

ChemE News

KANSAS STATE UNIVERSITY

FALL 2015

COLLEGE OF ENGINEERING



KANSAS STATE
UNIVERSITY

College of Engineering
Department of Chemical Engineering

Yulia B...
Innate Immuni...

ChemE News

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On the cover:

Yulia Burakova, under the supervision of Dr. John Schlup, observes emulsions to be employed with an animal vaccine.

ChemE News

Fall 2015

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Chemical Engineering

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FROM THE DEPARTMENT HEAD

I'm pleased to highlight some of the department's accomplishments over the past year and the activities we have planned for next year.

Although you wouldn't know it — because he continues to be very active with his scholarly and research activities — Larry Erickson officially retired in January, after working for K-State for 51 years. He is still teaching three seminar courses, volunteering his time to mentor students in the NSF-supported Research Experiences for Undergraduates site on sustainable energy, contributing to the Center for Hazardous Substance Research and organizing an international conference on phytotechnologies to be held at the end of September. We will be celebrating his career on Oct. 1 with a luncheon and a guest lecturer, as described elsewhere in this newsletter. Alumni are invited to attend.

Two new assistant professors are joining the department this fall. Ryan Hansen earned his B.S. and Ph.D. degrees at Colorado School of Mines and the University of Colorado, respectively; and Aravind Suresh, who earned his Ph.D. at the University of Connecticut. Read more about both in this issue.

We continue to strive toward the objectives articulated in K-State 2025 strategic plan to become a top 50 public research university. An exceptional number of students will finish their Ph.Ds. in chemical engineering in 2015; up to 10 will be defending their dissertations. Our newest faculty are pursuing their research with enthusiasm and energy, mentoring students, seeking funding, publishing papers and giving presentations at professional meetings. Our undergraduate students are becoming more involved with research; 13 presented posters in the spring 2015 undergraduate research forum.

Two undergraduate student activities deserve special recognition. Senior Andrew Woolley received first-place in the American Institute for Chemical Engineers national student design competition, winning this award for the first time ever for K-State. Our student design team, Chem-E-Car, recently won the regional AIChE competition, thereby earning the opportunity to compete at the national meeting in Salt Lake City later this year.

Next year K-State will be hosting the regional AIChE meeting. Students from 10 regional schools will be gathering in Manhattan in April.

This year we will once again have a national search to add another new faculty member to the department, to help cover teaching and mentoring of the rising numbers of undergraduate and graduate students.

We encourage alumni to be involved with the CHE department. This year the College of Engineering is starting a mentoring program that pairs undergraduates with alumni so students can learn more about chemical engineering practice, and ask advice on preparing for and finding the type of jobs they want in the location they want. Alumni who are interested in helping should contact the department. We also like to hear from you. Please send us updates on your career and lives.

James H. Edgar
Department Head
Chemical Engineering





HOHN IN LEUVEN, BELGIUM, WHERE HE LIVED. THE BUILDING BEHIND HIM IS THE "STADHUIS" — THE CITY HALL.

SABBATICAL IN BELGIUM

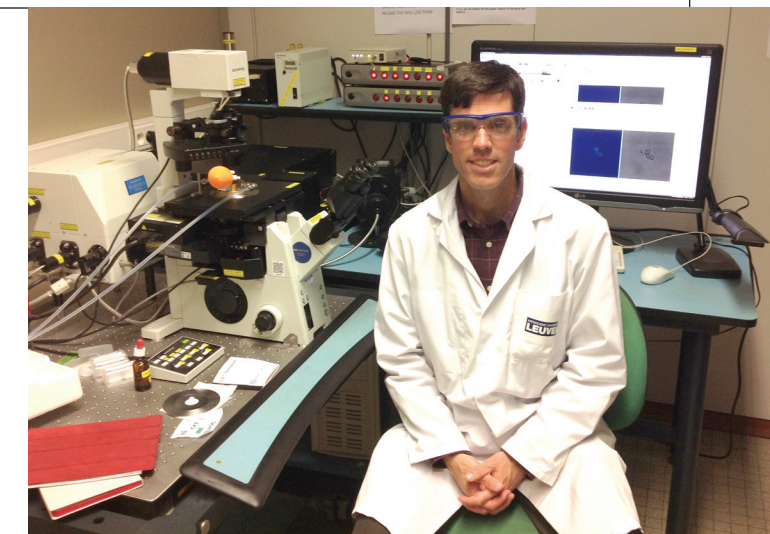
Every six years, tenured professors have the opportunity to take a leave of absence from K-State to explore new ideas and develop new skills via a sabbatical leave. This academic year, Keith Hohn, CHE professor, took advantage of this opportunity to spend six months at the Katholieke Universitat in Leuven, Belgium (KU-Leuven) in the department of chemistry from January to July 2015. During his stay, he worked with Johan Hofkens and Maarten Roeffaers, experts in spectroscopy.

