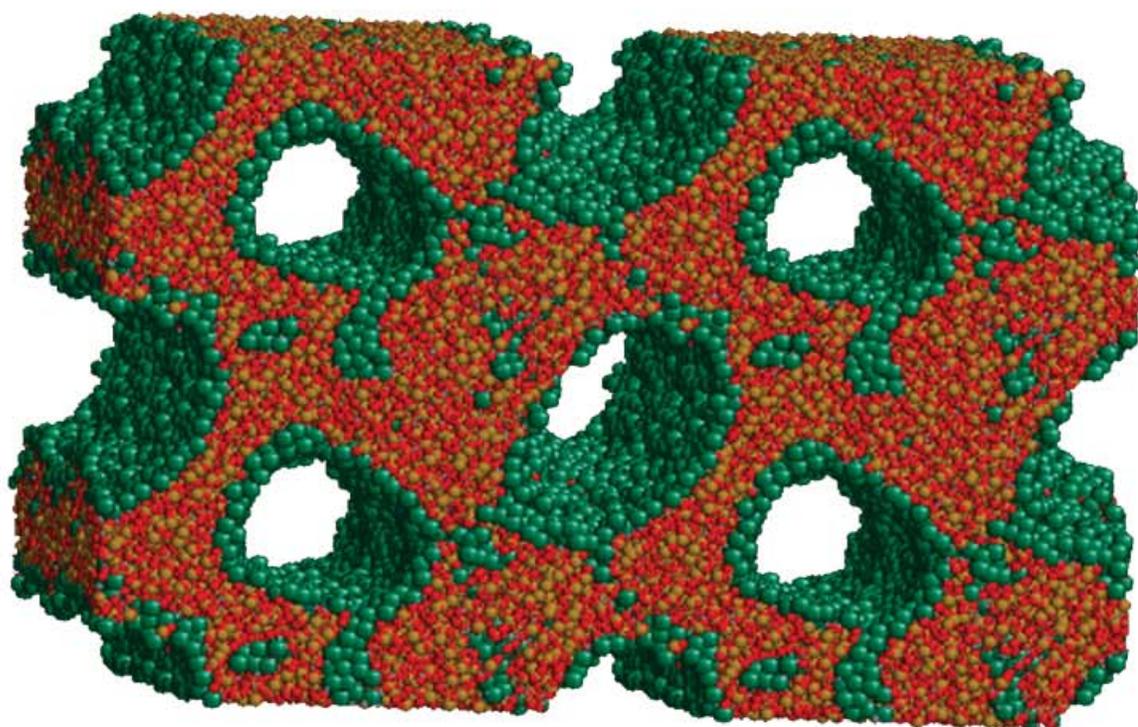


Alumni Newsletter
Volume 24
Fall 2007/Spring 2008

CHEMICAL ENGINEERING



Cain Department of Chemical Engineering
LOUISIANA STATE UNIVERSITY



ChE
Co.

Letter from the Chair



Dear Friends and Alumni:

I am pleased to be able to report several events and changes that have occurred in the department during this year.

Two new assistant professors joined us in August 2007: Dr. Michael Benton and Dr. Francisco Hung. Dr. Benton received his Ph.D. from the University of Wisconsin-Madison and works in the area of genomics and bioengineering. Dr. Hung received his Ph.D. from the North Carolina State University and his areas of research are computational modeling and molecular simulations.

The department is continuing to modernize the undergraduate laboratory under the leadership of Dr. Harry Toups and Professor Jose Romagnoli. Prof. Romagnoli has negotiated a partnership agreement with Honeywell Process Solutions to provide LSU with an upgrade to our existing Process Control System. You can read more about this agreement as well as the most recent renovations to the lab in this newsletter. Prof. Romagnoli has long-term plans of further modernizing the unit operations laboratory and he would like to request any of our alumni or friends willing to help with this effort to please get in touch with him at jose@lsu.edu.

The faculty and staff in the department met for an Annual Retreat in March. The main topics of discussion included ways to improve the department metrics, preparations for the department's upcoming 2009 ABET review and increased graduate student recruiting efforts. The department Industrial Advisory Committee (IAC) chaired by Vernon Fabre (B.S. ChE, 1973) met in March to discuss the current state of the undergraduate program and curriculum, ABET preparations, faculty recruitment, and upgrade of laboratories. Dean Zaki Bassiouni and Provost Astrid Merget addressed the IAC to give the University initiatives and long-term perspectives.

The department hosted its first ever Graduate Recruiting Weekend in March. Nine students participated in the event and four that attended the event joined the Ph.D. program in August 2008. I would like to acknowledge the efforts of assistant professors James Henry and Mike Benton in this year's graduate recruiting. Both did an outstanding job in disseminating information related to our program by speaking to students at regional and national conferences as well as meeting with students in other ChE departments when visiting those departments for seminars. Professor Jerry Spivey should also be commended for his part in our revised recruiting efforts. We plan to continue to be aggressive in our graduate recruiting and look for an even greater return in our efforts in next year's recruiting class.

Our alumni and friends have helped us establish several professorships and chairs for the faculty, and scholarships for our students. These efforts have helped us recruit and retain excellent faculty and students to our undergraduate and graduate programs. As a way to honor some of our donors, the department hosted its First Annual Scholarship Donor & Recipient Dinner on March 27.

The department is celebrating its centennial year in Fall 2008 with a two-day event planned for October 23-24, 2008. This event will immediately precede a home football game on October 25, 2008, when the LSU Tigers take on the Georgia Bulldogs. Please visit our Web site, <http://www.che.lsu.edu/centennial>, for the most up-to-date details concerning the Centennial Celebration. Prof. Kerry Dooley is in charge of the event and has prepared a document commemorating the same.

Fundraising effort for our new building is proceeding well under the able leadership of Ron Cambre (B.S. ChE, 1960) who is chairing the Campaign Steering Committee. We have received substantial contributions from several individual donors and corporations who are recognized in this newsletter. At the present time, the LSU 5-year Capital Outlay plan calls for \$10 million in private funds to be matched by \$24.4 million in State funds. We are more than half-way towards our private fund raising goal. We hope that we can look forward to an enthusiastic response from our alumni this coming year so that we can make our new building a reality. The new 100,000 square feet building will more than double our current size and will be the most modern building for research and teaching on campus. More details about the building are available on our department Web site and the LSU Forever Campaign Web site. There are numerous ways in which you can help with this effort and I urge you to do so.

I encourage everyone to visit our redesigned Web site at <http://www.che.lsu.edu> for the most up-to-date information concerning the department. I also encourage you to visit our Alumni Guestbook to let us know how you are doing.

I wish you all the very best for the rest of 2008 and beyond. If you happen to visit Baton Rouge, please stop by the department.

A handwritten signature in cursive script that reads "Kalliat T. Valsaraj".

Kalliat T. Valsaraj
Department Chair
Charles & Hilda Roddey Distinguished Professor and
Ike East Professor

A Word of Thanks

Volume 24
Fall 2007/Spring 2008

Although financial support has been impressive, departmental expenses continue to rise and further renovations are essential if we are to remain competitive with our counterparts at other universities. We would like to thank the following corporations and individuals for their role in maintaining the outstanding reputation that LSU has achieved throughout the years.

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On the Cover

The main image on the cover is from the research work of assistant professor Francisco Hung. The image is a simulated adsorption of Kr at 87 K on a realistic model of templated mesoporous silica SBA-15. Si and O atoms in the substrate are depicted in tan and red, respectively; Kr atoms are represented in green. (References: F. R. Hung, S. Bhattacharya, B. Coasne, M. Thommes and K. E. Gubbins, *Adsorption*, in press (2007); B. Coasne, F. R. Hung, R. J.-M. Pelleng, F. R. Siperstein and K. E. Gubbins, *Langmuir* 22, 194 (2006)).

Chemical Engineering

is published for the benefit of the Cain Department of Chemical Engineering's alumni and students.

Comments and suggestions should be directed to:

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LSU IS AN EQUAL
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New Faculty: Michael Benton



In August 2007, Michael Benton was one of two new assistant professors that the department welcomed to the faculty. Benton comes to LSU directly from graduate school having just received his Ph.D. in Chemical and Biological Engineering from the University of Wisconsin-Madison. Benton also holds a M.S. in Chemical Engineering from the University of Alabama and a B.S.

in Biology from The University of South Carolina.

Benton's research is focused on genetically engineering yeast cells to make them more industrially useful. One example is the detection of carcinogenic compounds. His research team has engineered yeast cells to change color in the presence of cancer-causing chemicals. They can monitor the color of the cells to determine when they are exposed to these harmful agents. A second example is biofuel production. They are engineering yeast cells that will be able to metabolize cellulose to enable the direct conversion of biomass to ethanol. He is also exploring new research projects with potential collaborators at Pennington, NIH, and UW-Madison. He plans on writing many research proposals in the next few months in an attempt to procure some federal research funding for these new projects as well as some for his existing projects.

He received a boost towards his research endeavors from the College of Engineering in November when he, along with Professor **Martin Hjortso**, received a College of Engineering grant from the Fund for Innovation in Engineering Research for their proposal entitled, "Stochastic Models of the Eukaryotic Cell Cycle." Normally cell cycle models are deterministic and unable to fully explain complex processes such as carcinogenesis. Benton and Hjortso are going to use reporter genes to gather expression data for select cell cycle proteins. These data will then be incorporated into a complex stochastic model developed by Hjortso, marking a major advance in the way the cell cycle is studied. The grant will provide seed money to begin research, thereby allowing faculty to use their preliminary data to apply for national grants. The grant is funded by a generous donation by the family of Harry J. Longwell, through the Longwell Family Foundation.

