The Big Move and Changes...

Many of you will notice that the newsletter is arriving a bit later than usual. As you read through the faculty, staff, and student letters, it will become evident that the lateness is not due to lack of enthusiasm or commitment but rather the lateness is due to The Big Move and Changes!

The Petroleum Engineering Department is now in Marquez Hall; our new Leeds Certified, beautiful, dazzling, magnificent, exquisite, stunning, elegant, gorgeous... (the thesaurus just doesn’t have enough words) home! The centerfold photos of the Grand Opening held on September 28 will give you some idea of the excitement. This was the Big Move. Alderson Hall had been our home since 1952 with a remodel and addition in 1992. Throughout the summer the parking lot behind Alderson was filled with dumpsters, shredders, recycle bins, and hazardous waste disposal units. It was truly amazing what we found in all of “corners”. Some of you will be happy to know that we found grade books (yes books, not spreadsheets) back to 1927! They are now safely stored in Marquez Hall for our reference – should we need to know any of your grades.

Marquez Hall is a building of light and views! On the 3rd floor there is a spot where I can stand and look to the North and see the Dakota Hogback, to the South see Jefferson County’s offices, to the East see South Table Mountain, and to the West see the “M” with hang gliders gently flying over Golden.

It is also a building of education and research. Our “wet” research labs were designed for our current work (mostly low, low permeability unconventional reservoirs) but also to have the flexibility to be reconfigured for the next big research focus. Our “dry” research centers were designed for student work space, computing spaces, meeting areas, and research professor rooms. All classrooms have smart podiums (ask Mark Miller for an explanation of “smart” because all I know is that they are smarter than I am!). We have rooms designed for multidisciplinary work, a visualization center, video conferencing capability, undergraduate and graduate computing rooms, and many student group/work rooms.

Marquez Hall is also designed for outreach and education for non-petroleum people and for K-12 education. The entrance lobby has six ten-foot tall stand-alone panels explaining our history and our contribution to the global society. There is a 16-foot cylinder filled with marbles, oil, and water showing oil migration and fluid flow in porous media. If you took PEGN 308 Rock Properties from me, I know you’ll recognize

PE STATISTICS FOR 11-12

New Research Contracts $2.8 MM

**GRADUATES**

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Placement as of May (%) 96

**CURRENT ENROLLMENT**

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*Sophomore/Freshmen - do not declare until Spring Semester
Whenever you are in the Golden area or on Mines campus, please stop by and roam the halls even if you can’t find someone to give you a formal tour!

DR. GRAVES CONT.

Dear Mines Community:

Dr. William Fleckenstein has been appointed to the position of Interim Department Head of the Petroleum Engineering Department, effective December 1, 2012. Dr. Fleckenstein has a long history with the Colorado School of Mines; he received his Bachelors, Masters and Ph.D., all in Petroleum Engineering from the Colorado School of Mines. Dr. Fleckenstein has 25 years experience in the petroleum industry, and is a registered professional engineer, has served the Petroleum Department as an Adjunct Professor since 2000, and has developed patent pending multi-stage fracturing technology at Mines that is the foundation of the CSM startup company, FracOptimal LLC. This is the first CSM startup company in PE’s history. Additionally Dr. Fleckenstein was awarded as a Co-PI, in partnership with CU and seven other organizations, a five year NSF Sustainability Research Network, or SRN agreement to study the sustainability of natural gas reservoirs. Additionally Dr. Fleckenstein has decided to begin! Jennifer Miskimins has decided to rejoin the private sector but, fortunately, she is also keeping her commitment to Mines and the Petroleum Engineering Department by remaining a professor with reduced load. She plans on continuing to teach the graduate level completions class and to continue, on limited basis, working on research in an advisory capacity. Schlumberger has implemented a new university support program where they imbed an expert in a university, full time, to teach and help with research. We are the proud recipient of Tom Bratton. This is a great program to help PE and Geoscience programs who are all in need of faculty.

Now when you read the departments in the College of Earth Resource Sciences and Engineering (CERSE) you may say “Wow that makes a lot of sense…and then you get to Liberal Arts and International Studies (LAIS)?” We departments in CERSE think it makes great sense because the traditional overarching role for the departments of Geology, Geophysics, Mining, and Petroleum is to add value through technology so we need Economics and Business but we all know in our industries public policy (Liberal Arts and –) determines how and if we can apply our technology and of course we are global industries (– and International Studies).

We have a new college structure so of course we have Deans. The Dean of the College of Earth Resource Sciences and Engineering is me. When I get emails addressed to Dean Graves, my first thought is “wrong address”! It was an extremely difficult and emotional decision to step down as the Petroleum Engineering Department Head. The PE department is strong on every level: faculty, students, research, and general support from CSM, industry, alumni, and friends. After much thought, a few sleepless nights, and many discussions with the President and Provost and many alumni, I decided it was the correct move for CSM, the college, the department and for me personally to accept this new challenge. We cannot have a strong department within a weak college so it is in all of our best interest to support the college and, of course, the new dean!

Who is the PE Interim Department Head? Our very own Dr. Will Fleckenstein! He has given this new position much thought, spent a few sleepless nights, and had many discussions with the President, Provost, PE faculty, and me along with many alumni, and he decided it was the correct move for CSM, the college, and the department for him to accept this new challenge. Below is the announcement that went out to the CSM campus:

Dear Mines Community:

Colleges – Operating CSM, like industry, is more complex than ever! All academic departments on campus have recently been “grouped” in to three colleges:

a. College of Engineering and Computational Science (Departments of Applied Mathematics and Statistics, Civil and Environmental Engineering, Electrical Engineering and Computational Science, and Mechanical Engineering)

b. College of Applied Sciences and Engineering (Departments of Chemistry and Geochemistry, Chemical and Biological Engineering, Metallurgical and Materials Engineering, and Physics)

c. College of Earth Resource Sciences and Engineering (Departments of Geology and Geological Engineering, Geophysics, Mining Engineering, Petroleum Engineering, Economics and Business, and Liberal Arts and International Studies)
PETROLEUM ENGINEERING

RESEARCH PROFESSOR & CSM PRESIDENT, BILL SCOGGINS

September is always an exciting time on the Mines campus, with reinvigorated students, staff, and faculty returning from summer break and new students exploring their new home. Out of 12,500 applicants, we welcomed 955 new freshmen and 120 transfer students to campus, along with 400 new graduate students. This year’s incoming undergraduate class holds the highest ACT and SAT scores (29 and 1300) as well as the largest number of women and domestic underrepresented racial and ethnic students we’ve had to date. We also welcomed 29 new faculty to campus. This should be an exciting year on its own, but for our Petroleum Engineering students and faculty “exciting” is an understatement!

In last year’s newsletter, I invited you to visit campus to witness the construction of Marquez Hall, the new home of the Petroleum Engineering Department. The Grand Opening of Marquez Hall was held on September 28. It was a wonderful event. This new campus landmark, designed by world-renown architect Peter Bohlin, is a symbol of Mines’ commitment to staying at the forefront of innovation. It is also a symbol of the generosity and commitment of the many Mines’ friends and alumni who ensure our position as a leader in energy-related research and education.

Capital construction projects such as Marquez Hall are absolutely necessary to provide the state-of-the-art facilities needed for a great teaching and research university such as Mines. As we move forward in our goal to meet the world’s earth resources, energy, and environmental challenges head-on, it is clear that skilled petroleum engineers are vital to our future. Mines is at the forefront of training the leaders that our global society needs, and I am proud to say that our skilled graduates remain in high demand.

With the Petroleum Engineering Department now in its new home, we will continue to recruit, retain, and graduate the outstanding professionals essential to solving the world’s resource and energy challenges, no doubt adding to the legacy of our accomplished Petroleum Engineering alumni for years to come.

Best Regards,
Bill Scoggins
The 2011-2012 academic year was busy as usual, and spiced with high student enrollment, ABET preparation, and the monumental move from Alderson Hall to Marquez Hall. We are settling in to our new environment nicely! The faculty are happy, the students are happy and most importantly, Dr. Graves is happy!

This semester I am teaching PEGN681 Petroleum Seminar, ENGY310 Fossil Energy, and PEGN530/ESGN490/ESGN502 Environmental Law. Last spring Dr. Mark Miller, our colleagues from the Geology and Geological Engineering and Geophysics Departments and I taught the PEGN439 Multidisciplinary Engineering capstone course with a focus on unconventional reservoirs. Once again, CSM alum, Bruce Smith, joined us as an adjunct professor, contributing greatly from his wide industry experience. Additionally, I taught PEGN530/ESGN490/ESGN502 Environmental Law for both the Petroleum Engineering Department and the Civil & Environmental Engineering Department (CEE) and was the Department Coordinator for our three PEGN315 Field Sessions. In May, I led a group of 48 students to Southern California and Bakersfield on the annual California PEGN315 Field Session. Most of my summer was spent drafting conference and journal manuscripts, successfully completing my Ph.D. written and oral qualifying examinations in the CEE Department, and defending my Ph.D. research proposal. I am now “ABD” — all but dissertation! In between, I managed to take several beautiful hikes and camping trips in the Colorado mountains and attend the annual Vail International Dance Festival. (In my next life I’ll be a soloist with the New York City Ballet . . .!)

I continue to serve as the Society of Petroleum Engineers International (SPE) Faculty Advisor to the CSM SPE Student Chapter and as a Board Member of the SPE Denver Section. At ATCE 2011 in Denver, Colorado, I presented a paper on the revised Multidisciplinary Engineering capstone course and served as a committee member on the Health, Safety and Environment (HSE) Subcommittee. This year, I served as the 2012 ATCE HSE Subcommittee Chairperson and also on the SPE Health, Safety, Security, Environment and Social Responsibility (HSSE-SR) Advisory Board. I recently returned from Perth, Australia where I attended the 2012 SPE/APPEA International Conference on HSE in Oil and Gas Exploration and Production where I made a presentation. Many thanks to the SPE Rocky Mountain NA Region for awarding me with a Faculty Enhancement Travel Grant to attend the conference!

