

April 22, 2009
Student Awards Banquet
Industry, Academia and Back Again

Chair's Chat
 Looking to the Future

Please plan to join us on April 22 for our Student Awards Banquet.

The topics and speakers are:

“Industry to Academia and Back Again: the Process, the Work and Job Prospects for Chemical Engineers”

Speakers:

Ken Ford, PhD, PE
 Merck & Co

Hugo Caram, PhD,
 Lehigh University

John Panebianco, PE
 Jacobs Engineering

They will explore the job market and education options for the chemical engineers of today in the current economic climate.



Honoring the Best Sophomore, Junior and Senior students from the five universities in our region.

Location:
 Widener University
 Kirkbride Hall – 1st Floor Lobby
 17th & Walnut Streets--Chester, Pa

Times:
 5:30 P.M. – Reception
 6:30 P.M. – Dinner Buffet
 7:30 P.M. - Speakers and Awards

Cost:
 \$35.00 non-members
 \$30.00 members
 \$20.00 recent grads (last 3 years)
 \$10.00 students

Registration:
 Register under the “Events” link at www.aiche-philadelphia.org

Deadline: April 17, 2009

For questions, please contact Zenaida Gephardt at gephardtzo@rowan.edu

See page 3 for more info.

These are difficult times. We are all impacted by the economic downturn, company cut-backs and budget cuts. Whether in industry or academia, we are all affected by a situation that is mostly beyond our control. At times like this, it is important to protect those things that will be important when the economy recovers. If we cut back too much, we will not be able to participate in the recovery, and engineers are going to be an important part of the recovery. The products we make are, whether in new or established technologies, the engine of the world’s economy. For this reason, this year’s Student Awards Banquet has special meaning. It is important that we celebrate and recognize the achievement of the young people who will come after us and who will be responsible for the future. This is an opportunity to recognize that we must be part of making the future possible for these students.

This year, the Student Awards Banquet will be hosted by Widener University. It is scheduled for April 22. Our theme this year is “Industry, Academia and Back Again. the Process, the

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Calculation Tools for Process Engineers

by Eric Sipe - Project Engineer/Project Manager - CDI

As a process engineer you often need to perform a quick calculation to size a restriction orifice, a control valve, or a pipeline. Further, you may need to know the vapor pressure of a substance at a different set of process conditions; the log mean temperature difference for a heat exchanger or you may need to calculate the Reynolds number for a particular flow condition. On other occasions you may need to perform calculations to size a pump or heat exchanger. Your company; on a regular basis, will likely have the need to perform some calculations so where can you turn to get the necessary calculations done? Well, my experience as a process engineer has led me to find a variety of tools that can be accessed or developed in order to assist in performing the needed calculations.

Some of the places I have turned to in order to get quick calculations done are the following:

1. **The Internet:** the Internet has a variety of websites that can be used to perform a variety of quick calculations. I have found websites that calculate orifice sizes, Reynolds number, log mean temperature difference, and even a heat exchanger sizing website. There are many other websites that give the equations needed to calculate these values and many other engineering values on your own.
2. **Spreadsheet:** An Excel or other spreadsheet can be created to calculate many of the values mentioned above as well as other engineering values. Spreadsheets can also be used to simulate the performance of a pump with a variable speed drive or the heat up or cool down of a process system. The calculations or simulations that can be done in a spreadsheet can be as simple or as difficult as one is willing to make them. Additionally, spreadsheets can be used to model the usage of utilities and raw materials as well as the formation of products for a production campaign or longer periods of time. Such models are good for preliminary sizing of utility and raw material systems.
3. **Process Simulators:** Process simulators can be used to simulate the performance of a variety of batch and continuous unit operations. These process simulators can also be used to analyze the performance of complex process systems. Simulation programs exist for assessing the performance of heat exchangers, distillation columns, batch reactors as well as continuous reactors. Simulators also exist for assessing the performance of simple and complex piping networks.
4. **Calculator sub-routines or programs:** Most modern calculators have the capabilities to be programmed to perform simple engineering calculations. I used to have my calculator programmed to calculate the Reynolds number and pressure drop per 100 feet of pipe. Also, calculators are available today that are preprogrammed with useful engineering calculations to assist the process engineer.

Hand calculations: if all else fails you can get out the pencil and paper and the college text book or the Chemical Engineers' Handbook or Cranes' and perform any quick calculation by hand.

All of these tools are available (some free, others at a small cost, and still others at a substantial cost) to the process engineer to help them do their job efficiently and accurately. The next time you need to convert a measurement or perform a calculation remember all of the tools that are available to assist you.

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CHEMICAL CONSULTANTS NETWORK - MAY 13, 2009 MEETING

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

Date & Time: Wednesday, May 13, at the Cynwyd Club, Bala Cynwyd, PA; Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM

Topic:**CONSULTING IN A CHANGING ECONOMY...
STARTUP THRU GROWTH****WALT JOHNSON****FOUNDER & PRESIDENT OF PRECISION SYSTEMS INC.**

Abstract: Rapid changes, in the economy and technology, increase the need for consultants with special abilities. How does a new consultant begin? Do you have what it takes? How can experienced consultants improve their process? What are clients looking for? How do consultants identify and address client needs? This presentation provides answers, basic strategies and client rules.