Benton also was a recipient of Pfunds from the Louisiana Board of Regents for 2008. These funds will be used to continue his efforts to build up his labs and research programs. His project is entitled, "Synthesizing Novel Yeast Strains for Biofuel Production." In the project, Benton and his research team will engineer *S. cerevisiae* strains to optimize ethanol production from biomass. By monitoring gene expression patterns, they will identify the yeast genes most important in the fermentation of xylose or glucose under typical industrial reaction conditions. Once these genes are known, they

can vary their expression level in novel yeast strains, conferring the ability to simultaneously utilize both 5-carbon and 6-carbon sugars in biomass streams. These enhanced cell lines will greatly increase the industrial utility of yeasts, making ethanol production much more economically and environmentally feasible and greatly reducing dependence on fossil fuels.

In the classroom Benton has also been busy. He developed a new course for the department called *Genetic Engineering* since Chemical Engineering is evolving to include the engineering of biological systems. His class introduced students to this side of the discipline, with discussions on: engineering of organisms for bioremediation, fuel production, antibiotic production, and organ transplants just to name a few.

In between teaching duties and starting up his research lab, Benton also traveled to other universities to give seminars and played a large role in our expanded graduate recruiting efforts during the past year. He gave seminars at McNeese University in Lake Charles, Southern Mississippi, LSU-Shreveport, and LA Tech. He presented a power point slideshow designed by several of the department's current graduate students highlighting the benefits of the department including large faculty, excellent stipend opportunities, and large amounts of national and state research funding. The presentations also give a feel for the daily life of a chemical engineering graduate student, such as work, social activities, and LSU sports.

Benton had the following to say about his first year at LSU:

I have spent much of my time at LSU learning what it takes to get a research lab up and running. I have endured (and survived!) many hours meeting with salespeople, technical reps, and suppliers to get the best possible equipment for our lab. Thankfully, the ordering and lab setup phases of the job are mainly behind me. The last pieces of major equipment have been ordered and should be fully functional in the next month or so.

My wife, Alica, my daughter, Maddie, and I are all enjoying Baton Rouge. We bought a new house in Prairieville and are really getting settled in there. We appreciate how friendly every one in the BR area has been to us, and we are loving the food! I never tasted jambalaya, boudin, gumbo, or crawfish until I moved here, but now I am a big fan of all of them. LSU makes me feel like I am a valuable addition to the team, and that makes me happy to come to work each day.

New Faculty: Francisco Hung



Francisco Hung also joined the faculty as an assistant professor in August 2007 and is also coming to LSU from University of Wisconsin-Madison but as a postdoctoral fellow rather than a graduate student. He received his Ph.D. from North Carolina State University in 2005 and both his M.S. (1999) and B.S. (1996) from the Universidad Simón Bolívar in Venezuela, all in chemical engineering. His major areas of

research interest include: adsorption and physical behavior of chemicals and biomolecules confined in nanoporous materials; self- and directed organization of nanoparticles and liquid crystals; and, computational modeling and simulation at atomic, molecular, meso- and continuum scales. During his first year Hung taught one of the department's core graduate courses-CHE 7120: Thermodynamics. He also recruited two Ph.D. students to his research group in fall 2007 and will be adding another this year and he has begun collaborative projects with Professors **John Flake**, **James Spivey**, **Jose Romagnoli** and **Kalliat Valsaraj**.

Since joining LSU, Hung has been involved in numerous research activities and has also received a handful of awards. He had two publications appear in refereed journals. He made presentations at scientific conferences, including the 2007 AIChE Annual Meeting in Salt Lake City, Utah, in November and the American Chemical Society Spring 2008 National Meeting and Exposition in New Orleans. He has refereed four proposals for the U.S. Army Research Office, Office of Basic Energy Sciences of the Department of Energy, and American Chemical Society Petroleum Research Fund. During the coming months, he will serve at a review panel in the National Science Foundation, Chemical, Bioengineering, Environmental, and Transport Systems, Interfacial Processes and Thermodynamics Program.

His research efforts have already paid off as he was named a recipient for 2008 Council on Research Summer Stipend Grant. The Council on Research (CoR) Summer Stipend Program provides financial support to junior researchers at the rank of assistant professor seeking to contribute to scholarly knowledge in their discipline. This enables them to spend a portion of the summer term in research activity without the disruption of other employment obligations. Each proposal is evaluated for the impact the project will have on the indicated discipline, broader impacts, and the effect on the researcher's career.

In addition to this grant Hung, like Benton, received a Pfund grant from the Louisiana Board of Regents. The title of Hung's Pfund project is "Molecular modeling of adsorption of small biological molecules on ordered mesoporous carbons." The aim of this project is to understand how certain properties of the carbons (e.g., pore

size and morphology, surface chemistry) affect the adsorption of biomolecules. Hung's working hypothesis is that carbons with specific properties will strongly physisorb a given protein without inducing large structural changes, which would eventually lead to the denaturation of the protein. To test this hypothesis, Hung and his team will perform Molecular Dynamics simulations of a small protein and carbons with different features to estimate the protein-substrate interactions and establish how the structural properties of the biomolecules are affected upon adsorption. Such a fundamental knowledge is relevant for potential applications of these systems in protein separations, delivery of peptide-based drugs, and controlled immobilization of enzymes for biocatalysis and biosensors.

Most impressive of all is that Hung was given a Ralph E. Power Junior Faculty Enhancement Award. He is one of only 30 winners of the Ralph E. Power Junior Faculty Enhancements Awards from the Oak Ridge Associate Universities this year. The award provides a monetary award of \$5,000 that will be matched by the Office of Research & Economic Development at LSU. This award will support Hung in his research efforts, while he continues to establish his research program at LSU. Hung's research focuses on the computational simulation of molecular-scale systems. This is a major emerging area for the chemical engineering discipline. The work proposed for the Power award is a collaborative effort using molecular simulation to investigate the adsorption of small biological molecules on nanoporous silica supports. This work builds on Hung's previous experience in modeling phase transitions of simple fluids in confined spaces and self assembly of composite nanoparticle/liquid crystal systems. It represents an international collaboration with researchers in Montpellier (France) which will also include experimental work to complement the molecular simulation.

When asked how he and his family are settling into life in Baton Rouge, Hung had the following to say:

I think we are doing just fine. We recently bought a house, and being 1st time homeowners, my wife and I are amazed at the amount of work involved in owning a house (however we are enjoying every minute of it). My first daughter is almost five, and started kindergarten this Fall (and is extremely smart); my second daughter is 14 months old, very active and very independent. We are still adapting to the high temperatures and humidities (don't know if we ever will) and to the traffic in BR (a lot of traffic as compared to Raleigh and Madison... however it is nothing compared to traffic in Caracas, Venezuela). What we have enjoyed most about LSU/BR so far: (1) The people from the Department has been extremely nice with me/us, (2) My daughters love Mike the Tiger, and the lakes in the LSU campus, (3) We are very close to New Orleans (my daughters love the Aquarium), (4) Food and restaurants are great.

Faculty Awards

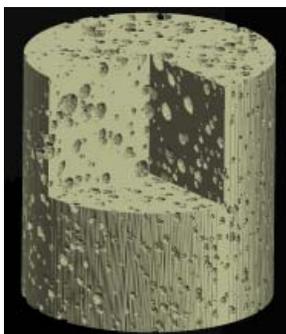
ChE Projects Awarded CoE Grants

Two Chemical Engineering projects were selected to receive College of Engineering grants from the Fund for Innovation in Engineering Research (FIER).

As reported in the article on new faculty member **Michael Benton**, he and **Martin Hjortso** were awarded a FIER grant for their proposal, "Stochastic Models of the Eukaryotic Cell Cycle" in December 2007.

In February 2008, **James Henry** and **Karsten Thompson** were awarded a FIER grant for their proposal, "Intelligent Design of Tissue Scaffolds." Their plan is to test possible new protein polymers that may be used as scaffold structure as a function of preparation methods. According to Henry and Thompson, the nature polymer could be more cost effective and benign than the ceramic and metal bone supplements used currently.

From Henry and Thompson's grant, this is a 3-D graphic of a digital image that will be used as the basis for the quantitative characterization and modeling of the bone replacement process.



The grants will provide seed money to begin research, thereby allowing faculty to use their preliminary data to apply for national grants. The grant is funded by a generous donation by the family of Harry J. Longwell, through the Longwell Family Foundation.

Awardees of FIER grants were honored at the annual LSU College of Engineering Hall of Distinction ceremony on April 17, 2008, which took place at the LSU Faculty Club.



Hjortso and Benton at the LSU CoE Hall of Distinction ceremony.



Thompson and Henry at the LSU CoE Hall of Distinction ceremony.

Louis Thibodeaux (B.S. 1962, M.S. 1966, Ph.D. 1968), the Jesse Coates Professor in Chemical Engineering, is the 2008 awardee of the Charles E. Coates Memorial Award. He was honored at the annual Coates Banquet, which was held on May 8, 2008, at Boudreaux's in Baton Rouge. At the banquet, Thibodeaux gave a lecture entitled, "Environmental Chemodynamics-The last chemical design element".

