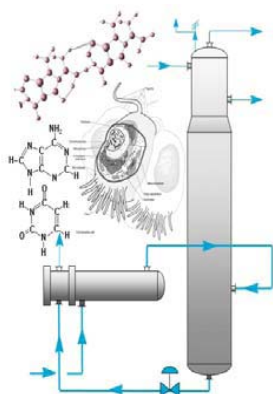


February Newsletter

Chicago Section

www.aiche-chicago.org

February 2009



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AIChE Chicago

February 2009 Meeting Notice

Pre-dinner:

GE's advanced nuclear reactor overview

Michael E. Shepherd and Isidro de la Fuente

General meeting:

GE water treating for power and refinery boiler applications

Paul DiLallo and Rob Derus

Date: Wednesday, February 18, 2009

Location: COSTAS

1 S 130 Summit Ave, Oakbrook Terrace, IL 60181

Cost: Members - \$35 Unemployed Members - \$15

Students - \$5 Non-Members - \$38

To Register Click Below or go to www.aiche-chicago.org

<http://guest.event.com/EVENTS/Info/Invitation.aspx?e=e23dc97b-29a3-411d-92af-240314f988f5>

Agenda

5:00 - 5:30 PM	Pre-meeting
5:30 - 6:15 PM	Pre-dinner Program
5:30 - 6:30 PM	Social Hour
6:30 PM	Dinner
7:30 PM	General Meeting



Chair's Corner

Many of us work in the process industries – those entities engaged in manufacturing products where the classic chemical engineering unit operations are used. Chemical engineers are naturally in leadership positions in these enterprises by virtue of our unique predispositions not to fear chemical change.



At some point in each of our careers, it becomes apparent that we will assume leadership roles, either by plan or not. In fact, this is a good thing as it can lead to great personal growth as well as career advancement. But we rarely get much training in leadership skills during our academic or early professional years. How do we go about developing leadership skills and a leadership style?

Simply defined, a leader is a person who influences the behavior of an individual or group. Note that this is not the same task as managing. You can be a leader without being a manager. In fact, strong leadership, especially in technical environments, is frequently provided by someone other than the boss.

What skill set does leadership require? Surveys show that the top ten qualities most sought and admired in a leader are as follows: honesty, forward-looking, inspiring, competent, fair-minded, supportive, broad-minded, intelligent, straightforward, dependable. Some engineers are born with some of these qualities, but mostly these qualities can be learned. Acquiring these qualities will serve you well in any position, business or personal. Numerous publications are available to guide you in developing leadership skills, e.g. “The Leadership Challenge,” J.M. Kouzes and B.Z. Posner or “Improving Leadership Effectiveness,” F.E. Fiedler.

I think the three most important characteristics of effective leadership are vision, communication and honesty. You may have your own list and it can be longer, but let's examine these three.

You need to know where the team/group/project/department is going and keep that goal always in sight. Don't let minor side issues distract you from the ultimate goal. Carefully define your goals after serious analysis of the problem and its scope and then stick to your guns, even in the face of difficulties. Do not retreat from challenges, they are opportunities for growth.

The success of implementing your vision is almost directly proportional to the amount and quality of your communications with the followers who will help you get to the goal. This has always been true and it will always be true. A 1911 plant management handbook stated that "... much could be improved by improved interpersonal relations. Distrust is usually based on selfishness and selfishness is encouraged by lack of knowledge of one another." Trust in each of your followers, as well as their trust in you, is crucial to attaining your goals. No effort spent in advancing your personal relationships with your team is wasted.

True leadership without integrity is impossible. Stay true to your own personal code of moral values. If you always tell the truth, accept the consequences of your actions without blaming others, honor your commitments, and are fair in you relationships you are off to a good start

These leadership principles will always survive: scrupulous honesty in all business dealings, always striving to do what's right, accepting responsibility, respecting yourself and others, sincerity, lifelong learning, expecting results. Try to cultivate them in your professional life and you will be rewarded with a challenging and satisfying career.

Pat Shannon
Middough, Inc



GE Nuclear Power presentation

Abstract

Power generation requires large volumes of water. To effectively use water within a plant, it must be treated to meet the specific requirements of the process equipment where it will be used. This review will discuss the latest equipment and chemical treatment options available to optimize performance of boiler and cooling systems. We will discuss various membrane-based treatment solutions including ultrafiltration, reverse osmosis, and electrodeionization as they apply to boiler makeup water treatment.

