

THE OCTAGON



Volume 87, No. 8, November 2004

Lehigh Valley Section of the American Chemical Society

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★★★ ELECTIONS ★★★

The ballot for election of LVACS officers for 2005 is located on page 5 of this issue.

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Meeting Announcements:

November Meeting Reminder: The November meeting is Thursday, November 18, 2004. The meeting will be held at Penn State Univ. - Lehigh Valley Campus, 8380 Mohr Lane, Fogelsville, PA. The social hour is at 5:00 PM with dinner at 6:00 and the meeting and talk at 7:30 PM. Details were published in the October Octagon and are available on the web. RSVP to Sue Snyder 610-285-5056, sqs9@psu.edu by Friday, Nov. 12th

January Meeting: The January meeting is scheduled for the 18th at North Hampton Community College. Details will be available in the January issue.

2004-2005 Meeting Schedule

January - November 18, NCC
February - Cedar Crest College
March - East Stroudsburg University -
(Spouses Night)
April - Moravian University -
(Student Poster Session)
May - DeSales University -



Look For LVACS on the web
at www.esu.edu/lvacs

LVACS Officers - 2004:

Chair: Steve Weiner
Chemistry Department, Muhlenberg College
2400 Chew Street, Allentown, PA 18104
sweiner@muhlenberg.edu 484-664-3665

Chair Elect: Tara Baney
Merck & Co., Inc. West Point, PA 19486
tara_baney@merck.com 215-652-7486

Immediate Past Chair: Paul Bouis
Mallinckrodt Baker Inc., Phillipsburg, NJ 08865
paul.bouis@tycohealthcare.com 908-859-9443

Secretary: David C. Skee
Mallinckrodt Baker Inc., Phillipsburg, NJ 08865
david.skee@tycohealthcare.com

Treasurer: John Freeman
522 Raub St., Easton PA 18042
jcf2@rcn.com 610-923-3587

Councilor: Carol Baker Libby
Moravian College, Allentown, PA 18018
cblibby@cs.moravian.edu 610-861-1629

Councilor: Pamela D. Kistler
Cedar Crest College, Allentown, PA 18104
pdkistle@cedarcrest.edu
610-437-4471 x 3507

Alternate-Councilor: Roger Egolf
Penn State LV Campus, Allentown, PA 18051
rae4@psu.edu 610-285-5110

**Alternate-Councilor
(Octagon Editor & Webmaster):**
T-Michelle Jones-Wilson
East Stroudsburg University
East Stroudsburg, PA 18301
mjwilson@po-box.esu.edu 570-422-3446

October Meeting Minutes:

The 774th meeting of the Lehigh Valley Section of the American Chemical Society was called to order by Chairperson Steve Weiner at 7:35 PM on October 20, 2004 at Albright College.

Councilor Pam Kistler reported on the business of ACS Council at the August 2004 National Meeting in Philadelphia. The report will be in the January issue of the Octagon. Our section election is coming up and a candidate for treasurer is needed. To nominate yourself or others, contact Steve Weiner. The next section meeting will be on November 18, at Penn State-Lehigh Valley.

Any section members who celebrated National Chemistry Week (Oct. 17-23, 2004) are asked to report their activities to Dr. Chris Hamann (chamann@alb.edu) for publicity purposes. Business being completed, Albright host Chris Hamann introduced the evening's speaker, Dr. Curt Hare, Professor Emeritus, University of Miami and Research Professor at Franklin and Marshall College. Dr. Hare has been an ACS member for more than fifty years with a distinguished career in both academia and business. His talk was entitled "Organics in Your Water."

The persistence and danger of polyaromatic hydrocarbons and chlorinated pesticides in the environment has been well documented and production of these compounds by the chemical industry is strictly controlled by our government. A source of chemicals that has not been regulated or well studied is the category of pharmaceuticals and personal care products (PPCP's), which includes over-the-counter and prescription drugs, veterinary items, fragrances, sunscreens, and pharmaceutical excipients. Many of these chemicals have long half-lives and are showing up in drinking supplies. For example, caffeine has a half-life of one year in streams. Dr. Hare made the intriguing suggestion that to determine the impact of people on the water supply, one only needs "to follow the caffeine," whose source is most certainly human and not agricultural or industrial. In contrast to pesticides, which can be regulated at the industrial source, PPCP's are found at low levels and enter the environment in multiple ways, determined by millions of consumers. There are no regulations to control these substances even if violators could be tracked down.

Concerns about PPCP's in the environment are recent, with the book "Our Stolen Future" by T. Colborn, D. Dumanoski, and J. P. Myers bringing the question into the public eye in 1996. Very little scientific data about the long term impact of PPCP's on human health is available, not only because of our recent awareness, but also because the potential health effects stem from long term exposure to low levels of the chemicals.

