

September Newsletter



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September 2011 Meeting Notice

Processing Challenging Crudes

David Van Dyke

Operations Engineering Group Leader
Crude, Coker and Gas oil hydrotreating
CITGO Petroleum Corporation
Lemont Refinery

CITGO Lemont Refinery Tour

Date: *Wednesday, September 14th, 2011*

Location:

MEETING: The Public Landing
200 W 8th Street (158th & Archer)
Lockport, IL 60441

TOUR: CITGO Petroleum
Lemont Refinery
135th Street and New Avenue
Lemont, IL 60039

Cost: **Members: \$35** **Non-Members: \$40**
 Students: \$5 **Unemployed/Retired Members: \$15**

To Register CLICK the Link

<http://www.cvent.com/d/9cqjdj/1Q>

Agenda

4:15-4:45 Bus 1 Assemble in the CITGO Administration Building parking lot
4:45-5:15 Bus 2 Assemble in the CITGO Administration Building parking lot
5:30 Registration at Public Landing, cash bar
6:30 Dinner
7:45 Technical presentation
9:00 Busses leave Public Landing and go to the CITGO parking lot

Chair's Corner

As I begin my year as chair, I find myself fortunate to have been preceded by so many good officers, committee chairs, and volunteers. Over the past three years, they have made many improvements to the section. Most obviously, this effort has shown up as increased attendance at our meetings. Among other things, the quality and scope of the newsletter have been greatly expanded. This improvement allows us to regularly and effectively communicate all the local events as well as some national initiatives. Over the past year, the liaison effort has been reactivated after being dormant for many years. As a result, we can personally stay in touch with our members on a monthly basis. Also during the last year, we brought in an outside speaker to enhance the value we provide to our members. To better manage our finances, Treasurer Catherine Fieber prepared a more detailed budget. All this has made the section an attractive forum. People now seek us out with requests to make presentations.

The Midwest symposium continues to be a unique offering of our section. It enables attendees to gain detailed knowledge in a variety of subjects presented by experts in their fields. This year it will be held at UIC in November.

The section has weathered the recent economic storms better than most entities in this country. Nevertheless, we still lose money on our meetings. Moreover, dues payments have been down in recent years. One way to remedy this is to look for new sources of revenue.

Toward that end, we will work on sponsorships. The focus will be on developing guidelines and contacting those who might be willing to participate. This effort is targeted toward improving the quality of the topics, since presenters will have a vested interest in them. It could also lower the cost of the meetings to our members.



Our student outreach program is one of the better ones in the country. It is one that I have a special fondness for, since that is how I first became involved with the section. In recent years, this committee has been run by young engineers. They have all done a good job. Every year, they prepare and present a display for Chemistry Day and National Engineers Week. Most recently, Ellen Kloppenborg made great strides in improving the program. Among other things, we added the STEM Expo at Fermilab. Unfortunately, these young engineers ended up being transferred out of the area every year or so. To provide more continuity, Meagan Lewis has agreed to chair this committee. She will work to expand classroom presentations, which allow for more detailed explanations and better contact with the students.

I look forward to the coming year. With your help, the section will continue to enhance professional development and serve society.

By Steve Schade

September 2011 Meeting Information

Abstract

Processing Challenging Crudes

Changes in US government requirements for refined products that occurred in the past 10 years have made it more important to remove sulfur from refinery products, and this has led to significant increases in processing costs for refineries. In addition the reduced availability of easy to process light and medium weight crudes has forced refineries to process the more available heavy, high sulfur crudes. Refineries in the Midwest are also faced with pipeline constraints that tend to favor the processing the heavy, high sulfur Canadian crudes. The Canadian heavy crudes frequently contain high naphthenic acid content, and this leads to potential corrosion problems that make it necessary to upgrade equipment thereby increasing the equipment cost. Also, when heavy crudes are refined the resulting products tend to be the lower value heavy oils. These heavy oil products can be upgraded by coking, cracking, or hydrocracking processes, but these extra processing steps increase cost and ultimately result additional carbon waste products, typically coke. As a result of these changes that have occurred in the oil industry, the processing of challenging crudes has resulted in refineries producing lower volumes of high value products and higher volumes of low value products (heavy oils, carbon and sulfur). This presentation will review various ways modern refineries are dealing with the changes that have occurred due to the processing of challenging crudes.

