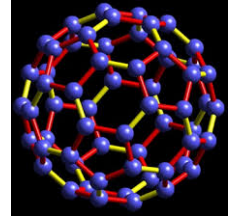


January 2015



Philadelphia Section AIHA Newsletter

January 2015 Half-Day PDC: “Nanotechnology Forum”



The Philadelphia Section AIHA's January 7th meeting will be a half-day professional development course on nanotechnology, being held at the new Singh Center for Nanotechnology at the University of Pennsylvania.

The Singh facility is specifically optimized for nanotechnology research, with laboratories and fabrication areas shielded from external vibrational, acoustic, and electromagnetic influences that can interfere with the delicate precision required for explorations on the nanoscale. The Singh Center is centered around four major research facilities, all featuring state-of-the-art equipment for nanoscale characterization, measurement, and fabrication: the Quattrone Nanofabrication Facility, the Nanoscale Characterization Facility, a Scanning and Local Probe Facility, and the Material Property Measurement Facility. These make the Singh Center a "one-stop shop" for scientists, researchers, and industrial engineers looking for the perfect workspace to study, create, and use the latest innovations in nanomaterials.

Our meeting will involve discussion about nanotechnology EHS hazards, as well as an overview of nanotechnology research being conducted, and industrial hygiene issues with nanotechnology fabrication. Attendees will also have the opportunity to tour the center.

We expect this to be a very popular meeting topic. Seating is very limited, and pre-registration for the meeting is required (no walk-in attendees will be permitted). Be sure to pre-register early to ensure yourself a place at this meeting.

ABIH CM Points: This event may be eligible for ABIH CM credit. Please see the ABIH web site (www.abih.org) for CM credit criteria.

Philadelphia Section AIHA January 2015 Half-Day PDC “Nanotechnology Forum”

Wednesday, January 7th, 2015

Singh Center for Nanotechnology/University of Pennsylvania
3205 Walnut Street Philadelphia, PA

Agenda

- 8:00 AM: Registration/Networking/Continental Breakfast
- 8:30 AM: Introduction/Opening Remarks
- 8:45 AM: Hazards of Semiconductor Gases and Liquids:
Eugene Ngai (Chemically Speaking, LLC)
- 10:15 AM: Break/Networking Opportunity
- 10:30 AM: Industrial Hygiene in the Quattrone Nanofabrication Facility (QNF):
Joseph Passante (University of Pennsylvania)
- 11:15 AM: Research Activities in the Quattrone Nanofabrication Facility (QNF):
Noah Clay (University of Pennsylvania)
- 11:45 AM: Site Tours and Lunch
- Cost: Philadelphia Section Members*: **\$ 40**
Non-Members: **\$ 60**

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

Payment **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 meeting fee).

Pre-registration for this meeting is required. Pre-registration will close, without notice, when all seats have been filled. We will NOT be able to accommodate walk-in attendees on the day of the meeting.

To pre-register, please send an email with your name and company affiliation to register@philaaaha.com before Noon on Monday, December 22nd

If you are registering for someone else, or are registering a group of attendees, please provide email addresses for all attendees.

Singh Center for Nanotechnology

3205 Walnut Street, Philadelphia, PA 19104

For directions using Google Maps, please [click here](#)



Parking

Parking for this meeting is available at Penn Park (near Penn Ice Rink), and across from WXP (take 31st Street). Street parking is also available on Walnut Street.

For more information on parking on the Penn campus, please visit [click here](#).

Public transportation options are also available. Penn's compact urban campus is well served by an extensive network of subway, bus, regional rail, national rail, car-sharing, and trolley lines that are located around the campus where public transit stops are never more than a five minute walk from any part of campus.

Speakers/Presentations

Hazards of Semiconductor Gases and Liquids:

Eugene Ngai (Chemically Speaking LLC)

Semiconductor processes use a wide variety of gases and liquids to produce nano devices, power transistors, logic chips, photovoltaic cells, TFT LCD displays, LEDs and laser devices. The hazards of these gases and liquids range from being a simple asphyxiant to highly toxic. Many have multiple hazards including water reactivity or instability. This presentation will be an introduction to these hazards, incidents that have occurred and lessons learned for the key gases. It will also summarize the key industry best practices, standards and regulations that affect the use and storage of these gases.

Eugene Ngai has over 40 years of specialty gas experience in production, laboratory, R&D, engineering and safety positions. He retired from Air Products in 2009 and formed Chemically Speaking LLC. Chemically Speaking LLC is a compressed gas safety and emergency response training and consulting corporation. Chemically Speaking LLC currently has numerous multiyear agreements to advise manufacturers, suppliers and users of specialty compressed gases, primarily in the Semiconductor, LCD or Photovoltaic industries.