"I have been interested in using single-molecule spectroscopy to study the catalytic materials that my laboratory makes for quite some time," Hohn said. "With this technique, we can see individual catalytic events as they occur on the catalyst via fluorescence of a probe molecule. This offers intriguing possibilities for studying catalysts as they work."

For six months, Hohn worked to develop a new fluorescent reaction that can be used to probe hydrogenation reactions, an important class of reactions in petrochemical processing and fine chemical synthesis. In this reaction, a non-fluorescent compound, coumberone, is hydrogenated over a suitable catalyst to

"I return to Manhattan with a new perspective on both research and life. Living in a different country for six months, I experienced the travails of not understanding all the cultural clues or the language. I have a new appreciation for what newcomers to the U.S. and to K-State must experience. As for my research, I return to K-State with new ideas and a better perspective on the latest in catalysis research in Europe."

— Keith Hohn



HOHN IN THE BELGIUM LAB

form coumberol, which fluoresces at 500 nm when excited by a 405-nm laser. Hohn studied whether this reaction could proceed under mild conditions on platinum and platinum-tin catalysts, and whether the resulting light could be detected using both confocal and wide-field microscopes.



THE HOHN FAMILY ON A VISIT TO ROME, FROM LEFT, KEITH, RYAN, ELIZABETH AND JOANNA

In addition to the opportunity to learn a new experimental technique, Hohn's sabbatical leave also provided the opportunity to live in a foreign country.

His wife, Joanna, and their two children, Elizabeth and Ryan, joined him on his sabbatical.

"This was a wonderful opportunity for my family to experience a different culture and meet different people," he said. "Joanna and I thought this would be a great experience for our children that would open their eyes to the wide world."

The Hohns lived in KU-Leuven housing at a place called the Groot Begijnhof, originally built in the 13th century as housing for religious women. With cobblestone streets, old brick buildings and an enormous church on site, it was a bit different from living in Manhattan.

One of the best parts of the sabbatical leave was the opportunity to travel. Belgium is located centrally in Europe, and Leuven is less than an hour from Brussels and its international airport and train station, meaning the Hohns were able to see quite a bit of Europe on the weekends and school holidays.

"We had a lot of fun travelling throughout Belgium and Europe," Hohn

said. "We visited London, Dublin, Rome, Amsterdam, Brussels, Bruges, Berlin, Paris, Spain and the Normandy area in France. We had a lot of fun and saw some amazing sights. The highlight for all of us was Rome, with its amazing archaeological and religious sites, and the amazing food."

Still, there's no place like home. The Hohns are happy to be back in Manhattan and back at K-State.

"I return to Manhattan with a new perspective on both research and life," Hohn said. "Living in a different country for six months, I experienced the travails of not understanding all the cultural clues or the language. I have a new appreciation for what newcomers to the U.S. and to K-State must experience."

"And as for my research, I return to K-State with new ideas and a better perspective on the latest in catalysis research in Europe."



ERICKSON



To make a gift to the Larry Erickson Fellowship Award, e-mail engineering@found.ksu.edu or give online.

Professor encourages gifts to support graduate students

In 1964, Kansas State University graduated its first Ph.D. student in chemical engineering. He was subsequently hired by the department, and went on to teach and inspire hundreds of students. Now, Larry Erickson has retired after 51 years, but is continuing his service as professor emeritus. Throughout his career, concern for students remained front and center for the Wahoo, Nebraska, native.

"Larry is peerless in his dedication to students and K-State," said James Edgar, head of the department of chemical engineering. "He enthusiastically supports the K-State ethos that everyone should have the opportunity for a great college education. Encouraging students to achieve their full potential is his passion."

Ever advocating for students, Erickson is inviting supporters and well-wishers to make a gift to the Larry Erickson Fellowship Award, a fund to help offset the costs for educating chemical engineering graduate students.

Whether researching solar-powered charging stations or the beneficial use of plants to address environmental issues, it's clear that Erickson is passionate about his field. He learned to enjoy his work from the late L. T. Fan, his major professor who would later become his colleague. In reflecting on his own career, Erickson hopes he instilled that same passion in his students.

"We don't know which of our students are going to be Nobel Laureates, which are going to be in the National Academy of Sciences, be president of a university or president of the United States," Erickson said. "We try to nurture each student and I think it's good to have them realize there are possibilities ahead they haven't even considered yet."

