

# November Newsletter



*Inside this issue:*

Chair's Corner	2
November Meeting	3
YPAB Announcement	4
Congratulations to Thiele Award Winner	6
Midwest Regional Conference Program	7
Friday Keynote Speaker 2011 AIChE Midwest Regional Meeting	8
Thursday Keynote Speaker 2011 AIChE Midwest Regional Meeting	9
Program at a Glance	10
YPAB Sessions at MRC	14
Conference Sponsors	15
High School Sponsors	16
Shining Star Award Winner	17
New Book	17
Calendar of Event	18
IIT Evening with Industries	19
YPAB December Meeting	19

## November 2011 Meeting Notice

### *The Production of Gasoline and Diesel from Biomass through Integrated Hydro-pyrolysis and Hydroconversion (IH2)*

**Dr. Martin Linck**  
Gas Technology Institute

**Date:** *Thursday, November 10th, 2011*

**Location:** 3rd Floor Conference Center, Room Illinois AB  
University of Illinois at Chicago  
Student Center East  
750 S. Halsted St. Chicago, IL

**Cost:** **Members: \$40** **Non-Members: \$45**  
**Students: \$5** **Unemployed/Retired Members: \$15**

To Register Click the Link;

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

### Agenda

4:30—6:30 Registration / Poster Session  
6:30—7:30 Dinner  
7:30—7:45 Thiele Award Presentation  
7:45—9:00 Technical Presentation

## Chair's Corner

Much has been made of the fact that the United States does not turn out enough technical professionals. Recently, however, I read something that cast a new light on this subject. We actually have sufficient tech grads, but those resources are being misallocated. The problem is that many of them are going into the financial sector. Wall Street hires more math, engineering, and science graduates than the semiconductor industry, Big Pharma, or the telecommunications business. In fact, 25% of MIT's grads went to Wall Street in 2006.

This issue is at the center of the debate over our economic future. The financial sector justified the bailout by claiming to be essential to the nation's economy. A new study, however, found that, over the past several decades, the growth in size and importance of the financial sector has gone hand-in-hand with lower—not higher—rates of new business formation. According to the study, the explanation for that trend is that the financial sector is sucking talent from more beneficial sectors of the economy. One economist even believes that this phenomenon accounts for a slowdown in productivity rates.

What can be done to change this situation? Clearly, people choose careers for reasons other than money. Part of the problem with engineering is that we are a mostly anonymous profession, since we do not often interact directly with the public. Our section is certainly working to change this with a strong student outreach program. But we need to educate adults as well. Sometimes even our own families do not understand what we do. The challenge is to explain in simple terms how we use science and math to make the world a better place. Many people take high school

chemistry, so that is a good connection point. So are all the things around us that engineers and tech workers play a role in producing.



Another tack that might get the message across would be a television ad. Of course, no technical professional association has the resources to fund it. However, a joint effort of all the society might be able to cover. Companies that have a vested interest in hiring these people might be willing to cosponsor such an effort.

Whatever approach is used, the important thing is to be aware of the target audience, which is the general population. We must speak to them in different terms than we would use at work. With some effort, however, we might just have an impact by encouraging more people with math and science aptitudes to choose technical careers.

Recently the Chicago Tribune highlighted a very successful fund manager. Her degree? Science. Yes, you can certainly learn to analyze all kinds of data with a tech degree. However, if the numbers only have the units of dollar signs, then society is shortchanged. Individuals who graduate in those fields must also include social responsibility in the final equation.

By Steve Schade

# November 2011 Meeting Information

## *Abstract*

**Purpose of the Work:** Integrated hydrolysis and hydroconversion (IH2) is a new process which is in process development at GTI which converts biomass of all types, to gasoline and diesel fuels. This process has the potential to revolutionize biofuels conversion technology, producing high quality hydrocarbon biofuels containing less than 2% oxygen from wood, algae, corn stover, and lemna in a relatively simple inexpensive process. The IH2 fuels can be produced at relatively low cost and also reduce greenhouse gas emissions by roughly 90% based on initial LCA analysis.

**Approach:** Pilot plant work has been completed using a 1lb/hr pilot plant which features a fluidized bed catalytic hydrolysis stage connected directly to a fixed bed hydroconversion reactor. The latest experimental results from the pilot plant will be presented including yields and product quality data. In addition, a process design for the proposed commercial integrated process will be discussed. The hydrogen needed for the hydrolysis and hydroconversion process is produced by reforming the light C1-C3 gases from IH2 so that no external H2 is required.

