

# Fugacity

Chemical Engineering Newsletter, The University of Iowa Spring 2003



Tracey Irwin & Shane Vonnahme show off their winning ChemE car at KU

## UI ChemE Car Takes 1st Place at Regionals

By: Afton Thumser

The weekend of April 6th was an exciting weekend for the University of Iowa's department of Chemical Engineering. Iowa's rocket-powered Chem E car took first place at AIChE's Mid-Central Regional Conference held at Kansas University in Lawrence, Kansas. The car was constructed by the following students: Tracey Irwin, Shane Vonnahme, Brandon Juhl, Joesph Grodecki, and Jordan Backstrom. Our department is very excited to have Iowa represented at the national competition this fall in San Francisco.

Rebecca Turner and Afton Thumser also represented the University of Iowa in the paper competition. Rebecca Turner talked about the isolation of mitochondria-free insect cells and Afton Thumser presented the effect of baculovirus infection on intracellular pH. ■

## Departing Faculty

By: Stephen Goldman

Unfortunately, Professor Linhardt is leaving following the summer of 2003 for the Rensselaer Polytechnic Institute in Troy, New York. The University of Iowa and the Department of Chemical Engineering will be losing an excellent professor and researcher but wish him the best of luck in all of his future work.

Robert J. Linhardt has been a full professor at the University of Iowa since 1990. Linhardt finished his undergraduate studies at Marquette University in Milwaukee Wisconsin in 1975. He then attended The John's Hopkins University in Baltimore, Maryland where he obtained his Masters Degree and his PhD. He subsequently finished his post doctorate work in 1982 at the Massachusetts Institute of Technology.

While at the University of Iowa, Linhardt was jointly appointed in the Division of Medicinal Chemistry, Department of Chemistry and Department of Chemical and Biochemical Engineering. His work focused on Heparin, an acidic mucopolysaccharide found especially in lung and liver tissue and having the ability to prevent the clotting of blood. In 1996, Linhardt was awarded with the University of Iowa F. Wendell Miller Distinguished Professor of Medicinal and Natural Products Chemistry and Professor of Chemical and Biochemical Engineering. In 1999, Linhardt was the recipient of the AACP Volwiler Research Achievement Award. In 2003, Linhardt was awarded with the Claude S. Hudson Award in Carbohydrate Chemistry from The American Chemical Society. Linhardt also holds numerous positions on editorial boards and professional societies. ■



Dr. Robert Linhardt

# Changes to the CBE Curriculum

By: Ann Kirsch

The educational objectives of the Chemical Engineering undergraduate program are a result of a continuous program improvement process that includes input and feedback from the faculty, students, alumni, employers, and the department's industrial advisory board. Specifically these objectives are:

- To produce graduates who have a strong foundation of scientific and technical knowledge and are equipped with problem-solving, teamwork, and communication skills that will serve them throughout their careers;
- To produce graduates who have the ability to pursue careers as a practicing chemical engineer in fields such as pharmaceuticals, microelectronics, chemicals, polymers/advanced materials, food processing, or environmental engineering;
- To produce graduates who have the ability to pursue advanced studies in disciplines such as Chemical Engineering, Environmental Engineering, Medicine, Law, or Business;
- To produce graduates who have the ability to assume professional leadership roles.

Recent changes have been made to the undergraduate curriculum that aid in the follow-through of these educational objectives. Students entering the program in the fall of 2002 are now following the new curriculum, and sophomore students also have the option to switch to the program. New courses are being offered and some have been removed from the program and replaced by others better suited to a chemical engineering education. One of the biggest advantages to this new program is that students in the new curriculum program have the opportunity to choose an elective focus area in a particular field of study. These areas include polymers, environmental study, graduate school preparation, pre-medicine, pre-law, business, process engineering, and many others.

Another change from the old curriculum is the addition of required enrichment activities. Students in the new program are required to participate in at least one of the following activities before graduation: three semester hour equivalent of an approved research experience, cooperative education experience, internship experience, study abroad, Program for Enhanced Design Experience (PEDE), entrepreneurial program (i.e., receive the corresponding certificate) or other approved multidisciplinary experience.