All are welcome to attend a luncheon to thank and honor Larry Erickson on Oct. 1 from 11:30 a.m. to 1:30 p.m. in the Flint Hills Room of the K-State Student Union. The event will also celebrate 30 years of public service through the Center for Hazardous Substance Research.

Make a gift to the Larry Erickson Fellowship Award by going to www.found.ksu.edu/give/erickson

Department seeks sponsorships, private support to host conference

AIChE 
The Global Home of Chemical Engineers

On April 1 - 2, 2016, Kansas State University will have the honor of hosting the American Institute of Chemical Engineers' Mid-America Student Regional Conference for the first time in more than a decade. However, that honor comes with a responsibility to provide lodging and food for attendees from about 12 universities, a significant goal for which the department of chemical engineering seeks investment and sponsorships from alumni and friends.

"The past several years, our students have been able to attend these regional conferences at a minimal cost because the host university would raise the money to cover nearly all the expenses. Now it's our turn," said Jennifer Anthony, CHE associate professor and adviser for K-State's student chapter of the American Institute of Chemical Engineers, or AIChE.

With more than 200 chemical engineering students from 12 universities in one location, the conference presents a tremendous recruiting opportunity for industry employers. It's also an opportunity for K-State to recruit students with an interest in graduate-level research and for the university to showcase pride points like the Phase IV expansion to the engineering complex.

David Madden, president of K-State's AIChE student chapter, said the Chem-E-Car competition is a significant focus of regionals. K-State's team is the reigning regional champion, preparing for the national competition in November. From safety inspections to engineering documentation, this rigorous competition makes teams earn the right to compete.

"It gives students an opportunity to solve open-ended problems outside the classroom and exposes students to chemical safety training, which they'll carry into the workplace," said Madden, co-captain of K-State's Chem-E-Car Design Team. "Ultimately, this conference will be an exciting time to bring a lot of visitors to Manhattan and show them our beautiful new engineering building."

To support the department of chemical engineering's hosting of the AIChE Mid-America Regional Conference, please e-mail Cynthia Brott at cdbrott@k-state.edu or give online at www.found.ksu.edu/give/aiche.



K-STATE CHE STUDENTS AT AICHE PICNIC

Give online at www.found.ksu.edu/give/aiche



CHE honor roll - July 1, 2014 – June 30, 2015

INDIVIDUALS

\$250 - \$499

Mark and Terrie Boguski
Lyn and Jerri Boyer
John Doan
Katherine and Davin Erikson
Sarah Gault
Casey and Ashley Hetrick
Lewis Ho
Dan and Toni Hogan
Yee-Wei Huang and Yu-Hua Hsu
Beverly Jaderborg and Michael Burlingame
Stephen and Dixie Long
Wesley McFadden
Clint and Amy Meyersick
Kale Needham
Jeff Pierson
Chiu-Sen Wang

\$500 - \$999

Marla and Wayne Benyshek
Jeffrey and Trixie Bone
Kent Buster and Gitta Banks
Scott Coatney and Stephanie Lee
Archana and Mahendra Gharpuray
Ashish Ghosh Haira
Larry and Linda Glasgow
Yee-Wen Huang

David and Jane Kelling
Jeanenne and Blase Leven
Doug and Jackie Little
Justin and Michelle Mitchell
Randy and Julie Newcomer
Ross and Lise Ostenberg
Alison Peterson
Joseph Rahija
Marc and Jody Ramsdale
Kathy and Bill Rasmussen
Thatcher and Anne Reist
Tracy and Mary Sandow
Quinn and Mei-Huey Tseng
Ted Wiesner and Colleen Farley
Laura and David Winks
Jon and Katie Wright

\$1000 - \$2499

Bryan and Celia Anderson
Tom and Denise Carlisle
David and Kathy Carr
Parkson Cheong
Mau and Shu-Fen Chow
Dick and Mary Elizabeth Corbin
Matthew and Lynn Dassow
Erin Green
Carl and Terri Hopkins
Ed and Ming Hsu

Eric Johnson and Pam Dlabal
Warren and Gisela Kennedy
Larry Kraus
Scott and Staci Kring
Nancy and John Matthews
Kent and Trina Nettleingham
Norman and Donna Tetlow
Edward and Dorothy Travnicek
Kang-Bo and Su-Huei Wang