**Scientific Innovation and relevance:** The IH2 design solves all the problems associated with pyrolysis and subsequent upgrading. In IH2 a fungible finished product is produced which has the oxygen removed and is ready for use. This eliminates the need for transporting and upgrading high TAN, unstable, low BTU content pyrolysis oils. The IH2 process is done at mild conditions of 200-500psi and 750-1000F. The light gases from the hydroconversion step go to a steam reformer where the H2 is made and the CO2 rejected. The H2 produced is recycled back to the hydrolysis step. Several patents have been filed to protect the IH2 intellectual property.

**Results:** Typical yields are 22-26% C4+ gasoline+ diesel liquids containing less than 2% oxygen. Yields and product quality of liquids produced using the IH2 process will be reported using a variety of biomass feeds including wood, lemna and algae. The economics of the IH2 process are very favorable compared to current biomass conversion technology and the initial LCA analysis indicates a 90% reduction in greenhouse gas emissions.

**Conclusions:** The IH2 technology has the potential to revolutionize the biofuels production industry creating millions of jobs, displacing foreign crudes and significantly reducing greenhouse gas emissions. The technology is still in early stage development and is roughly 3 years from commercialization.

## *Speaker's Bio*

Dr. Martin Linck (Principal Engineer, Gas Technology Institute) has worked in fields related to energy, combustion, and propulsion since 2002. Originally trained as a chemical engineer at the University of Colorado, his graduate work at the University of Maryland dealt with laser-based investigations of combustion and highly-dynamic two-phase flows for military propulsion applications. Since 2006, he has directed and executed development of gasification, pyrolysis, and hydrolysis pilot plants, as well as ultra-efficient burners for industrial heating. His research now deals entirely with the development of renewable fuels from biomass, primarily via catalyzed hydrolysis and hydrodeoxygenation in integrated, allothermal processes.

**To Register:**

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

# AIChE Young Professionals

## Programming at the Midwest Regional Conference

### YP Sponsored Sessions:

- Technical Writing for Engineers
- Post Undergraduate Degree Panel Discussion
- Increasing your Odds: A More Successful Job Search
- Mathematical Modeling of an F1 Style Engine
- Investing in Your 20s

.... Plus resume critique and mock interview session!



YP Happy Hour/Social  
Morgan's Bar and Grill  
Fri, Nov 11 at 6PM  
Soft Drinks and Appetizers  
Courtesy of AIChE Chicago

Visit [www.aiche-chicago.org/ypab](http://www.aiche-chicago.org/ypab) and email us for more information

## food

---



## drinks

---



## fun

---



# AIChE Young Professionals Social

Morgan's Bar and Grill

Fri, Nov 11 at 6PM

Soft Drinks and Appetizers

Courtesy of AIChE Chicago

Visit [www.aiche-chicago.org/ypab](http://www.aiche-chicago.org/ypab) and email us for more information

## 2011 AIChE Midwest Regional Conference

University of Illinois at Chicago (UIC) – Chicago, IL • November 10-11, 2011

As we are getting closer to this annual conference, the list and description of the sessions are provided in this pre-meeting issue of the AIChE Chicago section newsletter. We hope you can join us with other experienced and young engineers as well as future students and local educators to make this year's conference another successful AIChE regional meeting. As always for up to date information please visit the following websites or email the AIChE 2011 Midwest Regional Conference Planning Committee.

AIChE 2011 Midwest Regional Conference Planning Committee

[aichemrc@gmail.com](mailto:aichemrc@gmail.com)

<http://midwestregional.aiche.org/>

<http://www.aiche-chicago.org/>

**Register online today and save up to \$50**

**Online Registration closes on November 6th**

**To Register Click :**

**<http://www.cvent.com/d/gdqh97/4W>**

## Congratulations to 2011 THIELE AWARD Winner **DR. URMILA DIWEKAR**

Congratulations to **Dr. Urmila Diwekar**, President and Founder of the Vishwamitra Research Institute for being awarded the 2011 Ernest W. Thiele award!

This prestigious award will be presented to **Dr. Diwekar** at the November 10, 2011 meeting of the Chicago AIChE section at the University of Illinois Chicago meeting location following the AIChE Midwest Regional Conference.

Dr. Diwekar is recognized for leading the development of uncertainty analysis in processes. She is also an adjunct professor of biochemical and chemical engineering at the University of Illinois Chicago. She is also the founder of the Vishwamitra Research Institute.

The Ernest W. Thiele award is presented annually to a Midwest region member of AIChE who has made outstanding contributions to advance the practice of Chemical Engineering. The award is sponsored by BP, and consists of a plaque and a \$1000 honorarium.

Please join us in congratulating **Dr. Urmila Diwekar** on her achievement.

