

Berry joins chemical engineering department

Vikas Berry joined the chemical engineering department Dec. 1, 2006, as an assistant professor. He came to K-State from the Virginia Polytechnic Institute and State University, where he received his Ph.D. in chemical engineering in 2006.

Berry received his B.Tech degree in chemical engineering in 1999 from the Indian Institute of Technology in Delhi, India. He then completed a master's degree in chemical engineering at the University of Kansas in 2003. Because his Ph.D. advisor moved to the University of Nebraska-Lincoln during completion of his Ph.D. thesis, Berry lived and worked in Lincoln for the two years prior to coming to Kansas State. In his Ph.D. work, Berry developed a humidity sensor based on nanoparticle-coated bacteria. This work was highlighted in such prestigious magazines as *Nature*, *Discover*, and *Science News*.

Berry answered a few questions in a recent interview:

What attracted you to Kansas State?

With a warm and supporting faculty, and a healthy research and teaching environment, I found the chemical engineering department at Kansas State University to be a perfect place

where I could implement my teaching methodologies, develop informative courses for graduate and undergraduate students, and build a strong research program. I was most impressed by KSU's support for novelty in research and innovation in teaching. I value these elements as a scientist and a teacher, and I was delighted to find these at K-State.

Also, most of my "American-life" has been in two Midwest cities of Lawrence and Lincoln (where I stayed for about two years each), and Manhattan was a welcome addition.

Describe the type of research program you will be building at Kansas State.

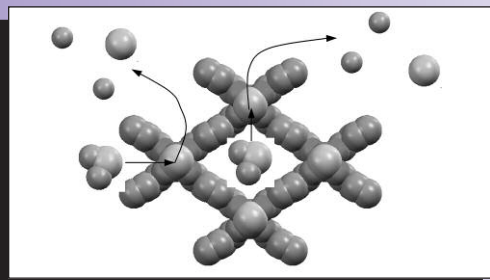
The focus of my research program at Kansas State will be the study of functional hybrid-systems, built using the physical and biological components for applications in molecular-electronics, nanofluidics, mechanical surfaces, biomedicine, and bio-mimetics. My group will investigate the properties of such hybrid systems and develop a fundamental understanding about their interaction energies and mechanisms. The group will then integrate these systems with "functionally active" physical or biological components to develop applications

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Berry

Walton receives Young Investigator Award



Novel porous materials known as metal-organic frameworks (MOFs) may provide enhanced catalytic activity for reactive adsorption processes.

Krista Walton has received the 2007 Army Research Office Young Investigator Award for her proposal, "Multifunctional Nanostructures for Adsorption of Toxic Materials."

The ARO Young Investigator Program seeks to attract universities' outstanding young faculty members by providing awards of \$150,000 for three years to support research and encourage teaching and research careers.

Walton will be examining novel porous structures for adsorptive removal of contaminants from the air.

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Editors

Keith Hohn
Mary Rezac

Message from the department head



Greetings from Manhattan. As you'll see as you read through the newsletter, it's been a busy time at Kansas State University and the chemical engineering department has enjoyed some important successes during this past year.

Our undergraduate program has grown significantly in the past few years with the May 2007 class nearly 50% larger than May 2006. Once again, May B.S. graduates had essentially 100% placement at the time of graduation. The job market was very strong this year with most students receiving multiple offers and some May 2007 graduates accepting positions as early as November 2006. Availability of internships for sophomores and juniors also appears to be improved relative to previous years. Here's hoping this trend continues.

It's been another year in which our students made us very proud. The successes of the entire student body were recognized through another AIChE Outstanding Student Chapter Award. This is the 12th consecutive award for the group, a record unmatched by any other program in the country. Additionally, the student ChemE Car team competed in the national competition and received the Spirit Award for their enthusiasm and team spirit. At the K-State All-University Open House, ChE students received awards for the Best Technical Display and third place overall. Emily Voigt received a Goldwater Fellowship and Jonathan King received a Phi Kappa Phi fellowship. Awards such as these continue to demonstrate the talent and dedication of the group.

Effective Aug. 1, 2007, the College of Engineering at Kansas State University has a new dean, John R. English. Dean English came to K-State from the University of Arkansas where he served as head of the department of industrial engineering since 2000. He has a Ph.D in industrial engineering and management from Oklahoma State University and industrial experience from AT&T Communications. Please join us in welcoming him. You can contact him at jenglish@ksu.edu or drop in and say hello the next time you're in town.

