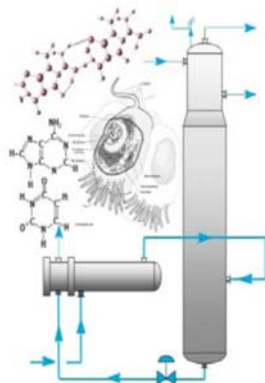


May Newsletter



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AIChE May Meeting

Renewable Energy Portfolio, What are they?

Kevin Bedford

Manager Green Harbor Energy



Date: **Wednesday, May 18, 2016**

Address: **Emmett's Brewing, Co**

121 W. Front Street, Wheaton, IL

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

Registration and Information:

<http://www.event.com/d/3fq5bp/4W>

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

It is hard to believe that we are down to the last monthly meeting for our 2015 – 2016 fiscal year. It is amazing how fast time flies by. As I look back on our year in review our local section accomplished a lot within these past nine months. From a programming standpoint, we held over eight monthly meetings with topics varying from shale gas to patent law. I would like to thank Jesse Calderon and Michael Toraason for arranging all of the speakers for these meetings. In addition to the technical topics, the venue is also key to a good meeting. The house committee worked hard to find locations all of over the Chicagoland area to make it easier for members to attend these meetings. A special thanks for Bindi Patel and Nicholas Guzman for leading this effort.



Our Midwest Regional Conference was again one of the programming highlights that our section offered this year. The conference was a successful event where over 290 professionals registered. In addition, we attracted over 300 high school students who got the opportunity to understand what chemical engineering is, learn about the various career opportunities within our profession and have lunch with our conference attendees. The success of this conference was attributed to our sponsors, but also to the many volunteers that helped to support it. I would like to thank our speakers, student volunteers and our professional volunteers. A special thanks to Pat Shannon, Don Chmielewski, Jerry Wilks and Ellen Kloppenborg who spend almost a whole year planning the event.

The section as always had active K-12 outreach program again this year. Besides the high school outreach at the Midwest Regional Conference, we participated in the Dupage E-week and the future cities competition. Thanks to our Young Professional group for organizing and supporting this events along our local section members that volunteered.

At the start of the year, I mentioned how communications was one of my goals. We are fortunate enough to Azita and Janet who work together to get the newsletters out on a monthly basis. They devote a lot of time and effort to insure our members are informed as to what is going on within our local section. In addition to the newsletters, another key member of our communications team is Jarad Champion who was responsible for putting together and sending out the Cvent notices. I really appreciate the hard work that these individuals put in to make sure that this effort gets done.

This year the section and especially I was lucky to have experienced officers who made sure that our section ran efficiently throughout the year. I would like thank to Jarad Champion, Pat Shannon and Tom King for their efforts. We have new slate of officers that will continue to grow our section. I hope that you continue to give them the support that you have given me this past year. We will be selecting our new officers at the May monthly meeting so if you are unable to attend please request a ballot from four secretary to cast your vote.

Thanks for your participation / support of the Chicago local section and I hope you and your family have a wonderful summer break.

*Adam Kanyuh
AIChE Chicago Section Chair
UOP – A Honeywell Company*

May Meeting Information

Renewable Energy Portfolios—What are they?

Abstract:

Most utilities address sustainability and the promotion of green technologies through meeting the requirements of state Renewable Portfolio Standards (RPS). Presently, 29 states plus the District of Columbia have an RPS. These standards require utilities supplying electricity to retail customers in the state to achieve a certain percentage of their supply in renewable energy. Utilities can meet the obligation through developing their own renewable facilities or purchasing renewable energy. In either case, the obligation is met through retiring Renewable Energy Certificates (RECs), which are tradable commodities that represent the renewable energy created from a facility's electrical production. This presentation discusses RPS programs in the United States, the regulatory and transactional framework for RECs and the various REC markets.



Biography:

Mr. Bedford serves as the Manager of Sales for Green Harbor Energy, where he develops longer-term business opportunities and provides market analysis. In this role, he identifies new sales opportunities and markets as well as researches market pricing dynamics and regulatory changes. Mr. Bedford has more than 25 years of experience in various commodity markets with an emphasis in environmental and energy markets.

Prior to Green Harbor Energy, Mr. Bedford served as the Director of Business Development for the Clean Energy Markets Division of Nexant, where he helped create new business and market opportunities.

