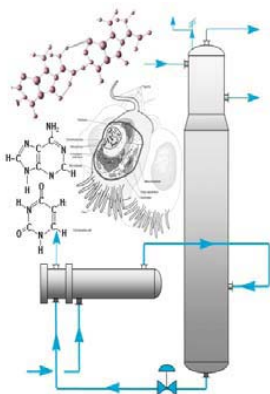


# March Newsletter

Chicago Section

[www.aiche-chicago.org](http://www.aiche-chicago.org)

March 2009



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## AIChE Chicago

### March 2009 Meeting Notice

## U.S. EPA Climate Change Initiatives Including the Combined Heat and Power Partnership

**Date:** Wednesday, March 18, 2009

**Location:** Room 331, Metcalfe Federal Building  
77 W. Jackson Blvd. Chicago, IL 60604  
(corner of Jackson and Clark)

**Cost:** Members - \$16    Unemployed Members - \$8  
Students - \$5    Non-Members - \$20

**To Register Click Below or go to [www.aiche-chicago.org](http://www.aiche-chicago.org)**

<http://quest.cvent.com/EVENTS/Info/Invitation.aspx?e=415016e0-2cc5-4bad-a402-836f2fd1931d>

### Agenda

6:15 - 6:45PM      Registration & Social Hour  
6:45 PM          Main program  
Followed by Pizza, Salad and Dessert  
And NETWORKING



## Chair's Corner

Major league baseball spring training has begun. In another month we will see the opening of baseball season. So, can Spring be far away?



At this time of the year nature cleverly infuses new vigor into the world all around us. There are new blooming flowers, plants, trees, bushes, etc. Baby birds and other animals are born in the spring. The whole activity level of life ratchets up a notch.

Additionally, this year we have new challenges as our economy struggles to recover. There is a new vision for increased use of renewable energy. There are new ideas for advancing the state of our educational system. With college graduation, there will be new careers and new phases in our lives for some of us. Many bright, young, well-trained engineers will enter our profession and add to our ranks at AICHE Chicago Section.

Newness can be unsettling, but it does not have to be unnerving. In fact, change has often driven the engineering profession to higher levels of achievement. Newness is exciting and sometimes the adrenaline rush is just the thing we need to get ourselves out of well-worn behavior and attitudes and onto a better path.

As practicing chemical engineers, we are in the technology game, so let's embrace new processes, modernized procedures, unique equipment, novel materials, fresh ideas, original people. I urge you to welcome change as it generally leads to growth, professionally and personally. Seize the opportunity to pick-up a new skill, form a new friendship, invent something, get out of your comfort zone, add a different viewpoint to your life story.

Our Chicago Section is also planning for change. We will elect new officers for next year soon. Please expand your personal achievement space to include volunteering for the local section. A list of officers and committee positions can be found at our website, [aiche-chicago.org](http://aiche-chicago.org). If a member of the Nominating Committee contacts you, give consideration to making a small investment in a new activity which may pay large dividends in your life.

Pat Shannon  
[Middough, Inc](#)



# US Environmental Protection Agency

## Combined Heat and Power Partnership

### What Is the Partnership?

EPA established the Combined Heat and Power (CHP) Partnership in 2001 to encourage cost-effective CHP projects in the United States. The CHP Partnership is a voluntary program that promotes high-efficiency CHP technology, thereby reducing pollution created by less-efficient, large-scale utilities.

The CHP Partnership promotes CHP by fostering cooperative relationships with the CHP industry, state and local governments, and other relevant stakeholders.

### How the Partnership Works

EPA works with companies and organizations (see below) to promote the economic, environmental, and energy infrastructure benefits of CHP. In return, EPA provides tools and services that support Partners as they investigate and develop new CHP capacity.

**Industry Partners** include facilities in the industrial, commercial, district energy, and institutional sectors, as well as project developers and equipment suppliers.