New faculty: Assistant Professor Vikas Berry joined the department in December 2006. Vikas has research interests in the area of nanobiotechnology and is working to develop biologically inspired sensors. In his first year, he taught the undergraduate Materials Science and Engineering course and has worked with one graduate and two undergraduate researchers. Look for more details regarding Vikas's past experiences and his plans for his career at K-State later in this newsletter.

Faculty development: The department has been very fortunate to have been able to provide a number of professional development opportunities to faculty members this past year. The most significant was clearly the sabbatical leave provided to Professor James Edgar as he studied new techniques in the Netherlands relating to semi-conductor materials (more about this in a separate story). Additionally, Professors Jennifer Anthony, Vikas Berry, and Krista Walton were supported to travel to national and international technical meetings where they advanced their research skills. They all also received training here at K-State relating to becoming effective classroom teachers. Finally, every faculty member attended at least one regional or national technical meeting during the past year. They presented many papers describing research activities at KSU and interacted with colleagues from industry and other institutions.

As always, we hope that you'll drop in and see us when you're in Manhattan. The next College of Engineering Open House will be April 18 and 19, 2008, and is always a great time to learn about the exciting projects on which students and faculty are working.

All the best.



Mary Rezac

K-State researchers working to find alternative energy sources

by Mary Rezac

From heating your home to fueling your car, the rising cost of energy is a hot topic for Americans. It's also at the heart of a new Kansas State University initiative to bring experts together from across campus to position the university as a national and world leader in sustainable energy research.

A newly developed coalition of K-State researchers, the K-State Center for Sustainable Energy, aims to develop a university-wide, integrated research, teaching, and outreach program with a focus on sustainable energy production and use. In particular, K-State is studying alternative and renewable energy and the related economic opportunities for Kansas. Professors Mary Rezac, chemical engineering, and Ron Madl, grain science and industry, co-direct the Center for Sustainable Energy.

"We recognized the need to have a campus-wide effort to study renewable and sustainable energy," said Sue Peterson, K-State assistant to the president and director of governmental relations. "Our goal is to make sure K-State resources—people, facilities and projects—are helping solve a problem for the future of the country."

K-State is providing strategic and significant research in a wide range of sustainable energy areas that extends from biofuels linked to agricultural crops to sustainable architecture in buildings. Researchers from three colleges and dozens of departments are working on a diverse array of energy-related topics.

"The center will allow K-State to take current research to a higher level of success and visibility by creating an opportunity for more effective synergies and coordination among the various K-State sustainable energy groups," Duane Nellis, KSU Provost, said.

Initial activities have focused on the production of fuels from biomass, a significant Kansas resource. After these activities are well established, the focus will expand to include both solar- and wind-energy-related activities. The center focuses on (a) conducting fundamental research to aid in the development of technology, (b) training students and the public in the area of energy resources, and (c) providing input to policymakers regarding the likely



Cutline????

impact of new legislation.

With volatile oil prices creating frustration at fuel pumps, alternative fuels like ethanol and biodiesel are gaining more attention. But instead of corn, K-State researchers are evaluating feedstocks as a more long-term solution. Even if all starch-based grain resources (corn, sorghum, etc.) are used for ethanol, it would still produce less than half of the country's transportation fuel needs. Furthermore, grain used for fuel takes away from established food and feed uses. Thus, ethanol industry personnel are exploring options for using cellulosic feedstock, such as sorghum, corn stover or stalks, and switchgrass. K-State researchers are developing processes to make these conversions possible.

However, just because a crop seems to be a viable alternative to corn doesn't mean it is a good choice for Kansas. Richard Nelson, associate professor of engineering and head of the K-State Engineering Extension Service, studies the overall feasibility of using agricultural crop residues for producing fuels. The conversion of crop residues to fuels brings the positive result of producing a desirable product but has the negative consequences of additional soil erosion, potential contamination of groundwater, and the need for additional chemical treatment. Nelson's goal is to provide farmers with tools to determine the most sustainable long-term use for their fields.

Within the department of chemical engineering, research focuses on the development of thermochemical routes for the conversion of vegetable oils to green gasoline and green diesel, development of enabling separations technology for biofuels production, and development of nanoporous materials for sorbents for gaseous methane and hydrogen.



My sabbatical year in the Netherlands

by Jim Edgar, ChE professor

During the 2006-2007 academic year, I was on sabbatical from K-State, working in the applied materials science department of Radboud University in Nijmegen, the Netherlands. Although it is a small department, it has an excellent program in my area of research, semiconductor crystal growth and characterization.