Previously, Mr. Bedford was as an Options Trader in Chicago on the Chicago Board Options Exchange (CBOE), Chicago Board of Trade (CBOT) and the Mercantile Exchange.

For Registration and Information:

<http://www.cvent.com/d/3fq5bp/4W>

2016-2017 Elected Officers

Chair– Tom King

Tom is currently employed with UOP in Des Plaines, IL as Olefins Technology Manager and has been with UOP for eight years primarily in the Engineering Department. Tom has served the AIChE Chicago Section in the past as Secretary, Young Professionals Chair, Webmaster/Publicity, and on the MRC Committee. On an AIChE National Level, he was Young Professionals Chair from 2008-09 and vice chair the year prior. Within UOP, he has been a member of the Engineering TCO Steering Team since 2012. Tom has BS degrees in Chemical Engineering, Molecular Biology and Biochemistry from the University of Wisconsin – Madison and MS degrees in Chemical Engineering and Bioengineering from the University of Illinois at Chicago. He is a licensed Professional Engineer in the State of Illinois. Tom resides with his wife, two sons, and dog in Villa Park, IL.



Past Chair - Adam Kanyuh

Adam Kanyuh is a Technology Specialist within UOP's Engineering Department providing technical support for UOP's Olefins, Detergents and Alkylation technologies. He has spent his entire 20 year career with UOP / Honeywell serving in various technical roles in the Engineering, Technical Services, Manufacturing, and Research and Development departments within the UOP organization. Adam currently resides in Streamwood, Illinois with his wife Allison and their two sons. He holds a Bachelor of Science Degree in Chemical Engineering from University of Illinois at Chicago. He is Six Sigma Green Belt Certified and holds 3 patents. He was the 2013 Midwest Regional Conference General Arrangements Chair and Chair Elect for 2014-2015 fiscal year.



Director at Large - Dan Rusinak (continuing)

Daniel Rusinak, PE has over 37 years of professional engineering experience in development, design, construction and operations of specialty, polymer, and fine chemical plants. Dan has served the AIChE Chicago Section as Vice-Chair Program 2011-2012 and 2013-2014. He was also the House Committee Chair for two years.

Director at Large - Ellen Kloppenborg (continuing)

Ellen Kloppenborg is a Development Specialist in the Olefins & Detergents Development group at UOP. She received a BS in Chemical Engineering from IIT and is a registered PE in Illinois. Ellen has worked on many student outreach events with the AIChE Chicago Section and coordinated the high school outreach program at the Midwest Regional Conference in 2015. She received the AIChE Shining Star award in 2010 for student outreach efforts.

**Proposed Slate for 2016-2017****Chair Elect - Janet Werner**

Janet Werner is a Sr. Process Engineer at Middough. She earned a B.S. in Chemical Engineering from University of Illinois. Janet has served the AIChE Chicago Section in the past as a Newsletter Editor and Webmaster. Janet has also been involved in the Midwest Regional Conference Committee on the Sponsorship Sub-Committee and the Hospitality Sub-Committee. Janet has also volunteered in the AIChE Chicago Young Professionals Committee on the Programming Committee, Membership Committee, and Webmaster. She received an AIChE Shining Star award in 2015 for her contributions to the Chicago Local Section.

**Treasurer - Rong Jiao**

Ms. Rong Jiao received her B.S. in chemical engineering from University of Illinois at Urbana-Champaign in May, 2015, and is currently working with Baker Engineering and Risk Consultant, Inc. (BakerRisk). While attending University of Illinois, Rong worked as a research assistant within the field of chemical kinetics and catalysis. She investigated in the direct formation of hydrogen peroxide from hydrogen and oxygen over a Pd/SiO₂ catalyst surface. She has extensive experience in metal nanoparticle synthesis via dendrimer, SEA and electroless deposition methods. Ms. Jiao completed her undergraduate thesis in *Direct Formation of H₂O₂ from H₂ and O₂ over Pd/SiO₂ Catalyst* and received High Distinction from the department in May 2015. Working as a consultant with BakerRisk, Rong has experience in Facility Siting Study (FSS) and Quantitative Risk Analysis (QRA) at refineries and chemical facilities. She also has experience in Risk Management Plan (RMP) submission to EPA.



