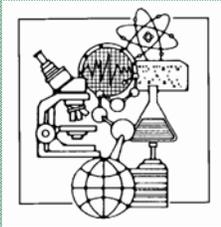


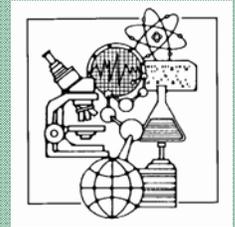
October 2011



Philadelphia Section AIHA Newsletter



October 2011 Full-Day Professional Development Course



Industrial Hygiene Laboratory Forum

In today's ever-changing industrial hygiene and safety world, with each new or rediscovered chemical/biological hazard comes an additional challenge to laboratories, both from the perspectives of providing appropriate analytical techniques for IH problem solving and, at the same time, lab awareness of the safety techniques needed to work with these agents.

This Industrial Hygiene Lab Forum will look at advances and problem-solving technique in industrial hygiene, microbial, and material science analyses. This includes real-life situations from forest fires, product failures, Chinese drywall, cigarette smoke, drugs, and sewage contamination. The forum will also look at how laboratories can better use energy conservation techniques in a time where energy costs are at a premium and yet ventilation is so critical for lab safety, as well as information on working with highly dangerous pyrophoric agents in the lab.

Please plan to join us for this interesting meeting.

(NOTE: This is the Professional Development Course, originally scheduled for January 2011 which had to be rescheduled due to weather.)

Philadelphia Section AIHA

October 2011 Full-Day PDC

“Industrial Hygiene Laboratory Forum”

Tuesday, October 18th, 2011

EMSL Analytical - 200 Rt. 130 North - Cinnaminson, NJ

Agenda

- | | |
|----------|---|
| 7:30 AM | Registration/Networking Opportunity/Continental Breakfast |
| 8:00 AM | Welcome/Announcements/Introductions |
| 8:15 AM | Bacteroides – A Better Alternative to Determine Sewage Contamination (Diane Miskowski, MPH) |
| 9:30 AM | Materials Science Advanced Analysis (Eugenia Mirica, Ph.D.) |
| 10:30 AM | Break |
| 10:45 AM | Advances in Industrial Hygiene Analysis and Problem Solving (Vince Daliessio, CIH) |
| 12:15 PM | Lunch |
| 1:00 PM | Energy Conservation Efforts in Laboratory Ventilation (Joseph Passante, CIH, CHO) |
| 2:15 PM | Break |
| 2:30 PM | Working Safely with Pyrophoric Reagents in the Lab (Kimberly Bush, M.S., CHO) |
| 3:30 PM | Lab Tours/Meeting Adjournment |

Cost: Current Philadelphia Section AIHA Members*: **\$100**
Non-Members: **\$125**

Meeting fee includes continental breakfast and lunch

*- to take advantage of the discounted member rate, you must be a current dues-paying member of the Local Section.

Payment for this course **MUST** be made at the door on the day of the event. No advance payments will be accepted. Payment must be made via cash or check **ONLY** (no credit cards or PO's will be accepted, and we cannot invoice for the course fee... **NO EXCEPTIONS**).

To register, please send an email with your name and company affiliation to register@philaiha.com before Noon on **Friday, October 14th**.

ABIH CM points have been awarded for this PDC.



Directions to EMSL Analytical

200 Route 130 North - Cinnaminson, NJ, 08077
800-220-3675

From New Jersey Turnpike or I-295

Take the turnpike to Exit 4 (Route 73) towards Camden/Philadelphia, or I-295 to exit 36 (Rt. 73 North). Take 73 North about 5 miles to the Rt. 130 North exit (the ramp has another ramp that merges on your left so be aware of cars there that come up pretty quick). Stay in the right hand lane on the ramp and get onto Rt.130. Just past the garden center is the driveway for EMSL (it comes up fast, so be ready to turn).

From Route 130 South to Cinnaminson (From Points North of Burlington)

Turn right onto Cinnaminson Avenue, just past the Shop-Rite. Go all the way around the traffic circle and come back to Rt. 130. Cross over Rt. 130 to Church St. Go past the TD bank. Just past the first entrance to the bank is a back entrance road into the bank; turn right into this entrance road. Go past the bank and you will see the EMSL building ahead. Go to the far end on the building and turn right into the large lot.

From Route 130 North to Cinnaminson (From Points South)

After passing Rt. 73, stay in the right hand lane. Just past the garden center is the driveway for EMSL driveway (it comes up fast, so be ready to turn).