PPCP's end up in the environment after they pass through humans and animals (sewage) and by purposeful disposal of expired or unused products. Then they migrate into water supplies and bioaccumulate in fatty tissues. Dr. Hare suggested that one strategy for controlling amounts of PPCP's the environment is for the pharmaceutical industry to establish the minimal therapeutic dosage for drugs. That way lower amounts of unmetabolized drugs would be excreted. Another idea is to provide alternate methods for disposal of unused and outdated drugs. Currently consumers are instructed to flush them!

Data presented by Dr. Hare indicate that pharmaceuticals that have been detected in potable water at parts per billion levels have a range of lifetimes, from less than a day for aspirin up to more than a year for nicotine, naproxen and codeine. Our speaker is particularly concerned about the levels of estrogens and testosterone, which are known to be bioactive at parts per trillion levels, that may be found in water supplies.

Dr. Hare reports "lack of interest" among the public and governments over the potential health effects of PPCP's, with the apathy greater in Pennsylvania than in Florida. In Europe there is similarly little concern, although the Green party and extensive studies of the Rhine River are raising awareness. Recent data from Germany and Greece suggest that PPCP's are approaching parts per billion levels, the level of chlorinated hydrocarbons that prompted Rachel Carson's warnings in "The Silent Spring."

At the end of his talk, Dr. Hare answered a number of questions, several of which focused on possible improvements in sewage treatment, which has remained largely unchanged for the past fifty years.

Steve Weiner thanked our guest speaker and the meeting was adjourned at 8:55 PM.

Respectfully submitted,

Carol Baker Libby, Lehigh Valley ACS Councilor

Message from the Chair

Dear Friends and Colleagues,

As my term as Chair of the Lehigh Valley Section of the American Chemical Society is coming to a close, I want to thank each member of the executive committee for all their help, support, and talent in contributing to a very successful year. This year it was my great pleasure to meet many of our members from diverse constituencies ranging from secondary education to industry, from undergraduates to members who've been with the ACS for over fifty years. We were able to join forces with the Philadelphia section and Merck for one of the highest attended meetings in recent history, and were delighted to have the sponsorship of Air Products and the cooperation of Blue Mountain Vineyards for a very memorable spouses' night. I've never seen so much merriment and cheer at an LVACS meeting before. As always, we gratefully acknowledge the continued support of Mallinckrodt-Baker for underwriting the partial costs of our meetings. As you look towards the upcoming meetings starting in January of 2005, you will notice that we have expanded our circle of hosting institutions. I want to say welcome and thank you to Penn State Lehigh Valley and Northampton Community College as new hosts for the upcoming year. The talents of our undergraduate chemists were showcased at the annual undergraduate research poster session, and the LVACS was proud to support one undergraduate to present her results at a national or regional ACS meeting. We have continued to support high school students who have demonstrated excellence in chemistry through scholarships and through support of the National Chemistry Olympiad, and we have established a scholarship for an undergraduate who has demonstrated excellence in organic chemistry.

I want to thank the membership of LVACS for allowing me to serve you. I hope to see you at our upcoming LVACS events and that I can maintain the professional and personal friendships that I have developed with you during this past year. Please join me in wishing the best of luck to our chair-elect, Ms. Tara Baney, as she takes over the helm of the LVACS as Chair in January 2005.

All the best,
Steven W. Weiner
Chair, LVACS

Reflections From the Past: Seventy-Five Years Ago in the Octagon

Contributed by Jim Bohning, Lehigh University
jjba@lehigh.edu

Note: Dr. Bohning is the speaker for the November meeting. Please join us for what promises to be an interesting evening!

The 1929 LVSACS dinner honoring Professor Edward Hart of Lafayette described in the October 2004 issue of the *Octagon* was also covered by the *New York Sun* in its issue of 1 October, 1929. The *Sun* provided an interesting analysis of what Hart did after being forced into metallurgy by Lafayette president William Cattell. "The interesting detail of his career at this moment," the *Sun* says, "is that he did not choose his work but was forced into a vocation by another, and in it made a success of his life. He would not have been able to do that if he had spent his days and nights bemoaning his fate and inquiring into the psychological obscurities that engage so much attention from those whose interest it is in finding reasons for failure, not causes of success." [*Octagon* 12 (No. 6), October 1929]

The editor of the *Octagon* in 1929, Assistant Professor Charles Wellington Simmons of Lehigh, was not hesitant to include material from other publications to fill his pages. Quoting from an article in *The Bulletin*, a publication of unknown provenance, Simmons ran the following note originally written by D. K. French. "Feeling a duty toward our fellow chemists whenever literature enters its field, we must report the reading, last month, of 'The Murder in the Laboratory' by T. L. Davidson (Dutton). The story is really quite clever, the murder is strictly chemical, and the atmosphere of the laboratory and lecture room is well preserved. A professor in chemistry really solves the mystery, and something of a chemical background makes the solution possible. Clues as to who the real murderer are not lacking, so that any wily reader can correctly suspect. The method by which the murder was committed seems a little too clever for the criminal, but otherwise the story is quite successful."

