

Financial Planning Seminar Wednesday, January 27, 2010

As engineers, our roles often require careful planning, computational analyses, and execution to help achieve project or corporate goals. Wouldn't it be great to receive a refresher in how these concepts can be leveraged to achieve our own personal financial goals, in good and not-so-good times?

The AICHE Delaware Valley Section aims to do just that, through this year's Financial Planning Seminar in partnership with Merrill Lynch. Brian Strandskov and Neil McKeon, two investment professionals from Merrill Lynch, have agreed to share with us their thoughts on effective planning for personal finances, including:

- Strategies for retirement

- Balancing personal and family needs and resources – e.g., saving for college, buying a new home, and other life events

- Planning in the context of today's economic conditions

Drexel University's LeBow College of Business has generously donated space at their Malvern campus for this event.

Merrill Lynch is one of the world's premier providers of wealth management, securities trading and sales, corporate finance and investment banking services. For more information, please visit <http://www.ml.com/>.

Drexel University's LeBow College of Business is a leader in providing top-ranked business education to a wide audience in the Philadelphia region and beyond. For more information, please visit <http://www.lebow.drexel.edu/>.



Receive a refresher in how best to achieve financial goals.

Date: Wednesday, January 27, 2010

Time: 6:00 PM
(Dinner will be provided)

Cost: \$15.00

Location: LeBow College of Business,
Malvern Campus, 2nd Floor
2 West Liberty Blvd
Malvern, PA 19355

[Printable Directions:](#)

<http://www.lebow.drexel.edu/pdf/docs/gvdirections.pdf>



Chairman's Chat

By Karl Saydlowski

On behalf of the DVS Board of Directors, I wish you and your family a healthy and prosperous new year. Thanks to the efforts of many, the DVS has enjoyed a successful fall season of activities, and we look forward to continue offering you exciting events in the New Year.

First, please note an important change – the CEO lecture, traditionally held each January, has been moved to April 6th to accommodate DuPont CEO Ellen Kullman. Yes, the CEO of DuPont will be addressing us at the Union League in Philadelphia! (Thanks to long-time board member Doug Kriebel!) Mark your calendars now (Tues., 4/6/10)... Don't miss this rare opportunity to gain insight from the leader of DuPont, one of America's most venerable companies and an industry leader that continues to evolve by offering innovative products and services.

On January 27th, we are offering our own DVS Economic Stimulus Package: a half-price meeting, topic: Financial Planning in the Current Economy. Why not tackle those New Year's resolutions, now? Get your personal finance questions answered without a sales pitch. Recent DVS Chairman Steve Wood recruited some of his most talented Merrill Lynch co-workers to give us their insights. It's also a great opportunity to network and check out Drexel's convenient, state-of-the-art Malvern location (just off Rt. 202), where their award-winning executive MBA and professional/personal development programs are offered. You asked and we delivered. Bring a friend or spouse, only \$15/person.

February brings Engineering Week activities (see article). Continue to check the website www.aiche-philadelphia.org for details on upcoming events, including

(Continued on page 4)

2010 Delaware Valley Engineers Week Events

By Bill Celenza, PE

Awards and Proclamation Luncheon, Friday, February 12, 2010, Loews Hotel, Philadelphia

A poster session with presentation of student paper winners from 10:00 am to noon prior to the luncheon.

The awards and scholarships previously presented at the Saturday banquet will be presented at the luncheon. Engineers Week proclamations will be displayed.

The Engineer of the Year and Young Engineer of the Year will make brief remarks

Young Engineer Social Event, Monday, February 15, 2010

A happy-hour type event will be held at an appropriate location geared to younger engineers

The Young Engineer of the Year will make brief remarks

Celebration of Engineering Gala, Saturday, February 20, 2010, Chemical Heritage Foundation, Philadelphia

A social / networking gala event will be held at an appropriate location to celebrate engineering, with cocktails, heavy appetizers stations, and dessert stations. Award recipients will be honored with posters / exhibits / running PowerPoint in the networking area.