Pre dinner presentation

GE's advanced nuclear reactor overview

1. Overview of Advanced Boiling Water Reactor - ABWR
2. Overview of Economic Simplified Boiling Water Reactor - ESBWR
3. Overview of Global Nuclear Energy Partnership - GNEP
- solving the back end nuclear fuel cycle using GE's Gen IV Reactor - PRISM
4. Shika 2 - Hitachi ABWR DVD - 1800 days from ground break to commercial operation

Professional Engineers can earn PDH credits by attending each of these presentations.

Michael E. Shepherd

Senior Product Applications Manager
GE Water and Process Technologies

Mike has over 28 years of experience working for GE in the power industry. Mike received his BSME from Northeastern University, and his MBA from Northern Illinois University. Currently, Mike is a senior product applications manager for the fuels and combustion products with GE Water and Process Technologies. Mike spent 23 years with GE's nuclear business unit; starting as a field engineer, then as an SRO startup engineer for several nuclear units, and then in sales, working with various domestic and international utilities. Mike assumed the role of Account Executive for Exelon in 2000 representing all of the GE's products and services. In 2005, Mike moved to GE's water business focusing on marketing of key products and services to the power industry segment.

Speakers Bio

Paul DiLallo

Paul DiLallo joined GE Water & Process Technologies in 2002 and has held several commercial roles within GE Water, focusing on GE's extensive membrane-based treatment technologies including reverse osmosis, nanofiltration, and ultrafiltration. Paul joined GE Water with Argo Scientific; a chemical solutions and services provider focused on membrane treatment technologies. Paul has over 18 years experience in membrane-based and thermal-based solutions for water treatment. Prior to GE Water, Paul held various engineering and commercial roles focused on thermal evaporation systems for seawater desalination and high-purity water applications. Paul holds a B.S. in Mechanical Engineering from the University of Wisconsin – Madison and a M.B.A. from Marquette University.

Rob Derus

Robert Derus (B.S., Biology, UW Whitewater, Whitewater, WI) joined GE Water & Process Technologies in 1997. His work includes over 24 years experience with wastewater, cooling water treatment and high-pressure boiler treatment along with background in bulk material dust control, filtration and instrumentation and control. His work involves troubleshooting a variety of areas related to his background and assisting primarily utility customers with solutions through the use of proprietary chemical or mechanical means.

Isidro de la Fuente

Sales Manager, North Region
GE Hitachi Nuclear Energy

Isidro began his career with GE Nuclear Energy in 1979 as a Fast Breeder Reactor Core Design Engineer and later held the positions of Lead Startup Engineer, Outage Director, Nuclear Account Manager and Six Sigma Master Black Belt. In 2001, Isidro transferred to GE Energy Services as General Manager of Optimization Software, where he led the integration of two plant optimization software acquisitions into the GE Energy Optimization Services business. In 2004, Isidro returned to GE Nuclear as the Region Services Director for the Central Region, where he provided customer management interface and leadership for all deliveries in the region. Currently Isidro holds the position of Sales Manager, North Region for GE Hitachi Nuclear Energy. Isidro is SRO certified, holds a master's degree in nuclear engineering from U.C. Berkeley and an Executive MBA Degree from Santa Clara University.

An overview of January 2009 meeting

Technology of Efficient Conversion of Biomass to Fuel (Ethanol)

Everybody was expecting a big turnaround for the January joint meeting with ACS, given the very attractive topic and possibly a convenient location for many members. Having 150 chemical engineers and chemists in a local meeting was a surprise though. All and all it was a great opportunity to meet new faces and yes there were many new faces. Thanks to all who made the effort and came and thanks to the speaker for a very good talk. For those of you who missed the talk here is the summary:

The biofuel marketplace has already eclipsed the \$20 billion mark in the United States, despite some of the economic challenges of “first-generation” products that have relied on raw materials derived from the food chain, such as corn and soybeans. Legislation passed in late 2007 and early 2008 created a new mandate for the next generation of biofuels, which requires advanced technologies and broader use of cellulosic feed stocks. This mandate is in the form of a new Renewable Fuel Standard which requires the production and introduction into the fuel mix a total of 21 billion gallons of “advanced biofuels”, 16 billion gallons of which must be derived from cellulosic sources.