# 2011 AIChE Midwest Regional Conference

University of Illinois at Chicago (UIC) – Chicago, IL • November 10-11, 2011

	THURSDAY November 10	FRIDAY November 11
<b>MORNING</b>		
8:15 AM-9:30 AM	<a href="#">Keynote - Thursday - BP Whiting Refinery and Modernization Project, Nick Spencer, Business Unit Leader</a>	<a href="#">Keynote - Friday - Improving Energy Efficiency in Industrial Use: Why Water Matters</a>
9:30 AM-11:00 AM	<a href="#">Thursday Plenary - ENERGY Success Stories</a>	<a href="#">Friday Plenary Food in Chicago and Midwest</a>
<b>AFTERNOON</b>		
1:00 PM-1:45 PM	<a href="#">Investing in Your 20s</a>	<a href="#">Technical Writing for Engineers</a>
1:00 PM-2:30 PM	<a href="#">Back to Basics - I</a>	<a href="#">Specialty Topics - HOW TO</a>
1:00 PM-2:30 PM	<a href="#">Refining Energy Updates</a>	<a href="#">University Research - III</a>
	<a href="#">University Process Research - I</a>	<a href="#">Water - Energy Issues</a>
1:45 PM-2:30 PM	<a href="#">Mathematical Modeling of An F1 Style Engine - Predicting the Torque Curves of New Engines</a>	<a href="#">Increasing Your Odds - A Perspective on a More Successful Job Search</a>
3:00 PM-4:30 PM	<a href="#">Back to Basics - II</a>	<a href="#">Bio- Tech</a>
	<a href="#">Natural Gas</a>	<a href="#">Résumé Workshop and Mock Interviews</a>
	<a href="#">Panel Discussion - Post Degrees for Chemical Engineers</a>	<a href="#">Safety</a>
	<a href="#">University Process Research - II</a>	<a href="#">University Research - IV - Process Power and Energy Optimization</a>
<b>EVENING</b>		
5:00 PM-6:00 PM	<a href="#">University Energy Related Posters</a>	NO Sessions
5:30 PM-9:00 PM	<a href="#">AIChE Local Section Monthly Meeting</a>	

## 2011 AIChE Midwest Regional Conference

University of Illinois at Chicago (UIC) – Chicago, IL • November 10-11, 2011

### **Friday Keynote - Improving Energy Efficiency in Industrial Use: Why Water Matters**

**Narasimha Rao, Nalco Division Vice President of R & D, Innovation Marketing**

Friday, November 11, 2011: 8:15 AM

Tower - Rm 605 (University of Illinois at Chicago)

#### **Summary:**

Water is the heat transfer medium of choice in industry, thanks to its plentiful availability and excellent thermal properties. Whether through process heating and cooling, or waste water treatment, water is associated with nearly 70% of the energy in an industrial plant. In the industrial world, the parameter of interest is water quality more than quantity. Water quality directly impacts corrosion, scaling and microbial activity which in turn impact energy efficiency, asset integrity, product quality and therefore, capital and operating expenses. Managing water effectively, is therefore of great importance in managing energy. Doing this involves a holistic approach involving understanding of the water and energy balance at the plant level, a fundamental understanding of process and how water chemistry impacts the process, and modeling tools to predict how the water and energy balance can be impacted through chemical, operational or mechanical means. While a lot of attention has been paid lately to energy efficiency in non-industrial sectors, there is a significant need and demand for innovations and investments to improve energy efficiency in the industrial space.

#### **NM Rao Bio:**

Dr. NM Rao joined Nalco in 1990 after finishing his PhD in chemistry from University of Illinois at Urbana-Champaign. He has a BS in Chemical Engineering from Madras University, India and a MS in Chemical Engineering from Southern Illinois University at Carbondale. He has been involved in innovation related to Water and Energy Optimization throughout his career and has led the development and commercialization of several industry leading offerings including the TRASAR 3000, 3D TRASAR®, and Nalco 360™ Service. Over the years, he has held various R & D and Innovation related positions, including a stint in Asia Pacific and currently serves a multi-faceted role as Division Vice President of R & D, Innovation Marketing, and Automation. His inventions have resulted in 7 patents and he has been widely recognized including the R&D 100 award, the 2008 Presidential Green Chemistry Award, and the 2010 Global Water Award.



**To Register Click :**

**<http://www.cvent.com/d/gdqh97/4W>**



## Thursday Keynote - **BP Whiting Refinery and Modernization Project**

**Nick Spencer, BP Whiting Refinery Business Unit Leader**

Thursday, November 10, 2011: 8:15 AM

Tower - Rm 605 (University of Illinois at Chicago)



AIChE Midwest Regional Conference  
UIC- Chicago, IL  
November 10-11, 2011

### Summary:

Nick Spencer, Business Unit Leader of the BP Whiting Refinery and Modernization Project, will speak about the rich history of this massive refinery in Whiting Indiana. He'll then focus on the reasons for the modernization project and what is actually being built to sustain the refinery for the future.

