the United States and also in Europe. We attended the annual conference in Rome and the annual meeting in Granada. We also went to the annual meeting of the American Association of Petroleum Geologists in Madrid.

In the meantime, I am back in the classroom teaching the Stratigraphic course. I am substituting for German Mora, who is on leave for the current academic year.

Best wishes to all. I look forward to seeing many of you at the GSA and AAPG meetings.

New Faculty Research Grants in 2006


Cervante, C., W. Gallus, C. Cruz-Neira, and T. Greenhowe, Development of cutting-edge geoscience virtual reality applications for classroom instruction and educational evaluation of the impact of learning VR technology, National Science Foundation, $478,274.

Fang, J., Assessing the ecotoxicity of nanomaterials and identifying biomarkers in bacteria exposed to nanomaterials, University of Iowa Center for Global and Regional Environmental Research, $85,359.

Janssen, N.R., Development of a laboratory device for study of subglacial processes, National Science Foundation, $520,902.

Janssen, N.R., A field and theoretical study of sediment transport near the bed thermal transition of a polythermal glacier, National Science Foundation, $198,682.

Simpkins, W., Assessing the impact of combustion and production and sustainability of oil and gas aquifers with groundwater models: A test case for the Ames Aquifer, Iowa Water Center, $29,932.

Spry, B.G., The origin of graphite in the Foster River area, northern Saskatchewan, Wildfire Exploration (Canada), $16,065.

Spry, B.G., Geothermal, mineralogical, geochemical and Structural Studies of the Buna Creek-Central Ridge area, Upper Sabie River, Fiji, Austrain Mining (Australia), $16,065.
Digging up the Past

Marvin Taylor's experience is like many other alumni of the Department of Geological and Atmospheric Sciences' Wyoming field camp.

"Several years ago on a family vacation, we came through the canyon and we stopped by for a few hours," the 1977 geology alumnus from Omaha, Neb., said. "I had a real enjoyable time when I was here, so I wanted to show them where I spent a couple of summers."

Taylor's family vacation stop in Shell, Wyo., was the only time he had visited the field camp until this past summer when he joined approximately 150 alumni, friends, faculty and their families at the second annual alumni celebration July 7-9. For most, it was also one of the few times they had revisited the site of their summer excursion so many years before.

The reunion was highlighted by a couple of major announcements at a special evening program.

- Pat Jacobson, professor and chair of the Department of Geological and Atmospheric Sciences, gave a "state-of-the-department" address during which he informed the alumni that the field station would be officially known as the "Carl Vondra Geology Field Station" in honor of Carl Vondra, emeritus Distinguished Professor of geology and long-time camp director (see story on page 6).
- This is the perfect way to honor Carl for his committed service as director of the camp and for his many other invaluable contributions to the department," Jacobson said. "Nothing I can say can come close to expressing the amount of influence Carl has had on the field camp and its many students."

- Jacobson also announced that the initial fundraising campaign for improvements to the camp has received more than $500,000 in contributions including a major gift from Tom (68 & '71) and Evonne Smith of Houston, Tex.

This is the best articulated dinosaur skeleton I have ever seen in the field. - Carl Vondra

The discovery brought back memories for geology alumnus Bob Hrbak (59) of Leavenworth, Kan., and his daughter Pamela. While he was attending the field camp in the late 1950s, he made his own dinosaur discovery -- a vertebrate.

"My children got to take it to show and tell every year at school," Bob Hrbak said. "It was definitely their favorite part of me being at the camp."

That physical reminder of the field camp sustained Hrbak for years until he came back for this year's reunion.

"I couldn't wait to see what it looked like again," he said. "I had so much fun when I was out here."

According to Frank Rockendorf ('61 and '62) of Salem, Ore., while his experience at the field camp was enjoyable, it was also beneficial to his career.

"I’ve been all over the world and Iowa State couldn’t have selected a better (geological) place to put this camp," he said. "The field camp is all about seeing things firsthand. Everything in the textbook is right here in the field."

Iowa State has operated the field station in north-central Wyoming each summer for a course in geology field concepts and methods since 1957.
Alumni honored by department, College of Liberal Arts and Sciences

Three alumni from the Department of Geological and Atmospheric Sciences have been recognized in 2006 by the department or the College of Liberal Arts and Sciences at the past two Homecoming celebrations at Iowa State University.

Roger Larson (65) was recognized posthumously in 2006 by the department’s Outstanding Geology Alumni Award. Richard Vermont (77) was honored with the same award the following year.