There are several emerging technology platforms that are emerging that are expected to satisfy this mandate. A number of them involve hydrolysis of cellulose, most often assisted with enzymes, followed by fermentation of the resulting sugars. Others involve gasification of biomass feed, followed by Fischer-Tropsch catalytic conversion of the syngas to a range of alcohol products. The process being commercialized by Coskata is a hybrid approach which utilizes gasification of biomass in combination with a proprietary, bio-catalytic conversion of syngas to ethanol. The Coskata process offers a lower production cost for fuel-grade ethanol, greater sustainability due to the diverse feed stocks that can be used, and a very favorable carbon footprint.



Congratulations

Last spring, **Annette Johnston**, PE was elected Fellow of the American Institute of Chemical Engineers. Annette received her certificate and pin at the 2008 Annual AIChE Meeting in Philadelphia.



Annette Johnston has been bringing engineers together as an AIChE Volunteer since 1982. She held various offices in the St. Louis section, and moved to Chicago in 1990. She coordinated the Session Aide Program for the last AIChE Annual meeting in Chicago, in 1996. She was Symposium Chair in 2001 (Chromatography) and 2002 (Process Intensification). As Program Chair, she coordinated Programming that broke attendance records. During her tenure as Chicago Section Chair, program registration was moved online, and the Symposium became an annual two day event. Annette is the Program Chair of the Process Development Division. She chaired the Second Process Development Symposium in 2004. She is currently the Meeting Program Chair for the Spring Meeting in Tampa, in 2009.

Annette Johnston has worked on process development, operations and process engineering projects for industry. She started with Monsanto Company upon graduation from the University of Illinois at Urbana Champaign. She has participated in process control projects, plant design and startup, first runs to make clinical trial batches for new drugs, operations management, and quality initiatives to review and update the science behind the qualification of heritage products for Abbott Laboratories. Annette holds one patent for the precipitation of porphyrins. She is currently a Section Manager in Abbott Laboratories, managing process engineering projects which support In Vitro Diagnostics Reagent Production. Annette is a registered Professional Engineer in Illinois.

Chicago Future City Competition

AIChE sponsored a special award for a team participating in the Chicago Future City Competition on Saturday January 24th. Future City is a competition sponsored by National Engineers Week in which middle school students compete against teams from other schools by designing a city of the future. They use SimCity software to design a computer model of their futuristic city. The students are also required to build a scale model of the city using recycled materials and write two essays reflecting their knowledge of the complex issues surrounding urban design.



The winners of the AIChE Energy Award, Team "Hapsari"



Wind turbines designed by Team "Ghar Jal Sol"

The winner of the overall competition, a team of four girls from Washburne Middle School, designed an earthquake-proof city to build on Treasure Island in the San Francisco Bay. They won a trip to Washington DC to compete in the national competition during National Engineers Week in February.

Along with the overall winners, 29 special awards were presented by various engineering societies. AIChE sponsored the Energy Award which went to "the future city that best meets its energy demand from safe, environmentally responsible, reliable, and economical sources." Mark Warburg and Beth Carter attended the event to judge the teams and select a winner for the AIChE award. The winning team was Hapsari (meaning flower in Japanese, symbolizing life) from McClure Junior High School. They incorporated many types of clean energy into their design, including wind, hydroelectric, solar, and wave.

Chicago Future City Competition

Mark and Beth were very impressed by the creativity, innovation, and engineering knowledge of all the kids in 7th and 8th grade! The Future City Competition is looking for volunteers for next year, particularly engineers who are willing to mentor a middle school team. If you are interested, visit www.futurecitychicago.org or contact Don Wittmer at dwittmer@hntb.com.

Beth Carter

UOP



Beth Carter listening to a middle schooler from Team "Otopus"

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.

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

Du Page Engineering Week (E-Week)

DuPage Area Engineers Week is celebrating its 25th anniversary this February. As part of the 2009 National Engineers Week, the DuPage Area activities will include a [Speaker's Forum scheduled for Thursday, February 19th, at 6:30 p.m.](#), and the immensely popular Engineers Week Expo on Saturday, February 21st from 11:00 a.m. to 3:30 p.m. Both events will be located at [Illinois Institute of Technology's Rice Campus in Wheaton](#), Illinois and are free and open to the public!

