# LSU GORDON A. & MARY CAIN DEPARTMENT OF CHEMICAL ENGINEERING

**Alumni Newsletter • Volume 26 • Fall 2010/Spring 2011**

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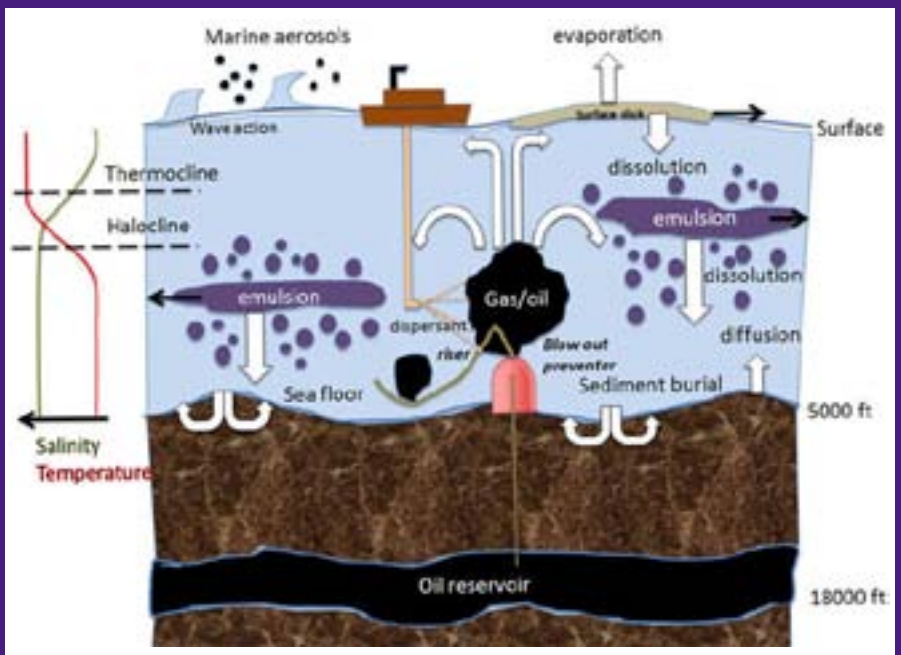


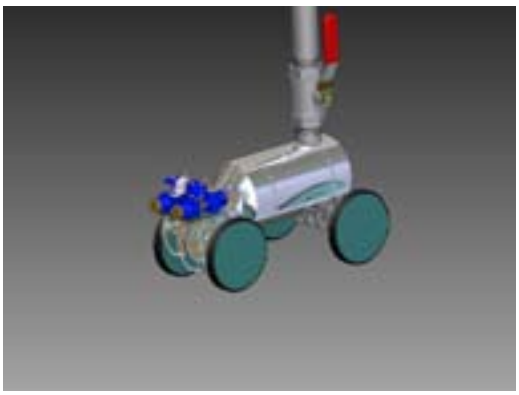


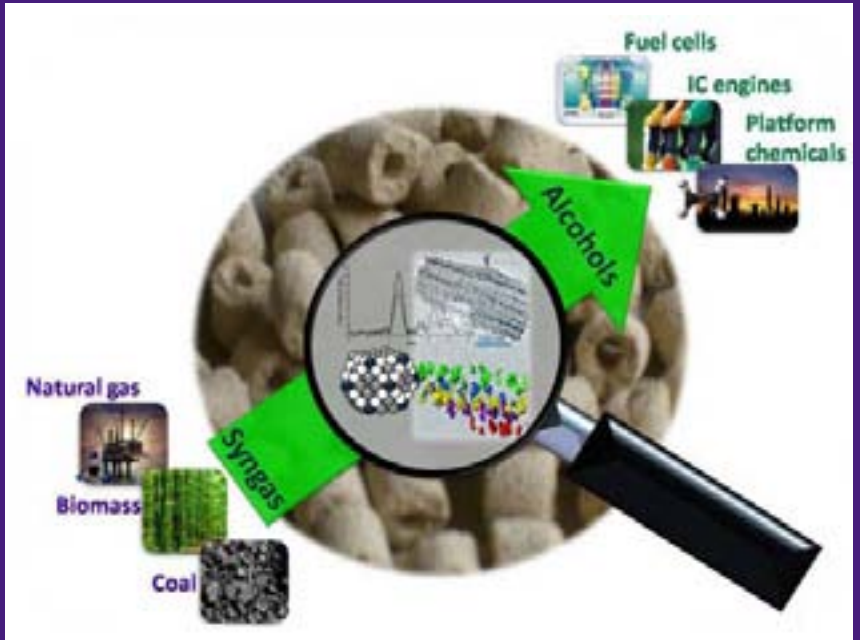


LOVE PURPLE
LIVE GOLD

# Letter from the Chair

Dear Friends and Alumni:
I am pleased to share the 26th volume of the Alumni Newsletter on behalf of the Cain Department of Chemical Engineering. There have been several events and changes that have occurred in the department over the past year.

I hope you will join me in welcoming a new professor, Dr. Nandakumar, who joined us in August 2009 from the Chemical Engineering Program at the Petroleum Institute, where he was the GASCO Chair Professor. Dr. Nandakumar comes to us as the second Gordon A. and Mary Cain Chair in Chemical Engineering. He received his PhD from the Princeton University, and his areas of research are multiphase flows, computational fluid dynamics, computer aided modeling of chemical, mineral, polymer and electrochemical processes, including fuel cells.

Congratulations to Dr. Hung and the LSU ChemE Car Team, who won the poster competition and won the award for the most creative driving system, at the 2011 Georgia Institute of Technology hosted the Southern Regional Meeting of AIChE. This outcome has secured them a place in the national competition in October.

Compliments go out to our numerous and extraordinary faculty and students for the outstanding research accomplishments. They have been awarded and recognized both nationally and internationally by institutions and companies and organizations like Dow Chemical, the American Chemical Society, and AIChE. This distinguished group of faculty and students and their many accomplishments serves to emphasize why our department ranks among the highest in our college and the *U.S. News and World Report*. The department had a successful ABET accredidation visit and a very useful internal review of both graduate and undergraduate programs.

I hope many of you were able to attend this year's second Albemarle Lecture Series on Sustainability. The guest lecturer was Dr. Paul Anastas, the assistant administrator for EPA's Office of Research and Development (ORD) and thescience advisor to the agency. Among his many accomplishments, he is also known as the, "Father of Green Chemistry." It was a wonderful discussion on the intersection of green chemistry, sustainability, and economic growth.

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. We are halfway toward 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 website and the LSU Forever Campaign website. 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 2011 and beyond. If you happen to visit Baton Rouge, please stop by the department.

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



# A Word of Thanks

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 top left image on the cover is from the research work of Dr. Kalliat Valsaraj and Dr. Louis Thibodeaux. The image is an illustration of sea floor leak and oil fate processes from the BP Blowout (DOI: 10.1089/ees.2010.0276). The top right image is rendering of the 4 inch cap assembly for the 2011 AIChE Southern Regional Meeting. The bottom left image is, at the spring 2011 graduation reception. The bottom right image is a 3D model system based on ordered mesoporous catalyst support, coupling high precision in (colloidal) preparation, (e.g. electron tomoagraphy) characterization and modeling (G. Prieto, K.P. de Jong, P.E. de Jongh, "Nanoconfinement of Cu/ZnO nanoparticles in a caged Im-3m SiO2 mesostructured: towards sintering-stable methanol synthesis catalysts", NCCC VII, March 2011 (The Netherlands). D. Stellwagen, A. Weber, C. Kumar, "A simply strategy for obtaining Au38 clusters stabilized by different thiols", MRS Fall Meeting, Boston, Nov 2010.).

***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:

# New Cain Chair: K. Nandakumar

The Department would like to welcome Dr. K. Nandakumar who has joined our department as the second Gordon A. and Mary Cain Chair in Chemical Engineering. He came to LSU in August 2009 after having served for two years as the GASCO Chair Professor in the Chemical Engineering Program at The Petroleum Institute (PI) in Abu Dubai, United Arab Emirates. Prior to joining PI, Dr. Nandakumar spent more than 20 years in the Department of Chemical & Materials Engineering at the University of Alberta, Canada.

Dr. Nandakumar is an internationally recognized scientist who has served as a visiting professor and researcher to various international institutions. His research interests include: computational fluid dynamics, CFD modeling of multiphase flows as applied to the oil industry, CFD modeling of separation processes, modeling of solid oxide fuel cells and modeling of polymer processing operations, and bifurcation phenomena. Since 2005, he has served as editor of the Canadian Journal of Chemical Engineering. In 1991, he was elected fellow of the Chemical Institute of Canada. Then, in 2007 was elected fellow to both the Engineering Institute of Canada and the Canadian Academy of Engineering. In 2008, he was elected as a member of the World Council of Chemical Engineers.

Additionally in 2008, Dr. Nandakumar was the recipient of two other distinguished Canadian honors. He received the Frank Spragins Technical Award, which is given by APEGGA SUMMIT Awards to an individual in recognition by peers of integrity, expertise and outstanding accomplishments in the field of engineering. Then the Canadian Society for Chemical Engineers presented him with the RS Jane Memorial Award. This award is presented annually to an individual who has made significant contributions to chemical engineering or industrial chemistry in Canada.

