

### CEO Lecture Series January 20th, 2009 Union League

**J**oin us on January 20, 2009 at the Union League of Philadelphia to hear Mr. Vincent Kelley, Senior Vice President of Refining and Supply for Sunoco, Inc. discuss the challenges facing the petroleum refining business today.

Vince Kelley was appointed Senior Vice President of Refining & Supply in October 2008. Kelley is responsible for the management of Sunoco's refineries in Philadelphia and Marcus Hook, PA; Westville, NJ; Toledo, OH; and Tulsa, OK with approximately 910,000 barrels a day of crude oil capacity, and for all commercial supply and trading activities involving crude and products as well as wholesale marketing and transportation operations for the Company's five refineries. This includes all sales, pricing, inventory and marketing decisions, including responsibility for strategic business plans for each product line.

He joined Sunoco in September 2000 as manager of the Philadelphia Refinery and was named vice president, Northeast Refining March 2001. In February 2006 Vince was appointed senior vice president, Refining.

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*Vince Kelley is responsible for Sunoco refineries that produce 910,000 barrels a day of crude oil*

**Meeting Date:** January 20, 2009

**Tour Location:** Union League

**Please note:** The League requires a jacket and tie be worn by men, and appropriate attire for women. Jeans, denim wear, or sneakers are not permitted

**Times:** 6:00 PM Reception  
7:00 PM Dinner  
8:00 PM Speaker

**Buffet Dinner:**

\$50.00 per person  
\$35.00 per recent graduate (three years or less)  
\$25.00 per student  
Cash Bar

Please confirm your attendance no later than **Friday January 16, 2009**. Register under the "Events" link at [www.aiche-philadelphia.org](http://www.aiche-philadelphia.org)

For questions, please contact Doug Kriebel at [dkriebel@kriebel-ltd.com](mailto:dkriebel@kriebel-ltd.com) or 215-364-3400.

### Chair's Chat

An Outstanding Year  
By Zenaida Gephardt, PhD, PE

**O**ur section played an important role in making the 100<sup>th</sup> Anniversary AICHE National Meeting in Philadelphia a great success. Thank you to all our members who volunteered and contributed to this effort. The meeting highlighted the quality of our section. We have a strong, active section with highly motivated professionals who know the importance of contributing to the profession. The Section hosted a dessert reception for educators and it was a great event. Our thanks to Doug Kriebel who arranged for us to host the reception at the Union League. The event was an opportunity to engage with our educator colleagues and stress the importance of academic/industrial collaboration. We also co-hosted the 100<sup>th</sup> Anniversary party at the Constitution Center and one day of the Internet Café. Our section was visible and active at the meeting. Flyers and information about our section and events were distributed in the registration area and throughout the meeting. It was a job well done, and representative of what our section does every day. We look forward to more involvement with National since our treasurer, Ken Ford, was elected to a National Operating Council for a three year term. Congratulations Ken!

As we wrap up the year, it is important to celebrate our successes and

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**Asset Criticality Assessments – What Can They Buy You,**  
by Eric Sipe, PE Project Manager, CDI Life Sciences

**O**n a recent project the facility was almost finished and yet there was over 1 million dollars available to buy spare parts. This may sound like a lot of money but a new manufacturing facility has a lot of process and infrastructure systems that need to run in order to make the facility viable and profitable. So how does one go about prioritizing the systems and other assets in order to optimize the use of the available capital for spare parts procurement? In our case we developed an asset criticality assessment flow chart which allowed us to prioritize the facility assets based on a number of criteria. The criteria included the following: asset's likelihood to impact operations throughput, asset's uniqueness, asset's availability from supplier, asset's impact on the overall facility (infrastructure asset or non-infrastructure asset), asset's level of redundancy (installed spare, shelf spare, single available asset), and the asset's anticipated frequency of failure, breakdown, or PM. By assessing each asset or system against such criteria one can determine the relative importance (priority) and vulnerability (risk) associated with each asset and thereby prioritize the use of available capital for spare parts and/or spare assemblies for the new plant. This approach can also be used in the design phase of a project to evaluate the benefit of providing installed spares or spare capacity for assets based on their criticality to the operation of the plant.

Once the criticality for all assets is defined then several levels of sparing philosophies can be determined for that asset. These sparing philosophies could be procuring a shelf spare or procuring individual critical spare parts. Each of these philosophies will have capital cost implications as well as downtime implications. If an asset is a high priority asset that isn't readily available then one might choose to procure a shelf spare; however a shelf spare may consume too much capital so the second level approach of stocking spares of critical wear or failure parts may need to be implemented. As you can see this leads to the need to know the vulnerabilities of assets and their sub-components. This may lead to a failure modes and effects analysis (FMEA) or at a minimum a sit-down with someone who has a lot of experience with equipment to determine where the vulnerabilities lie. This in-house evaluation coupled with manufacturer's recommended spare parts lists and experience with their own products can lead to a more scientific and statistical approach to defining spares requirements. The days of the maintenance stores clerk alone defining what spare parts will be stocked can be revised to include a technical evaluation to determine what parts will provide the manufacturing facility with the greatest opportunity for success. In the end it may turn out that based on your risk assessments that you need to spend more on spares than originally allocated in order to make the plant more reliable over the long run. This in turn; over the long run, will improve the facility's online time and will thus make the facility more profitable.

