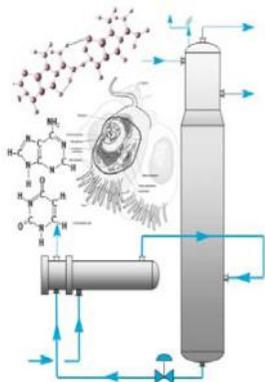


January Newsletter



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AIChE Chicago January Joint Meeting with ACS

Dr. Jennifer Holmgren
Chief Executive Officer



European Crystal Banquet Center

Date *Thursday, January 16th, 2014*

Address: *519 W. Algonquin Rd., Arlington Heights, IL
Parlor BC 847-437-5590*

Register Here: <http://www.cvent.com/d/94qkmh/1Q>

Agenda

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

Chair's Corner

Happy New Year everyone! When you receive this newsletter, New Year celebrations will be just memories, and you'll be thinking about the coming year so it's appropriate for us to also look ahead. Our January meeting is a joint event with ACS, and that is typically one of our largest meetings because members of two professional organizations will be attending. Jennifer Holmgren, Chief Executive Officer from LanzaTech will be our speaker, and it will be a great meeting. Then in February we'll learn about the chemical engineering of cosmetics with a tour of the H₂O Cosmetic Plant.

In March we'll have the Midwest Regional Conference at UIC. This conference will have multiple sessions covering a wide range of topics including: energy and sustainability, process operations, biological technology, reaction engineering, process safety, environmental engineering, catalysis, and chemical engineering professional development. Also, if you would like to participate more directly in the Midwest Regional Conference there are still opportunities available to organize sessions to cover your favorite chemical engineering topic. Go to the conference website for more information: <http://midwestconference.weebly.com/>. Information is also available on the AIChE Chicago website: <http://www.aiche-chicago.org/call-for-contributions-open-for-aiche-midwest-regional-conference/>.

In April we will have the annual student poster meeting where students from IIT, Northwestern, and UIC will present the

work they've done recently and win awards from AIChE Chicago. The May meeting will include a tour of the Stickney waste water treatment plant and elections for next year's



board of directors will also be held. If you are interested in running for one of the board of director positions, contact any of the current board members. Contact information is available on the AIChE Chicago website at: <http://www.aiche-chicago.org/section-info/board-members/>.

AIChE is also looking ahead to the future, and investigating ideas pertaining to the local section of the future. As some of you may know, AIChE has been experimenting with a virtual local section. The virtual local section is a group of chemical engineers who live too far apart to hold monthly meetings and instead they hold virtual monthly meetings where presentations are provided, and the local section members meet electronically. The virtual section that includes members from across the United States and several other countries.

Since AIChE is looking ahead to the future of local sections, we welcome your opinions on this topic. If you would like to share your views on what local AIChE sections should look like in the future, please send an email to Shannon Brown, sbrown@ambitech.com by January 10th. Please arrange your comments or ideas in bullet item format. Your comments and ideas will be forwarded and discussed with AIChE personnel at the Spring Conference.

By the way, the 2014 AIChE Spring meeting and 10th Global Congress on Process Safety will be held at the Hilton in New Orleans from March 30th to April 3rd. In addition to these two main conferences there will be eight topical conferences that are held at the same location and time period: 2nd International Conference on Upstream Engineering and Flow Assurance, Shale Gas and Light/Tight Oil, 14th Gas Utilization Topical Conference, 17th Topical Conference on Refinery Processing, 26th Ethylene Producers' Conference, Manufacturing in the 21st Century, Emerging Technologies in Clean Energy for the 21st Century, and Distillation Symposium. There's something for everyone at the Spring conference, and New Orleans has plenty of entertainment to keep us busy in the evenings. The last time I was in New Orleans for a conference, I went on a night ghost tour of the city, and it was pretty good. There are also plenty of good seafood restaurants in New Orleans and visiting New Orleans in late March/early April is a good way to shake off the cold of a Chicago winter. Hope to see you there.

Jerry Wilks
Chair



AIChE Memberships run January 1—December 31st.

Did you renew your membership?