The main project I worked on during the year was the characterization of defects in semiconductor crystals (aluminum nitride and silicon carbide) by defect-selective etching. It is a simple method of locating and identifying defects (mistakes in the arrangement of atoms) in crystals. Defects can be hard to locate because they are very small. Despite their small size, they have profound effects on a material's reactivity and electrical properties. By etching with certain chemical compositions, pits are produced where the defect is located. The type of



Jim, Libby, and Sterling Edgar in the big market square of Bruges, Belgium, a city noted for its beautiful medieval architecture

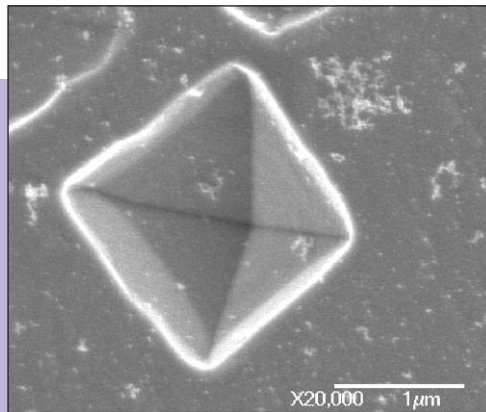
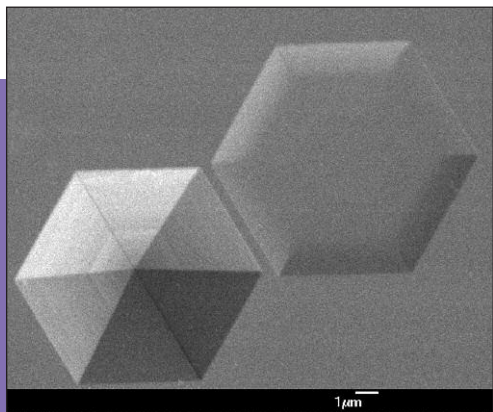
attended by Queen Beatrix, the queen of the Netherlands.

In addition to my work, I experienced Dutch culture and society. The Netherlands is one of the most densely populated countries in the world; everywhere you go there are people.

Consequently, this influences everything they do. The Dutch are more actively involved in energy conservation and are more concerned about the environment than the average American. Bicycling is greatly encouraged by extensive dedicated cycling paths and parking garages exclusively for bicycles. Every morning, the bicycle garage in my building was filled with more than 500 bicycles. Education is subsidized so more of society can

attend college. College tuition was just over \$2000 per year, and each student receives around \$300 per month from the government to help defray the costs.

Overall, my sabbatical was a rewarding experience. I learned new skills from an expert that will benefit my research; I developed new ideas for future projects; and living in the Netherlands and traveling through Europe has given me a better understanding of European culture, society, history, and geography.



Etch pits formed on crystals of (left) aluminum nitride and (right) scandium nitride.

defect present can be identified from a pit's size and shape, as seen in the figures above. I was truly fortunate to work with and learn from Jan Weyher, one of the world's foremost experts on the theory and practice of this technique, and whose research I had admired for many years.

During my stay, my department moved into a brand new building, named after Christiaan Huygen, a Dutch mathematician and astronomer famous for his discovery of Saturn's moons and for developing highly accurate pendulum clocks. There was a big celebration during the grand opening of the building,

Learning communities expand student opportunities

Engineers are increasingly being valued as much for their ability to learn new things and operate as members of teams as for their technical skills. Yet these skills are typically not formally taught in engineering classes. To address this disparity, Keith Hohn has facilitated a learning community for freshman and transfer chemical engineering students for the past two years as part of the College of Engineering Learning Community Initiative.

The purpose of a learning community is to build a community of chemical engineering students who will support each other in their studies, and who will discuss and practice skills such as teamwork, leadership, and being effective learners. All students in the introductory chemical engineering course were given the opportunity to participate. Students enrolled for one hour of credit, with that hour paid for by the College of Engineering. Ten students participated in 2005-2006, and 14 students participated in 2006-2007.

Each learning community meets twice each month throughout the academic year: one time as small learning communities and one time when all learning communities meet together in a session facilitated by Jan



(left to right, front row) Elizabeth Hohn, Missy Troutman, Elain Lamm, Lauren Sturn; (middle row) Keith Hoh, Eve Buettell, Bristen Krinhop, Jeremy Miller, Megan Young, Ross Holmes; (back row) Lauren Bode

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Alumni notes

■ Sarah Patterson (B.S. 2000) transitioned to Plastics TS&D North America at the Dow Chemical Company in January 2007. As a development specialist on the NA pipe team, she focuses her efforts on implementing Dow's polyethylene pipe solutions in the Dow pipeline, conducting application development for gas-distribution pipe, and providing technical service to the micro-irrigation and drip-tape customers.