### Nick's Bio:

Nick Spencer serves as the Whiting Refinery Business Unit Leader since October 2009 coming to BP from ConocoPhillips.

Previous to this, Nick held the position of General Manager Middle East and North Africa Refinery Marketing and Transportation.

In 1980, he joined the Humber refinery in England and worked in process engineering and projects before taking on a series of supervisor roles at the refinery.

In 1995, he transferred to Conoco headquarters in Houston to lead the operations optimization team for the company's refining and marketing activities in Gulf Coast region. He moved to Lake Charles, LA the following year to serve as operations manager at Conoco's refinery in Westlake. After a term at Harvard business School, he moved to Ponca City refinery, Oklahoma, in 1999 as refinery manager. In 2002, he transferred back to the UK as general manager of the Humber refinery. Following this assignment, he relocated to London as general manager of European Refining and in September 2006 he moved to Abu Dhabi to lead two new Refinery development projects, one in Saudi Arabia and one in Fujairah.

A native of England, Nick earned a first-class honors degree in chemical engineering at the University of Manchester Institute of Science and Technology. He also successfully completed the General Manager Program at Harvard Graduate School of Business Administration.

Nick and his wife, Angela, reside in Chicago, IL.



**To Register Click :**

**<http://www.cvent.com/d/gdqh97/4W>**

# 2011 AIChE Midwest Regional Conference Program at a Glance (November 10 & 11)

## Thursday Keynote - BP Whiting Refinery and Modernization Project

### *Nick Spencer, Business Unit Leader*

Nick Spencer, Business Unit Leader of the BP Whiting Refinery and Modernization Project, will speak about the rich history of this massive refinery in Whiting Indiana. He'll then focus on the reasons for the modernization project and what is actually being built to sustain the refinery for the future.

## Thursday Plenary - Energy Success Stories

Description: Various systems including Hydrogen - Bio Fuels - Renewable Manufacturing - Combined Cycles - High Efficiency Process - Gasification

### *Energy Reduction in An Ethanol Distillation - A Simulations Case Study*

Jose Leboeiro, Research Division, Archer Daniels Midland, Decatur, IL

### *Waste Management - Landfill Gas Renewable Energy*

Bill Gamlin and Rod Stipe, Waste Management Inc, IL

### *Geothermal and Co-Generation At UIC*

Sohail Murad, Chemical Engineering Department, University of Illinois at Chicago, Chicago, IL

**TOURS WILL BE ARRANGED IMMEDIATELY FOLLOWING THE PRESENTATION - SIGN UP IN ADVANCE!**

## Back to Basics - I

This session will focus on tools tips and techniques for folks in plant operations as well as professional engineers looking to review or upgrade their skills. The focus is on energy of course! - Pumps - Evaporators - Chillers

### *Pumps and Energy Conservation*

Billy Stout, Clyde Union Pumps

Pumps have unusual efficiency curves. Learn how to select the right one for your application for minimal energy consumption and optimal performance

### *Optimal Evaporator Design*

Ralph Scully, InCon Technologies

Evaporators come in all shapes, sizes and energy sources. Minimize energy and scaling by appropriate selection.

### *Chillers - Design and Operation*

Mike White, Carrier

Chiller design, operation and maintenance to optimize plant wide energy utilization.

## Refining Energy Updates

A look into energy utilization in today's modern refinery - Feed Upgrades - Environmental - Catalysis - Upstream Issues

### *CITGO - Lemont Refinery Energy Projects*

Aaron Wright, Envoy Development

# 2011 AIChE Midwest Regional Conference Program at a Glance (November 10 & 11)

## Refining Energy Updates

### Enhanced Testing Capability for Asphaltene Stability Prediction and Crude Compatibility

Sai Reddy Pinappu and Corina L Sandu, Baker Hughes Incorporated

### Refinery Combined Heat & Power (CHP) with Spinning Reserve (SR): Profitably Reduce Green House Gases

Suresh Jambunathan, Recycled Energy Development, LLC, Westmont, IL

## University Process Research - I

We are pleased to present a series of sessions highlighting on-going research development efforts occurring at the universities in the Midwest Area. We expect participation from several universities Midwest area. This provides an opportunity for university researchers to present their work to industry participants at the conference, draw their interest in further commercialization, and get input as to industry and societal needs and techno-economic viability. For the industry participant, it is an opportunity to identify promising new leads, as well as steer the academic research to address societal and industry needs. This year's conference theme is "Energy is Everything - Game Changers" covering various chemical industries geared toward the crucial topic of energy. This two day conference will include 4 sessions on University Research.

