



Department of Petroleum Engineering

CRAFT & HAWKINS DEPARTMENT OF PETROLEUM ENGINEERING · FALL 2007 · VOLUME 16

LSU/Industry Consortium on Managed Pressure Drilling

A new research consortium focused on managed pressure drilling (MPD) was formed at LSU last summer. The “Well Control Project for Managed Pressure Drilling” was initiated to develop, document, and demonstrate effective well control procedures for the controlled bottomhole pressure (CBHP) method of MPD. The goal is to provide a basis for procedures that will be equivalent to the standardized well control procedures used worldwide for conventional drilling.

Background

Deep wells often encounter abnormally high pore pressures resulting in a narrow margin versus formation fracture pressures. This often causes multiple protective casing strings being required, increased well costs, and reduced or unacceptable development economics for many potential resources.

MPD is a new technology that is being proposed to overcome these challenges. It is typically conducted with the well closed at the surface by a rotating control head or rotating blowout preventer with returns routed to a choke manifold. In contrast, conventional drilling is conducted with the well open to the atmosphere at the surface and uses only fluid hydrostatic pressure to control formation pressures. The CBHP or “balanced pressure” approach to MPD is intended to carefully control pressures within the well annulus throughout the entire drilling process. This precise control of wellbore pressures reduces the risk of exceeding the fracture pressure and therefore, also reduces the risk of lost returns. When compared to conventional operations using the same casing program, this approach can provide a larger margin, called the “kick margin,” between wellbore pressures and fracture pressures. Alternatively, the precise control that it provides may allow drilling with a less costly

casing program and the same kick margin by reducing the overbalance pressure used while drilling. Consequently, MPD is expected to have widespread application, especially for wells drilled in deepwater, partially depleted formations, or deep, high pressure formations.

Research Plan

Alternative approaches for controlling unintended formation flows into a well, known as kicks, taken during managed pressure drilling operations are being evaluated. The proposed research is focused on determining the best initial response to a kick, on how to identify a threatened underground blowout, and on evaluating alternate, non-routine approaches to controlling an underground blowout such as sandwich and dynamic kill methods. Alternative courses of action are being investigated using a transient, multi-phase flow simulator. Practical field procedures will then be defined, implemented for evaluation on the full-scale test wells at LSU, and documented for use by the project sponsors and subsequently, for presentation to industry meetings.

Current Status

The consortium led by Associate Professor John Rogers Smith is being supported with technical assistance from Blade Energy Partners and with software from SPT Group. The five industry consortium members funding the research are Chevron, At Balance Americas LLC, ConocoPhillips, Total E&P USA, Inc., and Secure Drilling. Three progress meetings have been held with the participants, and a summary of the initial results was presented to the industry at the SPE/IADC MPD/UBO Conference held on March 28 and 29, 2007 in Galveston, Texas.

continued on page 3

MESSAGE FROM THE CHAIR

The fall semester at LSU has begun and we are enjoying the return of our students, along with the incoming freshman who we welcome to LSU and our community. We are going to miss some of the seniors and graduate students who have departed but know that they will make us proud in their new careers. The fall barbeque, golf tournament, graduate seminars, recruiting visits, Industry Advisory Group meeting, etc., are all being planned. We look forward to seeing many of you on campus in conjunction with one or more of these events. There are a lot of ways that we receive help by individuals investing personal time, and it is very much appreciated.

As described below, the last twelve months have been a time of growth for the Craft and Hawkins Department of Petroleum Engineering, accompanied by some significant accomplishments. We are continuing to experience a growing enrollment, fueled by a continued high demand for our undergraduate and graduate students by the upstream oil and gas industry. We currently have 285 undergraduate students this year, an increase of about 10% from 2006-2007. We will have larger class sizes due to this increased enrollment, but we are determined to keep the same personal contact between students, faculty and staff that the department has always been known for in the past.

The Department hosted the SPE Regional Student Paper contest in April. Drs. Richard Hughes and Andrew Wojtanowicz, assisted by Ms. Andi Donmyer and the student SPE Chapter, coordinated a very successful contest. Universities from Texas, New Mexico, and Louisiana participated, and were introduced to the Department with a crawfish boil at the well facility. The feedback from the visiting faculty and students was very positive—they really enjoyed their visit to Baton Rouge. Marta Bermudez from LSU won first place in the MS division, and Juan



Stephen O. Sears, Chair

Hernandez won second place in the PhD division.

We have formed search committees for two positions, and advertised for both in the July issue of the *Journal of Petroleum Technology and Geotimes*. We are searching for an assistant professor, and for a more senior faculty member to fill either the Devon or the Sullins Endowed Chair.

Our last search was successful, and we have added a new faculty member, Dr. Myank Tyagi. Dr. Tyagi will hold a 50 percent appointment in the Petroleum Engineering Department, and a 50 percent appointment in the Center for Computational Technology. Dr. Tyagi is an expert in high performance computing, and we believe he will add an important new dimension to our research capabilities in this area. He started at the beginning of the fall semester.

The Department's graduate program was ranked 8th in the latest *US News and World Report* Survey, up from 9th the previous year. Our ongoing research program includes work on wettability and phase behavior, managed pressure drilling, novel completion techniques, miscible gas flooding EOR, and performance prediction of deepwater reservoirs. We have continued to receive funding from federal, state and industry sources. Our faculty traveled quite a bit last year, receiving invitations to visit and lecture around the world.

The Forever LSU Campaign is well underway, and I would like to thank our Department Committee, chaired by Bill Flores of W&T Offshore, for the hard work they are doing for the department. We anticipate that a successful campaign will provide funds for transformational improvements in the department's research and teaching programs.

We have had a very successful year in 2006-2007, and I very much appreciate the support we have received from all of our alumni and other stakeholders. If you are in Baton Rouge, please stop by the department and see us.