■ Sean Tomlinson (B.S. 2005) works for Schlumberger as a field engineer. He is currently stationed in Saudi Arabia in the middle of the largest oilfield in the world: Ghawar. He shepherds two cement crews responsible for eight oil and gas rigs. He is currently finishing up a 13-week stint in the field, after which he will have a three-week vacation followed by six weeks in Paris, France, for training.

■ Stuart Leonhart (B.S. 1964) was promoted to account manager at Republic Waste Services, Inc.

■ Kurt Anderson (B.S. 1990) has been working in design, manufacturing, Six Sigma, and management at Dow Corning for 16 years. Currently,

Anderson is working as a Six Sigma Black Belt for the sealants business unit. In March 2007 Anderson retired from more than 20 years in the Army Reserves. He had been deployed in Iraq where he worked on reconstruction projects, most recently in charge of starting up the Baghdad provincial reconstruction team. On this team, Anderson worked with State Department, USAID, native-Iraqi bilingual cultural experts, and military personnel from the Navy and Army.



Anderson

■ Jim Brewer (B.S. 1981) joined Criteria Labs in fall 2006 to run operations. Criteria Labs is a semiconductor services company specializing in support of fab-less semiconductor companies. Brewer volunteers at his daughter's grade school and just ended a two-year position on the executive board there.

LABORATORY UPGRADES MADE POSSIBLE

One of the goals of the chemical engineering department is to upgrade the undergraduate laboratories so that students benefit from hands-on experience with modern equipment. Support from the K-State ChE Academy is vital to achieve this goal. In last year's newsletter, we reported on a new laboratory experiment developed for the unit operations laboratory that was made possible through academy support. This experiment, the extraction and purification of an enzyme from a sweet potato, was successfully implemented in spring 2007 and will continue to serve our students in the future.

This year, academy support has allowed us to purchase a new gas chromatograph (gc) for use

in the transport phenomena laboratory.

This gc is used to measure the relative concentrations of CO₂ and CH₄ in order to analyze the results of the gas diffusion experiment. It replaces a Varian gc that was used for the last 30 years. While the Varian gc was functional for many years, it had become unreliable and effectively unrepairable. The new gc is controlled by a computer and all data analysis is done with a modern software package. In addition, the CO₂-CH₄ separation is more efficient, taking less time for analysis than the old gc. Without the generous support of academy donors, this improvement in the transport phenomena laboratory would not be possible.



Replaced 30

CHE ACADEMY MEMBERS JULY

Academy Associate

\$250 to \$499

Bryan Steven Anderson
John Paul Boehnke
Kent Morris Buster
Cyrus H Elting Jr
Jiaming Hua
Warren and Gisela Kennedy
Carl T Lira
Donald and Nancy Livingston
Chris and Edward Null
Ross and Lise Ostenberg
Robert L Rainbolt Jr
Thatcher and Anne Reist
Samuel and Dorothy Sinderson Jr
John B Sutherland
Edward and Dorothy Travnicek

Partner

\$500 to \$999

Mark and Terrie Boguski
Jeffrey Bone

Michael and Pamela Brown
Thomas and Rosaline Carlisle
David and Kathy Carr
Tansukhlal Dorawala
John Fimerellis
Rex and Gloria Garrelts
Eric Donald Johnson and Pamela Susan Dlabal
Alan and Helen Hammerli
Tracey and Larry Lindeen
Robert and Betty Meyer
Randy Mark Newcomer
Kurtis and Theresa Nuss
David and Leah Ott
Marc and Jody Ramsdale
Mary Rezac and Peter Pfromm
Lawrence A Schulte Jr
Jim M Siefkin
Kenneth L Thomas
Clarence and Jean Waters
Ralph William Wedd
Kerry Fred Williams
Debra A Zoloty

Fellow

\$1000 to 2499

Willis and Beth Barrett
Marla and Wayne Benyshek
Lyndon and Gerri Boyer PhD
Matthew and Lynn Dassow
Lewis Ho
Edward and Ming Hsu
Rich E Mistler
Kathleen R Nafus
Kurtis and Theresa Nuss
Morey E Oldweiler
Van and Sharon Pooler
Ann and Donald Schaechtel
Robert and Margaret Smith
John Richard Stewart
Keith Gregory Steyer
Frederick and Lois Stoller
Lawrence and Martha Stover
Gurdeep Ranhotra
Patrick and Carolyn Wilburn