### Role of University Startup Companies in Technology Commercialization

Robert F. Anderson, Corporate Relations, Illi-

nois Institute of Technology, Chicago, IL

### University Research – Development Steps to Commercialization

Bipin V. Vora, Fuels and Petrochemicals Division/Group 16, UOP (retired), Des Plaines, IL

### Imagination Powering Local Economies: The Role of University Research and Technology Development in Fostering Growth of Local Economies

Justin Anderson, Wisconsin Alumni Research Foundation - WARF, Madison, WI

## Back to Basics - II

This session will focus on tools tips and techniques for folks in plant operations as well as professional engineers looking to review or upgrade their skills. The focus is on energy of course! Continuing from previous session - Heat Exchangers - Steam Traps - Heat Tracing

### High Efficiency Plate Heat Exchanger Basics

Michael Buettner, Alfa Laval

### Electric Heat Tracing Guidelines

Paula Peterson, Tyco Thermal Controls

### Steam Asset Management – More Than a Steam Trap Survey

Brian Kimbrough, Armstrong International, Inc

## Natural Gas

The Next Big Thing! - Processing - Production - End Use.

# 2011 AIChE Midwest Regional Conference Program at a Glance (November 10 & 11)

## Natural Gas

The Next Big Thing! - Processing - Production  
- End Use

[Gas Shales – A Supply Game Changer, If Done Right!](#)

Jordan Ciezobka, Gas Technology Institute

[World Scale LNG Feed Gas Pretreatment: An Integrated Approach](#)

Stanislav Milidovich, UOP LLC, Des Plaines, IL

## University Process Research - II

[Thermal Management and Safety of Li-Ion Batteries](#)

Said Al-Hallaj, Department of Chemical Engineering, University of Illinois at Chicago, Chicago, IL; AllCell Technologies LLC, Chicago, IL

[Debottlenecking Metabolic Pathways to Increase Yield and Productivity](#)

Keith E.J. Tyo, Chemical and Biological Engineering, Northwestern University, Evanston, IL

[New Materials for Challenges in Adsorption and Catalysis Related to Separations](#)

Justin M. Notestein, Chemical and Biological Engineering, Northwestern University, Evanston, IL

## Friday Keynote - Improving Energy Efficiency in Industrial Use: Why Water Matters

Narasimha Rao, Nalco Division Vice President of R & D, Innovation Marketing

## Friday Plenary

### Food in Chicago and Midwest

[Critical Barriers to Bioenergy](#)

Seth W. Snyder, Energy Systems, Argonne National Laboratory, Argonne, IL

[Combined Heat and Power \(CHP\) in the Food Processing Industry - When Does It Make Sense](#)

John Cuttica, DOE Energy Resource Center, University of Illinois

[Increasing Role of Membrane Filtration As An Energy Saver Unit Operation](#)

Shanti Bhushan, GEA Filtration, Process Engineering Inc, WI

[Drying Systems in the Food Industries – Designing for Efficiency](#)

Adrian Dee, GEA Barr-Rosin

## University Research - III

[Investigations On Geothermal Heat Pump Systems Using Treated Waste Water As Energy Source](#)

Huajun Yuan & Sohail Murad, Chemical Engineering, University of Illinois at Chicago, Chicago, IL

[An Overview of Energy Research in the Department of Chemical Engineering At the University of Illinois At Urbana-Champaign](#)

Christopher V. Rao, Chemical & Biomolecular Eng., University of Illinois, Urbana Champaign, Urbana, IL

# 2011 AIChE Midwest Regional Conference Program at a Glance (November 10 & 11)

## Friday —University Research - III

### [New Methods for Defect Engineering in Semiconductors for Energy Applications](#)

Prashun Gorai, Department of Chemical and Biomolecular Engineering, University of Illinois, Urbana, IL and Edmund G. Seebauer, Chemical & Biomolecular Engineering, University of Illinois at Urbana-Champaign.

## Water - Energy Issues

There is a close relationship between water and energy, many times referred to as the “Water and Energy Nexus”. Water happens to be the medium through which energy is transferred in industrial systems, with over 70% of the energy within an industrial site being impacted. It takes a significant amount of water to produce electrical energy both in terms of water to cool as well as water for steam. Conversely, a significant amount of energy is needed to transfer, store, treat, convert, and discharge water within the water use cycle in any industry. A shortage of water and the worsening quality of water are causing industries to push the operating boundaries of their plant assets resulting in higher energy consumption and operational inefficiencies. This session will review ways in which the industry is responding to these challenges with new innovations and technologies to ensure a more efficient sustainable use of both water and energy for future generations.