<http://www.iche.org/community/membership/renew>

January Meeting Information

Dr. Jennifer Holmgren
Chief Executive Officer
Lanzatech



Global Diversity: The Key to Commercialization

Increasingly there is a trend in being able to supply products such as fuels and chemicals that are not only economic, but that address key sustainability criteria. Today there is significant research into improving the overall carbon and energy efficiency of biorefineries to overcome challenges such as high energy demands, high capital costs, poor carbon utilization, or a combination of these factors. There is a potential to overcome these challenges when using wastes and residues to produce fuels and chemicals but commercializing such technologies involves strategic global thinking.

Wastes and residues are produced from a wide range of industries including gaseous waste carbon from industrial processes (steel mills, refineries, ferro-alloy plants and PVC plants) or from thermochemical processes such as gasification of biomass/MSW or reformed natural gas. These are conventionally used as a fuel source or flared before being release as CO₂.

LanzaTech offers an alternative solution.

The CO, H₂, and/or CO₂ contained in such feed gas can be fermented via a biocatalyst to fuels/chemicals such as ethanol, acetic acid or butadiene which also serve as building blocks to longer chained hydrocarbon drop-in fuels. LanzaTech's bio process uses a broad spectrum of gases from a variety of sources and offers superior carbon conversion, energy efficiency, and greenhouse gas emission performance compared to conventional and emerging routes to the same products.

The pathway to commercialization will be outlined showing how diversity of input gas streams enables the technology to be deployed across a variety of geographies at both a regional and national level, depending on which feedstocks are available.

A diverse product portfolio that includes chemical precursors for the production of plastics, nylon and 'drop-in' jet fuel will also be described. This has led to successful partnerships across a variety of sectors including steel, aviation and chemicals. These commercial and research partners across multiple industries and disciplines globally has helped maintain a level of innovation to continue to deliver an approach that makes intuitive sense the world over – why waste carbon when you can put it to good use?

Biography:

Dr. Jennifer Holmgren is the Chief Executive Officer of LanzaTech. Jennifer has over 20 years of experience in the energy sector including a proven track record in the development and commercialization of fuels and chemicals technologies. Prior to joining LanzaTech, she was Vice President and General Manager of the Renewable Energy and Chemicals business unit at UOP LLC, a Honeywell Company. In that role, she led UOP's renewable business from its inception through to the achievement of significant revenues from the commercialization of multiple novel biofuels technologies.

Dr. Jennifer Holmgren holds a B.Sc. degree from Harvey Mudd College, a Ph.D. from the University of Illinois at Urbana-Champaign and an MBA from the University of Chicago. She currently serves on multiple external advisory boards. She is the author or co-author of 50 US patents, 20 scientific publications and is the 2003 recipient of the Council for Chemical Research's (CCR) Malcolm E. Pruitt Award.

Young Professionals News

Whirlyball

It's almost that time of year again YPs--Whirlyball time! We will be hosting our 5th annual Whirlyball Social and Tournament at the Lombard location on Roosevelt Road. For those of you who don't know, Whirlyball is a hybrid between lacrosse, basketball, and bumper cars. It's lots of fun and is usually our most popular event! Be on the lookout for an invitation with more details!



Whirlyball has been our most popular event! Don't miss it! Check out [our photos from last year's event](#) to see what Whirlyball is all about!

Future City Judging

When: Saturday, Jan 25th, 7:30AM - Noon

Where: University of Illinois at Chicago

RSVP to: Janet, janet.chu@sensient.com by Wednesday, 1/15/14 at noon

Future Cities is a competition for middle school students interested in math, science and engineering. Teams use Sim City software to design a futuristic city, build a physical model, and present their design. AIChE typically sponsors a special Energy Award, for "the future city that best meets its energy demand from safe, environmentally responsible, reliable, and economical sources."

AIChE is looking for volunteers to judge these student projects. Please email Janet, janet.chu@sensient.com, if you are interested in volunteering.

The AIChE logo is displayed in a large, blue, sans-serif font with a registered trademark symbol. It is positioned in the top left corner of the main image area, which features a background of a city skyline with various skyscrapers under a blue sky with white clouds.

6th Annual Midwest Regional Conference

Mar 10th—11th, 2014

University of Illinois at Chicago

Chicago, IL

Featuring...