Our SPE Student Chapter had another great year. We received over $25,000 in undergraduate and graduate scholarships from SPE Denver Section. The student chapter also organized two major fundraisers, a golf tournament and a clay shoot. Both of these activities had great industry turnout and they are slated again this year. As usual, our students were a tremendous help with ATCE 2011 in Denver, Colorado and several of our graduate students presented papers at the conference. At the ATCE in San Antonio, our students won the 2012 PetroBowl! Way to go team members Adam Richmond, Clifford Sanden, Robert Broman, Matthew Trauber, and Jarrod Sparks!

The annual April Joint Session Meeting with the SPE Denver Section was a tremendous success. This year, the event was held at CSM in Freidhoff Hall and David Neslin, the former Director of the Colorado Oil and Gas Conservation Commission (COGCC), spoke about hydraulic fracturing. We were pleased with the turn out from the SPE Denver Section attendance and grateful for their financial contribution. We are also very proud of our Student Officers for their tremendous leadership, professionalism and organizational skills.

I continue to work closely with the Association of International Petroleum Negotiators (AIPN) of which I am a member and for which I serve on the Education Committee. One of my favorite duties is to judge the annual Writing Competition that is open to all universities that have an affiliation with AIPN. I enjoy the opportunity to read and rate the papers and to work with other members of the Education Committee to select winners to attend the Annual Conference. Additionally, AIPN sponsors one student from CSM to attend the annual conference all expenses paid. This unique opportunity allows the student to network with engineers, negotiators, attorneys, and management and to learn the most current issues in the upstream segment of the oil and gas industry. Also for the first time this year, a $5000.00 AIPN scholarship was awarded to a CSM student!
FACULTY LETTERS

BATTALORA CONT.

Outside of CSM, I maintain my legal consulting practice in the area of international oil and gas law. It is a pleasure to work with my colleagues Philippe Auzas, Laure Bona, and Audrey Grosset at Grand Auzas & Associés of Paris, France and to occasionally have them co-teach with me a short course on international hydrocarbon agreements. On a personal note, I continue to take ballet classes and pointe classes three times a week. Swimming, hiking, and soon cross-country skiing fill in the gaps in my fitness schedule.

“Rosebud,” my brilliant Boston Terrier, will be four years old in December. Where does the time go? She continues her education a few days a week at Animal Lodge, the doggie daycare of Alameda East Veterinary Hospital, where she has many friends. A socialite, she loves all people and other animals.

ALFRED W. EUSTES

Another year has begun and lots of things are going on. The largest is perhaps the move from Alderson Hall to Marquez Hall. Moving the simulator and drilling fluids labs, not to even mention my junky office, was a challenge. The good news is that we are settling in a-ok. There are glitches here and there, but overall, not bad. I will say that a move once every 16 years is needed as I went through my files and filled two large recycle dumpsters. Even then, I find it hard to part with everything!

I continue to teach the drilling courses on and off campus. I am still teaching PEGN 311 and PEGN 361. I also continue offering graduate courses as well as taking on the leadership of a section of PEGN 315 field session, covered later.

This year, I traveled south of the equator for the first time. Corpac Steel asked me to teach a short course on casing design in the town of Talara in Peru (just south of Ecuador). It was significant challenge to get there with the frequently canceled TAM in-country flights. I now know the word “canceled” in Spanish. I also taught a follow-on course in Lima. It is a nice place.

We have had fun with our micro-rig experiment at the Edgar Mines. This is a small 100 foot water well rig. Thanks go to the mine manager, Clinton Dattel, and his team for helping us to keep our rig running. At one point, I was helping a TA with the class up there when we stuck the pipe. His reaction was that, even though I had mentioned stuck pipe in class, it really didn’t register until he was looking at it and thinking, “How am I going to get this out of the hole!?” We still need to instrument and mechanize the rig. Eventually, I would like to be able to teleoperate it, and finally, to automate it. This is a multiyear project and anything you would like to contribute is appreciated.

Our fund raising efforts for the upgraded drilling simulator have been successful for the initial upgrade. The Denver SPE chapter donated $25,000, the Denver AADE Chapter donated $15,000, the National AADE donated another $15,000, the Tech Fee program supported us with $81,000, and a generous alumnus for much more. We ordered the upgrade to the full scale Digitran ADS 9800 from Drilling Systems. Dr. Will Fleckenstein and the Tech Fee Committee also gave us support to purchase three CS Inc. DPWS-22UL ultra-light well control simulators, identical to many used by well control schools worldwide. I went down to Albuquerque to get them in March and have them set up in the new simulator lab. We have already been running exercises on them. Wow! We have four opportunities to bruise egos in the sim lab. In addition, we are sending out requests for

Thanks for your continuing support of the Petroleum Engineering Department and Mines! We always enjoy seeing you on campus for alumni events and recruiting!

Rosebud, 3.5 years: “Wanna play?”

Alfred W. Eustes
EUSTES CONT.

more funding not only to continue adding modules to our simulators but also to maintain what we will have. This is a great opportunity to provide students with hands-on learning and to get your name on a fine plaque in the sim room! If you or your company wishes to contribute, please send your gifts to Colorado School of Mines Foundation, PO Box 4005, Golden, CO 80401-0005 or contact us.

I want to acknowledge those of you working with the 311/361 classes. So many of you come to campus and talk and contribute in so many ways. I really need to say my thanks to Brady Allen of MI Swaco, Les Masseleti and Hilton Prejean of NOV, Dr. Bruce Craig of METCOR, Mandi Schulte of Pioneer Resources, George Stewart and especially Rick Davis of Weatherford, and Tommy Thompson’s drilling team in the DJ with Anadarko. That is just to name a few who came to classes to talk, contributed material, or hosted a rig tour. Nor does that cover the many AADE/SPE/ARMA speakers which I will leave for those respective areas.

Our faculty and staff team work well together. The students are the best and the alumni are wonderful. I will continue to be visited by you and visiting you, maybe on field session or a conference or wherever our paths may cross. Until then, stay safe.

WILL FLECKENSTEIN - BP ADJUNCT PROFESSOR (Interim PE Department Head)

Greetings from Golden.

My new office in Marquez Hall is in a word, magnificent. It is uplifting everyday to come to the new facility, walk up the open stairway to the top floor and enjoy the architectural wonder we will call home for the rest of my career at Mines. Tremendous views of Green Mountain and South Table Mountain. Kudos to Dr. Graves and the staff for all or their hard work to make the building what it has become and the donors for making it possible.

I have been traveling to Europe to participate in a series of workshops in support of a global shale initiative begun by the State Department. In the last year, I participated in workshops in Brussels, Warsaw, Bucharest and Sofia, and in three cities in the Ukraine. These workshops are designed to present an unbiased view of the issues associated with shale development and “fracking”. I have found that a lot of disinformation is taken as the truth in Europe, with many believing that “Gasland” is an accurate portrayal of the industry.

This last year I taught an interdisciplinary graduate class focused on fluvial deltaic and valley fill systems with Dr. Tom Davis from Geophysics and Dr. Steve Sonnenberg from Geology. The students were amazing, demonstrating the ability to integrate datasets and prepare sophisticated simulation models for a variety of reservoir descriptions. I also continued to teach graduate classes in Drilling and Workover Operations, which were taught in the evening to encourage industry participants to attend.

Dr. Eustes and I were recently awarded a large multi-institution proposal from the National Science Foundation to study the feasibility of using natural gas as a “bridge fuel” to a more sustainable energy future, which has been recommended for funding. From our standpoint, the “bridge” has become very long, due to the discovery of oil and gas in multiple shale formations and basins in North America, and throughout the world. Our portion of the proposal is to quantify the risks to the environment from drilling and completion techniques. Obviously, if over a million wells have been fracture stimulated, some have had problems. A key analogy may be the fresh water in the Great Lakes, which allow boating and a variety of activities that have resulted in discharges of pollution directly into the lakes. The most famous example is the wreck of the Edmund Fitzgerald, immortalized in a song by Gordon Lightfoot. This very large ore carrier sank, and everything, including the bunker fuel, was lost to the depths. How do the risks of shale development compare?

FracOptimal LLC, a startup company founded to commercialize a multistage fracturing technology I invented, received its first revenue this year. We are in a quiet period, due to contractual
It has been a “year on the move” in another sense, too. This past year has brought a lot of travel for me, including my first trip to the Middle East. I taught a geostat short course in Dubai, and then spent a couple of days at the Petroleum Institute in Abu Dhabi. It was a great experience overall. I also spent a couple of weeks in Vienna (again teaching short courses), and I participated in my first CSM field camp. I was fortunate to go to California with a great bunch of students (and staff). They learned a lot about the industry, and I got to know them, which should help with my junior level classes this year. In addition, I attended four SPE conferences last year; in retrospect maybe 1 or 2 too many, but they were all excellent and I learned so much from them that it would be hard to say which one I should have skipped. Finally, I got to spend a couple weeks back in my old stomping grounds (Idaho and Montana) seeing family (my brother got married), friends and some wilderness.

My kids are on the move also; my two oldest (girls) started new schools this fall, the oldest into high school (hard for me to believe!) and the middle one at middle school. My youngest (boy) will be in first grade. They have adjusted to the area well, met many new good friends, and have generally enjoyed it here. My wife, Holly, has begun her second year of medical residency. It has been a busy, busy year for her (it turns out the long hours the TV shows depict are true). Hopefully, her second year will have a bit more time flexibility, because there is added responsibility (and stress) as they begin to partially oversee the first-years.

As I look forward to the new school year, I am excited. I feel settled in and at home in the petroleum department and in my new office in Marquez Hall. I have a better understanding of where things are and how things work on campus. I have a clearer idea of where I want to take my research, and the classes that I am teaching this semester, I have taught at least once before.
I continued faithfully to jog every morning for about 40 minutes. It turns out that, both in Castle Rock and in Montana, I worry about black bears and mountain lions when I jog on paved trails or the forested back roads. My granddaughters had bought me a six-foot long walking stick to take along when I jog. It was too clumsy, so I gave it up and accepted the risk of being outdoors and its hazards!

Two best summer fun events for me were watching the European soccer championship in July and a little later the Olympic games—especially the women’s soccer games where the U.S. women team won the gold. I also went back to coaching both boys and girls in an effort to stay in touch with the younger generation.