The Charles E. Coates Memorial Award is given annually to a member of the American Chemical Society (ACS) or American Institute of Chemical Engineering (AIChE) who has made outstanding contributions to: 1) the professions of chemistry or chemical engineering; 2) the ACS or AIChE; and, 3) the Baton Rouge community. The award was founded in 1957 by the Baton Rouge chapters of ACS and AIChE to honor the memory of Charles E. Coates.

Charles Coates was one of Louisiana's most prominent figures in Chemistry and Chemical Engineering. He was the head of the Chemistry Department at LSU from 1893-1937 and Dean of the Audubon Sugar School from 1908-1931. He spearheaded the creation of the Department of Chemical Engineering at LSU and served as its first department chair from 1908-1936.

Associate Professor **Jerry Spivey (Ph.D., 1980)** was one of 100 outstanding research and creative faculty that were honored by LSU at the first annual Rainmaker's Gala on September 10, 2008. The dinner and award ceremony served to recognize outstanding faculty for exceptional productivity and contributions, thereby bringing positive recognition to LSU on both a national and international scale. Part of the reason Spivey has been bestowed with this honor is his continuing work to improve efficiency of ethanol fuel. Last year Spivey, along with partners at Clemson University and Oak Ridge National Laboratory, received \$2.9 million from the Department of Energy and cost-sharing partner, ConocoPhillips, to begin work on producing ethanol from a coal-derived syngas. Not only is he received large, competitive grants, but also receiving honors and recognitions from the international community. In 2007, Spivey was named a Fellow of the London-based Royal Society of Chemistry (RSC). The RSC has the longest continuous tradition of any chemical society in the world and a worldwide membership of more than 43,000 scientists. Fellows of the RSC are selected by current members based on their professional achievements and contributions to the chemical sciences.

The department would like to congratulate **Darla Dao**, who is the recipient of a 2007 Outstanding Administrative Support Staff Award from the College of Engineering. Ms. Dao has been with the chemical engineering department for 20 years and has worked in various capacities within the office. She currently holds the title of Administrative Specialist and is responsible for all budgetary and personal matters. Her service with the department is highly appreciated and we are delighted she has been selected for this award. She is most deserving of the honor.

Department News

Kerry Dooley chaired the 20th North American Meeting of the Catalysis Society in June 2007. He also had the following papers published and made the following presentations during 2007-08:

- A.G. Bussard and K.M. Dooley, "Polymer Hydrogenation in Pulsed Flow Systems with Extrusion," *AIChE J*, 54, 1064-1072 (2008).
- K.M. Dooley, A.K. Bhat, C.P. Plaisance and A.D. Roy, "Methylketones from Acid Condensation Using Metal/CeO₂ Catalysts", *Appl. Catal. A: General*, 320, 122-133 (2007).
- A.G. Bussard, Y. Waghmare, F.C. Knopf and K.M. Dooley, "Catalysis in Structured Pulsed Reactors – Low- and High-Molecular Weight Hydrogenations," *Proceedings, 20th North American Meeting, Catalysis Society, Houston, 2007.*
- A.G. Bussard and K.M. Dooley, "Polymer hydrogenation by reactive extrusion: pulsed and continuous flow systems," *Proceedings, 2nd North American Society of Chemical Reaction Engineering Conference, Houston, 2007.*
- A.G. Bussard, Y. Waghmare, F.C. Knopf and K.M. Dooley, "Low- and High-Molecular Weight Hydrogenations in Structured, Pulsed Flow Reactors," 2007 *AIChE Annual Meeting, Salt Lake City.*

In addition, he received the following grants:

- NSF, "Integrating a Cogeneration Facility into Engineering Education, Phase II" F.C. Knopf (PI), K.M. Dooley (co-PI), 2007-2010 (\$485,000).
- NSF, "GOALI: Catalytic Hydrogenation Using an Actively Forced Microreactor" F.C. Knopf (PI), K.M. Dooley and K. Kelly (co-PIs), 2007-2009 (\$362,330).
- Georgia Gulf Inc., "EDC Reactor Study," 2007 (\$14,000).

Although retired, Professor Emeritus **Douglas Harrison** is maintaining professional activity. During 2008 he is writing two

review papers on sorption enhanced hydrogen production, one for *Industrial and Engineering Chemistry Research* and the other for a chapter in a book to be published by Research Signpost/Transworld Research Network. He is presenting two papers at international meetings in London and Washington, D.C., on the same topic. In addition, he is teaching two short courses. The first is for Albemarle Corporation in Baton Rouge and the second is for Southeastern States Air Resource Managers, Inc. in Atlanta.

Ralph Pike served as the first vice-chair of the AIChE Fuels and Petrochemical Division and will serve as the chair next year, having been elected the second vice-chair last year by the division membership. He was elected the second vice-chair of the AIChE Environmental Division and will become the first vice-chair in the next two years. In addition, he is active in the AIChE Sustainability Forum and serves as the Education Committee Chair. He is also active on the AIChE Safety and Chemical Engineering Education Committee (SACHE) and he is preparing a safety module on risk assessment to be used by the AIChE in their Safety Certificate program.

Jerry Spivey will serve as the lead PI on a new \$750k, three-year contract with Chevron for research on catalysts for conversion of synthesis gas to higher value oxygenates. He will be working with Jim Goodwin (Clemson University) and George Roberts (North Carolina State University). This team will focus on improving the yield of the desired products using advanced computational and catalyst synthesis methods.

Department and Honeywell Process Solutions Partnership Agreement

As part of the continuous upgrade of the facilities for teaching, training and research, the department and Honeywell Process Solutions has signed an agreement towards the development of a state of the art Process Control Laboratory. **Jose Romagnoli**, Cain Chair Professor in Chemical Engineering at LSU has negotiated a partnership agreement with Honeywell Process Solutions to provide LSU with an upgrade to existing Laboratory Control System (upgrade and installation support) valued at over \$287,505. Within this agreement, an Experion industrial control system is to be used in the control systems lab at LSU. The Experion is part of the new generation of "open" systems and will include capabilities for connecting up to 40 operator stations. The system will have C200 controllers with modules supporting LSU's existing system, a Fieldbus Interface Module, and HART input and output modules. Other capabilities include OPC interfacing, Excel Data Exchange, Network API, and e-Server.

Future support in the amount of \$91,062 has been committed, from Honeywell Process Solutions, as industrial contribution towards the joint research and development project entitled, "Component Based Multi-Agent Framework for Intelligent Monitoring". They will provide this support in the form of software products and labor hours for set-up and consulting.

The Department is deeply grateful for the support of our educational programs shown by its industrial partners, like Honeywell. This partnership agreement is in large part thanks to the efforts of Professor Romagnoli and David Toups of Honeywell's Automation & Control Solutions division. Toups is also a current member of the Chemical Engineering Industrial Advisory Committee.



Pictured from left to right: Professor Romagnoli, David Toups (Honeywell), and Department Chair Valsaraj

New Chemical Engineering Building

Fund-raising for the new Chemical Engineering building continued at a steady pace this past academic year. A number of donations were received from both private and industrial donors. We are deeply grateful for all of the support and wholeheartedly thank those of you who have donated to the building campaign thus far.

Private Donors

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Robert (B.S., 1948) and Adele Anding
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Alfredo Lopez (B.S., 1963; M.S., 1965; Ph.D., 1968)
Malcolm C., Jr. (B.S., 1942) and Gene Perdue Lowe
Kenneth Riley (B.S. 1963, M.S. 1965, Ph.D. 1967)
Wayne (B.S., 1975) and Linda Turner
Don Waguespack (B.S., 1961)
Donald Winkler, M.D. (B.S., 1957; M.S., 1958; Ph.D., 1961)

Companies Providing Matching Gifts

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Newmont Mining	PPG Industries
Shell Oil Company	Vulcan Materials
Williams Olefin	

Testimonials from Donors to the New Building

"When our group of Cuban students arrived at LSU after our lives had been torn by the Communist Revolution and our chemical engineering careers interrupted, the Chemical Engineering Department offered us an opportunity to complete our education in spite of our very limited economic resources. We not only got a very sound education at a very reasonable cost, but also a very warm reception by the dedicated professors in the department, Jesse Coates, Bernard Pressburgh, Frank Groves, Jim Cordiner, Paul Murrill, and others. They not only taught us to be successful chemical engineers, they also advised us so that our graduation would not be delayed by failing to take a required course or a humanities elective on time. Contributing to the new building gave us an opportunity to pay back to the Department for what they did for us."

Armando Corripio (B.S., M.S., Ph.D.), Professor Emeritus



"We are confident that Marathon's contribution in support of the LSU Chemical Engineering Building Fund will help advance the outstanding work being undertaken by the University to expand and enhance key programs that will prepare our future leaders in the field of chemical engineering and related disciplines which are critical to the wellbeing of the United States and the world."

"With the strong educational background we received from LSU as Chemical Engineering graduates, several Georgia Gulf alumni felt strongly about contributing to the ChE Building Fund through the LSU Foundation. The objective is to continue that educational excellence so that it can be returned to the local petrochemical industry workforce in the form of highly qualified engineers."

An investment in LSU Chemical Engineering is an investment in the future of Louisiana."

