

ISPE DVC / AICHE DVS
 Joint Tour and Dinner
 Tuesday, March 15, 2005

VICE-CHAIR'S CHAT
 BY **STEVEN WOOD**

AppTec is a unique single source for comprehensive GLP/GMP-compliant testing, contract research and development, and custom cGMP manufacturing services for biopharmaceuticals, medical devices, cellular therapeutics, and tissue-based products. This 75,000-square-foot building houses testing laboratories for biopharmaceuticals, as well as a mammalian cell culture cGMP production facility for monoclonal antibodies and therapeutic proteins. The manufacturing facilities include process development, cell banking/cellular therapeutics, final product fill, and upstream and downstream production suites. Testing laboratories include virology, cell biology, molecular biology, analytical and viral clearance.



AppTec's Facility in Philadelphia

Meeting Date: March 15, 2005

Location:
 The Philadelphia Naval Business Center
 4751 League Island Blvd
 Philadelphia, PA 19112

Times : 3:30 - 6:00 Registration;
 6:30 - 8:00 Dinner

Price, members & nonmembers:
 Members \$ 75.00
 Students: Free

RSVP: Registration can be made on the ISPE website, <http://www.ispedvc.mx4webbuilder.com/Registration.html>.

Directions: On page 4

Now is your opportunity to help implement the goals of the DV Section. We are looking for fresh ideas and energy to help direct the section forward. We are building on terrific momentum, are excited about the 2005-2006 season, and want to maintain the progress. You can help in many ways: event planning, administration, newsletter articles, and more.

Please contact Steven Wood by email at steven_wood@ml.com or toll free (866) 243 2491 to find out more. Participation in AICHE is a great way to expand your network, strengthen your resume, and enjoy new experiences.

TECH TIPS - FUMES

A variety of technologies are used to reduce emissions from chemical facilities. Three basic ways to remove entrained chemicals from gas streams are:

- Scrub—using a packed tower or wet scrubber
- Burn—using a thermal oxidizer
- Filter—using a charcoal filter or dry scrubber.

Scrubbers are useful when the pollutant is soluble in water. Efficiency removals to five nines (99.999%) are easily obtained, making scrubbers the primary selection for toxic chemicals that can be neutralized. A packed tower scrubber is a column, filled with a depth of packing, a sump at the bottom, a spray header at the top and a pump for the recirculating scrubbing liquid. If the process supplies sufficient gas pressure to force the gas through the column and out the stack, a fan is not required. Otherwise, an exhaust fan provides the required pressure.

A venturi scrubber is similar to a packed tower, except that the pumped liquid provides the motive force for the gas. Additionally, part of the neutralizing reaction takes place in the venturi nozzle, reducing the packing depth.

If neutralizing won't work, the chemical is most likely a volatile organic compounds or VOC. They are destroyed through burning, typically in a thermal oxidizer.

The basic type of thermal oxidizer (TO) is a direct flame TO where the burner fires into the gas stream, and all heat is lost to atmosphere. A direct flame oxidizer can provide organic destruction efficiencies in excess of 99.99 %

Regenerative and recuperative types are designed to recover the heat generated by combustion. A regenerative TO uses multiple beds of ceramic media, while a recuperative uses air-to-air heat exchangers to heat the incoming air. Typically, a regenerative TO offers better heat recovery (approximately 95%), with lower destruction efficiency (99%) than a recuperative TO (75% and 99.9% respectively).

Another option, the flameless TO, heats ceramic media to high temperature using electrical resistance or gaseous fuels, resulting in very low levels of NO_x formation. A flameless TO can also include heat recovery of approximately 80%, and achieves organic destruction efficiencies in excess of 99.99%

Filters are very practical for small, at-source applications, but can also be used in larger plant-wide systems. Particulate is easily filtered using paper mesh filters, and VOCs can be filtered through charcoal filters. For other aggressive chemicals, a dry scrubber can be utilized.

Dry scrubbers are relatively new to the market. A typical dry media filter is composed of alumina sulfate.

Paper filters are utilized to remove smoke and particulate fumes down to HEPA standards. Filters can be either cleanable or disposable. Charcoal filters can be emptied and refilled for several cycles, providing an economical choice for solvents.

As with all engineering applications, knowledge of available technologies is the engineer's first defense.

