

Berry wins NSF CAREER award

Vikas Berry has been awarded the National Science Foundation (NSF) CAREER award (the most prestigious award given by NSF for early faculty career development) to study graphene quantum dots. The award, “CAREER: Detailed Characterization of Graphene Quantum Dots of Controlled Size, Shape and Chemistry,” is an acknowledgement of the cutting-edge research being conducted in the Berry laboratory on atomically thin crystals.

Berry’s research group will be studying a process to produce graphene quantum dots with controlled nanostructure. The project addresses an old chemistry challenge of synthesizing large quantities of monodisperse polyaromatic structures—or graphene quantum dots. The research will enable control of the electrical and optical properties of graphene via modifying its nanostructure, thus expanding the scope of its applications. Berry’s group will build detailed property-structure-correlations and theoretical models defining these novel nanostructures. Berry expects significant progress to result from this project, both in fundamental science and in engineering application of graphene quantum dots.

“There is currently no process available to produce graphene quantum dots with controlled structure at high throughput. This has been a barrier to achieving fundamental measurements,” Berry said. “Graphene has a unique combination of high local-conductivity, zero band-gap and high optical absorbance. Theoretically, these properties can be controlled by manipulating graphene’s structure. This project shows a route to control graphene’s nanostructure and thus its properties over a wide range. This will enable graphene’s

incorporation into unprecedented electronic and optoelectronic applications.”

In addition to research activities, the NSF CAREER award will enable Berry to expand his education and outreach efforts. He plans to incorporate nanoprocessing concepts into engineering education and into existing outreach programs at KSU, including the EXCITE, GROW and MEP programs. Finally, he plans to organize programs where undergraduate and graduate students in his laboratory are exposed to diverse research cultures to broaden their perspective on the scope of science.

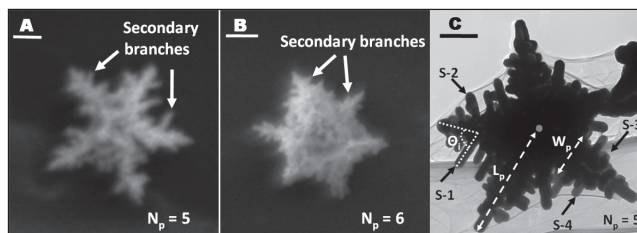
One of the goals of the NSF CAREER program is to enhance the research programs of some of the most talented young academic researchers. Berry’s CAREER award will do this by

supporting one graduate student and five undergraduate students for the five-year duration and will allow him to purchase sensitive equipment to achieve nanoscale cutting with 5-nm step size. In addition, the award provides support for nanoscale imaging of the quantum dots.

On his reaction to finding out he had received the CAREER award, Berry said, “I was glad that my efforts were rewarded. Moreover, this achievement brings in more responsibility to continue to deliver high-quality research, which can be applied to produce next-generation nanotechnologies.”



Berry



Snowflake-shaped gold nanoparticles are synthesized in the Berry laboratory on substrates like graphene.

In this issue

Dept. head message . . .	2
Materials synthesis . . .	3
International students . .	4
Bioenergy REU	5
ChE Academy	6
Bioenergy symposium .	10

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Message from the department head



Over the past year, the department of chemical engineering at Kansas State University has continued its distinguished record of high-quality undergraduate and graduate education, research and service to the profession.

2011 has been a good year for our graduating seniors. By commencement in May, all but one or two students had secured jobs or had plans for continuing their education. Students were hired by companies in the petroleum, energy, commodity chemicals, plastics, food and health sectors. Others are starting advanced degrees in chemical and nuclear engineering, and medicine. Altogether, they are an ambitious, impressive class.

Once again the undergraduate student AIChE organization received the Outstanding Student Chapter Award—the 16th year in a row. This is a great recognition of our students who work hard to make our chapter so successful and who help make the department a great place to learn. Dr. Walter Walawender also deserves credit for his continued advising of the chapter, in spite of his retirement. Support of AIChE from alumni and industry is another essential ingredient that makes this possible. The undergraduates also received the Yellow Brick Award for the best skit and float during the rainy first day of Open House.