Richard Martin (73) was the recipient of the College of Liberal Arts and Sciences Citation of Merit Award in 2007. This is the highest alumni honor given by the college.

Roger Larson
1965 BS Geology
Awarded posthumously

Roger Larson was a world-renowned marine geophysicist and an authority on using marine magnetic anomaly data to reconstruct the history of ocean basins. Some of his major accomplishments include:

- Establishing the origin of the Gulf of California and the San Andreas fault system, and
- Advancing the complex early history of the Pacific and Atlantic basins, discovering and documenting the complex formation of oceanic crust, and investigating the periods of extensive worldwide volcanism known as "superplumes." Roger Larson was elected to the National Academy of Sciences in 1978.

Richard Vermont
1977 BS Geology

Richard Vermont was honored as a research hydrologist with the U.S. Geological Survey (USGS). In 1977, Richard Vermont developed and continues to use the "USGS Deltic Technique" for mapping the world’s oceans. He has been the lead investigator on a number of projects, including the discovery of the famous "black smokers" hydrothermal vents on the crust of the East Pacific Rise. He has also been a key scientific advisor to the Ocean Drilling Project, one of the largest international Earth science projects ever undertaken.

Richard Martin
1973 BS Geology

Richard Martin was a central figure in the Department of Geological and Atmospheric Sciences. He was the lead investigator on the discovery of black smokers, a process that allowed the formation of the world’s oceans. Martin was also a key figure in the development of the USGS Deltic Technique for mapping the world’s oceans. He has been recognized for his contributions to the field with numerous awards and honors.

Vondra to be named "Honorary ISU Alumni" at VEISHEA 2008

Carl Vondra, Distinguished Professor emeritus of geological and atmospheric sciences, has been granted an Honorary Alumni Award by Iowa State University and the ISU Alumni Association. He will be recognized at the 2008 VEISHEA celebration.

The Honorary Alumni Award, established in 1968, is the highest honor given by Iowa State through the ISU Alumni Association to individuals who are not graduates of Iowa State and who have made significant contributions to Iowa State's welfare, reputation, prestige and pursuit of excellence.

Vondra was recognized for his continued service to the Department of Geological and Atmospheric Sciences. He travels annually to Houston, Texas, to meet with Iowa State geology alumni and is engaged in the department's efforts to raise funds to replace the current buildings at the field station with more modern facilities.

Vondra was the chair of the Department of Geological and Atmospheric Sciences from 1965 to 1975. He is a current member of the College of Liberal Arts and Sciences' Dean's Advisory Council and received the LAS Distinguished Service Award in 2002.

Vondra joined Iowa State's geology department in 1963 and has taught at the field camp a year later. He assumed the post of director in the summer of 1965 and continued in this position until his retirement from Iowa State at the end of July 2000. After his retirement, Vondra continued on as camp director through the summer of 2003.

The Board of Regents, State of Iowa, officially named the field camp the Carl Vondra Geological Field Station, this past year.

Graduating Students

Summer 2006
Daron Reis (BS - Geology)
Cory Stevenson (BS - Geology)

Fall 2006
Susan Schenck (BS - Geology)
Janet Mann (MS - Geology)
Adrian Heinman (PhD - Geology)

Spring 2006
Ben Schmid (BS - Geology)
Matt Dooner (MS - Geology Water Resources)
Eric Grossman (MS - Geology)
Yanxi Huang (PhD - Geology)

Summer 2007
Amy Viner (BS - Geology)
Humberto Carnevali Ortiz (MS - Geology)
Joshua Reed (MS - Geology)

Geology Student Awards

Graduate Awards

- Pick of the Year: Paul Ebert
- Outstanding Teaching Assistant: Mandy Buey
- Outstanding Student: John Lemish Award: Peter Moore
- Outstanding Research: Joel Red
- Distinguished Student: John Buey
- Distinguished Student: Eric Christiansen
- Distinguished Student: Graduate Student Seminar
- Top Paper: Evan Christiansen
- Outstanding Student: Douglas Jochum
- Outstanding Undergraduate: Jessica Ferraro
- Outstanding Senior: Doug Jochum
- Outstanding Contributions: Todd Boreland