Don't think of spares as the ugly step sister anymore. Instead, look at spares as vital capital purchases that can provide vital protection for strategic money producing assets. Appropriately identified and procured spares can and will pay for themselves in the short term and over the long haul; by keeping a facility and its manufacturing equipment running.

## CEO Lecture Series

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Prior to joining Sunoco, Kelley was with ExxonMobil where he held a number of operations, maintenance, technical, business planning, environmental, health and safety positions at the Paulsboro, NJ and Torrance, CA refineries, and Fairfax, VA headquarters.

Kelley received both a Bachelor's Degree in Mechanical Engineering in 1982 and a Masters Degree in Engineering Management in 1986 from Drexel University.

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**CHEMICAL CONSULTANTS NETWORK  
JANUARY 14, 2009 MEETING**

[Visit our NEW web page at www.chemconsultants.org](http://www.chemconsultants.org)

**Date & Time:** Wednesday, January 14, at the Cynwyd Club, Bala Cynwyd, PA; Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM

**Speaker Topic:**

**RESOURCES FOR CONSULTANTS**  
*A ROUND TABLE DISCUSSION*  
**JOHN NEWPORT**

**Abstract:** Finding cost effective resources presents a challenge for many consultants. In this Round Table, options will be presented that cover such topics as: finding work, networking, advertising, legal, business, searching the literature, patents, education and skills development, language translation, software etc. Coupled with the ideas and experience of the audience this will lead to the development of a comprehensive list of resources that will be useful to all.

**Biography:** Dr. John Newport provides consulting and R&D services through Chemventive LLC and ChemInnoLab LLC, in which he is a partner. Previous to this he was a Senior Research Fellow at Hercules Incorporated where, in his 34 year career there, he worked on the R&D side of the fibers, film, RIM, resins and paper businesses. His areas of expertise cover polymer chemistry, surface chemistry, rheology and transport phenomena.

**Location:** The Cynwyd Club, 332 Trevor Lane, Bala Cynwyd, PA 19004

**Reservation:** To make or cancel a dinner reservation, e-mail [CCNReservations@aol.com](mailto:CCNReservations@aol.com) or call the ACS office at 215-382-1589 (leave message on voicemail if necessary).

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### Member News

John A. Tallmadge Jr., 80, of Media, a chemical engineer and professor emeritus at Drexel University, died of heart failure June 7 at home.

Professor Tallmadge joined Drexel's faculty in 1966. In 1973, he was honored as an outstanding teacher by Drexel's College of Engineering. In 1974, he was a Fulbright lecturer at the University of New South Wales in Sydney, Australia. He was also a visiting professor at several universities in the United States and at the Imperial College in London. He retired in 1991. Professor Tallmadge, an authority on the fluid mechanics of precision coatings, authored 78 articles in professional journals. He sponsored a biennial award from the American Institute of Chemical Engineers for contributions to coating technology and endowed scholarships at Lehigh University and Drexel.

A native of Allentown, Professor Tallmadge earned a bachelor's degree from Lehigh and a master's degree and doctorate in chemical engineering from Carnegie Mellon University. He served in the Army Reserve from 1948 to 1964.

For three years, he did research for DuPont laboratories in Delaware and North Carolina, and then taught at Yale University for 10 years before joining Drexel.

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#### William Youngblood Participates in Mock Trial on Pharmaceutical Patent Infringement Case

Entitled: *Paragraph IV: On Trial*

**P**hiladelphia, Pa. December 9, 2008. William C. Youngblood, a partner in the intellectual property law firm of Caesar, Rivise, Bernstein, Cohen & Pokotilow, was one of the distinguished panelists of patent lawyers from around the country who conducted a "mock trial" of issues faced by patent litigators under the Hatch-Waxman Paragraph IV disputes. The Conference panelists "dissected" the ins and outs of these Paragraph IV cases which involve litigation between a generic and brand name pharmaceutical manufacturer over a drugs' patent.

Mr. Youngblood played the role of a patent law expert and provided testimony to prove the elements of inequitable conduct during prosecution of a patent application before the United States Patent and Trademark Office.

Mr. Youngblood handles all aspects of intellectual property law (patents, trademarks, copyrights, trade secrets, etc.), with particular emphasis on assisting engineers, scientists and business owners in the preparation and prosecution of patent applications as well as the resolution of patent disputes. Bill received his B.S. in Chemical Engineering in 1988 from Drexel University and his law degree in 1998 from Temple University School of Law. He served on active duty for five years in the U.S. Navy and is currently a Major in the U.S. Army Reserve serving as a Judge Advocate. Bill is a member of the Philadelphia Intellectual Property Law Association and the American Institute of Chemical Engineers (AIChE).

