

# The Packed Column

American Institute of Chemical Engineers - Upper Midwest Section

February 2008

## **CHAIR'S CORNER**

by Matthew P. Atkins

Happy New Year to all!

I recently was able to sit in on the findings of a tank explosion that occurred last year. It was amazing to see the detail of how the event came to be. The list of causal factors was very detailed and it was also interesting that the facility in which this happened had specifically identified this hazard and put in safeguards to prevent the incident. Without getting into a lot of details, there were a number of items learned: the lack of communication between the engineering group and operations (whom were writing the procedures); certain risks were engineered out, but others were chosen to be controlled with procedures; operations can and will find a way to shortcut a procedure; and many others.

Thinking about this incident reminded my about the "Oath of an Engineer." Here is the oath:

I am an Engineer, in my profession I take deep pride. To it I owe solemn obligations.

Since the Stone Age, human progress has been spurred by the engineering genius. Engineers have made usable Nature's vast resources of material and energy for Humanity's [Mankind's] benefit. Engineers have vitalized and turned to practical use the principles of science and the means of technology. Were it not for this heritage of accumulated experience, my efforts would be feeble.

As an Engineer, I pledge to practice integrity and fair dealing, tolerance and respect, and to uphold devotion to the standards and the dignity of my profession, conscious always that my skill carries with it the obligation to serve humanity by making the best use of Earth's precious wealth.

As an Engineer[, in humility and with the need for Divine guidance,] I shall participate in none but honest enterprises. When needed, my skill and knowledge shall be given without reservation for the public good. In the performance of duty and in fidelity to my profession, I shall give the utmost.

Reference: <http://www.order-of-the-engineer.org/oblig.htm>

I started to wonder how often we get into situations as engineers where we convince ourselves that our job is done and we fault someone else with not following through.

The tank explosion made me think about the CCPS and CSB when they do an incident review and how often the engineer group is cited as not properly engineering to prevent incidents.

Next time you are working on a project, think about the "Oath of an Engineer" and feel confident in the project you are a part of.

- Matt

**MAKE SURE TO CHECK OUT OUR WEB SITE AT:**

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

# FEBRUARY MEETING

## Communication Within a Company

Hosted by: AIChE Student Chapter

When: Monday, February 18th, 6:00 PM

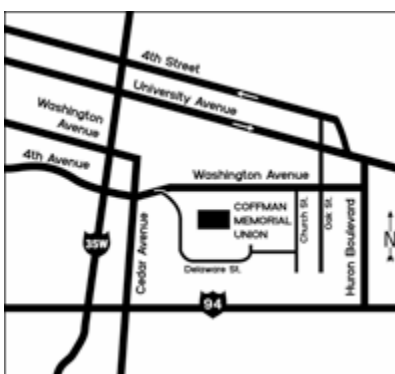
Where: Mississippi Room in Coffman Union Building at University of Minnesota

Cost: \$10/person

RSVP: [eegwillkom@mmm.com](mailto:eegwillkom@mmm.com)

*Dinner will be provided by a caterer, and is included in the \$10 charge.*

The speaker will be Chance Elm of Malt-O-Meal. He is going to be speaking about communication within a company. He is very charismatic and wants to do an interactive speech.



### Coffman Directions

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

#### **From 35W**

**From the south:** After passing I-94, watch for signs directing you to the U of M/3rd Street exit. Follow the East Bank sign. Merge onto Washington Avenue. Once you cross the Mississippi River, Coffman will be the second building on the right. Turn right onto Church Street and then right onto Delaware Street. Coffman's south entrance and drop-off locations will be on the right. Entrance into East River Road Garage is on the left.

**From the north:** Take the University Avenue/4th Street exit. Turn left at University Avenue and head toward the East Bank. Turn right onto Oak Street, then right onto Washington Avenue. Coffman is five blocks ahead on the left. To park or drop-off, turn left onto Church Street and right onto Delaware Street. The south entrance will be on the right.

#### **From I-94**

**From the east and west:** Take the Huron Boulevard exit from I-94 (north exit only). Turn left onto Washington Avenue. Coffman is approximately seven blocks ahead on the left. Turn left onto Church Street and right onto Delaware Street. Coffman's south entrance and drop-off locations will be on the right. Entrance into East River Road Garage is on the left.

# 6th Annual Minnesota Technical Symposium

[www. \*\*MinnTS\*\* .org](http://www.MinnTS.org)



Join us **Thursday March 20<sup>th</sup>** at Medtronic for dinner, cross-functional networking, and outstanding technical talks:

## Nasa Space Telescope

**Infrared Astronomy with NASA's New Spitzer Space Telescope – Robert Gehrz University of Minnesota, Department of Astronomy**

Launched from Kennedy Spaceflight Center in the early morning of August 25, 2003, NASA's Spitzer Space Telescope (formerly Space Infrared Telescope Facility, SIRTf) is the fourth and final facility in the Great Observatories Program, joining Hubble Space Telescope (HST, 1990), the Compton Gamma-Ray Observatory (CGRO, 1991-2000), and the Chandra X-Ray Observatory (CXO, 1999).