Other Graduate Student Awards

- Abrahamson: Hydrological and Geochemical Investigation of the Upper Bear Creek Watershed, Sigma Xi Grant-in-Aid of Research, $400
- Abrahamson: Hydrological and Geochemical Investigation of the Upper Bear Creek Watershed, Geological Society of America Student Research Grant, $700
- Bonsall: Remote Sensing of the Lassen Volcanic National Park, $4,500
- Bonsall: Field Trip to study copper deposits in northern Chile, Society of Economic Geologists Student Field Trip Program, $1,500
- Forthman: Neotropical Geology, paleoecological and structural relations of copper and gold-bearing gold tillite mineralization in the Navajo sandstone, Fiji, Newmont Student Research Grant (Society of Economic Geologists), $3,000
- Forthman: Neotropical Student Fellowship (Society of Economic Geologists), $15,000
- Reed: 2007 Eclipse Community Best Open Source Applications Award
Graduate Students and their Research Projects

Alahamson, Jennifer – Hydrogeological and Geophysical Investigation of the Upper Bear Creek Watershed (Simpleson); M.S.

Jain-Raynal, Ani – Fault-slip Velocities inferred from the Spectra of Ground Motions (Beresneva); M.S.

Blocher, Lucy – Water Quality Effects of Intensive Livestock Production in the South Fork (Kosa River) Watershed (Simpleson); M.S.

Bonnell, Todd – Fluid Inclusion and Stable Isotope Geochemistry of the Lower Silver-End-Zinc District, Greece (Spyri); Ph.D.

Brock, Andrew – CALTRONICs and the Cambrian Explosion: Chronicontography and Paleobiology of the Globally Distributed Soft Bodied Fauna in the Cambrian (Cervato); Ph.D.

Brooke, Philip – Quantifying Potential for Perennial Vegetation to Remove Nitrogen in Riparian Zones (Simpleson); M.S.

Clein, Jessica – Hydrology and Nutrient Balance of a Great Salt Lake Brine Hot Spring (Cervato); M.S.

Daniels, Mary – Desalting of Seawater for Urban Use (Simpleson); M.S.

Davison, Anthony – Identifying Microbial Diversity in Bacterial Mat Communities (Cervato); M.S.

Ebert, Paul – Partitioning Nutrient Inputs to Lake Macthez from Overland Flow, Water Zone, and Groundwater Sources (Simpleson); M.S.

Forsyth, Nathan – The Geology and Geochemistry of Gold Telluride Mineralization in the Nantlawale Caldera, Fiji (Spyri); M.S.

Gnesch, Matt – Interpreting the Origin of the Madras Drumlin Field using the Magnetic Properties of Till (Morse); M.S.

Jindal, Pratiksha – Using Groundwater Models to Assess the Impacts of Eladon Production and Sustainability of Alainah/ Burail Valley Aquifer (Morse); M.S.

Mauler, Eric – Evaluation of Geologic and Geophysical Characteristics of the Morro Bay Slough (Morse); M.S.

Martinsen, RJ – Carbonates of Nana (Dawson); M.S.

Moore, Peter – Dynamics of Ice Flow and Sediment Transport in the Lower Alkaid Drainage Basin of Greenland (Dawson); Ph.D.

Newcomb, Matthew – A Multi-modal Interface for Road Planning and Design on Urban Streets and Suburban Roads (Simpleson); M.S.

Parham, Tom – Study of U.S. Undergraduate Students’ Conceptions about Volcanoes and Volcanic Activity for the Development of a “Virtual Volcano” (Cervato); M.S.

Faculty and Student Publications

Journal Articles/Chapters in Books


Joe and Joan Bruns
B.S. 1977, j-bruns@bobglobal.net
Joe and Joan continue to live in Edmond, Oklahoma. Both are employed at the First Resource Corporation in Oklahoma City. Joe is a senior geologist and Joan as a consultant. Coal bed methane production is the primary focus at Quest. Joe and Joan met at ISU as undergraduates and will have been married for 28 years. Their children are Aaron (17), Paul (19) and Michael (12). This summer the family embarked on a geology's vacation, spending 10 days camping at several western national parks.

Thomas Correll
B.S. 1984; Thomas.correll@mgco.com
To is Director of Pipeline Integrity with Northern Natural Gas and was recently appointed to the Nebraska Board of Geologists. He resides in Omaha with his wife, Ann, and three children. His eldest daughter graduated from high school this year and will attend Loyola University in the fall.