2011 promises to be an exceptional year for our graduate program. Seven students will earn their Ph.D. degrees by the end of the year, the most in a single year in the 23 years I've been at K-State. Nine new students will begin their Ph.D.s this fall, also a record number. The Global School of Advanced Studies recognized Ph.D. students, Kabeer Jasuja and Nihar Mohanty, as two of the top 20 graduate students around the globe. A 2008 paper, with Nihar as the lead author, has been cited more than 140 times, making it one of the 10 most cited of the more than 6,000 papers published by K-State faculty in the past five years. The advisor for both students was Vikas Berry. One of the first KSU Research Foundation Fellowships went to Yi Zhang for the national appeal and potential intellectual property of her research.

Our talented and dedicated faculty continue to be recognized for their outstanding accomplishments. Assistant Professor Vikas Berry received a prestigious National Science Foundation CAREER award for young faculty,

the only such award made to any faculty in the state of Kansas this year. Keith Hohn received the Charles H. Scholer Faculty Award for supporting student groups and learning outside of the classroom.

Even though there are few classes offered, the department remained quite busy during the summer. We hosted two National Science Foundation Research Experience for Undergraduates sites that employed 19 students: *Earth Wind, and Fire: Sustainable Energy for the 21st Century*, and *Summer Academy in Sustainable BioEnergy*. There were an additional six students who worked individually with faculty for pay or for credit.

The chemical engineering department continues to offer great learning opportunities through both regular classes and in other ways. Titles of new courses that will be offered this year include *Experimental Research, Advanced Biomass Thermochemical Conversion, Membrane Separation Technology*, and *Quantifying the Sustainability of Processes and Materials*. Prestigious speakers spoke at our graduate seminar. A special treat was to have Alexis T. Bell, professor from the University of California at Berkeley, address the major role of catalysis in chemical industries, as part of the L.T. Fan Lecture Series.

The department is excited by the K-State 2025 goal set by President Schulz and Provost Mason, “to become a top 50 public research university by 2025.” We are doing our part to help in this effort by increasing the number of Ph.D.s awarded, research and development expenditures, and number of undergraduates involved in research. We look forward to the advancement of students' education that this will make possible.

Best wishes,

A handwritten signature in black ink that reads "James H. Edgar". The signature is written in a cursive, flowing style.

James H. Edgar

Novel solvent for materials synthesis

Finding novel methods to make “designer materials” for specific applications is the goal of the National Science Foundation-funded research directed by chemical engineering Professor Jennifer Anthony. The unique properties of ionic liquids offer a promising medium for making such materials as zeolites, metal organic coordination polymers (MOFs), nanostructured metal oxides, nanorods and nanowires.

Ionic liquids (ILs) are organic salts that are liquids in their pure state at ambient conditions. They are frequently referred to as “potentially green solvents” when used to replace volatile

can impart functionality into the structure of the final material.

The Anthony research group has focused on using ionic liquids to synthesize zeolitic molecular sieves, which have extensive applications in catalysis and separations. These stable, crystalline materials with nanometer-sized pores can have a wide range of chemical compositions such as silicates, phosphate metal oxides or all-carbon molecular sieves. The group has used ionic liquids to synthesize numerous porous aluminophosphate zeolites as well as dense phase silicates and aluminophosphates.



Dr. Jennifer Anthony (right) and graduate student Stella Sun perform research on ionic liquids.

organic solvents due to their immeasurably low vapor pressure. The lack of vapor emissions is an obvious environmental benefit for worker safety, but it has economic benefits by reducing solvent losses and allowing processes to occur at elevated temperatures without a pressure increase. These compounds tend to have very wide temperature range, over more than 300°C, over which they remain stable liquids, unlike conventional organic solvents. The vast variety of potential ionic liquid structures results in a diverse range of chemical functionality (estimated to be $>10^{16}$ potential ILs), which can be incorporated in either the cation or the anion providing unique environments within the same solvent. A specific benefit with respect to materials synthesis is that ionic liquids can behave as structure-directing agents as well as the solvating; functionality inherent to the solvent