**State and Local Partners** include state, local, and tribal energy, environmental, and economic development agencies.

**Other Relevant Stakeholders** include end users of CHP technology, financiers, utilities, and other organizations that promote distributed generation.

### Why EPA Supports CHP

EPA promotes greater use of CHP because **significant cost-effective emissions reductions can be achieved** by increasing the efficiency of the nation's energy supply. CHP systems achieve [effective electrical efficiencies](#) of 50 to 70 percent, compared to average fossil-fueled power plant efficiencies of 33 percent in the United States. This improvement in efficiency translates to:

- Reduced total fossil fuel use
- Reduced emissions of regulated air pollutants
- Reduced emissions of carbon dioxide, the leading greenhouse gas associated with global climate change

Furthermore, through its use in onsite electricity generation, CHP may reduce transmission and distribution losses that occur when distributing centrally generated power—resulting in further efficiency gains.

### Partnership Accomplishments

As of December 2008, the CHP Partnership has more than 265 Partners dedicated to promoting and installing CHP.

Accomplishments from 2001 to 2007 include:

- Assisting more than 335 CHP projects, representing 4,450 megawatts (MW) of new CHP capacity.
- On an annual basis, these projects will prevent the emission of more than 10.93 million metric tons of carbon dioxide equivalent.

These emissions reductions are equivalent to 2.4 million acres of pine or fir forests storing carbon for one year or the emissions from 2.0 million passenger vehicles per year.

## Save the Date “Peck Lecture @ IIT”

The Illinois Institute of Technology's Department of Chemical and Biological Engineering is pleased to invite AIChE Chicago Section members to the 2009 Peck Lecture and Distinguished Alumni Awards, hosted **Friday, April 24 at 4:00 pm** at the university's main campus.

The department is delighted to welcome Jefferson W. Tester, **David Croll** Professor of Sustainable Energy Systems in the School of Chemical and Biomolecular Engineering at Cornell University, Director of the Energy Institute in the College of Engineering and Associate Director of the Cornell Center for a Sustainable Future, as this year's lecturer. His presentation, titled, **“Achieving Sustainable Energy: Connecting goals to research across scales and disciplines,”** will give valuable insight into the current energy issues facing the world. For more information on the event, please visit [www.iit.edu/engineering/chbe/news\\_events/peck2009.shtml](http://www.iit.edu/engineering/chbe/news_events/peck2009.shtml).

Immediately following the Peck Lecture, ChBE alumni are invited to join the IIT AIChE Student Chapter for the 3<sup>rd</sup> Annual ChBE Alumni Dinner. Formal invitations will be mailed in March.

## March 18 Meeting Speakers Bio

**Alexis Cain** is an Environmental Scientist with the U.S. Environmental Protection Agency, Region 5, Air and Radiation Division. He holds a Masters in International Affairs from The American University and a Masters in Environmental Studies from Yale University. He has been with USEPA for fourteen years, where he works on mercury control efforts as well as on voluntary climate change programs, including the Combined Heat and Power Partnership and the Green Power Partnership.

**Dennis Wesolowski** is the Director of the Chicago Regional Laboratory in EPA Region 5. He has a BS in Chemistry from Indiana University and a MS in Chemistry from DePaul University. His experience in environmental analytical chemistry includes private industry and governmental labs at the Municipal and State levels as well as the Federal level for the last 25 years. Besides supporting regional programs in all media, his lab provides method development for emerging contaminants of concern such as endocrine disrupting compounds for the Office of Water and chemical threat agents for the National Homeland Security Research Center.