Dr. Nandakumar has published more than 135 publications in peer-reviewed journals and has more than 125 conference presentations. In addition, he has given more than 25 invited presentations to industry, universities, and government labs around the world.

He received his BS from Madras University, India (1973), his MS from the University of Saskatchewan, Canada (1975), and his PhD from Princeton University (1979), all in chemical engineering.

**Chemical engineering professor tapes lectures, discourages note taking**
**Students better able to participate**
**By Celeste Ansley**
**Staff Writer, The Daily Reveille**
Published: Monday, April 25, 2011
Updated: Monday, April 25, 2011 21:04

Note taking is not encouraged in one chemical engineering class at the University, and the concept could spread to others in coming years.

Krishnaswamy Nandakumar, chemical engineering professor, tapes his lectures and posts notes made before class and supplemental notes made during class to encourage his students to forgo note taking during class.

“It’s effective in providing additional help outside the classroom,” Nandakumar said.

Nandakumar said class attendance hasn’t decreased, but visits to his office have.

“They come to class because they find value in it,” Nandakumar said.

Pritishma Lakhe, chemical engineering junior, said Nandakumar’s class is demanding, and students still attend despite the lectures being online, especially compared to her other classes.

“The videos are supplemental,” Lakhe said.

Nandakumar said he encourages students to “listen, pay attention and participate” during class instead of taking notes.

It takes 10 minutes before class to set up the equipment and about 30 minutes after class to upload the videos and notes, Nandakumar said.

“Whatever I write on the white board, I capture and put online,” Nandakumar said.

Nandakumar said he can monitor how many students are viewing his lectures, and the number is quite high.

Lakhe said she watches the videos to help with exams, assignments and homework.

Lakhe said the supplemental material can also help students when they miss a class.



# Faculty Highlights

Nandakumar said he created a class YouTube channel to post a version of the lecture and has received feedback from viewers in Europe.

According to the YouTube channel, the videos have anywhere from eight to 150 views this semester and nine subscribers.

Nandakumar said data shows students’ attention spans decrease after 15 minutes, and students can watch the videos to catch segments they may have missed while dozing off.

Nandakumar said this style of teaching is becoming popular with websites like academicearth.com.

T. Gilmour Reeve, vice provost for Academic Affairs, said the technology in classes today was not common 10 years ago.

“Students may not appreciate it as much as those who taught with chalk and a blackboard,” Reeve said.

Reeve said technology considered innovative in classrooms today probably won’t be in a few years.

Reeve said professors should take caution in making sure the innovative technology is facilitating learning and applies to the class content.

Lakhe said she believes if this method of teaching were used in general education classes, attendance might decrease.

“I’m an engineering major, and most classes are hard and demanding,” Lakhe said.

**Congratulations to Karsten Thompson, who was awarded the 2011 Dow Chemical Excellence in Teaching Award.**

This award is funded by the Dow Chemical Company and is voted on by all of the juniors and seniors in our undergraduate courses. The other finalists this year were Michael Benton and Carl Knopf. The award was handed out at a small department ceremony, held on April 26, and attended by department faculty and students.

Also, during the ceremony, awards were given to students receiving special honors. Angela Juncker is the recipient of this year’s Jesse Coates Award, for which she receives an engraved LSU watch from the department. Other awards given were for those students completing the program in four years and the 2010 highest GPA junior award, which went to Ryan Pazdera.

**2010 College of Engineering Promotions and Appointments**

Dr. John C. Flake - Associate Professor with Tenure, Gordon A. & Mary Cain Department of Chemical Engineering (ChE), AoS: microelectronic devices, semiconductor processing

**The department would like to congratulate James Henry and Mike Benton.**

Both are recipients of a 2010 Tiger Athletic Foundation Undergraduate Teaching Award. The award, which is a one-time $1,000 cash award, recognizes faculty who have been selected as outstanding teachers within their own colleges. They will be recognized, along with the other three winners from the college, at this year’s annual LSU Distinguished Faculty Awards Reception.

**ChE Assistant Professor partners with LSU Biologist and industry to develop the most effective soft fishing lure available**

Assistant Professor James Henry partnered with Professor John Caprio of the Department of Biological Sciences and Mystic Tackleworks to develop Attraxx with Sci-X, a scientifically designed soft bait that preys on fish sight, smell and taste. Henry, who is an expert in composite materials, developed the matrix needed to effectively hold the chemicals used to create the Sci-X and effectively release those chemicals into the water. For the full story, read the the LSU Media News article: “LSU Biologist, Chemical Engineer Partner with Industry to Develop Most Effective Soft Fishing Lure Available.”

Professor James Henry is featured in *The Daily Reveille* article concerning research into creating bone scaffolds: “Student researches affordable way to grow new bones.”

# Faculty Awards

After more than 40 years of service to LSU, Prof. **Ralph Pike** retired following the completion of the fall 2010 semester. While he has retired from teaching duties, he still remains active in research within the department and as director of LSU's Mineral Research Institute. To honor his teaching service, the department held a retirement party for him and presented him with a signed and framed LSU print.

**Jerry Spivey** and **Mary Wornat** were both named as 2009 Rainmakers by LSU. "Rainmakers" are those faculty members who are nationally and internationally recognized for innovative research and creative scholarship, compete for external funding at the highest levels, and attract and mentor exceptional graduate students.

**Karsten Thompson** was awarded the 2011 Dow Chemical Excellence in Teaching Award. This award is funded by the Dow Chemical Company and is voted on by all of the juniors and seniors in our undergraduate courses. The other finalists this year were **Michael Benton** and **Carl Knopf**. The award was handed out at a small department ceremony, held on April 26, 2011, and attended by department faculty and students.

Sharon Hulgan (center) awards the Dow teaching award to Prof. Wetzel (second from left), also pictured Prof. Hung (left), Prof. Dooley (second from right), James Kirk Rollins-AIChE 2010 president (right)

**David Wetzel** has won two teaching awards over the past year. In April 2010, he was awarded the Dow Chemical Excellence in Teaching Award. This award is voted on by all juniors and seniors in our undergraduate class; the other two finalists for 2010 were **Francisco Hung** and **Kerry Dooley**.

In 2011, Wetzel was one of five engineering faculty who was awarded the Tiger Athletic Foundation Michael R. Mangham College of Engineering Memorial Teaching Award. The recipients were recognized at this year's annual LSU Distinguished Faculty Awards Reception, which was held on Tuesday, April 26, at the Lod Cook Alumni Center.

**Louis Thibodeaux** has garnered attention recently for his ongoing research in the area of chemodynamics and oil dispersion. On March 18, 2011, he was the guest speaker for a seminar held by the LSU School of the Coast and Environment, as part of a weekly seminar series they offer during the academic year. The seminar titled, "Spilled Oil: Rise, Sink, or ???? An Oil Droplet Chemodynamic Behavior Experiment, Data & Model," was held in the Dalton Woods Auditorium of the ECE Building.

Also, Thibodeaux was featured in an article in *The Advocate* concerning his research on the fate of oil in deepwater leaks, such as the Deepwater Horizon oil spill last summer: "Oil dispersion researched." It appeared in the February 19, 2011, issue.

**Louis Thibodeaux and Kalliat Valsaraj**, along with co-authors Vijay John, Kyriakos Papadopoulos, Lawrence Pratt, and Noshir Pesika from Tulane University, published an article, "Marine Oil Fate: Knowledge Gaps, Basic Research and Development Needs; A Perspective Based on the Deepwater Horizon Spill." The article appeared in the February 1 issue of *Environmental Engineering Science* and describes a perspective on the spill and the tools needed to model and predict the environmental fate and impact of the oil and chemical dispersant (similar to those found in the BP Deepwater Horizon oil spill).

The article identifies three major areas lacking in information: too little information about oil and gas release processes in deepwater; no one knows where material released in the deep actually goes; and no one fully understands the ecological impacts this material has on the Gulf of Mexico.

Because of these gaps of knowledge in the scientific community, there are no mathematical tools for forecasting or projecting oil release or fate after the Deepwater Horizon blowout.

"It seems a bit ironic to me that the purpose of dispersants is to keep a large fraction of oil off the surface and shoreline, yet engineers and scientists are virtually clueless as to how much is delivered to the deep and how it impacts the marine ecology," said Thibodeaux, Jesse Coates Professor of Chemical Engineering at LSU. "Having a verified theoretical model available for forecasting the fraction of oil staying deep would aid in closing the mass balance to answer the question, 'Where does it all go?'"

The article concludes that existing models should be modified to address deepwater spills, and that much more research should be focused on water column and bed sediment processes so that they can be quantified and entered into refined models.

Other research collaborations between Valsaraj and Thibodeaux have garnered attention in recent months. In 2010 they, along with their research team, were featured in a perspective video for the American Chemical Society. The video is part of a special feature by ACS and is in conjunction with their article, "On the Physicochemical Aspects of the Global Fate and Long-Range Atmospheric Transport of Persistent Organic Pollutants" that was published in issue 11 of the Journal of Physical Chemistry Letters in May 2010.



# Department News

During the past year **Kalliat Valsaraj**, department chair and professor, has garnered many awards and distinctions. He has received national exposure on numerous occassions for his ongoing research in the field of environmental chemical engineering, specifically separations processes and atmospheric chemistry.