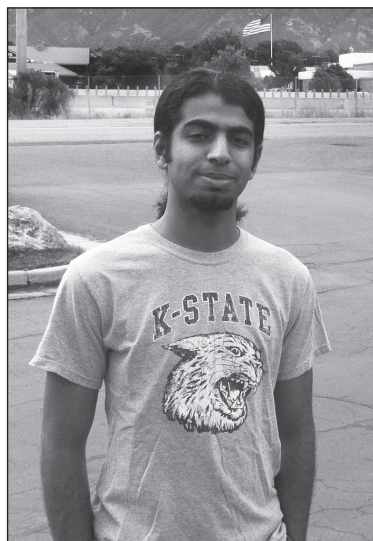
phosphates. Measurements of the solubilities of the individual precursors in the ionic liquids show that the reaction for forming zeolites is occurring at supersaturated conditions, likely indicating that it is a heterogeneous reaction occurring as a suspension in the ionic liquid rather than a homogenous reaction. Ongoing research focuses on determining how the ionic liquid structure can be used to influence the properties of the final materials. In collaboration with ChE Professor John Schlup, Anthony’s group is investigating interactions between the ionic liquid solvent and molecular sieve precursors prior to the synthetic reaction through spectroscopic measurements. This research has involved both undergraduate and graduate students in chemical engineering.

International students

Scanning the hometowns of the students in a typical undergraduate chemical engineering course, you might see the following: Topeka, Overland Park, Wichita, Garden City, Manhattan...Riyadh? Jabriya? The last two hometowns, located in Saudi Arabia and Kuwait, respectively, are representative of a new trend in undergraduate education in chemical engineering at Kansas State University: increased numbers of international students. In the past five years, enrollment by international students has grown from four to 23, more than 10% of all undergraduates.

Who are these students? How did they find their way to Kansas State University? We asked a few of our international students to tell us about their journey to K-State and their experiences here.

Even though the students interviewed represented different countries and different cultures, some of their answers were quite similar. For instance, all students came to the United States after a long interest in studying somewhere besides their home country. Noor Al Hunaiyyan, Kuwait, mentioned that she'd always wanted to study somewhere besides Kuwait, and felt that there would be greater opportunities in the United States. Mohammed Altamimi, Saudi Arabia, had long had an interest in studying in the United States, partly because his father had previously studied architectural engineering and construction in the United States.



Mohammed Altamimi is an undergraduate student at K-State.

Family played a role in several students' choice of Kansas State University. Al Hunaiyyan said her parents wanted her and her brother to attend the same university, and K-State was one of the few universities that admitted both of them. Altamimi had a brother who attended K-State, helping him make his choice on what university to attend. Alfredo Alexander Rodriguez, Bolivia, has a sister studying in the U.S. who was his inspiration.

While one would expect some culture shock for students coming to Kansas from a different continent, the students suggested their transition has gone well. Al Hunaiyyan said Kuwait has many foreign workers, so she was used to interacting with people from different cultures. However, it's hard to have all the comforts of home when you are thousands of miles away: many students said it was hard to find the foods they like. Altamimi sometimes drives to Kansas City to find the types of food he was used to growing up in Saudi Arabia.

By studying in the U.S., international students gain fluency in English and an understanding of American culture. International students in the chemical engineering program can point to a number of unique experiences they've had. Ahmed Alkatib, Saudi Arabia, enjoyed witnessing the Presidential elections of 2008 first-hand. Talal Mouais, Saudi Arabia, celebrated Thanksgiving with an American family.

The increase in numbers of international students in the chemical engineering department is part of a larger trend at K-State. The Office of International Pre-Admissions/International Recruiting was created in 2003 with the goal of increasing the enrollment of international students at K-State. Towards this goal, the office coordinates recruiting trips, creates web content for websites geared towards international students and helps international applicants with the admissions process. In addition, two offices have been set up in China and India for the sole purpose of recruiting students from those countries.