Dave Hamilton
B.S. 1974, M.S. 1979, dave@emcine.com
It is with great pleasure that Dave looks back on his time in the Department in Iowa State. Although the details are becoming foggy to him, some memories are still strong. He wishes he could bring on one or two. Since those days his time has been spent in Texas both in Houston and Austin. He started his career in 1979 with Exxon Production Research Company where he worked in the computer applications group. Although the group developed software, he has spent the time testing that software, training, and building geocellular models of oil fields and mineral deposits. While there, he and two colleagues wrote a book about computer contouring techniques, a painful but tremendous learning experience. In 1986, an across-the-board opportunity to leave the company found him with itchy feet ready for something different: either rent windurfers to tourists in Cozumel or go back to school. He returned to ISU to work on a doctorate under Carl Jacobson but found that his heart was in the work place and not the classroom. In 1987, he started work for Zycon, Inc. in Austin, Texas. It was a small company of about 40 people who developed mapping software for the oil industry. Again he tested, trained, and modeled oil fields. The company supported his taking computers to ISU's geology field camp for two summers, one of which he seemed to be writing up and get front page billing, and the AAPG Explorer. While at Zycon, he had the opportunity to be both book editor and author of several chapters in the first publication in AAPG's computer applications series. So in writing books is like giving birth, the joy of the result helps you forget the pain, and eventually you are foolish enough to do it again. Zycon was bought by Landmark Graphics Corporation. He continued working for them for two years but eventually came back together with a Wyoming geologist, who also worked for Zycon, and started their own company, Subsurface Computer Modeling, Inc. That company has now been in business for 15 years and has 20 people in three locations, Austin, Houston, and London. August 2008 was a sad day when they were acquired by SGI. Eventually the time away from family mostly working in Houston, drove him back to Houston, which is where the family resides now. His office is in the Galleria area and has a training facility which runs courses two weeks a month; they also do onsite consulting. Most of his time is spent consulting or writing training courses for the Majors and Schlumberger. The software they used initially was Z-MAP Plus but they have since shifted most of their emphasis to Wind, a program that supports geophysical interpretation through seismic data. It is called SGI's Kingdon Suite, a program developed by Tom Smith's old company which focuses on geophysical and geological applications. Mary, Ted, and Dave have settled nicely into the Houston environment. Ted has been in science since he was five and plays youth sports and tennis. Ted and Dave both are active in Kuk Soo Won, a martial arts class. Ted is a brown belt and Dave is a yellow belt. The family enjoys the outdoors and the camping is such fun. They have been to Houston one weekend a month as well as a week every other month. Mary stays busy with contract work in daily top publishing, works part time at Ted's Montessori school, and manages websites for security and the company. They are now good and are looking forward to being able to travel at the end of the next school year. It happens. However, with a 12 year old son he will be around the industry for a long time to come and hopefully will cross paths with many ISU Alumni both at work and at ISU events in Texas, Wyoming, and Iowa.

Paul Hardeen
B.S. 1997, hardersen@acero.ind.en
Not long after Paul graduated, it had been 10 years since he received his undergraduate degree from ISU and the Geological Sciences program. How time flies!

He is an assistant professor at the Department of Space Studies at the University of North Dakota and is delightfully keeping exceedingly busy. His mid-term review came and went and he survived that part of the process unscathed. He continues to teach and conduct research in the department, but he now also the state director for Space Grant and NASA EPSCoR, which has given him some administrative burdens that attach themselves to such positions.

His research, which is a combination of geology and astronomy, continues to be the study of main-belt asteroids, primarily on efforts to constrain individual object surface mineralogies and on understanding the processes that occurred in the early solar system prior to terrestrial planet formation and leading to the solar system we see today. His first NASA Planetary Astronomy research grant will be ending in 2008, but he is already working with additional funding to delve into other research areas, such as solar astronomy and Taurus stellar spectroscopy, as time permits.

Besides the typical work, Paul is also responsible for the UND Observatory (https://observatory.space.und) and efforts to improve the department and university's astronomical infrastructure and research equipment. UND currently has two Internet controllable observatories and one radar telescope -- and grant applications have been submitted to build a 3rd, larger Internet observatory.

All of this equipment is merging into a nascent network of Internet observatories, sponsored by Space Grant, which offers research opportunities to qualified faculty and students (http://sgn.space.ag).

Cristina Paul's wife, is doing fine and working as a family physician in town. They recently visited Paris and Romania and to go on ski trips, but lost their skis and snowboards on the way back to North Dakota. He admits to missing ISU and Ames. If you want to get reacquainted with Paul, feel free to contact him by e-mail at any time. He would enjoy hearing from you!