**To Register Click Below or go to [www.aiche-chicago.org](http://www.aiche-chicago.org)**

<http://guest.cvent.com/EVENTS/Info/Invitation.aspx?e=415016e0-2cc5-4bad-a402-836f2fd1931d>

**Professional Engineers can earn PDH credits by attending this presentation.**

## An overview of February 2009 meeting

Last meeting at Costas was different in two ways: first we had several speakers providing technical overview of GE's technologies and second the meeting setup was a bit different where the dinner was served in a different room. There was a very good turnaround, which makes everybody happy and provides more energy for future meetings. Here is a summary of the meeting by Jessica Swary:

### *Water Purity and Boiler Efficiency Overview*

Dependable water purity is necessary for consistent and optimal performance of heating and cooling operations within a plant. Membrane type water treatment solutions such as reverse osmosis and electrodeionization (EDI) are available through GE for various industries. For high-purity applications such as low sodium or purified water, reverse osmosis is a low-cost alternative. GE also offers EDI, an electrically driven membrane demineralization process, for ultra-high purity application to eliminate the need to handle chemicals or generating hazardous waste.

Without proper purification, dissolved solids including salts and minerals in boiler feed water can result in carryover in steam applications causing corrosion and product purity issues. Overheat failure and increased energy consumption are also typical issues with impurities in boiler feed water.

### *Nuclear Reactor Overview*

New advancements in nuclear power plant constructions by GE include the Advanced Boiling Water Reactor (ABWR) and the Economic Simplified Boiling Water Reactor (ESBWR) designs. The major break-through of the ABWR is the internal recirculation system that utilizes gravity to eliminate large external pumps and recirculation loops which are potential leak points. The ESBWR requires fewer components and incorporates a more passive design for increased safety. Modular construction of these units can greatly shorten construction time. In 2006, the Shika 2 installation in Ishikawa, Japan was completed after only 42 months of construction. The new reactor output of over 1300 MW nearly tripled the output of the existing reactor, Shika 1.

Currently, many nuclear facilities in the U.S. hold spent fuel in dry storage on-site. Under Global Nuclear Energy Partnership (GNEP), a research and development group of countries around the world which promote the use of nuclear power, research is being conducted on the use of Breeder reactors to reprocess 'spent' nuclear fuel. Reprocessing nuclear fuel could increase the power output of the fuel by at least 250%.

# To FE or not to FE...?

**Join UIC's AIChE Student Chapter & YPAB-Chicago**

for

**Fundamentals of Engineering (FE) and Principles & Practice of Engineering (PE) Informational Session**

When: **Thursday, March 5<sup>th</sup> 6PM**

Where: **UIC College of Engineering Building (CEB)**, Room 218  
810 S. Clinton Street, Chicago, IL 60607

Still deciding to take the FE Exam? Not sure if you really need a PE license as a ChemE? Come meet three active Chemical Engineer PE's and hear first-hand why you need it and what it takes.

**PE Panelists:**

**Robert Hartwell, Chief Engineer, MACTEC Engineering & Consulting**

**Dr. Jeffery Perl, President, Chicago Chem Consultants & UIC Adjunct Professor**

**Dan Rusinak, Chief Engineer, Middough**

**Pizza to be provided!**

AIChE's Young Professionals Advisory Board (YPAB) is an organization designed to bridge the gap between college and professional life.

To learn more about YPAB, visit <http://www.aiche.org/YoungProfessionals/index.aspx>

By: Jessica Swary

## **AIChE Chicago Section Poster Competition**

### **Competition:**

Wednesday April 15, 2009

6:30 PM – 7:30 PM

Northwestern Evanston Campus, Pancoe Hall

### **Prizes:**

Cash prizes to the top undergrad and grad students

### **To Enter:**

Submit abstracts (500 words or less)

to Liz Kacmar ([Elizabeth.Kacmar@uop.com](mailto:Elizabeth.Kacmar@uop.com))

by **Sunday April 12, 2009**

### **More Info:**

Posters on any topic related to chemical engineering are welcome, including research and senior design projects. The competition will be judged by chemical engineers using the AIChE National Student Poster Session judging criteria

([http://www.aiche.org/uploadedFiles/Students/Conferences/poster\\_judgeform.pdf](http://www.aiche.org/uploadedFiles/Students/Conferences/poster_judgeform.pdf)).