The China office has been particularly successful. In 2003, there were no Chinese undergraduates at K-State; in fall, 2010 there were 628. Jim Lewis, director of international admissions and recruiting, attributes this to the increasing prosperity in China leading to a middle class with the resources to send their children abroad, a lack of sufficient opportunities for students in China, and the high regard American universities are accorded in China.

The benefits to K-State from higher inclusion of international students are numerous. First of all, enrollment of international students can make up for an expected drop in the number of students from Kansas coming to K-State due to changing demographics. In addition, the tuition international students pay helps to make up for a long-term trend of decreased state support of K-State. But perhaps more important than these tangible benefits are the intangible ones: international students help to infuse K-State with diverse perspectives. Having a larger international population also helps towards K-State's stated goal of becoming a top 50 public research institution.

As Jim Lewis said, "You have to internationalize if you want to be a modern university."

Semester	Number of International Students in Undergraduate Program
Fall 2006	4
Fall 2007	7
Fall 2008	11
Fall 2009	19
Fall 2010	23

Enrollment of international undergraduate students in the chemical engineering department has increased each year.

Sustainable bioenergy REU program

The Center for Sustainable Energy (CSE) at K-State sponsored a National Science Foundation-funded Research Experience for Undergraduates (REU) program for 10 weeks, May 31 through August 5, 2011. The goal of the program was to provide an educational experience for students and encourage them to go on to become independent researchers and potential future leaders in aspects of biomass-derived fuels and chemicals. Nine participants from eight states—California, Colorado, Illinois, Missouri, Oklahoma, Pennsylvania, South Carolina and Kansas—were chosen from a pool of more than 110 applicants.

Mary Rezac, ConocoPhillips professor of sustainable energy and professor of chemical engineering at K-State, is the REU project director. According to Rezac, the heart of this program is to engage undergraduate students in multi-disciplinary research projects related to sustainable bioenergy.

“Through various projects, students gained knowledge of one aspect of alternative energy and acquired some of the skills necessary to conduct meaningful research in sustainable bioenergy,” Rezac said.

In addition to working on research while under the direction of a faculty/Ph.D. mentor, by seminars by CSE faculty introduce students to the cutting-edge research at K-State from the

perspective of these individual faculty members. They also received training in the socio-economic, agricultural and technological issues relating to sustainable bioenergy production. Several field trips allowed students to interact with local producers and citizens of the community with respect to agricultural production and biofuels. They also visited two grain-based ethanol production facilities and an agriculture equipment manufacturing facility.



REU mentor Richard Nelson works with IGERT Fellow Leslie Schulte and IGERT REU participant Megan Smithmyer.

The 10-week program culminated in poster presentations August 3 in Fiedler Hall. The program will operate again in the summers of 2012 and 2013.

More information on this program is available at <http://sustainable-energy.ksu.edu/REU>.



IGERT trainees and REU students (from left to right) Leslie Schulte, Bethany Vosburgh, Megan Smithmyer, Sumathy Sinnathamby, and Jennifer Markham pause for a photo while on a facility visit to Magellan Pipeline Company in Kansas City, KS.

CHE ACADEMY MEMBERS JUNE

INDIVIDUALS

Academy Associate

\$250 - \$499

Jim and Libby Edgar
Casey and Ashley Hetrick
Bei Liu and Mingfu Wu
Donald and Nancy Livingston
Stephen and Dixie Long
Ross and Lise Ostenberg
Sarah Patterson
Joseph Rahija
Sam and Dorothy Sinderson
Norman and Donna Tetlow
Edward and Dorothy Travnicsek
Bryce and Christiane Williams

Partner

\$500 - \$999

Mo and Helen Arnold
Mark and Terrie Boguski
Lyn and Jerri Boyer

Michael and Pamela Brown
Tom and Denise Carlisle
David and Kathy Carr
Tansukhlal and Savitri
Dorawala
Paul and Lori Fisher
Erin Green
Lewis Ho
Larry Kraus
Robert and Betty Meyer
Ann and Donald Schaechtel
Jim and Robin Siefkin
Christine Steichen
Patrick and Carolyn Wilburn

