

THE OCTAGON



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Lehigh Valley Section of the American Chemical Society

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769th LVACS Meeting:

Date: Wednesday, February 18

Location: Kutztown University

Reception: 5:15 Viewpoints Dining Room in the South Dining Hall on the South Campus

Dinner: 6:00 Viewpoints Dining Room

Meeting: 7:15 Viewpoints Dining Room

Talk: 7:30 Viewpoints Dining Room

Menu: Chicken Marsala including rice pilaf, hot vegetable, salad, rolls, coffee and tea, and dessert.

Cost: \$13.25

Contact: Please contact Donna Moore, Dept Physical Science Secretary (610) 683-4447, provide name and affiliation. Deadline for reservations is Feb 11, 4:00 PM.

Directions: can be found on the LVACS website A campus map is available. <http://www.esu.edu/lvacs/images/Kutzcampusmap.pdf>

Speaker: Dr. Phyllis Leber, Dr. E. Paul and Frances H. Reiff Professor of Chemistry, Department of Chemistry Franklin & Marshall College, Lancaster, PA

Phyllis A. Leber received a B.S. in Chemistry from Albright College in 1976 and a Ph.D. from the University of New Mexico in 1981. After a one-year visiting appointment at Pomona College, she joined the faculty at Franklin and Marshall College in 1982. Her research interests include probing the mechanistic variables affecting [1,3] sigmatropic rearrangements and elucidating the biochemical role of plant cholinesterase.

Talk: "A Chemical Odyssey"

Abstract: A retrospective of my research experience in academe, this talk will address some of the issues that have been germane to my professional career: women in chemistry, undergraduate research, physical organic chemistry. Although the details of this presentation are necessarily unique to my own work, I will also attempt to state some general principles common to academic research.

770th LVACS Meeting:

The LVACS, Cedar Crest College, and Air Products and Chemicals, Inc. are proud to present: Spouses Night/Winery Tour



Date: Thursday, March 18

Location: Blue Mountain Vineyards and Cellars, 7627 Grape Vine Drive, New Tripoli, PA 610-298-3068

Time: 6-9 p.m.

Event: Join hosts Vickie and Joe Greff, owners of the Blue Mountain Vineyards and Cellars for hors' d'oeuvres and a buffet supper, a tour of the winery and the process of winemaking, and a sampling of wines produced at Blue Mountain Vineyards and Cellars.

Menu: Hors' D'oeuvres include a cheese tray with assorted crackers and mustards, and a fresh fruit tray. A vegetarian pasta buffet dinner will include: Penne Pasta Primavera, Cheese Tortellini, Eggplant Parmesan, many different sauces, Mixed Greens with House Vinaigrette, Garlic Bread, and Brownies for Dessert. In addition to the fine wines served, there will be non-alcoholic beverages as well.

Cost: \$22.00, \$11.00 for spouses of members, students and retirees. Should those eligible for a discount pay full price, the difference will be donated to the LVACS scholarship fund. (Note that all persons must be 21 or over to attend this event, valid ID will be required)

Contact: Please contact Diane Molchany, Science Secretary at Cedar Crest College, (610)-606-4611, or by email: dkmolcha@cedarcrest.edu. Deadline for reservations: Thursday, March 11 4:00 p.m. Directions to the Blue Mountain Winery can be found on the web at <http://www.bluemountainwine.com/directions/index.html>.



Due to inclement weather the January meeting of the LVACS at Albright College was canceled. This meeting with speaker Curt Hare Ph.D., will be rescheduled next fall.