-Steve Sears

Portrait of Murray F. Hawkins, Jr.

The main petroleum engineering classroom is now adorned with a bust of Murray F. Hawkins. The bust was sculptured by Brad Bourgoyne and presented to the department by Ted Bourgoyne during the departmental Industry Advisory Committee meeting on October 13, 2006. The inscription reads:

“WE dedicate this sculpture in his honor, so that he might watch over these students, so that we remember the tradition he established for academic excellence and concerns for students, and in thanks for this classroom, which he designed to make possible the demonstration of fundamental petroleum engineering principles.”

The department is frequently reminded by many of our distinguished alumni about the tradition of concern for students and personal attention established by Benny Craft and Murray Hawkins. Many of these comments are recorded in the written “reflections” of those alumni inducted into the engineering hall of distinction.

During the presentation of the sculpture, Ted commented on Murray’s ability to break down complex petroleum engineering problems into fundamental concepts that could be demonstrated with experiments conducted in the classroom. The classroom was designed with an adjacent preparation room where the demonstrative equipment could be set-up on a rolling table that could be brought into the classroom. One of the set-ups was a PVT phase cell mounted with cameras for



visual demonstrations of bubble point, dew point, critical point, and phase separation behavior.

Murray continues to be interested in the department and dislikes all of the attention. He and Julia still enjoy keeping up with alumni and recently attended the LSU Foundation white tie event in which Harry J. Longwell was awarded with an honorary Doctor of Science in August 2004.

Brad is currently working on a similar sculpture of Benny Craft, which will also be placed in the classroom.

-Ted and Darryl Bourgoyne

Bust of Hawkins sculpted and donated by Brad Bourgoyne.

Managed Pressure Drilling continued from page 1

Majid Davoudi and Hakan Guner are the MS students who are currently working on this project. One project researcher, Asis K. Das, already graduated in May with an MS in Petroleum Engineering. His thesis was entitled “Simulation Study Evaluating Alternative Initial Responses to Formation Fluid Influx during Managed Pressure Drilling.” Asis is now working with Blade Energy Partners in Frisco, Texas.

For more information on this project, contact John at 225-578-0412 or jsmith5@lsu.edu. For information on other well control, hydraulics, underbalanced drilling (UBD), or MPD related activities at LSU, contact either John or Darryl Bourgoyne, PERTT Lab Director, at 225-578-8458 or dbourg1@lsu.edu.

-John Smith

Welcome

Dr. Mayank Tyagi joins the Craft & Hawkins Department of Petroleum Engineering this fall 2007 semester. Previous to this appointment, Dr. Tyagi worked as a research scientist at the Center for Computation and Technology (CCT) here at LSU. Currently, his research addresses several grand-challenge simulations of the near-well bore fluid flow and heat transfer phenomena over the multitude of scales ranging from the pores of the rocks to the dimensions of the reservoir. We would like to welcome Dr. Tyagi in to the department.



ALUMNI NEWS

The Craft and Hawkins Department of Petroleum Engineering has a diverse student body. Last year 194 of the 245 undergraduate students were from Louisiana, and many of these Louisianans have a family heritage in the oil industry. Some of our students come from elsewhere in the United States. We have international undergraduate and graduate students from China, Ghana, India, Iran, Lebanon, Mexico, Nigeria, Saudi Arabia, Serbia, Suriname, Trinidad and Tobago, Turkey, and the United Arab Emirates. We believe the strong service to Louisiana residents and the introduction to the diverse, international E&P industry are strong, balanced parts of our educational experience.

W. C. (Zeke) and Amy Zeringue

Zeke's journey to petroleum engineering began in a tomato patch near Waggaman, Louisiana. Peter Phillip, Jr., the tomato farmer's son, was enthusiastic about LSU's department. His friend Peter's enthusiasm, combined with the attractiveness of outside work, drew Zeke to Baton Rouge in 1967.

When Zeke drew number 35 in the draft and went to boot camp as a reservist, Professor Bill Holden helped him work around scheduling problems in an effort to graduate fairly quickly. Zeke fondly recalls the twice-weekly drives to the satellite classes with Prof Holden, and Prof Holden's support.

Although he initially hoped to work for an E&P company, Zeke went to work with Halliburton, beginning in Houma. Over the years, Halliburton sent him all over the US and later internationally, including providing world-class pumping horsepower for famous blowout recovery teams like Red Adair and Boots and Coots. Zeke continued to advance, and retired from Halliburton Energy Services after serving as president (reporting to Dick Cheney, then president of Halliburton Company). He later pursued opportunities in seismic surveying (with Input-Output) and in software



Zeke and Amy Zeringue at a costume party; Zeke shows his loyalty to his oilfield roots. Zeke graduated from LSU in 1971, and Amy (his daughter) in 1997 – both in Petroleum Engineering.

(WellLogix). His current career, raising and racing thoroughbreds, is a bit different but - like engineering - requires thought, teamwork, and risk tolerance.

The contacts with his professors and the large class of '71 (Profs Hawkins and Craft had been working hard to build a nationally prominent program) were a great help to Zeke as he began his career. He has repaid the favor by supporting the department as a member of the Industrial Advisory Committee, and recently endowed a scholarship in the department: he felt blessed in what he was able to accomplish and wanted to give something back.

Asked about his experiences in the industry, Zeke said, "There are a lot of opportunities out there for PETE students. And these service companies, there are some great opportunities out there. I'd encourage all students to look very broadly at what career works best for them." It seems to have worked out well for him.

For Amy, entering the oil industry seemed natural. "Growing up in the oil industry allowed me to gain an appreciation for its culture, history, and opportunities." She joined LSU to major in chemical engineering and planned to go to medical school, but found "...the knowledge and skills gained through the petroleum engineering curriculum and the opportunities presented upon graduation convinced me that entering the industry was the best option. Ten years later, the correctness of that decision is confirmed. I can't imagine having gone to another university or selecting another industry." Amy now works in a consulting firm, and finds that "a degree in petroleum engineering from LSU lends instant credibility as I work with our oil and gas client base." It seems to have worked out well for Amy, too.

