



The Reactor Turnaround

New Orleans Section -
American Institute of
Chemical Engineers

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Editor

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Welcome to another issue of **"The Reactor Turnaround."**

If you will recall, we implemented **"The Reactor Turnaround"** for those months for which there were no section meetings — and as a way to keep open the lines of communication during those "off" months. That does not mean there is not a lot of information in this issue. Quite the contrary, you may be surprised what has been packed into this shorted version.

You may still visit our website to see the meeting schedule for the remainder of the year etc. www.aiche.org/neworleans.

Although our section does not have a meeting this month of December — I encourage you to consider

the New Orleans Section of the LES (Louisiana Engineering Society) "Christmas meeting."

The details are as follows:

December 17th at Impastato's. Speaker: Manny Zueluta with NASA. Manny's topic will be: New Directions for Stennis / Michoud.

Please contact: Julie Lloyd at:

loydsofnola@yahoo.com to make reservations or to ask any questions about this meeting.

Again, this is an LES function which is open to N.O. AIChE members.

The N.O. Section of AIChE will return on January 12th with our meeting being held at Bull's Corner in LaPlace. Our speaker will be Charlie Speed with Shell. Charlie will be speaking to us about corrosion issues in Refineries and Chemical Plants. Look for the January newsletter for more details.

Also of note is the up-

coming **14th Annual Joint Engineering Society Conference to be held January 28 and 29.** This year's conference is scheduled to be held in Lafayette, LA.

More information will be forthcoming soon. If you think you would be interested in being a speaker for this event — please be sure to get in touch with me at:

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The section gets a portion of the conference proceeds based on the number of speakers and or attendees from our section we have participating.

Inside this issue:

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Finally, do not forget that Dr. John Prindle is offering his P.E. Review class this coming February. Please go to the section website for full details including dates and cost. Several members have taken this review course and have found it of great benefit.

Future Meeting Programs

If you have any suggestions for programs that you would like the section to schedule— Please contact Linda Bergeron at:

linda_bergeron@oxy.com



AIChE's 2010 Spring Meeting and Sixth Global Congress on Process Safety



Call for Papers

Proposals to present at AIChE's 2010 Spring Meeting and Sixth Global Congress on Process Safety are due by Dec. 1. The event, to be held at the Grand Hyatt San Antonio from March 21 to 25, will include a plenary session on energy efficiency, the Ethylene Producers Conference, the Natural Gas Utilization

Conference, the Center for Chemical Process Safety International Conference, and symposia on loss prevention, process-plant safety and refinery processing.

March 21-25, 2010
Grand Hyatt San Antonio
San Antonio, TX

Call for Papers-Now Open

The AIChE Spring Meeting is the year's key technical conference for practicing chemical engineers. A wide range of subjects relevant to the current needs of industry is covered. Plus, the Global Congress on Process Safety covers the critical needs of

process safety practitioners more broadly and deeply than any other conference.

Highlights of the 2010 meeting include:

Spring Meeting Keynote Address (Monday, March 22) - [Lisa P. Jackson](#), Administrator, U.S. Environmental Protection Agency (Invited)

Energy Leadership Keynote Address (Monday, March 22) - [John D. Hofmeister](#), Founder and CEO, Citizens for Affordable Energy

Energy Efficiency Plenary (Tuesday, March 23) - [Amory B. Lovins](#), Cofounder, Chair-

man, and Chief Scientist, Rocky Mountain Institute

The [6th Global Congress on Process Safety](#) featuring the 25th CCPS International Conference, the 44th Loss Prevention Symposium and the 12th Process Plant Safety Symposium

22nd Ethylene Producers' Conference

13th Topical Conference on Refinery Processing

10th Natural Gas Utilization Conference

Plus, topical conferences on Advanced Fossil Energy Utilization, Clean Energy, Distillation, Greenhouse Gas Management, Sustainability and more.

"Chemical Engineer—Who We Are"

Avoiding Conflict by "Speaking Softly"

Faced with the possibility of direct conflict with the ACS, AIChE decided on a course of action designed to minimize rivalry and remain on as good of terms as possible. It accomplished this in three main ways:

1) Utilizing very restrictive membership criteria (through 1930) so as not to pose a threat to ACS membership. Part of this exclusive criteria required a full 10 years of industrial experience (5 years if you had a B.S.), thereby excluding most chemists in academia from full membership. This selective criteria made membership very attractive to those who could gain it and many compared AIChE membership to belonging to an exclusive men's club.

2) Emphasizing a role in which AIChE membership would compliment, not compete with, ACS membership. By requiring industrial experience, the first wave of AIChE members included chemical manufactures, plant management, and consultants (the group formerly called production chemists, This provided a distinct departure from the typical ACS member which was more likely than not to be associated with academia.