A Message from the Chair:

Greetings and Happy New Year. It is an honor and a privilege to be able to serve as Chair of the Lehigh Valley Section of the American Chemical Society. I would like to take this opportunity to share with you some of the Section's goals and activities planned for this year. This year, we will be having more social events which will give us an opportunity to network within our diverse membership and welcome spouses and children as part of the LVACS family. In March, we will have the LVACS spouses' night at the Blue Mountain Vineyards for an evening of fine wine, good food, and a tour of the winery. Later in the season, we want to have a family barbecue/picnic that would be open to all members and their families. For the fall we would like join forces with the Philadelphia section of the ACS to have a program about the chemistry of art at one of the prominent art museums. Whether the programming is educational or purely social, the officers of the section and I want to hear your suggestions about how the LVACS can strive toward excellence. What type of programming and services that you would like to see in the future? We want to know about what is working as well as what, in your opinion, should be changed. We want to take the opportunity to listen to your suggestions and comments at the receptions and social events that are scheduled during the year. At each meeting, we will bring a suggestion box for written comments as well. Of course, always feel free to email me or contact me by telephone.

The LVACS will sponsor a poster session this spring for undergraduate research in chemistry in the Lehigh Valley. This year, we have allocated \$250 as a travel grant for an undergraduate to present his/her research at a national or regional professional meeting. We will also be awarding a scholarship to a rising junior chemistry major who has demonstrated excellence in the study of organic chemistry. We encourage all qualified undergraduates to take advantage of these opportunities.

Through the appointment of Dr. Christian Hamann at Albright College as the LVACS Publicity Chair, we will coordinate activities around the celebration of National Chemistry Week throughout the Lehigh Valley, and to publicize the significance of our profession to the local news media. While individual institutions have had their own celebrations, we want to make National Chemistry Week a Section-wide, high profile event.

Finally, the LVACS has one of the largest constituencies of members over 70 years of age and we are looking for ways for increasing the participation of our senior members at these events. One idea is to have the LVACS organize a

network of carpools to and from meetings for members for whom it is not convenient to drive long distances or at night. Any other suggestions that you have that would enable more of our members to attend would be greatly appreciated. Our section has much to gain from the vast amounts of experience of our more senior members. Increased participation of our more senior members will enrich our section by mentoring our younger members. Providing experience, insight, and advice is a huge benefit of our large senior membership.

I look forward to working for you and to making the Lehigh Valley American Chemical Society an organization that works for you.

Steven Weiner

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Chair: Steve Weiner

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This Month in Chemical History

Harold Goldwhite, California State Univ., Los Angeles
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Prepared for SCALACS, the Journal of the Southern California, Orange County, and San Gorgonio Sections of the American Chemical Society

My last two columns were devoted to an analysis of the contents of an early twentieth century inorganic chemistry textbook that I recently acquired at a local flea market. At the same time I also purchased a physics text of the same period, and it is instructive to look at its contents in our pursuit of the science curriculum of the period. The book is "A First Course in Physics" by Robert Andrews Millikan, Ph.D., Assistant Professor of Physics in the University of Chicago, and Henry Gordon Gale Ph.D., Instructor in Physics in the University of Chicago. It was published by Ginn and Company in 1906 and is generously illustrated.

The senior author, Robert Millikan, is, of course, one of the giants of twentieth century science. His definitive work on the charge on the electron earned him the Nobel Prize in physics in 1923. By that time he had moved from Chicago to Pasadena and had become the President of the California Institute of Technology. Henry Gordon Gale also had a distinguished career in physics. He remained at Chicago becoming a Full Professor in 1916. He served as Department Chair and Division Dean. His work was principally in astrophysics and he published many articles and books in that subject.

It is fitting for a column on science history to note that the frontispiece in the Millikan and Gale text is a portrait of Galileo. Indeed the whole text is imbued with a sense of the history of physics. It was published along with a companion laboratory manual (I haven't been fortunate enough to find a copy of that yet) and was intended for use in "the elementary work in physics in the University of Chicago, particularly in the University High School of the School of Education and the affiliated secondary schools." The contents of the approximately 500 pages are wide ranging covering virtually all fields of beginning physics. There are some wonderful trivia along the way. For example in an opening section on measurement we learn that "the mean length of the male foot in the United States, according to measurements made upon 16,000 men in the United States army, is 10.05 inches."