Secretary: *Nicholas Guzman*

Nick Guzman, graduated from the University of Illinois at Urbana Champaign in May 2014 with a Bachelor's degree in Chemical Engineering. He interned with BakerRisk from January of 2013 through August of 2013 and came on full time as an engineering consultant on June 2, 2014. He has experience with FSS/QRA studies, PHA HAZOPs, HF Alky QRA studies, and IRE work.



During his college years, he served as the Vice President of New Member recruitment for a fraternity on campus, and participated in AIChE and the society of Hispanic professional engineers (SHPE). He made the Dean's list during his final semester.

Co-Vice Chair Meeting Program: *Beth Carter*

Beth Carter is an R&D engineer in the Process Design Development group at UOP, responsible for the design and optimization of new process technologies. She has been with UOP for eight years, working in Field Services, Technology Services, Manufacturing, and Development. Beth received a BS in chemical engineering from Northwestern University in 2008 and is a licensed Professional Engineer in Illinois. She was the president of the Northwestern AIChE Student Chapter and is looking forward to serving the Chicago Local Section.

**Co-Vice Chair Meeting Program: *Robert Tsai***

Bob Tsai is currently in the Engineering Innovation group at UOP, where he is involved in exploring novel process and equipment improvement opportunities across the company's technology portfolio. Prior to this role, he worked in R&D in UOP's Process Modeling group, developing simulation tools for research and business functions. Bob has been with UOP for over five years and has co-authored eleven patent applications during this time. Bob obtained his BS in Chemical Engineering from the University of Illinois at Urbana-Champaign in 2005 and his PhD in Chemical Engineering from the University of Texas at Austin in 2010. He is a senior member of AIChE and is excited to be joining the Programming Committee this year.



Co-Vice Chair House Committee: Bindi Patel

Bindi Patel recently graduated with a chemical engineering degree from the University of Illinois at Urbana-Champaign and started working at Baker Engineering and Risk Consultants, Inc. as a process safety consultant in June 2014. Since starting at BakerRisk, her work has focused on gaining experience in facility siting studies and quantitative risk analyses. Bindi will be working alongside Nicolas Guzman, Jesse Calderon, and Michael Toraason to organize and plan the monthly AIChE meetings.

**Co-Vice Chair House Committee: Asmara Soomro**

Asmara Soomro started her career as a process engineer at Middough Consulting in 2013. She received her BS in Chemical Engineering from University of Illinois at Chicago in May 2013. She is a registered as Engineering-in-Training (EIT) and passed her PE exam in October 2015. Currently, she is working as a process engineer through Middough for a chemical plant.

**Director at Large— OPEN Position**

SAVE THE DATE



AIChE[®]
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Want to get involved and volunteered send an email to:

aichechicago@gmail.com

**2017 AIChE Midwest
Regional Conference**

Feb 28—March 1, 2017

Hosted by UIC,

Chicago, IL –

**Organized by Chicago
Local Section of AIChE**

Congratulations to 2016 McCormack Award Winners

Each year, the McCormack award is given to one chemical engineering undergraduate student at Northwestern University, University of Illinois, and Illinois Institute of Technology based on a combination of excellence in study, research, and extra-curricular activities. This year's winners are:

Recipient: Benjamin Goodman

University: Northwestern University

The Chemical Engineering Department of Northwestern University selected **Benjamin Goodman** to receive the McCormack award. Ben is at the top of his class, having excelled both academically and extracurricular activities. He participated in coop/internships, serves as co-president for Engineers for a Sustainable World, and spent a summer writing/blogging for HELIX MAGAZINE, an outreach publication by Science in Society at Northwestern. He is an outstanding citizen both inside and outside the classroom, and well-respected among his peers and faculty alike

Recipient: Zamia Siddiqui

University: University of Illinois Chicago

Description: The Department of Chemical Engineering at UIC proudly announces Zamia Siddiqui as our selection for the Harry McCormack Outstanding Senior Award. Zamia will be graduating this May with a concentration in biochemical engineering and a minor in biology. Her GPA of 3.94 is the highest of all senior chemical engineering students, and she has also been on the Dean's List since 2012 and Honors College since 2013. Zamia has been very active in research at UIC, first working on molecular dynamic simulations of drug interactions with lipid interfaces. This past semester she received the Chancellor's Undergraduate Research Award for her project characterizing the electrical properties of ultrathin fiber composites and interfacing biological cells with graphene. She is a member of AIChE, Tau Beta Pi, Phi Eta Sigma and the UIC Muslim Student Association, where she mentored UIC students in their Big Sister/Little Sister Program. Zamia will be entering the UIC PharmD PhD program upon graduation.