If you are interested in reading this book, it will not be easy. I found only one copy (in an anthology with three other books) in an on-line search of the used book market and I'm sorry to say that I ordered it. A search of OCLC shows only a handful of libraries worldwide that admit to owning it, the closest being the New York

Public Library. It can probably be obtained through interlibrary loan. If you are interested in this genre, there is a list of murder mysteries set in academia at <http://www.wku.edu/Dept/Support/AcadAffairs/CTL/mystery.html>. Davidson's book appears in this list. Davidson was actually David Landsborough Thomson (1901-1964), who in 1929 was an assistant professor of biochemistry at McGill University; he had received his Ph.D. from Cambridge just a year earlier. Thomson spent his entire career at McGill, serving as Dean of Graduate Studies and Research from 1942-1962. He also wrote *The Life of the Cell* (London: Butterworth, 1928) and *Science and Religion* (London: Methuen, 1924; New York: Scribner, 1925), the latter with coauthor J. Arthur Thomson. Thomson's mystery novel won second prize in Methuen's detective story competition and was featured as "the Dutton mystery of the month." (The assistance of Marika Asimakopulos of the Schulich Library of Science and Engineering at McGill is gratefully acknowledged.) [*Octagon* 12 (No. 7, November 1929)]

The October, 1929 meeting of the Section, held at Muhlenberg College, featured Charles P. Smyth of Princeton talking about "Dielectric Constants and Molecular Structure." The 34-year-old Smyth, an alumnus of Princeton and Harvard, served as a First Lieutenant in the Chemical Warfare Service in World War I, which had only been over not quite eleven years when this meeting was held. Not only was Smyth's work cutting edge technology, but he was advertised as using lantern slides "to show how the study of dielectric constants may give information concerning molecular structure and association of molecules in liquids. He will illustrate it by a discussion of ... the substituted benzenes which give a good deal of information concerning the structure of the benzene ring." Encouraging its readers to attend the Smyth lecture, the *Octagon* emphasized that "Dr. Smyth has a reputation as an interesting and forceful speaker with a rare ability to present a theoretical subject in a way that will appeal to all the members and give them first hand information on modern theories." Twenty-five years after his Muhlenberg lecture, Smyth received the Nichols Medal of the ACS New York Section for this work. [*Octagon* 12 (No. 6), October 1929]

The concept of technical divisions within the organization of the American Chemical Society was about twenty years old in 1929, by which time 17 divisions had been approved by the ACS Council. The first divisions were organized in 1908, the result of



CHARLES P. SMYTH

attendance at national meetings becoming so large that it was "necessary to have separate sections to meet [simultaneously] for the more specialized part of the program after the general meeting." In 1929 two members of the LVSACS were elected as division chairs at the Milwaukee meeting. James Scott Long, a Lehigh alumnus (1914) had just been promoted to professor of chemistry at Lehigh in 1928. He was the new chair of the Division of Paint and Varnish Chemistry, an area in which he had published numerous texts and papers. Edwin R. Theis, assistant professor of chemical engineering at Lehigh, was the new chair of the Division of Leather and Gelatin Chemistry. It is interesting to note that these areas were of sufficient research importance in 1929 that separate divisions actually existed. The Leather Division was organized in 1919, became Leather and Gelatin in 1923, and was discontinued in 1939. Started under the impetus of the Paint Manufacturers Association and the National Varnish Manufacturers Association, Paints and Varnishes became a division in 1927 and underwent several name changes that reflected changing times—Paint, Varnish and Plastics Chemistry (1940), Paint, Plastics and Printing Ink Chemistry (1952), Organic Coatings and Plastics Chemistry (1960), and Polymeric Materials: Science and Engineering (1982). It still has an active programming venue at ACS meetings. [*Octagon* 12 (No. 6), October 1929]

Question of the Month:

What Bohemian nobleman intended to be an architect but once inspired by Justus von Liebig instead focused on chemical architecture?

Come to the January Meeting for the Answer

Ballot

Elections for 2005 Officers of the Lehigh Valley Section of the American Chemical Society

Please Choose one Candidate for each office. Please cut or photocopy the ballot from your newsletter. Email subscribers - please print this page of your newsletter.

Chair Elect

_____ T. Michelle Jones-Wilson

Secretary

_____ Paul Bouis

Treasurer

_____ Roger Egolf

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Please carefully follow these instructions for voting :

1. After indicating your choice, seal your ballot in a plain envelope. Write the word BALLOT on the envelope.

Sign or initial the seal.

2. Fold the envelope and insert in another envelope, affix appropriate postage and return address, address to:

Steve Weiner
LVACS
Department of Chemistry
2400 Chew Street
Allentown, PA 18104-5586

Deadline - envelopes must be postmarked no later than November 22, 2003.

Ballots will also be accepted at the November meeting.

Your Vote Counts! Let your voice be heard!

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Advertising/Article Policy

All articles of interest to LVACS members