Claire Hebray
M.S. 2002, hunabah@ol.com
Since Claire left ISU she taught two semesters of Introductory Geology at Grinnell and seven semesters at Drake University. Now she is working full time at the DNR for the Iowa Geological Survey. Most of her work involves hydrology and GIS work related to the siting and evaluation of Animal Feeding Operations. While most of her work concerns assisting producers and regulators, she has taken on opportunities for research and field work. Two years ago she participated in a data-trace study in the Big Springs Basin in NE Iowa. She was involved in some geophysical investigations in Spring Valley, Minnesota, Ada Hayden Park, and several karst sites in NE Iowa. Recently, she became interested in emerging contaminants. While lots of work needs to be done to deal with nitrates, bacteria, and sediments in Iowa's water, she thinks the impact of emerging contaminants (including hormones and pharmaceuticals) on both our terrestrial and aquatic ecosystems is a serious issue.
In other news, she owns a home in Beaverdale that she shares with her two sled-dogs. Her evenings and weekends are filled with dancing. She is learning to dance salsa and is also learning Spanish at the same time. Meanwhile, she continues to choreograph and perform with Hurley and Dancers, a modern dance company in Des Moines. Recently, she performed Flamenco choreography by Karina Barone in the Des Moines Metro Opera’s production of “Carmen.”

Anyone who says there is nothing to do in Des Moines hasn’t tried very hard to find things. There is plenty of diversity, too, but still no mountains or glaciers. She has been paddling on the Des Moines, Racoon, and Turkey rivers this year. The water quality leaves something to be desired, so she claims to have her work cut out for her at the DNR.

Joan Zach and Jason Thomson
Zach, M.S. 2004; Thomson Ph.D. 2006;
jthomson11@yahoo.com

Joan and Jason are still located in Champaign, IL, and continue their employment with the U.S. Geological Survey. Jason has taken a new position within the Survey that merges Quaternary geology and groundwater geo-ology. Joan continues to run the clay-mineralogy laboratory at the Illinois State Geological Survey, and she is also teaching sections of Meteorology and Geography at Illinois State University this year. Joan and Jason have recently purchased a pre-1920 home and renovation projects were included at no cost.

Keith and Brenda Kutz
Keith B.S. Geology, 1983; M.S. Geology, 1987;
klutz@kent.asate.edu and Brenda Kutz (B.A. Earth Science, 1983; blutz@asate.edu)

Since leaving the department in 1987, the Kutz’s moved around a bit, with stops in Pittsburgh, PA and Blackburn, VA, before returning to Ames in 1990. Brenda’s career has progressed from work on her Master’s degree, to managing the fluid inclusion laboratory in the Dept. of Geosciences at Virginia Tech, to her current position at the Academic Advisor to the Department of Chemical and Biological Engineering at ISU. Keith’s career path has stayed with the energy research field moving from project management of coal processing research at the U.S. Dept. of Energy, to research management in the Dept. of Mining Engineering at Virginia Tech. He is currently a post-doctoral research position as the research administrator for the Iowa Energy Center at ISU. They are both active in the Ames Rock and Mineral Club and participate in Geology and Atmospheric Sciences activities as their schedules allow. They continue to maintain close ties with some of the department’s past graduates and would welcome hearing from some of their other contemporaries from the 80s.

Luther (Lu) Little
B.S. 1951; lu_little@yahoo.com

After graduating in 1951, Lu spent time in the Navy with an oil tanker fleet (no choice but to put in service time back then). He then spent a few summers at UC-Berkeley taking graduate-level courses in geology. After that, Lu spent six years working for Gulf Oil subsequently (Mene Grande) in eastern Venezuela mapping subsurface horizons and drilling development wells. He subsequently worked for Gulf Oil in Casper, WY. After his stint with Gulf Oil he decided to work for the Army Corps of Engineers, Fort Belvoir, VA, where he spent several years being involved with bottom sediments in several selected near shore areas. However, the longest time in her career (30 years) was with the Naval Oceanographic Office (first in Washington DC, then in San Diego and subsequently St. Louis, MO). About half of his time took place at sea on deep ocean surveys. Lu’s focus was geology (core samples) and geophysics (underway data collection using a towed array). Data analysis included compiling reports and charts of physiographic provinces and bottom sediment thickness and type. He is now retired and living in Virginia. Lu has been married for 50 years, and has two married daughters, and three grand kids.