Glynn Fontenot
LSU Chemical Engineering, 1983



"Dow had always enjoyed a strong, long term partnership with LSU and the department of Chemical Engineering. In fact, LSU is one of Dow's 15 strategic universities across the U.S. This contribution to the new Chemical Engineering Building is a re-commitment of our partnership and the importance of LSU to The Dow Chemical Company. We are proud to make this investment in the future of LSU and the Chemical Engineering Department."

David Mongrue, Dow Executive for LSU and Manufacturing
Director for Specialty Chemicals

Industrial Contributors

Three Local Corporations Donate to the New Chemical Engineering Building Fund

Dow Chemical Donates \$1.18 Million to LSU Engineering

Efforts to construct a new chemical engineering building at LSU will gain a significant boost with a \$1.18 million pledge to the LSU Foundation from Dow Chemical Company. Of Dow's overall pledge, \$1 million will go toward the construction of a process control laboratory in the new building for the Cain Department of Chemical Engineering. The pledge will be Dow Chemical's largest donation to LSU's College of Engineering to date.

"The College of Engineering and Dow Chemical have enjoyed a strong relationship over many years," said LSU Dean of the College of Engineering Zaki Bassiouni. "We are honored that Dow has chosen to contribute to two of the college's top priorities – a new chemical engineering building and our diversity initiative – for philanthropic investment. Dow shows its leadership in being the first million-dollar corporate donor to the college's Forever LSU campaign. We salute Dow and the LSU alumni it employs and hope that this sets an example for others to follow."

Dow Louisiana Operations Site Director Sharon Cole said, "The future of Dow and the chemical industry are dependent upon universities like LSU producing well-trained engineers. To attract and train the top students LSU needs the proper resources, so I'm proud that Dow can be a part of that effort through this contribution. Certainly my career at Dow would not have been possible without my engineering degree from LSU, so it's especially meaningful for me to see Dow supporting this outstanding program at the university."

David Mongrue, Dow executive for Louisiana State University and manufacturing director for specialty chemicals, said, "Louisiana State University is one of only 15 Dow Strategic Universities in the United States. The Dow Chemical Company and LSU have enjoyed a long-standing relationship that has benefited both parties. As an LSU alumnus who has worked for more than 20 years on university relations with LSU, I am extremely pleased and proud to present this significant contribution to LSU on behalf of the Dow Chemical Company. We know this contribution represents an important investment in the future of our strategic relationship with LSU and furthers an already strong partnership with the university."

The Forever LSU campaign is LSU's largest fundraising effort in its history. So far, LSU has raised more than \$350 million of its \$750 million goal by the year 2010. To find out how to get involved with supporting the Forever LSU campaign, visit www.foreverlsu.org.

Portions of this article are excerpted from LSU Public Affairs News Release by Scott Madere, LSU Media Relations, 225/578-3826

CF Industries Donates to New Chemical Engineering Building

The Department is pleased to announce that CF Industries has made a \$60,000 donation to the new Chemical Engineering Building.

CF Industries is one of the largest manufacturers and distributors of nitrogen and phosphate fertilizer products in North America. Their largest nitrogen fertilizer complex is located in Donaldsonville, Louisiana, and was built in the 1960s. It can produce and ship approximately 4.5 million tons of fertilizer each year. The plant employs approximately 280 CF Industries employees (some of which are ChE graduates), as well as approximately 200 contract employees.

The current Vice President of CF Industries is one of LSU's own, **Lou Frey**. Frey graduated from LSU with a B.S. in 1973 and received his M.S. in 1976, both in chemical engineering. CF Industries has a history of making contributions and offering programs that support education in local schools and universities.

The Department is greatly appreciative of their recent donation to our new facility and grateful for their continued support of our educational programs.

Marathon Oil Corporation Donates \$2.5 Million to LSU Including a Portion Earmarked for the New Chemical Engineering Building

In a news conference held at LSU on April 8, Marathon Oil Corporation (NYSE: MRO) announced a \$2.5 million gift commitment to LSU, supporting programs in the LSU College of Basic Sciences and the College of Engineering. This philanthropic gift to LSU represents a continuation of a valued relationship between Louisiana's flagship university and one of the world's leading energy companies.

Marathon's total donation of \$2.5 million is directed toward two of LSU's most distinguished colleges, the LSU College of Basic Sciences, \$1.5 million, and the LSU College of Engineering, \$1 million. Of the total, \$150,000 has been earmarked toward the construction of the Marathon Oil Corporation Chemical Engineering Laboratory, as part of the New Chemical Engineering Building.

Portions of this article are excerpted from LSU Public Affairs News Release by Kristine Calogne, LSU Media Relations, 225/578-5985

Department Events

2007-08 Departmental Distinguished Seminar Series

Renyi Zhang, Ph.D.

Professor, Department of Atmospheric Sciences, Texas A&M University
September 14, 2007
Mixing State, Morphology, and hygroscopic and optical properties of soot particles during atmospheric aging

Joseph Zoeller

Eastman Chemical Company, Kingsport, TN
September 28, 2007
Chemicals from Coal

Kevin Kelly, Ph.D.

Mezzo Technologies, Baton Rouge, LA
October 5, 2007
Micro tube heat exchangers, chemical reactors and chemical mixers: Approaches and Applications

Heath Turner, Ph.D.

Reichhold-Shumaker Assistant Professor, Department of Chemical & Biological Engineering, University of Alabama
October 19, 2007
Molecular Simulations of Chemical Reactions on Surfaces and at Interfaces

Ricardo Maronna, Ph.D.

Professor, Department of Mathematics, Faculty of Exact Sciences, National University of La Plata and C.I.C.P.B.A.
October 24, 2007
An overview of Robust Statistics (with an eye on reconciliation)

Vadim Kochergin, Ph.D.

Professor, Audubon Sugar Institute, Louisiana State University
October 26, 2007
Emerging technologies that benefit existing and future biorefineries

K Nandakumar, Ph.D.

Professor, Chemical & Materials Engineering, University of Alberta, Canada
November 2, 2007
Can CFD shed light on multiphase flows found in chemical processes

Vicki H. Grassian, Ph.D.

Professor, Department of Chemistry, The Iowa State University
November 16, 2007
Surface Chemistry of Oxides and Carbonates in the Atmosphere: From Fundamental Molecular Processes to Global Impacts

Jim Davis, Ph.D.

Associate Vice Chancellor for Information Technology and Professor, Department of Chemical Engineering, UCLA
November 30, 2007
A National R & D Agenda in Smart, Zero-Incident, Zero-Emission Manufacturing

Christopher Roberts, Ph.D.

Department Chair and George E. and Dorothy Stafford Uthlaut Professor, Department of Chemical Engineering, Auburn University
February 29, 2008
Metal and semiconductor nanoparticle deposition and separation using CO₂-expanded liquids

Arun Yethiraj, Ph.D.

Professor, Department of Chemistry, University of Wisconsin-Madison
March 13, 2008
Dynamics of fluids in disordered materials

Kevin Wilson

Chemical Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA
April 11, 2008
New Approaches to Studying Nanoparticles using Synchrotron Radiation

Calvin Bartholomew, Ph.D.

Professor, Chemical Engineering Department, Brigham Young University
April 18, 2008
Macro- and Micro-kinetic Modeling of Fischer-Tropsch Synthesis in Iron

Industrial Advisory Committee

The most recent meeting of the Industrial Advisory Committee took place on March 14, 2008.

The committee consists of (front row, left to right): Rich Bedell, Claire Cagnolatti, David Toups, Wyndham Cook, Sharon Hulgán, Ed McGinnis (Back row, left to right): Karl Anderson, Vernon Fabre, Dustin Beebe, Larry Schwartz, Ronald Rousseau, Marvin Borgmeyer (Not pictured: Ronald Cambre, Jack Hopper, Les Jensen).



Student News

AICHe News



President: Daniel Fortier
Vice President: Daniel McGraw
Secretary: Allyson Kirzner
Treasurer: Katherine Levy
Fundraising: Matthew Stephens
Recruiter: Stephen Drago
Car Team Chair: Matthew Stephens

Social Chair: Landon Marchand
Webmaster: Matthew Stephens
Senior Representative: Omkar Namjoshi
Junior Representative: Jasleen Kaur
Sophomore Representative: Robert Ingram
Freshman Representative: Mark Blanchard

The LSU Student Chapter of the American Institute of Chemical Engineers (AICHe) had a stellar year in 2007-08. While continuing to participate in many of their annual activities, they also increased their membership substantially, received more industrial support than in previous years, and successfully competed in both national and regional organization events.

This year's student membership exceeded 100, with a handful of those being freshman members. The student chapter was also able to schedule a full load of companies interested in speaking to the members at weekly meetings. In fact, they had so much interest that there were times when they had to schedule two meetings a week in order to accommodate all companies.

The student chapter is deeply grateful for all of the industrial support shown by local corporations. Due to the generosity shown by our industrial partners, the student chapter hosted a number of events this past year. On November 10, the chapter hosted the annual BASF Tailgate prior to the football game against Louisiana Tech. In the spring, the chapter hosted its First Annual SAGE Crawfish Boil at Lakeside Daquiries on March 6. The chapter also received financial support to travel to the national AICHe meeting in November as well as to the southern regional meeting held in April. Only members of the Chem-E car competition were able to travel to the national meeting. However, a record 54 members attended the 2008 Southern Regional Conference of AICHe, held on April 4-6, 2008, at Auburn University.