\$2500+

Tom Barrett
Dave and Pam Beardmore
Larry and Laurel Erickson
Judith Fan and Robert Reay
Gordon and Joyce Goering
Wayne and Barbara Harms
Steve and Kim Hieger
Rick and Cheryl Kinder
Scott and Karen Love
Peter and Carol Maa
Snehal and Jyotika Patel
Larry and Barbara Schulte
Fred and Lois Stoller
Tim and Sharon Taylor
Spencer and Susan Tholstrup

\$25,000+ Lifetime Giving

Kassim Alkhatib and Sorkel Kadir
Terrie and Arnold Allemang
Melvin and Rannie Barb
Tom and Marilyn* Barrett
John and Heather Button
Dick and Mary Elizabeth Corbin
Larry and Laurel Erickson
Judith Fan and Robert Reay
L T* and Eva* Fan
Gordon and Joyce Goering
Charlotte Gollobin
Wayne and Barbara Harms
Art* and Georganne* Hiser
Bill* and Virginia* Honstead
Ed and Ming Hsu
Joe* and Louise* Hyer
II-VI Foundation
Scott and Karen Love
Don and Barb Riedl
Ann and Donald Schaechtel
Jim and Robin Siefkin
Bob and Peggy Smith
Fred and Lois Stoller
Tim and Sharon Taylor
Norman and Donna Tetlow
Spencer and Susan Tholstrup
Kerry and Donna Williams

* = deceased

CORPORATIONS

\$2500+

Chevron Phillips Chemical Company LP
ConocoPhillips
The Dow Chemical Company
Ella Cheong
ExxonMobil
Morgan Stanley Smith Barney
Phillips 66 Company
Rothwell Figg Ernst & Manbeck PC
Shell Oil Company

\$25,000+ Lifetime Giving

Cargill Inc
Chevron Phillips Chemical Company LP
ChevronTexaco
ConocoPhillips
The Dow Chemical Company
E I DuPont De Nemours and Company
ExxonMobil
Kenneth L Martin Trust
KUBOTA Corporation

Monsanto Company
Nisshin Flour Milling Co LTD
Proctor and Gamble
Phillips 66 Company
Shell Oil Company

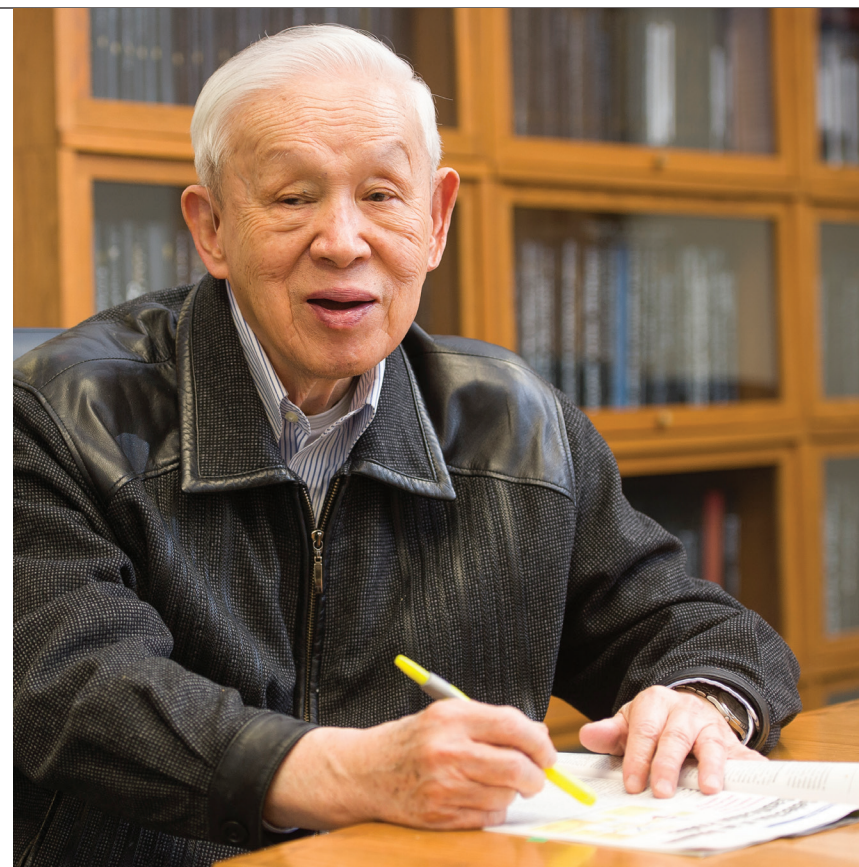
Interested in supporting the KSU chemical engineering program? Learn more at www.found.ksu.edu/give/che.

We sincerely thank you all for your generosity and support.