Recipient: Yanxin Li

University: Illinois Institute of Technology

2016 Poster Session Competition Winners

Sixteen posters were presented by individuals and teams from UIC and Illinois Institute of Technology at the poster competition held at the April 14 local section meeting.

Undergraduate

1st Place: “A Greener L.A.B.”

Author: *Rabees Rafiq, Alexandro Estrada, Alan Tucker, Nabeel Ahmed, UIC*

Abstract: Liquid detergents are commonly used throughout the world for washing clothing, dishes, and industrial cleaning applications. The goal of this project is to design a plant that will co-produce linear alkylbenzene (LAB) and green diesel from a palm kernel oil feedstock while maintaining objectives of sustainability, energy efficiency, and cost-effectiveness. LAB is the key intermediate compound used in the production of detergents. It is completely biodegradable but is traditionally produced from a non-renewable kerosene feedstock. As global fossil fuel reserves are depleted, the world looms towards not only an energy epidemic but it will also affect the supply of the global LAB market. The high volatility in the price of kerosene is an additional constraint on the LAB market. By switching feedstocks to a natural oil, we are able to produce two valuable products while simultaneously reducing carbon emissions. As economies grow in developing countries, the demand for detergents and energy has shown to increase. It is estimated that the demand for LAB and green diesel will exhibit a compound annual growth of 4.7% and 14% respectively. This method of production allows one to emerge in the rapidly growing detergent and energy markets while simultaneously providing environmentally friendly products and liberating the world from fossil fuel reliance in a cost-effective manner.

2nd Place: “Antibody Can Do That”

Author: *Sara Goldstein, Zamia Siddiqui, George Afolabi, Katherine Baroni, UIC*

Abstract: The advent of monoclonal antibodies (mAbs) has revolutionized the field of medicine with a multitude of medical applications, especially by radically altering the treatment of over fifty diseases that were once considered incurable. They are not only utilized in therapy for cancer and autoimmune diseases but are also at the forefront of battle against the rising tide of drug resistance in the antibiotic era. With the diverse array of uses for mAbs in therapeutic and even diagnostic fields, their demand has surpassed all the forecasts. This senior design project set out to develop the design for a state-of-the-art and flexible monoclonal antibody production facility. In our process, mammalian host cells are cultured in multiple batch reactors to produce the desired antibody which is then harvested from the cell culture and purified as per the FDA standards. This project takes advantage of the latest technological advances made in this field to optimize the process. The sustainable process in our facility also addresses ethical concerns involved in producing antibodies in mice and inflicting pain upon them. Our process avoids this and makes use of disposable bioreactors for production which deliver significant cost advantages in terms of utilities, cleaning and sterilization. This facility accommodates production of a variety of antibodies to cater to the ever-changing needs of the industry; three to five new mAbs are being approved by the FDA every year. The main goal is to save lives by producing high quality monoclonal antibodies in an ethical and cost-effective manner.

YP Event

Let's get together to celebrate the 2016 Chemical Engineering graduating class with a brewery tour and social. These are the details:

What: AIChE-Chicago Young Professionals Brewery Tour and Social

Where: Lagunitas Brewing Company
2607 W. 17th St.
Chicago, IL
[\(773\) 522 2097](tel:(773)5222097)

<https://lagunitas.com/taprooms/chicago>

When: Saturday, May 21st, 12:30 pm

RSVP: Asmara Soomro,

Soomroaz@Middough.com by **May 20th**, 2016

We will have a tasting tour at 1:00 PM; and for this event, appetizers and soft drinks will be provided. Also, 2016 Grads will have the chance to win some great prizes!

We hope you can join us.

