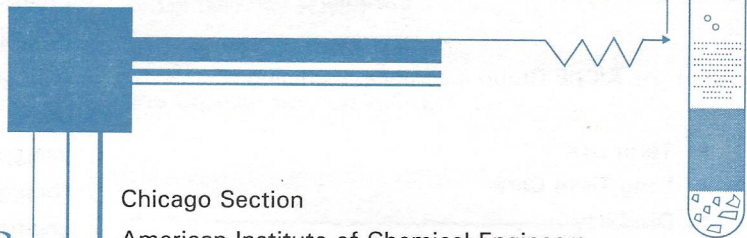


AIChESM

section

Chicago Columns



Chicago Section
American Institute of Chemical Engineers
www.aiche-chicago.org

April Meeting Notice

Wednesday, April 9, 2003

Student Night

Featuring:

- ◆ Student Posters
- ◆ Awards
- ◆ Tools for the Voluntarily and Involuntarily Mobile Engineer

Come to this meeting for a peek into your future. See the new research on the technology for tomorrow, along with the tools AIChE offers for finding your next job. For those of us that are forced to keep finding the next job, or are planning to retire, insurance benefits offered through AIChE Group plans will be reviewed.

Location

Northwestern University - Evanston Campus

When registering, please indicate your email address so we can send menu, location, and parking information as it becomes available.

Vegetarian meals will be available. Indicate your preference at the time of your reservation.

Agenda

Student posters and AIChE Displays.....5:00 pm
Dinner.....6:30 pm
Awards and Presentation.....7:30 pm

Cost

\$35.00 per person

Poster Session Judges Needed

The April 2003 Chicago Section meeting will include undergraduate and graduate student poster sessions. The poster session is an excellent opportunity for professionals to interact with local university chemical engineering students. There will be a judges meeting at 5:00 and judging will occur from 5:30 - 6:30. If you are interested in judging, please contact Annette Johnston at 847-935-5120 or Annette.Johnston@Abbott.com.

Reservations

Make your reservations by calling the AIChE Reservation Hotline at 847-588-3323 or emailing evalopez@teianalytical.com. Or register online at www.aiche-chicago.org. Deadline is noon April 4, 2003.

Presentation

The speaker will be Annette Ngijol, AIChE Local Sections Staff Liaison. Annette will introduce all the benefits available for AIChE Members looking for portable insurance and job placement aids.

AIChE Career Engineer Web Site - your resource for internships, the most up-to-date salary survey, and job search items like such as

- ◆ The Top Employers of AIChE Members
- ◆ The Career Tool Kit
- ◆ Job Posting/Resume Posting service

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Continued from page 1.

All of the AIChE Group Insurance, including:

- ♦ Term Life
- ♦ Long Term Care
- ♦ Disability
- ♦ Dental
- ♦ Catastrophic Health
- ♦ Medicare Supplement
- ♦ Comprehensive Health
- ♦ Cancer Expenses
- ♦ High Limit Accident
- ♦ Prescription Drugs
- ♦ Small Employer Plan
- ♦ Elder Care Options

As an AIChE Member, you can participate in these plans no matter what company you are working for. You can opt for these benefits instead of your company plan. When your company changes your plans, your insurance stays the same.

In addition, the Universities in the area will feature their advanced degree programs for engineers, scientific professionals and managers.

Chair's Corner

Alan Levine, Law Engineering
Chair 2002-03
Chicago Section AIChE

In the February newsletter, Becky Patrick talked about the necessity of diversity to maintain professional opportunities. I spent the first part of my career in manufacturing and based on my experiences, I agree with her article. In manufacturing, diversity is a necessity. The more experience you have, the more doors that open. While working in manufacturing, I gained experience in plant operations, process engineering, maintenance, utilities, environmental and regulatory affairs, and project engineering. There was very little that I did not work on at one time or another.

