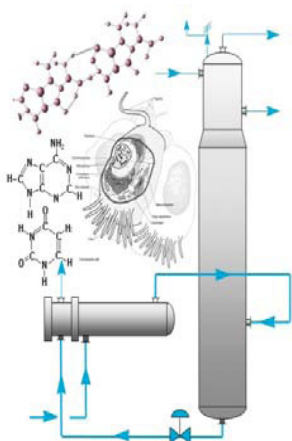


January Newsletter

Chicago Section

www.aiche-chicago.org

January 2010



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AIChE Chicago

January 2010 Meeting Notice

Chemists & Engineers in the Courtroom

Michael G. Koehler

CEO of Packer Engineering

Date: *Thursday, January 21st, 2010*

Location: *European Crystal Banquet & Conference Center*

519 W Algonquin Rd, Arlington Heights, IL 60005

(847)437-5590

Cost: **Members: \$35** **Non-Members: \$37**

Students: \$5 **Unemployed Members: \$20**

To Register **CLICK** the Link

<http://guest.cvent.com/i.aspx?4W%2cM3%2c0cb7784c-8b0a-491e-a4a0-2099f671a2e0>

Agenda

5:00 PM
5:30 PM
6:30 PM
7:30 PM

Job Club
Social Hour
Dinner
General Meeting



Chair's Corner

I hope you have started the New Year with upbeat outlook in your personal and professional life and continue the year with great health and many successful stories. For those of us who may have experienced downside, I wish we can put the pieces back together and the New Year brings new open doors. I trust that you have made plans to attend some of our monthly meetings and take advantage of this networking opportunity with your peers or just enjoy a great talk and some good food. I am sure that you can find some interesting topics in our meetings. Please send us any comments or suggestions you may have concerning the venue or topics.



We will begin our programs as a joint meeting with American Chemical Society (ACS) Chicago section as we have always had during the past years. We are expecting to have many attendees from our section, as this is a very interesting topic, which should be of general interest despite one's specialty. Please check the abstract and speaker bio in this newsletter and plan to join us on January 21.

There are four more meetings before the summer break. The April meeting/poster presentation is held at UIC this year. Last year we had a very good turnout at NW, which was very encouraging. I would like to persuade all the students to present a poster at this meeting. If you don't have a subject in mind, talk to your professors and check if you can make a poster out of your class projects. Of course, the graduate students can present part of their research. As usual, we will have winners from undergraduate and graduate posters. This is a good opportunity to present your work, practice your skills and introduce yourself to the local chemical engineer professionals.

One of our local section main goals is to make sure that all of our members receive all the electronic correspondences and nobody is missed out. Our membership committee is working very hard to update our database and synchronize it with the AIChE national database. The other task that the membership committee is handling is to find new ways to make our monthly meetings more rewarding by assisting in the networking opportunities. We are very excited about these ideas and hope that you find them appealing also.

Once again Happy New Year and make sure that you stay warm during this cold winter and be safe.

Reza Mostofi
UOP



January 2010 Meeting Information

Chemists and Engineers in the Courtroom

Imagine yourself as a juror faced with the responsibility of deciding the fate of a case brought before the courts involving a product failure, a chemical explosion, an environmental contamination, or a toxic fatality. You spend days hearing from both sides, plaintiff and defense, presenting their case. When the case involves science or engineering, the courts rely on *experts*, who by virtue of their education, training and technical experience in the forensic sciences and the law, can help establish the scientific facts of the case and provide the courts with opinions regarding the evidence. While the role of courtroom experts and forensic scientists has gained much attention on television shows such as Crime Scene Investigators (CSI), the real life of scientific experts in the courtroom requires a unique set of technical, legal and communication skills. Evidence and scene preservation techniques, sample collection and analysis, documentation and demonstrations are essential elements of the fact finding process. Chain of custody, spoliation of evidence and the Daubert standard are challenged throughout the process. This talk will highlight many of the approaches and techniques used in the forensic sciences and the legal obligations associated with the role of expert witness. We will conclude with a look into how technology is impacting the role of Chemist and Engineers in the Courtroom.