### **Questions?**

Contact Beth Carter ([Beth.Carter@uop.com](mailto:Beth.Carter@uop.com))



## Congratulations

We are very pleased to announce that **Paul Steacy** has been elected a Fellow of the American Institute of Chemical Engineers. Only a small percentage of AIChE members receive this honor; it requires a track record of both professional accomplishment and service to the profession.

**Paul** is Fractionation Specialist in UOP's Engineering Department. He is being recognized for his leadership of the Fractionation Research Institute (FRI) as well as his 30+ years experience, 6 patents, and leadership of UOP's design and innovation of fractionation operations (including divided wall columns). He provides consultation to UOP's design and technical service engineers on fractionation issues and field problems.



FRI is a not-for-profit industry-sponsored research consortium to develop and make available information on distillation, absorption, and stripping – basic technology utilized every day in the chemical, petrochemical and refining industries. Beyond representing UOP, he provided volunteer leadership to FRI. He has served as Chair of the FRI Technical Committees since 1995. Quoting from his nomination letter from someone who knows his work well: *“FRI is the single most important entity servicing the unit operations of distillation, absorption, and stripping in the world, and there is no close second. Paul Steacy is the leader of the volunteer effort that directs the technical operations, and he has been providing that leadership for 13 years. It may very well be that no volunteer operating in a volunteer function has a greater effect, world wide, on the chemical enterprise than Paul Steacy.”*

**Congratulations, Paul.**

by Alan Zagoria (UOP)

## DuPage E-Week

On Saturday, February 21 the Chicago Section took part in the 25<sup>th</sup> annual Dupage Area Engineers Week Expo at the Illinois Institute of Technology's Rice Campus. This Engineers Week event encouraged kids of all ages to get involved in engineering of all disciplines. The theme of this year's Engineers Week Expo was "Sustainability and Alternate Energy" and featured everything from model airplanes, a wind tunnel exhibit, to lasers, robots, bicycle power, and hands-on activities.

AICHE hosted a booth with a theme of safety. Kids and adults had the opportunity to learn about chemical engineering safety on the job. They were also given the chance to try on all the safety gear that a chemical engineer would need on the job in a refinery or chemical plant. We had over 300 future engineers stop by the booth! The pictures of the kids and adults trying on the safety gear can be found at:

[http://www.aiche-chicago.org/Student\\_Outreach/](http://www.aiche-chicago.org/Student_Outreach/).

The AIChE booth could not have been successful without all the help of the volunteers! Thanks to those who helped out: Alan Zagoria, Shannon Brown, Meagan Simantz, Steve Schade, Jessica Swary, Beth Carter, Liz Kacmar, Chris Standing, Syed Rizvi, Luis Bougrat, Nate Siedler, Katie Rankin, Katie Yiznitsky, and Andrew Kim.

By:

Meagan Simantz



## 2009 AIChE Spring National Meeting and 5<sup>th</sup> Global Congress on Process Safety

The AIChE Spring National Meeting (**April 26-30, 2009, Tampa, FL**) is the year's key technical conference for practicing chemical engineers. A wide range of subjects relevant to the current needs of industry is covered. Plus, the Global Congress on Process Safety covers the critical needs of process safety practitioners more broadly and deeply than any other conference.