He continues to be active in a number of worldwide industry association working groups, CGA G-13 (Silane), NFPA 55 (Industrial and Medical Gases), NFPA 400 (Hazardous Materials), NFPA 318 (Semiconductor), SEMI EHS, SCSHA and UN TC58 SC2 WG7 (Gas Toxicity, Flammability, Oxidizer). He was the test director for 6 days of silane release testing in 2011 and 2012 to gather data for revision of CGA G-13 standard on silane.

He has made over 120 presentations worldwide on Emergency Response, Product Safety, Gas Technology and Environment over the last 25 years. He has campaigned extensively on silane safety. He chaired 12 one day silane safety seminars, in Taiwan, Korea, Singapore, US and Europe starting in 2006. He continues to conduct compressed gas safety and emergency response classes throughout the world. He has taught numerous courses (1-3 day) on compressed gas safety and emergency response and has trained over 9000 users from government agencies, universities, gas manufacturers and semiconductor fabrication facilities. He has also taught at a number of Fire Academies worldwide, including New York, Camden County and Singapore and as well as at 3-4 HazMat Conferences per year.

Eugene has a Bachelor of Science in Chemical Engineering and a Master in Environmental Engineering. He was honored with the CGA Lifetime Safety award in 1999, Fire Dept of New York Commissioner's award in 2007, made a SCSHA Fellow in 2009 and received the American Chemical Society Howard Fawcett Award for Contributions to Chemical Safety award in 2011. He has 5 US patents for Gas Safety Devices.

Speakers/Presentations

Industrial Hygiene in the Quattrone Nanofabrication Facility (QNF):

Joseph Passante, CIH (University of Pennsylvania)

The operation of a safe clean room requires the use of many hazardous chemicals. The specialized engineering controls and PPE used to safeguard the users of the QNF will be reviewed.

Joseph Passante, CIH is the Associate Director for Industrial Hygiene Programs in the Office of Environmental Health and Radiation Safety at the University of Pennsylvania. He is Penn's Chemical Hygiene Officer and coordinates its Laboratory Safety Program. Mr. Passante also oversees lab safety training, building design review, ergonomics, hearing conservation, indoor air quality programs. He is a Certified Industrial Hygienist and a Certified 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 a past Chair of the American Industrial Hygiene Association's Laboratory Health & Safety Committee.

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Research Activities in the Quattrone Nanofabrication Facility (QNF):

Noah Clay (University of Pennsylvania)

The research efforts of the Singh Center are organized into six general categories: Biological Applications of Micro- and Nanotechnology; Mechanics, Materials and Interfaces; Microfluidics; Microsystems and Nanosystems; Nanomaterials; and Nanophotonics, Electronics, and Magnetics. QNF staff operates a 10,000sq.ft. cleanroom with leading-edge equipment capable of electron-beam and optical lithography, physical and chemical vapor deposition, dry and wet processing, metrology, and device characterization. In addition, a complimentary facility for soft materials and laser micromachining is maintained by QNF for diverse materials processing, microfluidics and lab-on-chip activities. For device packaging and hybridization, there is a suite of backend equipment available for wirebonding, wafer bonding, electrical testing and wafer dicing. This presentation will provide an overview of the types of research currently occurring at the QNF.

Noah Clay is the Director of the Quattrone Nanofabrication Facility at the University of Pennsylvania. Mr. Clay has spent more than a decade in the semiconductor industry, mainly in Silicon Valley. While in industry, his expertise was in design and fabrication of integrated lightwave circuits, the core technology for fiber optic networks. After leaving industry, Mr. Clay built and ran the Harvard University Nanofabrication Facility as well as oversaw Process Integration for the Cornell Nanoscale Facility.

2015 Northeast Regional Industrial Hygiene Conference and Exposition

Friday, December 4th, 2015

The Philadelphia Section AIHA will be the host for the 2015 Northeast Regional Industrial Hygiene Conference and Exposition. We will be looking for volunteers to assist with the planning and presentation of this annual event. We are also looking for ideas for speakers and presentation topics.

If you would be interested in helping out, please contact the Local Section at NEIHC@philaiha.com.

AIHce2015

SALT LAKE CITY, UTAH + MAY 30 - JUNE 4

Registration is now open for AIHce 2015, being held from
May 30th to June 4th in Salt Lake City, UT.

For conference information, please visit aihce2015.org.



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