L.T. FAN

(1929 – 2014)



Dr. Liang-tseng "L.T." Fan, died Aug. 4, 2014, at the age of 84. His contributions to the department of chemical engineering at Kansas State and to the chemical engineering profession as a whole are substantial. He was instrumental in securing funding for the construction of Durland Hall while serving as department head of the department of chemical engineering, founded and directed the activities of a number of companies, and authored or coauthored seven books and more than 600 journal articles that have been cited more than 6,000 times, according to the Science Citation Index.

Beyond these achievements, Fan had an enormous influence on the people around him. This includes both his family, and the students and colleagues he worked with over his distinguished career.

Fan is survived by one son, Tso Yee Fan, and his wife, Deborah Haley, Belmont, Massachusetts; one daughter, Judith Fan, and her husband Robert Reay, Mountain View, California; four grandchildren: Lauren and Mitchell Reay, and Olivia and Spencer Fan; one brother, Liang-shing Fan, Ft. Collins, Colorado; and two sisters, Liang-ing Tsai, Cincinnati, Ohio, and Liang-Whey Lee, Fremont, California.

To honor L.T. Fan's distinguished career, comments and photos were solicited from his former students and colleagues on their memories of working with him.

Please visit the website at che.ksu.edu/news/fan



LIU

Bin Liu won \$1,000 travel support for 2015 Spring Academic Excellence from the Office of the Provost and Senior Vice President.



AMAMA

Placidus Amama received the 2014 Air Force SFFP Faculty Award; he spent eight weeks at Wright-Patterson Air Force Research Laboratory, Ohio, conducting research on the synthesis of carbon nanotubes.



GLASGOW

Larry Glasgow has authored the recently published book, "Applied Mathematics for Science and Engineering," for first-year graduate students, and advanced undergraduates in engineering and the physical sciences.

Peter Pfromm served as a discussion leader on innovative membrane processes at the Gordon Research Conference on Membranes: Materials and Processes at Colby-Sawyer College, New London, New Hampshire.



PFROMM



ERICKSON

Larry Erickson was recently recognized by Gov. Sam Brownback for 50 years of service to the state of Kansas. Larry is also organizing the 12th International Phytotechnologies Conference to be held in Manhattan in 2015.



HOHN

Keith Hohn continues to serve as editor-in-chief of the online journal, Catalysts. Under his guidance, Catalysts has been added to the Science Citation Index Expanded and Scopus, the largest abstract and citation database of peer-reviewed literature, and recently received its first impact factor of 2.0, which places it 77th out of 139 in the category "Chemistry and Physics."

Rezac named Tim Taylor Chair in Chemical Engineering

In recognition of her commitment to excellence in the undergraduate and graduate programs of the department, Mary Rezac has been named the Tim Taylor Chair in Chemical Engineering.

Rezac has a long and intertwined history with K-State and Phillips. In 1987, she graduated with a bachelor's degree in chemical engineering from K-State. She began her career working at the Phillips Petroleum Company in the research and development division in Bartlesville, Oklahoma. While there, she worked on projects relating to light-end's upgrading and polymer production. She then completed doctoral studies at the University of Texas at Austin in chemical engineering, graduating in 1993. From 1994 – 2002, she was a member of the faculty of the Georgia Institute of Technology. Rezac returned to K-State in 2002 as an associate professor. In the subsequent years, she has served as the CHE department head, director of the Center for Sustainable Energy, director of K-State's only NSF-funded IGERT program, teacher, mentor and research director. She has been recognized for her research and teaching excellence by both K-State and Georgia Tech.

"I'm honored to have received this recognition," Rezac said. "Through both the generous financial support and implicit certification of the quality of our work, the Tim Taylor Chair in Chemical Engineering will have a



significantly positive impact on the research completed by the graduate and undergraduate students I supervise."

Tim G. Taylor is president of Phillips 66, a diversified energy manufacturing and logistics company. Before being named to his current role, Taylor served as executive vice president, commercial, marketing, transportation and business development. Prior to joining Phillips 66, he was chief operating officer of Chevron Phillips Chemical Company. He is a native of El Dorado, Kansas, and graduated from Kansas State University with a bachelor's degree in chemical engineering in 1975.



Phytotechnologies 12th International Conference

International conference set for Manhattan in September

The 12th International Phytotechnologies Conference will be hosted by the International Phytotechnology Society and Kansas State University Sept. 27 - 30, 2015, at the Hilton Garden Inn Conference Center in Manhattan, Kansas. The conference will provide opportunities for planners and designers, scientists, engineers, consultants, policy regulators and other interested individuals to explore and discuss how recent developments in phytotechnologies address current and emerging environmental challenges, including renewal of urban brownfield sites and other contaminated landscape systems.