Highlights of the 2009 meeting will include:

- **Spring Keynote Address** (Monday, April 27) - Alan Boeckmann, Chairman and Chief Executive Officer, Fluor Corp.
- **Developing Energy Strategies Plenary** (Tuesday, April 28) - Panel discussion moderated by Dr. Clifford M. Gross, Chief Executive Officer and Chairman of the Board of Directors of UTEK Corporation. Confirmed panelist include:
  - o Charles R. Black, President, Tampa Electric Co.
  - o Reyad Fezzani, CEO, Global Wind & Solar, BP Alternative Energy
  - o Donna Jacobs, Senior Vice President of Planning, Development and Oversight, Entergy Nuclear
- o **Water Sustainability Plenary** (Wednesday, April 29) - Panel discussion moderated by **Mary Ellen Ternes**, Chair, Environmental Practice Group, McAfee & Taft, P.C. & Vice Chair, The American Bar Association's Climate Change, Sustainable Development and Ecosystems Committee. Confirmed panelists include:
  - Michelle Diffenderfer, Shareholder of Lewis, Longman & Walker, P.A.; General Counsel to the Chamber of Commerce of the Palm Beaches and the Florida Earth Foundation
  - David L. Moore, Executive Director, Southwest Florida Water Management District, Brooksville, Florida
  - Jorge T. Aguinaldo, Vice President, Technology and Development, Doosan Hydro Technology, Inc.
  - The 21st Annual Ethylene Producers' Conference
  - 12th Topical Conference on Refinery Processing
  - 9th Topical Conference on Natural Gas Utilization

The **5th Global Congress on Process Safety** featuring:

- 24th CCPS International Conference
- 43rd Loss Prevention Symposium
- 11th Process Plant Safety Symposium

**Plus**, topical conferences on Distillation, Microreactor Engineering, and Sustainability, Emerging Energy Frontiers, and Advanced Fossil Fuel Utilization.

**Registration is open now!**

## Upcoming Meetings and Events

<b>18-Mar</b>	U.S. EPA Climate Change Initiatives Including the Combined Heat and Power Partnership
<b>15-Apr</b>	Infrastructure Safety - bridges, refineries, aircraft, <b>Jan Achenbach</b>
<b>24-April</b>	Peck Lecture @ IIT & IIT ChBE Distinguished Alumni Awards!
<b>26-30 April</b>	2009 AIChE Spring National Meeting and 5 <sup>th</sup> Global Congress on Process Safety <b>Tampa Convention Center, Tampa, FL</b>
<b>13-May</b>	FDA Food Safety

### NOMINATIONS REQUESTED FOR THE ERNEST W. THIELE AWARD (**Deadline Extended**)

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 30, 2009.**

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

## NOMINATIONS FOR SECTION OFFICERS

Members may nominate one candidate for each office (Chair-Elect, Vice-Chair Program, Treasurer, Secretary) and for Director-at-Large. Please submit nominations to Steve Schade at [sschade@ambitech.com](mailto:sschade@ambitech.com). The deadline is the close of the meeting on March 18.

## Call for Volunteer “Symposium 2009” Last CALL

We are planning for the 4th annual Chicago Local Section Symposium in September 2009. Please contact Dr. Jeffery P. Perl @ 312-226-2436 or “[jefferyperl@chichem.com](mailto:jefferyperl@chichem.com)” for possible involvement in organizing the symposium.

To get more information about the previous symposiums please check the following link:

<http://www.aiche-chicago.org/Symposium/index.html>



### Officers and Contact Information

Chair	Patrick Shannon <a href="mailto:shannoph@middough.com">shannoph@middough.com</a>
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Chair Programming	Steve Rosenblum <a href="mailto:Steve.Rosenblum@uop.com">Steve.Rosenblum@uop.com</a>
Secretary	Steve Schade <a href="mailto:sschade@ambitech.com">sschade@ambitech.com</a>
Treasurer	Catherine Fieber <a href="mailto:cfieber@comcast.net">cfieber@comcast.net</a>
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## AICHE CHICAGO SECTION

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We are on the web  
[www.aiche-chicago.org](http://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](mailto:aichechicago@gmail.com)

[http://www.aiche-chicago.org/Section\\_Info/Volunteer.html](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](mailto:aichechicago@gmail.com) with "newsletter article" as a subject line.

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<b>Advertisements (3X3)</b>	100	450	150	675	N/A	N/A
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