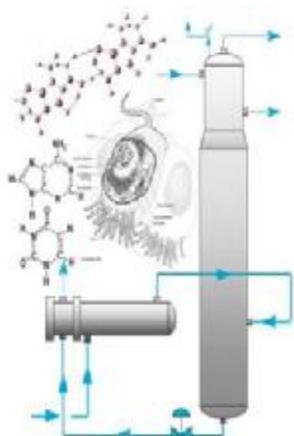


February Newsletter

Chicago Section

www.aiche-chicago.org

February 2010



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AIChE Chicago

February 2010 Meeting Notice

Nanostructured Materials for Molecular Hydrogen Storage

Prof. Joseph Hupp

Northwestern University

Pre meeting Talk

Energy and Capital Efficiency Differences in Benzene-Toluene Distillation Configurations

Dennis O'Brien, Jacobs Consultancy

Date: **Tuesday, February 9th, 2010**

Location: **COSTAS**

1 S 130 Summit Ave, Oakbrook Terrace, IL 60181

Cost: **Members: \$35** **Non-Members: \$38**

Students: \$5 **Unemployed Members: \$15**

To Register CLICK the Link

<http://quest.cvent.com/i.aspx?4W%2cM3%2cd4a7ed6d-dbb2-4ac7-9278-5650278124eb>

Agenda

5:00 PM
5:30 PM
6:30 PM
7:30 PM

Pre-meeting Talk
Social Hour
Dinner
General Meeting



Chair's Corner

Welcome to another issue of your AIChE Chicago section newsletter. During the next few months before the start of summer (summer; sounds good, doesn't it?) there are many programs in the Chicago area that is directly or indirectly related to our profession and area of work. First, there are the monthly meetings including the March EPA tour and the April annual student night at UIC. For the April poster night, as usual we need judges to select the winners. We are hoping that many students will participate and so if you are willing to help please drop us a note. Of course the planning doesn't stop there and we are actively working on the after summer break programs including the Midwest Regional Symposium.

Then there are other local organizations' programs in the area that are happening during this month. In this issue, we have tried to inform our members about these events. The Dupage area engineers' week program is one of these events that I personally found very interesting. Our family visited the expo last year and our kids really enjoyed the exhibitions and hands-on experiments.

If you are aware of any programs in the upcoming months, please let us know so that we can include it in our newsletter. At our January joint meeting with ACS we had a great turnout and our colleagues at ACS



Chicago section had done a tremendous job in planning and executing the event. When I was poking around their website and newsletter, I noticed that they have a section called "Historical Events in Chemistry". I was not very successful in gathering the chemical engineering historical events of the month, but I found some about engineering in general, which is added to this month's newsletter.

As always, I hope to see you at our next meeting and if you have any ideas or comments please do not hesitate to talk or send email to me or other officers.

Reza Mostofi
UOP



February 2010 Meeting Information

Speaker's Bio



A native of western New York, Joseph Hupp attended Houghton College from 1975 to 1979, graduating with a bachelor's degree in chemistry. Hupp attended Michigan State for graduate work, completing a Ph.D. in electrochemistry in 1983. From 1984 to 1986 he was postdoctoral fellow at the University of North Carolina at Chapel Hill where he studied photochemistry. He joined the faculty of Northwestern University in 1986, where he has built a research program in materials chemistry – especially materials that are relevant to our energy future. His work

is described in more than 300 research articles. He currently holds the title of Morrison Professor of Chemistry. He also holds an appointment as a senior science fellow in the Materials Science Division at Argonne National Lab. At Northwestern he has mentored more than 40 students to Ph.D. completion and has mentored similar numbers of undergraduate and postdoctoral research students. His accomplishments as a researcher and mentor have been recognized with national awards and/or fellowships from the Alfred P. Sloan Foundation, the Dreyfus Foundation, Phi Lambda Upsilon, the Electrochemical Society, the Chemical & Biological Defense Conference, and the Inter-American Photochemical Society.

Pre-meeting Talk - Dennis O'Brien

Benzene, Toluene and Xylene separation is a requirement for the production of the many valuable aromatic based materials used in consumer and industrial products. There are several options in performing these separations by distillation. This paper discusses the energy usage and capital cost implications of a conventional two column design vs a two column pressure cascade vs a single column dividing wall design.