As you may recall, the student chapter entered one car, "Take It to the Limit," in the Chem-E Car Competition at last year's southern regional meeting and it won second place overall. This earned it a spot to compete at the 2007 Annual Meeting of AICHe in Salt Lake City, Utah, in November. At the national meeting, the car team did not disappoint. In fact, LSU earned more awards than any other

university. It won the *Golden Tire Award*, the *Most Creative Drive System*, the *Most Consistent Performance*, the *Inherent Safety in Design*, and Fourth Overall One Run Accuracy. The 2007 team was led by Matthew Stephens. His teammates were: Charlton Combs, Tracie Ferguson, Timmy Leblanc, Zachary Scheibel, Stephanie Peterson, Whitney Amato, and Omkar Namjoshi.

The AICHe student chapter entered two cars in this year's Chem-E car competition at the 2008 Southern Regional Conference of AICHe and both cars placed. The "Take it to the Limit" car was awarded third place overall and *Most Creative Vehicle Design*. Matthew Stephens again served as the team leader. The rest of his team consisted of chemical engineering undergraduates Blake Kliebert, Josh Wiggins, David Orth, Long Huynh, Kirk Rollins, and Matthew Daniel. As mentioned previously, this is the second year this car has been run in the competition. The "Take it to the Limit" team will automatically proceed to the national competition to be held at the Annual Meeting in November 2008 in Philadelphia.

"The Black Box Project" car team won fourth place overall at the Southern Regional Conference. This car team is headed by Charlton Combs. Other members of this team are Long Huynh, Brendan Flynn, and Arpan Seth. This car will also proceed to the national competition in Philadelphia.

In addition to the awards received by the car teams, LSU received the award for *Most Spirited School* for the second year in row.

James Henry served as the faculty advisor for the student chapter during the past academic year, with assistance from **Michael Benton**. Benton is the faculty advisor for the 2008-09 academic year. If anyone is interested in providing support or participating in AICHe student chapter activities during the academic year, please contact Benton at benton@lsu.edu or 225-578-3056.

Debalina Sengupta, a Ph.D. student under the direction of **Ralph Pike**, presented the following papers at conferences on research related to chemicals from biomass. The papers are available for downloading from the Minerals Processing Research Institute's Web site, www.mpri.lsu.edu.

- D. Sengupta, R. W. Pike, and H. H. Lou, "Integrating Fermentation and Transesterification Industrial Scale Processes in the Lower Mississippi River Corridor," Paper No. 225b, American Institute of Chemical Engineers National Meeting, New Orleans (April 6-10, 2008).
- D. Sengupta, R. W. Pike, T. A. Hertwig and H. H. Lou, "Integrating Biotechnology and Nanotechnology into Sustainable Industrial Complexes," Paper No. 537e, American Institute of Chemical Engineers Annual Meeting, Salt Lake City (Nov 4-9, 2007).

- D. Sengupta, R. W. Pike, H. H. Lou, T. C. Ho, T. A. Hertwig, A. Xu and S. Indala, "Quantifying Sustainable Development with Sustainable Costs in Optimization of Chemical Production Complexes with New Plants for Carbon Nanotubes, Carbon Dioxide and Biochemicals," Paper No. F005, The First International Symposium on Sustainable Chemical Product and Process Engineering (SCPPE2007), Guangzhou, China (September 25-28, 2007). [Paper presented by Prof. T.C. Ho from Lamar University].

Yogesh Waghmare, a Ph.D. student under the direction of Carl Knopf, had two papers accepted for the Transport sessions at the American Institute of Chemical Engineers (AICHe) Salt Lake City meeting held in November 2007.

Student Highlights

Two chemical engineering Ph.D. graduate research assistants are recipients of 2008 Donald C. Clayton supplement awards and their respective faculty advisors are recipients of the Donald C. Clayton Mentor award. Both awards are governed by the College of Engineering.

Andrew Campos is conducting research in the group of **James J. Spivey**. Andrew's research focuses on X-ray absorption spectroscopy to characterize transition-metal promoted iron-based Fischer-Tropsch catalysts, a collaboration with Clemson University. **David Widenski** conducts research in the group of **Jose Romagnoli** and his research lies in the areas of modeling and optimization as those relate to process systems.

The Clayton supplement awards are presented to engineering students who are pursuing a Ph.D. and who also intend to enter academia upon graduation. It is a 3-year award, which usually provides a supplement to a graduate student's annual stipend as follows: \$10,000 the first year, \$15,000 the second year, and \$20,000 the third year. Their faculty advisors receive the mentoring awards for the leadership roles they play in the professional and academic development of their students.

David Widenski, a Ph.D. student in the research group of Jose Romagnoli, has received a National Science Foundation (NSF) EAPSI Award for summer 2008. The East Asia and Pacific Summer Institutes (EAPSI) provide U.S. graduate students in science and engineering: 1) first-hand research experience in Australia, China, Japan, Korea, New Zealand, Singapore or Taiwan; 2) an introduction to the science and science policy infrastructure of the respective

location; and 3) orientation to the society, culture, and language. The primary goals of EAPSI are to introduce students to East Asia and Pacific science and engineering in the context of a research setting, and to help students initiate scientific relationships that will better enable future collaboration with foreign counterparts. The institutes last approximately eight weeks.

David's proposal was entitled, "Modeling and Optimization of Cooling & Antisolvent Crystallization." His award will bring him to the University of Sydney in Australia from late April to late August 2008. He will be conducting research with Prof. Ali Abbas (who is a former student of Prof. Romagnoli) in the Department of Chemical and Biomolecular Engineering. The award provides a one-time payment of \$5,000 as well as a round-trip ticket to Australia.

Andrew Campos, a Ph.D. student in the research group of James Spivey, is a recipient of a \$1,500 Office of Strategic Initiatives Supplement Award for the spring 2008 semester. The award is made possible through the Graduate Alliance for Education in Louisiana, funded by the National Science Foundation under the Alliance for Graduate Education and the Professoriate (NSF/AGEP) program. The goal of the NSF/AGEP initiative is to establish a minority doctoral training alliance in the Science, Technology, Engineering, and Mathematics (STEM) disciplines. The ultimate aim is to significantly increase the minority STEM doctoral degree production at Louisiana's top research universities. To do this the project serves to bolster: 1) graduate recruitment and 2) early undergraduate exposure of minority students to research and academic career opportunities.



For the first time ever, all four of LSU's Goldwater finalists have been chosen to receive the nationally competitive Goldwater Scholarship. One of the four is chemical engineering undergraduate **Michael Parent**. The scholarship will cover the cost of tuition, fees, books, and room and board up to a maximum of \$7,500 per year.

The Goldwater Scholars were selected on the basis of academic merit from a field of 1,035 mathematics, science, and engineering students nominated by faculty from universities and colleges nationwide. Requirements include being ranked in the top one-fourth of their class, institutional nomination, a planned career in science, math, or engineering, and U.S. citizenship. A total of 321 scholarships were awarded for the upcoming academic year by the Board of Trustees of the Barry M. Goldwater Scholarship and Excellence in Education Foundation. The Barry M. Goldwater Scholarship and Excellence in Education Foundation was established by Congress in 1986 to honor Sen. Barry M. Goldwater, who served his country for 56 years as a soldier and statesman, including 30 years in the U.S. Senate.

Michael is a native of Mandeville, LA, who plans on pursuing a Ph.D. in a nanoscience or related field in the hopes of one day conducting research at a national lab or in industry. Michael is also a scholar of the LSU Louisiana Science, Technology, Engineering, and Mathematics (LA-STEM) Research Scholars Program (which is funded by NSF and Research Corporation and managed by the Office of Strategic Initiatives). Isiah Warner, vice chancellor in the Office of Strategic Initiatives, describes Michael as being "one of the stars of the LA-STEM program" and that he is "an excellent representative of the program and the university as a whole."

The above statement is further proven by the fact that Michael received two other awards this past year. He is the winner of the Outstanding Junior Undergraduate Award from the Baton Rouge Section of AIChE for 2008. He will receive a one-time award of \$500 and will be honored at the upcoming Coates Award Banquet. In addition, he is the 2008 winner of the National AIChE Othmer Award, which is given to the person completing the sophomore year with the highest GPA. The award includes a certificate and a copy of *Perry's Handbook*.

Portions of this article are excerpted from LSU Public Affairs News Release by Ernie Ballard, LSU Media Relations, 225/578-5685; Photo courtesy of LSU Public Affairs

Student Awards

Freddy Avila Diaz, a visiting student researching in the lab of **Kerry Dooley**, won the Best Poster Award at the most recent meeting of the Southwest Catalysis Society Annual Symposium.

Alan Bussard received the Kokes Travel Award Grant to attend the 20th North American Meeting of the Catalysis Society. Alan was PhD student researching under the supervision of **Kerry Dooley**. He received his degree in May 2008.

Jasleen Kaur, a third year student in the chemical engineering undergraduate program, was one of three recipients of a \$2,000 scholarship from the Air & Waste Management Association. Each year the Air & Waste Management Association offers its Scholarship Award Program at the collegiate level to promote air and waste management practices by encouraging academic excellence in these areas. The winners are chosen by a selection committee based on their interest statements, resumes, GPA and interviews which demonstrate their dedication to environmental issues.

