

# The Packed Column

American Institute of Chemical Engineers - Upper Midwest Section

January 2006

## **CHAIR'S CORNER**

by Mark Arlinghaus

### **In an Ever Changing World, Chemical Engineering Stays Relevant**

Change is constant in manufacturing and technology. Research priorities and their associated federal funds come and go. Today one of the hottest topics is bioengineering. It seems like every week another university adds the term "bio" to its chemical engineering department's name. My alma mater, the Ohio State University, has changed its chemical engineering department to the "Department of Chemical and Biomolecular Engineering." Distillation, drying, and heat transfer are unfashionable. Nanotechnology, bio materials, and advanced computation are all the rage. Does this mean that the traditional curriculum of chemistry, process design, transport phenomenon, thermodynamics, and unit operations is outdated?

I believe that Minnesota's push to be a major producer of renewable energy shows that traditional engineering skills are

critical to the success of growing industries. Governor Tim Pawlenty wants Minnesota to be the "renewable fuel capital of America." To do this we need to solve many classic engineering problems. For instance, bio-diesel has gotten much attention lately because of problems in the supply chain. The chemistry may be straightforward, but manufacturers have struggled to prevent impurities for contaminating the fuel. Good process design and quality control are needed to prevent saponification of feed stocks. As ethanol becomes a more important source of energy, we need to become more efficient at extracting fermentation feedstock from corn and better able to capture waste heat and byproducts from the entire growing and processing cycle. These challenges are classic chemical engineering problems.

The good news for us is that the roles of chemical engineers are expanding. Job opportunities will continue in traditional fields, especially energy, and they will grow with the commercialization of nanotechnology and increases in chemical synthesis via biological means. The classic curriculum is a solid foundation for all this work.

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**<http://www.aichelocal.org/tc>**

## JANUARY MEETING

Joint Meeting with University of Minnesota AIChE Student Chapter

**Guest Speaker: Ken Valentas**

**“Current Challenges at the University of Minnesota BioTechnology Institute”**

**Monday, January 30, 2006**

**Meeting Location:**

Mississippi Room  
Coffman Memorial Union  
300 Washington Ave. S.E.  
Minneapolis, MN 55455-0110

**Agenda**

6:00 P.M. Dinner

7:00 P.M. Presentation and Questions

**Topic**

This is our annual joint meeting with the UMN student chapter. Dr. Ken Valentas will provide an update on the University of Minnesota BioTechnology Institute as well as an overview of his career path as a chemical engineer in industry and academia.

**Reservations.**

Reserve your seat by sending e-mail to [kurt.waananen@genmills.com](mailto:kurt.waananen@genmills.com).  
Please respond by January 20th.

**Cost**

The dinner is free for students and \$15 for professional members.

**Directions**

Directions to the union are available at:  
<http://www.coffman.umn.edu/directions.php>

**Place an ad here and get results! Reach over 600 chemical engineers!**

**Nathan Johnson, [doc\\_curtis@rocketmail.com](mailto:doc_curtis@rocketmail.com)  
651-733-2184**

**AIChE Upper Midwest Annual Symposium**  
**Preliminary Announcement and Call for Speakers**

**Tuesday, April 11<sup>th</sup>, 2006**  
**Time : 8:30 AM – 4 PM**  
(lunch provided)

**At the Hopkins Eisenhower Community Center**  
**1001 State Highway 7**  
**Hopkins, MN 55305**

**Keynote Speaker:**  
**Dr. Eric Hockert**  
**Process Development Manager, Boston Scientific**

**“The Medical Device Industry in Minnesota:  
A Brief History and Future Possibilities”**

For this year’s AIChE symposium, the keynote talk and one break-out session will focus on “**The Future of Manufacturing in Minnesota.**” We are inviting other potential speakers (either yourself or someone you would like to nominate) in this area as well as other topics. \*\*We will also be offering AIChE PDH credits to any engineers who are interested in keeping up their professional development hours. Please ask at the registration table for your form.\*\*

As in previous years, undergraduate students are encouraged to submit posters for the **student poster contest**. There are cash prizes for the top winners. This year, we would like to invite at least two students to be speakers during the morning sessions. We are also looking for **corporate sponsors** for this contest.

Please contact James Easton (phone: 952-944-7202, e-mail: [jimeaston@mn.rr.com](mailto:jimeaston@mn.rr.com)) to submit speaking interest (with topic, speaker, and speaker credentials). Be prepared to submit an abstract. You can also contact him to sponsor this event, or to sponsor the student poster contest. **Deadline for speaker interest/nominations is February 10, 2006.**

**January PD Meeting at Boston Scientific  
January 12, 2006**

Please join us at Boston Scientific for a night of networking and education with honored guest, Cathy Krier. Cathy will speak about her son's experience with the company's cochlear implant. This device has made it possible for her son to hear. You will also have the opportunity to learn about the Company's other medical devices through product displays.

**Time:** 6:00 - 6:30 Product displays networking and appetizers  
6:30 - 7:00 Dinner  
7:00 - 8:00 Speaker Presentation

**Location:** Three SCIMED Place  
Maple Grove, MN 55311

**Directions:** From I-94 take the Weaver Lake Rd (CR-109) exit and go west. Turn right (north) onto Scimed Place. Follow the road to the building furthest north.

**Cost:** \$10 for SWE members  
\$13 for non-members  
*Cancellations by Thursday, January 5th will receive a full refund. No refunds issued after January 5th.*

**RSVP:** By Thursday, January 5th, please return the form below or email to [januaryprogram@swe-mn.org](mailto:januaryprogram@swe-mn.org)

**Questions:** E-mail [pd@swe-mn.org](mailto:pd@swe-mn.org)



Name: \_\_\_\_\_

Send this form and check (made out to SWE-MN) by January 5th to:

Company: \_\_\_\_\_

Meghan Flynn  
2250 Plymouth Road, #308  
Minnetonka, MN 55305

Email: \_\_\_\_\_



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