## Operation Stardust

**The collection & analysis of astrophysical dust and what we can learn from the stardust collected – Robert Pepin – University of Minn, School of Physics and Astronomy.**

Comets are frozen, largely unaltered reservoirs of dust and gases present in the early solar nebula. They are likely to contain well-preserved records of the chemical, mineralogic, and isotopic character of primordial solar-system matter. On Jan. 15, 2006, the Stardust Mission returned to Earth with a cargo of particles collected from the coma of comet Wild 2, the first samples of indisputably cometary matter available for lab study. Among these investigations, the noble gases provide unique data on contributions to comets from various solar-system volatile reservoirs, and of physical processing of gases acquired from these reservoirs. In this talk I discuss the 1<sup>st</sup> study of helium & neon in Stardust material, and the identity of their likely carrier particles, carried out over the past year by workers in four different labs.

**Tours of the Medtronic facilities will be available!**

Tours will be available at specific times between 5:00 and 5:30pm only.

**DATE:** Thursday, March 20, 2008 **TIME:** 5:00-9pm (schedule on website)

**LOCATION:** Medtronic, 694 & Hwy 65 Fridley, MN **COST:** \$25

**RESERVATIONS:** Friday, March 14<sup>th</sup> (midnight)

[reservations@MinnTS.org](mailto:reservations@MinnTS.org) or to Bede Willenbring 651-236-5470

**RSVP must include:** name, company, email address, phone number, affiliation (ACS, AIChE, ASM, MinnMass, MMS, or none)

MinnTS will not share your personal information outside your affiliated organization.

**RSVP today. Seating is limited.\*\***

\*\*RESERVATIONS NON-CANCELLABLE AFTER MARCH 14, 2008

## **Announcement and Call for Speakers: Upper Midwest Local Section of the AIChE Annual Symposium**

This year's symposium will be held on Friday, **April 4, 2008**

Time 8:30am to 4pm (lunch included)

The location is the Eisenhower Activity Center in Hopkins MN

Our Theme this year is **sustainability**.

The symposium is a collection of talks based around the theme, each talk being approximately 25 minutes in length. We typically have a well known keynote speaker to kick off the event.

As in previous years, undergraduate students are encouraged to submit posters describing their projects with cash prizes for the top winners. This is a great opportunity for students to meet industrial counterparts and for potential employers to see the new group coming up.

If you would like to give a presentation of your work at the symposium please send a brief abstract to:

Tom Kempf  
General Mills  
330 University Ave SE  
Minneapolis, MN 55414  
763-764-2873

Email: [thomas.kempf@genmills.com](mailto:thomas.kempf@genmills.com)

If you would like to help with the symposium, please let me know. The more involvement from the Chem E. community the better the final product will be.

Also, let me know if your corporation would like to help sponsor the event.

PDH Credits available.

Tom Kempf  
2008 Symposium Chair

Engineer position available – Environmental  
Work with MN manufacturers to analyze industrial processes, identify ways to improve efficiency, reduce process waste & conserve energy.  
MnTAP – Univ. of MN  
More information at: <http://www.mntap.umn.edu/jobposting.html>  
apply at:  
<https://employment.umn.edu/applicants/jsp/shared/frameset/Frameset.jsp?time=1200415612110>  
job# 152887

**ANNOUNCING A SHORT COURSE OFFERED DIRECT TO YOU AND YOUR ASSOCIATES BY THE UPPER  
MIDWEST AIChE**

**NOW IS THE TIME TO PUT THOSE CAREER ENHANCEMENT NEW YEAR'S RESOLUTIONS ON THE DONE LIST**

**Registration is limited on a first come basis, no exceptions.**

**Principles of Process Engineering**

February 19 and 20, 2008

Everyone working in product or process development encounters process engineering problems whether they recognize it or not. This is the stuff that many new Chem E.s say they never saw in school! The 2 day workshop is designed to provide basic and useful process engineering principles for technicians, scientists and engineers at all levels of development. The concepts are presented in a way that minimizes the use of complex engineering formulas and emphasizes **practical problem solving** in a user-friendly manner without sacrificing understanding. This approach has proven successful in building confidence and experience in a hands-on workshop format. The subjects include material and energy balances, fluid flow and viscosity, heat transfer in process equipment, and thermal properties of biomaterials.

**Instructors**

Course instructors are Dr. Ken Valentas and Dr. Leon Levine. Levine is a well-known consultant to the consumer products industry with extensive experience at both P&G and Pillsbury. Valentas is the past Director of the BioTechnology Institute at the University of Minnesota and also has had over 27 years experience at Pillsbury, General Mills and Sinclair Oil. They have co-authored a book entitled *Food Processing Operations and Scale-up*. Valentas is co-editor of the *Handbook of Food Engineering Practice*.

**Cost:\*\*\***

AIChE Member Price: \$1,095.00

Non-Member Price: \$1,195.00

Cancellation fees apply after 02/04/2008

**\*\*\* This is the lowest cost offered by National AIChE for a two day course without the expense of travel and the time away from home.**

**Location:**

Conference Center at Aspen Research

1700 Buerkle Road

St Paul, MN 55110

Map:

<http://www.aspenresearch.com/contact/map.asp>

**To reserve a spot or if you have questions:**

Contact Tom Kempf:

thomas.kempf@genmills.com

763-764-2873

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**Nathan Johnson, [doc\\_curtis@rocketmail.com](mailto:doc_curtis@rocketmail.com)  
651-737-0144**

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