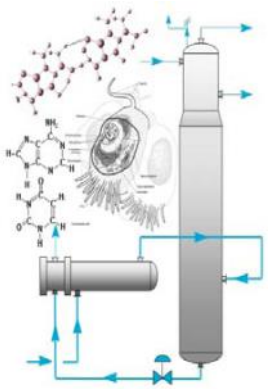
AIChE Chicago Section

November Newsletter



Inside this issue:

Chair's Corner	2
November Meeting Information	3
Chemistry Day Summary	4
Young Professionals Event	5
Thiele Award Nomination	5
October Meeting Photos	6
2017 Midwest Regional Conference, UIC	7
Upcoming Events	8

AIChE Chicago

November Meeting

From Scarcity to Abundance – Now What?

Edward Johnston

Senior Vice President, Research & Technology Development

Gas Technology Institute

Location: ***The Carleton of Oak Park***

Date: ***Thursday, November 10, 2016***

Address: ***1110 Pleasant St. Oak Park, IL, 60302***

Cost:
AIChE Global and Local Section Member: $40
AIChE Global Member: $45
Non-Member: $50
Students: $10
Unemployed/Retired: $15

Register Here:

http://www.cvent.com/d/bvqxhy/

Agenda

5:30—6:30	Registration and social hour with cash bar
6:30 - 7:30	Dinner
7:30 - 7:45	Business Meeting & Announcements
7:45 - 8:45	Technical Presentation

Chair's Corner

Welcome to November! As we enter the final weeks of November, we are reminded to celebrate and give thanks to each other and to the world for what we have, who we are with, and the experiences that have molded our lives. As chemical engineers, let's not forget who mentored and inspired us to take the career path we have chosen. The words our past mentors, teachers, and professors, have spoken to us helped shape what we do and who we are and we should be forever thankful. Just as you were mentored, it is all of our duty to mentor and train new engineers so that our field can progress in addressing our world's challenges. One of the greatest words of wisdom and sound piece of engineering advice given to me was from a colleague who worked at a partner company. When I changed jobs early in my career from technical service to an engineering design role, he wrote the following note to me:

It has been a pleasure working with you. I wish you all the best and hope you enjoy working in the engineering department. I hope you get as much satisfaction from design work as I do. My suggestion is to keep in mind the words of Antoine de Saint-Exupéry:

"Perfection in design is not achieved when there is nothing more to add, but when there is nothing more to remove"

I have always remembered this concept when I have come across a situation where a design change was needed. When we change a process, adding equipment generally makes the process more complex. Adding equipment, generally, not only increases capital and operating expenditure but also increases modes of failure, operational complexity, and an increased number of potential safety issues. More instrumentation and piping is needed as well as thicker more elaborate instruction manuals and SOPs. There is more that can go wrong with making a process more complex and increasing equipment count to solve a problem may not be the right answer. There are exceptions to this which is why I used the word "generally". In some cases, adding equipment does increase reliability and safety but most times it does not.

Taking an overall look at the current design of the unit and challenging the current design scheme philosophy as to why certain things are needed may be a more suitable approach. We should ask, Can certain process functions be consolidated/ combined? Is there a flowscheme change that would allow less steps? What equipment is truly needed? When we change a design, we, as engineers, need to be able to convince others that the change is necessary and the new design is better than the past design. In other words, we need to "sell" the new concept to others. It is much easier to sell and defend a simpler flowscheme than a complex one. Simplifying a process and reducing equipment count generally results in less capital expenditure, greater efficiency, lower modes of failure, and an easier more robust operation. Less is generally better when a new process is introduced as an improvement over a past process. Reliability increases with a simpler process because there is less that can go wrong. A simpler process is more robust because there is less chance of mis-operation. A simpler process is easier to explain and defend, generally results in lower cost, and increases reliability. Also, the least steps in a process is obviously a fastest process. Another way to interpret Saint-Exupéry's phrase is a design principle introduced by the US Navy in the 1960's. This is the KISS principle; Keep it Simple, Stupid.

Tom King
AIChE Chicago Section Chair
UOP – A Honeywell Company

November Meeting Information

From Scarcity to Abundance – Now What?

Abstract:

Over the last decade, innovations in horizontal drilling, hydraulic fracturing, and well pad efficiency by independent producers and service companies have catalyzed domestic resource development, and with the addition of the integrated majors into the unconventional market, the U.S. has become the world's largest producer of natural gas and oil. Let that sink in for a second; this was unimaginable five years ago. That said, resource recovery rates of product in place are anemically low, and continued innovation will not only improve production cost but will further provide energy security and domestic growth opportunities. Shale gas is already contributing an annual additive benefit of $125 Billion to the U.S. economy. Most of the growth to date has been in coal displacement for power generation with some in the chemical and industrial sectors, while exports to Mexico have considerably outstripped LNG exports.