Phytotechnologies refer to plant-based technologies to clean water, soil and air, and provide ecosystem services — including storm water management and energy from biomass. Educational sessions will address risk exposure and risk reduction, soil restoration and improvement, phytotechnology educational programs, career paths and applications of phytotechnologies. More than 250 abstracts from 34 countries have been submitted to the conference. Attendance is open to all interested persons.

Visit the 2015 conference website at

<http://conferences.k-state.edu/phytotech2015>



HANSEN

Hansen joins chemical engineering faculty

Ryan Hansen will join the chemical engineering department in August 2015 as an assistant professor. Hansen received his Ph.D. in chemical engineering in December, 2008, after which he worked as a post-doctoral associate at the Colorado School of Mines and Oak Ridge National Laboratory, or ORNL. Hansen's research has

centered on developing polymeric materials and microfluidic systems for important diagnostic and biodetection applications. For example, in his research at the Colorado School of Mines, he developed microfluidic devices as a clinical diagnostic for bleeding disorders, and while at ORNL he had been developing functional polymer interfaces to isolate and characterize bacteria.

It was the potential to link his research with critical national needs that first attracted Hansen to K-State.

"I was initially attracted to Kansas State because of the work going on at the Biosecurity Research Institute. I was excited by their ongoing research efforts to protect the nation's crop and livestock resources, and was impressed by the unique facilities that they have," he said.

Alumni profile

Kent L. Nettlesham, Katy, Texas, is a 1997 graduate of Kansas State University in chemical engineering. He serves as vice president of butane blending for Texon, LP, a midstream service provider of technology-based blending and niche marketing in Houston, Texas. As the leader of Texon's butane blending business, he is responsible for customer relationship management, commercial oversight, supply, logistics and growth. He also leads operations, optimization, field services, control systems and engineering shared services across all Texon technology-based blending operations.

During the 15 years prior to joining Texon, Nettlesham contributed to Phillips 66, ConocoPhillips and Flint Hills Resources in a variety of technical and commercial roles including process engineering, economics and planning, business development, supply, origination and asset optimization. In 2015, he was a recipient of the K-State College of Engineering Professional Progress Award, given to select alumni graduating fewer than 20 years ago who have done exceptionally well in their careers. He will also be serving the chemical engineering department as a member of its external advisory board.



NETTLESHAM

"During my visit last winter, I became aware they are in need of engineers who can develop pathogen detection technologies for their applications. Many of my research aspirations fall in line with this need, so I believe that collaborations through the BRI will open up doors for my lab in the future."

Hansen's research at K-State will initially center on developing synthetic interfaces for isolating and characterizing microbes.

"My lab will use micro and nanofabrication, surface chemistry and microfluidics to isolate microbes in artificial environments that mimic the physical and chemical environments found in naturally occurring habitats, allowing for new insights into microbial behaviors," he said. "I also plan to applying functional polymeric interfaces that I previously developed at ORNL to isolate bacterial contaminants from complex samples for biodetection and biosecurity applications."

Hansen will initially teach the transport phenomenon courses and is excited to put his own lab together and to find collaborations with other PIs at K-State and beyond.

"We've come up with some innovative technologies at ORNL that I am looking forward to developing further in my lab," he said. "It will be great to do this while interacting with students both in the lab and in class."

Outside of teaching and research, Hansen enjoys outdoor activities including biking, camping and fishing. He is a competitive runner who competes in 5K, 10K and half-marathons.

Suresh joins chemical engineering department



SURESH

Aravind Suresh will join the chemical engineering department in fall 2015 as a term assistant professor, with primary responsibilities to teach chemical engineering laboratory courses. Suresh received his B.Tech. in chemical engineering from the National Institute of Technology, formerly REC, in Trichy, India, in 2004 and his Ph.D. in chemical engineering from the University of Connecticut in 2011. His dissertation topic was the electrochemical and catalytic activities of transition metal-doped, high-temperature protonic conductors. After receiving his doctorate, Suresh joined the chemical engineering department at the University of Connecticut for two years as an assistant professor-in-residence where he taught junior and senior laboratory courses, and worked on exploratory research projects, primarily related to chemical vapor deposition of polymers, in collaboration with faculty members.

At K-State, Suresh will be in charge of maintaining and improving the department's laboratories, as well as teaching both the transport and unit operations laboratories.

"I emphasize the following approach to students – understand and carry out the experiment, apply the concepts that you learned in the classroom to it, and appreciate the different constraints that the real world entails," Suresh said in regard to his approach to teaching laboratory courses.