A paper, "Computational Investigation of the Influence of Surfactants on the Air-Water Interfacial Behavior of Polycyclic Aromatic Hydrocarbons," (co-authored by Collin D. Wick and Bin Chen) appeared on the August 2010 cover of the *Journal of Physical Chemistry C*, which has one of the highest impact factors (4.224). And, his collaborative research with Louis Thibodeaux into modeling the fate of oil dispersion as was seen in the BP Deepwater Horizon oil spill, has been published in *Environmental Engineering Science.*

In 2010, he was elected to the rank of AAAS Fellow. The American Association for the Advancement of Science (AAAS) is an "international non-profit organization dedicated to advancing science around the world by serving as an educator, leader, spokesperson and professional association. In addition to organizing membership activities, AAAS publishes the journal *Science*, as well as many scientific newsletters, books and reports, and spearheads programs that raise the bar of understanding for science worldwide." Each year the Council elects members whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished. He received a certificate and a rosette during the AAAS Fellows Forum, as part of the Association's Annual Meeting in San Diego, on February 20, 2010.

Then, in February 2011, he was appointed as a founding associate editor of the *International Journal of Chemical Research*. This journal aims to publish all the latest and outstanding research articles, reviews and letters in all areas of chemical research.

And, most recently, Valsaraj was awarded the **LSU Rainmaker's Senior Scholar Award**. The Rainmaker awards are coordinated through the LSU Office of Research & Economic Development, with the support of Campus Federal Credit Union. They are awarded to those faculty members who are nationally and internationally recognized for innovative research and creative scholarship, compete for external funding at the highest levels and attract and mentor exceptional graduate students.
The Rainmakers reception was held on Tuesday, April 26, in the LSU Faculty Club.


More specifically, the Rainmaker's Senior Scholar Award is recognition for a faculty member whose work is comparable to the quality of that considered for the Distinguished Research Master award or Boyd Professor designation. This award is typically reserved for a faculty member who has been promoted to full professor and has exhibited a sustained program of excellence as measured by significant contributions to the faculty member's field of research or creative activity in the same previous criteria. Valsaraj received a one-time stipend of $1,000 and a plaque. Other 2011 Rainmakers included: Bijaya Karki, associate professor of computer science who received the Rainmakers Mid-Career Scholar Award; and, Graham Bodie, assistant professor of communication studies, and Bryan Carstens, assistant professor of biological sciences, who both received the Rainmaker's Emerging Scholar Award.

**Prof. James Spivey** has been named the new editor-in-chief to the publication, *Catalysis Today*. *Catalysis Today* publishes special issues only. The journal focuses on the rapid publication of original invited papers devoted to currently important topics in catalysis and related subjects. We congratulate him on this outstanding achievement.

Prof. James Spivey is co-editor of a book titled, *Fuel Cells: Technologies for Fuel Processing*, which is being published by Elsevier. Spivey has edited the book with with Dushyant Shekhawat and David Berry of the Department of Energy, and has also written one of the chapters in the book.

The book covers all aspects of fuel processing including, but not limited to: fundamental chemistry, different modes of reforming, catalysts, catalyst deactivation, fuel desulfurization, reaction engineering, novel reforming concepts, thermodynamics, heat and mass transfer issues, system design, and recent research and development. Spivey's chapter (10) is titled, "Deactivation of Reforming Catalysts."

According to the abstract, the book can serve as a single source of information for scientists and engineers. In addition, it would be an excellent self-instruction book for those new to fuel cells as well as a comprehensive resource for experts in the area of fuel processing. Furthermore, it can be used as a resource tool in university courses.

For more information concerning this book, please visit Fuel Cells: Technologies for Fuel Processing on the the Elsevier website.

# In Memoriam

Professor **Clayton D. Callihan**, who served as a professor in the Cain Department of Chemical Engineering from 1963 to 1981, passed away in Florida on July 7, 2010, at the age of 91.

Here is an excerpt from an article about Dr. Callihan which was published in the Spring 2001 issue of the LSU Chemical Engineering Alumni Newsletter:

"Many alumni who attended LSU Chemical Engineering between 1963 and 1983 should remember Dr. Clayton Callihan. Much of his research focused on finding new sources of energy, mainly from organic substances; spending the fall of 1980 at Lincoln College in New Zealand to participate in a pilot program to convert fodder beets to alcohol, and even experimenting with the conversion of potato canning wastes to methane fuel.

Dr. Callihan remembers his 20 years at LSU with fondness, especially the dedication of his students. He says that someone once asked how his students studied under him, and he replied, "Heck, they study without me!" He recalls the students at LSU as some of the nicest he had ever met, and enjoyed working and playing with them while he was here.

After leaving LSU, Dr. Callihan spent 12 years involved in expert witness testimony for various companies. Then he says in 1995, he "threw in the towel" and retired to Florida, where he and his brother started a company that manufactured fiberglass re-bars for cement reinforcement in wet and humid climates."

Professor Callihan was much loved and will be well-remembered by those who knew him. The department sends its deepest condolences to his family and friends.

**Frank Roche Groves Jr.**, 81, a native of New Orleans and a resident of Baton Rouge, passed away Sunday, Feb. 14, 2010.

He was a professor of chemical engineering at LSU from 1958 to 2003.

A memorial scholarship will be established in his name in the Department of Chemical Engineering.

Here is an article from the LSU News highlighting Dr. Groves in establishing the Groves-Hodges Professorship of Engineering:

**Groves establishes professorship**
Ronald Brown
LSU News Service
12/02/1999

Frank M. Groves, the Paul M. Horton professor emeritus in the Department of Chemical Engineering, has, along with his wife, Margaret, established the Groves-Hodges Professorship of Engineering.

Groves joined the LSU faculty in 1958 and was active in work as diverse as NASA's ramjet engine, carbon black for use in tires and sugar refining. He completed 20 research grants while on the faculty and published 58 refereed articles in his field.

Former dean of the College of Engineering and one-time chair of the Department of Chemical Engineering, Edward McLaughlin, said of Groves, "He was, and is, a superior teacher who often told the department chairman to let the other professors pick the courses they want to teach, and he would take what was left."

Groves received the Halliburton Award for Excellence in Teaching in 1967 and received the award of Outstanding Educators of America in 1973. He was a member of the American Institute of Chemical Engineers, the Louisiana Engineering Society, the Instrument Society of America and the American Society for Engineering Education.

A native of New Orleans, Groves received his bachelor's and master's degrees from Tulane University and his doctorate from the University of Wisconsin. Before joining the LSU faculty he spent four years in industry.



# DoE EFRC Established at LSU

EFRC, headed by Prof. Jerry Spivey, and CAMD are the subject of an article on catalysts for green energy that is appearing in the current issue of *Chemistry World*. Please read the full article.

LSU Media Center News:
**DOE to Establish $12.5 Million Energy Frontier Research Center at LSU**
**Professor Jerry Spivey to head effort to find clean energy**
Ashley Berthelot
LSU Media Relations
05/01/2009 09:25 AM

BATON ROUGE – LSU will be home to one of 46 new multi-million-dollar Energy Frontier Research Centers, or EFRCs, announced by the White House in conjunction with a speech delivered by President Barack Obama at the annual meeting of the National Academy of Sciences.

The EFRCs, which will pursue advanced scientific research on energy, are being established by the U.S. Department of Energy Office of Science at universities, national laboratories and nonprofit organizations across the nation.

The DOE plans to fund LSU's EFRC, headed by Jerry Spivey, McLaurin Shrivers Professor of Chemical Engineering, at a level of $12.5 million, payable over five years. The Board of Regents is also supporting the EFRC with approximately $940,000 in additional funds.

"As global energy demand grows over this century, there is an urgent need to reduce our dependence on fossil fuels and imported oil and curtail greenhouse gas emissions," said Secretary of Energy Steven Chu. "Meeting this challenge will require significant scientific advances. These centers will mobilize the enormous talents and skills of our nation's scientific workforce in pursuit of the breakthroughs that are essential to make alternative and renewable energy truly viable as large-scale replacements for fossil fuels."

The 46 EFRCs, to be funded at $2-5 million per year each for a planned initial five-year period, were selected from a pool of some 260 applications received in response to a solicitation issued by the U.S. Department of Energy Office of Science in 2008. Selection was based on a rigorous merit review process utilizing outside panels composed of scientific experts.

LSU's EFRC is titled "Computational Catalysis and Atomic-Level Synthesis of Materials: Building Effective Catalysts from First Principles." It will be housed in LSU's Cain Department of Chemical Engineering and will rely heavily on LSU's own synchrotron radiation facility, the Center for Advanced Microstructures and Devices, or CAMD, for synthesis and characterization of novel nanostructured catalysts.

"This project brings together 21 investigators from nine institutions," said Spivey. "Our goal is to advance the emerging field of computational catalysis with experimental and spectroscopic methods, like those available at LSU's CAMD synchrotron facility, to develop new materials that can help provide clean energy."

Spivey also points out that researchers involved with this project will come from around the world to collaborate with LSU researchers and utilize CAMD for research applications. "Simply put, I don't believe we would have received this funding without having a resource like CAMD in our backyard," he said.

EFRC researchers at other centers throughout the United States will take advantage of new capabilities in nanotechnology, high-intensity light sources, neutron scattering sources, supercomputing and other advanced instrumentation, much of it developed with DOE Office of Science support over the past decade, in an effort to lay the scientific groundwork for fundamental advances in solar energy, biofuels, transportation, energy efficiency, electricity storage and transmission, clean coal and carbon capture and sequestration and nuclear energy.