Keynote Speakers:

Dr. Rakesh Agrawal, *Purdue University*

Dr. Hans K. Fauske, *Fauske & Associates*

Technical Session Topics coming soon!

...Plus Young Professionals workshops and social!

The bottom section of the page features a background image of the Chicago skyline, including the iconic Cloud Gate sculpture (The Bean) in the foreground. The text is overlaid on this image in a large, bold, blue font.

EARLY BIRD REGISTRATION RATE
AVAILABLE SOON!

For more info , visit:

<http://midwestconference.weebly.com>

AIChE Chicago Section Scholarship Fund

My fellow AIChE members;

Someday we shall all want to retire and enjoy the fruits our labors. Toward that goal, we need to plan ahead and perhaps train our replacements to follow in our very large footsteps. You can do that with little effort by helping the next generation of engineers to obtain their engineering education. The AIChE Chicago Section established its affinity Scholarship, available only to immediate family of AIChE Chicago section members, for just that purpose. By making a contribution to the principal of the Scholarship Fund, which is separate from the section operating funds, you can make that happen.

Please consider a donation to the AIChE Chicago Section Scholarship Fund by:

- funding immediate need,
- contributing to the endowment of the scholarship program, or
- both of the above.

Managers: We need to continually fill the pipeline of engineers graduating into our profession. Small contributions now will pay big dividends later when it comes time to fill positions opening up by retiring employees of your enterprises.

AIChE-Chicago members: Is your son, daughter, spouse and grandchildren thinking about becoming a Chemical Engineer? If so, they could, as an entering freshman or continuing undergraduate chemical engineering student, apply for the AIChE Chicago Section Scholarship. Small contributions now yield big dividends for future engineers.

Education reduces the risk of problems associated with poverty; engineers solve problems and design the products and systems that improve the quality of life. Please invest in educating future engineers and join me in contributing to the AIChE Chicago Section Scholarship Fund. You may want to consider this as a part of your annual giving plan.

\$ 25.00 \$ 100.00 \$ 1000.00 Other

Immediate need Endowment Both

Please make all checks payable to AIChE Chicago Section Scholarship Fund, and mail them to:

AIChE Chicago Section Scholarship Committee

13964 Doral Lane
Homer Glen, IL 60491
aichechicago@gmail.com

Or:

Visit <http://www.cvent.com/d/j4q7yv/4W>

and click on the "Donate" button, and make your contribution using credit card.

When making a contribution, please provide your name and USPS and/or electronic address. The section will send a thank you letter to document your contribution to a AIChE, a non profit organization under the IRS code at section 501(c)3 (Tax Deductible).

Thank you in advance for your consideration and/or contribution.

Very truly yours,

Azita Ahmadzadeh

AIChE Chicago Section Scholarship Development Team

Scholarship Program

PURPOSE

One of the purposes of the Chicago Section as stated in the By-Laws is to foster engineering education. The scholarship program is one way this is accomplished.

ELIGIBILITY

Eligibility for a scholarship is, in accordance with the wishes of the original donor and donors since then, limited to persons who are:

1. Closely related to an AIChE Chicago Section member in good standing at the time of application. "Closely related" means: A) Children and grandchildren, whether natural, adopted, stepchild, or ward; B) Parents; or, C) Legal spouses.
2. Undergraduate or graduate student membership shall not be sufficient qualification for either the student member or a member of their family, unless they have attended at least 4 meetings in one AIChE-Chicago programming year (Sept-May).
3. Beginning or currently engaged in a course of study leading to a first degree in an ABET (or equivalent) accredited engineering program; and,
4. The recipient of no more than (3) AIChE Chicago Section scholarship awards prior to this year's application.

THE AWARD

1. Each award shall be in an amount of \$1,000 if they are in engineering or \$2000 for those who are in Chemical Engineering program for each academic year in which an award is made.
2. The maximum number of awards to be made in any AIChE Fiscal Year (FY) shall be set by the Board Of Director (BOD) not later than March 31 of each FY.
3. The Selection Committee shall advise the BOD of their recommendations and the BOD shall have the authority to approve all

or reduce the number of awards.