I find, however, that the same sentiment towards diversity is not necessarily true in the consulting field. I have found that many consulting firms prefer individuals who are highly specialized with years of experience in one area rather than someone with a diverse background. I do not understand this philosophy and find it troubling. My clients like the fact that when I offer advice or work on solving their problems, I can consider all aspects of a problem. I often get called upon to work on complex environmental assessments in industrial settings due to my experience. Nonetheless, my diverse experience has had little to no impact on my career mobility in the consulting field.

When I interviewed for my current position, my boss could not believe that as a chemical engineer I could possibly manage a group focused on construction. The fact that I had years of experience designing a variety of projects and facilities, had managed and overseen construction of projects in excess of \$1 million, meant nothing. That I had managed contractor safety programs, designed employee training programs, managed departments for over 7 years, and established equipment calibration programs, all necessary functions of the job, were not relevant. Why? Because I was too diverse, and I was a chemical engineer. What could I possibly know about a role historically filled by civil engineers? Well, I convinced him to hire me and he was never sorry. I rebuilt the department and prepared it to compete in the marketplace. I revamped a testing lab and improved our scores in national testing programs from nearly dead last to top 25%.

I still believe that diversity is important. I guess you just have to know how to present your experience. Looking back, I would not change anything about my career. I think my diversity is one of my strongest traits of my professional life.

Nominations are Open for Chicago Section Officers

The Nominating Committee of Dennis O'Brien, Alan Levine and Allan Fluharty is pleased to announce that nominations are now open for officers and a director-at-large for the Chicago Section AIChE for the 2003-2004 year. The elections will be held at the section's annual meeting on May 14, 2003.

A nomination form and request for absentee ballot for are published in this newsletter. The winning candidates terms will start July 1, 2003. From our by-laws, to be an officer or a Director-at-Large, the candidate "must be a member of the Section in good standing (paid local dues) for at least two successive fiscal years including the year in which the election is held. In addition, all officers and Director-at-Large of the Section must be Fellows, Members, or Associate Members" of AIChE National. "The Chairman shall have served at least one year on the Board of Directors before he is eligible to hold the Chairmanship."

The nomination form must be returned to the Treasurer, Becky Patrick, or submitted in person by the close of the April 9, 2003 meeting. The final slate of candidates will be determined by the nominating committee and published in the May newsletter.

Five positions are open. The Chair-elect will serve a one-year term followed by a one-year term as Chair. The Vice-Chair program, Secretary and Treasurer will all serve one year terms. The Director-at-Large will be elected to a three-year term.

There are three Directors-at-Large whose terms expire on a rotating schedule.

Any member in good standing who cannot attend the Annual Meeting may request an absentee ballot. Absentee ballots will be available after the April 9th meeting. For an absentee ballot please return the form to the right to Becky Patrick.

NOMINATION FORM

I suggest the following names for elective office in the Chicago Section AIChE:

_____ Chair

_____ Chair-Elect

_____ Secretary

_____ Treasurer

_____ Director-at-Large

_____ Signature

ABSENTEE BALLOT REQUEST

I cannot attend the annual meeting in May 2003. Please send me an absentee ballot.

_____ Signature

_____ Name

_____ Address

Return this form to:
Rebecca Patrick, Cognis
1275 Greenbriar Lane
Bourbonnais, IL 60914

Enjoying Wine in Moderation

J. Peter Clark
Oak Park, IL
Jpc3@worldnet.att.net

I was first exposed to wine and wine making as a graduate student in California in the sixties, just as the Napa Valley was beginning to thrive. We used to drive up from Berkeley, stop in a few wineries for free tours and tastings, buy cold cuts and a bottle and picnic on the grounds. Today one can still do this, at many of the same places I first discovered, Krug, Beaulieu, Louis Martini and Beringer, but now there are hundreds more wineries, thousands more tourists, and often you are asked to pay a small fee for tasting.

While California was and still is the largest US producer of wine, some wine is made in every state, often from grapes grown elsewhere. US wine consumers have grown more sophisticated and per capita consumption as well as the value of sales has consistently grown. Still, many people are intimidated by ordering wine in a restaurant and overwhelmed by the choices even in supermarkets, let alone a place like Sam's.