Noelle McBride, a senior undergraduate student in chemical engineering, has been awarded the Undergraduate Student Award in Environmental Chemistry from the American Chemical Society (ACS). The award consists of a one year membership in the ACS Division of Environmental Chemistry and a certificate. Noelle will also be featured in the EnvirofACS, the Division website, and C&E News. The Division of Environmental Chemistry is one of the largest divisions of ACS. Members range from industry and consulting professionals to government employees to academia. The Division focuses on a broad spectrum of environmental issues related to air, water, and soil. Membership allows individuals to participate in programs and activities within the Division as well as build professional ties with other environmental chemists while also expanding one's professional development. The department wishes to congratulate Noelle on this outstanding achievement.

Judith Udeke, a graduating senior in May 2008, was selected for the Leadership LSU Class of 2008. Leadership LSU is a highly selective program that targets senior status students who have demonstrated exemplary leadership skills throughout campus and prepares them for future leadership roles in their communities. Nominees are recommended by faculty and/or staff and from those nominees only 25 students are chosen each year to participate in the program. They participate in a mandatory retreat in January and continue to meet every Monday after the retreat for approximately 10 sessions. At the end of the semester, they attend another mandatory retreat to mark the end of the program. The main purpose of the program is to better prepare these students to hold leadership roles in their communities upon completing their studies so that they can play an even greater role in shaping their communities for future generations. An example of Judith's excellent leadership skills is evidenced by the role she played in the creation of the Nigerian Students Organization (as reported in *The Daily Reveille*, Vol. 112, Issue 53, November 12, 2007). Judith immigrated to the United States from Nigeria seven years ago with her family.

She hopes to one day be able to contribute to positive change in her native country as she says right now it is crime-ridden and run by incompetent leaders. The Nigerian Students Organization was created for Nigerians as well as members of other nationalities who have an interest in the discussion and active resolution of Nigeria's problems.

Sri Sai Vegunta, a first-year PhD student in the research lab of **John Flake**, is the 2008 winner of the John J. Seip Memorial Scholarship award. The Seip award is given to the student who scores the highest on the department's PhD Qualifying Exam and provides a \$1,000 one-time cash payment. The Ph.D. Qualifying Exam is given once a year in May.

The Electrodeposition Division of the Electrochemical Society awarded a travel grant to **Wanli Xu**, a graduate student in **John Flake's** group, to present her work on "Silicon Nanowire Processing and Integration" at the 212th meeting in Washington D.C.

Breeana Baker and **Joel LeDay**, both first-year students in the undergraduate program, are recipients of 2007-08 academic year scholarships from the American Chemical Society (ACS) Scholars Program. The scholarship provides each with a monetary award as well as both academic and industrial mentors to assist in their studies as they strive to meet their educational and professional goals. Breeana's academic mentor at LSU will be department chair, **Kalliat Valsaraj** while her industrial mentor is a R&D project engineer with PPG Industries. Breeana was chosen as one of 10 students sponsored by PPG Industries and PPG secures industrial mentors for these scholars. Joel's academic mentor at LSU will be **Karsten Thompson**. The scholarship program is designed to encourage African-American, Hispanic, and American Indian students to pursue undergraduate college degrees in the chemical sciences and chemical technology. The scholarships are awarded on the basis of merit and financial need. Students must have strong academic records and show an interest in and potential for careers in chemical sciences.

Qingzhong Yuan, a 2007 PhD recipient in chemical engineering, is the winner of the Best PhD Dissertation Award from the Baton Rouge Section of AIChE. He was honored at the annual Coates Award Banquet held in May. Yuan studied under **Kalliat Valsaraj** and the title of his dissertation was "Experimental and Modeling Studies of Contaminant Transport in Capped Sediments during Gas Bubble Ebullition."

Commencement

Summer 2007 Commencement

Bachelor of Science in Chemical Engineering

Bruce A. Adams, Jr.
Mehmet S. Aksoy
Jonathan D. Brockhaus
Dennis Kun Ho Lew

Master of Science in Chemical Engineering

Anushree Datta
Jianrong Liu

Doctor of Philosophy in Chemical Engineering

Ming Yin

Fall 2007 Commencement

Bachelor of Science in Chemical Engineering

William T. Bergeron
Jared J. Fontenot
Matthew D. Godsey
Yen Kim Tina Hoang (*Magna Cum Laude*)
Timothy D. Krimmel
David B. McDougald II
Gasper Migliore III
Tyler R. Moore (*Magna Cum Laude*)
Jennie M. Najolia (*Summa Cum Laude*)
David A. Quinn
Gregory M. Robertson

Master of Science in Chemical Engineering

James Matthew Faubion



Matt Fabuion (right) with his wife.

Doctor of Philosophy in Chemical Engineering

Justin E. Birdwell



Birdwell, left, with his Ph.D. research advisor, Louis Thibodeaux.



Both students and faculty (Harry Toups, second from left, and James Henry, second from right) enjoyed the department's commencement reception.

PhD Student Wins International Award



Shiju Thomas, a recent Ph.D. graduate who conducted his research under the supervision of **Judy Wornat**, won the Best Student Oral Presentation Award at the 21st International Symposium on Polycyclic Aromatic Compounds (ISPAC21). The title of Thomas' presentation was "Identification of Methylene-Bridged Polycyclic Aromatic Hydrocarbons from the Pyrolysis of Catechol." This study was part of his thesis research on the formation of polycyclic aromatic hydrocarbons from the pyrolysis of cat-

echol, a model compound representative of structural units in solid fuels like coal and biomass. The project is funded by a grant from Philip Morris USA.

The ISPAC21 was held in Trondheim, Norway, August 5-10, 2007. There were 35 student presentations at this year's symposium and two student awards were given — one for the best oral presentation and one for the best poster presentation. The award winners were decided by the plenary speakers at the symposium. The ISPAC symposium is organized by the International Society for Polycyclic Aromatic Compounds and is held biennially. The society provides a forum for presentation and discussion of research related to polycyclic aromatic compounds (PAC).

Commencement

Spring 2008 Commencement

Bachelor of Science in Chemical Engineering

Whitney P. Amato
Natalie K. Auld
Blaine A. Clancy
Matthew M. Coenen
Jonathan M. Courtney
Eric M. Dixon
Philip D. Dobson
Rory J. Falgout
Glenn N. Felps
Tracie M. Ferguson
Vincent P. Fontana
Joseph B. Fontenot
Thomas B. Fontenot
Daniel A. Fortier
Christopher W. Fussell
Vyrán L. George
Natalie D. Guillot
Roy A. Gullem
Ung Gul Kim



Three generations of LSU ChEs: Mitch Serpas (right), with his mother and grandfather.



Timothy P. LeBlanc, Jr.
Katherine F. Levy (*Summa Cum Laude*)
Thilanga P. Liyana Arachchi
Landon M. Marchand (*Cum Laude*)
Denis Marken
James T. McAllister
Omkar Namjoshi (*Magna Cum Laude*)
Stephanie R. Peterson
Zachary R. Scheibal
Mitchell R. Serpas
Michael L. Estrada Silva
Kathryn M. Simmons
Bikram Singh
Matthew J. Stephens (*Summa Cum Laude*)
Judith A. Udeke



Master of Science in Chemical Engineering

Miguel E. Estrada

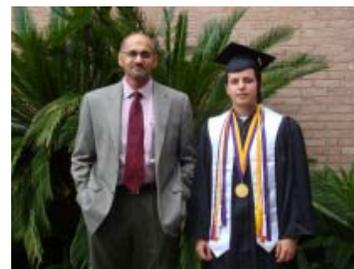
Doctor of Philosophy in Chemical Engineering

Lisa A. Brenskelle
Alan G. Bussard
Jorge O. Ona Ruales
Shiju Thomas
Yogesh G. Waghmare



Departmental Awards

Matthew Stephens received both a University Medal and the College of Engineering McLaughlin Medal at the Spring 2008 commencement ceremonies. The University Medal is given to LSU undergraduate students graduating with the highest overall grade point average (which is usually a 4.0). Matt was one of 34 University Medalists at LSU's



Matt Stephens, right, pictured in his graduation regalia with Kalliat Valsaraj.

265th commencement exercises, held on May 16, out of approximately 3,310 total graduates. The Edward McLaughlin Dean's Medal of Excellence is awarded by the College of Engineering to engineering student(s) graduating with the highest grade point average. Matt was one of four McLaughlin Medalists this spring. The McLaughlin Medal was created by the Advisory Council of the College of Engineering in recognition of the outstanding contributions of Dean Emeritus Edward McLaughlin. As many of you know, McLaughlin was a professor in the Department of Chemical Engineering and served as the department's chair from 1979-87 prior to becoming dean of the college.