Speaker's Bio

David Van Dyke

David is the operations engineering group leader for crude, coker and gas oil hydrotreating at Citgo's Lemont refinery. Prior to that, he worked for



Baker Hughes as a field technical support engineer in the Chicago area including Citgo, Exxon-Mobil and BP for process chemical treatment applications throughout these refineries mostly on desalter and crude unit chemical treatment applications. He also has 7 years of experience at Nalco chemical company in boiler, cooling and waste water chemical treatment application in food, paper, automotive, chemical processing, tire rubber and more.

David graduated in 1997 from Illinois Institute of Technology with a BS degree in chemical engineering.

Thanks to September Meeting Sponsor



Webinars and On-Line Courses

Solids Processing and Particle Technology: Principles of Drying - Theory and Practice **Presented by Dr. Karl V. Jacob, Wednesday, September 7, 2011, 2:00 - 3:00 p.m. ET**

Drying is a commonly used unit operation in the process industry and is responsible for a significant amount of energy usage. Yet drying often results in both process inefficiencies, usually manifest as lack of production rate, or poor product attributes such as out of specification moisture and particle properties. These properties may include taste, texture, color, etc.

This webinar outlines the basics of drying and reviews the characteristics of the most commonly used dryers. The concept of generation and use of drying data for scale-up is examined in detail for both convective and contact dryers with particular emphasis on the use of the single particle drying curve. Lastly, since dryers usually operate as part of a larger system, the impact and selection of the ancillary equipment is discussed and its role in design of a successfully drying system.

Fukushima Daiichi - An Update on the Current Status, Lessons Learned, and Path Forward **Presented by Dr. Mary Lou Dunzik-Gougar and Kenny Anderson, Wednesday, September 14, 2011 2:00 - 3:30 p.m. ET**

On March 11th, 2011 the magnitude 9.0 (Mw) Tohoku earthquake occurred off the coast of Japan. This earthquake was the most powerful known earthquake to have hit Japan. It was also one of the five most powerful earthquakes in the world, and, combined with the ensuing tsunami, tragically resulted in more than 20,000 persons confirmed dead or missing, presumed dead. This disaster, which will likely become the most expensive natural disaster on record, has significantly disrupted Japanese society and industry, including significant damage at the Fukushima Daiichi nuclear power plant resulting in a event provisionally rated as a 7 on the International Nuclear Event Scale (INES).

On April 12th, 2011, AIChE presented a webinar called "Fukushima Daiichi: How We Got Here and Where We're Going", which covered the then-current knowledge regarding events in Japan.* The U.S. Nuclear Regulatory Commission (NRC) has since issued a report presenting lessons learned from the event, and the U.S. and Japanese nuclear industries are beginning to respond to these findings.

This webinar, called "Fukushima Daiichi: - An Update on the Current Status, Lessons Learned, and Path Forward" will present an update as to what happened, the current status at Fukushima Daiichi, and an overview of the NRC report. It will also explore lessons learned, potential implications, and paths forward for the nuclear industry in the U.S., Japan, and elsewhere internationally.

SEF Webinar: Resilience and Sustainable Development **Presented by Dr. Joseph Fiksel, Wednesday, September 21, 2011, 2:00 - 3:00pm ET**

Traditional modeling approaches are ill suited to a world of increasing connectivity, complexity, and turbulent change. Integrated assessment of dynamic, complex systems is challenging because hidden interactions can produce surprising side effects. A key factor is resilience, the capacity of a system to survive, adapt and grow in a continuously changing environment. Indeed, resilience is a prerequisite for sustainability.

Living systems such as communities or ecosystems perpetually evolve through cycles of growth, crisis, and renewal. They respond resiliently to emerging threats or opportunities using a variety of flexible strategies. The concept of resilience is equally applicable to industrial enterprises, and encompasses a range of issues from short-term risk management and supply chain continuity to long-term economic sustainability.