Speaker's Bio

Dr. Koehler is the CEO of **Packer Engineering, Inc.**, a multi-disciplinary engineering consulting and technical services company, offers engineering investigation and analysis, customized and routine testing, accident investigation and reconstruction, and pretrial and courtroom testimony. Prior to coming to Packer Engineering as CEO, **Dr. Koehler** was involved in a broad range of chemical and process research projects at both Honeywell and Searle Labs including the development and toxicological evaluation of fluorocarbon refrigerants, blowing agents and solvents; polymers and composites; aerospace environmental control systems, air quality technology, aerospace life support systems; advanced coatings; advanced aviation fuels; catalysts; separation membranes; fuel cell technologies, chemical demilitarization, chem./bio protection, as well as environment and sustainability programs.



Dr. Koehler has published extensively on subject areas which include drug design techniques, chemical structure-property relationships, polymer theories, indoor air quality, chemical simulations, fuels properties, and coatings.

Dr. Koehler received his BS in Chemistry, Mathematics and Computer Sciences from Loyola University in 1982 and his Ph.D. from the University of Illinois in 1986.

<http://guest.cvent.com/i.aspx?4W%2cM3%2c0cb7784c-8b0a-491e-a4a0-2099f671a2e0>

2010 AIChE MemberShip

We hope everyone had a restful holiday season and is recharged for 2010! This year plans to be an exciting year with many interesting speakers lined up for monthly meetings, as well as symposiums and seminars. Furthermore, attendance earns professional development hours for PE, making this a great way to fulfill all your 2010 goals for career development, networking, volunteering, and expanding your knowledge with an inside look into various industry sectors of chemical engineering.

First, a quick must mention of the business matters:

- National and Chicago local section memberships are both on a calendar year basis (Jan-Dec). This being January, now is the time to renew your membership for the 2010 year!
- Membership in the local section requires that you also have a national membership, so please be sure to renew both! (Note: for new local members, we allow a local-membership-only for a period of two calendar years to try it out, after which time both memberships are required.) Besides, there are benefits to having both national and local membership, as pointed out below.

Some of the benefits of a national membership include:

AIChE ChemE on Demand-This is AIChE's latest e-learning initiative. A multi-media digital library, training center, and information forum for chemical engineers all wrapped up into one convenient resource! AIChE professional members get 6 free credits each year, good for live or archived content, with permanent access to the content you've selected. Students get free, unlimited access to all archived content. Plus there's plenty of free content just for AIChE members. AIChE Webinars are now accessible through AIChE's ChemE on Demand, covering current and informative topics of interest to all chemical engineers in an accessible format. Last year, the webinars topics ranged from business and management skills, personal and professional development, fundamentals, and industry outlook topics. It's a great way to learn something new in ~60 minutes - and most webinar content qualifies for Professional Development Hours!

AICHE SmartBrief

A free email news digest that summarizes the most important business and technology news of the week selected from hundreds of top news sources exclusively for chemical engineers, delivered to your inbox every Tuesday.

Career Advancement and Support

All Members have access to AICHE's exclusive career and employment services, including CareerToolsPLUS! for broad career support services at every career stage, including job search support. Also sign onto AICHE's premier Chemical Engineer resume database, CareerEngineer, AICHE's exclusive job search engine for chemical engineers. You can search by position, industry, city, state, country and company.

Professional & Technical Training Courses

AICHE, together with ASME (American Society of Mechanical Engineers), offers professional and technical training courses taught by industry experts at selected sites around the country. Topics range from energy to manufacturing to project management.

AICHE eLibrary (powered by Knovel)

The AICHE eLibrary delivers selections from the most relevant engineering and scientific references, handbooks and databases to your PC. You can then manipulate and search for content across the entire collection. Members enjoy free access to selections from Knovel's Life Sciences and Chemistry collections.

12-Month Subscription to CEP (Chemical Engineering Progress)

A Diverse, Far-Reaching Network

As an AICHE member, you'll have many networking opportunities to build and maintain professional relationships. The AICHE Member Center is an online resource to locate and stay connected with friends, colleagues and peers worldwide as well as to update your profile.

Discounts on Technical conferences, Technical publications and books

Members-Only Insurance Plans

Special Financial Products and Services

UPS Discounts and Car Rental Discounts

2010 Local MemberShip

On the local level, there are even more advantages to joining the Chicago Section:

Personal Development

There are opportunities to enhance communication and leadership skills by presenting or participating at monthly meetings and technical seminars. The local section provides opportunities to grow and practice leadership skills in non-threatening, low-risk environment.

Attending events and meetings

Monthly Meetings are held at various venues throughout Chicagoland, focusing on a particular topic each month. Attendance earns professional development hours for PE. The Chicago section also holds joint meetings with other professional societies. The AIChE Symposium is held yearly in the fall.