Future City Competition Regional winners will display their first place model

The Engineer of the Year and Young Engineer of the year will provide brief remarks, followed by a brief recognition of the Hall of Fame, Outstanding Service, and Engineering Achievement award recipients

We are excited to continue our traditional events, but with some modifications to provide variety in the format and time. Further information on the details of the events and locations will be added to the website (www.dvewc.org) and announced as they become available.



CHEMICAL ENGINEERING
Evening Master's Degree
Program
**Spring 2010 course offerings
in Chemical Engineering**

Introduction to Biomedical Materials

Monday, 6:30 – 9 PM

J Vernengo, Rowan University Professor

BioPharmaceutical Design and Development

Tuesday, 6:30 – 9 PM

Charles A. Clerecuzio, VP BioPharmaceuticals Industrial & Infrastructure, AMEC

<http://www.rowan.edu/graduateschool/> information on the graduate school

<http://www.rowan.edu/ChE> – more information on Rowan Chemical Engineering

Reducing CO2 Emissions Can be Good for the Bottom Line

By Eric Sipe - CDI Life Sciences - Project Engineer/Project Manager

Several years ago I worked on a project for a company that was titled The CO2 Reduction Project. When I first heard the project name I had no conception of what a CO2 reduction project was and really wasn't too excited about its prospects. I knew of waste minimization and energy conservation from my days as a process and project engineer but I didn't understand what was meant by reducing CO2 emissions. As the proposed project scope was revealed it became evident what CO2 reductions are, they are reductions in your electrical consumption or alternatively they are reductions in onsite fossil fuel consumption.

This CO2 Reduction Project turned out to be an interesting project because it involved modifying plant utility systems that serviced chemical processing equipment. One aspect of the project was to upgrade an outdated low temperature process chiller with a new and more efficient process chiller. In so doing, the plant realized a significant reduction in their electrical consumption and therefore a reduction in the amount of CO2 emissions attributable to their site. Another aspect of this project was to remove a process condenser with a significant cooling load from service by an energy intensive process chiller and have it cooled by a less energy intensive cooling tower. This change also led to a significant reduction in electrical usage and an associated reduction of CO2 emissions. These projects also achieved a company established return on investment so they were also beneficial to the company's bottom line.

Another company I worked for in the past needed to install a vent gas destruction unit. After a detailed assessment they decided to purchase a thermal oxidizer with a downstream waste heat boiler. By choosing this project path they installed a system that was able to recover a vast quantity of fossil fuel energy that would have otherwise gone up in smoke and water vapor. The main objective of installing this waste heat boiler was to save money, but this company also positioned themselves to not add significantly to their carbon footprint. The steam from their waste heat boiler was piped into the main steam header for the plant and was used to replace steam that otherwise would have been generated by a separate boiler.

Listed below are some other potential opportunities for reducing electrical or fossil fuel consumption at your site and consequently reducing your sites CO2 emissions:

- Recover steam condensate as much as possible throughout the site
 - Recover heat from hot reject or process discharge streams and use it elsewhere to preheat streams that need to be heated
 - Install newer and more efficient equipment such as air compressors, centrifuges, pumps, etc.
 - Run systems at their lowest required flow and pressure based on dynamic process or HVAC demands
 - Use VFDs on systems that will run at various speed instead of using mechanical speed changers
 - Use tower water in lieu of chilled water whenever possible
 - Run air handlers on VFDs so that air flow can be modulate via modulating mechanical energy input rather than by mechanically inhibiting air flow via dampers
 - Install motion detectors for indoor lighting control where appropriate and daylight sensors for outdoor lighting control
 - Installing more efficient burners and more sophisticated burner controls
- Keep hot and cold pipes insulated to conserve energy

In this age when Cap and Trade looms as a potential tool to get companies to reduce CO2 emissions, the above ideas as well as many others that are out there, are measures that can be taken to improve your companies bottom line as well as to stay in compliance with proposed future mandates on eliminating CO2 emissions.

