

AICHE®

Chicago Columns

Chicago Section e-newsletter

May2008

AICHE Chicago May Meeting Notice

“How Moon Rocks Might Save the Earth”

Dr. Peter J. Schubert
Senior Director for Space and Energy R&D - Packer Engineering

Date: May 14, 2008

Location: [European Crystal Banquet Center](#)
519 W. Algonquin Road
Phone: 847-437-5590

Arlington Heights, IL
<http://www.europeancrystalbanquets.com/home.html>

Dinner Choices: Beef Brochette, Orange Roughy, or Penne Pasta with Roasted Vegetables along with salad, and chocolate mousse for dessert.

Cost:

Members - \$35	Unemployed Members - \$15
Students - \$5	Non-Members - \$40

Agenda:

5:30-6:30 pm	Social & Registration
6:30-7:30 pm	Dinner
7:30-8:00 pm	Elections and Section Announcements
8:00-8:45 pm	Presentation

Presentation Summary

China, Russia, Sweden, the EU, and the US all plan manned missions to the moon. Science, prestige, inspiration, and strategy are motivations for lunar exploration. Yet it may be the economic rewards which motivate striving for a permanent foothold on another world. The Russians plan to return with Helium-3, which they believe is the secret to safe, cheap fusion power. The Swedes plan to build vehicles for future exploration projects. China seeks platinum group metals while Americans want new tourist destinations. For all this to be possible, the frightening cost of rocket launches must be lowered dramatically. The best lever to lower launch costs is reducing launch mass. One way to lower launch mass is to avoid launching completely by establishing factories in space. Factories which can convert moon rocks into useful raw materials will be the foundation of a cis-lunar economy. Oxygen production would be the highest priority because it is essential to life support and the largest component of rocket fuel mass. Aluminum and iron are next, for habitats, for electrical cables, and for rails. Then, we need silicon, to build solar cells capable of capturing pure sunlight and eventually beaming energy back to the earth. Solar power satellites built from lunar materials have the potential to deliver baseline power to all of humanity without pollution. This presentation will describe a breakthrough method of oxygen and silicon production in technical detail. With metrics up to 3X better than existing methods for oxygen extraction, this new lunar factory can produce 40X its own mass in product each year! Augmented with other extraterrestrial manufacturing devices, a radical transformation of how mankind uses space is at hand.

Dr. Peter J. Schubert

Dr. Schubert received his BS degree in physics from Washington University in Saint Louis. He then attended the University of Cincinnati where he received his master's degree in Electrical Engineering followed by his PhD from the Purdue University in Electrical and Computer Engineering. His work experience includes 20 years with Delphi Corporation where he was a Technical Fellow working in automotive electronics. He has 26 patents along with over 50 technical publications. He has served as principle investigator on research grants from DOE, NASA, GSA and US Department of Agriculture including the just announced \$1 million grant in biomass gasification technologies.

Upcoming Events:

> [May 14-AICHE-Chicago Local Section Meeting](#)

> [Fall Symposium- Volunteer Recruitment- See page 2](#)

Announcing
Chicago AIChE 3rd Annual Technical Advances Symposium
 And
Student Outreach Program
 September 21-23, 2008
 University of Illinois at Chicago
CALL FOR VOLUNTEERS

Co-Sponsors:

AIChE National, AIChE YPAB and UIC College of Engineering

AIChE National has asked the Chicago Section to transition its Annual Fall Symposium into a national regional meeting. Accordingly, we will begin this multi-year process by expanding the program considerably over last year's successful effort. Look at the agenda below and see where you wish to get involved. Also, browse to www.iche-chicago.org/symposium for an idea of last year's program and participants. The program will continue its engineering practice focus and student outreach.

Contact Mike Schultz, UOP Mike.Schultz@uop.com, (847) 375-7895, jefferyperl@chichem.com, 312-226-2436 for more details, or see the Chicago symposium website and contact your favorite volunteer from last year. Last year 35 local section members helped make this program happen. This year we would like to welcome them back as well as others.

Note: Professional Engineers can earn up to 16 Professional Development Hours (PDH). Symposium elements include academic, government and industrial presentations, and university and high school student outreach.

1. *Sunday, 21 September*

University Student Program (inviting students from multi-state region, attendees may be several hundred)
 AIChE Young Professionals Advisory Board (YPAB)
 to Co-Sponsor

How to be an engineer after graduation: non-technical
 focus on meeting workplace expectations

Job Fair

Evening Welcome Reception for Overall Conference

2. *Monday, 22 September*

Technical Tracks - Target 200-300 attendees
 2 Industrial – Practical Plant Operation and Design
 Focus

1 Academic - Research & Development programs
 ready for implementation

High School Engineering Career Outreach Program

Estimated attendance 375-500 students

Hull House Tour

Campus and Other Tours

3. *Tuesday, 23 September*

Technical Tracks – Same as Monday
High School and Community College Outreach
YPAB University Job Fair
 Society Dinner Meeting

Technical Program focused on Midwest engineering
 interests including developments in:

Energy
 Refining
 Biofuels
 Food Engineering
 Pharmaceuticals
 Environment, Safety and Occupational
 Health

This program builds on success from last year and adds
 ESOH and Pharma, two very large specialties for
 the Midwest region.