Randy Luce
B.S. 1980; M.S. 1983; luce21@cwc.net

The Luce household and the general New Orleans region continues to recover slowly from Hurricane Katrina. They have been in their remodeled house for about a year now so it is starting to feel like home. Their environmental business has really picked up in 2007 as money begins to flow into New Orleans. Many of their competition have gone out of business, however. A lot of properties are changing hands and new money is starting to develop the damaged properties. As for family efforts, Randy’s wife, Pam, continues to be lade down with the local nuns’ senior group. Many medical personnel have left the city and her hospital, East Jefferson, is still one of the few hospitals open. She can work as much overtime as she wants but a 12 hour shift really beats her up. Their oldest son Tim is going to be a 6th grader at John Curtis High School. John Curtis has won 21 state football championships in Louisiana and 1990 is going to be making a movie at the school about the team. John Curtis won their 20th state championship after Katrina hit and everything was in turmoil.

Dennis Martin
B.S. 1999; d.martind@cornell.edu

Dennis attended the ISU Field Camp reunion and dedication, with his daughter, Jill, in Shell this summer. It has been fifty years, (yes, 50 years!) since spending eight weeks with Dr. Chalmers Boy and about 15 others in a totally random home as part of the initial “pioneers” group. While he attended the Alumni Reunion five years ago his daughter was unable to attend. Dennis was impressed with how far the camp had come since his summer there 50 years ago. He extends a high thanks to Tom Smith and his wife for their generosity, which will enable the camps continued success. While in Wyoming, he took Jill through Yellowstone and out to the Elk Lodge. Since he had the experience of going through the Huglen Lake 7.5 earthquake in 1959 while working in Yellowstone Park he wanted to Jill to see the incredible results. He retired from the Federal Government nearly 10 years ago and he and his wife, Jan, have been enjoying the retired life. They have been having fun traveling and visiting grandchildren, family and friends. They still live in the Virginia suburbs of Washington, D.C. and encourage anyone to call if you are in the area. He would particularly like to hear from any of you that were with him at the camp in ’57.

Bill McCrackin
B.S. 1993; bcmrackin@mnc.com

Bill and his wife, Ann, recently relocated from Otomo, MN to Hillisborough, NJ. Ann was recently appointed as a professor of law at Franklin Pierce Law Center in New Hampshire. She is going to teach various aspects of patent law but continues to be a partner at Schwengman Lundberg and Woessner in Minneapolis. Bill graduated from the geology program in 1993 and is currently not working as a geologist. Instead, he is presently working on their farm, clearing fields, building fences and a small shelter for their two mules Sue and Dede. While Bill did spend some six months trying to find a geologically significant property to purchase, he settled on a 200 to 210-year old farm with a barn and truck-sized gravel boulders scattered across the fields. No minerals of economic value have yet been discovered but he may...
begin quarrying stone next year. He has also located a few places to begin exploring for minerals. There was a very small bit of lead and tin mined there, and he is optimistic that he may find something yet.

Amber Nightengale
M.S. 2002; Amber.m.nightengale@nvg.mil
Amber is working for the National Geospatial-Intelligence Agency in the Washington, DC area. She is currently the Program Manager for the U.S. Air Force National Intelligence, and a Development and Program Manager, for Innovation, the R&D directorate in NGA. She is also enrolled in the graduate program at George Washington University, pursuing a degree in Engineering Management and Systems Engineering. She is also helping to train other NGA students and staff on how to manage projects. Amber is also a member of the NAEM and is an avid hiker and runner. She enjoys spending time with her husband and two children, and exploring the great outdoors.

Bob Parker
B.S. 1961; RParker61@lolu.com
Bob left Iowa in 1968 to study at the University of Texas in Austin. He was never going to be cold again! He married his wife, Linda, in 1969 and started a family that eventually became Christopher, David and Lee Ann. Bob went to work in Houston for Puffin-Suevian, a Sales Rep for Fisher-Governor of Marshalltown, Iowa (he still works in sales, but in other industries!). He returned to Iowa several times a year until he finally retired in 1997. So much for never being cold! Now he lives in Lakeway, TX, which is in the Austin area. He and Linda enjoy golfing, boating, traveling and being grandparents.

Nancy Scheberiah
M.S. 2002; nancy.scheberiah@teck.com
Nancy is still working for Teck Resources as an exploration geologist in Western Australia. The company finished its fourth quarter production last Christmas at their Burnakura gold project, but remaining milling in May this year. Teck Resources is now focused on the development of exploration projects in the Phillips River Project in British Columbia, where it will initially be mining gold and copper. In addition, the company is also exploring for nickel and base metals. Nancy and another geologist have just finished a regional soil sampling program for nickel and base metals and will, hopefully, begin a large drilling program before the end of the year. Nancys goal is to find a great location, about 50km from the Southern Ocean, quite scenic and the area is highly vegetated as well. Her friend, Andy, also works for the same company and was promoted to executive director of operations. Nancy has a plan to visit her home in the Darling Range of Perth. Nancy periodically gets back to her home in Wisconsin to see her family.