### [Thermodynamic Modeling to Manage the Overlap Between Demand and Supply Energy Initiatives](#)

Mitch Morgan, Nalco Company

### [Energy Efficiency: Greenhouse Gas Reduction Is Money Saved](#)

Lee Ferrell, Water Wastewater Competency Center, Schneider Electric

### [Energy Efficient Alternative for Hazardous Air Pollutant Control](#)

Gregory P. Verret, PE, ENVIRON International Corporation

Contributors: Dr. Carl E. Adams, Jr., ENVIRON International Corp.; Dr. Lial F. Tischler, Tischlar-Kocurek; Andrew Edwards, ENVIRON International Corp.; Wallace E. Dows, III, Marathon Petroleum LLC

## Bio- Tech

What's really happening? - What needs to happen - Where does it all fit in - Synthetic Biology

### [Catalytic Conversion of Carbohydrates to Renewable Fuels and Chemicals Using the Bio-Forming Process](#)

Paul Blommel, Virent

### [Fuels and Chemicals From Industrial Gases](#)

Jeremy Owen, LanzaTech

**[To Register Click :](#)**

**<http://www.cvent.com/d/gdqh97/4W>**

# 2011 AIChE Midwest Regional Conference

## Young Professionals Sessions

### [Investing in Your 20s](#)

True North Retirement Partners of Raymond James will present a 30 minute discussion entitled "Investing in your 20s" and will be concluded with a Q&A session. The discussion will revolve around debt, savings and 401(k) plans. The goal of the discussion will be to give younger professionals a better understanding of how to make wise financial decisions. John Dulay will be the host, and he is a CFA Charterholder with over 10 years experience in the financial services industry. Raymond James & Associates, Inc., Member New York Stock Exchange/SIPC

### [Mathematical Modeling of An F1 Style Engine - Predicting the Torque Curves of New Engines](#)

Engine simulation is a powerful tool in the research and development of new engine platforms. Within the automotive industry there is an abundance of published knowledge available to build and run these simulations. For racing teams, though, there is an inherent desire to keep knowledge from competitors in order to maintain the competitive edge. Luckily, for the general engine enthusiast there is just enough published information to design a simulation that will roughly predict how powerful these types of engines are. Using some critical information published by Honda in the late 80's, Fiat and Ducati in the 90's, and Ferrari in the early 00's, then combining it with the proposed rule changes for engines in the 2014 F1 season an engine model can be constructed to predict what will hopefully power a very competitive season.

### [Panel Discussion - Post Degrees for Chemical Engineers](#)

A panel discussion on degree and certification opportunities available to Chemical Engineers following undergraduate.

### [Technical Writing for Engineers](#)

Successful engineers spend about 25% of their work time writing. Although professional engineers have found writing to be their most useful subject in college, job recruiters have suggested that engineers generally need more practice on their writing skills. This session will provide a review of the methodologies and practice behind strong technical writing. Topics will include writing, drafting, revising and finishing as well as the elements of style; structure, language, and illustration. Suggestions will also be provided on writing tasks such as laboratory reports, internal communications and journal articles.

### [Increasing Your Odds - A Perspective on a More Successful Job Search](#)

In a competitive job market, it may seem like the odds are against you. In fact, there are great opportunities out there, though finding them may require a little resourcefulness. The presentation will focus on exploiting all the tools available to find these opportunities, making the cut with an effective resume, then acing the interview. But it doesn't end there: analyzing multiple offers, negotiating benefits and staying competitive after the acceptance will also be discussed. Experience professionals will also be encouraged to share their own advice.

### [Résumé Workshop and Mock Interviews](#)

One-on-one résumé critiques and mock interviews directed by Chicago Young Professionals.

# Thanks to Our Conference Sponsors.



[ WANGER INSTITUTE FOR SUSTAINABLE ENERGY RESEARCH ]  
AT ILLINOIS INSTITUTE OF TECHNOLOGY



Chicago Chem Consultants



## ***Thanks to High School Outreach Sponsors.***

# Ambitech



### **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, 2012.**

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



## Congratulation to 2011 AIChE National Shining Star award Winner

Congratulations **Ellen, Ellen Kloppenborg** (UOP) attended the AIChE meeting in Minneapolis to receive the Shining Star Award. **Ellen** won Honorable Mention, and was selected from worthy nominees from all over the country. The award is presented by the AIChE Local Sections Committee for service to a local section above and beyond the call of duty. Maria Burka, AIChE president, presented the award at the Volunteers Recognition Reception. **Ellen's** work last year, greatly expanded the Chicago Section's student outreach program, revitalizing our communications and volunteer enthusiasm.



## Industrial Liaison Chair

Francine Neuman has agreed to be Industrial Liaison chair. She will begin by preparing a benefits of AIChE list for companies analogous to the one we have on our web site for individuals. In order to assist her, she has asked that you provide her with contact information for people at companies who would be supportive of AIChE and encourage attendance at meetings. You may contact her at francine.neuman@gmail.com.