Fellow

\$1000 - \$2499

Rick and Marcia Adams
Bryan and Celia Anderson
Bill and Beth Barrett
Kent Buster and Gitta Banks
Dick and Mary Elizabeth
Corbin
Matthew and Lynn Dassow

Jim Dieter
Ed and Ming Hsu
Warren and Gisela Kennedy
Dana and Liz Mathes
Marc and Jody Ramsdale
Hal and Mary Siegele
Bob and Peggy Smith
Keith Steyer
Fred and Lois Stoller

Executive Member

\$2500+

Jack and Alberta Bailie
Melvin and Rannie Barb
Larry and Laurel Erickson
Judith Fan and Robert Reay
L.T. and Eva Fan
Gordon and Joyce Goering
Wayne and Barbara Harms
Art and Georganne Hiser
Scott and Karen Love
Dennis Rogalsky
Tim and Sharon Taylor
Spencer and Susan Tholstrup

Four

\$25,000+ Lifetime

Terrie and Arno
Melvin and Rann
Marilyn Barrett
Dick and Mary E
Larry and Laure
Judith Fan and
L. T. and Eva Fa
Gordon and Joy
Charlotte Gollo
Wayne and Barb
Art and Georgan
Bill* and Virgin
Ed and Ming Hs
Joe* and Louise
Scott and Karen
Ken Martin
Don and Barb R
Bob and Peggy
Keith Steyer
Fred and Lois S
Tim and Sharon
Norman and Do
Charles Tillotso

Chemical engineering gifts

Gifts to the department of chemical engineering are critical, with each having a tremendous impact on our program. With decreases in state funding, chemical engineering relies on gifts from alumni and friends to assist in running student laboratories, faculty support, building programs and awarding scholarships. We are proud to have such loyal and generous supporters who value the educational product put forth from Kansas State University.

However you choose to direct your gift, you can be confident that your generosity will help us maintain excellence in chemical engineering at K-State. To follow our pursuit of excellence, we invite you to visit our website at <http://www.found.ksu.edu/engineering/CHEME.html>.

Many thanks for the contributions and investments that help fund the success of our future chemical engineers.

July 1, 2010 – June 30, 2011

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 Lifetime Giving
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 Robert Reay
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CORPORATIONS

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 Dow Corning Corporation
 Pfizer Inc.
 Pfizer Foundation

Partner

\$500 – \$999
 Chevron Texac
 The P&G Fund

Fellow

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 II-VI Foundation
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 The Dow Chemical Company
 The Dow Chemical Foundation

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 Company LP
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 Cosmo Ec Co Ltd
 E I DuPont De Nemours and
 Company
 ExxonMobil Foundation
 II-VI Foundation
 KUBOTA Corporation
 Mobil Foundation Inc
 Monsanto Company
 Nisshin Flour Milling Co LTD
 The Dow Chemical Company
 The Dow Chemical Foundation
 The P&G Fund

Nelson joins Center for Sustainable Energy



Nelson

Richard Nelson has joined the chemical engineering department and is currently program coordinator with the Center for Sustainable Energy at Kansas State University. Nelson has more than 21 years experience in the biofuels/bioenergy field and more than 20 publications on biomass, energy, environment, sustainability, and economics and marketing. He received his undergraduate and graduate degrees from Oklahoma State University in mechanical and agricultural engineering and has been at K-State since 1989.

He has worked with the National Renew-

able Energy Laboratory, Oak Ridge National Laboratory, Idaho National Laboratory, Western Governors' Association and the National Biodiesel Board concerning biomass resource assessment, development, marketing and utilization, and also performs extensive educational outreach to the public and private sectors. Dr. Nelson has served on a California Air Resources Board expert workgroup concerning bioenergy/biofuels development and land use, and previously served on International Energy Agency Task 40, which is concerned with sustainable bioenergy trade.

Chemical engineering M.S. and Ph.D. graduates

May 2011

Clinton Whitely, Ph.D. – (Edgar)
Nitride Solutions
Li Du, Ph.D. – (Edgar) seeking
Tyler Selbe, Ph.D. – (Anthony) Intel
Alex Brix, Ph.D. – (Pfromm and Rezac)
Boehringer Ingelheim Vetmedica, Inc.