3) Finally, AIChE avoided conflict by always approaching possible problems with the utmost discretion. Whether it was membership criteria or the societies political activities; AIChE always acted in a methodical and conservative fashion. An ex-

ample of this occurred in 1920, when the Institute considered adding a new class a membership so analytical chemists working in industry could also gain membership. However, it was recognized that this action conflicted with a founding principle that the Institute should cover a professional field not already represented by other societies. As usual, slow sustained growth was recognized as the way to establish the profession while not stepping on too many toes along the way.

The conservative course of action undertaken by AIChE may have slowed membership growth, but it certainly helped bring chemical engineers and chemists into a state of cooperation rather than competition.

How To Define Professional Boundaries?

Another challenge facing chemical engineers involved defining who they were and how they were unique? How the AIChE answered these questions had a tremendous impact on the industrial territory chemical engineers could lay claim to.

Certainly one way the profession could be defined was through the formal education its members received. Because of this AIChE spent a lot of time and effort evaluating and improving educational activities.

They strove to standardize the chemical engineering education which was often erratic and inconsistent. But how exactly to improve education? In an age when chemical engineers learned mountains of

(See "Who We Are" on page 4)

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Optimism for Green Tech Sector points to more IPOs



* Mature green technology company IPOs expected in 2010

* More funds seen flowing into green sector

* Low-carbon economy seen predominant theme going forward

By Poornima Gupta

“Who We Are”

industrial chemistry; where each chemical had its own long and varied history of production, what central theme could chemical engineering education rally around?

The answer came in 1915, when in a letter to the President of MIT, Arthur Little stressed the potential of "unit operations" to distinguish chemical engineering from all other professions and also to give chemical engineering programs a common focus.

Unit Operations, The "Big Stick" of Chemical Engineering

In transforming matter from inexpensive raw materials to highly desired products, chemical engineers became very familiar with the physical and chemical operations necessary in this metamor-

SAN FRANCISCO, Nov 25 (Reuters) - Purse strings are loosening, new bets are being placed, and cautious optimism has caught on in the green technology sector.

With oil prices up sharply and the U.S. economy steady, the emerging green technology industry is seen moving back to a growth path from a sheer survival track, with factories being built, funds moving to research and some high-profile young firms mulling initial public offerings of shares.

Venture capitalists, investment bankers and company executives say 2010 will be

phosis. Examples of this include: filtration, drying, distillation, crystallization, grinding, sedimentation, combustion, catalysis, heat exchange, extrusion, coating, and so on. These "unit operations" repeatedly find their way into industrial chemical practice, and became a convenient manner of organizing chemical engineering knowledge. Additionally, the knowledge gained concerning a "unit operation" governing one set of materials can easily be applied to others. Whether one is distilling alcohol for hard liquor or petroleum for gasoline, the underlying principles are the same!

The "unit operations" concept had been latent in the chemical engineering profession ever since George Davis had organized his original 12 lectures around the topic. However, it was Arthur Little who

marked by some of the more mature start-ups testing public enthusiasm for companies that have big growth potential, but little profit.

Experts see energy efficiency and green lighting technology gaining more attention in 2010. Next year should also mark the launch of electric or plug-in hybrid vehicles from giant global auto makers such as Nissan Motor Co Ltd and General Motors Co [GM.UL], and expansion by smaller players like Tesla Motors.

"Next year should be a pretty good year for public markets," said Bryce Lee,

managing director at Credit Suisse and co-head of the bank's alternative energy group. "We will see a fair amount of IPOs."

Lee, speaking at a recent industry conference, predicted that smart grid networking company Silver Spring Networks is one of the companies most likely to go public.

Silver Spring, which has a revenue run rate of over \$100 million this year, has said it is considering an IPO but has not publicly detailed any timeline.

Silicon Valley-based electric carmaker Tesla is also preparing to go public, sources have told Reuters.

(See "Green Tech" on page 5)

first recognized the potential of using "unit operations" to separate chemical engineering from other professions. While mechanical engineers focused on machinery, and industrial chemists concerned themselves with products, and applied chemists studied individual reactions, no one, before chemical engineers, had concentrated upon the underlying processes common to all chemical products, reactions, and machinery. The chemical engineer, utilizing the conceptual tool that was unit operations, could now claim to industrial territory by showing his or her uniqueness and worth to the American chemical manufacturer.

Educational Standardization & Accreditation

While the "unit operation" concept went a long way in standardizing the chemical engineering curriculum, it did not solve the whole problem. A

1922 AIChE report (headed by Arthur Little, the "originator" of the "unit operation" concept) pointed out the continuing need for standardization due to chronic divergence in nomenclature and inconsistencies in course arrangement and worth. Again AIChE took action by making chemical engineering the first profession to utilize accreditation in assuring course consistency and quality. AIChE representatives traveled across the country evaluating chemical engineering departments. In 1925 these efforts culminated with a list of the first 14 schools to gain accreditation. Such efforts were so effective in consolidating and improving chemical engineering education that other engineering branches quickly joined the effort, and in 1932 formed what would later become the Accreditation Board for Engineering and Technology (ABET).