I have found learning about wine and winemaking to be an enjoyable hobby and an addition to dining and cooking. I am certainly not an expert, but you do not need to be to enjoy this amazing product of art and chemical engineering.

There have been many books written about wine, so I will only mention a few that have helped me. *Love by the Glass* by Dorothy J. Gaiter and John Brecher (Villard Books, New York 2002) is a breezy memoir by the authors of a wine column in the *Wall Street Journal*, which is sub-titled "Tasting Notes from a Marriage." I liked it because their approach to and passion for wine is similar to my own - they can enjoy a good bargain as much as a near priceless bottle of rare wine. They also wrote *The Wall Street Journal Guide to Wine*.

Through the Grapevine by Jay Stuller and Glen Martin (Wynwood Press, New York 1989) is

subtitled "the business of wine in America" and goes a long way to explain why our own small investment in a winery has not been a great idea. "If you want to make a small fortune in California wine, start with a large one."

The Wine Bibber's Bible by James Norwood Pratt (101 Productions, San Francisco 1975) is a good paperback introduction for a beginner.

At the other extreme, *Wines of the World* edited by Andre L. Simon (McGraw Hill, New York 1974 - there may be later editions) is an encyclopedic reference.

A more recent and very thorough guide is *The Oxford Companion to Wine, 2nd edition*, edited by Jancis Robinson (Oxford University Press, Oxford 1999).

Finally, one of my current favorites is *Principles and Practices of Winemaking* by Roger B. Boulton, Vernon L. Singleton, Linda F. Bisson, and Ralph E. Kunkee (essentially the faculty of the Department of Enology and Viticulture at the University of California Davis) (Aspen Publishers Gaithersburg, MD 1998). The California wine industry owes much to the University of California, especially to Maynard A. Amerine, whose own book, *The Technology of Wine Making* by M. A. Amerine, H. W. Berg, and W. V. Cruess (AVI Publishing, Westport, CT 1967) is still a classic.

These technical texts appeal to us chemical engineers because they provide explanations for the impacts of process and materials in a way that makes more sense to us than some of the more esoteric writing on wine, which makes the process seem more mystical and artistic than it has to be.

On the other hand, it is well to experience the amazing impact of a special Zinfandel from old vines or a Sauterne that has been exposed to *botrytis cinerea* (the Noble Rot) and realize that the senses are far superior to any analytical technique in identifying and appreciating a unique flavor and texture.

Wine is far more than grape juice gone bad, as some would have it. As sugar is consumed and converted to alcohol in fermentation, tannins are released from the skins and seeds, esters are synthesized, and during aging in wood barrels, phenolics are extracted. Oxygen interacts with compounds to create new colors and tastes. Wine has viscosity, aroma, and color as well as flavor. Even the label, bottle and cork are part of the experience, to be admired, appreciated and enjoyed.

Beyond reading to learn some facts, lore, and advice, the obvious approach is to taste and try. Many venues offer guided tastings, such as Sam's and Binny's, large local beverage stores. Buy a selection, perhaps with some guidance, and determine your own preferences. Try new wines in restaurants and do not be afraid to ask for suggestions from your server. They normally will not automatically steer you to the most expensive (as I used to fear). A decent rule of thumb is that a dinner wine in a restaurant should cost about as much as an entrée. You will see listings that are more and some that are less. Often the house wine is a safe and reasonable choice.

Beginners are usually most comfortable with white or pink (blush) wines, such as chablis, chardonnay, rose and white zinfandel, because they are often sweeter and less complex. As your taste develops from experience, you may find you like reds such as merlot, pinot noir, and cabernet sauvignon. In the US, under the influence of the scientists at Davis, wines are usually labeled with the predominate variety of grape used. In other parts of the world, wines are labeled by the region in which the grapes are grown, and often are made from several varieties of grape. Increasingly, imported wines, especially from Chile and Australia, are labeled by variety. These wines, by the way, can be great bargains, especially in larger bottles for routine use at home.