Nanostructured Materials for Molecular Hydrogen Storage

Metal-organic framework (MOF) materials are characterized by crystallinity, permanent microporosity, low density, and enormous internal surface area. These properties make MOFs interesting candidate materials for uptake, storage, and release of molecular hydrogen – a potential fuel. This talk will describe the design of MOF materials and their preliminary application to the hydrogen problem.

To Register Click the link:

<http://quest.cvent.com/i.aspx?4W%2cM3%2cd4a7ed6d-dbb2-4ac7-9278-5650278124eb>

Historical Engineering Events in February

February 1, 1972 – First scientific hand-held calculator, the HP-35, introduced for \$395.

February 2, 1897 – Ice cream scoop patented by Alfred L. Cralle, the first African-American in Pittsburgh to receive a patent.

February 6, 1959 - Jack Kilby at Texas Instruments patents the integrated circuit.

February 14, 1946 – ENIAC, the world's first digital electronic computer, is unveiled.

February 18, 1901 – First vacuum cleaner was patented by Hubert Cecil Booth, an English structural engineer. This design had the disadvantage that it had no way to collect the dust and never became a commercial success.

February 21, 1994 - Whirlpool begins production of refrigerators without freon. In the 1930s, refrigerators began to use freon as a refrigerant. However, the use of freon became an environmental concern once it was identified as a ozone-depleting chemical.

February 22, 1876 – Johns Hopkins opens as first research university in America.

At his inauguration, Johns Hopkins first president, Daniel Coit Gilman asked: What are we aiming at? The encouragement of research ... and the advancement of individual scholars.

February 23, 1893 – Rudolf Diesel patents the diesel engine in Germany. Rudolf Diesel's goal was to improve on the efficiency of the gasoline-engine that used the Otto cycle.

February 25, 1837 – Thomas Davenport patents the electric motor and electric railway.

Thomas Davenport, an American blacksmith, first invented the DC electrical motor in 1834 and used it to make a small model of electrical railway in 1835.

February 27, 1932 – Chadwick publishes his discovery of the neutron. Until 1932, the atom was known to consist of a positively charged nucleus surrounded by enough negatively charged electrons to make the atom electrically neutral.

February 29, 1940 – The Nobel Prize in Physics was presented to Ernest Lawrence "for the invention and development of the cyclotron and for results obtained with it, especially with regard to artificial radioactive elements".

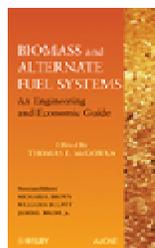
Selected from:

www.engineeringpathway.com/ep/

New Biomass Book

Biomass and Alternate Fuel Systems: An Engineering and Economic Guide

Thomas F. McGowan,
Michael L. Brown, William S. Bulpitt, James L. Walsh, Jr.



This book explains characteristics of renewable fuels, especially biomass and wood, and the cost-effective and environment-friendly methods of handling, storing and burning these fuels. It is complete with the economic evaluation method, introduction of the pollution control equipment for limiting the emission from fuel combustion, case studies, and costs and carbon emission comparisons between conventional and alternate fuels. Many case studies are introduced here too.

Visit www.wiley.com for more additional information.

AIChE National's Live Webinar in February

Do You Really Think You Can Become A Leader Without Change Management Skills?

*Presented by:
Robert F. Anderson*

Wednesday, February 3, 2010

Traditional personal competencies in technology, business, communication, leadership, analytical skills, and industry know-how are sufficient in a stagnant or slow-changing environment. That is not where we are today and it is not where we will be for the rest of your career. Winners will be determined by their ability to sense the need for change, to evaluate potential responses, and to execute and implement their new strategies. Change management becomes the new essential whether your career path follows a technology focus or is more aimed at business issues.

The essential skills of a change manager are straight-forward, logical, and easily learned. And yet, if this process is as easy as I suggest, why do most change initiatives fail? The root causes are typically failure to use the tools and weak leadership from the top. Unfortunately, the iceberg in the path of change is 90% below the water line, and that 90% is cultural resistance.

This webinar presents best practices and checklists that allow you to determine readiness for change and likelihood of success. After that, it is practice, practice, practice.

Fluid Mixing: Still Needed for the Process Industries in the 21st Century.

Presented by:
Dr. Arthur William Etchells III

Wednesday, February 10, 2010

In the era of new process technologies such as biological transformations and nano-science, many of the old technologies are presumed to no longer be important. This is certainly not true of fluid mixing. Both high tech and low tech process industries need some knowledge of mixing, whether for dispersing nano-particles or feeding oxygen and nutrients to micro-organisms. Even in this new century, the starting engineer and the more experienced engineer will encounter mixing problems with significant frequency.