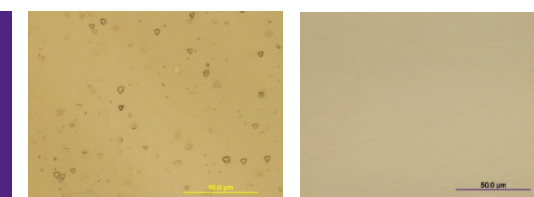
"I encourage students to look at the bigger picture of the experience, which goes beyond the experiments themselves and includes elements such as safety, teamwork and effective communication of their findings to others. I also like to incorporate elements of research into the experiments wherever possible and will be working with the faculty members in the department in that direction."

EDGAR INVENTS PROCESS FOR IMPROVED SEMICONDUCTORS

James Edgar, CHE professor and department head, has been awarded a patent, "Off-axis silicon carbide substrates," which is a process for building better semiconductors. This patent describes a method of improving the quality of semiconductors layers by minimizing defects. The discovery was made by Yi Zhang, a 2011 CHE doctoral graduate, who found a boron arsenide layer she deposited on the substrate sample was very smooth.

"I couldn't believe it at first. I thought Yi hadn't deposited any film the surface was so smooth," Edgar said.

Collaborative research with the State University of New York at Stony Brook and the University of Bristol in the United Kingdom confirmed the layer's presence and proved that it had fewer defects than on the standard substrate. The absence of defects is important for using



TYPICAL SUBSTRATE SAMPLE EDGAR'S SUBSTRATE SAMPLE

semiconductors in electronic devices, since any defects degrades the efficiency of the device.

Although it was initially demonstrated for a specific material, the process is general. "We've shown it works with other materials," Edgar said. "We have verified that it is not just these specific materials we started with, but that it can be applied to improve the quality of a lot of different materials."



Andrew Woolley is the recipient of the A. McLaren White Award for his first-place-winning entry in the American Institute of Chemical Engineers national student design competition. He presented his design at the institute's student conference in November 2014 in Atlanta, Georgia. Woolley's process was selected as the top design responding to the contest problem to manufacture the next generation of vaccines using a non-egg-based platform for producing the influenza vaccine. He completed his design as part of the senior design class taught by John Schlup.



ANDREW WOOLLEY RECEIVES THE A. MCLAREN WHITE AWARD IN THE AIChE DESIGN COMPETITION.

Andrew Woolley, along with **Michael Whitehead** and **Thaddeus Tuck** from computing and information sciences, took first place in the American Institute of Chemical Engineers mobile device app competition. They developed a Web-based app designed as a learning tool for students studying the design of centrifugal pumps.

Jason Xu won third place for his poster, "Thermodynamics and Kinetics of 2,3-butanediol Dehydration on gamma-Alumina from Molecular Modeling" in the College of Engineering Undergraduate Research Forum.

Logan Joos and **Yichao Zhang** earned undergraduate research awards from the Office of Undergraduate Research and Creative Inquiry program at K-State.

Allison Pfeifer received the Undergraduate Research Experience Award from the Engineering Research and Graduate Programs office.

At K-State's 2015 Annual Research Poster Symposium in April, **Marissa Follette**, received the first-place James R. Coffman Award for her research in development of a high-performance, 3D carbon nanotube-based electrode system.

Sarah Featherstone placed third in the 17th annual S. Thomas Parker Mathematics Competition.

Rachel DeMyers, **Yichao Zhang** and **David Madden** each received a College of Engineering Undergraduate Leadership Scholarship.

Kevin Dippold received a Global Education Initiative Scholarship to study abroad in Turkey.

Julia Hilts, **Joseph Rzewnicki**, **Jason Grossardt**, **Brett Bandy** and **Rachel Walker** earned SHIELD Scholarships from Phillips 66.

Joshua Benton and **Rachel DeMyers** are participants in K-State's Biodiesel Initiative where a student-run biodiesel conversion facility is turning cooking oil from campus dining facilities to 100 percent biodiesel fuel. More information in the Biodiesel Initiative, including Joshua and Rachel's roles, can be seen at youtube.com/watch?v=A5bj2eY4mGs&feature=youtu.be&list=PLAD45744D5128C8EB

Balabalaji Padavala received an International Graduate Student Scholarship from the Konza and Manhattan Rotary clubs.

John Stanford, **Fan Zeng** and **Quanxing Zheng** won a K-State Graduate Student Council Travel Award. Stanford also received the Dr. Larry Erickson Fellowship Award.