The Center for Resilience was established in 2005 with the mission of strengthening the resilience of global industrial systems and the environments in which they operate. Through sponsored research, the Center has developed a number of advanced modeling tools for assessment of sustainability and resilience in enterprise systems.

This webinar discusses the challenges of sustainable development, and gives examples of current research on life cycle assessment, industrial ecology, and supply chain resilience.

The Sustainable Engineering Forum (SEF) seeks collaborative work in programming and education objectives with other professional societies, both national and foreign.

Job Search Strategies

Presented by Dr. Ranil Wickramasinghe, Wednesday, October 5, 2011, 2:00 - 3:00pm ET

Searching for a job is usually a 'full time job'. At various times during our careers we need to seek alternative employment. Job searches can be both voluntary and involuntary but usually involve the investment of a significant amount of time. Prof. Wickramasinghe has worked both in industry and at two different state universities. In this webinar he will describe some of the methods he has used to seek alternative employment as well as providing suggestions and strategies to make the process more efficient.

Online Course in Process Safety for Biofuels

FREE through September 30

CCPS has developed an online training course, "Process Safety Management for the Biofuel Industry", under a Susan Harwood Grant from OSHA. Participants taking the 9-module class will gain an increased awareness of Process Safety in the Biofuels industry. Each module takes from 30 – 60 minutes. The course is recommended for firms and companies covered by the Occupation Safety and Health Act. For more information and to register visit <http://aiche.learn.com/learncenter.asp?id=178411>.

There's Still Time to Enroll in September Online Courses

Registration Closes Sept. 7 for Classes Starting Sept. 12

You can still enroll for instructor-led online classes scheduled to begin in September. Four new courses on subjects ranging from Intellectual Property to Solids Handling to Particle Technology to HAZOP studies join the existing line-up. Or sign up for one of the Learn-At-Your-Own-Pace courses. On-line courses earn you PDHs and CEUs and gain help you gain a valuable skill while saving time and travel. View the line up and register at the [AIChE eLearning Center](#).

Ernest W. Thiele Award Recipients

<u>YEAR</u>	<u>RECIPIENT</u>	<u>AFFILIATION</u>	<u>RECOGNITION & ACHIEVEMENT</u>
1983	E.W. Thiele	Standard Oil (Indiana)	Catalysis, Distillation fundamental advances
1985	B.B.Broughton	UOP	Aromatics Separation Processes, adsorptive separation
1986	T.J. Hanratty	Univ. Of Illinois	Advances in Fluid Mechanics
1987	G. Thodos	Northwestern	Physical Property Advances
1988	L.O. Stine	UOP	Petroleum/Petrochemical Processes
1989	D.T. Wasan	IIT	Research and Progress on Separation Processes
1990	R.S. Mah	Northwestern	Chemical Process System Analysis
1992	J.J. Carberry	Notre Dame	Chemical Reaction Engineering research, innovation, and education
1993	R..J. Bertolacini	Amoco	Catalysis research innovations and leadership
1994	J.W. Westwater	Univ. Of Illinois	Research in Heat transfer and contributions in teaching
1995	Norman Li	UOP	Pioneering research in membranes and separations
1996	Rathin Datta	Argonne	Original research in metabolic engineering and membranes
1997	Hamid Arastoo-pour	IIT	Academic leadership and environmental engineering
1998	Arvind Varma	Notre Dame	Fundamental advances in synthesis of materials, catalysis and reactor stability
1999	S. George Bankoff	Northwestern	Heat transfer advances in chemical and nuclear engineering
2000	Henry Linden	IGT	Leadership of the Institute Of Gas Tech
2001	Paul Sechrist	UOP	Contributions to computational fluid Mechanics, CCR, and FCC refining processes
2002	Julio Ottino	Northwestern	Research in Chaos Theory and mixing of solids and liquids
2003	Ali Cinar	IIT	Contributions in process modeling, monitoring and control. As an educator championing computers and statistics.