Mohamed Al Marzouqi

Mohamed Al Mazouqi was one of the first United Arab Emirates Students to attend LSU with a scholarship from ADNOC.

Mohamed came to LSU after attending an intensive English program at Indian University. He had many choices in terms of where to continue study, and he chose LSU for a variety of reasons. These reasons include the reputation of the university and department, the faculty (especially Prof. Bassiouni), the varied curriculum, the familiar climate, and the options available on a large campus like LSU. And of

course, the national championship of the football team was a further enticement.

When asked about instructors that he recalled and appreciated, he said he really didn't have a favorite because he found each of them cooperative, helpful, and unique. Mohamed says he enjoyed his coursework. "When I joined my current work, many of the senior engineers were surprised that I knew more than what they expected. LSU petroleum courses gave to



Mohamed Al Mazouqi is a 2005 graduate of LSU in Petroleum Engineering.

me a complete picture of the oil industry. I spent the best five years, in my life in terms of getting the knowledge, in LSU."

Mohamed arrived at LSU with a group of 5 UAE students who had the challenge of being the first scholars from the UAE at LSU. "Routine" things like housing and transportation were an every day challenge. After one year, 20 UAE nationals joined LSU: Mohamed recalled, "I'm really proud of that because we did make difficult things easier. It's always difficult to join different culture, but we made it and we had some friends over there who are still in touch with us."

Mohamed offered several bits of advice to current students: "Challenge yourself, and you can get an A; ask, ask, ask, whenever you don't understand; don't miss any lectures, you will see their value when you begin your career; and build a nice environment to encourage your professors and classmates to work with you." He encouraged the professors to treat the students as fellow professionals and try to make students comfortable in asking questions. Also, he suggested working in groups (except on tests!) Mohamed thinks that classes could improve with more site visits, projects, activities, and even some competitions on the projects to encourage the students to achieve and learn more.

As he sets out on his career, Mohamed says, "It is my honor to be an LSU alumnus."

-Chris White and Harriett Pooler

UNDERGRADUATE HIGHLIGHTS

The 2006-07 academic year was a year of growth for the LSU Craft & Hawkins Department of Petroleum Engineering's undergraduate program. The continued strength in the petroleum industry, because of increasing worldwide demand for petroleum products, has motivated an increasing number of incoming students to pursue the petroleum engineering curriculum. For the first time in over a decade, the introduction to petroleum engineering class (Pete 1010) had 120 students enrolled in it on the first day of class, August 28, 2006. As a result of this increase in students' interest in petroleum engineering, we anticipate that future graduating classes will be larger than past graduating classes of the last decade.

Not only do we have more undergraduate students enrolled in petroleum engineering, but aggregately, they are more academically prepared than in past years. According to LSU's Department of Undergraduate Admissions, the university continues to admit students who are more academically prepared than students in previous years. The latest data on the LSU student population showed that in the fall semester of 2006, the average ACT score of incoming students was 25.1, and over 75% of incoming students had a high school grade point average of at least 3.25 on a 4-point scale.

The 2006-07 academic year began with our annual kick-off barbeque, which the student chapter of the Society of Petroleum Engineers hosts to welcome incoming petroleum engineering students to the LSU campus and returning students back to campus. In addition to the barbeque, over 150 undergraduate and graduate students attended our annual Mock-Interview Panel Discussions in September, wherein industry professionals helped students prepare for the fall interview season by discussing interview techniques and helping students understand the protocol of a professional interview.

Throughout the fall and spring semesters, petroleum companies interviewed LSU students as the demand for petroleum engineering graduates remained at a very high level. The companies that were the most successful at hiring December 2006 and May 2007 graduates were companies that had well-entrenched histories of hiring summer interns, participating in student events, and helping students by financially supporting our department.

In December 2006, the Craft & Hawkins Department of Petroleum Engineering graduated 6 students with bachelor's degrees; in May and August 2007, the department graduated 15 students with a bachelor's degree.

Many of our current students are performing excellent work. For the fall 2006 semester, the following 3 petroleum engineering students made the Chancellor's List: Christopher William Knobles, Mayuri Murugesu, and Cody Steele Rodriguez. For the spring 2007 semester, the following 3 students made to the

Chancellor's List: Mohammad Kanfar, Christopher William Knobles, and William Wilson Watson. To be admitted to the Chancellor's List is no easy task, as students must earn a 4.0 grade point average on 15 or more credit hours of course work completed at LSU.

In addition to the students admitted to the Chancellor's List, for the fall 2006 semester, the following 12 students made the Dean's List: Tom Luca Barbato, Brandon Daniel Hartmann, Stephanie Nichole Hickman, Mohammed Kanfar, Michael Weldon Massengale, Zachary Hunter McCardel, Joseph M.



Graduating Seniors at the commencement exercises on May 18, 2007 pictured with the Chair (L to R): Adam Currey Buras, Troy Michael Pittman, Jonathan Winston Landry, Jacob Branson Rotolo, Daniel Josiah Camper, Parashar Saikia, Scott Alexander Dunlap II, Lauren Elizabeth DeRouen, Sebastian Tyler Dametz, Stephen Sears, and Terrell Eugene Clark

McGaugh, Richard Lincoln Miller, Melissa Leigh Meyers, Katie Leigh Prater, Jacob Branson Rotolo, and Courtney Elizabeth Sample. For the spring 2007 semester, the following 4 students made the Dean's List: Mohamed Ahmed Abdelrahim, Robert James William Ingram, Mayuri Murugesu, and Brandon Rocquet Sanchez. In order to be admitted to the Dean's List in 2006, students had to earn a 3.5 to 3.999 grade point average on 12 or more credit hours of course work completed at LSU. In 2007 the requirements changed. Students must earn a 3.5 to 3.999 grade point average on 15 or more credit hours of course work completed at LSU in order to be admitted to the Dean's List in 2007.