(Continued from page 4)

“Green Tech”

Silicon Valley had seen funding for green companies dry up in the aftermath of the collapse of Lehman Brothers last year, but sentiment has changed.

"I am very optimistic as we leave 2009 and enter 2010," said Tom Baruch, founder of San Francisco-based CMEA Capital. "We will see a lot of money coming into this space."

"The low-carbon economy will absolutely be the predominant theme in our economy going forward," he added. "It's going to drive growth."

"As long as oil prices keep going up, we are going to see more and more replacement of fossil fuel," Baruch said.

'BRING ME YOUR BUSINESS PLANS'

CMEA Capital was one of the few venture funds brave enough to test the public market this year with the IPO of lithium-ion battery maker A123 System Inc. It had a smash-hit debut, as the shares soared 50 percent on their first day. Baruch foresees more IPOs next year, which would "fire up people's enthusiasm in investment in the green space."

Companies involved in green technology -- including everything from renewable energy, electric vehicles and energy storage to better power transmission -- saw funding shrink earlier this year as oil prices tumbled and the U.S. economy slumped.

Companies with capital-heavy technologies really felt the pinch. Project financing and debt capital all but dried up.

"The last year has been incredibly difficult and sets a pretty low bar," said Jennifer Fonstad, a managing director at venture fund Draper Fisher Jurvetson.

With so little funding available, the year also saw the U.S. government play the unlikely role of venture capitalist. Aggressive stimulus from the U.S. Department of Energy, which has pledged nearly \$100 billion to back a wide variety of green technology, helped prevent the sector's collapse.

Now, Silicon Valley is back in the game.

"We see a bunch of new opportunities that are well priced," Fonstad said, adding that her firm plans to invest broadly in the sector.

The Westly Group, another green venture capital firm that recently closed a \$130 million fund, is soliciting business plans, and founder Steve Westly believes the green sector could propel a boom in the United States.

"This is a big, big industry," he said. "These things are here to stay."

Westly, a former California state controller and eBay Inc executive, is especially bullish on smart grid firms.

"Bring me your business plans," he told an industry gathering last week. "We are ready to start funding."

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Institute and Board of Directors' Awards

Deadline: The postmark deadline for 2010 Institute and Board of Directors' award nominations is February 15, 2010.

New: Electronic submission of nominations

Beginning in Fall 2008, hard copy submissions of nomination materials for Institute Awards will no longer be accepted.

The completed nomination form, cover letter, letters of support, and other supporting documents must be collected and saved in electronic form (the entire nomination placed into a single PDF file is preferred) on a single CD, and mailed to the location indicated on the nomination form.

[Institute and Board Award Nomination form](#) (MS-Word format)

New: [AIChE Awards Selection Committee Operating Guidelines](#) (posted September 2009)

To obtain eligibility or nomination information, visit the [Award Provisions](#) page.

Institute Awards

[Allan P. Colburn Award for Excellence in Publications by a Young Member of the Institute](#)

[Alpha Chi Sigma Award for Chemical Engineering Research](#)

[Award for Service to Society](#)

[Engineering and Construction Award](#) (New for 2010)

[Corporate Innovation Award](#)

[Industrial Research & Development Award](#) (New for 2010)

[Industry Leadership Award](#) (New for 2010)

[Institute Award for Excellence in Industrial Gases Technology](#)

[Lawrence B. Evans Award in Chemical Engineering Practice](#)

[Process Operations Award](#) (New for 2010)

[Professional Progress Award for Outstanding Progress in Chemical Engineering](#)

[R.H. Wilhelm Award in Chemical Reaction Engineering](#)

[Sustainable Energy Award](#) (New in 2009)

[Warren K. Lewis Award for Chemical Engineering Education](#)

[William H. Walker Award for Excellence in Contributions to Chemical Engineering Literature](#)

Board of Directors Awards

[F.J. & Dorothy Van Antwerpen Award for Service to the Institute](#)

[Founders Award for Outstanding Contributions to the Field of Chemical Engineering](#)-- NOTE: The monetary prize associated with this award is contingent on the identification of a sponsor. Contact awards@aiiche.org if you have questions or an interest in sponsorship.

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Serving Chemical Engineers.... Who
Serve the World

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Quote of the
Month

“Along with success comes a reputation for
wisdom”

— Euripides
Greek scholar and poet

New Orleans Section, Winner of:

1995 “Randall D. Sheeline Award”, for excellence in public relations activities.

1999 “Catalyst Grassroots Award”, for support of the grassroots advocacy program.

2001 “Marx Isaac’s Award”, for excellence of a small local section newsletter.