From I-95 Philadelphia

Take the Betsy Ross Bridge into New Jersey. Take exit for Rt. 130 North. Stay on 130 North to Cinnaminson. After Rt. 73, stay in the right hand lane. Just past the garden center is the driveway for EMSL (it comes up fast, so be ready to turn).

From West of Philadelphia

Take the Schuylkill Expressway east to the Vine Street Expressway (I-676 East) to I-95 North. Follow I-95 North to the Betsy Ross Bridge (exit 26). Follow the direction above for "From I-95 Philadelphia".



If you accidentally pass the turn for EMSL: Heading North on Route 130, EMSL is just past the Rt. 73 overpass before the Pep Boys Plaza. If you go past the Pep Boys Plaza, you've missed the turn. To get back to EMSL, turn right at the next light (Church St.) and go past the TD Bank. Just past the first entrance to the bank is a back entrance road into the bank. Turn right into this entrance road. Go past the bank, and you will see the EMSL building ahead. Go to the far end on the building and turn right into the large lot.

Bacteroides – A Better Alternative to Determine Sewage Contamination

Coliform and *E.coli* testing have been used for over 50 years. As our knowledge of these bacteria has increased along with the advent of molecular testing techniques such as PCR, we now know that looking for the traditional indicator bacteria using culture methods is problematic. This is particularly true when using these organisms to determine the presence of sewage contamination in soil or indoor environments. EPA has been evaluating alternative organisms to replace these sewage indicator bacteria. This discussion presents an overview of the advantages and disadvantages of using the traditional indicator tests, EPA's research into alternative indicator organisms, as well as case study evidence to suggest that *Bacteroides* may be a better indicator for sewage contamination.

Diane Miskowski, MPH has her Bachelor of Science degree from Rutgers University-Cook College in Environmental Science with a focus on Environmental Microbiology and a Master of Public Health degree in Environmental Health from Johns Hopkins School of Hygiene and Public Health. She has 30 years experience in the areas of Microbiology, Laboratory Management, and Industrial Hygiene with a focus on aerobiology and exposure to pathogens. Diane has worked as an Industrial Hygienist with OSHA, Temple University, and several consulting firms focusing on workplace exposure to bacterial pathogens and fungi. Currently she is Co-Chair of the Monitoring Committee for the Centers of Disease Control Model Aquatic Health Code Steering Committee to develop microbiological monitoring of pools. She has also presented and published on such topics as *Legionella*, Environmental Mycology, Sampling Strategies for Microbiological Assessments, and Bacteroides.

Materials Science Advanced Analysis

Materials Science is the study of characteristics, processing and uses of various materials, such as metals, ceramics, polymers and cements. Materials characterization is, therefore, one important step in understanding processing-structure-property relationship. Materials science can help to answer questions such as: What is this unknown substance? Has the recent fire nearby impacted my property? What is causing this product failure? Can we identify the source of contamination? Why is my competitor's product performing better? Can you reformulate this product? This presentation will focus on the relation between utilizing innovative analytical techniques/investigative tools and successful problem-solving situations.

Eugenia Mirica, Ph.D., is the Laboratory Manager of the Materials, Industrial Hygiene, and Food Chemistry Division (MIF) at EMSL Analytical, Inc. She earned her Ph.D. in Materials Science from Stevens Institute of Technology, Hoboken, NJ. She joined EMSL in 2002. Her 18 years of expertise in Materials Science involves complex analyses for materials identification, morphological and chemical characterization of materials, fabrication of materials functionalized by design, characterization of particle size and distribution, develop solutions to challenges in manufacturing, product comparison, contamination control, and forensic analysis.

Advances in Industrial Hygiene Analysis and Problem Solving

We will discuss emerging IH/IAQ Challenges including occupational and indoor air exposures to; VOCs, Formaldehyde, Drugs, licit, illicit, and novel, Pesticides, Antimicrobials, Metalworking Fluids, Particles, Fixed Gases, as well as unique problems with building systems, Green Buildings and Indoor Environments

We will discuss application of traditional IH skills of anticipation, recognition, evaluation, and control to traditional and emerging IH/IAQ issues including the importance of investigational tools such as visual inspection, real-time instruments, and air sampling, with emphasis on integrating data to maximize recognition and evaluation.

We will review sampling and analytical techniques for VOCs (TO-15), fixed gases, traditional integrated sampling applications (pumps, tubes, filters, impingers), surface sampling, bulk material sampling, off-gassing, and environmental testing. Analytical techniques discussed will include GC/FID, HPLC, GC/MS, LC/MS, and other methods.