Executive

\$2500 to 4999

Larry and Laurel
Mary Lee Durland
Dana and Elizabeth
Richard and Sara
Don and Barbara
Spencer and Susan

Four

\$25,000 to 49,999

Teresa and Arnold
Tom and Marilyn
Richard and Mary
Corbin
Judith T Fan and
L T and Eva Fan
Gordon and Joyce
Arthur and George
Virginia K Honston
Edward and Ming
Scott and Karen

VISIBLE THROUGH ACADEMY SUPPORT



Before

10-year old Varian gas chromatograph



After

New SRI 310C gas chromatograph provided through ChE Academy support

JULY 1, 2006—JUNE 30, 2007

Member

100 +
 Erickson
 Kind
 Mathes
 Porter
 Riedl
 Tholstrup

Member

lifetime
 Allemand
 Barrett
 Elizabeth

Robert Reay

Goering
 Hiser
 Lead
 Hsu
 Love

Kenneth Lee Martin
 Robert and Margaret Smith
 Keith Gregory Steyer
 Timothy and Sharon Taylor
 Norman and Donna Tetlow

CORPORATIONS

Academy Associate

\$250 to \$499

BP
 Cargill Foundation
 The Williams Companies Inc

Partner

\$500 to \$999

ChevronTexaco
 Dow Corning Corporation
 National Cooperative Refinery
 Assoc

Fellow

\$1000 to 2499

Burns & McDonnell Foundation
 Cargill Inc
 Mistler Family Foundation
 Tesoro Petroleum Corporation

Executive Member

\$2500 +

Chevron Phillips Chemical
 Company LP
 Fidelity Investments Charitable
 Gift Fnd

Founder

\$25,000 lifetime

Akron Community Foundation
 Chevron Phillips Chemical
 Company LP
 ConocoPhillips
 Cosmo Ec Co Ltd

E I Du Pont De Nemours and
 Company
 Estate of Joe Hyer
 ExxonMobil Foundation
 KUBOTA Corporation
 Mobil Foundation Inc
 Monsanto Company
 Nisshin Flour Milling Co, Ltd
 The Dow Chemical Foundation
 The Dow Chemical Company
 The Procter & Gamble Mfg
 Company

Every effort has been made to produce a comprehensive listing of donors for the calendar year. We apologize for any incorrect listings, misspellings, or omissions, and extend our sincere thanks for your support.

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

December 2006

Kyle Taggart – (Edgar) (MS) 3M
Tarl Vetter – (Pfromm) (MS) Koch
Peng Lu – (Edgar) North Carolina State