Ernest W. Thiele Award Recipients

<i>YEAR</i>	<i>RECIPIENT</i>	<i>AFFILIATION</i>	<i>RECOGNITION & ACHIEVEMENT</i>
2004	Ted M. Knowlton	PSRI	For his contributions to fundamental and applied research, and his leadership in the fields of fluidization and particulate solids.
2005	Dimitri Gidaspow	IIT	For his fundamental contributions to computational fluid dynamics, multi-phase flow and fluidized bed systems and as an educator.
2007	Lynn H. Rice	UOP	For his fundamental contributions to the petroleum refining isomerization process.
2008	Robert Lyczkowski	Argonne	For innovative application of multiphase theory and computational fluid dynamics.
2009	Harold Kung	Northwestern	For contributions to understanding catalytic phenomena, design of catalytic structures, and teaching.
2010	J. Peter Clark	Consultant	For leading the development of numerous food products and new food preparation processes, and as a mentor and teacher.

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, 2012.

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

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Time to renew your **PE license**?
Need more **PDH hours**?

You can earn up to "14 PDH hours" by attending the AIChE Midwest Regional Conference right here in Chicago.

Register Today! **Early Bird** Registration Ends **September 15th**.



For more information and to **register** please visit:

<http://midwestregional.aiche.org/>

You can also contact us by email:

aichemrc@gmail.com

Not a Professional Engineer? We have something for you too.
Come listen to Chicago area business leaders:

Nick Spencer, Business Unit Leader for BP's Whiting Refinery is our Thursday keynote speaker and **Dr. NM Rao**, Division Vice President of R & D, Innovation Marketing from Nalco is our Friday keynote speaker.

Young Professional Advisory Board (YPAB) News



AIChE Chicago YPAB's New Leadership

Our YPAB chapter has grown! Congratulations to the 2011-2012 AIChE Chicago YPAB Leadership Team:

Chair: Aaron Matthews

Past Chair: Jessica Swary

Programming Committee: Jake Biberstein, Janet Chu, and Jon Haughton

Webmaster: Dan Archer

Membership: Matt Moy

Student Outreach/Volunteer Coordinator: Meagan Lewis

Treasurer: Bill Glogowski

YPAB Back To School Social

YPAB started off the year with a volleyball social/happy hour at Four Lakes in Lisle. 16 local YP's attended and enjoyed the fun company and great weather! This was also our first successful joint social with YP's from the local SAE chapter!



Link to photos (may have to copy/paste):

<https://picasaweb.google.com/aichechicagowebite/YPABBackToSchoolVolleyballSocial?authuser=0&authkey=Gv1sRqCN6H-vLR8KXHrWE&feat=directlink>

Outreach Event at Des Plaines Library

Volunteers are needed for the Family Science Expo at the Des Plaines Library, Saturday Sept 24, 12-4 pm. Explain what chemical engineering means to you and get kids excited about engineering! Email Meagan, melewis25@gmail.com, by September 16th if you are interested!

Food Pantry Volunteer Opportunity

YPAB will be volunteering at the Northern Illinois Food Bank in St. Charles on Saturday, October 1 from 8:45-11:30AM. Northern Illinois Food Bank serves over 60,000 people through its' network. Email Jon, jmhaughton@gmail.com, by September 21st to RSVP!

2011 Wasan Lecture @ IIT

Darsh T. Wasan Lecture

September 7, 2011 | 4:00 pm - 6:00 pm

Alice P. Gast, President, Lehigh University

Alice P. Gast, a renowned leader in higher education and a distinguished researcher in the study of surface and interfacial phenomena and was appointed the 13th president of Lehigh University in 2006. She is co-author of *Physical Chemistry of Surfaces*, a classic textbook on colloid and surface phenomena, and has presented named lectures at several of the nation's leading research institutions.



Before coming to Lehigh, **Dr. Gast** served as the vice president for research and associate provost at the Massachusetts Institute of Technology and held the Robert T. Haslam chair in chemical engineering. She previously spent 16 years as a professor of chemical engineering at Stanford University and the Stanford Synchrotron Radiation Laboratory.

President Gast was named one of the top 100 “Modern Era” engineers in the country, under the category of “Leadership” by the American Institute of Chemical Engineers. In 2010, she was named to the prestigious post of science envoy by U.S. Secretary of State Hillary Rodham Clinton and the U.S. State Department. Additionally, Dr. Gast is a fellow of the American Academy of Arts and Sciences and a member of the National Academy of Engineering. Also in 2010, she was awarded an honorary degree from The University of Western Ontario where she was described as “a scholar, a researcher and a leader who is a great inspiration to female and male students alike, who aspire to enter the profession of engineering.”