Asmara Soomro
YPC Programming Committee
AIChE-Chicago

AIChE Virtual Career Fair

Looking for a Job? Register for AIChE's Online Career Fair

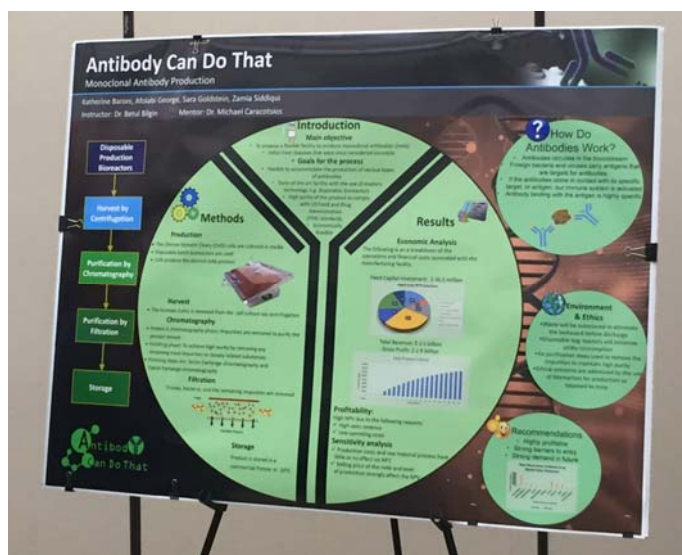
Spring 2015 Virtual Career Fair
May 13, 2015, 12:00-4:00 EST

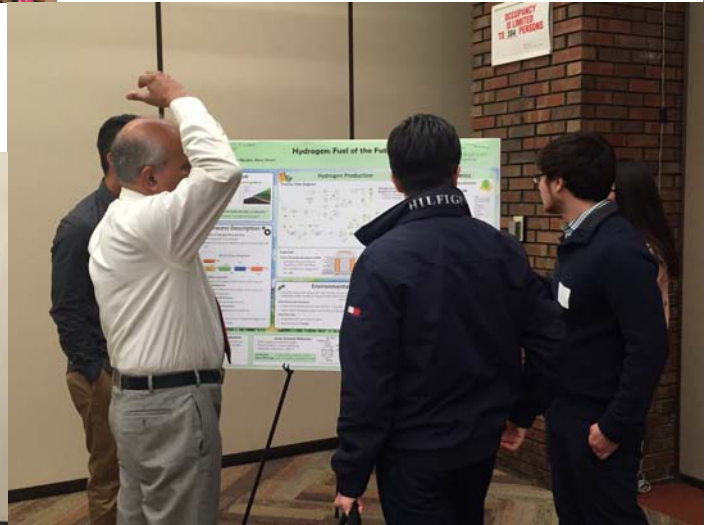
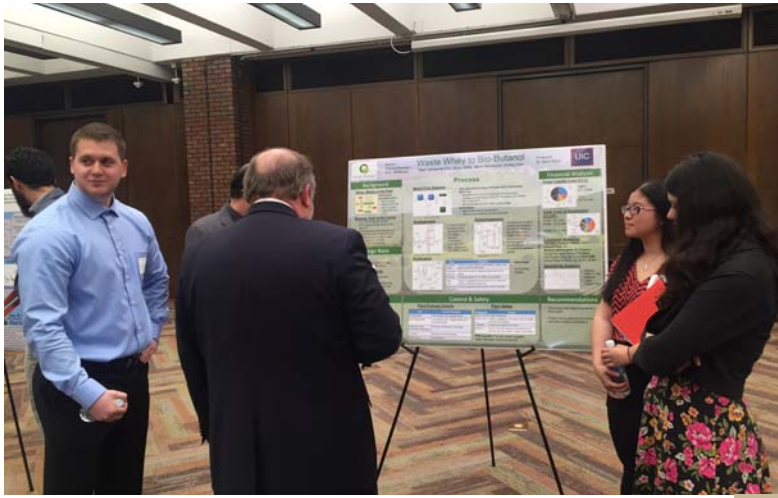
Special Student hour: 3:00-4:00 EST

For more information and registration, visit [AIChE's Virtual Career Fair Website](#).



April Student Poster Night Competition





2016 Scholarship Winners AIChE Chicago

Derek Bonucci

Derek Bonucci is a graduating senior at Deerfield High School. He plans to study Chemical Engineering at University of Illinois in Champaign-Urbana. He has taken 5 AP classes and 10 honors classes. For 4 years Derek has been a member of the UOP Chemical Engineering and Chemistry Explorer Post and the Deerfield High School band and marching band. He recently completed the Honeywell Leadership Challenge Academy at the US Space and Rocket Center.