On behalf of all LSU petroleum engineering students, staff, and faculty, I would like to thank all of our supporters who have helped the Craft & Hawkins Department of Petroleum Engineering to provide a first class education for our students. We look forward to the future, as we continue with your help, to enhance our program to meet the changing needs of the worldwide petroleum industry.

-Fred Thurber



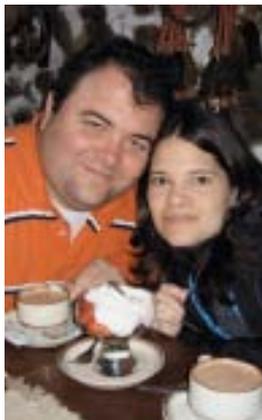
GRADUATE CORNER

Each year the department boasts quite a diversified group of graduate students who possess varied educational backgrounds and professional experience. These students represent many countries, and they all share a desire to further their education. In this issue of the newsletter, we've invited two master's degree students to share their interest and insight regarding their personal educational backgrounds and research. These students represent two of the four graduate students who competed in the SPE Gulf Coast Regional Student Paper Contest, hosted by LSU.

Sugar Story — My Research Adventure at LSU

by Marta S. Bermudez

After obtaining my undergraduate degree in chemical engineering in Venezuela, I joined Schlumberger and worked for them for 8 1/2 years in cementing and drilling fluids services. In 2004 I decided to pursue a Master of Science in petroleum engineering. I had always worked in the oil industry, where I was trained by Schlumberger principally in the cementing business. But I really wanted to have more education in the full scope of the petroleum discipline and acquire more knowledge in other areas such as production,



Marta is pictured with her husband Darrin.

reservoir engineering, and geology. I thought that a formal education in Petroleum Engineering could give me this exposure and also improve my career opportunities with different employers. To achieve my goals, Louisiana State University was a great option for me, mainly because LSU is the best university in the state where I was already living, and its petroleum engineering department is highly recognized nationwide.

I started the program with the thesis option in mind; but the deeper I got into the curriculum; I changed to the non-thesis option. Due to my previous experience, I benefited much more from taking the extra graduate level courses, which

focused on production and reservoir. This was definitely the best decision for me!

During my last semester at LSU, I took on an independent study project. While discussing a topic to choose with my advisors, Dr. Andrew Wojtanowicz recommended researching the effect that sugar has on the thickening time of cement slurries. The first thing that he asked me was my opinion about the sugar accelerating or retarding the cement. With all my cementing expertise, I immediately replied, "It retards!" He disagreed; he said that it depended on the sugar concentration used and that it could act as both. I was doubtful so he showed me some previous tests performed at LSU that proved him right. At this point it was a challenge. I did not believe the results, and I wanted to demonstrate them wrong so I undertook the project. The tests were conducted under my supervision at the Halliburton Fluid Center Cementing Lab in Lafayette, Louisiana. My final results confirmed my professor to be right; I found out that the sugar in small concentrations retards, but in high concentrations accelerates the thickening time of cement slurries. These conclusions were unexpected for me.

I participated in the LSU Internal SPE Student Paper Contest and obtained the first place award. I then presented my research in the 2007 SPE Gulf Coast Regional Student Paper Contest, and I also gained the first place in the Master's division. Now I will represent LSU in the SPE national contest in California next November. At the end, all my cementing experience gave me the tools and knowledge that I needed for this project. Also, it was a blast to discover that there was one fact about cementing that not only I but also my cementing expert's colleagues did not know. Upon graduation, I am joining Chevron in the area of production in Houston, Texas.

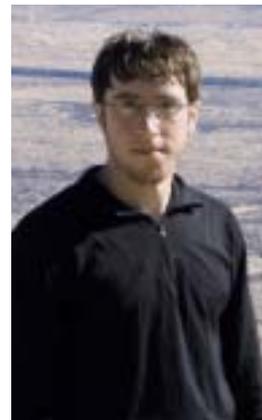
From Senior Project to SPE Environmental Paper Contest — A Student Perspective

by Adam M. Lewis

When I began my senior design project in the fall semester of 2004 with my friend and classmate Travis Webre, I had no idea that I would still be working with it nearly 3 years later. We started out with no idea what sort of problem we were going to tackle. Travis liked drilling engi-

neering, and I liked reservoir engineering; it was an age-old test of combining skill sets. On the advice of Dr. Julius Langlinais and after several consultations with engineers at the State Department of Natural Resources (DNR), we decided to tackle the problem of estimating the cost to clean up and restore all of Louisiana's orphaned reserve pits.

We had no idea how deep of a hole we had just fallen into. In retrospect, the scale of the problem made it an excellent lesson in how to simplify a problem and solve it one piece at a time. That said, the mentoring partnership we formed with Chris Sandoz at DNR and Dr. Wojtanowicz at LSU was absolutely critical to our ability to understand and solve the problem we were dealing with. Upon completing the project for the senior design class in April of 2005, Travis and I both went our separate ways. He went to work for Chevron, and I remained at LSU to pursue an M.S. in Petroleum Engineering.



Adam Lewis in Colorado.

Then in the fall of 2006, the beast was re-awakened from the grave in which I thought we had left him. Dr. Wojtanowicz informed me that the 2007 SPE Environmental Conference was sponsoring a paper contest, and my old senior design project would be perfect

for it. So, I set about doing a few things that Dr. Wojtanowicz, Travis, and I had always agreed would make this project much more complete. Much to my surprise, the presentation and accompanying paper took 2nd place at the contest, despite competition from around the world. In addition to the prize money, the paper was added to the SPE library as an additional reward (SPE #106619). I have truly enjoyed working on this project over the years and am very proud that the hard work finally bore fruit. My thanks go to all the people that helped Travis and me along the way; we certainly would not have gotten this far without your help.