While summer of 2011 was a beautiful summer in Denver metropolitan area because of ample July rains, the summer of 2012 has seen very little rain and the air is full of smoke from the wildfires in the western states. Nonetheless, I feel fortunate to live in Colorado and being so close to all of the Rockies—specially Montana, where my eldest son lives. In fact, my wife Bonnie and I went for our annual visit with our Montana family and spent a week at Seeley Lake, an hour from Missoula.

My summer was really a working summer which included working on the ongoing research projects and organizing my class notes of the past several years. In the meantime, I was anxiously watching the evolution of the Marquez Hall (MZ) because it didn’t appear it could be ready for the fall semester. It is a beautiful and well-designed building that deserves many accolades. Thanks to Professor Graves for spending a great number of hours making sure the final product would meet our needs and expectations.

As for the upcoming fall semester, I am very excited about the prospect of making significant progress in our research programs on low-permeability shale. Also, I will teach two graduate courses: Reservoir Simulation and Compositional Modeling where both are tied to EOR issues.

I wish everyone the best in health and a productive academic year.
It was definitely an eventful year. After much planning, Marquez Hall is coming to fruition. While this is being written, construction workers are putting finishing touches on both the inside and outside. Every day brings new features to life. I’m very busy learning to operate the 3D visualization projectors. We hope to be able to finally have students visualize the inside of reservoirs. Our integrated exploration class will be able to see the complex relationships between the different sand bodies – IN 3D. Every classroom is equipped with fantastic podiums. With a push of one button, the screen comes down and the projector comes on. Rooms with multiple projectors can be set to show input from a laptop, a document viewer, or a built in computer. It is an amazing building.

The completion of Marquez Hall brought about some very exciting changes as well. The new classrooms, and the equipment and class layouts that are now available will help my efforts in educating our students. And on a personal note, there is finally enough space for me to enjoy a “real” office. Thanks to all of you who have made this amazing, beautiful building a reality. It will help us keep CSM the high quality institution that you depend upon.

Finally... Dr. McClelland!

CARRIE McCLELLAND

This has definitely been a year of changes... First, on a personal note, I finally finished graduate school and earned my PhD. It was a long journey that helped me to arrive here at my dream job. I couldn’t be more excited! I am now the newest member of the Petroleum Engineering Faculty. I was hired as a Teaching Associate Professor in January. I am very excited about this because I can now dedicate my time to making sure that our students are learning what they need to know, and are receiving a high quality education. It is very important to me to maintain the high caliber of graduates that we graduate from this department. The most exciting change that I made to help meet this goal is a change in how the Petroleum Engineering Fluids is taught. This year the class was “flipped.” For homework, students watched my lectures online and took notes. In class, we spent time learning how to solve problems, exploring concepts through hands-on activities, and relating what we learn to the petroleum industry. This format allowed for students to learn how to teach themselves (an essential life skill), interact more with their classmates, and begin to make connections between what they are learning in school and what is happening in the industry. It allowed for me to be more available to the students as they were working problems, and to interact with them much more often than I was able to with a traditional format.

I spent field session this summer with our sophomores in Texas. Students were exposed to many aspects of the industry, both in the office and in the field. Many of them commented on how they now were beginning to see how the industry works and how what they are learning ties into it. Thanks to all of you who hosted our students or sponsored parts of their trip. The two weeks we spend are an indispensable part of their education.

MARK G. MILLER

It was definitely an eventful year. After much planning, Marquez Hall is coming to fruition. While this is being written, construction workers are putting finishing touches on both the inside and outside. Every day brings new features to life. I’m very busy learning to operate the 3D visualization projectors. We hope to be able to finally have students visualize the inside of reservoirs. Our integrated exploration class will be able to see the complex relationships between the different sand bodies – IN 3D. Every classroom is equipped with fantastic podiums. With a push of one button, the screen comes down and the projector comes on. Rooms with multiple projectors can be set to show input from a laptop, a document viewer, or a built in computer. It is an amazing building.
MILLER CONT.

After a two week Massadona vacation, my summer consisted of helping get ready for the big move, moving, and trying to recover from the big move. Getting ready for the move consisted of dispersing all of the computer lab computers. The new CCIT managed labs have 100% new machines. Research centers and graduate student offices were given the older machines, many of which were still under warranty. I also trimmed my bookshelves and filing cabinets (not nearly enough, but the attempt was there).

As mentioned above, the computing center is managing our new student labs. We were the first (1993) department to have a large computing lab managed independently of the central facilities and also the last. With the new system, students will have a unified campus account. Their password and files will be the same across campus. While located in Alderson Hall, our students printed over 3 million pages on the labs’ various printers. We also went through about 7 different servers and many, many lab machines. The end of an era. Darn.

JENNIFER L. MISKIMINS

Ramona has asked us all to focus on the move to Marquez Hall in our articles this year. That’s not a difficult thing to do for many reasons – it’s been a long, trying process, but an exciting one to see come to fruition. The building is absolutely beautiful, and it’s been fun to explore it and see all of the areas as they come together. It’s also not hard to focus on, because as I write this letter sitting in my new office and I can hear a drill down the hall, I can smell fresh paint, and I’ve been watching them running wires through the ceiling.

The research facilities in Marquez are phenomenal. For the first time, the FAST Consortium has a real home! The FAST students will not be sitting on the floor or sharing graduate student desks (sorry to all of you who have had to do just that through the years). We now have a research group room that houses approximately twelve graduate students with facilities for meetings and presentations.

There is also a new fracturing research lab in Marquez. As you all know, the upswing in hydraulic fracturing the past two decades has been phenomenal, and Mines is now in a position to keep pace with a state-of-the-art lab dedicated directly to fracturing research. The FAST Consortium’s non-Darcy, multiphase nitrogen flow test system has been moved into it, and other projects are also being housed in it. (I need to say a quick word of thanks here to Faisal Aljalahmah, who spearheaded the movement of the nitrogen system while I was out of town – he was a trooper!) The new lab will give Mines the capability to continue and expand being leaders in this critical area of unconventional reservoir development.

In keeping with the theme of moving in these articles, I need to mention that I will also personally be moving out of my fulltime position at Mines at the end of this semester. After ten years in the department, I am rejoining the industry side of the workforce. However, my new position is in the Denver area, and I will continue my involvement at Mines as time and the school allow. I want to take this opportunity to thank all of you alumni for all your support over the years! It has truly been a wonderful time in my life!

I STRONGLY encourage you to stop by campus sometime and see the new digs. They truly are impressive!
The M-Climb is a great tradition at CSM for embarking on the academic year as we celebrate the arrival of the students back to campus and their passion and energy carrying a 10-pound rock is contagious firing up the faculty, staff and fellow students for the entire year. The same event also serves as a great place to catch up with colleagues while sipping a cup of coffee in front of the Guggenheim building as we send off the students to their climb.

The growth of the number of Unconventional Natural Gas and Oil Institute (UNGI) graduate students and kicking off our first multi-million dollar UNGI research consortium entitled “Coupled Integrated Multiscale Measurements and Modeling (CIMMM)” has provided a great boost to UNGI. Hopefully long term collaboration opportunities with Oil and Gas Industry and the US Government will continue to grow with many similar large multidisciplinary UNGI projects. We already have ten sponsors for the CIMMM and six sponsors for the “Vaca Muerta Gas Shale Reservoir” consortia. They are continuing to grow in sponsorship since their first debut only a few months ago. Our sponsors unified their interests allowing our research focus to be on Eagle Ford Shale reservoir. Coincidentally, Eagle Ford happens to be the new NMR system that we will be getting this year. If everything goes well, we hope that the system will be up and running by November!


Using advice from other DLs (I would have preferred the moniker of DJ), I am posting impressions and pictures of the tour on facebook: http://www.facebook.com/mud.queen I am still hoping that we have enough funds to go to at least one African country (I know that South Africa has requested a talk!). Stay tuned for a full report on fb or the next newsletter.

I visited China this spring with Mike and Liza Batzle and Weiping Wang - I was invited by Prof. Guangqing Zhang who spent a year with us some time ago. It was fun to give lectures and teach a class there. I am puzzled by the myth of this Great Wall. Picture shows Lisa and Mike desperately looking for the Great Wall. Some people claimed to have seen it, but most of us were not so sure it is there ...

Have a wonderful year!
Manika

The Organic, Clay, Sand and Shale (OCLASSH) group is going strong with the first annual meeting in spring 2012! We now have 4 PhD, 5 MS, and 2 undergraduate students as well as 1 postdoc and 2 faculty. Of our PhD students, two (Ravi Sharma and Utpalendu Kuila) will graduate this year; two (Saeed Zargari and Milad Saidian) have completed their qualifying exams! Our MS students are Patricia Castillo, Lemuel Godinez, Saul Rivera, Brahim Ghrissi, and Liwei Ou. The undergraduate students Katarina Arajuo and Andrew Tsau are working on clay minerals and heavy oil, respectively. Stuti Gaur (post-doc), Wendy Wempe (research faculty), and me, Manika Prasad (tenured faculty) bring up the rest. This semester we have visiting scholar (Xuejing Guo) working with Wendy to complete part of his PhD research. Check out Wendy’s newsletter this year. Her work demonstrates how basic research is critical to understand problems we encounter in the unconventional reservoir world.

The McClimb is a great tradition at CSM for embarking on the academic year as we celebrate the arrival of the students back to campus and their passion and energy carrying a-10 pound rock is contagious firing up the faculty, staff and fellow students for the entire year. The same event also serves as a great place to catch up with colleagues while sipping a cup of coffee in front of the Guggenheim building as we send off the students to their climb.

The growth of the number of Unconventional Natural Gas and Oil Institute (UNGI) graduate students and kicking off our first multi-million dollar UNGI research consortium entitled “Coupled Integrated Multiscale Measurements and Modeling (CIMMM)” has provided a great boost to UNGI. Hopefully long term collaboration opportunities with Oil and Gas Industry and the US Government will continue to grow with many similar large multidisciplinary UNGI projects. We already have ten sponsors for the CIMMM and six sponsors for the “Vaca Muerta Gas Shale Reservoir” consortia. They are continuing to grow in sponsorship since their first debut only a few months ago. Our sponsors unified their interests allowing our research focus to be on Eagle Ford Shale reservoir.