Non-technical seminars focusing on business, career, communication skills, etc.

Young Professionals Advisory Board (YPAB)

Informal networking and special technical programs are scheduled throughout the year for young professional engineers in their 20's and early 30's.

Student outreach programs

Activities include representing chemical engineers for career days and class room visits for grades K – 12, making presentations at university student chapter meetings, as well as reviewing student resumes and performing mock interviews. There are also opportunities to attend the Annual Student poster contest & awards programs, as well as participate in regional student conferences. Get involved in the career development of the next generation of chemical engineers!

Volunteer Opportunities

Of course, no mention of membership would be complete without discussing all the ways to get involved in your local section. Becoming an officer in the Chicago Section of AIChE is an excellent opportunity to learn project management, delegation and leadership skills. While you're learning new skills, your local network grows too. Volunteering with AIChE is a great way to add skills and accomplishments to your resume. Open positions can be found at: http://www.iche-chicago.org/Section_Info/Volunteer.html

Networking opportunities with other chemical engineers

This year, we urge everyone to branch out and get to know each other. Students-ask an engineer about their job or how they got to where they are today. Experienced engineers-take a moment to introduce yourself to a younger engineer or student-you must have some interesting stories to share! One of our local section's greatest strengths is our members, and the way we can all learn from each other in a fun, social environment, so take advantage of all your Chicago chapter has to offer you. We look forward to seeing you all this year!

Best wishes for a happy 2010!

Chicago Section AIChE Membership Committee

Agatha Poraj-Kozminski and Adam Kanyuh

Illinois Society of Professional Engineers

Title: **Blending Diesel Fuel with Gasoline to Improve Diesel Fuel Efficiency.**

Date: Wednesday, January 13, 2010

Time: 6-9pm

Location: *Giuseppe's La Cantina, 1062 Lee St, Des Plaines, IL*

Cost: Ordered Dinner: \$25, Small Buffet: \$15, Student: \$5

A dual-fuel concept is proposed to realize highly-efficient, premixed-charge compression ignition (PCCI) combustion with near zero levels of NO_x and soot. In-cylinder fuel blending, with port fuel injection of gasoline and optimized direct injections of diesel fuel, is used to control combustion phasing and duration. After Computational Fluid Dynamic modelling was performed, engine experiments were conducted using a heavy-duty Caterpillar research diesel engine, confirming net indicated thermal efficiency of 53% and with NO_x and soot levels significantly below the US EPA 2010 emission limits (without after-treatment). The impact of this work, once applied to diesel engine design, could be a net reduction of the use of diesel and gasoline for transportation of 30%.

The presenter, **Sage L. Kokjohn**, is a PhD student in Mechanical Engineering at the University of Wisconsin - Madison, where he received his MSME. He has a BSME from Iowa State University.

His research focuses on the development and application of advanced simulation tools used to improve the understanding of the processes occurring during the spray and combustion events of internal combustion engines.

Dr. Reitz, Mr. Kokjohn's advisor, is a Distinguished Professor of Mechanical Engineering at the University of Wisconsin-Madison. He is former director of the Engine Research Center and current director of the ERC's Diesel Emission Reduction Consortium. His research includes the development and experimental validation of modelling methodologies for internal combustion engines, and his models are used internationally by major automotive and engine companies.

1 PDH will be awarded to each attendee.

More information will be posted on the website as it becomes available www.nsc-ilspe.org.

YPAB January 2010 Activity

CyberSport

Date: Tuesday, January 26th, 2010

Time: 6:00-8:00pm

Location: CyberSport, 2381 W. Army Trail Rd., Addison, IL 60101

CyberSport offers food, arcade games, pool, Chicago Indoor Racing, and CyberSport (aka whirlyball).

RSVP to jessicaswary@msn.com by January 15th and state whether you would be interested in playing CyberSport. A minimum of 10 players is required to open a court.

Gaming prices vary. For more information, visit the website <http://www.chicagoindoorracing.com/HoursAndPricing.aspx>.

Food and drinks will be individually billed.

To stay up-to-date on all YPAB events, visit the website at www.aiche-chicago.org/ypab .

January House Party – 10X Challenge

Date & Time: TBD, Check the website

Location: Jessica Swary's House

The “**House Party**”, sponsored by AIChE National, is an opportunity for Young Professional to collaborate on topics affecting society and the world. January's House Party topic will be the **10X Challenge**.