STUDENT ORGANIZATIONS

Social science research confirms what many practicing petroleum engineers learned while they were in college; peer influence is the catalyst that propels students through the rigors of the college experience. LSU's Craft & Hawkins Department of Petroleum Engineering's boasts the following student organizations: the Society of Petroleum Engineers (SPE), the American Association of Drilling Engineers (AADE), and Pi Epsilon Tau. All contribute to developing a culture of academic achievement, service to its members and others, and personal leadership development among student members. To all who have helped our student organizations through their generous financial support and/or personal participation in organizational events, we thank you! Without your help, the rich academic environment kindled by student organizations would not be possible.

AADE

The AADE is proud to announce that Richard Duff (Ph.D. candidate) participated in the 2007 AADE National Technical Conference by presenting his research "Observation and Modeling of Torsional Vibration Regimes" and placing third in the student poster contest. Because he placed third in the student poster contest, representatives of the AADE National Technical Conference asked Richard to give an oral presentation of his research, which he did. LSU petroleum engineering faculty and staff are very proud of the research that Richard has done on torsional vibration regimes.

In November 2006, LSU student AADE members, along with student AADE members from Nicholls State University, the University of Louisiana at Lafayette, and the University of New Orleans, participated in the AADE Student Section Day, which Baker Oil Tools in Lafayette hosted. Several petroleum service companies demonstrated a wide variety of completion and well servicing equipment, including gravel pack, tubing conveyed perforating, fishing, cementing, completion, and BOP equipment. In addition to the AADE Student Section Day, LSU AADE student members attended presentations by Smith Bits Corp., Shell E&P Corp., and Wild Well Control Corp. during the spring 2007 semester.

Spring AADE student officer elections results were as follows: Thomas Barbato (President), Cade Jackson (Vice-President), William Wiedner (Treasurer), Cody Rodriguez (Secretary), and Melissa Myers (Special Events Chair).

Pi Epsilon Tau

The Petroleum Engineering Honor Society (Pi Epsilon Tau) inducted 14 new petroleum engineering students into their organization on Sunday, April 22, 2007. For the first time, new initiates had to participate in a scavenger hunt and knowledge-based rally (the PET e-Challenge) as part of their initiation into Pi Epsilon Tau. After the PET e-Challenge, BHP Billiton treated all Pi Epsilon Tau members, new and old, to dinner and a presentation.

Throughout the fall 2006 and spring 2007 semesters, Pi Epsilon Tau members continued to serve all petroleum engineering students by managing departmental textbook sales and distribution for many of our petroleum engineering courses.

Spring Pi Epsilon Tau officer elections results were as follows: Greg Rowland (President), Majid Davoudi (Vice-President), Courtney Sample (Treasurer), and Cody Rodriguez (Secretary).

SPE

On April 14, 2007, the LSU Student Chapter of the Society of Petroleum Engineers (SPE) hosted the annual SPE Gulf Coast Student Presentation Contest. Students from university petroleum engineering departments throughout the gulf coast region competed against their peers by presenting their own petroleum industry related research. LSU faculty, staff, and students are proud of the accomplishments of Juan Hernandez, who placed third in the Ph.D. divisions and Marta Bermudz, who placed first in the Masters division.

In addition, to the Annual SPE Student Presentation Contest, the LSU student SPE chapter was busy throughout the year. The



LSU student SPE members join Anadarko recruiter Clay Gaspar at the Anadarko social at Sea World during the annual SPE ATCE events in San Antonio, TX. Pictured (L to R): Eddie Flanagan, Clay Gaspar, Parashar Saikia, Andi Songy, Lauren DeRouen, Jonathan Rolfs, Gbemi Ogunyomi, and Katie Prater

year began with the Annual SPE Barbecue in September. At the barbecue, SPE student officers handed out scholarship certificates to fall 2006 semester scholarship recipients. Just a month later, SPE members were busy hosting the LSU Annual SPE Golf tournament. Our students did a wonderful job organizing the golf tournament; however, our students' skills did not include the ability to control the weather; just after the golf tournament began, the rain came down and SPE student officers had to postpone the tournament until the 2007 spring semester. As such, SPE officers rescheduled the golf tournament for March 12, 2007; the weather was wonderful and the golf tournament was a great success, as all participants enjoyed fabulous companionship with fellow golfers (industry representatives and students), despite the less than stellar golfing performance of most participants.

Funds from LSU's Annual SPE Golf Tournament helped students fund numerous activities throughout the year. In October, SPE junior, senior, and graduate student members chartered a bus to attend the Annual SPE Technical Conference and Exhibition (ATCE) in San Antonio, TX. At the ATCE, students were able to interact with their peers from other universities and they were able to view numerous exhibits and talk with industry representatives from all over the world. In addition, at

the ATCE, university students annually compete with their peers from other universities in the Petro-Bowl student contest to test their aggregate knowledge of the petroleum industry. Questions asked by Petro-Bowl judges included technical, historical, and current event related questions. LSU SPE students placed third in the 2006 ATCE Petro-Bowl competition.

In December, SPE students collected cans of food to help the needy in the Baton Rouge region. The 2007 food drive was a great success, as the number of cans of food collected by students exceeded the number of cans of food collected by students in past years. SPE student members are especially proud of their success collecting cans of food for their annual food drive, as one student said, "I am just a student and not able to financially help others who are in need. I believe that the food drive is a terrific way for me to help those who are less fortunate than me".

In addition to the student presentation contest, the golf tournament, the ATCE, and the food drive, SPE student members attended frequent LSU student SPE meetings throughout the fall 2006 and spring 2007 semesters, where industry representatives gave presentations to supplement students' formal education. The SPE relies on industry's support; industry has not let us down.