AZRA NUR TUTUNCU - HARRY D. CAMPBELL CHAIR IN PETROLEUM ENGINEERING DIRECTOR, UNCONVENTIONAL NATURAL GAS AND OIL INSTITUTE (UNGI)

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Coincidentally, Eagle Ford happens to be
an analog reservoir for the Vaca Muerta of Argentina. We are fortunate to have the opportunity in studying the world’s top three largest producible reserves and contributing to solving part of the puzzle in these giant reserves that will provide the Americas the much needed energy for generations to come. Just my group in UNGI Geomechanics alone has grown to 16 graduate students as of the beginning of the fall semester. If you wish to know who they are and when you can recruit them, please visit our website at http://ungi.mines.edu/people. While you are at the URL, I recommend you also check the publication section and notice the number of articles for SPE/SEG and ARMA the UNGI has contributed already in spite of the very short life of the Institute. We look forward to collaboration with you and have many publications together for years to come.

Time flies and since the ground breaking ceremony for our new Petroleum Engineering building, “Marquez Hall” in October 2010, a 60,000 square feet brand new building has appeared in our backyard at Alderson Hall. The July 2012 completion date was so remote at the time of the groundbreaking ceremony, yet living nearby the campus and walking by the construction every day the past two years (especially after the visible progress in April) set in the reality that the moving date was approaching. In spite of all of our intense pre-move and design meetings within the past year, I had a few sleepless nights on how the Geomechanics laboratory and particularly the third generation MTS load frame would be moved safely. Our MTS load frame weighs approximately 1500 pounds and its height is about 9 ft. The High Bay area had a garage style door for easy loading-unloading of large equipment allowing us to bring in the lifting apparatus on location when it was first delivered in April 2011. Yet, the frame needed to be lowered horizontally and brought back to the original position after carried in horizontally to its new home in the ground floor at Marquez Hall. The whole move of the MTS frame took about 3 hours after careful planning, yet it felt like days. As the move completed, our new custom designed high pressure high temperature geomechanics/acoustic cell arrived from Houston adding such unique capability to our experimental systems at the Geomechanics Laboratory. The new system is very unique as it allows us to measure coupled multi-scale geomechanics, acoustic, fluid transport properties in a small cylindrical sample at in situ stress and elevated pore pressure. The heterogeneity and anisotropy of unconventional reservoirs are so large that the more measurements we conduct simultaneously on the same sample as in our system, the more accurately we can try to solve the puzzle by eliminating the heterogeneity effect. We are waiting for our true triaxial cell to arrive that will also provide us a great insight on the role of in situ stress by allowing us to duplicate the true in situ stress and pore pressure conditions. We are proud to claim there is nowhere else in the world that such a system exists and we are thankful to our dedicated sponsors for their generosity in allowing us to use their patented experimental apparatus for UNGI research and development projects. All the projects in UNGI have either directly or indirectly involved geomechanics to meet the significant demand by the industry on the core/micro and nano scale fundamental understanding of reservoirs, fracture characterization and upscaling of this understanding into the field so the data collected in the field can be utilized for optimizing the production for economically viable field development opportunities.

I am glad to inform you that with the sponsorship from ExxonMobil and GE Oil and Gas, we have created a partnership between Colorado School of Mines, Penn State University and the University of Texas at Austin for a new training initiative to support the rapidly growing shale natural gas and oil development industry. We at UNGI are excited to serve our communities in environmentally friendly and safe unconventional shale gas and oil production opportunities in the Rocky Mountain States and in the Western USA.

I am happy to report that the first consortium of UNGI, CIMMM (Coupled Integrated Multiscale Measurements and Modeling) kicked off in February and we are still receiving inquiries from several companies to be a member of the consortium with already 10 members and growing. A large participant group has provided great insight on what should be the focus of our research in the consortium and we took their advice and our UNGI CIMMM 20 project consortium is a product of those constructive suggestions. CIMMM is a multidisciplinary consortium containing seven geology/geophysics/petrophysics/geomechanics projects, three drilling and completion technology projects, four reservoir engineering and three fracture characterization and hydraulic fracturing projects, two environmental and regulatory best practices development effort and one hydrate production project that are all run jointly among 20 faculties and a large group of graduate students.
TUTUNCU CONT.

We offered three new courses, “Unconventional Geomechanics”, “Reservoir Geomechanics” and “Shale Reservoir Engineering” last year that have been continuing to attract significant interest not only from our graduate students at the petroleum engineering department, but also other departments at CSM and colleagues from several oil and gas company Denver offices. The student chapter of the American Rock Mechanics Association (ARMA) at Mines has created such a positive steer nationally as the first student chapter of ARMA that other schools are exemplifying our success and are starting their own local chapters. Our membership in Golden is already close to 100 students and growing. I also organized the 2nd ARMA/UNGI workshop preceding the Symposium that brought many distinguished speakers and attendees including Dr. Graves and Dr. Gutierrez of Mines. The UNGI/ARMA distinguished speaker series during the academic year also brought several great speakers including Dr. Philip Nelson of USGS, Dr. Mark Zoback of Stanford University, Dr. Jonathan McKenna of Microseismic Inc. and Dr. Neal Nigel of Itasca to the Mines campus. I would like to thank all the speakers and contributors of UNGI activities for their support.

For the second year in a row, I went to the summer field class trip together with approximately 50 undergraduate students visiting the Four-Corner Area oil and gas sites. Being with 50 of their classmates day and night on the road for two weeks while creating lasting friendship and fun is a bonus for them to appreciate throughout their careers. We would like to thank all who helped organize this trip and spent time with us for their collaboration and contributions to make our Summer Field Trip a success.

Being one of the geopressure experts at Shell has taken me to my next journey to Phuket, Thailand in February as an organizing committee member of the SPE Geopressure and Geohazard Assessment special event there. SPE Rocky Mountain Region and UNGI sponsored my long trip and my sincere thanks to both organizations for the support and the opportunity. I also attended as a keynote speaker to the Unconventional Gas Forum in Barcelona, Spain in mid-March. In June, I was a technical presenter at the Barcelona meeting and SPE EUROPEC in Copenhagen, Denmark, bringing Mines’ Unconventional voice to Europe. Of course, the ARMA US Rock Mechanics and Geomechanics Symposium in late June brought another opportunity for UNGI students and faculty to participate in the meeting in Chicago. Just before the new academic year started, I was in Santiago, Chile as a keynote speaker and panel member for an international conference for the US Department of the Interior and Department of State jointly organized with the Energy Ministry of Chile on Regulations for Development of Unconventional Gas and Environmental Standards between US and Latin America. One last very infant effort UNGI has initiated this year is a K-12 education program for unconventional resources and hope to give you lots of progress update in the next year’s newsletter. If you have any novel ideas and suggestions on how we can approach K-12 perspective, I would like to hear from you. I am confident the more we contribute educating the public sector, the more successful the unconventional effort will bloom.

The friendship and support from the faculty and staff at Mines and affiliates continue to grow and I am so glad to be here among friends.

CRAIG W. VAN KIRK

This is my annual greeting to you alumni and other friends of CSM as part of our PE Department Newsletter. My family and I continue to enjoy good health and good fortunes, and I hope you and yours are similarly satisfied, healthy, and happy. We have been told that the common thread, or theme, for this year’s PE Newsletter for each of us contributors is “change”. Along with PE’s move into our new building Marquez Hall this summer, there is plenty of “change” in progress these days.

Tim Marquez and I met in the fall semester of 1978 when I started my first semester on the CSM PE faculty. After he graduated a few years later, he and I kept in touch at least annually throughout the years, sharing news about projects, families, transitions, etc. These kinds of long-term engagements with alumni demonstrate the many benefits which can come to everyone, more than is commonly imagined. So, I repeat my special thanks to Tim for what he has done for CSM, and others. Even though our building has changed, the more important relationships with good people don’t necessarily change.
This past school year I enjoyed teaching 160 “freshpeople” the PE 102 course “Introduction to PE”, and PE 423 “Reservoir Engineering” with 125 seniors. Always a real pleasure for me.

When considering the theme “changes”, immediately my thoughts go to differences and constants. So, here are some points along these lines.

1. My decision to major in PE in college was made when I was 17 years old during my senior year in high school in the fall semester of 1962, which was 50 years ago. The only changes over these 50 years about that decision are that I quickly became more confident that I had made the right decision, and that confidence grew throughout all these years.

2. The first time I visited the Grand Canyon was during that same year 1962. Notice the enclosed photo of me just a couple months ago at the South Rim. In the summer of 1962 my little brother and I hiked down to the Colorado River and out in one day, and in 2012 I repeated the hike with my son and his 3 kids. During the intervening 50 years I did the same day-hike several times with my wife, our 2 kids, and grandkids, and also hiked across the Canyon in a day. Many aspects of places like the Grand Canyon seem not to change, but other perspectives clearly change with time, big time.

3. The enclosed photo of me trying to “balance” is one constant theme I have addressed for many years, trying to keep my own balance while helping others learn how to maintain good balance as well, and learning from others too.

4. Even though I have been on 50% time at CSM for the past 2 years, I continue to hope to do so for more years.

Last year I explained my “other” CSM activities in addition to teaching, which include serving on graduate student committees and engaging with off-campus groups throughout the world. These international “outreach” activities included my participation at the SPE Middle East Oil and Gas Show and Conference (MEOS) in late September in Bahrain, and I hosted a half-day session and made a “keynote presentation” of my paper titled “Collaboration Models for University and Petroleum Industry Partners with Focus on MENA”. The Session was titled “People Development” with focus on issues regarding human resources, human capital, talent management, diversity in the workforce, university partnerships in collaboration with other significant stakeholders, and education and training.

Also, I attended yet another meeting in Istanbul last fall focusing on Iraq’s development. These ongoing efforts are very satisfying, and I never tire of spending time in Istanbul with friends, CSM alumni, and other associates (some of whom I’ve known for more than 35 years).

During this coming fall semester of 2012 I am coordinating 2 separate groups coming to campus for mid-career training, one group from China and another one from Libya. These kinds of on-campus (and off-campus) training programs have been very successful for CSM for many years, and is one way we help diverse peoples come together for common and good goals.

In closing, I continue to very much enjoy teaching young people at CSM, hosting visitors from both near and far, and engaging with decision makers and leaders of the global petroleum industry.

Please do keep in touch; it is very satisfying to hear from you and to visit with you.