Mike Scale
M.S. 1996; michael.scale@gmail.com
Mike continues to serve in the National Guard. He completed Ranger training at Fort Benning last summer and is currently integrated into the Afghan National Army. He is also the commander of an ANA RECON Company commander during training and combat missions.

David Simon
M.S. 1969, PhD 1972; david@scottishglobal.net
After finishing his studies, David has been working in the oil industry for all his professional life. He started out with Texas Inc. as an exploration geologist and then went on to work for 20 years with Halliburton Energy Services in their Research Center at Duncan, OK. While there he worked for a number of years on evaluating the role of clay minerals in formation damage of reservoirs. He is presently working for ConocoPhillips in the X-ray Analyza Laboratory in Bartlesville, OK. David’s work involves X-ray diffraction and X-ray fluorescence analysis of all types of materials, related to the oil industry. Samples range from exploration formation cores to laboratory standards. The work involves extensive use of the BETACAR, Characterization of X-ray diffraction patterns along with fluorescence data to completely describe the material. He has been involved in research and development of new techniques and methods for the analysis of clay minerals in the oil industry. David and his wife, Kathleen, have two married daughters and three beautiful grandchildren that they try to see as often as possible.

Paul Vieltor
B.S. 1960; paul.vieltor@adolphus.edu
The highlight for Paul over the last few years was his retirement from ExxonMobil in September, 2003. He spent the last 23 years of service working on a $0.5 billion partnership agreement between ExxonMobil and Monsanto building a new business in high-performance electronic resins. He was one of four people initially assigned to start the business, which was later named Advanced Electronic Materials Inc. It grew into a leading company of 400 people with plants in three locations in the United States. In January, 2003, ExxonMobil purchased Monsanto’s 50% share which enabled him to become an ExxonMobil retiree.

Sarah White
B.A. 2003; dolphina@isastate.edu
After Sarah graduated from ISU, she taught for the next 10 years before returning to ISU to study science education research. This fall she will also be a graduate assistant teaching two sections of Literacy 160.
Giving back to the field camp

Tom Smith spent one summer attending Iowa State’s geology field camp near Shell, Wyo. And while that summer is full of wonderful memories, it’s not the primary reason why Smith and his wife Evonne have contributed $350,000 for improvements at the field station.

"It’s more than memories," Smith said. "Instead I would describe it as a profound interest in the camp itself."

The donation by the Smiths of Houston, Tex., has pushed the fundraising total for improvements at the Carl F. Vondra Geology Field Station to more than $500,000. Tom holds both bachelor’s (1968) and master’s (1971) degrees in geology from Iowa State. The Smiths are founders and owners of Seismic Micro-Technology in Houston.

"This is an extremely generous gift," said Carl Jacobson, professor and chair of the Department of Geology and Atmospheric Sciences. "I can’t tell you how much this has advanced the project. Next year we hope to have a new shower house and in a year or two have additional, new facilities at the field station."

The physical structures at the Vondra Geology Field Station include original structures used by the U.S. Government during its internment of Japanese-Americans during World War II.

Iowa State has operated the field station in north-central Wyoming each summer for a course in geology field concepts and methods since 1957. Academic instruction at the field camp focuses on applied geology. Smith says the eight weeks he spent at the field camp in the late 1960s gave him a foundation for the rest of his geology courses.

"The time I was at the camp brought the rest of my courses into focus," he said. "It gave me some motivation and showed me in a very hands-on way how to make geology a profession."

I also formed life-long friendships at the camp and to be in close proximity to outstanding faculty members was a wonderfully unique opportunity."

The Smiths hope that their gift will help establish Iowa State’s Department of Geology and Atmospheric Sciences as a world-class center of learning in the geological sciences.

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"This can be different from how reality works," he says. "I think one needs to acknowledge that a form of creativity comes into play when developing these new computer instruction schemes."

In addition, Harding says, "audio signals" can be used to present additional data about the current point of contact. When a user touches a 3-D terrain model, as elevation (height) values can be "visualized" by playing musical notes with a certain pitch, if a low elevation is touched, the pitch is lower.

As the user moves the "virtual finger" to higher elevations, a progressively higher pitch note is played. Or, in place of indicating the terrain height, the user can also see the terrain’s slope steepness at the contact point. The sound transition is made to harmonically complete the visual input and the haptic feedback.