The following students received departmental awards at the spring 2008 commencement reception:

Jesse Coates Award - Matthew Stephens

High GPA Senior - Matthew Stephens

Senior Award (for finishing in 4 years w/ no drops) - Katherine Levy, Landon Marchand, Stephanie Peterson, Zachary Scheibal, Mitchell Serpas, Bikram Singh, Matthew Stephens

American Institute of Chemists Award - Omkar Namjoshi

2007-08 Scholarship Recipients

Alan M. Raymond Endowed Scholarship in Chemical Engineering
Yen Kim Tina Hoang Matthew Stephens

BASF Chemical Company Scholarship in Chemical Engineering
Megan Manchester

Chevron/Texaco Chemical Engineering Scholarship
Matthew Stephens

Clara & Frank R. Groves, Sr. Undergraduate Scholarship in Chemical Engineering
Judith Udeke

DuPont Chemical Scholarship in Chemical Engineering
Daniel McGraw

Floyd S. Edmiston, Jr. Memorial Scholarship in Chemical Engineering
Jason Atwood Robert Forest
Jasleen Kaur Michael Schulz

Gerard Family Undergraduate Scholarship
Blake Basso William Bergeron
Rebecca Ferrell Jared Fontenot
Thomas Fontenot Yen Kim Tina Hoang
Meghann Hutchinson Anthony Juneau
Timothy Krimmel Megan Manchester
Jennie Najolia Stephanie Peterson
Anthony Radesky Matthew Stephens
David Sudano

Marathon Petroleum Scholarship in Chemical Engineering
Jason Atwood Saade Bou-Mikael
Thomas Fontenot Allyson Kirzner

O. Dewitt Duncan Scholarship in Chemical Engineering
Austin Beard Matthew Daniel
Jason Lousteau Jonathan Maddox
Joseph Maltempi Derek Michell
Adam Millet Kevin Myers
Omkar Namjoshi Sarah Roark
Zachary Scheibal

Paul M. Horton Memorial Undergraduate Scholarship in Chemical Engineering
Blake Basso Saade Bou-Mikael
Dewaki Chamupathi Anthony Juneau
Jasleen Kaur Ung Kim
Landon Marchand Kalen Minvielle
Michael Parent Kathryn Simmons

Paul N. Howell Memorial Scholarship in Chemical Engineering
Uyen-Thu Tai Sergio Velasquez

Ram Bhatia Scholarship in Chemical Engineering
Arpan Seth

R.L. Hartman Scholarship in Chemical Engineering
Timothy Krimmel

Walter G. Middleton, Jr. Endowed Scholarship in Chemical Engineering
Noelle McBride Jennie Najolia

William E. McFatter Undergraduate Scholarship in Chemical Engineering
William Bergeron Stephanie Peterson
Matthew Stephens

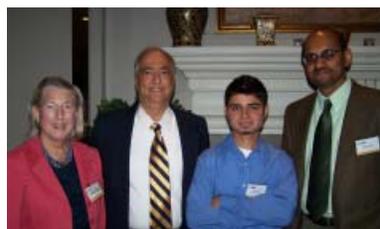
First Annual Scholarship Donor & Recipient Dinner

The department hosted its first annual Scholarship Donor & Recipient Dinner on March 27, 2008 at Boudreaux's in Baton Rouge. The dinner served to honor both the students who receive departmental scholarship as well as the donors who graciously support our programs by supporting our outstanding students. It also served to allow donors to interact with the students they assist.

31 scholarship recipients attended the dinner along with a handful of donors, both private and corporate. A complete listing of students who have received departmental scholarships this year can be viewed below as well as photos from this year's dinner.

The guest speaker at the dinner was Vernon Fabre, who received his B.S. in chemical engineering from LSU in 1973. He recently retired from BASF where he served as the Director of Site Services for their Geismar facility. In addition, Fabre served as the president of the Chemical Engineering Industrial Advisory Committee as well as serving on the department's Campaign Steering Committee.

Below are a few pictures from the scholarship dinner.



Alumni News & Awards

William A. Brookshire has made a donation of \$500,000 to the LSU Foundation to establish the first endowed distinguished fellowship to benefit chemical engineering. Brookshire worked for Shell Research and attended the University of Houston at night while he was an undergraduate. Ninety percent of the professionals in his work group had PhDs, so there was both a social and a financial incentive for him to go to graduate school. He came to Louisiana to pursue graduate studies and received his MS in 1959 and his PhD in 1961, both in chemical engineering. While pursuing his graduate studies at LSU, Brookshire was a Humble Oil and Refining Company (now ExxonMobil) fellow. The generosity of the Humble fellowship allowed Brookshire to concentrate fully on his graduate studies and research. This newly established fellowship is dedicated to that generosity.

The recipient of this fellowship will be a graduate student in the PhD program of the Cain Department of Chemical Engineering. The recipient must be a U.S. citizen with a cumulative grade point average of at least 3.50. Preference will be given to students who have demonstrated scholarship accomplishment and strong leadership skills, shown integrity and exemplary character, indicated a career preference for the private sector in the Process Industries, and who will be a good ambassador for the College and for the State of Louisiana.

Brookshire said that what he most remembers about his time at LSU was a lot of hard work. He did take time to enjoy the football games (it was during the Billy Cannon era), but mostly he just studied. He hopes that this distinguished fellowship will help students who, like him, are willing to work hard and do research. Perhaps someday, they too will find a way to give back.

Portions of this article are excerpted from LSU College of Engineering News Release by Brenda Tate

Sharon Cole, a 1981 graduate of LSU in Chemical Engineering, is the new Site Director for Dow's Louisiana Operations. Ms. Cole has served in a variety of manufacturing roles with Dow since starting her career with them in 1981. She moved into the Louisiana Operations Vinyl 2, VCM plant in 1991 and was named Production Leader in 1993. In 1997, she moved to Dow's Freeport, Texas Operations where she was named Technology Director for the Dow Ethylene Dichloride/Vinyl Chloride Monomer business and assumed additional responsibilities for process research in 1999. Ms. Cole then moved into Dow's Hydrocarbons & Energy business in 2003 as Technology Director for Light Hydrocarbons, Aromatics, Butadiene and Alpha Olefins.

The Department extends its sincerest congratulations to **George Newbill (M.S. 1970)**. Newbill is now executive vice president of manufacturing operations at Albemarle Corporation. He oversees all aspects of Albemarle's global manufacturing operations including more than 20 facilities worldwide. Since graduating from LSU, Newbill has earned more than 40 years in the chemical industry.

Recently, the department received a donation of more than \$730,000 from the will of alumnus **Clements Helblings, Jr.** Mr. Helblings left this money to the department through his estate and it will be designated toward the new ChE building fund. This generous donation came unannounced, prior to the settlement of his estate.

Helbling graduated from LSU with a Bachelor's degree in ChE in 1949 and a Master's degree in ChE in 1950. He served in the U.S. Navy and spent his entire career with Texaco, retiring in 1983. Experiencing many travel opportunities, he lived in New York for a short time before his final stop in Houston. Helbling was a native of Lake Charles, Louisiana.

Portions of this article are excerpted from LSU College of Engineering News Release by Mimi LaValle

The department congratulates alumnus, **Sakhalin Finnie (B.S. 1991)**, a 2007 recipient of a Milken National Educator Award. Finnie teaches at the Harbor Teacher Preparation Academy in Wilmington, California.

The Milken National Educator Award is funded by the Milken Family Foundation, established by Lowell and Michael Milken in 1982 with the mission to discover and advance inventive and effective ways of helping people help themselves and those around them lead productive and satisfying lives. The Milken National Educator Award provides public recognition and an unrestricted financial award of \$25,000 to elementary and secondary school teachers, principals, and other education professionals who are furthering excellence in education. The recipients are chosen by an independent blue-ribbon committee established by each state's department of education. Criteria for selection includes: exceptional educational talent as evidenced by effective instructional practices and student learning results in the classroom and school; exemplary educational accomplishments beyond the classroom that promote excellence for the profession; strong long-range potential for professional and policy leadership; and, engaging and inspiring presence that motivates and impacts students, colleagues, and the community.

Matthew Balhoff (B.S., 2000; Ph.D., 2005) joined the University of Texas at Austin in 2007 as assistant professor in the Department of Petroleum & Geosystems Engineering. His past experience includes work at the Center for Subsurface Modeling group at the University of Texas at Austin as a postdoctoral fellow. His research involves pore scale and multiscale modeling, flow and transport in porous media, and reservoir engineering.

Alumni Updates

If you would like for us to print news of your latest achievements, please complete the short form included in this newsletter and return it to us. Or, you may send us an e-mail at gradcoor@lsu.edu or visit our Alumni Guestbook on our Web site at www.che.lsu.edu. We would love to hear from you!

1960s

Kernan M. Banker, Jr. (B.S., 1964) retired in 2004 after 41 years with International Paper Company in the technical, production, and environmental areas. Presently, he resides in Balstrup, Louisiana.

E.W. "Woody" Harrison (B.S., 1961) retired from Exxon in 1999 after 32 plus years. He worked in refineries, chemical plants, offshore, and marine. He is currently engaged in some consulting through Becht Engineering (which is still mostly ExxonMobil).

1970s

Mike Chatelain (B.S., 1973) is currently a project manager for CDI Engineering after serving 25 years as a project engineer/manager for Ciba-Geigy (Novartis, Syngenta). He has a camp at Old River where he and his wife enjoy hunting, fishing, and bird watching. They can also be found on selected weekends serving meals at the St. Vincent de Paul dining room.

Steven Johnson (M.S., 1975) is self-employed as a Japanese-English technical translator and also as a technical consultant at Shell Oil in Houston.

1980s

Mike Achacoso (B.S., 1989) is coming up on 19 years with ExxonMobil. Since his last update to the newsletter, he is based in Fort McMurray, Alberta, Canada on loan to Syncrude as their planning and economics manager working in the oil sands. Prior to this, he spent two years in Singapore as the Asian Pacific EH&S manager for Downstream & Chemical operations. Then, he spent five years at the Billings Refinery in the positions of technical manager and operations/maintenance manager. He has been married for 10 years and has two daughters. He says he enjoyed watching LSU win the National Championship this year from the "frozen Great White North." "Geaux Tigers!"