Spring SPE officer elections results were as follows: Tara Salinas (President), Cody Rodriguez (Vice-President), Mayuri Murugesu (Treasurer), Lauren Fogarty (Secretary), Ashley Doyle (Social Chair), Jack Carona (Golf Chair), and Robert Ingram (Engineering Council Representative).

Once again, to all who have contributed to LSU's SPE, AADE, and Pi Epsilon Tau student chapters by contributing their time and energy and/or their financial support, WE THANK YOU!

-Fred Thurber and John Smith

SPE Gulf Coast Regional Student Paper Contest

On April 13-14, 2007 Louisiana State University hosted the 2007 Gulf Coast Regional Society of Petroleum Engineers Student Paper Contest. The event kicked off with a traditional South Louisiana crawfish boil held at the LSU Petroleum Engineering Technology & Transfer Laboratory. Students from Texas Tech University, the University of Texas, Texas A&M, the University of Houston, and the University of Louisiana-Lafayette joined LSU students for a spicy crawfish feast and informal mingling of the students from the various schools, the judges, and the hosts.

Pleasant weather for the crawfish boil gave way to springtime rains Saturday morning as the competition got underway. Three concurrent sessions were held with 10 participants from 5 schools in the Undergraduate category, 11 participants from 6 universities in the MS category, and 8 participants from 4 universities in the PhD category.



Judges for the competition were Roger Boardman (Chevron USA), Howard Duhon (Gate, LLC), and Henry Shurlds (Onesource Professional Search) for the Undergraduate Division; Rakesh Kumar (Shell E&P, New Orleans), John McLaughlin (Ryder Scott Company), Rob Sutton (Marathon Oil), and Hemang Vora (Shell International E&P) in the Masters Division; and Dr. Christian Okoye (ULL), Dr. Herman Rieke (ULL), and Dr. Martin Traugott (Consultant) in the PhD Division.



Pictured (L to R): Juan Hernandez (LSU, 3rd Place, PhD), Marta Bermudez (LSU, 1st Place, Masters), Md. Imran Md. Hashim (UT, 3rd Place, Undergrad), Maria Melendez (TAMU, 2nd Place, Masters), Gani Sagingaliyev (TAMU, 2nd Place Undergrad), Sara Coulthard (TAMU, 1st Place, Undergrad), Adedayo Oyerinde (TAMU, 1st Place, PhD), Maysam Pournik (TAMU, 3rd Place, PhD), and Foad Haeri (ULL, 3rd Place, Masters).



Pictured (L to R): Dr. Andrew Wojtanowicz, Dr. Steve Sears, Marta Bermudez and Juan Hernandez

Following the competition, an Awards Dinner was held at the LSU Lod Cook Alumni Center with crawfish stuffed flounder or vegetarian lasagna as entrée choices. Following dinner, the division moderators, Fred Thurber, Seung Kam and Julius Langlains announced the prize winners.

In the Undergraduate Division, First Place went to Sara Coulthard from Texas A&M with her presentation entitled "Production History Helps Identify Acid Stimulation Candidates in the Sprayberry Trend". Second Place went to Gani

Sagingaliyev, also from Texas A&M, and Third Place went to Md. Imran Md. Hashim from the University of Texas.

Marta Bermudez from LSU won the Masters Division with her presentation entitled “Effects of Sugar on the Thickening time of Cement Slurries”. Second Place went to Maria Melendez from Texas A&M, and Third Place went to Foad Haeri from the University of Louisiana-Lafayette.

Finally, Adedayo Oyerinde took first place in the PhD Division with his presentation entitled “Field Application of Streamline-based Three-phase History Matching”. Juan

Hernandez from LSU and Maysam Pournik from Texas A&M rounded out the award winners with second and third place respectively.

Bermudez and Hernandez were both advised in their projects by Dr. Andrzej Wojtanowicz. Other LSU participants included Lauren DeRouen and Jacob Rotolo in the Undergraduate Division, Adam Lewis in the MS Division (advised for the competition by Dr. Wojtanowicz), and Richard Duff in the PhD Division (advised by Dr. John Smith).

-Richard Hughes

Craft & Hawkins Department of Petroleum Engineering Industry Advisory Committee



Pictured (L to R): Randy Smith, Chad LeBlanc, Bill Flores, Art Mixon, Martin Massey, Harry Hufft, Ted Zaleski, Walt Navoy, Ray Lasseigne, Norman Duplantis, Doreen Grieve, Eric Maidla, Steve Bohnet, Pat O’Bryan, Stephen Sears, Frederick “Gene” Beck, and Claiborne Vansant

Members not pictured include:

Russ Buettner, Clyde Crouch, Jahnette deBlanc, Charlie Gibson, Lars Herbst, Bill Hunter, Logan Magruder, Will Pecue, Don Remson, Sid Ruiz, Brian Stewart, and Bill Stone

Petroleum Engineering Undergraduate Students - Chancellor’s List

Fall 2006

Christopher William Knobles
Mayuri Murugesu
Cody Steele Rodriguez

Spring 2007

Mohammed Kanfar
Christopher William Knobles
William Wilson Watson

Petroleum Engineering Undergraduate Students - Dean’s List

Fall 2006

Tom Luca Barbato
Brandon Daniel Hartmann
Stephanie Nicole Hickman
Mohammed Kanfar
Michael Weldon Massengale
Zachary Hunter McCardel
Joseph M. McGaugh
Richard Lincoln Miller
Melissa Leigh Meyers
Katie Leigh Prater
Jacob Branson Rotolo
Courtney Elizabeth Sample

Spring 2007

Mohamed Ahmed Abdelrahim
Robert James William Ingram
Mayuri Murugesu
Brandon Rocquet Sanchez



FOREVER LSU

LSU's capital campaign, FOREVER LSU, kicked off in June 2006 and continues until 2010, LSU's 150th anniversary. With a target of \$750 million, FOREVER LSU's primary goals are to elevate LSU's endowment level, and consequently, its national ranking to help achieve the university's National Flagship Agenda. Traditionally, LSU has relied on the state for the majority of its academic funding; however, to rival and compete with other SEC universities, LSU is turning more towards private funding to underwrite initiatives for academic excellence. FOREVER LSU will provide the Craft & Hawkins Department of Petroleum Engineering with long-term financial support through the strategic use of private funds from alumni and friends. Increasing the departmental endowment will give a continuous income stream to

the Craft & Hawkins

Department of Petroleum Engineering and guarantee opportunities to recruit and maintain top faculty, attract the best and brightest students, and upgrade facilities and equipment for research and teaching programs.