How did you become interested in Chemical Engineering? - Both of my parents are chemical engineers. I have been doing an Explorer Post through UOP that is based in chemical engineering and chemistry that teaches students about chemistry and chemical engineering and different aspects of the fields.

Honors, other scholarships or awards received, and any other details on your progress, projects, and/or plans: - Most Valuable Marcher Award for High School marching band, Rookie of the Year Award for marching band, Illinois State Scholar and Optimist Club Award for service to the community.

Bader Jarai

How did you become interested in Chemical Engineering? - I have begun to notice my love for Math, Chemistry, and Physics since the beginning of high school. It wasn't until my senior year of high school that I was exposed to what Chemical Engineering is.

In the summer of 2012, I interned at Pharmacare, which is a small pharmaceutical company. While I intended to gain experience in analytical chemistry, I noticed that I became more interested in pharmaceutical processing. My supervisors (who happened to be Chemical engineers) realized that I am thinking beyond the test tube and decided to engage me in a project, which tackled drug degradation kinetics. It was their encouragement that inspired me to pursue a more challenging discipline that best suits my interests. When I arrived at IIT, I did not expect that Chemical Engineering's breadth includes many areas of my interest such as biotechnology and renewable energy technologies. With such a versatile discipline, I grew more interested and focused on making the most of these tools.

During my time at IIT, I have conducted research in many branches of Chemical Engineering to expand my interest and experience. I have conducted research in biofuel production and optimization, nanomaterial synthesis and processing, and biotechnology and genome engineering for drug discovery. With every project that I pursue, my appreciation and respect for Chemical Engineering grows more and more.

Honors, other scholarships or awards received, and any other details on your progress, projects, and/or plans that you would like us to know:

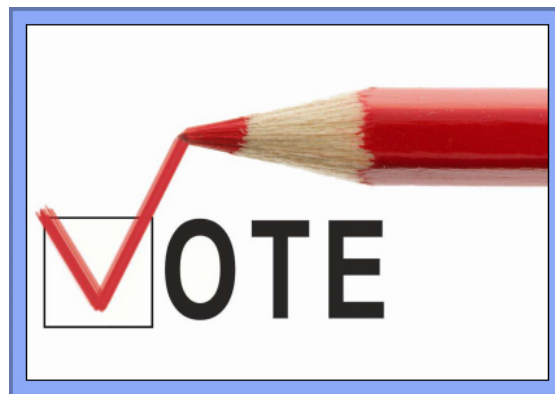
Projects & Potential Publications:

- Developing a method of quantitative fractionation of algae biocomposites.
- Physical and biological stability of algae biocomposites
- Developing of a method of Isolation and purification of cyanobacteria
- Synthesis and processing of WC/Co nanoparticles using an integrated mechanical and thermal activation process
- Design and implementation of a kinetic hydroponic reactor for accelerated sprouting.

Election of Section Officers

ABSENTEE BALLOTS

At the May meeting, AIChE-Chicago will be holding the annual election of local section officers. The proposed slate of officers for fiscal year July 1, 2016—June 30, 2017 is included in this newsletter. The slate will be voted upon at the May meeting. At the meeting, there will be one last call for nominations before the vote begins. Absentee ballots will be counted before the meeting. If no other nominations are received, a voice vote will be called for the proposed slate. If additional nominations are received, a vote will be called for each individual position.



Members may send in an absentee ballot to aichechicago@gmail.com

Officers and Contact Information

Chair	Adam Kanyuh Adam.kanyuh@honeywell.com
Chair Elect	Tom King Thomas.king@honeywell.com
Chair Programming	Mike Toraason mtoraason@bakerrisk.com
	Jesse Calderon jcalderon@bakerrisk.com
Secretary	Jarad Champion Jarad.champion@gmail.com
Treasurer	Pat Shannon shannonph@middough.com
Directors at Large	Dan Rusinak drus45@comcast.net
	Steve Wozniak swozniak@ambitech.com
	Ellen Kloppenborg Ellen.kloppenborg@honeywell.com
House Committee	Bindi Patel bpatel@bakerrisk.com
	Nick Guzman nguzman@bakerrisk.com
Newsletter Editors	Azita Ahmadzadeh azita.ad@gmail.com
	Janet Werner Janet.werner8@gmail.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.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.

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.