There is always more to learn about wine, but the main thing is just to enjoy it, use it as a food, and appreciate it as truly a gift of the gods.

Harry McCormack Award Ceremony

The Harry McCormack Award was initiated during the fall of 1955 to recognize outstanding seniors in the schools of Chemical Engineering at the Illinois Institute of Technology, University of Illinois at Chicago and at Northwestern. The faculties of the respective school, in cooperation with representatives of the local Section, select recipients for the Harry McCormack Award. This award is given in recognition of outstanding scholarship, extra-curricular activities, character, and potential development in the field of Chemical Engineering. A ceremony to present this year's awards is scheduled for the April 9th AIChE meeting.

This year's nominees are:

- ♦ Jennifer Anderson, University of IL at Chicago
- ♦ TBD, Illinois Institute of Technology
- ♦ TBD, Northwestern

The nominees from IIT and Northwestern were not confirmed in time to make the print of this newsletter and will be posted on the Chicago Section website and covered in the May newsletter.

Call for Papers (First Notice)

AIChE San Francisco Annual Meeting
November 16-21, 2003

Proposals to present technical papers at the AIChE annual meeting can be submitted at <http://www.aiche.org/annualapp>. A record number of technical sessions and Topical Conferences are planned for 2003 and we are all very excited. Please take a moment to browse the proposed program using the link above.

The PTP deadline is April 21, but the meeting organizers and staff will be grateful for earlier submissions. Please help us make the meeting a success by taking a moment soon to submit your PTP.

Volunteers Take Chem Engineering to Schools

Steve Schade made classroom presentations at West Leyden High School in Northlake on Dec. 10, Ames Middle School in Chicago on Feb. 10, and Wells High School in Chicago on Feb. 13. Tim McCarthy made a presentation at his daughter's school, Queen of Angels School in Chicago, on Nov. 21. (See article in next column.)

"I have worked with high school students in my church for many years, including teaching situations, so making classroom presentations for AIChE seemed a natural progression," Steve said. "Having no engineers among my relatives, I knew little about the profession while I was in high school. Although I ended up making the right choice, many of my college classmates switched majors. Students should be able to make an informed choice about their careers, and I believe our school visits help them in making that decision."

Afzal Khan, the teacher at Wells, was thrilled with Steve's presentation. "We at Wells High School would like to thank you for sending Mr. Schade for an oil refinery presentation," he wrote. "He gave a great presentation and insight to becoming a chemical engineer for the students for two periods. It was great talking to Mr. Schade and exchanging chemical engineering experiences. Thank You!"

Volunteers are always needed to make presentations on chemical engineering in schools throughout Chicago. Power Point presentations and simple hands-on experiments are available at <http://www.aiche-chicago.org/speakerskit.htm>. Topics include cleaning up an oil spill, scaling up a small alphabet soup recipe, making ice cream, and explaining the chemical engineering profession. Section members who make a classroom presentation receive one free admission to a Section monthly meeting of their choice.

To volunteer, contact Ellen Sullivan at 847-588-3840 or ellen@teianalytical.com.

Inside the Classroom: Making School Presentations

By Tim McCarthy

On Nov. 21, 2002, I gave a presentation to the seventh-grade science class at Queen of Angels School on the North Side of Chicago. I used the materials in the speaker's kit from AIChE-Chicago. There are actually several different programs, which I combined and edited. Those materials include a presentation of what engineers are and what chemical engineers do. There are some pretty good pictures included. There are also some materials on the Exxon Valdez oil spill, which I incorporated into my presentation.

The materials on what engineers are and do was received pretty well. Only one student in the class knew an engineer (not counting the two wise guys who said they knew me), and that student's uncle worked for the railroad. So the engineering profession seemed pretty foreign to this class of students in a mostly working-class neighborhood. Even my own daughter did not know I was an engineer (she thinks of me as a patent lawyer).

I thought the oil spill materials would be quite timely, given that there was an oil tanker sinking off the coast of Spain the same week of my presentation. I overestimated seventh-graders' knowledge of current events, however, as only one of 18 students had the vaguest idea that an ecological disaster was occurring across the ocean.