"This is a resounding endorsement of the type of world class research being performed at LSU. The fact that LSU has cutting edge research facilities like CAMD and the Center for Computation and Technology, and outstanding research faculty like Professor Spivey and his colleagues, makes us competitive with some of the country's leading research universities and laboratories," said Vice Chancellor of Research and Economic Development Brooks Keel. "It is also a clear statement that our students are receiving first-rate education and training opportunities from nationally recognized experts and in fields of science and engineering of global importance."

Other professors who are part of the LSU team include:

* Kerry Dooley, BASF Professor of Chemical Engineering
* John Flake, Associate and Cain Professor of Chemical Engi neering;
* Gregory Griffin, George H. Nusloch II Professor of Chemical Engineering;
* Challa Kumar, Director of Nanofabrication & Nanomaterials at CAMD;
* Richard Kurtz, professor of physics;
* Ward Plummer, special assistant to the LSU Vice Chancellor of Research and Economic Development; and
* Phillip Sprunger, associate professor of physics and astrono my.

# DoE EFRC Established at LSU

The LSU EFRC will also bring together the expertise of scientists and engineers from other institutions, including:

* Phillip Sprunger, associate professor of physics and astrono my.
* James G. Goodwin Jr., professor and chair of the Department of Chemical & Biomolecular Engineering at Clemson University
* David Bruce, associate professor of chemical and biomolecular engineering at Clemson University
* D. Wayne Goodman, Robert A. Welch Chair and Distinguished Professor in the Department of Chemistry at Texas A&M
* Susan B. Sinnott, professor of materials science and engi - neering at the University of Florida
* S. R. Phillpot, professor of materials science and engineering at the University of Florida
* A. Asthagiri, Dow Chemical Company Foundation Assistant Professor of Chemical Engineering at the University of Florida
* Tabbetha Dobbins, assistant professor of physics at Louisiana Tech University and Grambling State University
* Ulrike Diebold, professor of physics at Tulane University
* David Sholl, The Michael E. Tennenbaum Family Chair & GRA Eminent Scholar for Energy Sustainability at Georgia Tech
* Ye Xu, Oak Ridge National Laboratory
* Krijn de Jong, chemistry professor, Utrecht University, the Netherlands
* J. H. Bitter, chemistry lecturer at Utrecht University
* P.E. de Jongh, assistant professor of chemistry at Utrecht University

"The leadership shown by Jerry Spivey and the generous support of the Department of Energy and the Board of Regents just underscore the quality of research our university generates every single day," said LSU Chancellor Michael Martin. "Our researchers depend on external resources to supplement and advance their individual projects, but the university depends on state funding to sustain the faculty on a day-to-day basis. The payoffs for Louisiana are enormous."

Of the 46 EFRCs selected, 31 are led by universities, 12 by DOE National Laboratories, two by nonprofit organizations and one by a corporate research laboratory. The criterion for providing an EFRC with Recovery Act funding was job creation. The EFRCs chosen for funding under the Recovery Act provide the most employment for postdoctoral associates, graduate students, undergraduates and technical staff, in keeping with the Recovery Act's objective to preserve and create jobs and promote economic recovery.

Jerry Spivey (ChE) and Challa Kumar (CAMD) speak to juniors at Baton Rouge High School concerning LSU's new EFRC.

On May 18, 2010, Jerry Spivey (ChE) and Challa Kumar (CAMD) made a presentation to juniors at Baton Rouge High School on LSU's new Energy Frontier Research Center (EFRC). Dr. Kumar will oversee the "EFRC Young Fellows" program to engage these students in the research activities of the Center.

*Excerpt from LSU Media Relations:*
**Several LSU Programs Ranked in 2011** *U.S. News & World Report's* **"America's Best Graduate Schools"**
**Ernie Ballard**
**LSU Media Relations**
**04/15/2010 04:18 PM**

The LSU College of Engineering's ranking among public institutions is 64, while it ranked 99 overall in the "Best Engineering Schools" list, and it has several post-graduate programs ranked. LSU's chemical engineering program is ranked 52. For the "Best Engineering Schools" ranking, a total of 144 schools were ranked out of 198 programs surveyed.

"The College of Engineering is delighted to be ranked among the top public institutions, and are very proud of our chemical engineering department for being the highest ranked LSU program in the *U.S. News & World Report* 'Best Engineering Schools,'" said Rick Koubek, dean of the LSU College of Engineering.

Each year, *U.S. News & World Report* ranks professional-school programs in business, education, engineering, law and medicine. These rankings are based on two types of data: expert opinions about program quality and statistical indicators that measure the quality of a school's faculty, research and students. This information comes from surveys of more than 1,200 programs and some 12,400 academics and professionals that were conducted in fall 2009.

For more information, visit http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools.



# Seminar Series

## 2010-11 Departmental Distinguished Seminar Series

October 8
**Jeff Miller**
Researcher, Chemical Sciences and Engineering Division, Argonne National Laboratory
*X-Ray Spectroscopy in Catalysis Research: Application to Au Catalysts*

October 15
**Hank Ashbaugh**
Assistant Professor, Department of Chemical & Biomolecular Engineering
Tulane University
*Disentangling the Stability and Function of Natively Unfolded Proteins*

December 3
**Jennifer Curtis**
Professor, Department of Chemcial Engineering
University of Florida
*Using DEM to Develop Constitutive Models for CDF Simulations of Granular Flows*

January 21
**Raymond J. Gorte**
Russell Pearce and Elizabeth Crimian Heuer Professor, Chemical and Biomolecular Engineering
University of Pennsylvania
*Thermodynamic Properties of Oxidation Catalysts*

January 28
**Neil Donahue**
Professor, Department of Chemical Engineering
Carnegie Mellon University
*Organic Aerosol: Where Does it Come From and Where Does it Go? Or, Reactive Distillation at its Worst...*

May 9
**Jacob Masliya**
Distinguished University Professor Emeritus, Department of Chemical & Materials Engineering
University of Alberta
*Bitumen Production from Alberta Athabasca Oil Sands: Challenges and Opportunities*

## Albemarle Lecture Series

On March 18, 2011, the department hosted its second **Albemarle Lecture on Sustainability** with guest lecturer Dr. Paul Anastas whose seminar was titled, "Blue Planet, Green Chemistry, Black Bottom Line." He discussed the intersection of green chemistry, sustainability, and economic growth.

Dr. Anastas is the Assistant Administrator for EPA's Office of Research and Development (ORD) and the science advisor to the agency. Known widely as the "Father of Green Chemistry" for his groundbreaking research on the design, manufacture, and use of minimally-toxic, environmentally friendly chemicals, Dr. Anastas has an extensive record of leadership in government, academia, and the private sector.

At the time he was nominated by President Obama to lead ORD, Dr. Anastas was the director of the Center for Green Chemistry and Green Engineering, and the inaugural Teresa and H. John Heinz III Professor in the Practice of Chemistry for the Environment at Yale University's School of Forestry and Environmental Studies. Prior to joining the Yale faculty, Dr. Anastas was the founding Director of the Green Chemistry Institute, headquartered at the American Chemical Society in Washington, D.C. From 1999 to 2004, he worked at the White House Office of Science and Technology Policy, concluding his service there as the assistant director for the environment. Dr. Anastas began his career as a staff chemist at EPA, where he rose to the positions of chief of the Industrial Chemistry Branch, and director of the U.S. Green Chemistry Program.

The inaugural Albemarle Lecture on Sustainability was held on October 30, 2009, with guest lecturer Maureen F. Gorsen whose seminar was titled, "An Insider's View of the California Green Chemistry Program." Gorsen, a partner in the firm of Alston & Bird LLC where she focuses her practice on environmental compliance and land use, spoke on the State of California's Green Chemistry Program and described how it might impact young chemists and chemical engineers.

# AIChE News

On April 10, 2010, the LSU Student Chapter of the American Institute of Chemical Engineers (AIChE) once again attended and competed in the ChemE Car Competition at the Southern Regional Meeting of AIChE; it was hosted by North Carolina State University in Raleigh, North Carolina.

The car team placed second overall at that conference with their car Flyin' Hawaiian; the team from Florida received first place and the team from Puerto Rico-Mayaguez received third. The LSU team won first place in the poster competition and, once again, received the award for the most creative design. This second place win sent them to the national competition for the fourth straight year in a row, which was held in Salt Lake City, Utah, on November 7-12.

The members of the 2009-10 car team include the following students: Angela Juncker, Ryan Pazdera, Kevin Euggino, Adesua Eigbe, and Khiet Mai.

At the 2011 Southern Regional Meeting of AIChE, hosted by the Georgia Instiute of Technology in April 2011, our team won the poster competition and won the award for the most creative driving system. On top of that, the LSU team again placed second in the car competition (about six feet from the target distance), just behind the Puerto Rican team (about one foot from target). The 2010-11 is comprised of the following undergraduate students: Khiet Mai (team captain), Adesua Eigbe, Taylor James-Lightner, Aaron Senegal, Lindsey Compton, Amit Mishra, Roshan Pandey, Jeffrey Stansbury, Nicholas Virgets, Allison Belgard and Daniel Osorio. This strong performance clinched a spot for our team at the national competition this upcoming October in Minneapolis.

Tean *Flyin Hawaiian*, from left to right: Ryan Pazdera, Khiet Mai, Kevin Euggino, Angela Funcker, and Adesua Eigbe.