Departmental goals include augmenting undergraduate scholarships, expanding fellowships for graduate and doctoral students, establishing a research enhancement fund, and creating an engineering laboratory quality fund.

The petroleum engineering department is no stranger to fundraising. From 1998 to 2002 many petroleum engineering alumni participated in the first LSU Campaign with the goal of raising funds to endow the department and name it in honor of Benjamin C. Craft and Murray F. Hawkins. They were successful, and today The Craft and Hawkins Department of Petroleum Engineering, appropriately commemorates the two professors who were so influential in setting the course of the petroleum engineering department and the petroleum industry. Harry Longwell, LSU graduate (B.S. 1963 Petroleum Engineering) and former Director and Executive Vice-President of the ExxonMobil Corporation, led the petroleum engineering committee during the 1998 to 2002 campaign. Today, he heads the LSU College of Engineering Campaign Steering Committee which directs all engineering departments in the FOREVER LSU fundraising efforts. The College of Engineering has a campaign goal of \$100 million which includes the stretch goal of \$10 million dollars to be raised by petroleum engineering. Harry says, "This \$100 million dollar campaign for the College is probably the most important event in the modern history of the college, given its impact on transforming the college to premier overall academic status. Our College of Engineering is already world renowned

for the high quality of its undergraduates in their ability to have a positive impact the day they go to work. This campaign will enable the college to further enhance its faculty and bring its research and graduate programs up to the same level of recognition as its undergraduate program. The College of Engineering alumni must do, by a large measure, more than they have ever done for the college for the campaign to be successful and achieve its objectives."

Chairing the Petroleum Engineering Campaign Steering Committee is alumnus Bill Flores (B. S. 1980 Petroleum Engineering), Vice-President Deepwater of W & T Offshore, Inc. Bill has assembled a dynamic group of alumni and industry leaders to help with the fundraising objectives and states, "The

petroleum engineering department at LSU has many distinguished alumni, many which have been recognized by the university and some who have not. This program, the largest campaign in the history of LSU, will be reaching out to all alumni for a pledge to the LSU Petroleum Engineering Department that will make a significant impact on their col-

lege heritage. With this pledge, all of the LSU Petroleum Engineering alumni will be setting the LSU Petroleum Engineering Department on a path of achievement and greatness in the quality of the graduating students that all of the LSU alumni will be very proud."

We hope you will answer the call and generously support the future of LSU and the Craft and Hawkins Department of Petroleum Engineering. For more information, please call Harriett Pooler, 225.578.8738, hpoole1@lsu.edu .

-Harriett Pooler



In memoriam:

The Craft & Hawkins Department of Petroleum Engineering would like to dedicate this issue of "Pipeline" in memory of the following alumni, family, and friends who will be greatly missed:

Arthur Leo Bear (Bach 1949)

William Jessie Brown III (Bach 1947)

Michael Clay Collins (Bach 1975)

Clyde Donald Ford (Bach 1953)

Jack Hepinstall (Bach 1961)

Sebastian Joseph Messina (Bach 1941)

Harry Pringle, Jr. (Bach 1962)

John Robert "Bob" Rayne, Sr. (Bach 1952 & Mast 1956)

Weiman Herman Reese (Bach 1943)

David Albert Rickey (Bach 1961)

Millard P. Snyder (Bach 1947)

Joe Stasney, Jr. (Bach 1951)

John Rush Vann (Mast 1951)

Department Faculty and Staff Recognition

- Richard Hughes received the Tiger Athletic Foundation Undergraduate Teaching Award
- Seung Kam appointed as a session chairperson of "CO2 sequestration I" in 2006 SPE Annual Technical Conference and Exhibitions in San Antonio, TX, September 2006
- Gerry Masterman honored with an LSU Foundation Staff Outstanding Service Award
- Dan Rao invited as keynote speaker to Indo-Canadian Symposium on Energy for Tomorrow in India
- Chris White invited speaker at Institute for Mathematics and Applications and external PhD reviewer at Imperial College
- Andrew Wojtanowicz invited as panelist to SPE Symposium on Water and Gas Shut-off in Oman
- Wojtanowicz organized and chaired Student Paper Contest at SPE E&P Environmental and Safety Conference, Galveston, TX, March 5-7, 2007
- Wojtanowicz invited speaker at PDVSA 2nd National Forum on Produced Water Control, Maracaibo, Oct 31-Nov 2, 2006
- Wojtanowicz invited lecturer of two Graduate Seminars: at Texas A&M U. (Sept. 12, 2006), and University of Tulsa (April 20, 2007)
- Wojtanowicz invited lecturer of four seminars at China University of Geosciences in Beijing and Wuhan, PRC, April 14 -24, 2006