August 2011

Kabeer Jasuja, Ph.D. – (Berry)
Post-doctoral associate, Northwestern
University
Nihar Mohanty, Ph.D. – (Berry)
Tokyo Electron, Inc.

Chemical engineering B.S. graduates

May 2011

Adwell, Benjamin – Ash Grove Cement
Ayinde, Kayum – Schlumberger
Batrack, Michael – Honeywell FM&T
Battig, Megan – Proctor & Gamble
Bellinder, Adam - Ceradyne Boron
Product
Benyshek, Andrew – Chevron Phillips
Clements, Travis – Dow Corning
Davis, Christina – University of
Nebraska, ChE graduate student

Davis, Lucas – seeking
Doll, Andrew – Hemlock
Semiconductor
Groskurth, Jordan – University of
Kansas, medical school
Linn, Joshua – ConocoPhillips
Maslen, Daniel – ExxonMobil
Elliott Meckley – Phillips Lighting
Otto, Caleb – Northwind
Parrish, Thomas – OxyChem
Quigley, Danielle – ExxonMobil
Reed, Richard – KSU, nuclear
engineering graduate student

Reese, Terrence – Cargill Meat
Solutions
Satterlee, Andrew – University of
North Carolina, biomedical
engineering graduate student
Turner, Kevin – Koch Nitrogen
Walters, Neal – Cargill
Weir, Stephanie – Dow Corning
Young, Megan – Halliburton



Faculty and staff notes

- Mary Rezac finished her year-long term as president of the North American Membrane Society.



Hohn

- Keith Hohn was named editor-in-chief of a new online journal, *Catalysts*.



Rezac

- Chris Aikens was hired as an instructor in the department of chemical engineering. Chris earned a B.S. in chemical engineering from the University of Oklahoma and a M.S. degree in chemical engineering from Iowa State University. He will be responsible for teaching thermodynamics, and the materials science and engineering course.



Aikens

- John Schlup led a workshop on “A Seven-Trait Writing Tool for Assessment of Technical Writing” at an ABET symposium in April. He has been accepted for training as an ABET program evaluator, having completed the prework for this designation.



Schlup



Nelson

- Pat Nelson joined the chemical engineering department as Public Service Administrator I in April 2011. Prior to joining the department, Pat worked at the Kaw Valley State Bank in Wamego for 29 years. She has experience with human resources, account management and expenses. Nelson’s husband, Mark, is the manager of the K-State Swine Teaching and Research Center, and they are both from the Manhattan-Wamego area. They have three children, Levi, Noah and Page.

Alumni notes

- **Paul Fisher** (BS, 1991) – Paul Fisher received the Professional Progress Award from the K-State College of Engineering. The Professional Progress Award is given to outstanding alums who graduated from K-State within the last 20 years. He has held a number of positions in engineering, manufacturing, application engineering and business development at Dow Corning since starting after graduate from K-State. Fisher holds multiple patents supporting innovative technologies at Dow Corning and is the recipient of numerous manufacturing and business awards as a result of millions of dollars of new business development revenue. In his current position he is responsible for leading global, multifunctional teams to create new businesses that will have a positive impact on sustainability. Through use of the innovation process, he is specifically responsible for building multimillion-dollar business programs within both the renewable energy and energy storage markets.
- **Paul Bartak** (B.S. 1972) – Paul Bartak’s family established the Paul Bartak Family Scholarship that will be awarded to first-generation, undergraduate students enrolled in the College of Engineering at K-State. Preference will be given to students from Republic County, Kan., or surrounding counties. Bartak’s family has strong ties to K-State, with both of

his daughters, Kim and Amy, having received degrees from K-State’s College of Engineering. He and his wife, Teresa, are members of the K-State Alumni Association, have supported the Wabash Cannonball Scholarship and are members of the KSU Foundation’s Presidents Club. Bartak has had a long and successful career with Honeywell Federal Manufacturing & Technologies in Kansas City, Mo. His 32-year career with Honeywell has culminated in his current role as senior business development manager, a position that has allowed him to build partnerships with faculty members in K-State’s chemical and electrical engineering departments.