This year's car, *Heartburn*, uses common chemicals as fuels, namely Alka-Seltzer tablets, vinegar and water. The $CO_2$ generated by the reaction creates pressure, which drives the car engine. The distance is controlled by the number of Alka-Seltzer tablets used. No wonder they won the most creative driving system!

Francisco Hung continues to serve as the faculty for the ChemE car team. The students and Prof. Hung would like to thank all of the corporate sponsors who have generously provided funds in support of the car team over the past few years. They would like to especially thank Paul Rodriguez and Joe Bell, in the ChE Shop, for their invaluable knowledge and assistance in building the car.

Team *Heartburn*, from left to right: Taylor James-Lightner, Roshan Pandey, Prof. Hung,Aaron Senegal, Adesua Eigbe, Amit Mishra, Khiet Mai, and Lindsey Compton

The list below is an overview of the car teams' achievements in the past five years. As a side note, to earn a spot to compete in the national meeting, an institution must be one of the top three overall finalists at a regional competition. To earn a spot to compete in the world competition, an institution must be one of the top two finalists at the national competition.

2007 regional meeting
– placed second overall
2007 national meeting
– placed fourth overall

"Heartburn"

2008 regional meeting
– placed third and fourth overall
(2 cars were entered)
2008 national meeting
– placed second overall
2009 regional meeting
– placed third overall
2009 world competition
– placed second overall
2009 national meeting
– placed third overall
2010 regional meeting
– placed second overall
2011 regional meeting
– placed second overall



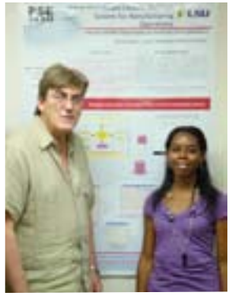
# Student Highlights

**Daira Aragon Mena** has been awarded the Charles E. Coates Outstanding Dissertation Award by the LSU Graduate School for 2009-10. Ms. Aragon received her PhD in chemical engineering in August 2009 and conducted her research under the direction of **Prof. Jose Romagnoli**.

Her dissertation, "Integrated Model-Centric Decision Support System for Process Industries," presents the conceptual definition of a single and consistent framework for integrated process decision support (IMCPSS) to facilitate the realistic formulation of related model-based engineering problems. Through the integration of data management, simulation, parameter estimation, data reconciliation, and optimization methods, this framework seeks to extend the viability of model-centric technologies within the industrial workplace.

The main contribution is the conceptual definition and implementation of mechanisms to ease the formulation of large-scale data-driven/model-based problems: data model definitions (DMDs), problem formulation objects (PFOs) and process data objects (PDOs). These mechanisms allow the definition of problems in terms of physical variables; to embed plant data seamlessly into model-based problems; and to permit data transfer, re-usability, and synergy among different activities.

The IMCPSS responds to the need for software tools centered in process engineers for which the complexity of using current modeling environments is a barrier for broader application of model-based activities. Consequently, the IMCPSS represents a valuable tool for process industries, as the facilitation of problem formulation is translated into incorporation of plant data in less error-prone manner, maximization of time dedicated to the analysis of processes, and exploitation of synergy among activities based on process models.



Daira (right) with Prof. Romagnoli, in front of a poster depicting her dissertation research.

The Coates Outstanding Dissertation Awards of $1,000 are awarded to LSU students in the departments of Chemical Engineering, Chemistry, or Physics and Astronomy. The criteria used to evaluate awardees includes: GPA, strength of support letters from student's committee members, anticipated impact of dissertation work, and originality of research. The award is one of four made possible by the Coates Fund, which assists full-time chemical engineering, chemistry, and physics doctoral students in their research. The other awards are for conference travel, research travel, and scholarly research work.

Daira currently holds a position as an assistant professor in the Department of Chemical Engineering at the Universidad de Antioquia, Medellin, Colombia.

**Matthew Daniel** and **Danica Nguyen** were two of 18 graduating seniors to earn the LSU Distinguished Communicators certification at the May 2010 commencement ceremonies. Students received their CxC medals at a special ceremony held on May 20.

The Distinguished Communicators program is organized by Communication across the Curriculum (CxC). This program helps students improve their written, oral, visual, and technological communication skills while earning their degrees. It is the only program of its kind in the nation, which provides students with the skills needed to be highly competitive in today's demanding marketplace. Following successful completion of the program, students will receive a special certification that will appear on their official transcripts. To earn certification, students must meet a series of requirements including: choosing a faculty advisor and meeting regularly to ensure timely submission of all components needed for certification; participation in an internship, service-learning, research, or study abroad experience; earning a 3.0 or higher in at least 12 C-I course hours; and, completion of an approved digital portfolio. The program was named the 2009-10 Program of Excellence by the Conference on College Composition and Communication.

Following are brief bios on Matt and Danica taken from the official LSU Press Release issued by LSU Public Affairs:

Matthew Daniel of Harahan graduated with a bachelor's degree in chemical engineering with a GPA of 3.95. His faculty advisor was Mike Benton. He has held several internships, most recently with TOTAL Petrochemicals as a project engineer. Daniel also served as Team Leader for the AICHE Car Team and led the team to the World Competition. Additionally, he served as president of Omega Chi Epsilon, the ChE Honor Society. Daniel also organized and captained an LSU intramural Dodge Ball team for two years in his free time.

Danica Nguyen of Harvey graduated with a bachelor's degree in chemical engineering with a minor in chemistry. Her advisor was Harry Toups. Nguyen has interned with both BP and Fluor working as a process engineering intern and process design intern. While having earned many awards and scholarships, she is most proud of recently being named a Tau Beta Pi Stabile Scholar. She is also an avid piano player and member of LSU Club Tennis. Nguyen plans to pursue a career as a process engineer and also earn her MBA and professional engineering license.

# Student Awards & News

**Andrew Bourgeois**, is a senior in chemical engineering. Andy is the recipient of a 2010-11 scholarship in the amount of $3,000 from the Louisiana Section of the Air and Waste Management Association. Over the past year, Andy has been conducting undergraduate research under the supervision of **Prof. Louis Thibodeaux**.

Two chemical engineering undergraduate students were recognized at the awards and recognition ceremony held by the LSU Honors College on November 7, 2010. **Matthew Stephen Fury** and **Olivia Grace Leblanc** were given Sophomore Honors Distinction, along with 62 other LSU students. In addition, Ms. Leblanc was named one of seven Honors College Outstanding Students for 2010. The department would like to congratulate both students for their outstanding academic achievements to date. We wish them continued success in their scholarly pursuits.

**Maoming Ren** was the winner of the 2009 AIChE Baton Rouge Section Best Dissertation award. The title of Ren's dissertation was *Photocalytic Reaction in Monolithic Optical Fiber Reactor with Inverse Opal Catalyst* and his advisor was **Prof. Kalliat Valsaraj**. He received his PhD in August 2009 and is currently working as a post-doctoral researcher in the research lab of **Prof. John Flake**.

**Franz Ehrenhauser** received a Coates Research Award and won best paper award at the 2009 International Society for Polycyclic Aromatic Compounds (ISPAC)

**Nimesh Poddar**, received the James E. Peters Fellowship at 33rd International Symposium on Combustion in 2010

**Debalina Sengupta** is the 2010 recipient of the Best Dissertation Award from the Baton Rouge Chapter of AIChE for her dissertation titled, *Integrating Bioprocesses into Industrial Complexes for Sustainable Development*. She was presented with a certificate and a check at the annual Coates Award Banquet on May 18, 2011, at the LSU Faculty Club. Ms. Sengupta received her PhD in chemical engineering from LSU in December of 2010. She conducted her PhD research under the supervision of **Prof. Ralph Pike**. She currently holds a position as a post-doctoral researcher for the EPA in Cincinnati.

AIChE students showcased the ChemE Car at the Louisiana State Capitol in April 2010 for LSU Day.

Some students wonder if the lessons they learn in the classroom will serve them well after graduation. One LSU senior chose to put her engineering classes to the test by interning this summer for Bayer Corp Science in Amatitlan, Guatemala to work in a quality control laboratory.

Because she is an international student, Rebecca Mejia was unable to find an internship in the United States, thus prompting her to look outside of the country. She found a wonderful opportunity in Guatemala. The internship lasted through the first half of her summer, but Mejia says she enjoyed working with Bayer because they focus on pharmaceuticals, a field she is interested in working in after graduation. Mejia exclaims, "Working in Guatemala was an incredible experience and a wonderful way to kick off my senior year here at LSU!"

Mejia, a native of Honduras, is studying chemical engineering with a double minor in chemistry and business. Though the internship was not obligatory, Mejia claims, "employers value experience when deciding who they are going to hire, so I wanted to make sure to gain practical knowledge before graduating." Funding for Mejia's trip was assisted through a scholarship from Halliburton, a company that rewards engineering students participating in internships outside of the United States.

During Mejia's internship she was introduced to different products that the specific plant produced. She also learned about the different parameters in order to determine varying PH quality levels and other aspects of the products. "I was able to use some of the engineering principles taught in class, but work is very different from the theory my professors often teach me," Mejia explains, "The internship was great because I was actually able to apply some of those theories and finally understand what my engineering professors were talking about!"

In Guatemala, Mejia also found time for civic engagement. While working at the plant, Mejia noticed that a majority of the employees did not speak English. After discussing it with her supervisor, she began using some of her time to teach those around her English. "I taught a class every day for about half an hour and distributed quizzes to the students each week to assure their learning development" explains Mejia.