Ken Ahuja (B.S., 1984) worked for Jacobs Engineering for 21 years. He held the position of senior process manager when he left Jacobs on 2007. He is currently employed by URS Corporation as the Process Engineering department head.

Thomas Easterly (B.S., 1984) is currently working for a USAID contractor in Baghdad, Iraq, working with the Ministry of Oil and the Ministry of Electricity for their National Capacity Development project. They are helping to rebuild the physical and managerial infrastructure of Iraq.

Jim Hull (B.S., 1985) is employed by W.R. Grace as the Director of Operations. He enjoys being an outspoken LSU and Saints fan while living in the northeastern U.S.

Alvaro Jarquin (B.S., 1986) is a chemical engineer for Southwest Engineer. His areas of expertise are in boiler and cooling water treatment. The water treatment experience has been in the sugar, power, and chemical process industries.

Edward Langlow (B.S., 1986) is an Ophthalmologist in private practice in Mandeville, Louisiana.

Stephen D. Miller (B.S., 1984) was recently promoted to Triethene II Manufacturing team leader for PPG Industries, Inc. in Lake Charles, Louisiana. He now has two children enrolled at LSU. Laura is a junior majoring in psychology and Phillip is a freshman majoring in engineering. "Go Tigers!"

1990s

Jeremy Baldridge (B.S., 1999) is currently employed as a process safety engineer at ConocoPhillips' Lake Charles refinery. Previous to this, he spent seven years in process engineering and operations management in cement and titanium dioxide pigment industries. He is married to an LSU alum and has two kids.

Brant DeLaune (B.S., 1997) currently works as a project manager for hydrocarbons and energy at Dow St. Charles. He worked for approximately seven years after graduation at Firestone Polymers in Lake Charles, Louisiana, followed by 2 years at Jacobs Engineering in Baton Rouge. He is currently married and living in LaPlace. He and his wife welcomed their first child in March. He is a huge LSU sports fan and celebrated the recent football national championship while looking forward to baseball season and wishing for a new men's basketball coach. "Geaux Tigers!"

Bronson Guilbeau (B.S., 1998) is currently employed as a refinery superintendent with Cargill, Inc. in Fayetteville, North Carolina. His interests include spending time with his wife, Tammy, and their two girls, Kennedy and Rylan. "Geaux Tigers!"

Philip Hadaway, P.E. (B.S., 1995) is currently a senior process engineer for Shell International Exploration and Production Inc. in Houston.

Ann Williams Jordan (B.S., 1994) lives in Mobile, Alabama, with her husband, Jason and son, Ross (8). They welcomed a second son, Owen, in April 2007.

Heath Langford (B.S., 1994) works as a process supervisor for Occidental Chemical's Houston operations. He and his wife, Kara, live in League City, Texas. They have two children, Rachel and Parker.

Eric Parvin (B.S., 1997) is currently at URS Corp, helping to lead the process department and working with Ken Ahuja (down below). He says it's a great environment. He has worked for one year so far with URS Corp. Prior to this, he worked for Jacobs for one year, Dow Chemical at their salt dome operations (mining and storage caverns) for approximately five years, Jacobs before that for four years, and Conoco Phillips in the Lake Charles area after graduation. He and his wife have one daughter (toddler) and are looking to adopt from Rwanda one day soon. He says, "e-mail me at eric_parvan@urscorp.com if you remember, especially if you were a charter member of ChEFS (Chemical Engineering Faculty and Students) when we cooked out together (that means you, Ms. Atkins)."

Alicia Butler Pierre (B.S., 1999) founded Equilibria, Inc. (www.eqbsystems.com) in 2005. Equilibria, Inc. is an office organizing firm that specializes in designing efficiency processes for high growth small businesses and is based in Atlanta, Georgia..

Ryan Roussel (B.S., 1996) is employed by Albemarle Corporation here in

Alumni Updates (cont.)

Baton Rouge as an operations supervisor. He's been with Albemarle since 2000. He left briefly in 2006 for Dow but returned to Albemarle in 2007 after 6 months. He's married with two kids and expecting their third this year.

Flavio Tinoco (B.S., 1995) currently resides in Honduras. He is general manager of PROGCARNE, a meat packing, processing, and distribution company.

Melissa Bacci Walsh (B.S., 1997) has worked for BASF in Geismar, Louisiana, for 10 years. She worked for seven years in project engineering and the last three years have been in procurement. She is currently the Procurement Manager for Instrumentation. She has an MBA from LSU. She is married with two dogs and loves LSU football. "Geaux Tigers!"

Mohamad Youvial (M.S., 1990) works in Indonesia's government as a researcher in fuel cell, coal combustion, and gasification.

2000s

Cathlynn Allen (B.S., 2007) currently works for Hovensa LLC in the Virgin Islands.

Benjamin Caire (B.S., 2005) is currently working for a biodiesel company in York, Pennsylvania along with another LSU ChE alum, Christian Aucoin. He spent a year and a half with Dow Chemical in California prior to this. Ben says, "renewable energy is where it's at!" Ben and Christian were featured in the 2006-07 edition of the Chemical Engineering alumni newsletter along with their company, United Biofuels LLC.

Scott Crowell (B.S., 2002) is a process engineer in Suspension PVC Operations for Colorite Specialty Resins. He has been married for seven years with two daughters (ages 5 and 2) and welcomed a son in May 2008. He is enjoying life in the northeast U.S. He is close to the mountains, the beach, and some good ducking hunting, too.

Andrew Godley (B.S., 2003) worked as a process engineer for Alcoa at an alumina processing facility in Pittsburgh after graduation. In 2005 he moved back to Louisiana to work for Porocel, a catalyst manufacturing and re-

covery company. He is currently the technical operations manager for the facility. He will receive his MBA from the University of Louisiana in Lafayette this year.

Fred Harry, Jr. (M.S., 2001) was recently promoted to production leader for an 800M lb Caprolactam Purification facility for Honeywell Resins and Chemicals in Hopewell, Virginia. He has been married for five years and has one young son and another baby on the way.

Che-Yih Lim (B.S., 2003) is employed by Chevorn Oronite LLC as a process research assistant. His work involves lube oil additive for heavy duty diesel engine oil.

Ryan M. Resweber (B.S., 2005) is currently employed at URS Corp as a process engineer, working among many LSU graduates. He is also back in school pursuing a few interests that he didn't have time for the first time through. From May 2006 to October 2007 he was employed by Ford, Bacon, and Davis conducting pressure relief and process design inside of Dow Chemical. Shortly after graduation, he had the privilege to join several other classmates at Foster Wheeler USA where he performed process engineering work for refinery Coker units.

Todd Tanory (B.S., 2001) has been working for BP since graduation and has had several jobs within the company since he started. For his first three and a half years he worked as a refinery process engineer on distillate desulfurizers and, then, BP's largest gasoline/BTX reformer. Then he took a job at their central Houston office where he's been working in BP's midstream group as an asset team lead. He is basically the commercial manager for the Anadarko Basin gas plants and natural gas gathering pipelines. A year and a half ago he completed his MBA at Tulane University. He and his wife have been married for five years and welcomed a baby boy in July 2007. As Todd says, "life is good!"

Guangyan Zhu (Ph.D., 2001) joined DTE Energy Ventures in Ann Arbor, Michigan after six years with United Technologies and after receiving his MBA from Carnegie Mellon University. DTE Energy Ventures has been investing in early-stage companies in alternative energy and clean technologies for 10 years.

In Memoriam

We were saddened to learn of the passing of the following alumni. We extend our belated condolences to their families and friends.

William Walton Agnew (B.S., 1977)
Raymond V. Bailey (M.S., 1948; Ph.D., 1949)
Hubert M. Berthelot (B.S., 1967)
Eric Powell Breidenbach (M.S., 1951)
Charles Crawson Brewer (B.S., 1950)
Cushman M. Cambre (B.S., 1955; M.S., 1960)
Gipson L. Carter (B.S., 1931; M.S., 1932; Ph.D., 1935)
Carl W. Davidson (B.S., 1936)
Ronald Anthony DeJean (B.S., 1960)
Joseph Nathan Foret, Jr. (B.S., 1937)
Leon Edwin Hagius, Jr. (B.S., 1942)
Elmer M. Harris (B.S., 1938)
Herbert Wright Hobgood (B.S., 1936)
August Miller Hochendel (B.S., 1934)

Houston Keller Huckabay (B.S., 1959; M.S., 1960)
James Hare Huguet (B.S., 1936)
Walter Joseph Kuebler (B.S., 1940)
Arnaud Joseph Loustalot (B.S., 1935; M.S., 1936)
Alfred John Navarre (B.S., 1949)
Leon Brooks Page (B.S., 1934; M.S., 1936)
Sidney Albert Raithe (B.S., 1951)
Eric Anthony Rini (B.S., 1965)
Carson McCloud Russell, Jr. (B.S., 1948)
Melvin John Schexnayder (B.S., 1947)
Malcolm Clark Schroder, Jr. (B.S., 1940)
Charles S. Sharkey, Jr. (B.S., 1964)
Joseph Ellwood Steiner (B.S., 1950)
Guy S. Woods (B.S., 1952)

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