Thanks for your help.  
Steve Schade

## New Book

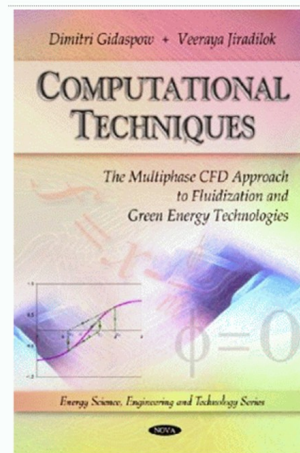
### *Computational Techniques: The Multiphase CFD Approach to Fluidization and Green Energy Technologies*

Authors: Dimitri Gidaspow (Illinois Inst. of Technology, Chicago, IL); Veeraya Jiradilok (GreatPoint Energy, Illinois Inst. of Technology, Chicago, IL).

#### Book Description:

This text has been used in the form of class notes taught to graduate and senior undergraduate students in chemical and mechanical engineering at Illinois Institute of Technology for the last three decades.

The computer codes, particularly the Navier-Stokes equation solvers, have been continually updated by several Ph.D. students over the last decade. The theory of fluidization and multiphase flow is based on the new paradigm that emerged in the 1980s as granular flow. Commercial CFD codes, such as FLUENT, already use this theory. However, this theory is not yet complete. Hence the programs described in this text can be easily updated as new theory is developed. For example, the codes can be extended to anisotropic and multi-size particle flow based on the emerging kinetic theories. Hence this book should be useful to research engineers in industry, to graduate students and to professors teaching a first course in computational techniques. In this book the authors illustrate how their code as well as the commercial codes can be used for the design of green energy technology processes.



## Calendar of Events

### [2011 AIChE Northeast Regional Conference at the Chem-Show](#)

Jacob Javits Convention Center  
New York, NY  
November 1-3, 2011

### [Electrofuels Research Conference](#)

Providence Biltmore  
Providence, RI  
November 6-9, 2011

### [2011 AIChE Midwest Regional Conference](#)

University of Illinois - Chicago (UIC)  
Chicago, IL  
November 10-11, 2011

### [Carbon Management Technology Conference](#)

Caribe Royale Hotel & Convention Center  
Orlando, Florida  
February 7-9, 2012

### [Sustainability in \(Bio\)Pharmaceuticals](#)

Sheraton Old San Juan  
San Juan, PR  
February 19-22, 2012

### [Spring Meeting and 8th Global Congress on Process Safety](#)

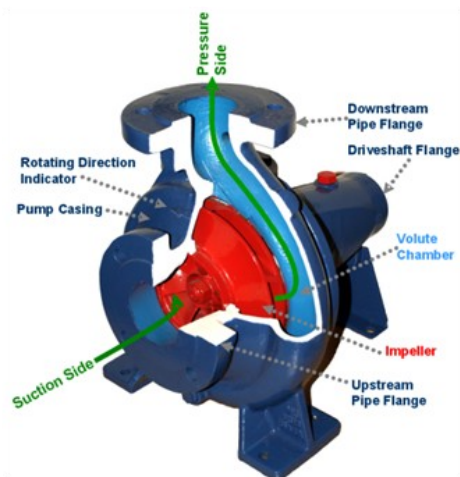
Houston Hilton and George Brown Convention Center  
Houston, TX  
April 1-5, 2012

### [3rd International Conference in Stem Cell Engineering](#)

Sheraton Seattle  
Seattle, WA  
April 29 - May 2, 2012

## “Back to Basics Session @ Midwest Regional Conference

Learn about Pumps; Evaporators; Chillers; Plate Heat Exchangers ;Electric Heat Tracing and more in the “Back to Basics Sessions”

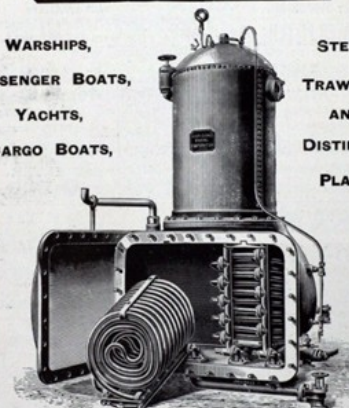


## MORISON'S EVAPORATORS

ARE WORKING IN

# 1200

WARSHIPS,	STEAM
PASSENGER BOATS,	TRAWLERS.
YACHTS,	AND
CARGO BOATS,	DISTILLING
	PLANTS.