DVS Student Outreach – Tools for Getting a Job

By Ken Ford, PhD, PE

An important part of the DVS mission is to help the next generation of Chemical Engineers. In addition to the annual Student Awards Night where we honor student achievement, this year the DVS held workshops to help prepare students for the university recruiting season. During the first event Karen Huller, a Résumé and Job Transition Strategist from Charésumé LLC, volunteered her time to conduct a résumé workshop on the U Penn campus Sept. 30th. The workshop was an informal session where Karen worked through résumé principles and best practices using résumés from students in attendance. The students from Drexel and U Penn gave very positive feedback about the event. A few mentioned that the workshop had made them realize how much thought and work is required to construct a good resume.

A week later, on Oct 7th, Beth Ann Wilson M.Ed. CMF, an Independent Résumé and Job Transition Strategist, volunteered her time to conduct a job interview workshop on the Villanova campus Oct. 7th. The workshop was a mix of presentation and informal discussion where Beth Ann led group discussions about how to prepare for an interview and the types of questions the students should expect. The students from Rowan and Villanova gave very positive feedback about the content, format and use of humor during the discussion. A few students shared recent experiences with interviewing and indicated that their experience during the interview had convinced them to attend the workshop.

Based on the student reactions to the events, DVS's mission to support CHE students and the continuing difficult job market, the DVS Board is considering making this an annual event. In addition to providing a good service for students, it provides valuable face time between Professional Members and students. Besides, there is no bigger hero on campus than someone walking in with pizza and soda for students (excellent job Brian). If you are interested in getting involved with the DVS Board's student programs or any other programs please email us or come to a Board Meeting. This is your professional organization, you are always welcome. Contact information is available on the DVS website at www.aiche-philadelphia.org.

Engineers Week 2010 - *Young Engineers Social*

Calling all young engineers of the Delaware Valley! Come join young ChemEs and other young engineers to celebrate Engineers Week 2010 at the Young Engineers Social hosted by the Engineer's Club of Philadelphia. The event will be held on Monday, February 15th, from 5:30 to 9pm at Yards Brewery (www.yardsbrewing.com) in downtown Philadelphia. The event will recognize Mike Witkowski of McHugh Engineering as the 2010 Young Engineer of the Year and provide a venue for young engineers of the Philadelphia area to network and socialize. Guests will enjoy a tour of the brewery followed by hors d'oeuvres and samples of the brewmaster's specialty ales. The Young Engineers Social is one of three main events celebrating Engineers Week. For more information about the other offered venues, please visit www.engrclub.org.

Watch your calendar and mailbox for more details about the event and how to register. For questions, please contact Jennifer Purcell at jennylpurcell@gmail.com.

Chair's Chat

(Continued from page 1)

tours and speakers for March and May, and the April 21 student awards event at Villanova.

Looking back, I'd like to thank Brian Snyder and Ken Ford for engaging our academic community by putting together 2 successful resume/interviewing workshops (see article). We had a lively group of 64 registered at our popular Oktoberfest at Victory Brewing Company. November's USDA Tour (dinner at Brittingham's Irish Pub) was a sell-out that received glowing feedback. Many thanks to Ken Rollins, who not only arranged this successful USDA tour, but also assembled our Young Engineer of the Year nomination (see article) and put us in touch with a resume consultant for our student workshop.

The DVS continues to be energized by new members who've stepped up to help plan and publicize Section activities, people like Aniket Sawant, Priya Heerwani, and Jennifer Purcell. Come to an event, get involved, participate in a planning meeting, drop us a line.

We appreciate your continued membership in the local section. Please don't forget to pay your \$15 local dues (either through your Nat'l renewal or through our website), which help us continue to engage and inform you with interesting events. I look forward to seeing you.