- **Stuart Leonhart** (B.S. 1964) – Stuart Leonhart was promoted to special waste consultant with the acquisition of the Republic/Seabreeze Texas landfill by his company, Waste Connections, Inc., Folsom, Calif.

In Remembrance

- **John Koegle** (M.S. 1949) – John Koegle died July 2, 2010. He and his wife, Margaret, had just celebrated their 60th wedding anniversary on June 5 at a lovely family dinner. Koegle received his Ph.D. from the Ohio State University and had a very interesting career in the development and manufacture of several pharmaceuticals. He enjoyed his years at Kansas State.

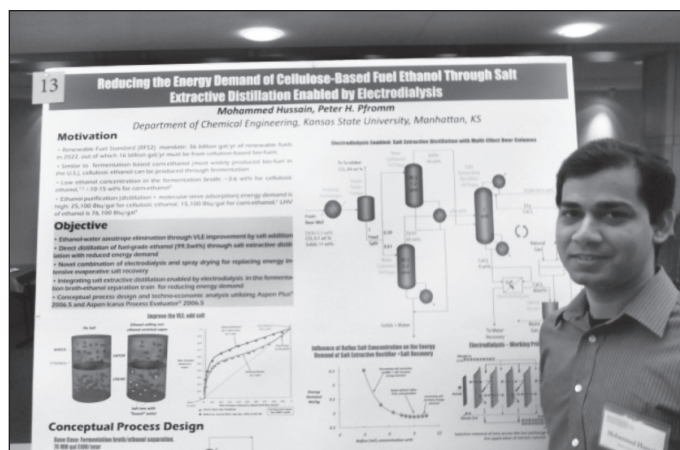
Bioenergy symposium

K-State's Center for Sustainable Energy (CSE) and Center for Sorghum Improvement sponsored a bioenergy symposium April 27–28, 2011, at the International Grains Program Executive Conference Center in Manhattan. The theme of the symposium was “Mapping Sustainable Bioenergy Opportunities in the Central Great Plains—Feedstocks, Land Use, Markets and Socio-Economic Aspects.”

According to symposium organizer, Richard Nelson, CSE, “The purpose of this symposium was to bring together recognized experts in agriculture, bioenergy development and production, academia, government and the environment to discuss and assess agriculture, environmental and economic/market issues in detail as they pertain to future large-scale bioenergy feedstock production and implementation in the central Great Plains.”



Participants enjoy the bioenergy symposium.



Mohammed Hussain exhibits his award-winning poster.

The outcome of the symposium will be to take information and insights presented by all symposium participants, and with a select group, develop a “roadmap” that 1) outlines all key agronomic, energy, environmental, economic and socio-economic, and regulatory and government-related issues and areas affecting large-scale bioenergy production in the central Great Plains, and 2) details the research and educational steps necessary to begin and accomplish bioenergy resource development and utilization in this region.

The symposium attracted more than 75 attendees from academia, private industry and government laboratories. Chemical engineering faculty and students played a central role in the symposium activities. External guest and K-State subject experts shared their perspectives on current state-of-the-art and existing technical barriers for the large-scale implementation of sustainable bioenergy systems. In addition, 17 Ph.D. students from across K-State made poster presentations of their research in sustainable bioenergy.

The following students received awards for the top poster presentations:

- \$1000 – Mohammed Hussain (Peter Pfromm, chemical engineering, advisor)
- \$750 – Jason Fewell (Jason Bergtold, agricultural economics, advisor)
- \$750 – Myles Ikenberry (Keith Hohn, chemical engineering, advisor)
- \$500 – Bryon Parman (Vincent Amanor-Boadu, agricultural economics, advisor)
- \$500 – Leslie Schulte (Mary Rezac, chemical engineering, advisor)

CSE acknowledges and appreciates funding from ConocoPhillips, which made it possible to grant the CSE poster awards.

More information on this program and other sustainable energy activities is available at <http://sustainable-energy.ksu.edu/>.