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CHEMICAL CONSULTANTS NETWORK

March 9, 2005

Visit our web page at www.chemconsultants.org

Date & Time: Wednesday, March 9, 2005, Meeting at the Cynwyd Club, Bala Cynwyd, PA; Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM.

Topic: InnoCentive® Dr. John Newport (SBDC)

Abstract: : “ InnoCentive® is an exciting web-based community matching top scientists to relevant R&D challenges facing leading companies from around the globe and provides a powerful online forum enabling major companies to reward scientific innovation through financial incentives.”

Following a brief overview of the various web sites that seek solutions to chemical and related problems, detailed information on InnoCentive®, from both company and solver perspectives, will be presented. The wide range of problems presented by InnoCentive should be of interest to Network members; some require lab work while others do not. Awards range from \$3K to \$100K.

Biography: Dr. John Newport (www.johnnewport.com), a graduate of UMIST in Chemistry (B.Sc) and Polymer & Fibre Science (PhD), came to the USA in 1967. Since retiring from Hercules Incorporated after 34 years of investigative and managerial R&D in the Fiber, Film, Reaction Injection molding and Paper Chemical businesses, he became as a registered consultant with the Chemical Consultants Network , with CECON , and YourEncore.com , is an Innocentive.com awardee and a Chemical Heritage Foundation volunteer

Location: TThe Cynwyd Club, 332 Trevor Lane, Bala Cynwyd, PA 19004. From City Line Ave. (Route # 1) turn onto Conshohocken State Road (Route # 23 west) about 3 long blocks. As Route 23 makes a hard left turn over the railroad tracks, stay straight onto LLANDRILLO RD and then straight onto TREVOR LANE. The club is up on the left. You can park in the lot or along any of the local streets. If lost, call the club at 610-667-4524.

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, is \$25 provided reservations are made before 6 PM Friday, March 4th; \$30 if made subsequently by 10 AM Monday, March 7th. If no reservation is made by the final deadline, food and beverages will not be available unless a cancellation occurs. No-shows will be invoiced

Tsunami Relief

AICHe and IfS, EWeek and other engineering societies, announced support of Engineers Without Borders (EWB) on February 18. (<http://www.aiche.org/tsunami.htm>)

Interested members and companies can assist by donating funds, professional expertise both as field volunteers or support volunteers, building materials, access to building materials in the affected areas, and advertisement of their work. Contact EWB. (<http://www.ewb-usa.org/>)

Driving Directions to AppTec's Facility at the Philadelphia Naval Business Center

From the South (I-95 North)

(Leaving the airport, take I-95 North for approximately 3 miles.)

Take I-95 North to Exit 17 (Broad St./611-N/Pattison Ave), which will put you on *northbound* Broad Street. (You will see the Wachovia Center on your right.)

You must make a U-turn to get on southbound Broad Street by turning left at the first light onto Zinkoff Blvd. and then another quick left at the next light onto southbound Broad Street.

NOTE: Once on South Broad Street, be sure to stay to the right. (The left lane exits onto I-95 South.)

Proceed on South Broad Street until you come to the Philadelphia Naval Business Center, traveling under the I-95 overpass.

Straight ahead you will see the main entrance checkpoint. Turn left – onto League Island Blvd. – before you reach that main entrance.*

Continue on League Island Blvd., through the guardhouse, for approximately 1/2 mile. AppTec will be on your left at 4751 League Island Blvd.

From the North (I-95 South)

Take I-95 South to Exit 17 (Broad St./611/Pattison Ave.)

At the end of the ramp, proceed straight through the first light.

Turn left at the second light onto S. Broad St. and proceed under the I-95 overpass.

Straight ahead you will see the main entrance checkpoint for the Philadelphia Naval Business Center. Turn left – onto League Island Blvd. – before you reach that main entrance.*

Continue on League Island Blvd., through the guardhouse, for approximately 1/2 mile. AppTec will be on your left at 4751 League Island Blvd.

Future Events

April 19, 2005

April's meeting will be the annual student awards dinner. For 2005 it will be held at Villanova University and our guest speaker will be Dr. Anthony Lowman of Drexel. This event is held annually with an emphasis on the students. Awards for top chemical engineering student at each university will be given, as well as the Zeisburg awards. Award winners are invited to come to the dinner for free, and all other students have a reduced dinner price. This has always been one of the highlights of the year for DVS-AIChE, and this year promises to be no different.



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