My best to you and yours, as always, yours truly,
Craig Van Kirk

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YU-SHU WU - COMPUTER MODELING GROUP (CMG) CHAIR

The 2011-2012 academic year, turns out to be another good year for me. After four years of working in the PE Department at CSM, I feel that I am fitting nicely into the Mines community. I am proud to be a member of Mines, which brings me more enjoyment in life and more confidence in work. The highlight of this past year for me must be the opportunities I had to see many of you, our former PE graduates, at SPE conferences and my visits of several companies. In an effort to interact more with our alumni currently working in the petroleum industry, I increased my activities of attending SPE technical conferences, visiting fields and companies, as well as going out to give invited seminars worldwide. In the last year, I attended many SPE conferences and gave about 10 seminars in Asia, Europe, the Middle East, as well as in the US. At every meeting or
presentation, I see more of our former PE graduates and friends, who are working and doing so well in both the industry as well as academics. This makes me even more proud to be a CSM PE faculty member. Also, attending more technical conferences and field visits provide me an excellent opportunity to know what is going on in the industry for improvement of my research and teaching.

In the past year, I devoted most of my time to improve my teaching of undergraduate and graduate courses and to develop the new research projects/programs. The main courses I am teaching in the department are the PEGN 424 (Reservoir Engineering II) and PEGN 515 (Reservoir Engineering Principles). Meanwhile, I also try to develop several new courses, for example, on multiphase and heat flow in porous media and geothermal reservoir engineering. In the research area, I am happy to report to you that our new PE research team, EMG (Energy Modeling Group), established two years ago with the initially founding from the CMG Foundation, continues its growth to 10 team members consisting of graduate students, faculty members, post-doctoral fellows, and visiting scholars. EMG is working on research projects of a couple of multi-year research funding, supported by the US DOE and petroleum companies. More significantly, the modeling research effort of EMG, led by Dr. Phil Winterfeld, has achieved a milestone in model development, i.e., we have developed a fully coupled geomechanics-flow reservoir simulator for multiphase fluid and heat flow in porous and fractured reservoirs. Considering how few reservoir simulators, commercially or non-commercially, are available currently in the world, which have the capabilities to fully couple rock mechanics with multiphase/heat flow, this development represents a technical breakthrough and has many implications for advanced simulation studies of both conventional and unconventional reservoirs. The EMG goal has been to develop and promote advanced reservoir modeling technology and simulation tools in research, teaching, and application in the fields of subsurface energy and natural resources, and environmental science and engineering. These simulation tasks and projects cannot be done in general using or relying on commercial reservoir simulators alone.

Another interesting developing area, as we all know, is shale gas production, which is being viewed as a game changer for world energy outlook and received the world-wide attention in recent years. This is because huge shale gas resources are being discovered in the world as well as effective technologies that have been demonstrated in producing shale gas reservoirs in North America. Also as you may know, our own PE department is a leader in unconventional gas development in the US. I would like to mention, one of the PE efforts in this area, that after one-year negotiation with the RPSEA/DOE, our new multi-million dollars research project: “Development of Non-Contaminating Cryogenic Fracturing Technology for Shale and Tight Gas Reservoirs,” is starting now. This project is led by Dr. Jennifer Miskimins, Dr. Xiaolong Yin, Dr. Timothy J. Kneafsey (my former colleague at Lawrence Berkeley National Laboratory), and myself and supported by Pioneer Natural Resources along with our alumni there. This project is to explore the possibility of generating “hydraulic fractures” for stimulating shale gas formations without using water or heavy equipment in fracturing operations. The direct benefits, if successful, are to address public concerns as well as technical issues regarding water usage and contamination and formation damage.

In past few years, I have tried to get involved with and work on shale gas topics. Over this summer, for example, I worked at IFPEN in France on shale gas reservoir simulation methods. This may sound funny to you, because France is the first nation in the world to ban “fracking” for shale gas production by law. Please note that France has the largest estimated shale gas reserves in Europe, only second to Poland, and is not an energy rich country. This may indicate that the French are more environmentally conscious and idealistic than most countries in the rest of the world.

It seems to me whether shale gas will become a real game changer in energy supply or the intermediate energy solution to the world in next few decades still remains an unanswered question. This is because there are many challenges and hurdles to be overcome before shale gas plays a vital role in the world as the next energy supply or solution. These challenges include from effective technology development and employment, uncertainties in resources to economics, politics and environmental concerns. Nevertheless, shale gas presents itself as a most promising energy solution to the world in the near future and more activities are expected in exploring and developing such an energy resource worldwide. This is why we at CSM should take the advantages we have, such as the expertise in petroleum engineering, geology, and mining, etc., to make a difference for developing effective technologies for shale gas production. In this area of shale gas R & D, we definitely need more support from our alumni, such as those we have got from our alumni at Pioneer.
XIAOLONG YIN

In the past year, I continued my teaching in PEGN 310 Reservoir Fluid Properties, PEGN 315 Field Session, and PEGN 511 Advanced Phase Behavior. Our field session group again visited Houston and San Antonio. I want to use this opportunity to thank the companies, our dearest friends and alumni for their enthusiastic support. The research activities in my group are progressing well, too. Our work on microfluidic porous media analog, in collaboration with Dr. Neeves in Chemical Engineering, was featured on the cover of Lab on a Chip - a premier journal on micro- and nanofabrication. In Fall 2012, several new projects supported by RPSEA, ACS PRF, and NSF have also been kicked off.

I had a very busy summer. I literally travelled around the globe - China, Switzerland, France, Scotland - to name a few places. Between the meetings, visits, and talks, there were some fun times as well.

It is my greatest pleasure to greet the students, parents, alumni, and friends of Petroleum Engineering, Colorado School of Mines! 2011-2012 is a memorable year for a lot of us, with leaving Alderson Hall and moving into the all-new Marquez Hall. This is an exciting time.

PHIL WINTERFIELD

2012 is my third year as a Research Associate Professor in the Department. I work in the Energy Modeling Group (EMG) on a DOE funded project to develop a reservoir simulator for CO2 sequestration in saline aquifers. Reservoir simulators typically model fluid and heat flow in porous media. The simulator I have developed additionally models geomechanical effects (rock deformation) using a novel formulation of the equations governing deformation of elastic media. I have presented several papers on this work, one at the 2011 SPE Reservoir Simulation Symposium, and in 2012 at the CMWR (Computational Methods for Water Resources) Conference and the TOUGH Symposium (concerned with applications of the TOUGH codes which simulate transport in porous media). The latter two conferences gave me the opportunity to engage in cross cultural exchanges with attendees from other engineering fields. My education is in chemical engineering and my professional experience is in petroleum engineering, and those conferences are heavily attended by those in civil engineering and related fields. Although we speak the same language, the jargon and notation used in those fields needs some getting used to.

Last year, I coordinated EMG’s purchase of a cluster computer, consisting of 16 nodes and 16 processors per node. It is fast becoming EMG’s workhorse, and is up to the task of handling grids containing tens of millions of cells for my CO2 sequestration simulations. It is housed in the Green Center near its larger cousin, CSM’s Mio. I am the administrator of the cluster as well, and have been initiating others in EMG into its use. Occasionally, due to a power outage or some other mishap, I will be seen lugging a keyboard and monitor over to the Green Center in order to manually restart the cluster.

Next year, I will wrap up the CO2 sequestration simulation project. I hope to have a chapter I submitted to a book project on CO2 sequestration simulation published later that year.
MARQUEZ HALL
GRAND OPENING
SEPTEMBER 28, 2012

BUILDING FACTS:

Groundbreaking: October 8, 2012
Construction Start: February 18, 2011
Marquez Hall Square Footage: 63,800
Classroom Wing Square Footage: 23,600
Total Cost-Marquez Hall: $28 million
Total Cost-Classroom Wing: $10.5 million
Architect: Bohlin Cywinski Jackson in partnership with Anderson Mason Dale
General Contractor: Adolfson and Peterson Construction

NOTABLE FEATURES:

LEED SILVER CERTIFIED:
First LEED-certified petroleum engineering building in the country
Maximum use of daylighting combined with high-efficiency lighting features
Water-efficient features
High-performance laboratory ventilation systems
Exterior glass and insulation to reduce building infiltration
Cantilevered Roof:
60’ long and constructed of 2’ welded plate steel
Supports 3,000 square feet of copper roof over the plaza outside the building’s west entrance

It is through the philanthropic efforts of Tim and Bernadette Marquez and their commitment to education that Marquez Hall stands today as a center for learning, lecture and student participation.

“I owe a great debt of gratitude for the education provided to me by Colorado School of Mines. It is because of this gratitude that Bernadette and I have invested in the future of Mines. It is our hope that every student, professor and visitor to Marquez value of supporting education and those committed to teaching and learning.” – Tim Marquez

Check out the YouTube video on the Marquez Hall Grand Opening at http://youtu.be/ompNuOZs0fI
## Major Gift Donors to Marquez Hall

**Name**  
**$10,000,000 and Above**  
Timothy M. ‘80 and Bernadette Marquez

**$1,000,000 to $2,999,999**  
Chevron  
ConocoPhillips  
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Halliburton  
Hess Corporation  
Mahir ’71 and Margaret Jalili  
Harold M. ’68 and Patricia M. Korell and Southwestern Energy Company  
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**$25,000 to $99,999**  
Joe S. ‘42 and Mary G. Keating  
Glen J. ’85 and Clara Putzig ’85 Mizenko  
SPE Denver Chapter  
John J. “Jack” ‘48 and Grace Wanner

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**“EDUCATION IS THE GREAT EQUALIZER; REGARDLESS OF A PERSON’S BACKGROUND, A GOOD EDUCATION IS THE TICKET TO THE FUTURE.”**

*Timothy Marquez*  
*Colorado School of Mines, Class of 1980*
A warm “Greetings” to you all! I’m excited to be writing my first newsletter article and providing you with a little information about my activities up until now and also about projects on the horizon. Coming from a background in rock physics and petrophysics applied to groundwater resource issues, I arrived in this remarkable department in November 2010 as a Research Assistant Professor. It has been a pleasure to work among the “best of the best” in petroleum engineering.