I recommend that anyone who gives this presentation (or any presentation) do whatever you can to use a projector. I gave my presentation on a computer in the science lab. The students right in front of the screen could see the program fine (and there are some really good graphics), but the students farther back could not and they seemed pretty disinterested. This school has a projector now; I wish it had one then.

After the PowerPoint presentation, we did a classroom project on an oil spill. The students actually got into this part of the program a lot more (although as it turned out the most practical lesson was in wave mechanics, not the chemistry of oil and water). We filled a large, shallow container with about four-inches of water and made boats out of

aluminum foil. We filled the boats with vegetable oil and set them to sea. After deliberately sinking them, we experimented with various ways to contain the oil, like booms made of twine and booms made of cotton. We experimented with various ways to absorb the oil, such as kitty litter. We experimented with various ways to disperse the oil, such as detergent. (That orange stuff you see on infomercials works really well!)

Unfortunately, as the class ended (and I was preparing to head to the third grade for a nature center field trip), two of the students, one of whom is very closely related to me but shall remain nameless, decided to pick up the water vessel to carry to the sink. As both the science teacher and I yelled "Nooooo!", the two seventh graders gave us the same amount of attention they give all adults: none. I am sure all of the AIChE-Chicago members can figure out what happens when you pick up a four-foot long, two-foot wide, and four-inch deep vessel of liquid. So, like I said, the class got a good lesson in wave mechanics and the science teacher got a lesson in using a mop.

I judged the junior high science fair at this school last month. (No one did a project on oil spills OR wave mechanics. I was hurt.) My first impression is that this school could have used a whole bunch more engineers/scientists/technical people to be judges. Because of a paucity of volunteer judges, each student was graded by only one judge, which can cause inequities in the grading scale. More importantly, however, most students were judged by people who, quite frankly, have little technical skills.

But, based on the judging I did, what these students really needed was some mentoring. There were some kids who had really good ideas and just needed someone to help them develop them a little further. For example, one kid had the idea of dropping various balls out of his third-floor apartment and timing how long they took to reach the ground. He *almost* got the relationship between gravity, mass, size, and resistance to air flow. Now, the kid didn't need to know the mathematics of it, but he was really enthusiastic about it and had obviously spent a lot of time and effort on the

project. But if he had spent an hour or so with an engineer, he might have actually gotten it. He didn't need someone to do his project for him, he just needed some guidance.

So if anyone wants to help mentor a kid or be a judge next winter at Queen of Angels School, please let me know.

Job Postings

The Job Posting service is still available for AIChE Chicago section members. Please submit your resumes or available positions to Jerry Bard at geraldb@genevaonline.com, or contact Jerry at 262-279-6394. Don't miss out on this opportunity to reach your target audience.

You can also submit your resume or position on our website, www.aiche-chicago.org in the Professional Development section. Please also consider the website of AIChE in New York as a resource. The web address is www.aiche.org/careerservices/.

Seeking Positions

S-0031 PROCESS ENGINEERING MANAGER.
Over 25 years experience in pharmaceutical process design and engineering. Extensive international project coordination and management. MS ChE. Skilled at planning, budgeting and cost control. Able to address FDA compliance issues.
For further information: Contact Jerrey Finnegan @ (847) 680-9626

The objectives of the AIChE are to advance chemical engineering in theory and practice, to maintain a high professional standard among its members, to try to figure out if fugacity really exists or is just a practical joke thermodynamics professors use to inflict pain on engineering students, and to serve society, particularly where chemical engineering can contribute to the public interest. If you have any questions, comments or snide remarks regarding the newsletter, please contact the editor at polarbear4x@yahoo.com.

Chicago Section Columns is published eight times a year by the Chicago Section AIChE. Opinions expressed herein are those of the authors and are not necessarily those of the officers of the Chicago Section or professors of thermodynamics. Articles for inclusion in the next Chicago Section Columns must be received no later than March 28, 2003.

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