This no-cost add-on data could be very helpful when a user actually deforms the terrain in real-time and needs to get continuous updates about the current slope.

"For most scientists, this still sounds like science fiction type stuff," he says. "At least, the entire combination of 3-D vision, haptic interaction, and audio responses is still a frontier discipline. As more and more of the necessary pieces of software and hardware technology come together, the challenge for me is to combine these pieces into a system that could eventually be used effectively for everyday work with geoscience data in academia and industry."

Harding’s research requires work across academic disciplines, which requires not only many different kinds of computer technology, but also human factors, user interface design and cognitive psychology.

"Besides, in a lot of cases I’m not the expert so there’s a lot to learn and trying to create such a novel system is always a gamble," he said. "We spend a lot of time investigating new methods, following interesting ideas, and jumping across established boundaries."

One of those boundaries Harding and his students are investigating is how to use a touch/sound virtual reality system to help visually impaired students understand abstract mathematical data by allowing them to feel a shape equivalent to a 3-D graphic of the data.
Thank you to our donors!

Geology Development Fund: This fund is unrestricted. Generally it has been used to support purchase and maintenance of equipment used in research and teaching, and to cover start-up funds for new professors.

Geology Field Camp Fund: This fund allows improvements in the facilities at the Wyoming Field Station.

Quentin Schmidt Memorial Field Trip Fund: This fund furnishes financial support for classes and departmental field trips.

Geology Alumni Development Fund: Established by Geology alumni, this fund provides support for travel and other expenses associated with developing activities.

Carolyn Eiler-Jones Scholarship: Established in the memory of Carolyn Eiler-Jones (B.S. 1939) by her family, this fund provides a scholarship for an undergraduate student to attend the summer field camp.

Peter R. Johnson Memorial Scholarship: Established in the memory of Peter R. Johnson (B.S. 1977) by his family, this fund provides a scholarship for an undergraduate student to attend the summer field camp.


John Lemisch Memorial Scholarship: Established by Dr. Ramon Bisque (Ph.D. 1990) in 1989 in honor of John Lemisch (Professor Emeritus) and was the John Lemisch Award for Earth Science. It provided an award of $200 to an outstanding graduate student with demonstrated research ability.

O’Brien-Loveland Endowment Fund: This fund will establish an endowed chair in geology.

Georgia L. and Carl E. Vondra Graduate Fellowship: Established in 2000 in honor of the distinguished contributions of Carl Vondra to the Department of Geological and Atmospheric Sciences. This fellowship is to attract an outstanding incoming graduate student by providing a fellowship above and beyond the stipend the student will already receive from a research or teaching assistantship.

Huebedorph Geology Field Camp Scholarship: Established in 2004 by Bradley Huebedorph (M.S., 1956) to provide a scholarship for an undergraduate to attend the summer field camp.

Beck Family Scholarship: Established by Jim and Denise Beck to help the department recruit the best undergraduate students, with particular emphasis on providing assistance to students to attend field camp.

Jon Beck

Frank Beckendorf (BS 1970)

Darwin Bemis (BS 1958)

Dennis Bider (BS 1974)

Jimmy Bigger (BS 1980) & Ed Mason (MS 1980)

George Roserfeld (BS 1956)

James Salvo (BS 1966)

George Schleicher (BS 1948)

David Simon (PhD 1972)

Weggo Scholz (BS 1912)

John Spencer (BS 1971)

David Stampel (MS 1978)

Richard Stump (BS 1954)

David Stroh (BS 1911)

Monroe Taranto (BS 1959)

Tracy Valler (BS 1962)

Georgia Vondra (MS 1993)

W.J. Lynn Vondra (MS 1972)

Kurt Wimber (BS 1973)

Lowell Wille (BS 1984)

Mark Wiseman (BS 1974)

Georgia L. and Carl E. Vondra Graduate Fellowship (2000)

Igor Besenes

Mark Mathison (MS 2000)

Carl & Carol Jacobson

Tom (MS 1972) & Evonne Smith (Seismic Micro-Technology)

Karl & Carol Selzer

Carl & Georgia Vondra

Huebedorph Geology Field Camp Scholarship (2001)

Lynne Huebedorph

Beck Family Scholarship (2002)

James (BS 1956) & Denise Beck

Geology Undergraduate Scholarship (2004)

Jerry Glenn (BS 1973)

Matching funds

Alliant Energy

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