Although my job title is Research Assistant Professor, once I arrived in the department, I had a unique opportunity to teach while building a research program. I developed, and together with Drs. Prasad and Batzle (Geophysics) co-taught an interdisciplinary, graduate-level seminar that focused on the science, policy and perception of the economic, social and environmental impacts (both positive and negative) of exploration and production of energy resources. Also, I had the opportunity to re-develop the lab material for and co-teach Well Log Analysis and Formation Evaluation together with Dr. Prasad.

I’m really excited to see my research program taking shape and have been encouraged by the support I have received from industry sponsors. (“Thank you!”). The foundation for my research is based on my experiences related to (1) a bound fluid – free fluid model that I developed as part of my PhD thesis in the Stanford Rock Physics and Borehole Geophysics (SRB) group in 2000, (2) the influence of wettability and wetting hysteresis on seismic attenuation as part of my post-doctoral research in 2004 at CU Boulder, and (3) working at Schlumberger Water Services as a Sr. Hydrogeologist and petrophysicist. I am currently pursuing research that focuses on:

- Modeling bound fluids, wettability and relative permeability,
- Applying percolation theory to pore space evolution models, rock physics models, and petrophysical models,
- Developing coupled electrical-elastic rock physics models, and
- Using my expertise in water resources to solve petroleum engineering problems related to water.

This Fall semester, I have begun advising graduate students on projects that focus on:

- The influence of pore shape and type in coupled electrical-elastic rock physics modeling of tight gas sand reservoir properties
- Measuring and predicting the hydraulic and electrical percolation thresholds in tight gas sands
- Exploring the influence of wettability on electrical and NMR rock properties

I am truly grateful for support and use of laboratory equipment through Dr. Prasad’s OCLASSH consortium and Dr. Batzle’s Center for Rock Abuse lab in the Geophysics Department. It has been a blessing to work among such exceptional experimentalists. I have really enjoyed having the ability to explore my research interests and push my comfort zone; I thrive on the excitement of discovering something new.

Outside of CSM, I work hard at being the best mother I can be for my 3yr old son and 5yr old daughter and together with my husband, I revel in their excitement for exploring life.

I look forward to having the opportunity to thank you in person for your support of this exceptional department!

Finally, the move to Marques Hall took place and most of us are somewhat settled. The job magnitude was slightly larger than was estimated. Lab equipment had to be dismantled and reassembled in Marquez labs. As Joe Chen, the newest PE lab coordinator became more and more instrumental, no major complications were experienced.

I am very grateful for the numerous opportunities for progress that Marquez Hall offers towards enhancing the PE Department’s research capabilities. Almost immediately after moving to Marquez Hall, we welcomed our new FRT (Formation Response Tester) system. The training was successfully conducted and trainees started to flood cores. The FRT will strengthen our capabilities in the area of reservoir analysis and simulation. The equipment can also be deployed as Dynamic Fluid Loss Tester.

Another dream that we were waiting to come true is our NMR (Nuclear Magnetic Response) solid-state equipment, that will arrive shortly. I am particularly excited about the capability in the area of spectroscopy that this equipment will add to our department. NMR will also, enables us to study unpaired neutrons in the nuclei of elemental isotopes such as 1H, 13C, 19F, 31P and ............
This year marked the start of a new era for the Petroleum Engineering Department with our move to Marquez Hall. Through hard work and dedication, we were successful in getting the department moved this summer. We could not have done it without a few special students, Maria Johnson, Olawale Adekunle, Luttphi Ismail, Andrei Panfilov and Robert Nyberg. We want to thank them for sticking with us! Please come and visit our building, we would love to give you a tour!

We all did some traveling this summer, including walking on nice beaches and sunny days. It was very nice to be on vacation, but there is no place on earth like Golden, Colorado. This is a great place to be and to live, and to be able to experience a part of the lives of our PE kids is really special. When we see the seniors at graduation, we remember how special that day was to us, to have accomplished something so great that would help us for the rest of our life. Witnessing success is almost as good as actually achieving it yourself.
The Society of Petroleum Engineers (SPE) has organized and participated in many engaging and popular events over the course of the past year. In the spirit of SPE being a professional organization, these events have been consistent with the mission of strengthening ties between students and industry. SPE International’s Annual Technical Conference and Exhibition (ATCE) was held in Denver last year and provided an excellent opportunity for students to expand their knowledge of Petroleum Engineering. Through visiting the exhibition floor, attending SPE paper presentations, and participating in the trivia game known as the PetroBowl, our members brought back a greater base of oil and gas knowledge, along with an understanding of the latest technological achievements in the industry. For this year’s ATCE, over 100 Mines petroleum engineering students made the trip down to San Antonio, TX. At the conference, 30 universities from around the world participated in the annual PetroBowl competition and the Colorado School of Mines team (Robert Broman, Adam Richmond, Clifford Sanden, Jarrod Sparks, and Matthew Trauber), along with a very supportive and enthusiastic audience, proudly took home 1st place.

Our first fundraising event last year, the 4th Annual CSM SPE Golf Tournament saw massive participation by both the industry and the students. Taking place at nearby Fossil Trace Golf Course, 29 companies had representation, providing a great networking opportunity for students, and a great recruiting opportunity for businesses. In the 5th Annual CSM SPE Golf Tournament, we hope to increase both company and student participation, while raising funds to contribute to our annual ATCE trips.

Our second fundraising event, the SPE Clay shoot, also experienced great industry participation. Greeted with a day of perfect weather at Kiowa Creek Sporting Club, many students and professionals spent the morning socializing over breakfast and shooting into the afternoon.

SPE also had many other networking opportunities. We had a consistently strong presence at the Denver SPE meetings, and even hosted a meeting of our own during the Joint Session meeting with the SPE Denver Professional Chapter in April. At the meeting, Dave Neslin, the former director of the Colorado Oil and Gas Conservation Commission (COGCC) spoke about hydraulic fracturing regulation and the future of natural gas drilling in the United States. This is a very pertinent topic to the current generation of Petroleum Engineers because future regulation regarding natural gas exploration and production could potentially cause a major shift in the energy future of this country.

Last but not least, SPE also had many interactions with companies through lunch and learn. Over 15 companies treated our SPE members to lunch while also presenting about the latest technology and methods in Petroleum Engineering. The presentations covered a wide range of topics from high pressure compressors to live down-hole video. This fall, in addition to continuing our goal of providing networking opportunities and education to our members, we will also incorporate community service projects, social media communication, and other features into our chapter to increase camaraderie among our members. Finally I would like to end by thanking Patti Hassen and Terri Snyder. They are the metaphorical pillars that keep the department and SPE running smoothly, and much would be lost without them.
PI EPSILON TAU

What an exciting time of the year! Here at Mines, Marquez Hall is teeming with students, and we all could not be more thrilled. My name is Andrea Switzer, and I am the current chapter president of Pi Epsilon Tau. For those of you who don’t know, Pi Epsilon Tau is the Petroleum Engineering Honor Society open to undergraduate and graduate students who display high scholastic achievement and distinguished leadership skills. Our national chapter was founded in 1947, and our local chapter was established in 1983. Our chapter’s objectives are to create a closer bond between our student members and industry professionals, to broaden the scope of our member’s activities, and to maintain the high ideals and standards of the engineering profession. To accomplish our goals, Pi Epsilon Tau coordinates different volunteer opportunities such as Castle of Cans, promotes Petroleum Engineering to prospective students by leading visitation programs like Preview Mines, and holds an annual initiation for selected students.

Castle of Cans is an event held just before Thanksgiving as a campus-wide food drive. In addition to trying to collect more cans and non-perishable food items than other student organizations, there is also a design contest to test engineering students’ creativity. Although some organizations on campus did indeed construct a castle, our PET volunteers decided to use the event to promote our industry, with a wonderful rendition of Alaska, complete with offshore platforms and an oil pipeline. This year we hope to be contenders for the organization with the most amount of food with the help of the entire PE department. Our organization also helps to represent the department by providing information to students and parents that come to visit Colorado School of Mines before enrollment. Preview and Discover Mines are visitation programs for prospective and admitted students that allow for students to get a taste of the Colorado School of Mines, as well as visit various departments on campus. Our officer team and other volunteers from the organization assist with giving tours of the PVT and Drilling Simulation labs, promoting our various student organizations and activities (like ATCE and Field Session), and answering student’s questions.

In the spring, we initiated over 50 new members into the organization, including Dr. Carrie McClelland as our honorary graduate. Dr. Eustes was fantastic as usual in leading our PET song, and Dr. Graves joined in the ceremony to give us the history of our chapter.

I look forward to the upcoming year, as our officer team is full of great individuals: Scott Dunagan, Steven Freytag, Cody Godsell, Alex Jones, Jon Nilemo, and Jennifer Schrant. We hope to continue to be successful by continuing to apply knowledge coupled with effort, and I would like to conclude with a special thanks to the faculty and staff of the CSM Petroleum Engineering Department who make our student organizations run with ease.

Best Wishes,
Andrea Switzer
AMERICAN ASSOCIATION OF DRILLING ENGINEERS

The spring 2012 semester was the first one with new officers. We were successful at providing the student members of American Association for Drilling Engineers (AADE) with learning opportunities outside the classroom through Lunch-and-Learns, a Well Control class, and a fishing workshop. We were pleased to host companies such as Baker Hughes, Varel International, and Gyro-Data, who were able to share their expertise with the AADE members.

Wild Well Control hosted a basic well control class where 17 students were certified. It was a great opportunity for the students to obtain a professional certification. A special thank you goes out to Mike Vertner for hosting such an important class.

Anadarko hosted an Extreme Rig tour for the AADE members. This was a special field trip because it provided those students who had not been on location the experience. Thanks to Anadarko for your patronage toward our school and opening up your location to allow such a great opportunity.

Wild Well Control hosted a basic well control class where 17 students were certified. It was a great opportunity for the students to obtain a professional certification. A special thank you goes out to Mike Vertner for hosting such an important class.

Each year, the Denver AADE Chapter hosts Fin, Feather, Fur Food Festival at the Jefferson County Fairgrounds. This festival is a great opportunity for AADE student members to give back to the Denver Chapter through volunteering with set up, ticket sales, hospitality, and clean up. The goal for this year’s festival is to promote more student attendance. We look forward to this festival every year due to its huge industry support.

The main goal for the 2012-2013 school year is to recruit more members as well as younger classman involvement. As upper classman, we must be leaders and examples for those who will become the new officers. Another goal for AADE this school year is have various fundraisers to provide an active involvement to the National AADE.