Student notes

- Andrew Satterlee received the NSF Graduate Fellowship and will be attending the University of North Carolina to study biomedical engineering. The award recognizes outstanding students who are pursuing research-based master's and doctoral degrees in science, technology, engineering or mathematics.
- The Kansas State Chapter of AIChE received its 16th straight Outstanding Chapter Award.
- Katelyn Kuecker has been selected as the 2010–2011 recipient of the Richard G. Akins Student Service Award.
- Andrew Smith was part of a team that placed fourth in the product division at the third annual Next Big Thing competition, sponsored by the K-State Center for Advancement of Entrepreneurship. A total of 252 students competed.
- Nihar Mohanty, CHE Ph.D. graduate student, received the Graduate Award for Outstanding Academics from the K-State Alumni Association.
- Kabeer Jasuja and Nihar Mohanty were two of the top 20 graduate students selected from around the world by Global School of Advanced Studies to travel to Grenoble, France, to attend the “Graphene Fundamentals and Applications” session June 20–26 conducted by the leaders in carbon science and technology.
- Mohammed Hussain, 1st place, Myles Ikenberry, tied for 2nd place, and Leslie Schulte, tied for 3rd place, were winners for best poster at the Center for Sustainable Energy bioenergy symposium. Ikenberry also was recognized for having the best poster at the 2nd annual program review of the NSF EPSCOR Kansas Center for Solar Energy Research.
- Yi Zhang received one of the inaugural Kansas State University Research Foundation Doctoral Fellowships for her work on boron compound semiconductors.

Research laboratories to be renovated

Major changes are underway to the department's research laboratories, thanks to a \$1,598,997 grant received by Mary Rezac, James Edgar and Peter Pfromm from the National Science Foundation. This grant was funded under the American Recovery and Reinvestment Act of 2009.

According to Rezac, radical changes will be made to existing chemical engineering laboratories on the second floor of Durland Hall, which will involve destroying about half of the laboratories and rebuilding them to current standards.

“They'll be bigger, they'll be safer, they'll be better lit and be better equipped than what we have right now,” she said. “These changes will allow students to work more collaboratively.” Current laboratory space allows for one or two researchers to collaborate on research projects. The department of chemical engineering is conducting an increasing amount of research spanning multiple departments. Such research will be aided by the new laboratory designs, which allow for 10 to 15 researchers to collaborate on projects. The laboratories will conduct alternative energy research, Rezac said.

Edgar said the renovations will provide an excellent showcase for K-State's world-class research.

“This renovation will create a modern, sophisticated and versatile laboratory,” he said. “With these changes we will be able to do new energy research more safely than was previously possible.”

As a result of the renovation, the number of fume hoods will increase from six to 15, the electrical power capability will be increased, air conditioning and heating will be improved, and laboratory safety will be brought up to current best practices. This renovation will be the most substantial change to the department's facilities since the opening of Durland Hall in 1976. Faculty in the department have been meeting with the architectural firm on the project, Clark-Enersen Partners, since March. They have been working together to design the laboratories to meet their needs as well as planning for future faculty. The design phase should be completed in September, and construction is expected to begin in December or January.

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Kansas State University is committed to nondiscrimination on the basis of race, sex, national origin, disability, religion, age, sexual orientation, or other nonmerit reasons, in admissions, educational programs or activities and employment (including employment of disabled veterans and veterans of the Vietnam Era), as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries concerning Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans With Disabilities Act of 1990, has been delegated to Clyde Howard, Director of Affirmative Action, Kansas State University, 214 Anderson Hall, Manhattan, KS 66506-0124, (Phone) 785-532-6220; (TTY) 785-532-4807. 60272-9/11-2M

Let us know what you've been up to!

We would like to feature alumni news in future issues of *ChemE News*. Please fill out the section below and mail it to Keith Hohn, Department of Chemical Engineering, Kansas State University, Manhattan, KS 66506-5102; e-mail to hohn@ksu.edu; or fax to 785-532-7372. Thank you.

Name _____ Degree/year _____

Title _____ Company name _____

Business address _____ Phone _____

Home address _____ Phone _____

News/accomplishments _____