Chemical Engineering relies heavily on cooperative efforts of all disciplines. Last year Chemical, Mechanical and Electrical/Computer Science Departments participated. This year we should involve all Engineering Disciplines.

MAY 14 AICHE CHICAGO ELECTIONS—PROPOSED SLATE FOR 2008
PLEASE NOTE THAT THE OFFICER ELCTIONS FOR FISICAL YEAR JULY 1, 2008—JUNE 30,2008
WILL BE HELD DURING OUR MAY MEETING. IF YOU CANNOT ATTEND PLEASE CONTACT HEATHER
MAYES (AICHECHICAGO@GMAIL.COM) FOR AN ABSENTEE BALLET.

Chair - Patrick H Shannon, PE
shannoph@middough.com

Pat Shannon is a Senior Staff Engineer at Middough's Process Department. He holds a BSChE from Purdue University and an MSChE from the University of Houston. Pat has over 30 years experience in chemical process engineering. Most of this experience has been with engineering and construction (E&C) companies, primarily in the Chicago area. Pat has worked on the design of petroleum refining, pharmaceutical, chemical, food and ethanol facilities in capacities from pilot plant to expansions to full commercial scale. His experience has included project/process manager for smaller projects, lead process engineer for large projects, and process department manager and engineering department manager. Pat's other specialties include plant design HAZOP and startup.

Pat has served as a Session Chair for each of the last two and upcoming AICHE Chicago Section Symposia where he draws from his biofuels E&C experience to provide the section with practice based updates in this topic of national importance. He has presented papers at AICHE meetings and has served as ad hoc section board member for the past four years. He serves as AICHE industrial liaison at Middough where he has encouraged and mentored young professionals in their engineering career and AICHE activities.

Pat has been a member of AICHE for over 30 years and is a licensed professional engineer (PE) in the State of Illinois.

Pat and his wife Silvia have spent much of their free time for the last twelve years restoring an 1886 Victorian house in Oak Park.

Chair Elect - Reza Mostofi
Reza.Mostofi@uop.com

Reza Mostofi is a chemical engineer at UOP's mechanical technology team where he is involved in trouble shooting and new process development using computational fluid dynamics (CFD). Before joining UOP, Reza has worked as a post-doc at Illinois Institute of Technology where he also obtained his PhD in Chemical Engineering 2002 and his MS in 1998. He received his BS in ChE in 1989 from Tehran Polytechnic University, Iran. He is currently teaching part time in one of the Chicago City Colleges.

Reza has been a member of AICHE since 1996 and has been an active member of the Chicago local section from 2005. He has served as AICHE national meeting's session chair and he is recently elected as the vice chair of one of the AICHE particle technology forum subgroups.

Vice Chair Programming - Steve Rosenblum
Steve.Rosenblum@uop.com

Steve Rosenblum is a Senior Applications Specialist at UOP where he supports all simulation products at UOP and creates tools to help UOP engineering with its work processes. He has been a member of AICHE since 1977. He has been active in the Chicago section since 2005 where he took on the role as membership chairman. Steve has a Bachelor of Science degree in Chemical Engineering from Cornell University and a Masters of Science degree in Chemical Engineering from Northeastern University. Steve previously worked for Badger Engineering as a design engineer, and ABB Simcon as a dynamic simulation and optimization engineer prior to joining UOP in 1997.



(continued)-PROPOSED SLATE FOR 2008

Treasurer - Mike Schultz

Mike.Schultz@uop.com

Mike Schultz is a Research Engineer at UOP in Des Plaines, where he currently holds a position in the Exploratory Platforms Group in UOP's Research Department. In this role, he is responsible for techno-economic analysis and preliminary process design of new technologies being evaluated for UOP's portfolio. Prior to this, he held positions in the Aromatics, Derivatives, and Polymers Development Center and the Process Design Development group.

Mike has been active in the Chicago section of the AIChE, most recently serving as Chairman of the House Committee. He also has assisted with the planning of the Fall Symposium. Mike is also active at the national level with the Fuels and Petrochemicals Division.

Mike holds a BS in Chemical Engineering from the University of Michigan, and a Ph.D. in Chemical Engineering from the University of Massachusetts-Amherst.

Secretary - Steve Schade

sschade@ambitech.com

Steve Schade is a Senior Engineer at Ambitech Engineering, which he joined in 2005, working primarily on projects for clients in the petroleum industry. Previously he was employed at UOP, specializing in aromatics processes. Earlier in his career he was involved in process development work with IGT, Searle, and USG. Steve has BS and MS degrees in Chemical Engineering from the University of Missouri at Rolla (now Missouri University of Science & Technology). He has been active on the AIChE section Student Outreach committee, giving presentations at schools and helping prepare displays for Chemistry Day and Engineers Week.