Fluid mixing deals with complex processes, involving multiple phases in complex geometries. It is a topic barely mentioned in a typical engineering curriculum, yet often referred to in the manufacturing world. In the process of scaling up from a small unit to a larger one, fluid mixing still plays a dominant role. It is a topic chemical engineers need to understand, and learn to master.

In this webinar, we introduce key concepts in fluid mixing, and discuss the range of equipment geometries that are involved. We also discuss the resources available for helping the practicing engineer solve many mixing problems.

Bridging the Generation Gap

Presented by:
Dr. Linda S. Gravett and Robin Throckmorton

Wednesday, February 17, 2010

Organizations and individuals are struggling to address the impact of having five distinct generations working side by side in the workplace. Understanding and communicating with this multigenerational workforce is a challenge for people at all organizational levels. This interactive session focuses on concrete ways to minimize conflict, maximize communication and build productivity in a multigenerational workplace.

The Learning Objectives for this session include: Defining the Five Workforce Generations, Describing the Major Influences on Each Generation, Learning How to Adapt Communication Styles to Appeal to Each Generation, and Understanding Important Factors to Consider to Tailor Recruiting, Retention, and Professional Development Across Generations.

This is the third in a 3-part series on Managing Millennials. Please note that each webinar in the series requires separate registration, and can be enjoyed on its own.

An Integrated Waste Management System for a Sustainable Society

Presented by:
Brian Bahor, QEP, Moderated by Dr. Marco J. Castaldi

Wednesday, February 24, 2010

What are the hallmarks of an effective integrated waste management system? How do we best create one for a sustainable society?

This webinar provides an overview of the sustainable attributes of an integrated waste management system and the essential role of thermal treatment with energy recovery. It explores how modern Energy from Waste is compatible with recycling and its inherent sustainable attributes, including generation of renewable energy, reduction of greenhouse gases, air emissions and other parameters such as land and water management.

This is the second in a 3-part series on "Waste-To-Energy", co-partnered with the AIChE Sustainability Engineering Forum. Please note that each webinar in the series requires separate registration, and has been designed to function as both a stand-alone presentation and a component in the series.

Dinner Meal (February Meeting)

Dinner (Selection at the restaurant):

Appetizer: Choice of Sagkanagi, Calamari, Soup or Greek salad.

Entrée: Choice of Classic Athenian Chicken, Roast Leg of Lamb, Pork Tenderloin Kebob, Broiled Tilapia or Vegetarian.

Dessert: ½ Baklava ½ Galaktoboyreko plus Coffee or Tea

Du Page Engineering Week (E-Week) Expo 2010

The DuPage Area Engineers Week will be celebrated on Saturday, February 20, 2010 at Illinois Institute of Technology's Daniel F. and Ada L. Rice Campus at 201 East Loop Road in Wheaton.

Events are free and open to the public. The event celebrates the fun that math, science and engineering provide to learners of all ages. The theme for the 2010 event is "Engineering Today's Play with Tomorrow's Careers." The goal of the Expo is to ensure a dedicated, diverse and well educated future engineering workforce by promoting pre-college literacy in math and science.

While the Expo's target age group is middle school, people of all ages will enjoy the displays and presentations. The Engineers Week Expo features a building full of hands-on activities and demonstrations to allow young people to experience and explore the fields of engineering. The event will take place from 11:00 a.m. to 3:30 p.m. Presentations will be directed toward introducing students of all ages and their parents to the current state of technology and advances being made throughout industry.

The cooperation of the professional engineering societies, academic organizations and industry provide a comprehensive overview of the current state of the art as well as generating an interest in the sciences among the program's visitors.



The cooperation of the professional engineering societies, academic organizations and industry provide a comprehensive overview of the current state of the art as well as generating an interest in the sciences among the program's visitors. Similar to last year, the AIChE Chicago section will also be present at this event.