Though Mejia was working to gain a better understanding of engineering, she was also able to give back to the community who was teaching her so much. "I received positive feedback from the class and my experience at the plant was superb," Mejia recounts, "It felt really good to be able to help those individuals at the plant learn English who had taught me so much about engineering."

*Article by Crystal Jackson, LSU College of Engineering, November 10, 2010*



# Commencement

## 2010-11 Scholarship Recipients

**Alan M. Raymond Endowed Scholarship in Chemical Engineering**
Robert Ingram

**Clara & Frank R. Groves, Sr. Undergraduate Scholarship in Chemical Engineering**
Daniel Sobie

**Citgo Petroleum Corporation Scholarship in Chemical Engineering**
Avery Cook III

**Gene Perdue Lowe Chemical Engineering Scholarship**
Kyla Babin
Joseph Bridges
Nicholas Kubiak
Michael Schulz
Matthew Stewart
Nicholas Virgets

**Gerard Family Undergraduate Scholarship**
Ryan Pazdera
Matthew Pittman
Aaron Smith

**Leo Broering Memorial Scholarship**
Ryan Pazdera

**Marathon Petroleum Scholarship in Chemical Engineering**
Joseph d'Aquin IV
Rachelle Kusch

**O. Dewitt Duncan Scholarship in Chemical Engineering**
Andrew Dawson
Kristen Eason
George Franklin III
Matthew Fury
Blake Pontiff

**Paul M. Horton Memorial Undergraduate Scholarship in Chemical Engineering**
Corey Fine
Rachelle Lancon

**Paul N. Howell Memorial Scholarship in Chemical Engineering**
Christopher Brown

## Summer 2010 Commencement

***Bachelor of Science in Chemical Engineering***
Rodrigo Abreu

***Master of Science in Chemical Engineering***
Dongxing Liu

***Doctor of Philosophy in Chemical Engineering***
Mia Dvora

Mia Dvora with her research advisor, James Henry at summer 2010 commencement.

## Fall 2010 Commencement

***Bachelor of Science in Chemical Engineering***
Michael Olusola Arowolo
Sarah Elizabeth Berry
Kristin Michelle Brassett
Kateryna Gliebova
Richard Daniel Hembree (*Cum Laude*)
Lethi Tran
Jesse Brutus Viator

***Master of Science in Chemical Engineering***
Ai Mau Nguen
David John Widenski

***Doctor of Philosophy in Chemical Engineering***
Sean Patrick Bagley
Pradeep Bhattad
Debalina Sengupta

Pradeep Bhattad (right) and his wife.

Debalina Sengupta (right) with her research advisor, Ralph Pike.

# Commencement

## Spring 2011 Commencement

***Bachelor of Science in Chemical Engineering***

Muddathir Muhammed Amin
Joshua Joseph Arnone
Noah Benjamin Baker
Heather Renee Ballard
Brandon Dale Bass
Joseph Carl Beck
Alicia Kaye Bergeron
Kristen Nicole Bischoff
Scott Joseph Bischoff
Mark Joseph Blanchard
Blaine Joseph Boatner
Timothy Joseph Cannon
Rebecca Lynn Chapman
Avery Levern Cook III (*Summa Cum Laude*)
Christine Elizabeth Craig
Augustin Zachariah Desselle
Jonas Trent Deville
Stephen Thomas Douglas
Cassandra Judith Barbara Duncan
Kristen Amy Eason
Kevin Claiborne Euggino
Wade Dexter Eveland
Andrew Michael Fairbanks
George Wilson Franklin III
Madeline Elizabeth Golson
Christopher Michael Gonzalez (*Magna Cum Laude*)
Catherine Alexis Grubb
Caroline Henao
Steven Maxwell Hurst
Robert James William Ingram

***Master of Science in Chemical Engineering***

Joel Niño Galvez Bugayong
Imran Latif Chiragh
Sarthak Gaur
Tejaswini Narayana

***Doctor of Philosophy in Chemical Engineering***

Nachal Devi Subramanian

Nachal Subramanian (left) with her reseach advisor, Jerry Spivey.

Caroline Elizabeth Jarrell (*Magna Cum Laude*)
Morris Anthony Jones
Angela Renee Juncker (*Cum Laude*)
lohn Rudolph Komidor
Weishi Kong
Ellen Marie Loe
Sean Michael Lou
Cedric Anthony McCall
Aaron Kyle McKinney
Rebeca Fabiola Mejia
Matthew Paul Molinar
Kiley Marie Mousetes
Jeffrey Lilburn Nelson
Giang Van Nguyen
Ryan Anthony Pazdera (*Summa Cum Laude*)
Matthew James Pittman
William Martin Riddle
Vincent C. Roco
Leesa Marie Rodrigue
Michael John Schulz
Aaron Michael Smith (*Cum Laude*)
Sean Thomas Somme
Matthew Wilson Stewart
Beverly Marie Suffern
Sophie Claire Sumrall
Jennifer Renee Sweet
Alan M. Verdin
Brandon Michael Vincent
Gerald William Vocke

### Departmental Awards

Two ChE students received the University Medal as well as the College of Engineering's McLaughlin Medal at the May 2011 commencement ceremonies.

**Avery Cook III** and **Ryan Pazdera** both graduated with a perfect 4.0 GPA.

**Angela Juncker** is this year's recipient of the department's Jesse Coates Award. The Coates Award is voted on by all ChE faculty and is given to a student who not only exemplifies excellent academic integrity but also leadership in extracurricular endeavors. Angela served as the president of the student chapter of AIChE for the 2010-11 academic year and has been active on the ChemE car team for three years, among other things. She was presented with an engraved LSU watch at the spring commencement reception held by the department on May 20.



# Alumni Donate to New Building

### Eidt Makes Generous Gift to Chemical Engineering

**Clarence M. Eidt, Jr., (B.S., 1956; M.S., 1962)** recenlty donated $600,000 to the department. A large portion of the gift ($500,000) will help fund the new Chemical Engineering Building, while the remainder will contribute to Eidt's two existing ChE professorships. This $100,000 portion is eligible for state match, thereby increasing the donation by $40,000.

When asked why he chose to donate to the College of Engineering, Eidt replied: "Having personally benefitted from the generosity of earlier alumni (with an out-of-state scholarship), it simply seemed appropriate for me to now do my part. I'm also convinced that a much stronger tradition of alumni support is critical to the College of Engineering and the chemical engineering department achieving ever higher levels of performance and recognition."

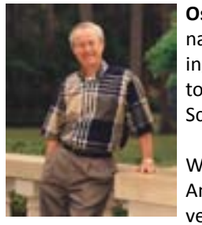
A native of Natchez, Mississippi, Eidt started his career in engineering in 1956 with Exxon's Research and Development Laboratories (ERDL) in Baton Rouge. In 1967, he relocated to the Houston headquarters of Exxon Company, USA (EUSA). In 1972, Eidt moved to Exxon Research and Engineering (ER&E) in Florham Park, New Jersey, to be assistant general manager of the Exxon Engineering Petroleum Department. In 1976, he was promoted to manager of Regional Planning in Exxon Corporation's Logistics Department in New York, and two years later he was promoted again to the parent company's Corporate Planning Department.

In 1980, Eidt made his return to ER&E as general manager of the Exxon Engineering Petroleum Department. He was promoted to vice president of Petroleum and Synthetic Fuels Research in December of 1982, a position he held until he rose to president of ER&E in October of 1993. He remained president until he retired in December of 1997 after 42 years of service with ExxonMobil. Over his time with Exxon, Eidt received multiple patents for technological advances in his field and authored several publications.

He is a member of the American Institute of Chemical Engineers, the American Petroleum Institute, and the Society of Automotive Engineers. Eidt was a chair of the LSU ChE Industry Advisory Board and was inducted into the LSU Engineering Hall of Distinction in 1985. With regard to LSU's role in his career in engineering, Eidt says: "In addition to acquiring a sound foundation in chemical engineering fundamentals, my experience with Department faculty sparked a life-long interest in technology and technology development. This was subsequently satisfied by a rewarding 42-year career with Exxon involved in industrial R&D and engineering work."

*Article by Colette Burke, LSU College of Engineering, November 13, 2009*

### Andras Makes Contribution to Building Fund



**Oscar "Dub" Andras (B.S., 1957)** has donated $200,000 to the Chemical Engineering Building Fund. Andras grew up in Baton Rouge, graduating from University High School in 1953.

When asked why he chose to attend LSU, Andras replied, "From my parents and University High School chemistry teacher, Dr. Harrison, I knew that to get a job with opportunity for growth, I had to get a college degree. From that beginning I chose ChE at LSU. Now, 52 years after graduation, I know this was one of the best decisions of my life. Through that time and many job opportunities, I kept remembering that this would not have happened if not for my degree from LSU."

A life-changing event happened in Andras' life upon his graduation from LSU: he married his childhood sweetheart, Mary Sisk, who grew up a few streets away from him. Mary attended LSU; her father owned Louie's Café on Chimes Street, an LSU landmark.