May 2007

Nathan Keiser – (Rezac) (MS) 3M
Tyler McGown – (Anthony) (MS) Burns & McDonnell

Chemical engineering B.S. graduates

December 2006

Aveen Alkhatib – KU, ChE graduate student
David Strickley – Home Depot

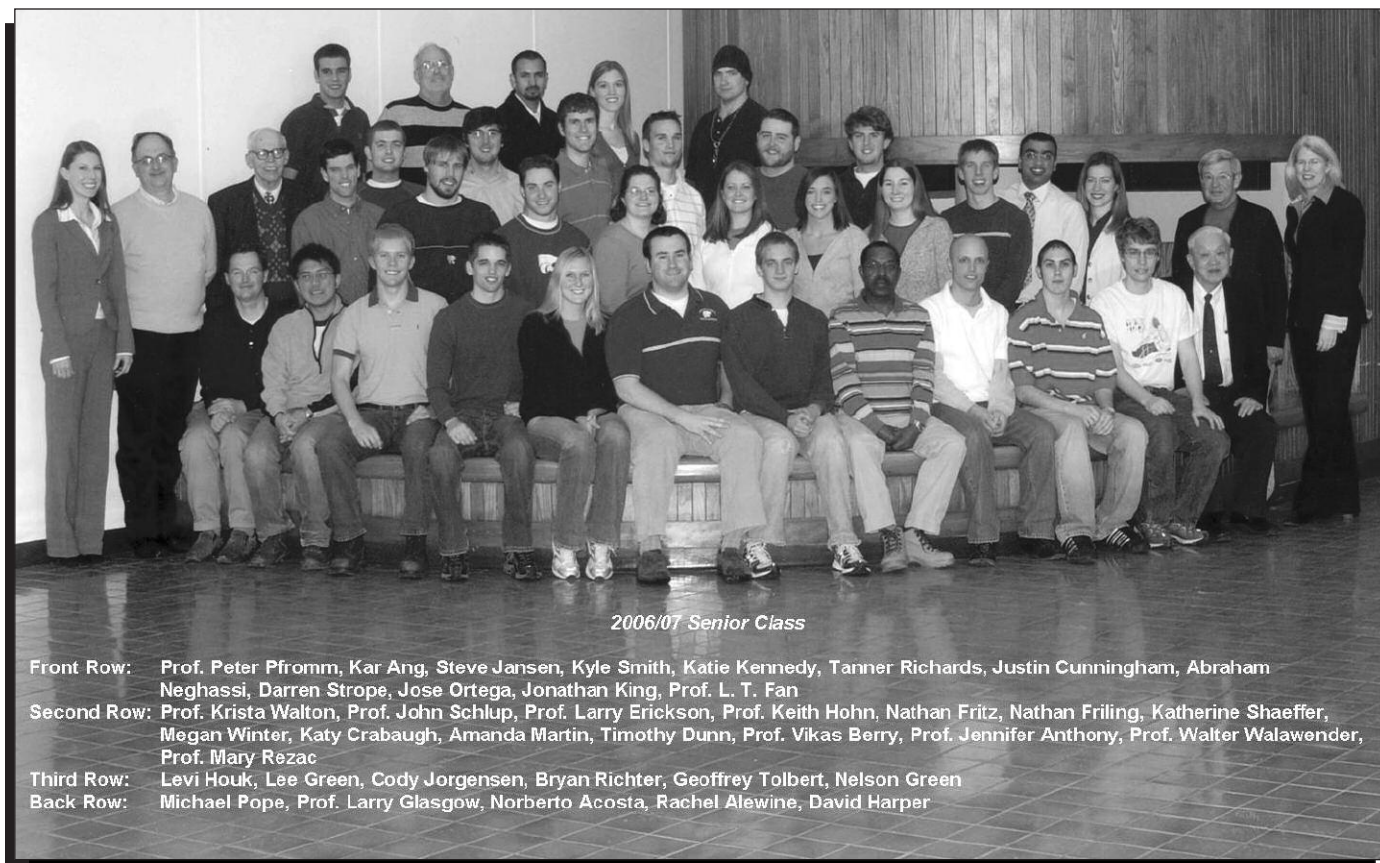
May 2007

Norberto Acosta – Chevron Phillips Chemical
Rachel Alewine – seeking
Katy Crabaugh – U.S. Steel
Justin Cunningham – seeking
Andrew Friling – Cargill
Nathan Fritz – Georgia Tech, ChE graduate student
Lee Green – Chevron Phillips Chemical
Nelson Green – Georgia Tech, ChE graduate student

Levi Houk – University of New Mexico
Steven Jansen – Exxon-Mobil
Katie Kennedy – Chevron Phillips Chemical
Jonathan King – University of California-Berkeley, ChE graduate student
Abraham Neghassi – seeking
Jose Ortega – Dow Chemical
Bryan Richter – Chevron Phillips Chemical
Katherine Shaeffer – ADM
Kyle Smith – Dow Chemical
Darren Strobe – Exxon-Mobil
Megan Winter – NanoScale Corporation

August 2007

Geoff Tolbert – AGP

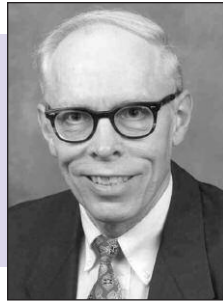


2006/07 Senior Class

Front Row: Prof. Peter Pfromm, Kar Ang, Steve Jansen, Kyle Smith, Katie Kennedy, Tanner Richards, Justin Cunningham, Abraham Neghassi, Darren Strobe, Jose Ortega, Jonathan King, Prof. L. T. Fan
Second Row: Prof. Krista Walton, Prof. John Schlup, Prof. Larry Erickson, Prof. Keith Hohn, Nathan Fritz, Nathan Friling, Katherine Shaeffer, Megan Winter, Katy Crabaugh, Amanda Martin, Timothy Dunn, Prof. Vikas Berry, Prof. Jennifer Anthony, Prof. Walter Walawender, Prof. Mary Rezac
Third Row: Levi Houk, Lee Green, Cody Jorgensen, Bryan Richter, Geoffrey Tolbert, Nelson Green
Back Row: Michael Pope, Prof. Larry Glasgow, Norberto Acosta, Rachel Alewine, David Harper

Faculty and staff notes

■ Larry Erickson was a recipient of a Luther Achievement Award, presented to distinguished alumni from Lutheran Junior College in Wahoo, Neb. Erickson received this award at Lutherfest, June 22-24, 2007, at Midland Lutheran College in Fremont, Neb.