An interesting feature of this text is the very large number of descriptions of the application of principles of physics to everyday phenomena and useful appliances. For example the chapter on gas pressure discusses ballooning, mentioning the

exploits of the daring English astronauts Glasier and Coxwell who, in 1862, ascended to a height of some 7 miles where the barometric pressure is about 0.25 atm. and the air temperature about -60°F. It also describes the siphon, the air pump, the force pump, the lift pump, the Cartesian Diver, the diving bell, and the gas meter. The section on heat engines discusses in some detail the steam engine, the steam turbine, and the large, stationary gas engine. The automobile engine (still something of a novelty) gets only a brief mention. But we do learn that the largest steam ship so far, the 30,000 ton Cunard liner Carmania, is driven by three steam turbines with a total of 1,250,000 blades. Refrigeration at this period seems to be limited to the manufacture of ice and the cooling of cold-storage rooms and factories. The only refrigerant gas mentioned is ammonia; beware of leaks.

In contrast to the chemistry text I discussed recently, where complete ionization is only one possible explanation of electrolyte behavior, Millikan and Gale state forthrightly, in a chapter including the chemical effects of the electric current, their acceptance of this view: "In accordance with the theory now in vogue among physicists and chemists, when hydrochloric acid is mixed with water to form a dilute solution, the HCl molecules split up into two electrically charged parts, called ions, the hydrogen ion carrying a positive charge and the chlorine ion an equal negative charge. The phenomenon is known as dissociation."

Gale's interest in astrophysics is apparent in the section on Doppler's principle applied to light waves: "....some stars are moving through space toward the solar system with a velocity of 150 mi. per second while others are moving away with almost equal velocities." And perhaps Millikan's enthusiasms are indicated in sections on cathode ray particles, new theories of the constitution of matter, and radioactivity. I will close with a quotation from the final paragraph of this text. "The most vitally interesting question which the physics of the future has to face is, Is it possible for man to gain control of this tremendous store of subatomic energy and to use it for his own ends?" Thirty-nine years later one answer was given to this question at Hiroshima.

Oops!

Please note that an error was made in the budget published in the January Octagon. Under Income, the interest and dividends should read \$180 not \$1,180.

Question of the Month:

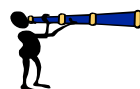
What famous chemist was inspired by his mother's dying words, "Refrain from illusions, insist on work and not on words. Patiently search divine and scientific truth." ?

Come to the February Meeting for the Answer



WCC - Over-the-Coffee-Cups Chat

Project PROGRESS, chaired by former ACS President Helen Free, is an initiative arising from an ACS Presidential-Board Task Force that aims at facilitating the full participation and advancement of women scientists and engineers in the chemical sciences. The overall project consists of seven independent but interconnected programs. Natalie Foster serves on the PROGRESS Steering Committee and will present a brief introduction to the projects initiated under this program, concentrating on the ones from which members of the Lehigh Valley section may wish to seek information and support.



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

WCC Overcoming Challenges Award for Women Undergraduates

The Overcoming Challenges Award acknowledges the efforts of women undergraduates who have overcome economic, personal and/or academic hardships in pursuit of an education in the chemical sciences. The award consists of a plaque, a \$250 honorarium, and \$1,000 for travel expenses to the ACS Fall National Meeting where the award is presented.

Award candidates must be women matriculating as an undergraduate chemical science major/minor in a two-year program or at a four-year school not granting a doctoral degree in chemical related disciplines. Nominations are due May 1, 2004, and should be sent to: Women Chemists Committee, American Chemical Society, 1155 16th Street, NW, Washington, DC 20036. For additional information, contact the WCC at wcc@acs.org or visit <http://membership.acs.org/W/WCC>.

You are encouraged to apply and/or nominate deserving women for the WCC Overcoming Challenges Award.