Upon completion of his degree in chemical engineering, Andras began working for Gulf Oil Company in Port Arthur, Texas. Following a year at Gulf Oil, Andras reported to the US Army to complete his six-month commission in the Chemical Corps. After completing his commission, he obtained a job at Dow Chemical Company in Plaquemine, LA, where Andras rose to lead the Hydrocarbon Department on a regional and global level. He retired from Dow after 22 years of service, and then served as President and CEO of Enterprise Products Partners in Houston. After 25 years with Enterprise, Andras retired in 2005. He and his wife currently live in Houston and like to travel and spend time with their two sons and their grandchildren.

"The department is especially grateful to Mr. Andras for his generosity," said Dr. K.T. Valsaraj, chair of the Cain Department of Chemical Engineering. "This gift will go a long way in helping make the new chemical engineering building a reality. A new building will help recruit excellent faculty and students to our department and will immensely contribute to the overall economic development of the State of Louisiana."

Regarding his generous gift to the College of Engineering, Andras said "After retirement in 2005, I felt a need to help the University. Some call it payback time. So, after a family review, we chose to contribute to the new Chemical Engineering Building Fund and know it will be a success for thousands of students."

*Article by Colette Burke, LSU College of Engineering, October 29, 2009*

# Alumni News & Awards

**Sharon Cole (BS, 1981)** was inducted into the 2009-10 College of Engineering Hall of Distinction, along with Gary Wooley (BS Mechanical Engr., 1969). The ceremony was held on April 8 at the LSU Faculty Club.

Cole is currently the site director for Dow Chemical in Plaquemine, La., and business manufacturing leader for the Chlor Vinyl Business. She began her career with Dow in 1981 as a production engineer in Plaquemine. In 1993, she served as production superintendent for Dow's Vinyl Chloride Monomer (VCM) Plant in Plaquemine. From 1998-2002 Cole moved to Freeport, Texas, to serve as the technology center manager for the Ethylene Dicholoride/ Vinyl Chloride Monomer Plant. In 2003 she was promoted as technology and research director for Dow Light Hydrocarbons, Aromatics, Butadiene, and Alpha Olefins. Then, in 2007, she returned to Louisiana to serve in her current position.

Sharon Cole (center) with CoE Dean Koubek (left) and Valsaraj (right)

Through the years she has continued to be active in University activities, serving on college boards, as a campus recruiter for Dow and, most recently, as a featured speaker at the Department's Centennial Celebration in 2008. She has also received numerous industry accolades, such as being recognized as a Baton Rouge Business Report Influential Woman in Business and, for three years in a row, being a featured executive in Baton Rouge's The Advocate New Year Economic Outlook.

Criteria for election into the Hall of Distinction include distinguished professorial achievement, dedicated service to engineering and outstanding humanitarian activities. Eligibility is not limited to LSU alumni, although it is expected that nominees will have had some connection with and shown interest in LSU. Nominations may be made by anyone and are solicited each year from alumni, faculty and friends of the college. Election to the Hall of Distinction is by a broadly constituted 10 member board of election, which reviews and acts on nominations.

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**Hongfei Lin**, a 2005 PhD graduate in chemical engineering, has recently been appointed as assistant professor in the Department of Chemical and Materials Engineering at the University of Nevada, Reno. Lin conducted his PhD research under the direction of Professor **Kalliat Valsaraj**. Another PhD graduate of Prof. Valsaraj also holds a faculty position. **Jing Chen**, who received her PhD in 2008, is on the faculty in the Department of Environmental Engineering at Beijing University of Science and Technology. This is one of China's premier universities.

**Ronald Rousseau (BS ChE, 1966; MS ChE, 1968; PhD ChE, 1969)** is the recipient of the 2011 Malcolm E. Pruitt Award from the Council for Chemical Research (CCR).

The Malcolm E. Pruitt Award recognizes the outstanding contributions to the progress of chemistry-related sciences and engineering by promotion of mutually beneficial interactions among universities, the chemical industry, and government. According to CCR, "Dr. Rousseau's interdisciplinary and international perspectives have greatly influenced research at Georgia Tech and around the world, and through his expertise and leadership he has promoted high-impact interaction among universities, government laboratories, and state and federal agencies."

Rousseau currently serves as the Chair for the School of Chemical & Biomolecular Engineering at the Georgia Institute of Technology. He is the co-author of one of the definitive chemical engineering textbooks that is still used in most introductory courses today, Elementary Principles of Chemical Processes, first published in 1978. He was the 1997 Chair of the CCR and has held numerous leadership roles in AIChE. He has testified before Congress to encourage increased support for NSF, and has worked in support of the Chemical Industry Vision 2020 Technology Partnership and the Agenda 2020 Technology Alliance.

Dr. Rousseau is also still active at LSU. He was recognized for his achievements by the college in 1991 when he was inducted into the College of Engineering Hall of Distinction. Last (but certainly not least), he is an active member of the department's Industrial Advisory Committee.

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**Honggao Liu**, who received his PhD in Chemical Engineering in 2002, was named the new Deputy Director for the LSU Center for Computation & Technology. Liu conducted his research under the supervision of **Karsten Thompson** and has worked in CCT since completing his PhD. His appointment was effective December 13, 2010, and he will serve as director until a replacement is selected.

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**Mike Achacoso (BS, 1989)** was recently named Vice President of Refining for Sinclair Oil Corporation. He now has overall management responsibilities for Sinclair's petroleum refining operations, as well as safety and environmental matters for the corporation. Mike has worked for over 21 years at several refining locations worldwide, including stints in Louisiana, Texas, Virginia, Montana, Singapore and Canada. He continues to reside with his family in Casper, Wyoming.



# Alumni News & Updates

After 15 years of service at Solomon Associates, LSU alumna **Claire Cagnolatti** (BS, 1978; MBA, 1982) has been promoted to vice president of chemical studies. Solomon Associates stands as the top performance improving company for the world energy industry. In her role as vice president of chemical studies, Cagnolatti will lead the company's dependable benchmarking studies in chemical manufacturing, as well as participate in individual consultations with petrochemical and refining clients.

When asked about the role LSU played in preparing her for her career, Cagnolatti replied, "My degrees from LSU gave me a unique perspective. I was able to see and understand both the technical side and the business side of the chemical industry in which I worked." She went on to say, " I surely didn't imagine that a girl from Gonzales, Louisiana, would be traveling the world advising the petrochemicals manufacturing companies around the world on how to improve their performance, nor did I ever dream I would be speaking at conferences and seminars around the globe. But that is exactly where my LSU degrees and my career have taken me."

With almost three decades of experience in the chemical/petrochemical manufacturing industry, Cagnolatti is a valuable addition to the management of Solomon Associates. Before joining this company in 1994, she worked for 14 years in chemical and petrochemical plant operations for such companies as Occidental Chemical Company, Allied Corporation, and Stauffer Chemical Company. Since 2002, Cagnolatti has presented over a dozen technical papers on various topics like energy and greenhouse gas emissions as well as plant maintenance and reliability. She also serves on several committees at LSU, including the advisory committees for the COE Office of Diversity as well as the Department of Chemical Engineering. She is the Dallas Regional Committee Chair of the Forever LSU Campaign Cabinet and she is a part of the Band Hall Task Force, which spearheaded the campaign for the new Band Hall at LSU.

*Article by Colette Burke and Crystal Jackson, LSU College of Engineering, February 4, 2010*

**W. David Constant (BS, 1977; MS, 1980; PhD, 1984)**, Humphreys T. Turner Professor of Civil and Environmental Engineering at LSU, was named dean of the LSU Graduate School in March 2010; Constant had been serving as the interim dean of the Graduate School since May 2009. LSU Executive Vice Chancellor and Provost Astrid Merget recommended Constant for the position to Chancellor Michael Martin, who concurred with the decision. Her recommendation came after a search committee identified two finalists, who both made presentations to the campus community.

Constant joined the LSU faculty as an assistant professor in 1984 and rose through the ranks to become a full professor, teaching in the departments of petroleum engineering, chemical engineering, and civil and environmental engineering. At LSU, he has served as the director of the Hazardous Waste Research Center; as the director of the U.S. Geological Survey Louisiana Water Resources Research Institute; as the acting director of the Remote Sensing and Image Processing Lab & Institute for Recyclable Materials; as the coordinator for the environmental engineering program; and as associate dean and interim dean of the College of Engineering.

He has taught a wide range of engineering courses at LSU; has served as a mentor and advisor for a number of LSU engineering students; has been sought as a consultant by more than 15 private corporations and entities; and is a member of multiple professional organizations in the engineering disciplines.

Constant has received numerous engineering and teaching awards, is a member of several engineering honor societies and has been widely published in numerous academic journals. He has authored or co-authored seven book chapters, has directed dozens of theses and dissertations for LSU students and has been appointed to a number of university committees and councils over the 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.