Erickson

■ Krista Walton received the University Mentoring Fellowship for Women and Minorities in the Sciences and Engineering, designed to help tenure-track women and minority scientists and engineers find mentors and develop their research programs to a level that attracts outside funding. Walton received NSF travel support to attend and present at the 9th International Conference on the Fundamentals of Adsorption in Giardini Naxos, Italy, in May 2007. She also presented at the 15th International Zeolite Conference in Beijing, China, in August 2007.



Walton

■ Walter Walawender was awarded an honorary membership in the Steel Ring Professional Engineering Honor Society at the 2007 Open House banquet. There have been only nine honorary memberships awarded in the history of Steel Ring.



Walawender

■ Jennifer Anthony attended a course on the Fundamentals of X-Ray Diffraction sponsored by the International Centre for Diffraction Data in Pittsburgh, Pa., in June. She was funded by the Research Enhancement Visit program through the College of Engineering and the

NSF ADVANCE program. In July, Anthony attended and presented at the Chemical Engineering Summer School program sponsored by the American Society of Engineering Education. Anthony also attended and presented at the 15th International Zeolite Conference in Beijing, China, in August.



Anthony

■ The Sperman refinery has churned out its first grandchild for Florence and Jim Sperman. Ryker Ludlow Sperman-Wiens strutted into the world on Friday, April 13, clearly unimpressed with the superstitious nature of such a fine spring day.



Sperman and new grandson

Learning communities expand student opportunities

Continued from page 5

Wiersema from the College of Human Sciences at Iowa State University. At these interactive meetings, students were exposed to important concepts such as active listening, conflict resolution, problems solving as a team, and learning theory. Students discussed these topics, engaged in an activity to reinforce the topic, and brainstormed on how they could apply the concepts in their academic and professional lives.

Example activities included a problem-solving activity where teams of students had to consider and rank what equipment would be most vital for survival in the desert, an activity where

teams of students had to design and build a working scale made completely of edible materials, and an activity where students discussed engineering ethics by first listing the arguments for a certain action by an engineer being ethical and then listing the arguments for that action being unethical. In addition to these activities, students were exposed to several methods that could benefit their learning. For example, students practiced a technique called “read and explain pairs,” where a pair of students read a technical article by breaking the article into pieces and taking turns summarizing the main points of each

piece to their partner.

Participant Lauren Sturm commented on what she got out of the experience, “Learning communities was a great opportunity for me to interact with other students within my major and across all fields of engineering for an entire year and build strong relationships as we learned to be better team members and more responsible learners.”

Participant Ross Holmes said, “Learning community allowed me to step back and realize my strengths and weaknesses. I can take what I learned in this class and not just apply it to school, but also to my career and life.”

Dow Scholarship winners



Cutline

Last fall, the Dow Chemical Company provided financial support to establish the Dow Chemical Company Foundation Scholarship program. The five-year program will provide \$4000 supplemental scholarships to 27 chemical engineering students. This program supplements the long-standing Dow Outstanding Junior program which provides a \$1,500 supplemental scholarship plus a 10-week paid internship at a Dow Chemical Company location.

In the 2006-2007 academic year, Amanda Martin, senior; Erin Johnson,

junior; and Amanda Jacobs, sophomore, were Dow Chemical Company Foundation Scholars. Lisa Mercurio was named the Dow Outstanding Junior.

For the 2007-2008 academic year, senior Lisa Mercurio, juniors Vanessa Whittle and James Swanson, sophomores Bristen Krinhop and Elaine Lamm, and freshman Edgar Ortega, were named Dow Chemical Company Foundation Scholars. The Dow Outstanding Junior will be named later in the year.

ConocoPhillips Scholarship winners

Kansas State University has been selected as the newest member of ConocoPhillips' SPIRIT Scholars program. The program recruits outstanding students and provides them with leadership and public service opportunities throughout their college careers. The program's objective is to prepare students for success in the modern business world.

Students receive scholarships, potential summer internships, business-related training, and professional mentoring. The program is formally established and provides funding

for individual scholarships for students at eight universities, now including K-State.

Six K-State chemical engineering students have been named ConocoPhillips SPIRIT Scholars for the 2007-2008 academic year, including seniors Kaylee Cocke, Christopher Frampton, William Service, Ben Tryon, and Alison Young and junior Amanda Jacobs. SPIRIT scholars will receive \$5000 supplemental scholarships during the next academic year.