November USDA Tour *By: Jennifer Purcell*

On Friday, November 13th, 34 AIChE members and guests toured the National Historic Chemical Landmark that is the USDA Eastern Regional Research Center. Guests were surprised to discover the renowned site hidden right here in Wyndmoor, PA. Leland (Lee) Dickey and the rest of the scientists and engineers welcomed the tour group into the heart of the facility and offered a close-up look at their exciting research and initiatives.

Stations on the tour included food safety projects, such as a low-temperature liquid pasteurization process. The group toured the pilot plant at the site which tests the performance of supercritical CO₂ pasteurization on liquid products. The traditional method of pasteurizing liquids such as orange or apple juice involves heating the juice to 70°C or higher in order to kill the bacteria. The Supercritical CO₂ sparge process can be performed at much lower temperatures, while achieving the same result. This alternative, nonthermal method may change the flavor of your OJ or cranberry cocktail... for the better! High heat can affect the taste of drinks, but alternative, nonthermal technologies may bring back that fresh-squeezed flavor, even from the grocery store.

Another major focus of the USDA research is bio fuel production and applications. The tour visited the Fast Pyrolysis lab, which pilots the production of bio-based oil using an innovative pyrolysis method that heats the biomass feed stocks in the absence of oxygen. Researchers have used biomass materials ranging from soy beans to fall foliage as inputs for this innovative process to produce renewable bio-oil. The remainder of the biomass is separated out as bio-char, which can be used as fertilizer to sequester carbon into the soil. The scientists are excited to share their work in hopes of finding an entrepreneurial farmer to adopt the technology.

Thanks to Ken Rollins for organizing a very successful event! The AIChE members got a glimpse into the pioneering research efforts of the USDA while the USDA researchers had an opportunity to share the fruits of their hard work with an excited audience. Thanks to the USDA for hosting our group. Keep up the great work!

DVS Membership

Most AIChE members renew their AIChE annual membership in the fourth quarter, which means you will be receiving your renewal notice soon. We would like to encourage you to CHECK THE B X to renew your membership in the local Delaware Valley Section. In these trying economic times, your local section offers your best opportunity to network with colleagues in a relaxed environment and at a low price with minimum travel. The DVS is one of the largest and most active local AIChE sections in the country. Planned events include local plant tours, the annual CEO lecture, the student awards, student resume/interview workshops and many others. A complete list of events planned for this year is in this newsletter and posted on our website (<http://www.aiche-philadelphia.org/>). DVS section members receive a discount on each monthly event and students/recent graduates receive a special low rate. Don't miss out. Membership in the local section is critical to the continued success of our section and is a key networking tool for your career.

To help everyone remember to join the DVS section, last year we launched the "CHECK THE B X" campaign. CHECK THE B X on your Membership Dues Invoice to ensure you sign up as a member of the DVS section. On the online form (available at www.aiche.org under the "Join AIChE" tab you need to fill in "DVS- Delaware Valley \$15," in Section 5B. If you have recently moved, you will need to CHECK THE B X for DVS (not your previous section) to be a member of this section. Your dues support section programming and the student awards to recognize the outstanding members of chemical engineering's next generation.

This year, several members struggling economically have expressed a desire to join the DVS without joining the AIChE National. We have made it easier than ever to choose this option by using the \$15 DVS only membership PayPal icon on our website (<http://www.aiche-philadelphia.org/>). You will be able to enjoy all of the privileges of membership in the DVS.

So CHECK THE B X on the national membership form or select the DVS membership only option on our website to enjoy the privileges of membership. Thank you for participating in the Delaware Valley Section of AIChE and I look forward to seeing you at DVS events.