APPLICATION

1. Application for the scholarship must be made using the application form and in the manner prescribed by the Selection Committee.
2. Each application packet is required to include a personal statement requesting the scholarship award as well as academic and personal references.
3. Applications must be received by the AIChE Chicago Section not later than March 1st.

SELECTION

1. The AIChE Chicago Section Scholarship award is intended to be competitive.
2. Evaluation of applicants will be based on the information provided in and/or developed through the application materials.
3. Applicants will, following evaluation by the selection committee, be ranked according to committee preference for making any award(s).

NOTIFICATION

Notice of any award, or decline to award, will be sent by USPS first class mail and electronic mail to all applicants not later than May 1.

ADMINISTRATION

1. There shall be a Selection Committee of five members established and maintained for the purpose of evaluating applicants and determining awards to be made.
 - The AIChE Chicago Section Chair shall be a member, and shall appoint the Selection Committee, and preside over the Selection Committee meeting.
 - The Immediate Past-chair shall be a member, and serve as the Secretary of the Selection Committee.
 - The AIChE Chicago Section Board Of Director (CSBOD) shall annually select,

by majority vote, one section member to replace the longest serving member of the Selection Committee.

- No member selected by the CSBOD shall serve more than 3 consecutive years, except to serve an unexpired term.

RULES

- The AIChE Chicago Section Secretary will verify the eligibility of each applicant.
- All scholarship awards, including renewals, will be made competitively, based on the information provided in the application.
- In the event an award is declined, the Selection Committee may, at its option, make an award to the applicant having the next highest evaluation.
- All AIChE Chicago Section scholarships must be used in the first academic year following the award.
- The awards made shall be presented, on behalf of the recipient, to the ABET accredited engineering institution or, if attending an engineering school outside of the USA, an ABET-equivalent accredited institution at which the recipient is or will be matriculated.
- If the studies or admission of the recipient of an AIChE Chicago Section Scholarship are delayed for any reason the Chair of the section must be notified within 30 days.
- All recipients and alternates are subject to these same rules.
- The AIChE Chicago Section Scholarship is to be independent of any and all other awards, scholarships, and/or grants-in-aid accruing to the benefit of the student.
- If two or more candidates are found to be equally qualified for an award the final decision will be based upon financial need.
- In making any award the committee shall not discriminate against any individual on the basis of any legally protected status un-

der the applicable laws of the United States of America.

NOMINATIONS REQUESTED FOR THE ERNEST W. THIELE AWARD



Ernest W. Thiele

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, 2014.

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

The
CHICAGO SECTION
of
AIChE

APPLICATION
for
SCHOLARSHIP

This application must be completed by both new and renewal applicants. This application, and all documentation requested herein, must be received at the address shown below, and on page 4, not later than the following date.

New applicants 1 March
Renewals 15 March

Applicant Information

Name: _____

Address _____

Home Telephone: _____

Related AIChE member

Name: _____

Member No. _____

Relationship _____

Renewal? (circle one) NO YES

for AIChE use, only
FILE No.

for AIChE use, only

AIChE member

current _____

date _____

Academic History (use separate sheet if additional space is required)

List all high schools, vocational schools, colleges and universities attended, with years attendance, diplomas, and degrees, if any. Attach copies of transcripts from all high schools, vocational schools, and colleges or universities.

School & Location	From	To	Degree
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Extracurricular Activities - List all extracurricular activities in which you were involved during your academic years. Identify the associated institution(s), if any. Provide names and contact information of advisors, sponsors, coaches, etc., wherever possible. Use a separate sheet if additional space is required.

AIChE Chicago Section Scholarship Application

Qualifying Examinations - Mark all exams taken and request copies of test results be sent to the address below.

- ACT
 SAT
 GRE
 LSAT
 MCAT

Employment History - List all employment, beginning with the most recent. If you have been a student or otherwise employed less than full time during the past five years, include all part-time employment.

Employer/Location	Dates		Supervisor
	From	To	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Civic Activities - Identify all civic activities in which you have been involved during the past five years.

Civic Activity/Location	Dates		Organization
	From	To	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Section's Activities - Identify all section's activities in which you have been involved and/or attended during the last year.

AIChE Chicago Section Scholarship Application

References - Provide the names, addresses, and other contact information for three persons, none of whom is related to you, who may be contacted regarding your character. Include at least one teacher or professor. Ask one other individual to submit, directly to the address below, letters of recommendation on your behalf.