ConocoPhillips SPIRIT Scholars for 2007-2008, from **l to r**: Amanda Jacobs, Kaylee Cocke, Alison Young; **second row**: Ben Tryon, William Service, Christopher Frampton

Berry joins chemical engineering department

Continued from page 1

like sensors and nanomechanical systems. The first project my group is working on is to build a three-component nano-hybrid system for applications in molecular electronics, biophysics, and nano-mechanics.

What courses are you planning on teaching?

I taught electronic materials in spring 2007 and will be teaching chemical reaction engineering in fall 2007.

What is your teaching philosophy?

In my opinion, an effective teacher is one who inspires the students' interest in the discipline by transmitting his enthusiasm and love for the subject, and develops a feeling of fascination and importance of the course, which in

turn eases the learning process. At the graduate level, an additional aspect which has to be incorporated in teaching is to make students think independently and conduct independent, but mentored, research. I want to incorporate all these elements into my teaching. I also believe that one-on-one communication is very essential to address each student's specific needs and to help them think like engineers.

What do you like to do outside of work?

I enjoy tennis, racketball, running, iceskating, and hiking. Apart from sporting activities, I also like music. I have played the bamboo-flute for several years and have recently taken up guitar. I also like to read a book once in a while.

National recognition for ChemE students

K-State chemical engineering students continue to receive national recognition for their academic achievements by winning prestigious national scholarships. In the past year, Jonathan King was awarded the Phi Kappa Phi Graduate Fellowship and Emily Voigt was awarded the Barry M. Goldwater Scholarship. These two outstanding students join seven previous students who have won competitive national scholarships since 1982 (see table below).



Voigt

Emily Voigt, senior in chemical engineering with a minor in German, was one of 317 students nationally to win a 2007 Barry M. Goldwater Scholarship. They were selected on the basis of academic merit from a field of 1,110 mathematics, science, and engineering students nominated by the faculties of their colleges and universities. The scholarship provides up to \$7,500 annually for a student's final one or two years of undergraduate studies. Voigt conducted research at Pennsylvania State University on transgenic protein production in plant cells in summer 2005 and again in 2006 on algae biofuels, and plans

to perform research next year in biofuels production under Professors Keith Hohn and John Schlup. She plans to earn a Ph.D. in chemical/biological engineering, with a long-term goal of conducting research in biofuels and teaching at a university.

Jonathan King, senior in chemical engineering, was one of 60 students nationally to receive the Phi Kappa Phi Graduate Fellowship. This fellowship provides \$5,000 for post-graduate study at accredited institutions of higher learning. Jonathan has had a variety of research experiences including an NSF-funded Research Experiences



King

for Undergraduates at the University of Colorado in 2005, a Chemistry and Materials Science Internship at Lawrence Livermore National Laboratory in 2006, and honor's research on synthesis of zeolites with Professor Jennifer Anthony. Jonathan will pursue his Ph.D. in chemical engineering at the University of California at Berkeley starting in fall 2007, where he plans to specialize in nanotechnology.

ChE students awarded prestigious national scholarships

- 2006 – **Jonathan King**, Goldwater Scholar
- 2002 – **Peter Pauzauskie**, NSF Graduate Fellowship
- 1999 – **Peter Pauszauskie**, Goldwater Scholar
- 1999 – **Steven Alley**, Udall Scholar
- 1992 – **Christopher Baldwin**, Marshall Scholar
- 1992 – **Robert Rainbolt, Jr.**, Goldwater Scholar
- 1990 – **Christopher Baldwin**, Marshall Scholar
- 1989 – **T. Teresa Dao**, Phi Kappa Phi Graduate Fellow
- 1982 – **Rodney Fox**, Fulbright Scholar

Student notes

- K-State chemical engineering students received the National Outstanding Chapter Award for the 12th consecutive year at the AIChE Annual Meeting held in San Francisco, Calif.
- The ChemE Car team placed fifth at the national competition, held at the AIChE Annual Meeting. The team also won the Spirit Award for their enthusiasm.
- Levi Houk took first place in the poster presentation competition at the AIChE Annual Meeting.
- Jonathan King received the AIChE Othmer National Scholarship. This is the 12th consecutive year in which a K-State chemical engineering student has won this award.
- Ben Gurtler received the 2007 Richard G. Akins Student Service Award.
- Li Du received the Rotary International Graduate Scholarship.
- James Swanson was selected for K-State's junior honor society, Chimes. Chimes promotes leadership, scholarship, and service, and annually selects K-State's Honorary Family as part of the university's Family Day events.
- Ben Tryon and Emily Voigt were named Tau Beta Pi Scholars. They were two of 16 students nationally to receive this award.

Let us know what you've been up to!

We would like to feature alumni 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.

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