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## Chair's Chat

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look at what is ahead. The New Year is already looking exciting and successful for our section. Please remember to register early for the CEO lecture on January 20. Vince Kelley, Sr. Vice President of Sunoco is our speaker and it promises to be an informative and interesting event. As usual, the CEO lecture will be held at the Union League. It is always a wonderful opportunity to see old colleagues and meet new ones over a terrific meal and an informative and timely presentation. Planning for the Emerging Technologies Symposium is well underway. This year, the topic is process intensification. We have four of the leading experts in the area. The symposium will be held at the Chemical Heritage Foundation in Philadelphia. Their newly remodeled building is a perfect venue for this event. The Student Awards are in April and we need you to volunteer to be a judge. Students offer us their best laboratory and design reports. Let's encourage them to succeed and continue to offer their best by recognizing their work. Please contact Ken Rollins, David Salas or me to volunteer and be part of this important effort. Scott Smith is up and rolling planning for the Golf Outing in June. Please join him and Chuck Clerecuzio and volunteer for this event. We need sponsors and general planning. It is a fun way to contribute to the section. If you have not received the Constant Contact about this event, please contact Scott or Chuck.

Please plan to attend our planning meetings and events in the coming year. There is much to be gained by contributing to the profession. I would like to especially thank our officers, Section Committee chairs and our Board of Directors. These are some of the most committed and graceful people I know. Come and join this outstanding group of engineers who generously contribute to the profession and their communities every day. Contact any one of us and become involved. Make and keep a New Year resolution to be involved and advance your career and the profession. From all of us, best wishes for a happy and safe Holiday Season and New Year.

## Doom and Gloom not for Chemical Engineers. By Professional Development Chair Mark DeLuca

**T**he headlines are filled with doom and gloom predictions for the economy. What they have been calling the R word for the last year is officially recession as of Dec 1 2008. It was declared to have started Dec 2007. Home prices and 401K plans are worth half of what they were a year ago. So how does the job market look for chemical engineers? It is surprisingly good!

Since 1989, I have been tracking, who is looking for work, and who is looking to hire AIChE members, from our pool of talent here in the Delaware Valley. The worse year was 2003, when over twenty members were looking for work. Right now, I am aware of only three members looking for work.

In contrast, people seeking to hire chemical engineers call about three times per day. There are jobs going begging for people. Admittedly, most of these jobs are not the ideal jobs of the 1970s and 80s. Those jobs had clear work objectives, you worked for stable companies, and you could reliably coach your kid's soccer team after work. Most of the jobs in these calls require travel. Pay has not kept up with inflation either. Many employers are looking for experienced people at entry-level wages. Then again, they are calling only with the jobs that haven't been easily filled.

This year marks my 20th as a professional development chair, first for Central Jersey now for Delaware Valley. In that time, I have accumulated a list of staffing professionals that are hungry for resumes of chemical engineers. The recruiter's name, company and phone number are available at my website [www.del-engineering.com/search.com](http://www.del-engineering.com/search.com). There is no email address listed, because spam robots farm web pages for email addresses. After a month or two, any posted emails become worthless, because resumes are lost amongst emails offering millions from Nigeria and magic pills. So use the list to call the agency for the email address to send a resume.

Each month, I will send job seeker's resumes to all the agencies on my list. The number of resumes being sent are an indicator of whether the job situation for chemicals engineers is getting better or worse.

Chemical Engineering may show growth, because the smart money has grown weary of gambling on synthetic investments, dreamed up on Wall Street, offering little more than a shell game. Activities of chemical engineers result in tangible investments of plant and technology. Money may start flowing toward real projects again. The new administration in Washington is talking about an energy initiative. New enforcement of old regulations, which languished under the Bush administration, may cause employers to attain compliance by hiring chemical engineers. R&D especially in areas like stem cells may start to see funding. Yes, much of the money invested in the empty promises of complex financial instruments is gone forever, but new money is seeking a place for investment. What engineers have to offer has never been glamorous, but as a profession, we are more likely to deliver on promises.

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**2008 – 2009 AIChE- DVS Event Schedule****January 2009**

CEO Lecture Series

For more information about the Union League please visit  
[www.unionleague.org](http://www.unionleague.org).

**February 2009**

Joint Event with Wilmington Section

**Technology Tour**

Delaware Technology Park  
Newark, DE

**March 2009****Emerging Technologies Symposium**

Chemical Heritage Foundation  
Philadelphia, PA

**April 2009****Student Awards Banquet****May 2009****Plant Tour**

Gamesa  
Fairless Hills, PA

**June 2009****Golf Outing****Joseph Priestly Society**



**T**he Joseph Priestly Society meets monthly at the Chemical Heritage foundation. There is a one hour networking social at 11 am, followed by a buffet lunch and speaker. It is free by invitation. As AIChE members, you are invited and welcome to attend.

More details may be found at:

<http://www.chemheritage.org/events/event-nav1.asp>

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Mail address corrections to Data Base Manager at above address .

Our Files are continually updated with your input and membership information from AIChE Headquarters.

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