Dr. Gast earned her bachelor's degree in Chemical Engineering from University of Southern California in 1980 and her master's and Ph.D. in Chemical Engineering from Princeton University in 1981 and 1984.

<http://alumni.iit.edu/s/946/index.aspx?sid=946&gid=1&pgid=754&cid=1540&ecid=1540&ciid=3827&crd=0>

IEEE Vehicle Power and Propulsion Conference (VPPC'11) Chicago, www.vppc2011.com

Public/Media Night, Wednesday, Sept 7, 2011,

6:00PM – 8:30PM

Open to the Public and Media for *Free*

JW Marriott Hotel, located at 151 West Adams, Chicago, IL 60604

Venue: Burnham Ballroom

Panel Discussion:

Electric and Hybrid Vehicle Myths and Realities

Panel Moderator:

Randy Reisinger, Plug-in Vehicle Enthusiast and Entrepreneur

Panelists:

Tom Saxon, Director, Plug In America, Tesla Roadster and RAV4 EV Driver

Sam Ori, Director of Policy, The Electrification Coalition

Matt Childress, Co-founder, Illinois Electric Vehicle Association, EV Driver

Henning Lohse-Busch, Ph.D. Research Engineer, Advanced Powertrain Research Facility, Argonne National Laboratory

Panel Summary:

This panel, comprised of EV drivers and experts, will discuss some of the myths surrounding plug-in vehicles and the realities of owning, charging and driving them. Expect to learn critical insights on what to look for when choosing an EV and what to expect from daily electric driving. Whether you're considering buying a plugin vehicle or you're designing one, don't miss this panel. You'll learn some interesting facts about current and future electrically powered vehicles compared to internal combustion powered vehicles that may surprise you. Page 27,

<http://vppc2011.com/wp-content/uploads/2011/08/Final-Program.pdf>

Upcoming Meetings

- September 11-15, 2011** 56th Annual Safety in Ammonia Plants and Related Facilities Symposium
Sheraton Montreal Hotel
Montreal, QC
- September 26-28, 2011** 6th AIChE/SPE Joint Workshop - Challenges in Flow Assurance and Crude Oil Quality
Omni-Houston Westside
Houston, TX
- October 4-6, 2011** OTC Brasil 2011
Riocentro
Rio de Janeiro, Brazil
- October 6-7, 2011** 2011 AIChE Regional Process Technology Conference
Moody Gardens Hotel
Galveston, TX
- October 16-21, 2011** 2011 AIChE Annual Meeting
Minneapolis Convention Center
Minneapolis, MN
- November 10-11, 2011** AIChE Midwest Regional Conference
UIC—Chicago, IL

AIChE National Election – Vote Now!

Historically, AIChE National elections have been won by very small margins because few people vote. The National AIChE election is underway. All ballots must be received by September 6th. You can vote by proxy on-line until September 6th. As hard copy ballots must be received by September 6th, it is doubtful that you have time to vote by hard copy. The Tellers Committee will meet September 12th. Shortly after the Tellers Committee meeting, candidates will be notified of the results. Results will be officially announced October 17, 2011 at the AIChE Annual Business Meeting in Minneapolis, MN.

Profiles of the candidates are on the National AIChE web site at

http://www.aiche.org/About/WhoWeAre/Leadership/Elect.aspx#2012_Election_Slate_Candidates

If you have not already done so, read the profiles and vote now by proxy at

<http://www.societyelection.com/SocietyElection/AIChE/index.asp>

Your member ID number is required. Your vote does matter!

Officers and Contact Information

Chair	Steve Schade ssschade@juno.com
Chair Elect	Peter Herena peter.herena@kenexis.com
Chair Programming	Dan Rusinak Rusinad@middough.com
Secretary	Jerry Wilks gwilks@citgo.com
Treasurer	Mike Buettner Mike.Buettner@alfalaval.com
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We are on the web
www.aiche-chicago.org

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 Newsletter

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.