MANUFACTURERS—

**T. RICHARDSON & SONS, LTD.,**  
HARTLEPOOL, ENGLAND.

## IIT Evening With Industry Invitation

Dear Industry Representative,

The Illinois Institute of Technology (IIT) student chapter of the American Institute of Chemical Engineers (AIChE) is pleased to invite you to the 11th Annual Evening With Industry (EWI) Dinner, hosted Friday, November 18th from 6:00 to 9:00 p.m. at the Pritzker Club in the MTCC on the IIT main campus.

This student-organized event aims to provide more student and professional interaction than a typical career fair. Similar to previous EWI dinners, we expect to host approximately 20 - 30 students ranging from freshman to the graduate level. The event begins with a standard career fair, allowing for students and company representatives to interact on a professional level. In addition to expanding upon the potential career, co-op, and internship opportunities available, the format provides a unique opportunity for representatives to communicate their first-hand experiences within their company and chemical engineering industry. Previous student attendees express that these informal discussions were the highlight of the EWI and provided significant help in making career decisions.

Participants officially sponsored by their company will receive space at the career fair and dinner for two representatives per hosted table. There is a registration fee of \$30 for attending this event. The fee can be paid for at the event or checks can be made out to "Illinois Institute of Technology – AIChE", and mailed to Donald Chmielewski at Suite 127, Perlstein Hall, 10 West 33rd Street Chicago, IL 60616.

If you would like to participate, please register here on our webpage by Friday, November 11th, 2011. Please feel free to contact me directly with any comments, questions, or suggestions. Your input on our event will help us to continually improve EWI.

Please also feel free to visit our webpage, [iitaiche.org](http://iitaiche.org), which has information for events and meetings throughout the year. In addition, we would greatly appreciate if you, or your company chooses to make a donation to AIChE-IIT to help finance our chapter events throughout the year.

We look forward to your participation at this year's EWI dinner. Thank you for your support in making this event a success.

Sincerely,

Jonathan Taketa

Evening With Industry Chair  
Telephone: (808) 386-8703  
E-mail: [jtaketa@hawk.iit.edu](mailto:jtaketa@hawk.iit.edu)

## YPAB December 2011 Meeting

**Date:** Thursday, December 8th, 6pm  
**Location:** UOP, Des Plaines, IL

Chris Dyszkiewicz, Process Specialist from UOP-A Honeywell Company will be giving a presentation about Separex™ Membrane Systems, used primarily for bulk CO<sub>2</sub> removal from natural gas streams. The room location is to be confirmed.

A preview of the topic can be found at the following link:

<http://www.uop.com/wp-content/uploads/2011/02/UOP-Separex-Membrane-Technologytech-presentation.pdf>

Officers and Contact Information

Chair	Steve Schade <a href="mailto:ssschade@juno.com">ssschade@juno.com</a>
Chair Elect	Peter Herena <a href="mailto:peter.herena@kenexis.com">peter.herena@kenexis.com</a>
Chair Programming	Dan Rusinak <a href="mailto:Rusinad@middough.com">Rusinad@middough.com</a>
Secretary	Jerry Wilks <a href="mailto:gwilks@citgo.com">gwilks@citgo.com</a>
Treasurer	Mike Buettner <a href="mailto:Mike.Buettner@alfalaval.com">Mike.Buettner@alfalaval.com</a>
Newsletter Editor	Azita Ahmadzadeh <a href="mailto:azita.ad@gmail.com">azita.ad@gmail.com</a>

Directors at Large

Annette Johnston <a href="mailto:Annette.Johnston@abbott.com">Annette.Johnston@abbott.com</a>	Jeff Umbach <a href="mailto:jumbach@ambitech.com">jumbach@ambitech.com</a>
	Bill Glogowski <a href="mailto:glogowwk@middough.com">glogowwk@middough.com</a>

**AICHE CHICAGO SECTION**

American Institute of Chemical Engineers  
Chicago Section  
13964 Doral Lane  
Homer Glen, IL 60491  
[aichechicago@gmail.com](mailto:aichechicago@gmail.com)

We are on the web  
[www.aiche-chicago.org](http://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](mailto:aichechicago@gmail.com)

[http://www.aiche-chicago.org/Section\\_Info/Volunteer.html](http://www.aiche-chicago.org/Section_Info/Volunteer.html)

**Submitting Articles to AIChE Newsletter**

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](mailto: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
<b>Advertisements (3X3)</b>	100	450	150	675	N/A	N/A
<b>Half-Page (~7"x 4.5")</b>	280	1260	420	1890	N/A	N/A
<b>Job Posting (Size?)</b>	50	225	100	450	250	N/A
<b>Special Sizing</b>	Contact Publicity Committee <a href="mailto:aichechicago@gmail.com">aichechicago@gmail.com</a>					

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.