The student AADE members would like to extend a special gratitude toward Dr. Alfred Eustes, who continually provides expertise and support.

Any questions, comments, concerns, and/or involvement is always welcome and encouraged, please contact snowak@mymail.mines.edu

Best Regards,
Sarah Nowak
Colorado School of Mines AADE Student Chapter President
The CSM Student Chapter of the American Rock Mechanics Association (ARMA) has celebrated the first year of the chapter’s establishment at Mines in March this year. CSM ARMA has significantly grown and served the Mines geomechanics community and students with numerous activities since its foundation. The Distinguished ARMA/UNGI Lecture Series we have initiated in our inaugural year has continued to draw attention and well-participated by the students and faculty at Mines. We hosted five distinguished speakers from the industry and academia that covered various applications of geomechanics last year. Dr. Omer Aydan from Tokai University (Japan) showed the importance of zooming out from typical reservoir scale and looking at tectonic activity of area early in September. Dr. Philip Nelson talked about pore throat size and petrophysical properties of shales and also brought his unique perspective as an investigative panel member on the key well integrity issues in the Macondo well in October. Dr. Mark Zoback (Stanford University), the current ARMA president, visited our chapter in November and presented opportunities and geomechanics challenges associated with the shale gas development. Dr. Jonathan McKenna from Microseismic Inc. talked about obtaining subsurface information using microseismic data, and Dr. Neal Nagel from Itasca gave a critical lecture on discrete element modeling for the optimization of shale gas simulations and employing the right physics and integrating microseismic data both in April. Hot topics so far! We are looking forward to hosting many more distinguished lectures this academic year and seeing your participation in the lectures and lunch and learn seminars. Please join us when you can.

We are grateful to our CSM ARMA faculty advisor Professor Azra Tutuncu for funding and countless hours she has spent with us to have a successful organization. We would not have put together such an effective activity portfolio past year and also had the achievements and accomplishments without her guidance, support and leadership. Thank you so much Dr. Tutuncu!

We have even more exciting plans for the upcoming academic year and anticipating a sensational year in our new home at Marquez Hall.

If you have any questions or suggestions or would like to join us at CSM ARMA, please do not hesitate to contact our new CSM ARMA president Mohammad Izadi at moizadi@mines.edu.

Best regards,
Tlek Kadyrov
CSM ARMA Student Chapter
Immediate Past President
One of the benefits of leading a field session is that I frequently choose where I am taking a group. Since I like going where no Eustes has ever gone before, I chose the four corners region of the United States. While I had been to Durango, I never ventured into the associated New Mexico region. I took a group of 52 students, again with Dr. Azra Tutuncu, Denise Winn-Bower, and this time with Joe Chen, and three teaching assistants; Chingiz Bopiyev, Tlek Kdyrov, and Franklin Useche.

We left bright and early on Monday morning for the Piceance basin operations with Encana. There is a traffic circle when you get off of I70 in Rifle that, should you not be expecting it, can fool you. It felt kinda like Chevy Chase in “European Vacation” when he gets trapped in the traffic circle in London! In any event, when everyone converged, Mark Balderston (83), Tina Maglio-Johnson (01), and Zeke Boles (09) gave us lunch and a briefing after which we toured operations in and around Rifle. Thanks goes not only to Mark, Tina, and Zeke, but also Gavin Poole, John Grubick, and Terry Dunn.

The next day, we were with Shell and their Mahogany Research Project. Tracy Boyd and Caroline Tucker started off by showing an outcrop of oil shale, which to be blunt, didn’t look that oily to me. However, it is clear, there is a lot out there. And as we saw, Shell is working hard to get it out safely, economically, and environmentally protected. We had a grand tour of their operations from the initial test site to the latest operations.

After a drive to Utah, we spent the night in Vernal. We got up early and headed out to a Superior Well Services frac job for Anadarko with Thang Nghiem (10). The directions, while ultimately accurate, did not calibrate with my GPS or Google Earth for that matter. This was one of the few times I got nervous going to a field session site. But get there, we did. And Thang, along with Bill Schueler and Claudia Sasse, took very good care of us.

The next day, we left Vernal and headed to Grand Junction. Along the way to Douglas Pass, we encountered an unusual situation. A horse team pulling a wagon had veered off the highway, breaking a bolt or two. I stopped and asked if they needed help. Boy, did they. Go to: http://www.wagonteamster.com/html/breakdown_but_back_on_the_roa.html for the rest of the story. We got an “attaboy” that day.

Well, anyway, Walt Kordziel (80) was waiting for us along with the rest of the Grand Junction Schlumberger group. They
FOUR CORNERS OF THE EARTH CONT.

had a nice tent set up with a catered BBQ (which as most of you know is one of the primary food groups and is on the bottom of the USDA food pyramid). Showing us around completion tools, cement equipment and blends, and perforating guns was Charlie Gladden, Tom Papiernik (08), Mark Norrid (08), Ketty Betzi, Jaime Hayes, Owen Oleson, Matt Hudson (04), James Edward, Russel Bolding, Darwin Burford, and Steve Cornet. I would also like to credit Allen Starkey for connecting us with Walt and our Pathfinder group in Farmington.

After our grand tour of Schlumberger, we headed over to Weatherford’s wellhead group, where, rapidly becoming a fixture of field session wherever we go, was Rick Davis. He always has something illuminating to say not only about wellheads; but also about life and engineering. We thank Kevin Moore for opening his shop to us. After dinner, I bought a new camera!

We left Grand Junction for Durango the next day. I saw that from Ouray to Silverton, the GPS was predicting a one hour trip for just 25 miles. I said, “yeah right”. Well it was! What a wicked highway. It made us late to BP; but, not to worry, Olivia Bommarito (03) rearranged things right off and worked out the situation. After lunch, we had a discussion of the impact of gas operations on the area’s people with Christy Zeller of the La Plata County Energy Council. We visited a gas compressor station with Pat Atneicio and then to a recovery gas seep compressor station with Karen Spray of the Colorado Oil and Gas Conservation Commission. That was quite interesting to see how BP was recovering natural gas seeping from the ground and generating electricity with the recovery.

Being a Saturday, we spent the next day in Durango. BP helped sponsor a trip on the Durango Silverton Narrow Gauge Railroad. We used that journey to study the geology along the Animas River up to Silverton. Curiously, the conductor was a Mines alumnus.

The next day was a big day in astronomy. Farmington was in the path of totality of an annular eclipse of the sun! Naturally, we were in the right place at the right time for an alumni get-together there in Farmington. Forest Bommarito (03) and Olivia Bommarito, Tyson Fouts (98), and Crissy Buczek (09) were petroleum alumni that were there. Forest had some eclipse glasses he graciously donated. We promptly split them so that twice as many people could see the eclipse.

Speaking of Forest, the next day we were with him at ConocoPhillips. After a field briefing, we headed out for a tour of gas well operations and their field camp. A lot of people helped us out including Michael Erwin, Chris Kruger (88), Brian Salazar, Dusty Mars (01), Crissy Buczek (09) – at the alumni picnic, too, Laurelin Ridolfi, Phillip Betts, Pat Hudman, Virgil Chaves, Robert Ingram, Jay Wendaborn, David Martin, and Tom Cochran. A debt of gratitude goes to all of them for making our tour grand.
That afternoon, we joined Tyson and T. Greg Merrion (80) and C. Dunn at Merrion Oil and Gas headquarters. After a hearty meal and a discussion with T. Greg on energy, Tyson took us around their Farmington operations with a final stop at San Juan Community College. There, they have a lot of cut aways and working equipment for us to poke and pry into. Thank you to George Sharp, Butch Stavely, and Randy Pacheco of SJCC. Tyson wasn’t done yet. After dinner, he hosted the showing of “spOiled”, a fine documentary that I highly recommend, not to those of us in the business, but primarily for everyone else!

Tuesday morning, we headed on over to Pathfinder in Farmington to see directional drilling equipment laid out for us to see. Tom Schmidt hosted us along with Thomas Billings, Breck Enoch, John Overton, and Ryan Roark. That afternoon, after another home cooked BBQ at NOV Tuboscope, John Thurstonson arranged a grand tour of their inspection operations, including a fascinating display of what bad pipe and threads look like. Thank you goes to Dan Sundt, Bruce Hare, Frank Greyeyes, Kelly Grubb, and Tom Brown for showing us around. And a big thank you to Les Massoletti here in Denver for helping.

The next morning dawned bright and clear. A great day for a geology tour arranged by Paul and Pioneer’s Geology team consisting of Neal Dannemiller (05), Brad Michalchuk, and Shannon Osterhout along with Chris Sanchez and Ryan Coberly helping to keep us safe. Everything started out great. However, apparently the night before, an earthquake collapsed a bridge on CO 12, so we couldn’t go out to visit all of the geological sites. So we ended up at the entrance of the Trinidad State Park. Unfortunately, a ranger showed up telling us to either pay or vacate, even though we were only clustered at the entrance of the park. Oh well. Thank you to all of Pioneer’s folks!

Yet another intense trip. We saw, did, and heard a lot! I cannot thank Azra, Joe, and especially Denise for their efforts and assistance. I also appreciate the student driver’s attention to safety. And of course, kudos to all those companies and people that made this a fantastic field session and a signature event for the Petroleum Engineering Department and the Colorado School of Mines. I know I have missed some that should be named. If so, please forgive me and please accept our gratitude! If you wish to see our photos, go to: http://www.facebook.com/alderson.hall/photos and look at “4 Corners” for photos. You are welcome to keep any of my photos.

Wednesday, we left Farmington for Los Alamos. We met Dr. Giday Woldegabriel, a senior research geologist in the Earth and Environmental Science Division of the Los Alamos National Laboratory (LANL) in the Valles Caldera west of Los Alamos for a geology tour of a rather violent event in the region’s history. It is quite scary to see the massive volcanic deposits and think of the devastation that must represent. Thank you Dr. Woldegabriel.

After spending the night in Los Alamos, we headed out for our last stop, Trinidad and Pioneer Natural Resource’s operations in the Raton Basin. Paul Onsager (84) had arranged a fine tour of their coal bed methane operations with an emphasis in environmental compliance. We had a nice visit and lunch in their new facilities west of Trinidad, then it was off to visit their operations. Helping lead us were Duane Hiss, Bob Gill, Jack Wiseman, Bryan Findley, Eddie Morris, Dave Baca, Vince Santistevan, Steve Schreck, Leonora Castillo, Wayne Trujillo, and Dave Proctor.