John Stanford was awarded the "Best Contribution Linking Research and Industrial Innovation" for his presentation at the 12th International Conference on Catalysis in Membrane Reactors in Szczecin, Poland, in June 2015. In recognition of this award, Stanford received a 500 euro cash prize and a one-year membership to the European Membrane Society.

Michael Heidlage, **Huan Wang**, **Quanxing Zheng** and **Mingxia Zhou** each received the William H. and Virginia Honstead Fellowship Scholarship.

Fan Zeng was awarded the 2015 Kokes Award for the 24th North American Catalysis Society meeting in Pittsburgh, Pennsylvania, in June 2015. The Richard J. Kokes Travel Award program provides funding for students to participate in this biennial conference.

Yichao Zhang and **Michael Whinery** received the Akins Service award.

CONGRATULATIONS CHE GRADUATES

M.S. and Ph.D. graduates

December 2014

Mlynarczyk, Paul – Anthony (M.S.)
The Nature and Determination of the Dynamic Glass Transition Temperature in Polymeric Liquids

De Jesus, Ricardo – Erickson (M.S.)
Health and Safety Management of Lead in Soil in U.S. Air Force Bases

May 2015

Schulte, Leslie – Rezac (Ph.D.)
Blending High-Performance Polymers for Improved Stability in Integrally Skinned Asymmetric Gas Separation Membranes

Qiu, Shuzhen – Rezac (M.S.)
Preparation and Characterization of Matrimid/P84 Blend Films

Wendel, Sebastian – Bossmann (Ph.D.)
Bacteria as Drug Delivery Vehicles



B.S. graduates

August 2014

Alkhadary, Burhanuddin – SABIC
Romero, Alejandra – Cargill

December 2014

Kuhlman, Jacob
Martin, Jessica
Tryon, Megan – Werner Industries

May 2015

Betzen, Andrew – Hospira
Bradley, Christopher
Briscoe, Jared – Heartland Center

Carlson, Michael
Daniel, Michael
Ehie, Chikezie
Falk, Lacie – University of Kansas Medical School

Fu, Charlie – Holly Frontier Corporation
Gelhaus, William – Koch Industries
Graff, Kayla – Koch Industries
Harris, Tyler
Horton, Cory – INVISTA
Huang, Chaoran – KSU, ChE Grad Studies
Janzen, Clinton – National Cooperative Refinery Association

Jennings, Elizabeth
Kelly, Joseph
Marion, Brennan – U.S. Marine Corps
Meinhart, Kaitlyn – Black and Veatch
Midkiff, Megan – Honeywell
Pease, Sydney – Burns and McDonnell
Pyle, Logan – Hospira
Rummery, Andrew – Textron, Inc.
Smith, Nicole – Nalco Company
Svec, Kristen – Burns and McDonnell
Whinery, Michael – Phillips 66
Woolley, Andrew – Koch Industries

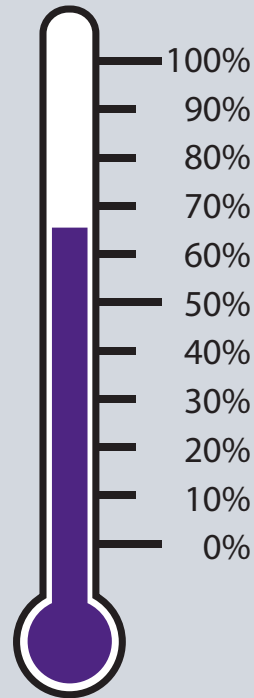
CHE faculty award nears goal

The Chemical Engineering Alumni Award for Faculty Excellence was created to recognize contributions of faculty members in the department who have demonstrated their interest in and willingness to help students. As enrollment in the department continues to grow, it is critical for the best and brightest students to have the best and brightest faculty to teach and mentor them. The award will help to retain and recruit high-caliber faculty.

The Chemical Engineering External Advisory Board has met the call to action to provide initial funding for the award, raising \$65,000 of the \$100,000 needed for it to be fully endowed.

Because it has been named the Chemical Engineering Alumni Award for Faculty Excellence, we as alumni are to be instrumental in raising this important source of funds for the department. We remember the impact our professors made on us and now have the opportunity to recognize those same significant contributions current faculty make to CHE students of today. Let's all join together to invest in the faculty excellence award by making a gift at www.found.ksu.edu/give/ChEFacultyAward.

— Kathy Alexander Rasmussen
CHE External Advisory Board member, CHE '94



Let us know what you've been up to!

We would like to feature alumni news in future issues of ChemE News. Please include the info below and mail to Keith Hohn, Dept. of Chemical Engineering, Kansas State University, 1005 Durland Hall, 1701A Platt St., 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 _____

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