

January 22, 2008  
 DVS 11<sup>th</sup> Annual CEO Lecture  
 at the Union League of Philadelphia.

Chair's Chat  
 Happy New Year  
 By Charles A. Clerecuzio, P.E., CPIP

**T**his year our speaker is Dr. Dianne Dorland, Dean of Engineering at Rowan University.

Dr. Dorland is a PhD Chemical Engineer, a licensed Professional Engineer, is Past President of the AICHE and was recently elected the Delaware Valley Engineer of the Year.

Her industrial experience includes working at DuPont, Union Carbide and METC. Her work included multi component liquid/vapor equilibrium, nylon intermediates, quality control, scale up, and monitoring of NPDES. She has won numerous awards and recognition on national levels. She is recognized for her work on mercury abatement and with the Department of Energy where her specialty was in-situ coal gasification. Most recently, she was selected as the 2008 ConocoPhillips Lecturer.

Dr. Dorland is an inspiration and role model for young engineering students and you will want to attend this meeting.

**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.

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



*The Union League was Founded in 1862 as a patriotic society to support the policies of President Abraham Lincoln.*

**Meeting Date:** Tue. Jan. 22, 2007

**Location:** Union League  
 140 S. Broad Street, Philadelphia  
 215-563-6500

**Times:** 6:00 PM Reception  
 7:00 PM Dinner  
 8:00 PM Speaker  
 Reception and Dinner in Mead Room

**Reception:** Cocktails and hors d'oeuvres

**Dinner:** to be announced

**Cost:** \$50.00 per person  
 \$25.00 per student  
 Cash Bar

**Reservation Deadline:** Please confirm your attendance no later than Thursday January 18, 2008.

**Reservations:** Please RESERVE ONLINE or contact Doug Kriebel at [dkriebel@kriebel-ltd.com](mailto:dkriebel@kriebel-ltd.com) or 215-364-3400 with your name, company, number attending, and telephone number.

**G**reetings. I hope everyone has had a safe and enjoyable holiday season. As we enter the New Year, I am excited about the programs we have coming up for the spring.

I would like to start out by congratulating Dr. Dianne Doland, Dean, College of Engineering, Rowan University on her election as Engineer of the Year. Her sponsors were the American Institute of Chemical Engineers / Delaware Valley Section (AICHE-DVS) and New Jersey Society of Professional Engineers (NJSPE) – South Jersey Chapter. Engineer of the Year is awarded during Engineers Week by the Delaware Valley Engineers Week Council. The bedrock of Dr. Dorland's platform is increasing the interaction and cooperation between industry and academia. As everyone is aware, our profession is experiencing an increasing critical shortage of qualified professionals at both the senior and entry level. The industry-wide consensus is that the best way to address this, both short term and long term, is to increase the cooperation between industry and academia. Academia is seeking guidance regarding the desirable skill sets (especially "soft" skills) for graduates, as well as industry professionals that can bring real world experiences and case studies into the classroom. Industry is looking for graduates with a solid basis in foundational skills and interaction with researchers exploring cutting edge technologies.

To work towards supporting Dr. Dorland with her goals, we have a number of events planned to enhance this coopera-

*(Continued on page 3)*

## Applying Science and Engineering Concepts to Solve Your Problems

By Eric Sipe - Project Manager, CDI-Life Sciences

In college, we all learned a lot of scientific and engineering concepts and principles. Are they of any value to us today as engineers or were they just academic concepts and principles developed by professors to expand our minds? I contend that many of these principles can be used to solve everyday problems in our plants or in our projects. I have personally drawn upon many of these principles routinely to evaluate and resolve issues in my everyday work. Below I give a few brief examples of how the use of engineering and scientific knowledge has helped me, but I encourage you to look to the sciences on your own for innovative solutions to your job challenges.

A heavy piece of equipment places an unacceptably high point loading on a foundation. What can you do to overcome this problem? You can apply the principle of distributing a loading over a larger area since any load is proportional to surface area to which it is transferred. In this case you can look to see if you can increase the surface area to which the load is applied. On one project a creative contractor used a wall to create the additional surface area required to carry a centrifuge platform load rather than expanding the foot print of the equipment supports on the floor. On another occasion the solution was to increase the foot print of the equipment supports on the floor to spread the load sufficiently to accommodate the available floor loading.

A solids granulation process produces oversized particles that must be reduced in particle size. Because of these oversized particles all of the particles from the granulator are passed through a hammermill. The hammermill eliminates the oversized particles but it also creates a lot of fines and destroys some good product. The fines are a problem because they are difficult to granulate because they settle to the bottom of the granulator. The solution to this problem was a two fold application of engineering and scientific principles. First, install a sifter ahead of the hammermill so that only the oversized particles are passed through the size reducer. The good sized material can be taken off as product prior to the hammermill without further processing while the fines can be returned to the granulator for enlargement. The hammermill will then process the oversized granules into good product and fines for further coating. The second change that was implemented was to install lifters in the granulator to defeat gravity and the propensity of smaller particles to fall through opening between larger particles. The lifters will pull the fines off of the bottom of the solids bed and drop them in a curtain so that they could be coated along with the larger particles. This second change resolved both mass transfer and heat transfer problem in the granulator by creating a greater surface area for coating as well as for cooling of the molten granules.

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**CHEMICAL ENGINEERING**  
Evening Master's Degree Program  
**Spring 2008 course offerings in  
Chemical Engineering**

**BioPharmaceutical Design and Development**

**Monday, 6:30 – 9 PM**

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

**Engineering Quality Control**

**Tuesday 6:30 – 9 PM**

**Z. O. Gephardt, Rowan University Professor**

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

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

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**William Youngblood  
Elected Partner  
at Caesar Rivise**

Bill is Chemical Engineering graduate of Drexel and Past AICHe (DVS) Chair and remains active in our section.

## Chairs Chat

*(Continued from page 1)*

tion. We will be holding a Student Night for our student chapter members that will provide mentoring by our chapter professionals in interviewing skills, resume preparation and networking. We are looking for additional professionals to volunteer for this event, so stay tuned to the newsletter and web site for further information and your opportunity to participate.

This year we will be expanding our educational offerings. Our first step is the introduction of a Spring Educational Program which will complement our slate of plant tours and dinner meetings. We will be hosting a Biofuels symposium in conjunction with our Student Awards Dinner in April. This is a great topic of current interest and will involve three speakers each exploring unique approaches to this challenging area. The symposium will be integrated with our Student Awards Dinner, where the Zeisberg Award is presented by the DVS of AICHe for outstanding student research. This is a great opportunity for our professional members to interact with our outstanding student members.

In addition to our plant tours, we will also be hosting our traditional CEO night at the Union League in January, a Wine Tasting (bring your significant other) in February and the Annual Golf Outing in June. Finally, we will continue to reach out to other area societies, such as SWE, the Chemical Heritage Foundation and ISA to host joint events. I encourage everyone to get involved in planning and hosting our events. This is your Section, you will meet some great people and have a lot of fun.

## Tech Tips

*(Continued from page 2)*

Many of the scientific and engineering principles and concepts that we learned in school can help us do our jobs more successfully. The sciences are a tool for us to mine and apply to our particular engineering discipline. Therefore, keep yourself up to date on the engineering and scientific concepts and principles that are applicable to your particular job function and you will find creative solutions to your job challenges and thereby be more successful.

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