2004 Spring Meeting Schedule

February 18 - Kutztown University

March 18- Cedar Crest College -

Winery Tour and Spouses Night

April 22- Moravian College -

Student Awards Night - Student Poster Session

May - DeSales University -

High School Teacher's Night

Call For Papers

LVACS Undergraduate Research

Poster Session

April 22, 2004

Moravian College

Preceding the April Meeting of the LVACS

Who may participate?

Undergraduates attending a college or university within the Lehigh Valley section of the ACS. Research may have been done at the student's home institution with a chemistry or chemical engineering faculty member or during a summer research experience elsewhere.

To participate:

Submit an abstract by April 5, 2004 as a Microsoft Word attachment via email to cblliby@cs.moravian.edu. Please indicate LV-ACS Poster Session in the subject line.

Participants will be eligible to compete for a \$250 travel award to present the research at a regional or national meeting

Please see www.esu.edu/lvacs or the March 2004 Octagon for further details.



Interested in working with students?

Hoping to involve more teachers in section activities?

We are seeking people with connections to high school chemistry teachers and/or an interest in motivating high school students in the field of chemistry to be part of a Chemagination committee and to run a contest in the area.

Chemagination is a chemistry essay and poster contest for students in grades 9-12. Students look 25 years into the future and write an article that they believe could appear in "ChemMatters" magazine about an innovation or breakthrough in the field of chemistry that they think will be important in the lives of teenagers at that time. Student articles focus in one of four categories: Biotechnology, Medicine/Healthcare, New Materials or Transportation/Environment. For information about the contest, visit <http://chemistry.org/chemagination>, call 1-800-227-5558 ext. 4458 or email Chemagination@acs.org.

LVACS Scholarship Announced

The second annual LVACS Organic Chemistry Competition for rising sophomores will be held Saturday, April 24, 9:00-11:00 AM in Trumbower Building, Muhlenberg College. Award of the scholarship will be based on the score on the ACS Organic Chemistry Exam (50%), a submitted essay on organic chemistry (40%), and letter of recommendation (10%). Please contact John Freeman, jcf2@rcn.com with any questions. See the LVACS website in March for details and application procedure.



The Analytical Laboratory Managers Association Eastern PA, NJ, DE Local Chapter Meeting

February 27, 2004

10:00 A.M. – 3:00 P.M.

ATOFINA

900 First Avenue, King of Prussia, PA

Dear Fellow Analytical Lab Managers:

Happy New Year! I hope everyone had a great holiday and at least some time to relax before starting 2004. I am pleased to announce the next meeting of the Eastern PA/Delaware/NJ ALMA Local Chapter Meeting is scheduled for Friday, February 27 at ATOFINA in King of Prussia, PA. Andy McFarland of ATOFINA will host the meeting.

We again have an excellent agenda based on the topics chosen at the September meeting.

- C Marketing Analytical Services
 - o Bruce Gollog – Atlantic Analytical
 - o Chuck Coe / Stokely Benson – Air Products & Chemicals
- C Training Scientists on the Business of Analytical
 - o Stu Bush – Rohm and Haas
 - o Tom Mebrahtu – Air Products & Chemicals

In addition, after lunch we are planning to hold a roundtable discussion on strategies on maintenance contracts. In this environment of tight costs and cutbacks the agenda topics should be very pertinent to the challenges we all will be facing as analytical managers in 2004. The meeting is an excellent opportunity for all of us to network, share, and learn what has worked and what has not worked.

Please mark the date on your calendars. If you attended an earlier ALMA chapter meeting, I look forward to interacting with you again. If this will be your first local chapter meeting, I look forward to welcoming you to ALMA.

Feel free to extend this invitation to fellow analytical lab managers in your company and neighboring companies who may not know about ALMA or our local chapter. Please confirm your interest in attending by sending an e-mail to John Sadowski at sadowsjs@apci.com by February 16. Andy McFarland and I look forward to working with you in this networking and learning opportunity for analytical laboratory managers. You can find more information about ALMA by visiting the ALMA website <http://www.labmanagers.org/>.

Sincerely,

John S. Sadowski

Air Products and Chemicals, Inc.

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