Alumni and Supporter Recognition

- On July 13, 2007, the LSU Board of Supervisors approved a proposal to rename the Center for Engineering and Business Administration, or CEBA, as Patrick F. Taylor Hall, in honor of Taylor, LSU College of Engineering alumnus and proponent of Louisiana's Tuition Opportunity Program for Students, or TOPS. Taylor, often referred to as the "father" of the TOPS program, graduated from LSU with a petroleum engineering degree in 1959. He founded the Taylor Energy Company LLC in 1979, which became the only solely owned independent company to explore for and produce oil and gas in the Gulf of Mexico.
- LSU has announced the naming of its Geology Field Camp Program after one of LSU's most distinguished alumni supporters. Charles Barney, a 1949 LSU engineering graduate, recently pledged \$4.7 million to the LSU Foundation to permanently fund the camp, which is the oldest continuously operating field camp in U.S. history. In recognition of his extraordinary generosity and many decades of leadership in the petroleum industry, LSU has re-named the program the "Charles L. Barney Geology Field Camp Program."
- This summer, Schlumberger donated \$9.6 million in software to the Petroleum Engineering and Geology Departments.
- Mr. and Mrs. Murphy J. Hebert (Murphy, Bach 1958), Randy L. Limbacher (Bach 1980), Mr. and Mrs. Don Lyle (Don, Bach 1956 & Patsy, Bach 1956) are our Platinum Supporters.
- Course instructors from the Shell Robert Training & Conference Center are again assisting the department by teaching the fall semester PETE Production Lab course. This year they are teaching the lab at our Petroleum Engineering Research & Technology Transfer Laboratory (PETT Lab) on Gourrier Lane.

WE WOULD LIKE TO ACKNOWLEDGE OUR 2006-2007 SUPPORTERS ONCE AGAIN:

Accenture Foundation, Inc.	Robert and Linda Bradford	Devon Energy Corp. Peter T. Dudley	Hebert* Hess Foundation	Major General James E. McAdoo	Jerry E. Shea, Sr. Shell
Edward, Jr. and Janice Amar	Craig G. Brazen	Duke Energy	Highland Resources	Mike and Tobi McCauley	W. C. Simpson
American Association of Drilling Engineers - Lafayette Chapter	Robert W. Brewer	A. Norman and Denise Duplantis	Chad A. Hill	Merit Energy	John and Gayle Smith
American Association of Drilling Engineers - New Orleans Chapter	Brown Foundation	Dupre Interests LLC	David and Janet Hinners	Alan and Virginia Mikell	Society of Petroleum Engineers - Dallas Section
American Petroleum Institute	James and Mary Burtner	Basil Elzein	HTK Consultants Inc.	Teri E. Morse	Society of Petroleum Engineers - Evangeline Section
American Petroleum Institute — Houston Chapter	Campanile Charities	ExxonMobil	Bruce Hovey	John R. Murphey, Jr.	W. Randy Springer
Ernest Angelo, Jr.	Edgar C. Carter	Brian and Jennifer Flournay	William B. Huthnance	Newfield Exploration Co.	Bill and Connie Stone
William C. Benton	Mabel Cazenave	Jonathan D. Floyd	Thomas H. Hutto, Jr.	Nexen Inc.	Gregory L. Strickland
Javis Boudreaux	Randal G. Cazenave	Max R. Fugler	Richard W. Huye	Thomas H. Nunnally	Tomax, Inc.
Richard and Gina Bourque	Terry J. Chaumont, Jr.	George, Jr. and Michael Fulco	Neil Klock, Jr.	Victor and Vicki Obadiah	Kent and Carmel Veron
Ronald Boze	Chevron Inc.	Thomas and Ruth Fussell	Randy L. Limbacher* Charles A. Lipari	Occidental Oil & Gas Nona O'Connor	
BP	Michael J. Connolly	Kenneth D. Garrett and Annemarie Le Clair	LSU-Houston Petro- Tigers	Richard and Shirley O'Shields	<i>* The Heberts, Randy L. Limbacher, and the Lyles are our individual Platinum Supporters.</i>
BP Foundation	F. Baron and Charlotte Craft	John Gieck	Jake and Patsy Lowenhaupt	Pelican Resources LLC	
	John H. Crawford	Keith J. Gourgues	Lamar E. Loyd	Petroenergy Evaluations, Inc.	
	John and Alice Crumpler	Bradley and Carla Govreau	Don and Patsy Lyle*	Schlumberger	
	Franklin and Edwina Dartez	Halliburton	Lt. Col. Sidney R. Mandina	Wayne Schneider Inc.	
	Gary and Mary Davis	Murphy and Suzonne	Marathon Oil Co.	J. D. Sere'	
	Fred L. Dedon, Jr.		Maverick Directional Services		

Alumni are invited to attend:

SPE ATCE LSU Alumni Reception

In Anaheim, CA
On Tuesday, November 13, 2007, 5:30pm – 7:00pm
At the Hilton Anaheim
No RSVP or admission ticket required
Additional details will soon be available on
<http://www.SPE.org/> and <http://www.pete.lsu.edu/>

Fifth Annual College of Engineering Alumni Reunion

In Baton Rouge, LA at LSU
On Friday, November 9, 2007, 6:30pm – 8:30pm
In the Taylor Hall (formerly CEBA) West Entrance
RSVP Brenda Tate at enrlevel@lsu.edu or 225-578-5706

EMPLOYMENT OPPORTUNITIES

The department is currently accepting applications for a tenure track position, at the level of Assistant Professor. Additionally, the department is accepting applications for the Devon Energy/Sullins Endowed Chairs. More details can be found in the July issue of JPT.

Pipeline is published annually by the Craft & Hawkins Department of Petroleum Engineering, Louisiana State University, 3516 Patrick F. Taylor Hall, Baton Rouge, Louisiana 70803. Telephone: 225/578-9196, FAX 225/578-6039, email adonmyer@lsu.edu. Andi Donmyer, Editor In Chief.



Craft & Hawkins Department of Petroleum Engineering
Louisiana State University

3304 CEBA Building • Baton Rouge, LA 70803