Reservation: To make or cancel a dinner reservation, e-mail CCNReservations@aol.com or call the ACS office at 215-382-1589 (leave message on voicemail if necessary). Fee, including food and beverages (wine, beer & sodas), is \$25 by the deadline, Thursday, May 7, \$35 afterwards. Late reservations and walk-ins subject to availability. No-shows will be invoiced. Dietary restrictions accommodated on a limited basis. There is no charge for talk only; registration is suggested using contact information above.



Place: Widener University
Kirkbride Hall – 1st Floor Lobby
17th and Walnut Streets
Chester, PA 19013

Directions: <http://www.widener.edu/tomaincampus/default.asp>

Campus Map: <http://alumni.widener.edu/Document.Doc?id=9>

Access to Double grey doors across from Kirkbride parking lot, 17th and Walnut Streets.
Once inside, follow “Lobby” signs.

Buffet Menu: Tossed salad with cucumber, grape tomatoes and shredded carrots with your choice of dressing
Whipped roasted red bliss potatoes, steamed mixed vegetables
Chicken marsala, sliced eye round of beef
Freshly baked rolls and butter
Decadent dessert bars and assortment of freshly baked cookies
Coffee, Tea and Decaf coffee, soda, water

Chair's Chat

(Continued from page 1)

Work and Job Prospects for Chemical Engineers.” Ken Ford, a recent Lehigh graduate and Treasurer of our section, will share his experience returning to school for a doctorate and going back to work at Merck. His Advisor, Jim Gilchrist will highlight the work and Joseph Panebianco from Jacobs Engineering will present an assessment of the job market for chemical engineers today. We will be honoring the Best Sophomore, Junior and Senior students from the five universities in our region: Villanova University, Drexel University, Widener University, University of Pennsylvania and Rowan University. These young people have worked hard and will soon be our young colleagues. Please help us to show them that engineers have a very important place in the future of our country and the world. We will also be awarding the Zeisberg Awards for the best laboratory and design reports. Ken Rollins is chairing the panel of judges. Our thanks go to Ken and his team of judges who are giving of their time and energy to select the winning reports. We will highlight them in our next newsletter.

Please register on our website and join your section as we celebrate the accomplishments of the students in our region. It will be a very interesting presentation and a chance to see old colleagues and meet new ones. If you have any questions, you can contact any of the officers listed in the newsletter. It is easy to register on our website, and we look forward to seeing you there. The best way to make it through difficult times is to build on what is good. There are few things better than the hard work of committed young people. Join us at the Student Awards Banquet so that we can show our support for our future colleagues in the region.

Alumni News



Former Chair of AIChE-DVS, Bill Youngblood, now a patent attorney at Caesar, Rivise, Bernstein, Cohen & Pokotilow, Ltd. (www.crbcp.com), recently played the role of a trial lawyer during a mock trial of a pharmaceutical patent infringement case. Bill conducted the direct examination of a financial expert on the issue of whether a patented drug had been commercially successful in the marketplace. This issue often arises in real patent infringement cases between a generic drug manufacturer and a brand name drug manufacturer. The mock trial was part of a two-day intellectual property conference recently held in Philadelphia.

Executive Officers 2008-2009

Chair Zenaida Gephardt, PhD, PE
Phone: 856-256-5314
Fax: 856-256-5242
Email: gephardtzo@rowan.edu

Vice Chair Karl Saydlowski
Phone: 610-321-0478
Email: saydlowski@computer.org

Past Chair Chuck Clerecuzio, PE
Phone (Work): 610-828-8100
Fax: 610-828-6700
Email: charles.clerecuzio@amec.com

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Phone (Work): 302-885-1560
Phone (Cell): 215-514-8527
Fax: 302-886-7259
Email: suzette.schultz@astrazeneca.com

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Phone: 610-287-1527
Email: kenneth_ford@merck.com

Associate Treasurer Elizabeth Dykes
Phone: 215-652-1744
Email: elizabeth_dykes@merck.com

Section Committees

Advertising Coordinator Roy Stoflet
Phone (Cell): 484-678-3059
Email: r_stoflet@yahoo.com

Engineer's Week Chair William Celenza, PE
Phone: 856-780-9554
Fax: 856-780-9600
Email: bill.celenza@jacobs.com

Membership Chair Richard Kral, PE
Phone: 215-656-2559
Email: richard.kral@biokinc.com

Newsletter Editor Doug Kriebel, PE
Phone: 215-364-3400
Fax: 215-364-4401
Email: dkriebel@kriebel-ltd.com

Professional Development Chair Mark DeLuca, PE
Phone: 215-752-1619
Web Address: www.del-engineering.com
Email: engineer@del-engineering.com

Student & Recent Graduate Coordinator David Salas
Email: dsalas2k@gmail.com

Webmaster Charles Rudolph, PE
Email: webmaster@aiCHE-philadelphia.org

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2008 – 2009 AIChE- DVS Event Schedule

April 2009
Student Awards Banquet
Widener University on April 22

May 2009
Plant Tour
Gamesa
Fairless Hills, PA

June 2009
Golf Outing

Joseph Priestly Society

The 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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AIChE Headquarters: AIChExpress
telephone: 800-AIChEme; e-mail: xpress@aiche.org

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