Director at Large - Dennis O'Brien

Dennis.O'Brien@jacobs.com

Dennis O'Brien is a Group Manager with Jacobs Consultancy in Chicago. He received a BS in Chemical Engineering from Tulsa University and an MBA from Roosevelt University. Chicago AIChE past activities include Secretary, Treasurer and Chair of the Chicago section. He is also has been involved in the planning of a number of the Spring and Fall section symposia. National activities include serving as a director of F&PD and he is currently Spring 2009 co-MPC and treasurer of F&PD. He is a Fellow of the institute.



CHICAGO SECTION AICHE WANTS YOU

Chicago Section AICHE and its programs are run by volunteers. In addition to officers, we have eighteen standing committees. Each of these committees needs at least one volunteer – preferably multiple volunteers.

While all committees need additional members, we desperately need volunteers for the following committees which lack even a chairperson:

Career Guidance
Government Interaction
Public Relations
Awards & Nominations
Continuing Education
Job Postings
Professional Development
YPAB
Constitution & Bylaws
Industrial, Academic, & Government Liaisons

Official duties for these committees can be seen at the http://www.aiche-chicago.org/Section_Info/Bylaws.html [Article VI. Committees](#) on the section website. But all that is really required is a desire to help.

We will have training sessions this summer and a mentor list for all that volunteer. Please review this list, decide how you would like to serve your professional society, and send an email to sbrown@ambitech.com, jefferyperl@chichem.com, or jmylar@northfield.com. **WE NEED YOUR HELP.**



AICHE Chicago Voices— What are local section members doing and saying?

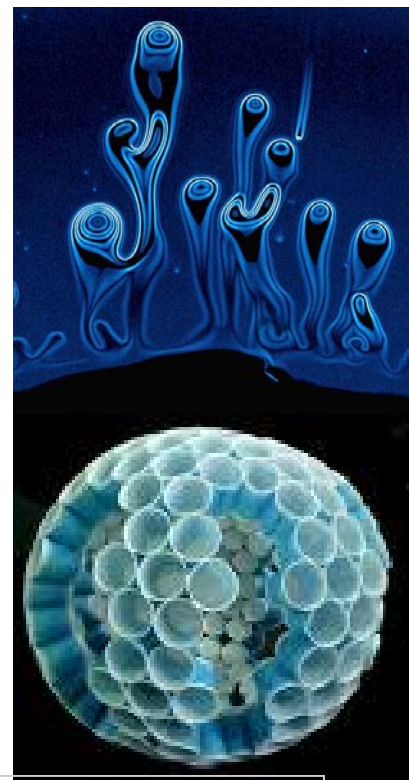
National Engineers Week

Five AICHE members represented our profession to hundreds of children at the National Engineers Week celebration at IIT Wheaton on February 23. Our volunteers, led by Steve Schade, included Shannon Brown, Nelida Flores, Tom King, and Jessica Swary. The presentation focused on chemistry in the kitchen. We showed how baking and cooking are examples of such principles as kinetics and heat transfer. More than 200 students stopped at our table to talk and get free plastic eggs with Silly Putty inside.



Calendar of Events

May, 14 2008	AIChE-Chicago Local Section meeting and elections. See Page 1
June 22-25, 2008	<p align="center"><u>2008 Process Development Symposium</u> AICHE National Process Development Division The Berkshires, Hancock, MA</p>
November 16-21, 2008	<p align="center"><u>2008 Annual Meeting</u> (AIChE 100th official commemoration) Philadelphia Marriott & Pennsylvania Convention Center Philadelphia, PA</p>
September 21-23,2008	<p align="center">Chicago AIChE 3rd Annual Technical Advances Symposium And Student Outreach Program September 21-23, 2008 <u>www.aiche-chicago.org/symposium</u></p>
October 24-25	<p>Fundamentals (FE) and Professional (PE) Engineer Exam Dates are: 2008 FE and PE Exam Dates</p> <p align="center">PE October 24 FE October 25</p> <p>More info at: http://www.ncees.org/exams/schedules/ Contact State of Illinois for application materials: http://www.idfpr.com/dpr/apply/pe.asp</p>
Fall 2008	<p align="center">IEC Awards Banquet ACS Chemistry Day</p>



“Art without engineering is dreaming; Engineering without art is calculating.”

- Steven K. Roberts



NOMINATIONS REQUESTED FOR

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.

Thank You for your recent nominations and this years Thiele award recipient will be announced soon. 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

Further information at: <http://www.aiche-chicago.org/>

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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 aichechicom@aiche-chicago.org with "newsletter article request" as a subject heading.



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					

- For the purchase of a year ad, customers have the option of changing ads/jobs month to month.
- They are not stuck with the same ad/logo for the whole year.
- Student and AIChE Member Related Postings are Free