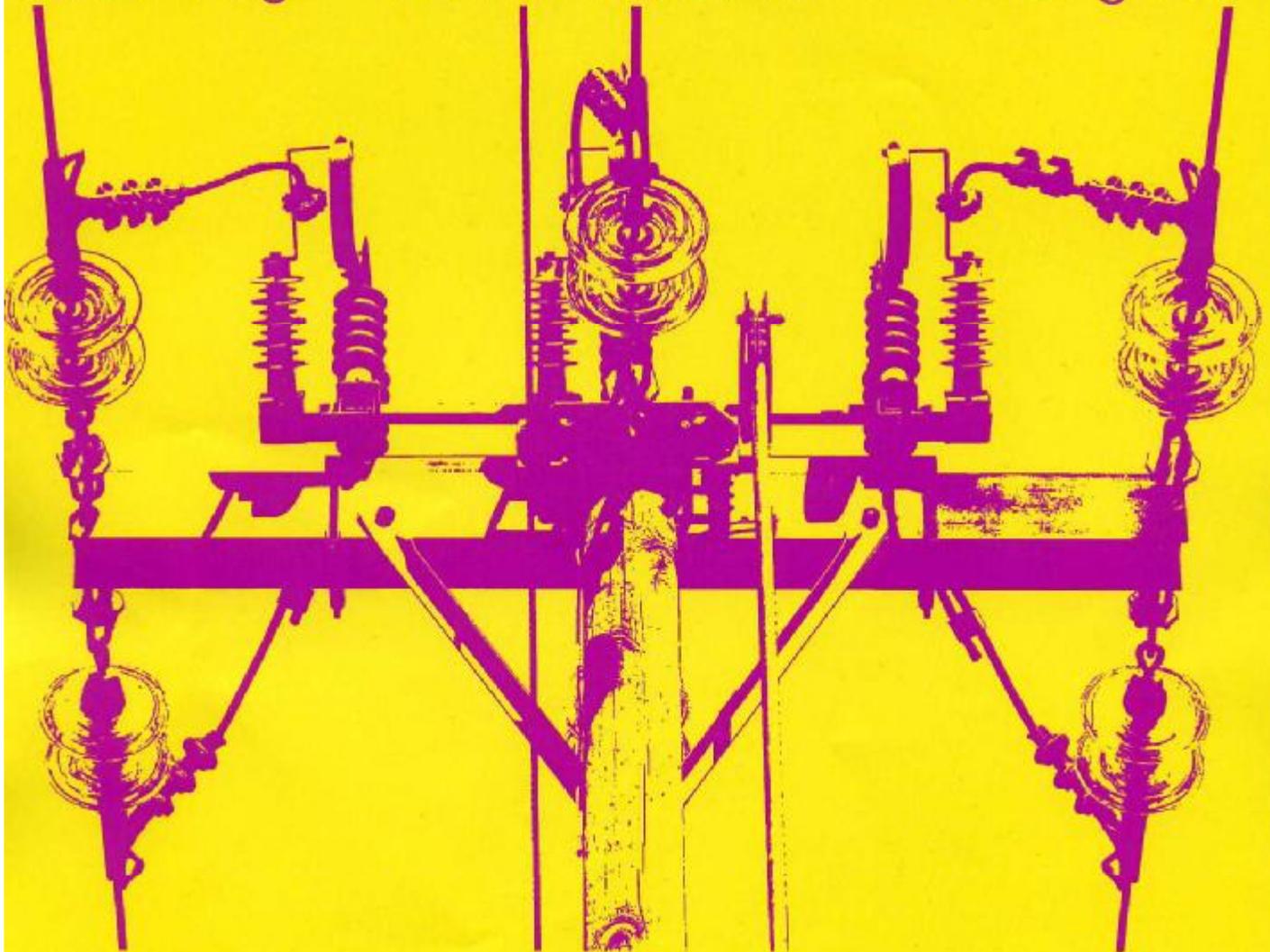
Please join us for one or more of these activities and check out their website from time to time to see what's new:

<http://dupageeweek.iit.edu>



The Chicago Council on Science and Technology Presents:

Storing Alternative Energies



solar

-

battery

-

grid

February 18, 2010

Illinois Institute of Technology (IIT) campus
McCormick Tribune Campus Center
3201 S. State Street.

