

AIChE® Chicago Columns

Chicago Section e-newsletter

January 2007

HAPPY NEW YEAR! REFLECTION OF THE AICHE STUDENT NATIONAL CONFERENCE FROM A STUDENT'S PERSPECTIVE

Upcoming Events:

January 13:

Bulls Game, Local Section Social with YPAB

February 22:

Chemistry of Gasoline Sulfur Reduction, Bruce R. Cook, ExxonMobil

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The main goal of the young professionals advisory board (YPAB) is to foster the interaction of students and young engineers with experienced professionals. This year's Student National Conference in San Francisco, CA was a prime example of this. The student national conference was a invaluable experience for undergraduate students seeking career advise, guidance on how to energize other students in becoming involved in AIChE, as well as how to build a national network of young chemical engineers. This year, the YPAB was asked to present their early stage career experiences to undergraduate students. The YPAB consisted of both graduate students and early stage career professionals. We portrayed our prospective of how YPAB and local sections can help students in their transition from the university setting to the workforce, what factors helped us choose the career path that we desired, and how building a network of professional friends is invaluable. Many undergraduates were torn between going to graduate school or starting their career in industry. AIChE divisions such as Fuels and Petrochemicals (F&PD) also sponsored career workshops. The Fuels and Petrochemicals Division advised us on the importance of AIChE in your professional career. A speaker from UOP advised us that going to the national conference, one is able to see the work of all competitors in the market, meet other people to collaborate with, and build a strong network of professional friends. Workshops on how to build strong student chapters also took place by members of AIChE national. Also, a graduate student fair and career fair took place featuring companies and graduate schools all across the country. The annual Chem E car competition featured cars developed by student chapters powered by some form of chemical reaction. The YPAB as well as other

experienced engineers help judge this competiton. This year, the ChemE car competition featured a great number of cars with fuel cells, which may dictate what the future will bring for our energy needs. The conference concluded with the Student Bash that with a casino night where students were joined with veteran engineers from both industry and academia in a social setting. In conclusion, the conference was a prime example of how experienced engineers can mentor, energize, and advise young engineers of the importance of AIChE and our profession. For 2007, ask yourself how you could mentor a young engineer to provide advice for their career and transform your valuable past experience to a brighter future for them.

-S. Thomas King UIC Graduate Student



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JANUARY SOCIAL JANUARY 13, 2007 CHICAGO BULLS VS. MEMPHIS GRIZZLIES TICKETS ARE STILL AVAILABLE!

Location: United Center, Game starts at 7:30pm

Please Register at http://www.aiche-chicago.org

Price: \$35/ticket

In the Chicago area we have more than 2000 chemical engineers who span all fields of the chemical industry including pharmaceuticals, medical, environmental and even those of us who are practicing law or work for the local/state/ federal government. This unique mixture of people provides an excellent networking opportunity for all. We hope you take advantage of this event to get to know your fellow chemical engineers in the Chicagoland area ...and cheer your Bulls team too! Memphis Grizzlies fans are welcome too.

FEBRUARY MEETING: FEBRUARY 22, 2007 CHEMISTRY OF GASOLINE SULFUR REDUCTION DR. BRUCE R. COOK EXXONMOBIL RESEARCH AND ENGINEERING COMPANY

Location: TBA

Please Register at http://www.aiche-chicago.org

Price: TBA

Regulations to reduce the sulfur level in gasoline to less than 50 wppm are in place or planned in many countries. The primary source of sulfur in gasoline is FCC cat naphtha, which contributes approximately 50 wt% of gasoline pool volume but nearly 95% of gasoline sulfur. Critical to the economics of any gasoline desulfurization process is the ability to effectively remove sulfur from the mercaptans, thiophenes, and benzothiophenes in FCC naphtha without saturating the important high octane olefins present. Several processes have been developed to meet these goals and have seen broad commercial application. For example, ExxonMobil's SCANfining I and II processes have over 1 MBD of committed or installed world-wide capacity. Three critical steps are typical parts of most commercial FCC naphtha HDS processes. The first of these is a step designed to react or remove the mercaptan sulfur found in the lightest fraction of FCC naphtha (LCN, C5-75 C) without saturating the large amount of important C5/ C6 olefins in this boiling range. The second critical step is a selective HDS process to maximize the desulfurization of thiophenic sulfur, while minimizing the saturation of important C7/C8 olefins in intermediate or combined intermediate/heavy cat naphtha. Selective HDS of ICN and ICN/HCN requires combination of optimized process conditions and selective catalyst (for example RT-225) technology to maximize thiophene HDS while minimizing olefin saturation. The third critical process step involves minimizing mercaptan formation from the reaction of product H2S with feed olefins (mercaptan reversion). This talk will focus on the critical proc-

esses involved in producing gasoline, and the chemistry of all three critical process steps for removing sulfur from gasoline.