So what are we going to do with all this gas? While some major investments in chemical markets are being made (e.g. Shell's ethane cracker in PA), others have failed to reach final investment decision as energy prices have eroded and arbitrages have tightened. The significant capital risk over time associated with large and mega scale projects is keeping investment on the sideline in many cases. This trend leads to other questions and considerations: Does scale always matter? How can innovation change the current model? Can distributed solutions become economical? Do incumbents need to adapt, or who may disrupt?

Environment will matter more and more. How does natural gas fit into a low carbon energy economy? Pundits think that fossil is the new "f" word regardless of how quickly the U.S. is reducing carbon on the heels of gas to power. Some suggest natural gas as a bridge fuel; others think this is a much more than a bridge.

Gas Technology Institute plays an important role in the evolution of unconventional oil and gas development, as well as the higher value uses of hydrocarbons. GTI's Senior Vice President – Research and Technology Development, Eddie Johnston, will share thoughts regarding innovations to increase productivity and how the U.S. could get more value from its expansive resources than just creating power and exporting it.

Speaker's Bio:

As the Senior Vice President of Research and Technology Development, Eddie Johnston leads research initiatives for Gas Technology Institute (GTI), driving integrated responses to the energy industry's most pressing needs. He oversees the organization's entire research staff—leading efforts across unconventional supply, energy conversion, natural gas delivery, and end use market sectors with offerings at every phase of the technology development cycle.

GTI's innovative technologies make energy resources economically viable, minimize environmental footprint, and maximize market impact to reduce costs for consumers and enable our customers' continued success .

Johnston joined the company in July 2007 as the Managing Director of the Infrastructure sector. Prior to that, he worked for Atmos Energy Corporation for 15 years, and also worked hands-on in the off-shore oil industry with Rowan Companies for nearly a decade.

Johnston earned a B.S. degree in mechanical engineering from Mississippi State University and is an honors graduate from the University of Chicago's Booth School of Business. He serves on a number of Boards of Directors and Advisory Boards for tech start-ups, advocacy groups, and research organizations across the energy value chain.

For registration and information: http://www.cvent.com/d/bvqxhy/

AIChE Volunteers at Chemistry Day

In support of the American Chemical Society's (ACS) annual Chemistry Day, a number of AIChE members from both AIChE-YPC Chicago and AIChE-IIT spent their Saturday introducing children to chemistry and the profession of chemical engineering. This event occurred on October 22, 2016 in celebration of National Chemistry Week at Loyola University with the theme of "Solving Mysteries Through Chemistry." An AIChE Chicago Section poster display as well as a Kinetic Sand Demonstration were used to help engage and interact with students ranging from first grade to high school. Special thanks to the volunteers from AIChE-YPC: Kimberly Douglas, Janet Werner, Matt Hoffer, and Fernando Franco and from AIChE-IIT: Kashif Uddin, Nick Navar, and Paige Grons.

Submitted by: Kimberly Douglas
Programming Committee, AIChE Chicago YPC

Young Professionals Event

Job Transitions Roundtable
When: Tues, Nov 15, 5:30 PM
Where: Salseria Grill & Cantina, 116 N York St #102, Elmhurst, IL 60126

Are you starting a new job? Thinking about changing industries? Starting a new rotation in a new position? YPC will be hosting a roundtable discussion about job transitions in November. An informal discussion of various related topics will be covered while YP's enjoy food and drinks. Food and drinks will be individually billed.

The Salseria is in downtown Elmhurst, in walking distance from the metra station.

Please RSVP to Janet,

wernerjl@middough.com,

by Mon, ***Nov 14th to*** attend!

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.

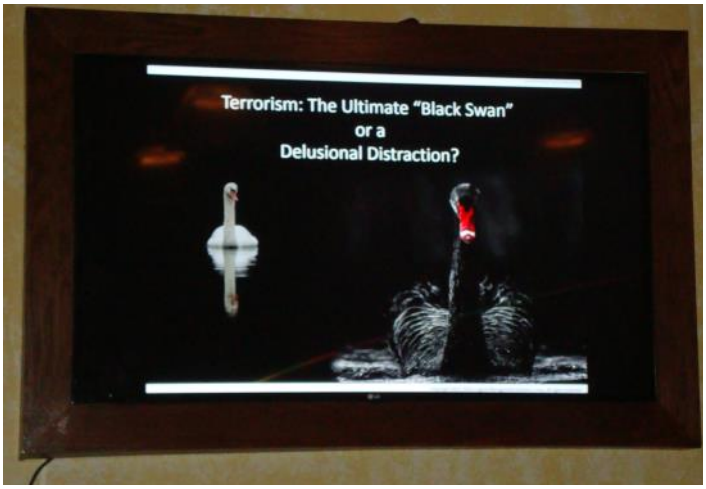
Nomination forms and additional information can be obtained from the Thiele Committee Chair. Completed nominations are due to the committee chair no later than *April 1, 2017*