The changes to the curriculum will hopefully help students to get the most out of their undergraduate experience in the chemical engineering program at Iowa. ■

## UIAICHE Students Shine at Nationals

By: Tracey Irwin

The University of Iowa AICHE Student Chapter has had many remarkable accomplishments. This past November, 13 members of our chapter traveled to Indianapolis for the AICHE Annual Student Conference. There, we were awarded the Outstanding Student Chapter Award for the 10<sup>th</sup> consecutive year. We also placed 3<sup>rd</sup> in a new competition for the Outstanding Student Chapter Website Award and finished 9<sup>th</sup> out of 28 entries in the ChemE Car Competition. We were also honored to be one of five schools to present a Student Chapter Improvement Workshop. Our workshop was titled "How to Successfully Obtain an Internship or Co-op" and was attended by students and faculty from all around the country. ■

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# Study Abroad: An Experience Everyone Should Have

By: Erica Scheckel

After hearing tales of a friend's time abroad, I knew that experience was for me. I was really excited about the opportunity to learn more about a different culture. In the fall of my sophomore year at Iowa, I applied for a program in Swansea, Wales and was accepted for the spring 2002 term. My time in Wales was remarkably educational. I not only continued my coursework in engineering, but I learned more about European cultures, how others perceive the United States, and about myself. My journey abroad truly helped me discover my strengths, weaknesses, and limitations. Consequently, I have become more goal-orientated and ambitious.

Being submerged in a different culture was an awesome experience; there is no better way to appreciate their culture and my own. Living with six British girls was a rewarding experience which formed life-long friendships. The challenges and adventures I experienced during my studies are memories that I will carry with me; memories that I can call on to remind myself that I have the ability to achieve my aspirations. I am grateful for the opportunity, and since returning, I have counseled four individuals on studying abroad and encouraged countless others. ■

*"My time in Wales was remarkably educational"*

## ChemE Students and Faculty Participate in Community Outreach Program

By: Afton Thumser

Students in the Iowa City area are benefiting from a weekly tutorial program sponsored by the Multi-Ethnic Student Engineering Association (MESA). Each Tuesday night, approximately 40 students ranging from elementary to high school level attend to receive help with study skills and homework from the University of Iowa's engineering students and faculty. School subjects vary from math and science to history, English, and other languages. Chemical Engineering student and volunteer Kristine Golveo comments that "The truly great thing about the tutoring program is that the kids are exposed to people who believe in them. They not only have tutors, but mentors to encourage them as well." Faculty attending include Dr. Rodgers, Dr. Peeples, and Dr. Aurand. ■

Students and faculty members from any background are encouraged to volunteer.

Tutoring hours:  
6-8 pm  
Tuesday evenings  
2229 Seaman  
Center

## Campus News: Old Capitol No Longer Topless

By: Yudai Tadaki

After fifteen months of being scantily clad in tarp, the old capital building's dome was finally replaced on February, 24<sup>th</sup>, 2003. The 12,000 pound, 23 ¾ carat gold dome was hoisted by a crane and placed atop the Old Capital at 1:30 in the afternoon. Many turned out to witness this historic event in spite of 20 mph winds and temperatures only reaching the teens. Jane Dorman was quoted as saying, "The bitter cold and blue skies only make this occasion more memorable."

The original dome and bell were destroyed in a November 20<sup>th</sup>, 2001 fire that devastated the 161 year-old building and the UI community. The copula and bell tower were repaired last week and the restoration of the roof this spring will complete phase one of the renovation project. Phase two, slated to begin later this spring, will restore the fire damaged interior of the building. Phases three and four involve non-fire related improvements to the building's interior. The whole project is scheduled to be complete by early 2004. ■



Photo courtesy of:  
Gary Galluzzo  
UI News Services

## More About the AIChE Student Chapter

The University of Iowa AIChE Student Chapter works extremely hard each year to obtain funding for our activities. We have a variety of fundraising efforts in place, including a College of Engineering t-shirt sale, and we have been very fortunate to receive donations from several companies in the area. However, our goal is to establish an endowment for our student chapter so that future AIChE members will have the opportunity to attend every professional meeting and to sponsor professional enhancement activities. These opportunities will provide our students with knowledge and experiences that other schools cannot provide. We are asking that alumni from our department sponsor the University of Iowa AIChE Student Chapter because this organization is helping to shape the future of chemical engineering.

For more information regarding donations, please contact our Chapter Advisor, Dr. David Murhammer (319/335-1228 or [murham@engineering.uiowa.edu](mailto:murham@engineering.uiowa.edu)) or our Chapter President, Tracey Irwin (319/351-4340 or [tirwin@engineering.uiowa.edu](mailto:tirwin@engineering.uiowa.edu)). ■

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### **AIChE Executive Council**

Top row (left to right): Erica Scheckel, Vice President; Tracey Irwin, President; David Murhammer, Advisor; Stephen Goldman, Activities Coordinator

Bottom row: Ann Kirsch, Vice President; Yudai Tadaki, Treasurer; Afton Thumser, Secretary