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 01, 2007.

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.

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> Who is Thiele? ERNEST W.THIELE 1895-1993

Thiele's longest professional work experiences were with the Standard Oil Company of Indiana and the University of Notre Dame. He retired as associate director of research at Standard Oil (now the Amoco Corporation) in 1960 after thirtyfive years there and then served as a visiting professor of chemical engineering at Notre Dame until 1970. His name was known to every chemical engineer trained after 1927, since by then all departments of chemical engineering were teaching the McCabe-Thiele method for determining distillation parameters. After 1939, most chemical engineers interested in designing chemical reactors employing solid catalysts became familiar with the Thiele modulus and catalyst electiveness factors, which were inventions of Thiele. Ernest Thiele was born on December 8, 1895, in Chicago, Illinois.

Congratulations to the Thiele Award Recipients

In This issue we want to recognize the contributions of the Thiele Award recipients. We want to thank them for all there commitment on enriching Chemical Engineering. A summarized listing of their contributions can be found on the following page.

"Along with success comes a reputation for wisdom." -Euripides









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Ernest W. Thiele Award Recipients

YEAR RECIPIENT	AFFILIATION	RECOGNITION & ACHIEVEMENT
1983 E.W. Thiele	Standard Oil (Indiana)	Catalysis, Distillation fundamental advances
1985 B.B.Broughton	UOP	Aromatics Separation Processes, adsorptive separation
1986 T.J. Hanratty	Univ. Of Illinois	Advances in Fluid Mechanics
1987 G. Thodos	Northwestern	Physical Property Advances
1988 L.O. Stine	UOP	Petroleum/Petrochemical Processes
1989 D.T. Wasan	IIT	Research and Progress on Separation Processes
1990 R.S. Mah	Northwestern	Chemical Process System Analysis
1992 J.J. Carberry	Notre Dame	Chemical Reaction Engineering research, innovation, and education
1993 RJ. Bertolacini	Amoco	Catalysis research innovations and leadership
1994 J.W. Westwater	Univ. of Illinois	Research in Heat transfer and contributions in teaching
1995 Norman Li	UOP	Pioneering research in membranes and separations
1996 Rathin Datta	Argonne	Original research in metabolic engineering and membranes
1997 Hamid Arastoopour	IIT	Academic leadership and environmental engineering
1998 Arvind Varma	Notre Dame	Fundamental advances in synthesis of materials, catalysis and reactor stability
1999 S. George Bankoff	Northwestern	Heat transfer advances in chemical and nuclear engineering
2000 Henry Linden	IGT (retired)	Leadership of the Institute Of Gas Tech.
2001 Paul Sechrist	UOP	Contributions to computational fluid Mechanics, CCR, and FCC refining processes
2002 Julio Ottino	Northwestern	Research in Chaos Theory and mixing of solids and liquids
2003 Ali Cinar	ШΤ	Contributions in process modeling, monitoring and control. As an educator championing computers and statistics.
2004 Ted M. Knowlton	PSRI	Contributions to fundamental and applied research, and leadership in the fields of fluidization and particulate solids.
2005 Dimitri Gidaspow	IIT	Fundamental contributions to computational fluid dynamics, multi-phase flow and fluidized bed systems and as an educator.

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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.

aichechicom@aiche-chicago.org

http://www.aiche-chicago.org/volunteerrequest.htm

SUBMITTING ARTICLES TO AICHE COLUMNS

We are now initiation a regular Newsletter and are welcoming people to e-mail any material they would like to appear on the newsletter. These can be job postings, advertisements for upcoming committee meetings, articles, general advertisements or anything else you may want to submit. To submit material e-mail your material to <u>aichechicom@aiche-</u> <u>chicago.org</u> with "newsletter article request" as a subject heading.







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