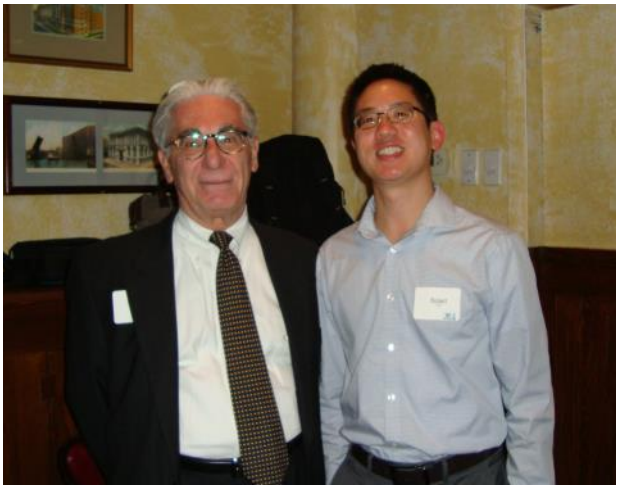
One of the highest honors a distinguished chemical engineer can receive is our Chicago Section Thiele award. Please consider nominating a deserving engineer for this prestigious award.

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

October Meeting Photos

Thank you to everyone that attended our October Meeting!





Why Renew Your AIChE Membership?

Renew your membership now to keep learning and growing. Renew Membership

Stay Connected to 40,000+ international members who take advantage of:

- Subscription to AIChE's flagship publication: CEP*
- Education—Access to e-learning courses and instructor-led training, offering Continuing Educations Units and PDHs
- Access to CareerEngineer—a comprehensive job site tailored to chemical engineers
- Access to the AIChE eLibrary—a wealth of information from Knovel Life Sciences and the McGraw-Hill AccessEngineering Library collections

View COMPLETE benefits

Visit our Website!

Please take the time to look at our website for more information on the latest news, past events, and our newsletters!

We always welcome feedback on our website, and even better, volunteers to help us with our website!

Thank you for being part of AIChE Chicago!

www.aiche.org/Chicago

AIChE Chicago is now on Facebook and LinkedIn!

Like us on Facebook www.facebook.com/AIChEChicagoSection

Join our group on LinkedIn!

"Call for Contributions"

AIChE Midwest Regional Conference

2017 AIChE Midwest Regional Conference

Chicago, IL – February 28 - March 1, 2017

Hosted by University of Illinois at Chicago

Organized by Chicago Local Section of AIChE

Submission deadline: **November 21, 2016**

Submission site: **tinyurl.com/Submit2MRC2017**

For conference details:

http://www.aiche.org/community/sites/local-sections/chicago/mrc-9-2017

Programming Areas

- Biomedical and Pharmaceutical and Nano Engineering
- Catalysis and Reaction Engineering
- Energy and Sustainability
- Fluid Properties, Fluid Dynamics and Transport Phenomena
- Environmental Compliance and Remediation
- Process Engineering, Modeling, Control and Optimization
- Process Safety and Occupational Health
- Refining and Petrochemical Processing

For submission questions contact the Programming Chair at chmielewski@iit.edu

Upcoming AIChE Conferences, Meetings and Webinars

Chicago Section Monthly Meeting	
Nov 12, 2016	Oak Park, IL Eddie Johnston, VP, Research Operation, GTI
Feb 28 - Mar 1,2017	9th Annual Midwest Regional Conference, UIC, Chicago
AIChE Conferences	
Nov13-18, 2016	2016 AIChE Annual Meeting, San Francisco, CA
Dec 4-5, 2016	3rd CCPS Global Summit on Process Safety, Dammam, Saudi Arabia
Dec 16-18, 2016	International Conference on Plant Synthetic Biology and Bioengineering, Miami Beach, FL
Jan 8-11, 2017	7th ICBE—International Conference on Biomolecular Engineering, San Diego, CA
Feb 28 - Mar 1,2017	9th Annual Midwest Regional Conference, UIC, Chicago
AIChE Webinars	
Nov 30, 2016	Estimation of an Event Occurrence for LOPA Studies
Dec 7, 2016	Dust Explosions
Dec 14, 2016	Distillation Trays as Mechanical Equipment
Dec 21, 2016	Distributed Ammonia Synthesis

Officers and Contact Information

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We are on the web
www.aiche.org/Chicago

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.org/community/sites/local-sections/chicago/announcements/volunteerism

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.

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.
Online payment can be done using http://www.cvent.com/d/9cq5pw/4W

Student and AICHE Member Related Postings are Free.