Finally, we will present applications/case studies including; Misapplication of Biocides; Cigarette Smoking; Drugs in Manufacturing/Clinical Settings (APIs, Chemotherapeutic Agents, Research Agents); Illicit and Novel Drugs – Methamphetamine, Marijuana, Synthetic Cannabinoids; Building Construction Issues; Green Building Issues and Challenges; Tight Building Envelopes – History and Consequences: Porous Slabs; Sewer Gas in Buildings; Off-Gassing Building and Furnishing Products; and Chinese Drywall – History of a Mystery.

Vincent M. Daliessio Jr., CIH is Industrial Hygiene Project Manager for EMSL Analytical in Westmont, NJ. He has spent most of the last 20 years anticipating, recognizing, evaluating, and controlling hazards in indoor and ambient environments. Mr. Daliessio earned his bachelor's degree in environmental science from West Chester University of PA in 1991. Mr. Daliessio earned his Certified Industrial Hygienist (CIH) designation from the American Board of Industrial Hygiene in 1997. Mr. Daliessio has presented training seminars and workshops on topics of Industrial Hygiene, Construction Safety, Hazardous Waste Operations, Radiation Safety, Confined Space Entry, and Process Safety. Mr. Daliessio has designed and implemented comprehensive monitoring and sampling programs for volatile organic, inorganic, and radioactive materials, including exotic and highly hazardous chemicals. He is responsible for advising clients on applications of EPA, NIOSH and OSHA sampling and analysis to occupational and indoor air exposure issues, and assisting in the interpretation of sample results. Currently he is developing tools for evaluation of the Chinese Drywall problem.

Mentoring: Help Shape The Future

Our September meeting, "Mentoring: Help Shape The Future" was a resounding success, and the Local Section is planning on moving ahead with a program for matching up mentors and mentees in the near future. Training and other resources will be available to assist.

If you are interested in participating, please send an email to mentor@philaaiha.com, with your name, company, and whether you are looking for a mentor or if you are interested in serving as a mentor.

Energy Conservation Efforts in Laboratory Ventilation

Laboratory research buildings consume far more energy per square foot than any other business occupancy building. The U.S. Environmental Protection Agency estimates that a typical laboratory consumes 5 to 10 times the energy/sq ft of a typical office building and that specialized laboratories may consume up to 100 times more energy. Most of this energy consumption takes place in the conditioning of large volumes of air used to ventilate the laboratory. Unlike office buildings which have recirculated ventilation, laboratories are ventilated using 100% outside air with air exchange rates ranging from 6 to 25 changes per hour. This talk examines efforts to reduce energy consumption through the use of lower lab ventilation rates, high performance fume hoods, variable air volume, demand control ventilation systems and energy recovery systems to reclaim energy from exhaust air.

Joseph Passante, CIH, CHO is the Associate Director for Industrial Hygiene Programs in the Office of Environmental Health and Radiation Safety at the University of Pennsylvania. He is the Chemical Hygiene Officer for Penn's laboratory research program. He developed Penn's Chemical Hygiene Plan and has coordinated its Laboratory Safety Program for the past 20 years. He is a Certified as an Industrial Hygienist and Chemical Hygiene Officer. He holds a Bachelors of Science degree in Biochemistry from Penn State University and is a member of the American Chemical Society's Chemical Health and Safety Division and is a past Chair of the American Industrial Hygiene Association's Laboratory Health & Safety Committee.

Working Safely with Pyrophoric Reagents in the Lab

Among those who routinely work in or with chemical research laboratories, pyrophoric reagents have long been recognized as one of the most dangerous physical hazards in the lab. In 2008, a fatal accident at UCLA forced the greater safety community to take notice of how these chemicals are handled and how workers and students are trained to use them. This talk provides an introduction to the use of these highly reactive substances in the laboratory and discusses methods for minimizing risk through appropriate PPE, awareness, handling, and training.

Kimberly Bush, M.S., CHO is a laboratory safety specialist with the Office of Environmental Health and Radiation Safety at the University of Pennsylvania. She earned her bachelor's degree in Biochemistry from Albright College and worked for nearly 5 years as a medicinal chemist at Merck & Co., Inc. in West Point, PA. During her time as a researcher at Merck, she developed an interest in laboratory safety, and became the chair of the departmental safety committee. In 2009 she completed her master's in Environmental Protection and Safety Management at Saint Joseph's University.

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