Ken Ford, DVS-AIChE Treasurer

AIChE National Essentials by Ken Ford, PE, PhD

This year's annual meeting was held at the beautiful Gaylord Opryland Hotel in Nashville, TN. About 4,200 people attended this year's meeting, a strong showing considering the state of the economy. There were far too many events and far too much information for a complete listing here. (You'll need to attend for yourself.) However, I hope to give you quick run down of some of the more important information about the meeting and the national organization.

- AIChE Website: The website has been completely reengineered. Almost 100 webinars available and AIChE members can take up to 6 webinar courses for free each year. CHE on Demand contains 100's of CHE reference books, including Perry's. More than 600 CEP articles are available. ChEnected, an initiative containing blogs and other content, premieres this month.
- AIChE is offering a full professional membership for only \$49 if you gift the membership to someone who's membership has lapsed for more than 1 year. (see <http://www.aiche.org/joinnow/gift.aspx> for details)
- The AIChE Executive Director, June Wispelway, lives in NJ and is a member of the DVS.
- Mirium Cortes-Caminero is the new Executive Director of the Society for Biological Engineering (SBE). SBE now has 1500 members, 11 student chapters and grew 14% in 2008. Two SBE conferences were held in 2009. New projects include WebLab (real time control of remote experiments via the web), disposables workshop and Industrial Biotech Newsletter/Database.
- AIChE provides many awards including Minority Scholarships Awards for College Students (10 - \$1000 awards each year), Washington Internships for Engineering Students (WISE) to connect engineering students with the government and the Women's Initiatives Committee Mentorship Excellence Award, just to name a few.
- The Government Relations Committee is doing significant work related to nuclear energy and global climate change to promote scientifically based engineering approaches.

AIChE has launched an Institute for Sustainability and the AIChE Energy Initiative.

This is just a brief sampling. To get more information, logon to www.aiche.org and consider attending a national meeting.

CEO Lecture Series

Join us on April 6, 2010 at the Union League of Philadelphia to hear Ellen Kullman, CEO of DuPont. You can sign up on the website now.

Ellen is the 19th executive to lead the company in more than 206 years of DuPont History. She became CEO Jan.1, 2009.

She was president from Oct. 1, 2008 through Dec. 31, 2008. Prior to her appointment as DuPont president, she served as executive vice president and a member of the company's office of the chief executive. She was responsible for DuPont Coatings & Color Technologies; DuPont Electronic & Communication Technologies; DuPont Performance Materials; DuPont Safety & Protection; Marketing & Sales; Pharmaceuticals; Risk Management; and Safety & Sustainability. In March 2008, Ellen was tapped to lead the dynamic planning process for the company's growth in emerging international markets.

A native of Wilmington, Del., Ellen began her career at DuPont in 1988 as marketing manager in the Medical Imaging business.

She holds a bachelor of science degree in mechanical engineering from Tufts University and a masters degree in management from Northwestern University.

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*In Memoriam:**Thomas G. McWilliams, PhD*

We have also just heard that Thomas G. McWilliams, PhD, a member of the Club and a past Delaware Valley Engineer of the Year (1998), passed away on April 23, 2009. He earned a B.E.S from The Johns Hopkins University and a PhD from the University of Maryland. He was Chair of both the Chemical Engineering and Chemistry Departments at West Virginia Institute of Technology and was Dean of Engineering at Widener University from 1980 until his retirement in 1998. He was active throughout his career in a wide variety of professional and civic organizations, including the American Society of Engineering Education and the American Institute of Chemical Engineers. Donations may be made to Immaculate Conception Church or Cecil College Foundation, One Seahawk Drive, North East, MD 21901.

2009 – 2010 AIChE- DVS Event Schedule

Jan 2010:
Financial / Retirement Planning Seminar

Feb 2010:
Engineer's Week Events, Philadelphia

Apr 6, 2010:
CEO Lecture, Ellen Kullman DuPont, Union League, Philadelphia

Apr 2010: Student Awards Banquet

May 2010: Plant Tour, TBD

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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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