5:00pm - Registration & Reception

6:00pm - Presentation & Panel Discussion

\$10 advance registration, \$15 at the door



www.c2st.org

January Meeting Pictures



Upcoming Meetings and Events

(*) Not a Local Section Event
(CLS) Chicago Local Section Event

<i>February 9, 2010</i>	Nanoclusters for H ₂ and CO ₂ Storage (CLS)	Oak Brook Terrace, IL
<i>February 18, 2010</i>	Storing Alternative Energies (*)	Chicago, IL
<i>February 23—24, 2010</i>	5th SPE/AIChE Joint Workshop - Heavy Oil and Bitumen (*)	Houston, TX
<i>March 10, 2010</i>	EPA lab tour (CLS)	Chicago, IL
<i>March 21—25, 2010</i>	2010 AIChE Spring Meeting (*)	San Antonio, TX
<i>April 14, 2010</i>	Student Night @ UIC (CLS)	Chicago, IL
<i>April 17, 2010</i>	Women in Science Symposium (*)	Chicago, IL
<i>May 2 -5, 2010</i>	SBE's Second International Conference on Stem Cell Engineering (*)	Boston, MA
<i>May 11, 2010</i>	Project Design for risk Management (CLS)	TBA
<i>November 7—12, 2010</i>	2010 AIChE Annual Meeting (*)	Salt Lake City, Utah

January Meeting

More than 150 people attended the January joint meeting in Arlington Heights where Dr. Koehler talked about different aspects of scientists involvements in courtrooms and the process of providing facts and information to supplement the law. He showed many different examples that Packer engineering company's expertise were using in gathering the information. Dr. Koehler also demonstrated different simulation models used to recreate the events that lead to an accident and also the data collection techniques that they are using for their analysis.

Dr. Koehler also demonstrated different simulation models used to recreate the events that lead to an accident and also the data collection techniques that they are using for their analysis.

This was a unique opportunity for chemical engineers to get more familiar with the world of experts who testify in the courtrooms and the methodology that Packer engineers use frequently.



Local Universities ChE Happenings in February

(Compiled By: Carolina Gonzales)

University of Illinois at Chicago	Illinois Institute of Technology	Northwestern University
NONE REPORTED	<p>February 3 The Mechanistic Implications of Charge Inversion in the Chemical Mechanical Planarization of Insulating and Semi-insulating Films <i>Michael L. White, Cabot Microelectronics Corp.</i> http://www.iit.edu/engineering/chbe/programs/chbe_seminars.shtml</p> <p>February 10 <i>Michael Thackery, Argonne National Laboratory</i></p> <p>February 17 <i>Robert B. Moore, III, Virginia Tech</i></p> <p>February 24 <i>Tim Lodge, University of Minnesota</i></p>	<p>February 4, 2010 Exploiting immune function and response for biopharmaceutical engineering Dr. Sai Reddy University of Texas, Austin http://planitpurple.northwestern.edu/event/398429</p> <p>February 4, 2010 National Academy of Engineering: Frontiers of Engineering Education panel discussion Technological Instit E311 2145 Sheridan Rd http://planitpurple.northwestern.edu/event/398494</p> <p>February 18, 2010 Microstructured Polymers: Fundamental Studies and Applications in Renewable Materials Dr. Megan Robertson University of Minnesota http://planitpurple.northwestern.edu/event/398431</p> <p>February 23, 2010 Dr. Mark Brynildsen Boston University http://planitpurple.northwestern.edu/event/398432</p> <p>February 25, 2010 Dr. Keith Tyo Chalmers University of Technology http://planitpurple.northwestern.edu/event/398433</p>
<p>We need more help!</p> <p>We are trying to make the newsletters a main source of information about the local events especially the academic programs that could be beneficial to our members. If you have knowledge of any event that you feel is of other member's interest, please provide us with the information.</p>		

Need a Volunteer @ Registration Desk

If you are planning to attend next monthly meeting please consider helping us at the registration desk. For more information, please send an email to aichechicago@gmail.com

DuPage E-Week 2009; AIChE Booth



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 1, 2010.

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

Career Resources

As a service to our members, we are posting jobs that are sent to us by recruiters or companies. You can access this list at:

http://www.aiche-chicago.org/Job_Postings.html

AIChE national also has a very useful guide for career opportunities that you can access as a member.

<http://www.aiche.org/CareerResources/>

Officers and Contact Information

Chair	Reza Mostofi reza.mostofi@uop.com
Chair Elect	Steve Rosenblum Steve.Rosenblum@uop.com
Chair Programming	Steve Schade ssschade@juno.com
Secretary	Mike Buettner Mike.Buettner@alfalaval.com Peter Herena peter.herena@kenexis.com
Treasurer	Catherine Fieber catherine.fieber@gmail.com
Newsletter Editor	Azita Ahmadzadeh azita_ad@gmail.com

Directors at Large

John Mylar ralym@sbcglobal.net	Dennis O'Brien Dennis.O'Brien@jacobs.com
	Bill Glogowski glogowwk@middough.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.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.