	Reference	How Known
1.	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/>
2.	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/>
3.	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/>

Personal Statements - Prepare and submit two personal statements (essays) of not less than 250 and not more than 500 words each. One of these essays is to discuss the relationships among your personal activities, interests, and goals. The other is to present an advocate position for your receipt of the AIChE Chicago Section Scholarship.

Submissions - Submit this form, when completed, to:

AIChE Chicago Section Scholarship Committee

Chicago Section
13964 Doral Lane
Homer Glen, IL 60491
aichechicago@gmail.com

Upcoming AIChE Conferences and Webinars

January 8, 2014	<u>Introduction to Pressure Relief Systems</u> 2:00-3:00 EST
January 15, 2014	<u>Solid/Liquid Separation: Fundamentals and Applications</u> 2:00-3:00 EST
January 29, 2014	<u>Advances in Layer of Protection Analysis</u> 2:00-3:00 EST
February 12, 2014	<u>Biomaterials and Biotechnology Webinar</u> 2:00-3:00 EST
March 10-11, 2014	<u>6th Annual Midwest Regional Conference</u> University of Illinois at Chicago
March 16-19, 2014	<u>4th International Conference on Stem Cell Engineering</u> Coronado, CA
March 30-April 3, 2014	<u>2014 Spring Meeting and 10th Global Congress on Process Safety</u> New Orleans, LA

Upcoming Chicago Local Section Meetings

January 16, 2014	Joint meeting with American Chemistry Society European Crystal Banquet Center
February 19, 2014	Hay Market, Chicago, IL H2O Cosmetic Plant Tour
March 10-11, 2014	<u>AIChE Midwest Regional Conference, UIC—Chicago, IL</u>
April 9, 2014	Student Poster session, IIT,
May 14, 2014	MWRD Stickney waste water treatment plant Tour



PROCESS ENGINEERS

URS Corporation is a fully integrated engineering, construction, environmental, and technical services organization with the capabilities to support the full project life cycle – from inception through start-up and operation to decommissioning and closure. We are a publicly-traded company with more than 56,000 employees in 50 countries. Currently we are looking to fill the following requirements in our Chicago Process Engineering group:

Job Description

- Provide detailed design of processes for refineries and chemical plants
- Use simulators to develop heat and mass balances
- Develop Piping & Instrumentation Diagrams and Process Flow Diagrams
- Perform hydraulic network calculations for line sizing starting with Process Flow Diagrams
- Perform relief valve calculations
- Interact with other disciplines, including equipment specialists and instrument engineers

Minimum Position Requirements

- Bachelor's degree in Chemical Engineering
- Experience in the design of facilities for refineries and chemical plants
- Knowledge of major processing equipment, including fired heaters, vessels, heat exchangers, pumps, and compressors
- Technical aptitude and ability to grasp a general knowledge of multiple disciplines and technologies
- All experience levels are desired; new and recent grads are also encouraged to apply
- US citizenship or permanent residency

To apply, please send resume and cover letter to:

Doug Chidley

Business Leader

URS Chicago Process Engineering

douglas.chidley@urs.com

All applicants must also register on www.bestworkofyourlife.com

Officers and Contact Information

Chair	Jerry Wilks jwilks@citgo.com
Chair Elect	Azita Ahmadzadeh Azita.ad@gmail.com
Chair Programming	Dan Rusinak rusinad@middough.com
Secretary	Katherine Sheehan katherinea.sheehan@gmail.com
Treasurer	Pat Shannon shannonph@middough.com
Newsletter Editors	Azita Ahmadzadeh azita.ad@gmail.com
	Janet Chu Janet.lily.chu@gmail.com

Directors at Large

Annette Johnston Annette.Johnston@abbott.com	Jeff Umbach jumbach@ambitech.com
Jenn Guilfoyle Jennifer.guilfoyle@honeywell.com	

AICHE CHICAGO SECTION

American Institute of Chemical Engineers
Chicago Section
13964 Doral Lane
Homer Glen, IL 60491
aichechicago@gmail.com

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

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

Student and AIChE Member Related Postings are Free.