The purpose of the challenge is to capture the methodology behind radically efficient designs of processes, devices, and materials in order to highlight the results of these innovations. This is a joint competition sponsored by AIChE and the Rocky Mountain Institute (RMI). RMI is an independent, entrepreneurial, nonprofit think-and-do tank. RMI strives for the efficient and restorative use of resources to make the world secure, just, prosperous and life sustaining.

Ideas can be submitted as individuals or groups. Submission resulting from the House Party will be granted a deadline extension. Incentives include recognition in CEP and at the Spring Meeting in **San Antonio**, PDH credits, and a cash prize amongst others. Visit the competition website for more information,

<http://www.aiche.org/Energy/GetInvolved/10xEChallenge.aspx>

Upcoming Meetings and Events

- January 21, 2010** Chemists & Engineers in the Courtroom,
Arlington Heights, IL
- February 9, 2010** Nanoclusters for H₂ and CO₂ Storage
- February 23—24, 2010** 5th SPE/AIChE Joint Workshop - Heavy Oil and Bitumen
Houston, TX
- March 10, 2010** EPA lab tour (Chicago, IL)
- March 21—25, 2010** 2010 AIChE Spring Meeting
San Antonio, TX
- April 14, 2010** Student Night @ UIC
- May 2 –5, 2010** SBE's Second International Conference on Stem Cell Engineering,
Boston, MA
- May 11, 2010** Project Design for risk Management
- November 7—12, 2010** 2010 AIChE Annual Meeting, Salt Lake City, Utah

Career Resources

As a service to our members, we are posting jobs that are sent to us by recruiters or companies. You can access this list at:

http://www.aiche-chicago.org/Job_Postings.html

AIChE national also has a very useful guide for career opportunities that you can access as a member.

<http://www.aiche.org/CareerResources/>

NOMINATIONS REQUESTED FOR THE ERNEST W. THIELE AWARD

The Ernest W. Thiele award is sponsored by BP and recognizes the outstanding contributions to our profession by a Midwest region chemical engineer. This award was established by the AIChE Chicago Section and is presented annually to a Midwest region AIChE member. This internationally recognized award consists of an engraved plaque and \$1000 honorarium presented at our sectional meeting.

Nomination forms and additional information can be obtained from the Thiele Committee Chair. Completed nominations are due to the committee chair no later than March 1, 2010.

One of the highest honors a distinguished chemical engineer can receive is our Chicago Section Thiele award. Please consider nominating a deserving engineer for this prestigious award.

Jim Simnick

BP Amoco Complex, J-8
150 W. Warrenville Road
Naperville, IL 60566
Ph 630-420-5936
fax 630-420-4832
email: james.simnick@bp.com

Need a Volunteer @ Registration Desk

If you are planning to attend next monthly meeting please consider helping us at the registration desk. For more information, please send an email to

aichechicago@gmail.com

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We are on the web
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We want you for AIChE-Chicago!

We need your help!

How many opportunities can you find to learn project management, delegation and leadership skills for free? Becoming an officer in the Chicago Section of AIChE is such an opportunity. While you're learning new skills, your local network grows. Just about all of us are either undergoing a career change, contemplating a career change, or are wondering if our career will be changed for us. Volunteering with AIChE is a way to add skills and accomplishments to your resume.

aichechicago@gmail.com

http://www.aiche-chicago.org/Section_Info/Volunteer.html

Submitting Articles to AIChE Columns

We welcome email submissions for our monthly newsletter. Commercial announcements are subject to the fee schedule below. News stories, editorials, technical or career related non-commercial contributions are always welcome with no charge. We consider job postings, announcements of for-fee training courses, expositions, conferences as commercial. Categorization of announcements is at the sole discretion of the Chicago AIChE Board of Directors. Chicago AIChE may publicize activities of interest to our members by cooperating professional societies and other non-profits without charge.

Please submit your material to aichechicago@gmail.com with "newsletter article" as a subject line.

AICHE Publicity Committee Fees	Academic (non-AICHE)		Company		Recruiters	
	Per Month	Per Year	Per Month	Per Year	Per Month	Per Year
Advertisements (3X3)	100	450	150	675	N/A	N/A
Half-Page (~7"x 4.5")	280	1260	420	1890	N/A	N/A
Job Posting (Size?)	50	225	100	450	250	N/A
Special Sizing	Contact Publicity Committee aichechicago@gmail.com					

For the purchase of a year ad, customers have the option of changing ads/jobs month to month.

Student and AIChE Member Related Postings are Free.