Engineers Week provides **children and adults** alike with the opportunity to experience the fundamentals of math and science at work through a series of interactive displays and presentations. Volunteers from engineering societies, education, business, and government come together to promote an active interest in learning and to show the intriguing and applicable results of numerous engineering principles.

The theme of this year's DuPage Area Engineers Week will be "**Sustainability and Alternate Energy Resources.**" With the demand for natural resources currently at unprecedented levels, engineers are at the forefront of applying new and sustainable ways in which the world can function. To further discover how relevant sustainability and "going green" is for Chicago area residents and travelers, this year's Speaker's Forum proudly features a presentation on the [O'Hare Modernization Program \(OMP\)](#). As Chicago looks to the future and prepares for a chance to host the 2016 Summer Olympic Games, its very own O'Hare International Airport continues to move forward with a large-scale infrastructure transformation. Participants will learn what steps engineers are taking to maintain this surprisingly "green" modernization and expansion effort. The 2009 Speaker's Forum is scheduled for Thursday, February 19th beginning at 6:30 p.m. A brief reception will precede the presentation, which will then be followed by a question and answer period. Professional Engineers earn PDH credit for attending the presentation.

On **Saturday, February 21st from 11:00 a.m. to 3:30 p.m.**, future engineers and learners of all ages are encouraged to join in celebrating the 25th anniversary of the DuPage Area Engineers Week Expo. **Free and open to the public**, the Expo features everything from **model airplanes** and a **wind tunnel exhibit**, to **lasers, robots, bicycle power, and hands-on activities** with ZOOM, Design Squad, SCARCE, and the DuPage Children's Museum! Illinois Institute of Technology students are prepared to present and answer questions on their sustainability-related professional projects, providing further connections to this year's theme. New for 2009, the "Buildings to Shake-Rattle and Roll!" exhibit and presentation will allow participants to build and test their own building designs to destruction. The popular cryogenics display returns again to amaze onlookers with sub-zero science and surprises!

The American Institute of Chemical Engineers will have a booth this year with a theme of safety. Everyone will have a chance to try on various safety gear and pose for a picture in front of a refinery. AIChE will also introduce to the public the real difference between chemical engineering and chemistry. There will be numerous examples of the amazing career options available in chemical engineering.

Chicago Architecture Today will again be holding their Midwest Creative Architecture Competition (MCAC) at the Rice Campus. "The MCAC is a student-based contest challenging participants to incorporate both the art and science of architecture across a broad spectrum of categories." Entries will be on display beginning at the Engineers Week Expo on February 21st and running through March 7th. Check www.chicagoarchitecturetoday.org for further details on the competition and awards ceremony.

Enjoy one or both of the free DuPage Area Engineers Week activities on February 19th and 21st. Both events are located at Illinois Institute of Technology's Rice Campus at 201 East Loop Road in Wheaton, Illinois.

If you would like to volunteer at our booth and interact with the visitors, please contact **Meagan Simantz** at meagan.simantz@uop.com.

March Meeting Announcement

**AIChE, ASME, IEEE Power Group and ASHRAE
Of Chicago Sections/Chapters in cooperation with
U.S. Environmental Protection Agency**

present

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

Wednesday evening

March 18, 2009

Registration 6:15 p.m.

Program begins 6:45 p.m

followed by networking and pizza

in

Room 331

Metcalfe Federal Building

77 W. Jackson Blvd.

Chicago, IL 60604

(corner of Jackson and Clark)

Please allow extra time to move through building security.

Upcoming Meetings and Events

- 18-Feb** GE water treating for power and refinery boiler applications
- 18-Mar** U.S. EPA Climate Change Initiatives Including the Combined Heat and Power Partnership
- 15-Apr** Infrastructure Safety - bridges, refineries, aircraft, Jan Achenbach
- 24-April** Peck Lecture @ IIT & IIT ChBE Distinguished Alumni Awards!
- 13-May** FDA Food Safety

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 01, 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

Help Needed for IIT North Central Regional Conference

The IIT North Central Regional Conference is looking for volunteers to judge the ChemE Car and Paper competitions on Saturday, February 28. If interested, please contact Jennifer Guilfoyle at jguilfoy@iit.edu.

Call for Volunteer “Symposium 2009”

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” 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>

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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.