Armando Abay (BS, 1948)
George W. Adams (MS, 1961)
Byron Bacas (BS, 1969)
Grant Boardman (BS, 1949)
Thomas Boggess (BS, 1936)
Ferdinand Brenner (BS, 1950)
Robert Bujol (BS, 1943)
Jesse Coates, Jr. (BS, 1964)
Kenneth Clem (MS, 1973; PhD, 1977)
Francis Cole (BS, 1939)
James Coleman (BS, 1948)
Jeptha Day (BS, 1948)
Donald Denham (BS, 1975)
Richard Foster (BS, 1948)
Albert Fox (BS, 1948)
Robert M. Hansen (BS, 1950; PhD, 1955)
Lee Heroman (BS, 1937)
James Holland (BS, 1961)
Nels Christian "Chris" Kjeldsen (BS, 1986)
Bernard Landry (BS, 1952)
Pascal Law (BS, 1950)
Clovis Legleu (BS, 1962)
Thomas Linder (BS, 1948; MS, 1950)
James Allison Luker (BS, 1944)
Mark "Speedy" Malhiet (BS, 1986; MS, 1989)
Kenneth W. Otto (BS, 1952; MS, 1953)
Randy P. Roussel (BS, 1986)
Eugene A. Rozas (BS, 1951)
Travis P. Sandidge (BS, 1948)
Albert J. Soday (BS, 1950)
Byron O. Wilkins (BS, 1947)
Walter R. Young (BS, 1967)

***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!***

## 1970s

Charles D. Fournier (PhD, 1970) currently serves as Executive President at John H. Carter Co., based in Metairie, Louisiana. John H. Carter is a distributor of control valves, control systems and instrumentation with offices in Louisiana, Mississippi, Alabama, and Florida. Charlie and his wife, Joy, enjoy travel (especially in England), boating, and spending time with their grandchildren.

Russell R. Medley (BS, 1970) retired in September 2009, from the U.S. Army Space & Missile Defense Command as a program manager. He founded Mustard Seed Ministries in 2000, an organization which employs African preachers to teach the Bible in school assemblies in Africa. He acquired a MA in theology in 2007. He sends out a one page Bible study, online, weekly; if you would like to receive this, email him at russmsm@gmail.com. Also, he has been active in jail ministry since 1970 and teaches the Bible at Boys and Girls clubs in the Huntsville, Alabama, area.

James W. Turner (BS, 1976) retired from Monsanto in August 2009.

## 1980s

Kevin Boyle (BS, 1985) is the President and CEO of Columbian Chemicals, which is based in Marietta, Georgia.

James Maness (BS, 1984) is the mill mananger for Packaging Corporation of America at the Counce Mill in Counce, Tennessee.

Pamela A. Mitchell (BS, 1983) has been a project engineer for the past 25 years working for various operating companies (Rhodia, Enterprise Products, Lyondell Petrochemicals, Air Products, Koch Hydrocarbon) as well as EPC firms (Fluor, Foster Wheeler, Technip, GDS Engineers). Currently employed as an independent consultant for Dynamic Industries, Inc. in Lake Charles (modular fabrication of pipe racks and process units). Her permanent home is in Houston. She is also the director of a self-formed non-profit animal rescue organization (www.PetsRelyOnPeople.webnode.com) and currently houses 35 dogs, five cats, and three peacocks; donations are welcome.

Robert L. Raborn, Jr. (BS, 1982) is an alliance manager for Shell/Motiva and Jacobs Engineering.

Keith Van Winkle (BS, 1980) is currenlty self-employed and living in Silsbee, Texas.

## 1990s

Eugene “Sonny” Bringol (BS, 1991) serves as president and mortgage banker for Victorian Finance in the Pittsburgh area. In 2010, he was voted a *Five Star Mortgage Professional* by *Pittsburgh Magazine*.

Erick Comeaux (BS, 1997) is a manager in Engineering & Technical Services for Williams and the owner of Santa’s Toy Emporium, which is located at 8210 Jefferson Highway in Baton Rouge.



Alumni News & Updates

Linette Dutari (BS, 1995) is a professional development advisor for ExxonMobil Global Fuels Marketing in Fairfax, Virginia.

Samuel Michaelson (BS, 1995) is an engineer at Ashland Chemicals.

Adrian Sherrill (BS, 1996) is an attorney with Alleman, Hall, McCoy, Russell & Tuttle LLP, in Portland, Oregon.

Robert Wight (BS, 1996; MS, 1999) is currently employed with ExxonMobil at the Baytown refinery as a process design engineer.

## 2000s

Elizabeth Deshotel Brunet (BS, 2005) is a control systems engineer with the Shell Chemical Company in Baton Rouge.

Scott Crowell (BS, 2002) is currently an operations manager of Polysilicon Refinery with AE Polysilicon Corporation in Fairless Hills, PA. He has been married for 10 years and has four wonderful children (ages: 8, 5, 3, and 2 months). He is enjoying life in the beautiful northeast U.S.

Richard C. Green (BS, 2007) is currently with Shell at their Martinez, California refinery serving as a control systems engineer. He married his wife, Valerie, in 2007, and they welcomed their first child in 2010.

Brandon Iglesias (BS, 2006) is currently at Tulane University working on a pMBA, concentration in Finance and in Energy Trading, while working for Murphy Oil as a refinery blender/planner/economist and back-up lab manager in their economics and planning department.

Kathryn M. Simmons (BS, 2008) is a process engineer at Foster Wheeler USA Corporation, located in Houston, Texas.

Kwang Bok Yi (PhD, 2004) is working as a senior researcher at the Korea Institute of Energy Research in the area of carbon capture and storage (www.kier.re.kr).

**Please don’t forget to “like” us on Facebook!**

# New Building

Chemical Engineering has been a proud and progressive component of the College of Engineering at LSU since its establishment in 1908. Prior to 1908, it was affiliated with the Department of Chemistry and the Audubon Sugar School. Its groundbreaking doctoral program, not only the first formulated at LSU but also Louisiana's first of any discipline, awarded the state's first PhD in 1935.

The first Chemical Engineering building was built in 1938 and housed the department until 1971. At that time, an adjacent research building was completed, under the direction of Jesse Coates and Paul Murrill, with assistance from the National Science Foundation.

Today, nearly one hundred years since the program's inception, both buildings are outdated. Tremendous advances in science and technology have produced countless new and exciting opportunities in an industry where discovery and invention continually seed developments vital to mankind's future. To excel competitively in this new environment, the department must rise to meet the challenges of current research and training as well as acquire the state-of-the-art technology required to lead., Upon celebrating its centennial year in 2008, Chemical Engineering at LSU stands at the doorway to the future and the opportunity of a generation.

LSU's Capital Campaign, FOREVER LSU, aims to raise the profile of an already great institution to equal and surpass peer institutions nationally and internationally. In its new projected home, the department will triple its physical space in keeping with first-class facilities of the University of Mississippi, Auburn, Texas A&M, Georgia Tech, and the University of Arkansas. The new building will also ensure that Chemical Engineering at LSU attracts and recruits the best and brightest students, postgraduates, and new faculty.

While expanding its facilities, Chemical Engineering will also strengthen its capacity through investing in its human resources to reach these goals by 2010: increasing full-time faculty members to 22; raising standards for publishing and presenting research; and increasing the research dollars per faculty member to $200,000. As part of the 1999 Cain Foundation $10 million gift endowment, the Department will also recruit four new Cain Chair holders to include among the 22 full-time faculty in its new home.

The location for the new building will be on South Stadium Drive. It will sit in front of Patrick F. Taylor Hall (formerly CEBA). It will be nearly 100,000 square-feet with approximately 60,000 square-feet of net usable space.

* 4,200 Square-Foot Process Control Laboratory will allow undergraduate students to monitor simultaneous experiments and gain hands-on experience with cutting-edge technology in a real-world plant setting.

* State-of-the-art Research Laboratories will specialize in traditional disciplines as well as in emerging fields like biotechnology, nanotechnology, and development of alternative fuels and chemical feedstocks.

* More, Larger Laboratories, along with New Offices will better accommodate graduate and post-graduate students, faculty, and staff.

* Modern Utilities and Facilities will be configured both to safely and effectively manage the electrical, information, materials/chemical processing, and storage needs of the department today as well as to expand to meet the department's needs for tomorrow.



# Opportunity to Give

Our alumni, friends, and other supporters are critical to the success of the Department of Chemical Engineering. We are grateful for the generous gifts that we continue to receive in support of the academic programs in the Department of Chemical Engineering.

Chemical Engineering at LSU offers many opportunities for alumni and friends, individuals or private organizations, to support the teaching and research efforts underway and planned in the future. Scholarships, fellowships, chairs, and laboratory equipment funds are just a few examples.

**Giving is easy**. You can make a gift online through the LSU Foundation's secure online giving site, **www.lsufoundation.org/contribute**. Designate your gift by selecting "College of Engineering" and then Chemical Engineering.

**To mail a contribution**, make check payable to LSU Foundation and mail to Gift Processing, LSU Foundation, 3838 West Lakeshore Dr., Baton Rouge, LA 70808. The IRA Rollover is another great way to give for those who are eligible. Please take a moment to read the details for giving through IRA Rollover.

**IRA Rollover Opportunity**

Through December 31, 2011, individuals who are 70 ½ years or older may direct their required minimum IRA withdrawals to the LSU Foundation and not pay taxes on the transfers.

To participate, direct your plan administrator to send your withdrawal to the LSU Foundation in support of your favorite school, college or program.

To be eligible:

- You must be 70 ½ years or older.
- You may make a maximum rollover of $100,000 per individual account, and there is no minimum.
- The rollover must be from your own personal IRA as opposed to another type of pension plan.
- The gift must be a direct transfer from your IRA custodian to the LSU Foundation.
- The gift must be to a "public" charity like the LSU Foundation and not to a donor-advised fund, supporting organization or private foundation.
- The allocation will count toward your minimum required distribution.
- Under current law, this transaction must be completed by December 31, 2011.

If you are interested in giving or have any questions about giving, please contact:

John McGehee
Associate Director of Development
LSU College of Engineering
P: (225)-578-8738 jmcgehee@lsu.edu


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