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Thanks to the generosity and enthusiasm of our many alumni and friends, the 2012 PEGN 315 Field Session was a great success! Forty-eight students, three graduate student TAs (Samayeh Karimi, Mehdi Mokhtari and Milad Saidian), Terri Snyder (Administrative Assistant), Al Sami (PE Lab Coordinator), Dr. Todd Hoffman and I, arrived in Los Angeles on Monday, May 14, 2012 and once again set up “camp” at the La Quinta Inn in Ventura. On Tuesday we began our first full day in beautiful California sunshine and mild temperature on our annual “beach” geology field trip. Starting at Arroyo Burro Park and ending at Loon Point, Jon Schwalbach and PE alums, Dave Mayer (80), Indar Singh (08, 10) and a few summer interns, all of AERA Energy, showed us formation fractures and lectured on regional fracture development and structural traps. What a great start to our field session! The next morning we visited Weatherford “Oil Country” arranged by PE alum Kris Kircher (01), followed in the afternoon by a presentation from the California Division of Oil, Gas & Geothermal Resources hosted at AERA’s Ventura Field Office. Many thanks to Kris, Weatherford, California Division of Oil, Gas & Geothermal Resources, and AERA for providing an interesting and diverse first two days!

Safety Training and snacks on Tuesday afternoon in anticipation of the Thursday tours and for their generosity in arranging the platform tours.

On Friday morning, geologist Don Miller led us on a tour of Vintage/OXY’s San Miguelito Field. The Ventura Anticline is always a jaw-dropper for the students who have yet to take structural geology. In the afternoon we traveled north on Pacific Coast Highway to Pismo Beach where the students enjoyed different beaches, an upgraded hotel accommodations and a first-class tour of the Conoco Phillips Santa Maria Facility refinery on Saturday. The remainder of Saturday was spent traveling and settling in to our excellent accommodations in Bakersfield.

On Sunday afternoon, May 20, 2012, we visited the Kern County Oil Museum and then enjoyed dinner and mingling with Bakersfield CSM Alumni at Coconut Joe’s. We would like to thank a number of our PE alums and their companies for organizing and sponsoring this inaugural event: (1) Planning/Organization: Tiffany Brewster (AERA), Kelsey Gallegos (10) (Driltek) and Dave Mayer (AERA); and (2) Funding: Lonnie Kerley (PXP), Brent Vangolen (10) (OXY), Geordie Chambers (Chevron) and Kelsey Gallegos (Driltek). We hope to have this opportunity again next year to mingle, network and hear “stories” from the Bakersfield alums! Thank you!
We spent the entire day on Monday with OXY at Elk Hills. This was a fantastic opportunity for the students to learn about Elk Hills and OXY, see drilling in action as well as production operations. Many thanks to Brent Vangolen for arranging and hosting us at Elk Hills!

On Tuesday, AERA hosted us once again at their Belridge Field. Beginning with a safety meeting and breakfast burritos, the morning was spent on a field tour featuring a variety of contractors including BJ, Weatherford, Pengo Wireline, Pro Tools, Key Production Rig and Coiled Tubing. Many thanks to Angel Forsling-Ransom(10) and Travis Ransom(10) for coordinating the tour along with Michael Dixon and Tiffany Brewster. A delicious lunch was served at AERA’s Bakersfield headquarters followed by a question and answer session with President & CEO Gaurdie Banister, Jr., and a panel discussion with CSM alums Tiffany Brewster, Michael Dixon, James McCall, Angel Forsling-Ransom, Travis Ransom, Indar Singh and Irina Hardesty-White(09).

We spent the morning of our final day in Bakersfield with Schlumberger. Once again, Schlumberger provided excellent tours of their Wireline and Well Services facilities and equipment, sending us in multiple groups in multiple directions at two different facilities so that all aspects of their operations could be presented to our students. We are very appreciative to Schlumberger for providing the human resources for these efficiently designed tours as well as breakfast burritos and snacks for the students. We hope to visit again next year!

Our final day of the Field Session was spent with THUMS/OXY Long Beach, Inc. We appreciate CSM alum Mike McCarter’s(75) time and effort in organizing a full day of hospitality including breakfast at Tiger Wireline’s new shop to learn about parcker, ESP’s and more. Lunch at The Reef Restaurant, presentations about THUMS and the Wilmington Field, then we headed to the boat dock for a tour of Island White.

The field session in Southern California and Bakersfield would not be possible without the generosity of our alums and friends in the area. The students, TAs and Faculty had a wonderful learning experience and another enjoyable visit to California. Thanks again! We hope to see you next year!
Our field session group to Texas was made up by 44 students, Dr. Ozkan, Dr. McClelland, Patti Hassen, and me. In addition, we were assisted by some of wonderful graduate assistants: Brent Johanson, Adlet Jambayev, and Saeed Zargari. In two weeks, we visited oil company offices in the Houston area and looked at several field operations in the Eagle Ford. We observed unconventional oil and gas drilling, completion, production operations, as well as research and development. It was a wonderful trip.

On that day, we also had the first (and the last) accident of the trip. As we left the Baker Hughes facility, a van was stuck in the mud. Luckily, we were not short of helping hands, and the van was eventually pushed off the muddy trap. We were back to Houston at the end of the day.

Our trip started on Monday, May 14 as we took the flight from DIA to Houston Hobby. We picked up the vans, and drove to Austin in the afternoon. In the morning of May 15, we visited Baker Hughes logging/well testing training facility in the suburb of Austin. Baker Hughes engineers gave us lectures on the basic principles of logging and how it was used in modern oil and gas industry, and showed us logging tools.

On May 16, we visited the corporate office of Marathon in the morning and the Energy Museum of Houston in the afternoon. Both trips were arranged by the Marathon Oil Company. It was a real pleasure to see the alumni and some of our recent graduates. In the morning of May 17, we visited Schlumberger Reservoir Completions Technology Center in Rosharon, TX, south of Houston; in the afternoon, we visited H&P Rigs at their factory in Greens Port, Houston, where we had a rare opportunity to see drilling rigs being assembled and tested.
After spending two days in Houston, we headed for San Antonio and the Eagle Ford. From reservoir fluids’ point of view, Eagle Ford is a very interesting field because it produces gas, condensate, and oil from different parts of the field. On May 18, we visited the Eagle Ford Asset team of Pioneer Natural Resources in their field office near Kennedy, TX. We were warmly welcomed by CSM alum Troy Hoefer(87), who treated us with barbecue, and showed us in the afternoon the nearby production (gas plant), drilling, and fracturing operations.

On May 19 and 20, we stayed in Corpus Christi. It was a nice break, and the students thoroughly enjoyed some offshore activities (e.g. swimming) in the Gulf of Mexico. On May 21, we headed back to the Eagle Ford. This time, we visited Murphy E & P Company. CSM PE alum Jesus “Chuy” Alvarado(09) and past E-Day engineer - welcomed us and introduced us to the company and their operations in the Eagle Ford.

After the four-day trip in San Antonio - Eagle Ford, we headed back to Houston on May 22. A half day trip was arranged to visit Baker Hughes on the Northwest side of Houston, where the students looked at various kinds of downhole completion tools. On May 23, we visited Hess corporate office in the morning, and Halliburton Technology Center, Real-Time Center, and North Belt Facility in the afternoon. On May 23, the last day of the field session, with the help of Alum, Jeff Reimer(05) and Mike Weaver(2000), we visited Anadarko corporate office in The Woodlands, TX.

This field session trip, and the many others that I have had, was a great experience (even for me!) and was thoroughly enjoyed by the students. I would like to use this opportunity to thank the excellent work of participating faculty, staff, and graduate assistants. More importantly, we thank the enthusiastic support from our alumni and the companies. Without your commitment and dedication this trip would not be possible!
Since the Olympics were currently underway, my mind was somewhat on setting records, and this was a field session for setting records. The first record was in attendance. This year, 142 students went through the Massadona field camp. That is by far the largest group in recent memory and was approximately a ~14% increase from last year. It is a +700% increase from when I started teaching field session in 2002. My, what a difference ten years makes. The other records I mention reside in items such as the number of speeding tickets handed out by the Moffat County Sheriff’s Department – I think we’ll just leave it at that and not discuss the specific details right now.

With that many students, we once again ran two sessions back-to-back. Mark Miller handled the first session, while I batted clean-up with the second. We had a herd of TA’s to help us out including in no particular order: Nurlybek Adenov, Ashley Reed, Brahim Ohrissi, Max Willis, Talgat Kosset, Jane Stammer, Jeremiah Moody, Genevieve Shope, Cat Greene, Hakan Corapciglu, Peter Bucknam, and Ryan Fisher. Some of those names you might remember from past field camps, either as your classmates or as past TA’s. Many received leave and/or support from their companies to be there, so I’d like to take a minute to thank Schlumberger and Yates Petroleum for falling into that category.

We visited three companies this year and would like to thank them for their support. As for the past +25 years, Chevron and Production Logging Services provided presentations on the Rangely field and production logging techniques, respectively. Newfield Exploration joined the gang this year with a visit to their Monument Buttes field.

Many of you had Dr. Donna Anderson as an instructor from the geology side of things while out at camp during the past
ten years. Although Donna joined us for a couple of days this year, she has officially retired from teaching the Massadona field camp. For those of you that had her as an instructor, you know how exceptional she is!! Her enthusiasm and knowledge are irreplaceable. I just wanted to take a minute here to thank her for all her time, effort, and passion that she brought to the camp – Dr. Donna, you will be missed!!

I think Mark and I both breathed a huge sigh of relief as we each watched the last taillights pull out of our respective sessions. With an average of ~70 students each time, each section can be a little overwhelming. I’m not sure about future enrollment numbers, but we might have to consider going to three sessions in future years. Hmmmm, six weeks at Massadona...that might sound familiar to some of you older alumni. I guess what goes around, comes around!

Students demonstrating fluvial depositional environments - River god in command!

Skull Creek Anticline

YOMO-H (You Only Massadona Once-Hopefully!)

Second Session- Group Photo.